Flexible Control & Automation Cables

2022

www.sabcable.com
866-722-2974 ■ info@sabcable.com

SPECIAL CABLES

SAB North America

TRADITIONAL
FAMILY BUSINESS
SINCE 1947

CONTENTS

WHO WE ARE
AN OVERVIEW

75 years of experience in cable and wire manufacturing as well as in temperature measurement technology turned a one-man business into a company with more than 550 employees. We prove our strength every year with more than 1500 special products according to customers' requirements. Each product is a new challenge for our creative technical team. We at SAB see ourselves as a manufacturer and a service provider – in the sense of true partnership and the greatest possible customer orientation.

Today, the quality of our products is known and appreciated in more than 80 countries around the world. In all product ranges, we are certified according to DIN EN ISO 9001. Furthermore, we have implemented an environmental management system for our company according to DIN EN ISO14001, an occupational health and safety management system according to DIN EN ISO 14001 and DIN ISO 45001, and an energy management system according to DIN EN ISO 50001.

Our slogan is: "WE CONTINUE!"

FOUNDED:	1947 by Peter Bröckskes sen. an independent, medium-sized company.
CEO:	Peter Bröckskes and Sabine Bröckskes-Wetten
PLANT/LOCATION:	In Viersen (Lower Rhine) 110,000 m^2 company site. Own manufacturing from the copper conductor to outer jacket. VDE approved burn chamber and laboratory within the company.
EMPLOYEES/WORKERS:	Approx. 430 at the plant in Viersen, 550 worldwide
PRODUCTS:	Special Cables Measurement Technology Cable Harnessing
CERTIFICATES AND APPROVALS:	Quality management system acc. to DIN EN ISO 9001 for every manufacturing field Environmental management system acc. to DIN EN ISO 14001 Occupational health and safety management acc. to NLF/ILO-OSH and DIN ISO 45001 Energy management system acc. to DIN EN ISO 50001

HAR EN IEC ISO

1947

Foundation of the company
by Peter Bröckskes sen.
in Süchteln (Lower Rhine) Germany.

Production of component parts
for telecommunications
and low-voltage technology.

1950

Start of thermocouple and
resistance thermometer production.

1958

Start of cable production
(8 employees).

1979

Expansion of the company area
(120 employees).

1989

Death of Peter Bröckskes sen.,
Peter Bröckskes takes over the management.

1990

Presentation of the cable track cable,
type SAB-S 100 T at the Hanover Fair.

1992

Export to over 40 countries
(300 employees).

1994

Certification quality management system
according to ISO 9001.

Start of cooperation with JPM Câbles
in France.

1995

Presentation of the new technically advanced
SABIX® halogen-free cables.

Foundation of Kabelspecialist Bröckskes
in the Netherlands.

Start of wire and
cable harnessing.

1996

Foundation of
Câblerie SAB in France
(Fusion of JPM Câbles
and Eku Câbles).

1997

SAB celebrates
the fiftieth anniversary
with the subsidiaries.

1998

Expansion of the company area
to 110,000 m² and building
of a logistic center.

Start of partnership with
AUXICOM in France.

1999

Foundation of a sales office
in the United States,
SAB North America.

2004

Foundation of a sales office
in China, SAB China.

2005

Start of partnership
with Thomas Cable Company in Korea.

Certification environmental management system
according to ISO 14001.

2006

First representation in India.

2007

SAB celebrates
the sixtieth anniversary.

2008

Certification occupational health and safety management
acc. to NLF/ILO-OSH 2001 and OHSAS 18001:2007.

2009

Sabine Bröckskes, daughter of the
Executive Director Peter Bröckskes,
takes over the Technical
Management
at SAB Bröckskes.

2011

Building of a
new production hall
for wire and
cable harnessing.

Certification energy management
system according to
ISO 50001.

Sabine Bröckskes is new
shareholder of the
SAB-group.
Peter Bröckskes
remains Chief
Executive
Officer.

2012

Start of partnership
with Pozitron in Russia.

2014

Completion of a new production hall.

2015

Start of partnership with Alltronix in India and with
Precision Technologies in Singapore.

2016

Start of partnership with
Electrondart in Israel and Kabel-
Projekt in Poland.

2017

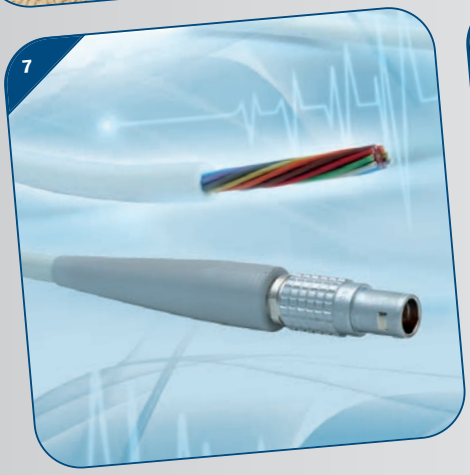
SAB celebrates the seventieth anniversary.

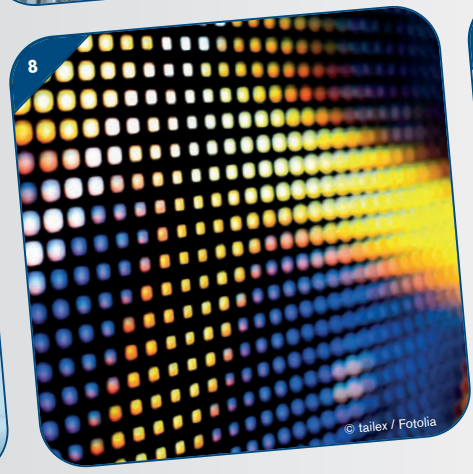
Sabine Bröckskes-Wetten takes over
the management of the company.

2022

SAB celebrates the seventy fifth anniversary.
SAB celebrates twentieth anniversary in USA.

INDUSTRIES AND APPLICATIONS

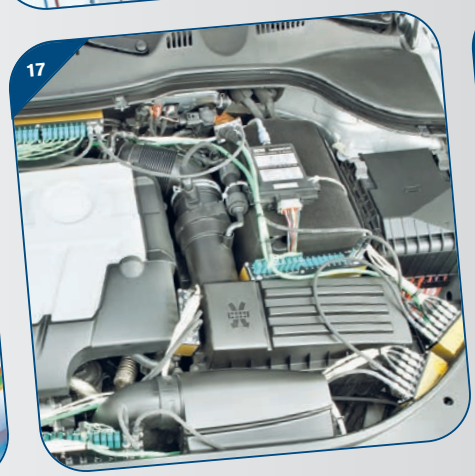


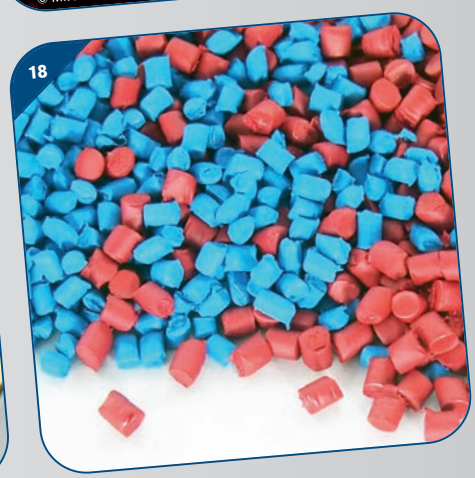


1 Robot Cables
4 Cables for Building and Utility Vehicles
7 Cables for medical technology

2 Railway Cables
5 Lift Control Cables
8 Cables for the lamp and lights industry

3 Automation Cables
6 Cables for Airport Equipment
9 Harnessed cables



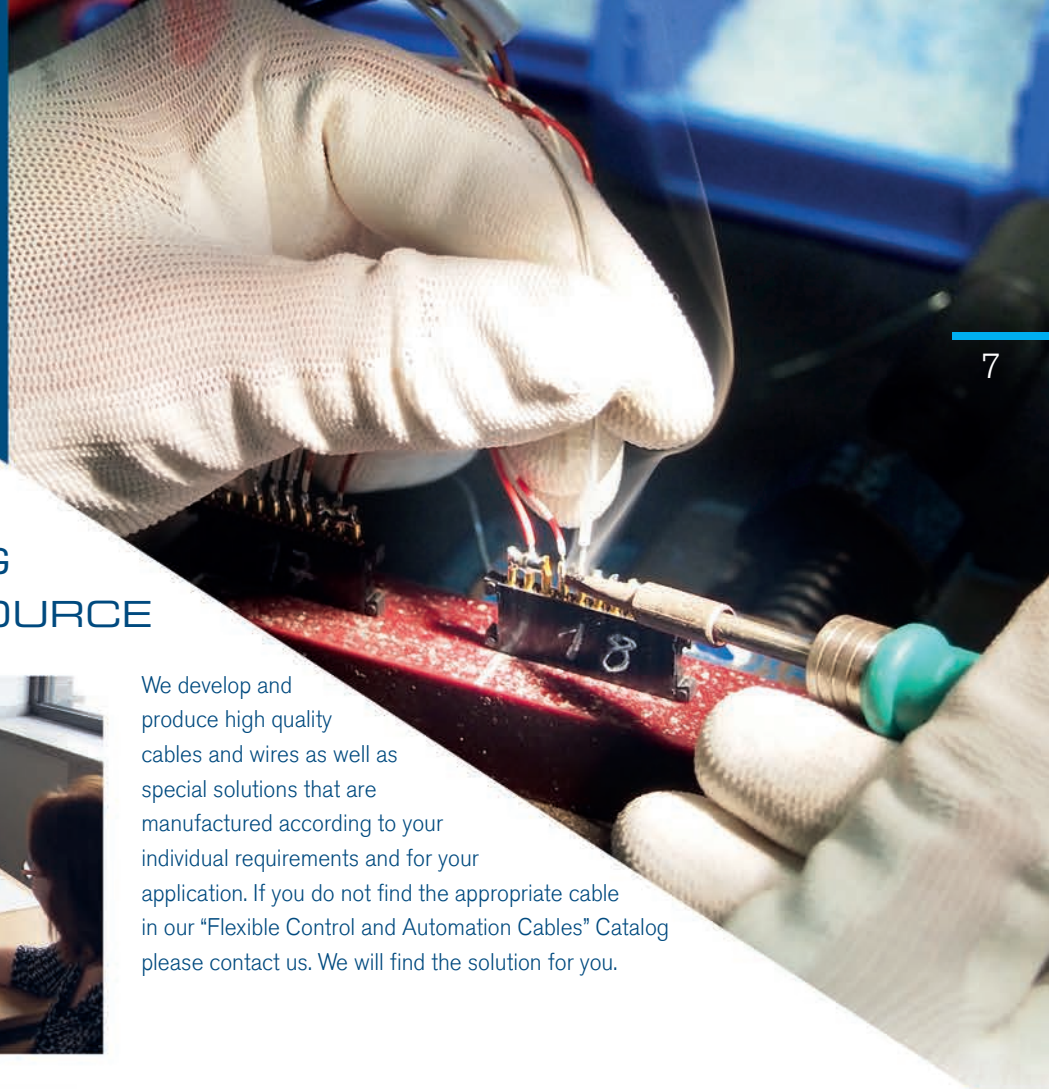


INSIGHTS
IN OUR PRODUCTION

Everything starts with copper. We draw our own copper so we have complete control from the very beginning of production through extruding the overall jacket. With over 550 experienced employees worldwide, we develop, produce and market more than 1,500 special solutions annually. These, as well as our standard cables and thermocouples have been thoroughly tested in our test laboratory based on DIN norms. This gives you an indestructible product, because:

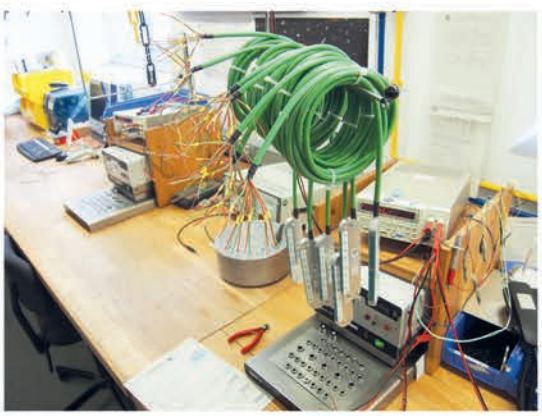
IT DEPENDS ON THE RIGHT CONNECTION!

- ***Over 75 years experience as a cable specialist***
- ***Outstanding customer service***
- ***Customized solutions according to your special needs***
- ***Excellent quality through continuous quality control***
- ***Latest innovations in the cable and temperature measurement technology in the industry***

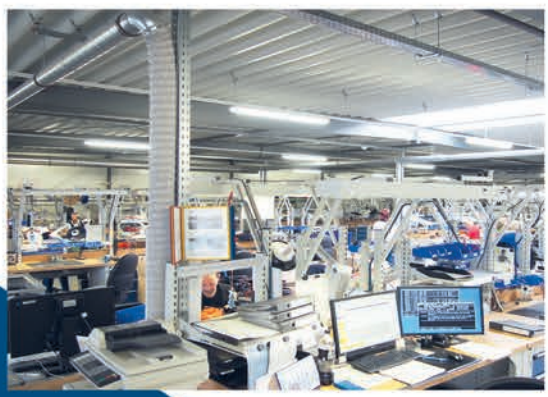


... EVERYTHING FROM A SINGLE SOURCE

We develop and produce high quality cables and wires as well as special solutions that are manufactured according to your individual requirements and for your application. If you do not find the appropriate cable in our “Flexible Control and Automation Cables” Catalog please contact us. We will find the solution for you.



We offer an extensive range of thermocouples for various applications such as the automotive and plastics industries. In addition, our product spectrum includes: resistance thermometers, temperature sensors, protecting armatures, gauge slides and mobile high-voltage measurement. Our sensors are used for a variety of temperature measurements. Whether in test vehicles, machinery, or on hot plates, our temperature measurement technology allows you to perform precise measurements.



Our product range is rounded off with prefabricated cables and wires. It does not matter if it is a standard or special product; we design and produce high-quality cables as well as ready-made cables with a connector. Our harnessed cables are used for a variety of industrial applications. They are, for example, used in the automobile industry, machine, plant MRO, and new construction as well as in industries for household appliances.

WE ARE AT YOUR SERVICE
WHEN YOU NEED US

Whether it is stock in Viersen-Süchteln or from one or our worldwide subsidiaries, our wide product range is available in standard put ups as well as cut to length, often within 24 hours. The strengths of SAB BRÖCKSKES is our worldwide presence and quality products. We welcome challenging opportunities and guarantee solutions. The SAB advantage is - we are present - whenever you need our assistance.

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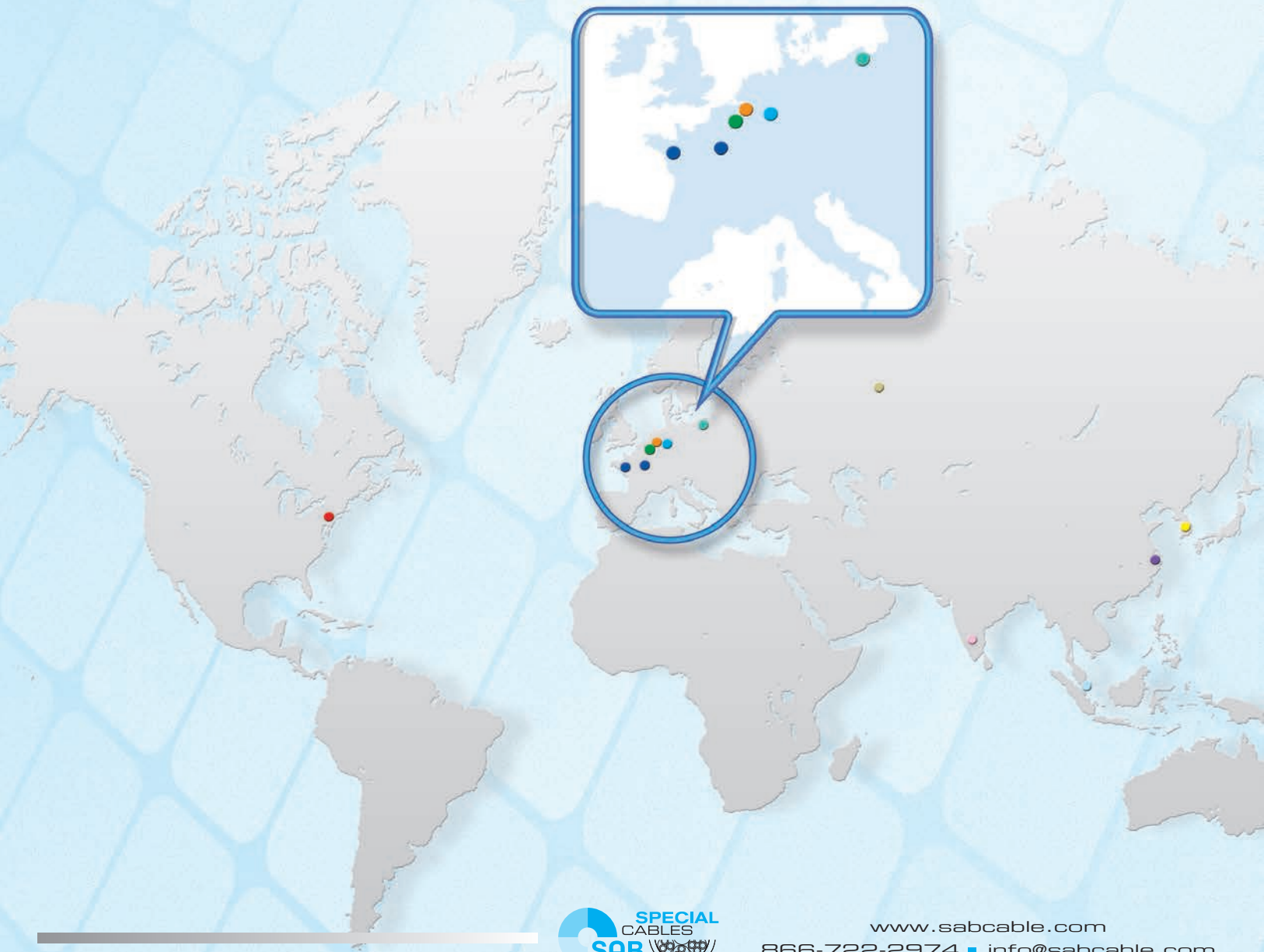
WE TAKE THE SHORTEST WAY FOR INDIVIDUAL SOLUTIONS.



SAB CABLES
AT A GLANCE

WE DEVELOP AND PRODUCE **CABLES AND WIRES**
AS WELL AS **SPECIAL SOLUTIONS**
PARTICULARLY ACCORDING TO YOUR REQUIREMENTS AND APPLICATIONS.

Order minimums are as low as 1,500 feet, and we can test your unique product in our lab. No matter your application's requirements, SAB North America Special Cables expand the possibilities of standard cables and address your design challenges.

Conductor Materials

- Bare copper
- Tinned copper
- Silver plated copper
- Nickel plated copper
- Nickel
- Nickel pure
- Compensating cable alloys

Conductor Sizes

- 0.14 mm² - 300 mm² (26 AWG to 500 MCM)
- variety of stranding styles

Insulation and Jacketing Materials

- PVC (many varieties)
- Polyethylene
- Polypropylene
- TPE
- Fiberglass
- Besilen®/Silicone
- Pi foil
- FEP, ETFE, PFA, PTFE
- SABIX® zero halogen
- Polyurethane

Conductor Count Ranges

- unshielded - up to 125 conductors
- shielded - up to 100 conductors

Temperature Ranges (based on material)

Thermoplastic Elastomers	-50°C up to +145°C
Besilen®/Silicone	-40°C up to +220°C
FEP, ETFE, PFA, PTFE	-90°C up to +260°C
Halogen-free	-50°C up to +220°C
Fiberglass	up to +600°C

Shielding and Braiding Materials

- Bare copper
- Tinned copper
- Galvanized steel
- Stainless steel
- Aluminum foil
- Fiberglass
- Aramid

Approvals

- UL, CSA, CE, EAC, VDE, HAR, IEC, EN, ISO, DNV-GL, LR, ABS, RINA, RMRS, BSI

TEMPERATURE MEASUREMENT

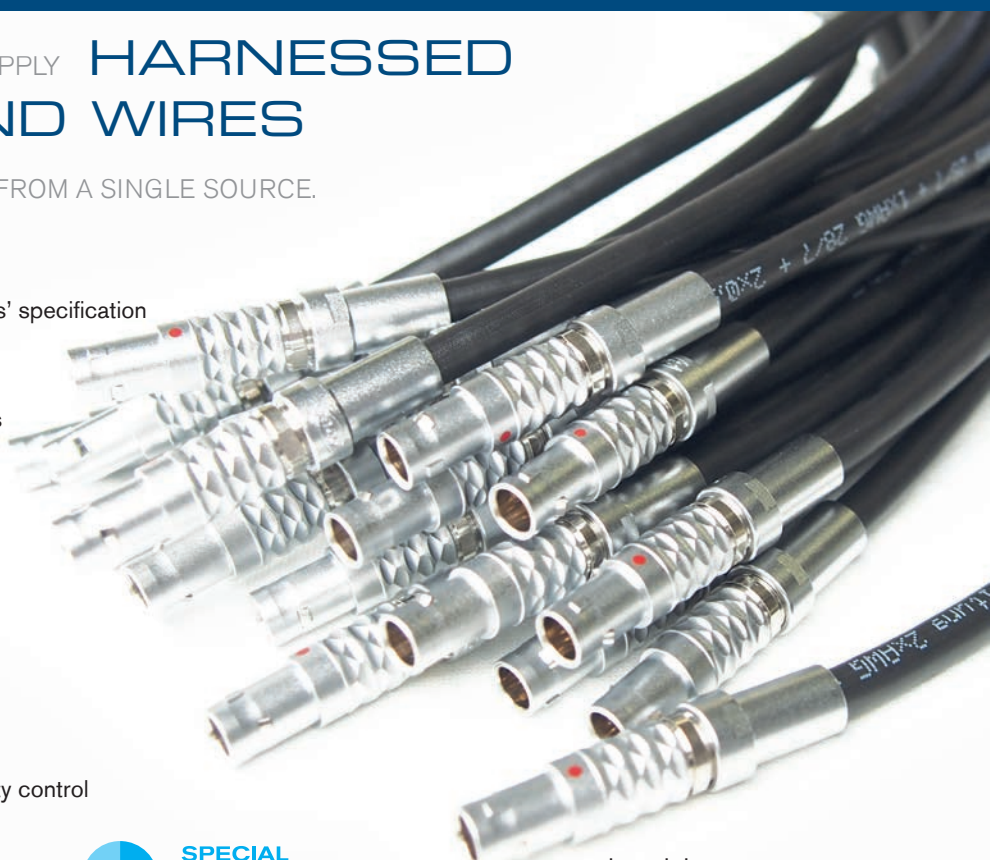
WITH US YOU GET TEMPERATURE MEASUREMENT AND ACCESSORIES FOR A WIDE VARIETY OF REQUIREMENTS AND INDUSTRIES.

SAB North America has expertise in thermocouples, resistance thermometers and the cabling you need to build an optimal assembly. We're well-positioned to answer cabling questions that pertain to your temperature measurement needs.

- **Protecting armatures and gauge slides**
- **Mineral insulated thermocouples**
- **Mineral insulated resistance thermometers**
- **Temperature measurement in plastics processing industry/Hot runner process**
- **Temperature measurement in test vehicles**
- **Probe with stainless steel sleeve**
- **Compensating and extension cables**
- **Accessories**

CABLE HARNESSING

WE SUPPLY HARNESSED CABLES AND WIRES FROM A SINGLE SOURCE.



- Helix cables
- Harnessed cables according to customers' specification
- Cable assemblies
- Harnessed motor and transmission cables for Siemens and Indramat drives
- Harnessed track cable
- Various combinations of connector types and terminals
- Many application of various materials and jacket materials
- Complete solutions
- High quality standard by continuous quality control

YOU CAN TRUST
OUR KNOW-HOW

Good results are not determined by luck or chance. Key drivers of our success are years of experience, sophisticated technology, expertise, and the willingness to develop and improve. Constant development and innovation round off our range of services which strengthens and expands our position in the market. Through intensive research and development, testing and retesting, we make sure that all products are perfected before introduction into the market.

New products are the result of close communication between customers, sales, research and development, laboratory, and raw material suppliers. SAB BRÖCKSKES abides by VDE test procedures as well as numerous international certifications. In addition, we have developed an alternating bend test machine for measuring cable durability and lifecycle. We stand by the quality of our products and thus, gain the trust of our customers.

NEW PRODUCTS AT SAB

Chapter D: Reeling, Lift, & Specialty Cables

Chapter E: Tray & VFD Cables

Chapter F: Data & Sensor Cables

Chapter I: High Temperature Cables

NEW PRODUCTS AT SAB

Chapter J: BUS & Ethernet Cables

Chapter K: Halogen-Free Cables

Chapter L: ETFE, FEP, PFA Cables

Chapter M: Compensating & Extension Cables

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Chapter N: Cord Grips & Accessories

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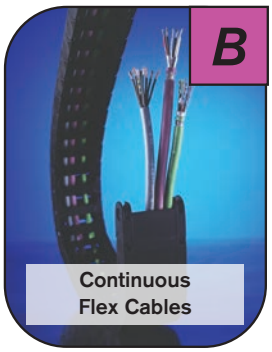
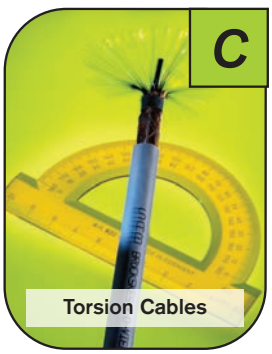
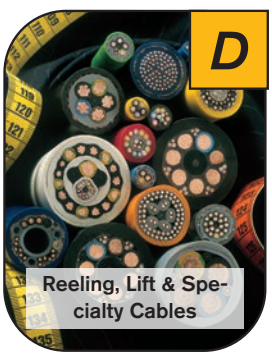
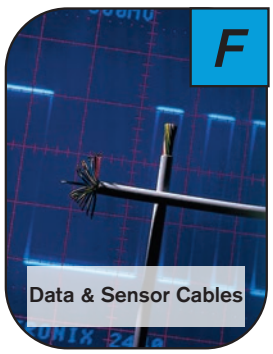
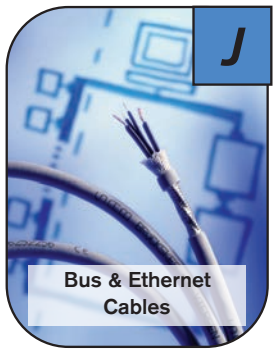
OUR PRODUCT RANGE

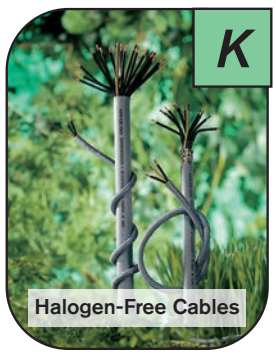












RoHS

Our cables are free
of harmful substances
acc. to RoHS II - directive 2011/65/EU
acc. to RoHS III - directive 2015/863/EU
as well as GefStoffV appendix IV-no. 24

FLEXIBLE CONTROL CABLES

www.sabcable.com
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SPECIAL CABLES
SAB North America

Content

Applications

Applications of PVC control and connection cables

PVC control and connection cables are particularly suitable for control devices, e.g. on machine tools, conveyor or assembly lines, transporting equipment, production lines and construction of industrial plants. The cables can be moved after installation, especially for alignment and adjustment as well as inspection of machines, provided that the cables are not mechanically overloaded. Wherever a certain protection against electromagnetic interferences is requested, cables with a tinned copper shield can be used. These cables are not to be used for outdoor installation.

Exemplary applications:

CC 500 **CC 600** **CC 600 MTW**	Construction of service cabinets and control devices, electrical technology, installation and packaging technologies, construction of textile machines, wood working machines and machine tools
CC 500 B	Construction of service cabinets, control devices and machine tools, data processing, packaging machine, textile and wood working machine construction and in cleaning appliances
CC 500 CY (TR) **CC 600 CY** **CC 600 MTW CY**	Car manufacturing industry, automation technologies, press and form engineering, machine tools, textile, printing and paper machine construction, iron and steel industries
CC 500 SY (TR)	Packaging and wood working machine construction, press engineering, energy technologies, plastics processing and textile machine construction, electrical technology, beverage racks
CC 600 World **CC 600 World CY** **CC 600 T** **CC 600 CY T**	Machine tool and packaging machine construction, material handling and automation technologies, car manufacturing industry, CNC-machines

Applications of PUR/TPE control cables

PUR/TPE control and connection cables are particularly suitable for control devices, e.g. on machine tools, conveyor or assembly lines, transporting equipment and production lines. They can be used at high mechanical loads for fixed installation or flexible applications with free movement, without tensile load and mechanically guided movement in dry, damp and wet rooms. These cables are used wherever abrasion resistance, notch resistance and oil and chemical resistance are strongly requested.

Exemplary applications:

CC 600 P **CC 600 CP** **CC 640 P** **CC 640 CP** **CC 550 P** **CC 550 CP**	PUR/TPE outer jacket is very well suited for: machine and industrial plant construction, material handling techniques (e.g. working platforms and transportation systems), car manufacturing industry, handling and automation technologies, iron, steel and chemical industries

Application of control cables with extra chemical resistance

These cables are multi-conductor 600 V control cables with UL recognition, chemical and oil resistant. The reduced outer diameter permits easy handling and installation in confined areas.

Exemplary applications:

CRX 600 **CRX 600 C**	Industrial painting machinery, water treatment facilities, chemical processing, harsh environments and areas utilizing various cleaning solvents. Control and power supply cables with extra chemical resistance, such as MEK, Acetone, Xylene, Turpentine

Selection Table

	Cable Type	A/5 CC 600	A/6 CC 600 CY	A/7 CC 600 T	A/8 CC 600 CY T	A/9 CC 600 MTW	A/10 CC 600 MTW CY	A/11 CC World	A/12 CC World CY	A/13 CC 500 B	A/14 CC 500	A/15 CC 500 CY (TR)	A/16 CC 500 SY (TR)	A/17 CC 600 P	A/18 CC 600 CP	A/19 CC 640 P	A/20 CC 640 CP	A/21 CC 550 P	A/22 CC 550 CP	A/23 CRX 600	A/24 CRX 600 C	A/25 SABIX® A 530 Rugged
Basic construction	Numbered conductors	●	●	●	●	●	●	●	●		●	●	●	●	●			●	●	●	●	●
	Colored conductors									●						●	●					
	Tinned Copper Shielding		●		●		●		●			●			●		●		●		●	
	Steel wire protection												●									
	Inner jacket		●						●			●	●	●3								
	Transparent outer jacket											●	●									
Temperature range fixed installation*	+105°C																					
	+ 90°C																					
	+ 70°C																					
	- 25°C																					
	- 30°C																					
	- 40°C																					
Voltage	Nominal voltage Uo/U 300/500 V	●	●	●	●			●	●	●1	●	●	●	●	●	●	●	●	●	●	●	●
	Nominal voltage Uo/U 450/750 V									●2												
	Voltage UL 600 V	●	●	●	●	●	●	●	●					●	●	●	●			●	●	
	Voltage cUL 600 V					●	●															
	Voltage CSA 600 V	●	●	●	●			●	●					●	●	●	●			●	●	
	Voltage CSA 1000 V					●	●															
	Testing voltage 2000 V			●	●									●	●		●	●	●	●	●	
	Testing voltage 3000 V	●	●					●	●	●	●	●	●			●						●
	Testing voltage 4000 V					●	●															
Standards and approvals	Halogen-free acc. to IEC 60754-1 + VDE 0482-754-1															●	●		●			●
	Fire performance: Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2	●	●	●	●			●	●	●	●	●	●	●	●	●	●		●	●	●	
	Fire performance: UL VW-1	●	●	●	●			●	●					●	●	●	●			●	●	
	Fire performance: cUL FT1, FT2																			●	●	
	Fire performance: CSA FT1, FT2	●	●	●	●	●	●	●	●					●	●	●	●					
	VDE-Reg. no.	●	●								●	●	●									
	DIN VDE standardized							●	●													
	<HAR> standardized							●	●													
	UL recognition	●	●	●	●	●	●	●	●					●	●	●	●			●	●	
	cUL recognition																			●	●	
	(UL) listed					●	●															
	CSA approved	●	●	●	●	●	●	●	●					●	●	●	●					
Characteristics	Oil resistance acc. to EN 50363-4-1 + VDE 0207-363-4-1	●	●			●	●	●	●													
	Oil resistance acc. to EN 50363-10-2 + VDE 0207-363-10-2															●	●	●	●			
	Oil resistance acc. to internal standard			●	●					●	●	●	●									●
	Oil 60°C	●	●			●	●													●	●	
	Oil rating 60°C acc. to UL 1581													●	●							
	Fuel Oil acc. to CSA-C 22.2 No. 210	●	●			●	●															
	Good chemical resistance													●	●	●	●	●	●	●	●	
	Very good chemical resistance																					●
	High mechanical loading capacity	●	●									●	●	●	●	●	●	●	●			
	NFPA 79 for industrial machinery					●	●															
	Impact and Crushing test acc. to UL 1277					●	●															
	UV, weather, and salt water resistance																					●
	Battery acid resistance																					●

from
to

[1] from 0.50 mm² to 1.50 mm²
[2] from 2.50 mm² to 50.0 mm²
[3] from 4.00 mm²

*The temperature range for flexible application is mentioned on the corresponding catalog page

CC 600

Oil Resistant 90°C flexible control cable with black conductors

Marking for CC 600 2041604:
SAB BRÖCKSKES · D-VIERSEN · ⊲VDE-REG 7000⊳ 4x1.5mm² CC 600 16 AWG/4c 2041604
AWM Style 21216 90°C Oil 60°C 600V CSA AWM I/II A/B 90°C F 600V FT1 FT2

Construction:

Conductor:	
AWG 20 - 10:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
AWG 8 - 1:	bare copper strands acc. to UL/CSA
Insulation:	special PVC acc. to VDE and UL/CSA
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	in layers
Jacket material:	special oil resistant PVC acc. to VDE and UL/CSA
Jacket color:	gray (RAL 7000)

Outstanding features:

- **UL recognized, CSA approved**
- **high mechanical loading capacity**
- **oil resistant**
- **.AWG 20 - AWG 10 built acc. to VDE-Reg. no. 7000**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Voltage UL/CSA:	600 V
Testing voltage:	conductor/conductor: 3000 V
Min. bending radius:	
fixed installation:	4 x O.D.
free movement:	6 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range:	**DIN VDE** **UL/CSA:** up to +90°C
static:	-40/+70°C
flexible:	+5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, CSA FT1, FT2
Oil resistance:	very good - TM5 acc. to EN 50363-4-1 + VDE 0207-363-4-1, Oil 60°C acc. to UL 758, Fuel Oil acc. to CSA-C 22.2 No. 210
Chemical resistance:	see page O/11
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 20 AWG (≈ 16/32) • 0.50 mm²				
2042002	2	0.209	5.3	28
2042003	3	0.220	5.6	32
2042004	4	0.236	6.0	38
2042005	5	0.264	6.7	47
2042007	7	0.283	7.2	58
2042008	8	0.335	8.5	73
2042009	9	0.362	9.2	84
2042010	10	0.370	9.4	85
2042012	12	0.382	9.7	96
2042014	14	0.398	10.1	108
2042016	16	0.429	10.9	125
2042018	18	0.449	11.4	138
2042025	25	0.547	13.9	189
2042034	34	0.614	15.6	249
2042041	41	0.665	16.9	287
2042061	61	0.780	19.8	422
► 18 AWG (≈ 30/32) • 1.00 mm²				
2041802	2	0.236	6.0	37
2041803	3	0.252	6.4	46
2041804	4	0.276	7.0	55
2041805	5	0.307	7.8	69
2041807	7	0.335	8.5	86
2041809	9	0.425	10.8	122
2041810	10	0.433	11.0	125
2041812	12	0.445	11.3	142
2041814	14	0.476	12.1	165
2041815	15	0.500	12.7	180
2041818	18	0.535	13.6	209
2041825	25	0.646	16.4	285
2041834	34	0.728	18.5	376
2041841	41	0.783	19.9	434
2041850	50	0.882	22.4	533
2041861	61	0.933	23.7	649

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 16 AWG (≈ 27-29/30) • 1.50 mm²				
2041602	2	0.264	6.7	48
2041603	3	0.280	7.1	58
2041604	4	0.311	7.9	73
2041605	5	0.339	8.6	88
2041607	7	0.378	9.6	115
2041608	8	0.441	11.2	140
2041609	9	0.480	12.2	162
2041612	12	0.504	12.8	189
2041615	15	0.563	14.3	229
2041618	18	0.602	15.3	277
2041625	25	0.728	18.5	382
2041630	30	0.760	19.3	448
2041634	34	0.827	21.0	511
2041641	41	0.902	22.9	597
2041650	50	0.980	24.9	714
2041661	61	1.051	26.7	880
► 14 AWG (≈ 46/30) • 2.50 mm²				
2041402	2	0.319	8.1	73
2041403	3	0.339	8.6	89
2041404	4	0.374	9.5	112
2041405	5	0.417	10.6	140
2041407	7	0.457	11.6	177
2041409	9	0.587	14.9	267
2041412	12	0.618	15.7	296
2041418	18	0.736	18.7	432
2041425	25	0.909	23.1	607

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 12 AWG (≈ 52/28) • 4.00 mm²				
2041203	3	0.402	10.2	132
2041204	4	0.445	11.3	165
2041205	5	0.496	12.6	204
2041207	7	0.547	13.9	267
2041212	12	0.740	18.8	447
► 10 AWG (≈ 78/28) • 6.00 mm²				
2041003	3	0.476	12.1	191
2041004	4	0.520	13.2	236
2041005	5	0.587	14.9	296
2041007	7	0.669	17.0	403
► 8 AWG (≈ 69/26)				
2040803	3	0.602	15.3	302
2040804*	4	0.669	17.0	383
2040805	5	0.744	18.9	468
► 6 AWG (≈ 110/26)				
2040604	4	0.823	20.9	568
2040605	5	0.929	23.6	651
► 4 AWG (≈ 175/26)				
2040404	4	1.008	25.6	914
► 2 AWG (≈ 272/26)				
2040204	4	1.197	30.4	1349
► 1 AWG (≈ 342/26)				
2040104	4	1.307	33.2	1656

Other dimensions and colors are available on request
* 2040804 is built acc. to VDE-Reg no. 7000 with class 5 copper strands

also available with blue, red or orange conductors and black or orange jacket

CC 600 CY

Oil Resistant 90°C flexible shielded control cable

Marking for CC 600 CY 2591804:

SAB BRÖCKSKES · D-VIERSEN · ◁VDE-REG 7000▷ 4x1.0mm² CC 600 CY 18 AWG/4c 2591804 AWM Style 21216 90°C 600V Oil 60°C CSA AWM I/II A/B 90°C F 600V FT1 FT2

Construction:

Conductor:	
AWG 20 - 10:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
AWG 8 - 1:	bare copper strands acc. to UL/CSA
Insulation:	special PVC acc. to VDE and UL/CSA
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	in layers
Inner Jacket:	special PVC acc. to VDE and UL/CSA
Shielding:	tinned copper braiding
Jacket material:	special oil resistant PVC acc. to VDE and UL/CSA
Jacket color:	gray (RAL 7000)

Outstanding features:

- **UL recognized, CSA approved**
- **high mechanical loading capacity**
- **oil resistant**
- **AWG 20 - AWG 10: built acc. to VDE-Reg. no. 7000**
- **good EMC characteristics**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Voltage UL/CSA:	600 V
Testing voltage:	conductor/conductor: 3000 V conductor/shielding: 2000 V
Min. bending radius:	
fixed installation:	5 x O.D.
free movement:	10 x O.D.
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range:	**DIN VDE** **UL/CSA:** up to +90°C
static:	-40/+70°C
flexible:	+5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, CSA FT1, FT2
Oil resistance:	very good - TM5 acc. to DIN VDE 0281 part 1 + HD 21.1, Oil 60°C acc. to UL 758, Fuel Oil acc. to CSA-C 22.2 No. 210
Chemical resistance:	see page O/11
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 20 AWG (≈ 16/32) • 0.50 mm²				
2592002	2	0.291	7.4	55
2592003	3	0.311	7.9	64
2592004	4	0.331	8.4	73
2592005	5	0.358	9.1	85
2592007	7	0.378	9.6	98
2592010	10	0.469	11.9	148
2592012	12	0.492	12.5	163
2592025	25	0.657	16.7	288
► 18 AWG (≈ 30/32) • 1.0 mm²				
2591802	2	0.327	8.3	71
2591803	3	0.339	8.6	79
2591804	4	0.370	9.4	95
2591805	5	0.402	10.2	117
2591807	7	0.437	11.1	140
2591809	9	0.535	13.6	195
2591812	12	0.555	14.1	218
2591818	18	0.642	16.3	310
2591825	25	0.772	19.6	411

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 16 AWG (≈ 27-29/30) • 1.50 mm²				
2591602	2	0.358	9.1	87
2591603	3	0.374	9.5	98
2591604	4	0.406	10.3	122
2591605	5	0.433	11.0	144
2591607	7	0.480	12.2	176
2591612	12	0.614	15.6	274
2591618	18	0.724	18.4	394
2591625	25	0.878	22.3	548
► 14 AWG (≈ 46/30) • 2.50 mm²				
2591403	3	0.441	11.2	144
2591404	4	0.476	12.1	172
2591405	5	0.520	13.2	206
2591407	7	0.567	14.4	256
2591412	12	0.744	18.9	418
2591418	18	0.874	22.2	585
2591425	25	1.028	26.1	773

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 12 AWG (≈ 52/28) • 4.00 mm²				
2591203	3	0.512	13.0	201
2591204	4	0.555	14.1	243
2591205	5	0.602	15.3	285
2591207	7	0.665	16.9	372
► 10 AWG (≈ 78/28) • 6.00 mm²				
2591003	3	0.587	14.9	273
2591004	4	0.630	16.0	323
2591005	5	0.705	17.9	406
2591007	7	0.772	19.6	511
► 8 AWG (≈ 69/26)				
2590804	4	0.807	20.5	531
► 6 AWG (≈ 110/26)				
2590604	4	0.957	24.3	746
► 4 AWG (≈ 175/26)				
2590404	4	1.157	29.4	1144
► 2 AWG (≈ 272/26)				
2590204	4	1.346	34.2	1564
► 1 AWG (≈ 342/26)				
2590104	4	1.441	36.6	1882

Other dimensions and colors are available on request

also available with blue, red or orange conductors and black or orange jacket

CC 600 T

Oil Resistant 105°C flexible control cable

Marking for CC 600 T 2581604:

SAB BRÖCKSKES · D-VIERSEN · 2580415 4x1.5mm² CC 600 T 16 AWG/4c 2581604 AWM Style 2586 105°C 600V CSA AWM I/II A/B 105°C 600V FT1 FT2

Construction:

Conductor:	
AWG 20 - 10:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
AWG 8 - 1:	bare copper strands acc. to UL/CSA
Insulation:	special heat resistant PVC
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	in layers
Jacket material:	special heat resistant PVC
Jacket color:	gray (RAL 7000)

Outstanding features:

UL recognized, CSA approved

temperature range up to +105°C

Technical data:

Nominal voltage:	Uo/U 300/500 V
Voltage UL/CSA:	600 V
Testing voltage:	conductor/conductor: 2000 V
Min. bending radius:	
fixed installation:	4 x O.D.
free movement:	6 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range:	**DIN VDE** **UL/CSA:** up to +105°C
static:	-40/+90°C
flexible:	+5/+90°C
short time use:	+105°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, CSA FT1, FT2
Oil resistance:	see page O/29
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **20 AWG (≈ 16/32) • 0.50 mm²**				
2582002	2	0.209	5.3	26
2582003	3	0.220	5.6	31
2582004	4	0.236	6.0	36
2582005	5	0.264	6.7	45
2582007	7	0.283	7.2	56
2582008	8	0.335	8.5	69
2582010	10	0.370	9.4	81
2582012	12	0.382	9.7	93
2582014	14	0.398	10.1	103
2582016	16	0.429	10.9	120
2582018	18	0.449	11.4	133
2582025	25	0.547	13.9	183
▶ **19 AWG (≈ 23/32) • 0.75 mm²**				
2581903	3	0.244	6.2	38
2581904	4	0.264	6.7	46
2581905	5	0.295	7.5	57
2581907	7	0.323	8.2	72
2581908	8	0.378	9.6	88
2581910	10	0.417	10.6	103
2581912	12	0.429	10.9	118
2581914	14	0.449	11.4	132
2581916	16	0.480	12.2	153
2581918	18	0.508	12.9	169
2581925	25	0.614	15.6	232
▶ **18 AWG (≈ 30/32) • 1.00 mm²**				
2581802	2	0.236	6.0	36
2581803	3	0.252	6.4	44
2581804	4	0.276	7.0	53
2581805	5	0.307	7.8	66

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
02581807	7	0.335	8.5	83
▶ **18 AWG (≈ 30/32) • 1.00 mm²**				
2581808	8	0.390	9.9	101
2581810	10	0.433	11.0	120
2581812	12	0.445	11.3	137
2581814	14	0.476	12.1	159
2581818	18	0.535	13.6	202
2581825	25	0.646	16.4	276
▶ **16 AWG (≈ 27-29/30) • 1.50 mm²**				
2581602	2	0.264	6.7	46
2581603	3	0.280	7.1	56
2581604	4	0.311	7.9	71
2581605	5	0.339	8.6	85
2581607	7	0.378	9.6	112
2581608	8	0.441	11.2	135
2581610	10	0.488	12.4	160
2581612	12	0.504	12.8	183
2581614	14	0.535	13.6	212
2581616	16	0.563	14.3	238
2581618	18	0.602	15.3	269
2581625	25	0.728	18.5	370
▶ **14 AWG (≈ 46/30) • 2.50 mm²**				
2581402	2	0.319	8.1	71
2581403	3	0.339	8.6	86
2581404	4	0.374	9.5	108
2581405	5	0.417	10.6	134
2581407	7	0.457	11.6	171
2581408	8	0.543	13.8	210
2581410	10	0.598	15.2	249
2581412	12	0.618	15.7	288
2581418	18	0.736	18.7	421
2581425	25	0.909	23.1	591

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **12 AWG (≈ 52/28) • 4.00 mm²**				
2581203	3	0.402	10.2	128
2581204	4	0.445	11.3	161
2581205	5	0.496	12.6	198
2581207	7	0.547	13.9	259
▶ **10 AWG (≈ 78/28) • 6.00 mm²**				
2581003	3	0.476	12.1	185
2581004	4	0.520	13.2	230
2581005	5	0.587	14.9	288
▶ **8 AWG (≈ 69/26)**				
2580804	4	0.669	17.0	374
2580805	5	0.744	18.9	454
▶ **6 AWG (≈ 110/26)**				
2580604	4	0.823	20.9	507
▶ **4 AWG (≈ 175/26)**				
2580404	4	1.008	25.6	897
▶ **2 AWG (≈ 272/26)**				
2580204	4	1.197	30.4	1379
▶ **1 AWG (≈ 342/26)**				
2580104	4	1.307	33.2	1628

Other dimensions and colors are available on request

CC 600 CY T

Oil Resistant 105°C flexible shielded control cable

Marking for CC 600 CY T 2781604:
SAB BRÖCKSKES · D-VIERSEN · 4x1.5mm² CC 600 CY T 16 AWG/4c 2781604 AWM Style 2586 105°C 600V CSA AWM I/II A/B 105°C 600V FT1 FT2

Construction:

Conductor:	
AWG 20 - 10:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
AWG 8 - 1:	bare copper strands acc. to UL/CSA
Insulation:	special heat resistant PVC
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	in layers with PETP foil over the outer layer
Shielding:	tinned copper braiding
Jacket material:	special heat resistant PVC
Jacket color:	gray (RAL 7000)

Outstanding features:

- **UL recognized, CSA approved**
- **temperature range up to +105°C**
- **good EMC characteristics**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Voltage UL/CSA:	600 V
Testing voltage:	conductor/conductor: 2000 V conductor/shielding: 2000 V
Min. bending radius:	
fixed installation:	5 x O.D.
free movement:	10 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range:	**DIN VDE** **UL/CSA:** up to +105°C
static:	-40/+90°C
flexible:	+5/+90°C
short time use:	+105°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, CSA FT1, FT2
Oil resistance:	acc. to internal standard, see page O/29
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 20 AWG (≈ 16/32) • 0.50 mm²				
2782002	2	0.228	5.8	31
2782003	3	0.244	6.2	38
2782004	4	0.260	6.6	44
2782007	7	0.311	7.9	67
2782012	12	0.417	10.6	118
2782015	15	0.457	11.6	141
2782025	25	0.575	14.6	215
► 18 AWG (≈ 30/32) • 1.00 mm²				
2781802	2	0.260	6.6	40
2781803	3	0.272	6.9	50
2781804	4	0.303	7.7	62
2781805	5	0.327	8.3	75
2781807	7	0.362	9.2	96
2781812	12	0.480	12.2	165
2781815	15	0.535	13.6	204
2781818	18	0.563	14.3	230
2781825	25	0.681	17.3	325
2781850	50	0.917	23.3	606

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 16 AWG (≈ 27-29/30) • 1.50 mm²				
2781602	2	0.283	7.2	50
2781603	3	0.307	7.8	64
2781604	4	0.331	8.4	78
2781605	5	0.366	9.3	97
2781607	7	0.406	10.3	130
2781612	12	0.539	13.7	214
2781615	15	0.598	15.2	264
2781618	18	0.646	16.4	319
2781625	25	0.772	19.6	431
2781650	50	1.016	25.8	792
► 14 AWG (≈ 46/30) • 2.50 mm²				
2781403	3	0.366	9.3	93
2781404	4	0.402	10.2	124
2781405	5	0.449	11.4	153
2781407	7	0.492	12.5	194
2781412	12	0.661	16.8	335
2781418	18	0.780	19.8	476
2781425	25	0.941	23.9	658

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 12 AWG (≈ 52/28) • 4.00 mm²				
2781203	3	0.429	10.9	138
2781204	4	0.476	12.1	177
2781205	5	0.520	13.2	215
2781207	7	0.591	15.0	291
► 10 AWG (≈ 78/28) • 6.00 mm²				
2781003	3	0.500	12.7	196
2781004	4	0.547	13.9	245
2781005	5	0.606	15.4	302
► 8 AWG (≈ 69/26)				
2780804	4	0.705	17.9	404
► 6 AWG (≈ 110/26)				
2780604	4	0.886	22.5	648
► 4 AWG (≈ 175/26)				
2780404	4	1.087	27.6	911
► 2 AWG (≈ 272/26)				
2780204	4	1.240	31.5	1271
► 1 AWG (≈ 342/26)				
2780104	4	1.335	33.9	1573

Other dimensions and colors are available on request

also available with blue, red or orange conductors and black or orange jacket

CC 600 MTW

Oil Resistant 90°C flexible control cable and machine tool cable

Marking for CC 600 MTW CY 35601604:
SAB BRÖCKSKES · D-VIERSEN · 4x1.5mm² CC 600 MTW CY 16 AWG/4c 35601604 (UL) Type MTW 600V AWM Style 21216 90°C Oil 60°C 600V CSA AWM I/II A/B 90°C 1000V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5 UL standard 758 table 5.1, UL 1581 table 20.1
Insulation:	special formulated PVC/Nylon
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	in layers
Jacket material:	special oil resistant PVC
Jacket color:	gray (RAL 7000)

Outstanding features:

- **UL recognized, (UL) listed, CSA approved**
- **flexible cable for use as machine tool cable**
- **oil resistant**

Technical data:

Voltage:	**UL-AWM / (UL)** 600 V **CSA** 1000 V
Testing voltage:	conductor/conductor: 4000 V
Min. bending radius: *fixed installation:* *free movement:*	 4 x O.D. 6 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range:	**UL/CSA:** -25/ +90°C
Burning characteristics:	CSA FT1, FT2
Oil resistance:	very good - TM5 acc. to EN 50363-4-1 + VDE 0207-363-4-1, Oil 60°C acc. to UL 758, Fuel Oil acc. to CSA-C 22.2 No. 210
Impact and Crushing test:	acc. to UL 1277
Machinery Area:	yes
Approvals:	UL MTW, UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **18 AWG (≈ 30/32) • 1.00 mm²**				
35501802	2	0.290	7.4	50
35501803	3	0.303	7.7	58
35501804	4	0.327	8.3	69
35501805	5	0.358	9.1	83
35501807	7	0.386	9.8	101
35501809	9	0.472	12.0	132
35501812	12	0.496	12.6	158
35501816	16	0.579	14.7	215
35501818	18	0.606	15.4	238
35501819	19	0.638	16.2	251
35501825	25	0.717	18.2	312
35501827	27	0.717	18.2	330
35501837	37	0.799	20.3	429
35501850	50	0.976	24.8	603
▶ **16 AWG (≈ 27-29/30) • 1.50 mm²**				
35501603	3	0.331	8.4	72
35501604	4	0.358	9.1	86
35501605	5	0.386	9.8	103
35501607	7	0.421	10.7	128
35501608	8	0.484	12.3	154
35501609	9	0.520	13.2	171
35501612	12	0.571	14.5	217
35501616	16	0.634	16.1	275
35501618	18	0.661	16.8	304
35501619	19	0.661	16.8	313
35501625	25	0.791	20.1	406
▶ **16 AWG (≈ 27-29/30) • 1.50 mm²**				
35501627	27	0.791	20.1	431
35501641	41	0.988	25.1	667
35501650	50	1.075	27.3	789
35501661	61	1.142	29.0	934
▶ **14 AWG (≈ 46/30) • 2.50 mm²**				
35501403	3	0.366	9.3	96
35501404	4	0.394	10.0	116
35501405	5	0.433	11.0	140
35501407	7	0.469	11.9	178
35501409	9	0.606	15.4	251
35501412	12	0.634	16.1	300
35501418	18	0.740	18.8	425
35501425	25	0.925	23.5	606
▶ **12 AWG (≈ 52/28) • 4.00 mm²**				
35501203	3	0.413	10.5	134
35501204	4	0.449	11.4	164
35501205	5	0.492	12.5	199
35501207	7	0.567	14.4	271
▶ **10 AWG (≈ 78/28) • 6.00 mm²**				
35501003	3	0.488	12.4	191
35501004	4	0.563	14.3	253
35501005	5	0.614	15.6	304
35501007	7	0.669	17.0	392
▶ **8 AWG (≈ 69/26)**				
35500804	4	0.713	18.1	396
35500805	5	0.783	19.9	476
▶ **6 AWG (≈ 110/26)**				
35500604	4	0.898	22.8	617
35500605	5	0.988	25.1	746
▶ **4 AWG (≈ 175/26)**				
35500404	4	1.079	27.4	936
35500405	5	1.193	30.3	1131
▶ **2 AWG (≈ 272/26)**				
35500204	4	1.252	31.8	1189
35500205	5	1.386	35.2	1611
▶ **1 AWG (≈ 342/26)**				
35500104	4	1.350	34.3	1631

Other dimensions and colors are available on request

CC 600 MTW CY

Oil resistant 90°C flexible shielded control cable and machine tool cable

Marking for CC 600 MTW CY 35601604:
SAB BRÖCKSKES · D-VIERSEN · 4x1.5mm² CC 600 MTW CY 16 AWG/4c 35601604 (UL) Type MTW 600V AWM Style 21216 90°C Oil 60°C 600V CSA AWM I/II A/B 90°C 1000V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5, UL standard 758 table 5.1, UL 1581 table 20.1
Insulation:	special formulated PVC/Nylon
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	in layers
Wrapping:	non-woven tape
Shielding:	tinned copper braiding
Jacket material:	special oil resistant PVC
Jacket color:	gray (RAL 7000)

Outstanding features:

- **UL recognized, (UL) listed, CSA approved**
- **flexible cable for use as machine tool cable**
- **oil resistant**

Technical data:

Voltage:	**UL-AWM / (UL)** 600 V	**CSA** 1000 V
Testing voltage:	conductor/conductor: conductor/shielding:	4000 V 2000 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.	
Radiation resistance:	5 x 10^7 cJ/kg	
Temperature range:	**UL/CSA:** -25/ +90°C	
Burning characteristics:	CSA FT1, FT2	
Oil resistance:	very good - TM5 acc. to EN 50363-4-1 + VDE 0207-363-4-1, Oil 60°C acc. to UL 758, Fuel Oil acc. to CSA-C 22.2 No. 210	
Impact and Crushing test:	acc. to UL 1277	
Machinery Area:	yes	
Approvals:	UL MTW, UR AWM, CSA AWM, CE, EAC, RoHS	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30	

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **18 AWG (≈ 30/32) • 1.00 mm²**				
35601803	3	0.335	8.5	65
35601804	4	0.362	9.2	78
35601805	5	0.390	9.9	95
35601807	7	0.417	10.6	112
35601809	9	0.512	13.0	164
35601812	12	0.563	14.3	197
35601816	16	0.626	15.9	267
35601818	18	0.654	16.6	290
35601819	19	0.685	17.4	309
35601825	25	0.764	19.4	376
35601827	27	0.764	19.4	394
35601837	37	0.890	22.6	539
35601850	50	1.024	26.0	691
▶ **16 AWG (≈ 27-29/30) • 1.50 mm²**				
35601603	3	0.362	9.2	79
35601604	4	0.390	9.9	94
35601605	5	0.413	10.5	120
35601607	7	0.461	11.7	149
35601608	8	0.555	14.1	202
35601609	9	0.594	15.1	233
35601612	12	0.626	15.9	269
35601616	16	0.681	17.3	333

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **16 AWG (≈ 27-29/30) • 1.50 mm²**				
35601618	18	0.713	18.1	362
35601619	19	0.713	18.1	372
35601625	25	0.882	22.4	515
35601627	27	0.882	22.4	539
35601641	41	1.035	26.3	756
35601650	50	1.122	28.5	880
35601661	61	1.189	30.2	1035
▶ **14 AWG (≈ 46/30) • 2.50 mm²**				
35601403	3	0.398	10.1	114
35601404	4	0.433	11.0	134
35601405	5	0.472	12.0	159
35601407	7	0.508	12.9	198
35601409	9	0.654	16.6	303
35601412	12	0.685	17.4	357
35601418	18	0.791	20.1	491
35601425	25	0.976	24.8	693
▶ **12 AWG (≈ 52/28) • 4.00 mm²**				
35601203	3	0.453	11.5	161
35601204	4	0.492	12.5	194
35601205	5	0.563	14.3	247
35601207	7	0.614	15.6	323

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **10 AWG (≈ 78/28) • 6.00 mm²**				
35601002	2	0.469	11.9	162
35601003	3	0.555	14.1	239
35601004	4	0.610	15.5	304
35601005	5	0.661	16.8	356
35601007	7	0.717	18.2	450
▶ **8 AWG (≈ 69/26)**				
35600804	4	0.760	19.3	458
35600805	5	0.874	22.2	585
▶ **6 AWG (≈ 110/26)**				
35600604	4	0.945	24	692
35600605	5	1.020	25.9	831
▶ **4 AWG (≈ 175/26)**				
35600404	4	1.126	28.6	1022
35600405	5	1.240	31.5	1235
▶ **2 AWG (≈ 272/26)**				
35600204	4	1.299	33.0	1434
35600205	5	1.433	36.4	1729
▶ **1 AWG (≈ 342/26)**				
35600104	4	1.398	35.5	1576

Other dimensions and colors are available on request

CC 600 World

Oil resistant flexible control cable with international standards

Marking for CC 600 World 2511604:
SAB BRÖCKSKES · D-VIERSEN · ◁VDE▷ ◁HAR▷ H05VV5-F 2510415 4G1.5mm² CC 600 World 16 AWG/4c 2511604 AWM Style 21216 90°C 600V Oil 60°C CSA AWM I/II A/B 90°C F 600V FT1 FT2

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	in layers
Jacket materials:	PVC, TM5 acc. to EN 50363-4-1 + VDE 0207-363-4-1
Jacket color:	gray (RAL 7000)

Outstanding features:

- **flexible**
- **oil resistant**
- **UL, CSA, VDE and HAR standardized**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Voltage UL/CSA:	600 V
Testing voltage:	conductor/conductor: 3000 V
Min. bending radius: *fixed installation:* *free movement:*	 4 x O.D. 6 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range: *static:* *flexible:*	**DIN VDE** **UL/CSA:** up to +90°C -40/+70°C +5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, CSA FT1, FT2
Oil resistance:	very good - TM5 acc. to EN 50363-4-1 + VDE 0207-363-4-1
Chemical resistance:	see page O/11
Approvals:	UR AWM, CSA AWM, VDE, HAR, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	mm	cable weight ≈lbs/mft
► **20 AWG (≈ 16/32) • 0.50 mm²**				
2512003	3	0.256	6.5	40
2512004	4	0.283	7.2	50
2512005	5	0.311	7.9	61
2512007	7	0.374	9.5	87
2512012	12	0.453	11.5	122
2512018	18	0.543	13.8	181
► **19 AWG (≈ 23/32) • 0.75 mm²**				
2511903	3	0.280	7.1	49
2511904	4	0.311	7.9	60
2511905	5	0.315	8.0	65
2511907	7	0.409	10.4	105
2511912	12	0.508	12.9	154
2511918	18	0.602	15.3	224

item no.	no. of conductors incl. ground	nominal outer-ø inch	mm	cable weight ≈lbs/mft
► **18 AWG (≈ 30/32) • 1.00 mm²**				
2511803	3	0.291	7.4	56
2511804	4	0.319	8.1	68
2511805	5	0.358	9.1	86
2511807	7	0.425	10.8	120
2511812	12	0.524	13.3	175
2511818	18	0.626	15.9	258
► **16 AWG (≈ 27-29/30) • 1.50 mm²**				
2511603	3	0.331	8.4	75
2511604	4	0.374	9.5	95
2511605	5	0.417	10.6	119
2511607	7	0.504	12.8	169
2511612	12	0.618	15.7	247
2511618	18	0.740	18.8	363

item no.	no. of conductors incl. ground	nominal outer-ø inch	mm	cable weight ≈lbs/mft
► **14 AWG (≈ 46/30) • 2.50 mm²**				
2511403	3	0.398	10.1	112
2511404	4	0.445	11.3	140
2511405	5	0.492	12.5	173
2511407	7	0.591	15.0	247
2511412	12	0.732	18.6	367
2511418	18	0.890	22.6	552

Other dimensions and colors are available on request

CC 600 World CY

Oil resistant flexible shielded control cable with international standards

Marking for CC 600 World CY 2561612:
SAB BRÖCKSKES · D-VIERSEN · ◁VDE▷ ◁HAR▷ H05VVC4V5-K 2561215 12G1.5mm² CC 600 World CY 16 AWG/12c 2561612 AWM Style 21216 90°C 600V Oil 60°C CSA AWM I/II A/B 90°C F 600V FT1 FT2

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	in layers
Inner Jacket:	PVC, TM2 acc. to EN 50363-4-1 + VDE 0207-363-4-1
Shielding:	tinned copper braiding
Jacket materials:	PVC, TM5 acc. to EN 50363-4-1 + VDE 0207-363-4-1
Jacket color:	gray (RAL 7000)

Outstanding features:

- **good EMC characteristics**
- **flexible**
- **oil resistant**
- **UL, CSA, VDE and HAR standardized**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Voltage UL/CSA:	600 V
Testing voltage:	conductor/conductor: 3000 V conductor/shielding: 2000 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range: *static:* *flexible:*	**DIN VDE** **UL/CSA:** up to +90°C -40/+70°C +5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, CSA FT1, FT2
Oil resistance:	very good - TM5 acc. to EN 50363-4-1 + VDE 0207-363-4-1
Chemical resistance:	see page O/11
Approvals:	UR AWM, CSA AWM, VDE, HAR, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **20 AWG (≈ 16/32) • 0.50 mm²**				
2562003	3	0.358	9.1	81
2562004	4	0.390	9.9	100
2562005	5	0.417	10.6	113
2562007	7	0.480	12.2	144
2562012	12	0.567	14.4	196
2562018	18	0.665	16.9	286
► **19 AWG (≈ 23/32) • 0.75 mm²**				
2561903	3	0.390	9.9	101
2561904	4	0.417	10.6	114
2561905	5	0.449	11.4	131
2561907	7	0.520	13.2	174
2561912	12	0.630	16.0	249
2561918	18	0.724	18.4	339

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **18 AWG (≈ 30/32) • 1.00 mm²**				
2561803	3	0.398	10.1	108
2561804	4	0.413	10.5	116
2561805	5	0.461	11.7	142
2561807	7	0.535	13.6	190
2561812	12	0.650	16.5	284
2561818	18	0.752	19.1	379
► **16 AWG (≈ 27-29/30) • 1.50 mm²**				
2561603	3	0.437	11.1	130
2561604	4	0.480	12.2	154
2561605	5	0.524	13.3	186
2561607	7	0.626	15.9	263
2561612	12	0.744	18.9	359
2561618	18	0.886	22.5	526

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **14 AWG (≈ 46/30) • 2.50 mm²**				
2561403	3	0.508	12.9	179
2561404	4	0.543	13.8	206
2561405	5	0.610	15.5	264
2561407	7	0.713	18.1	359
2561412	12	0.878	22.3	519
2561418	18	1.016	25.8	716

Other dimensions and colors are available on request

CC 500 B

Flexible power control cable with colored conductors

Marking for CC 500 B 2050415:
SAB BRÖCKSKES · D-VIERSEN · Ö-J CC 500 B 4x1.5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Color code:	colored acc. to HD 308 (VDE 0293-308), green/yellow ground from 3 conductors from 6 conductors: black conductors with consecutive numbers
Stranding:	in layers
Jacket materials:	PVC, TM2 acc. to EN 50363-4-1 + VDE 0207-363-4-1
Jacket color:	gray (RAL 7000)

Outstanding features:

- **flexible**
- **colored conductors**
- **small bending radius**

Technical data:

Nominal voltage:	0.50 mm² - 1.50 mm²: Uo/U 300/500 V 2.50 mm² - 50.0 mm²: Uo/U 450/750 V
Testing voltage:	conductor/conductor: 3000 V
Min. bending radius:	
fixed installation:	4 x O.D.
free movement:	6 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range:	
static:	-40/+70°C
flexible:	+5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Oil resistance:	acc. to internal standard, see page O/29
Chemical resistance:	see page O/11
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **20 AWG (≈ 16/32) • 0.50 mm²**				
2050205	2	0.189	4.8	22
2050305	3	0.201	5.1	27
2050405	4	0.217	5.5	32
2050505	5	0.244	6.2	41
2050705	7	0.264	6.7	50
▶ **19 AWG (≈ 23/32) • 0.75 mm²**				
2050207	2	0.220	5.6	31
2050307	3	0.224	5.7	35
2050407	4	0.244	6.2	43
2050507	5	0.264	6.7	52
2050707	7	0.295	7.5	67
▶ **18 AWG (≈ 30/32) • 1.00 mm²**				
2050210	2	0.217	5.5	32
2050310	3	0.240	6.1	42
2050410	4	0.256	6.5	50
2050510	5	0.280	7.1	62
2050710	7	0.315	8.0	81

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **16 AWG (≈ 27-29/30) • 1.50 mm²**				
2050215	2	0.244	6.2	43
2050315	3	0.256	6.5	53
2050415	4	0.299	7.6	69
2050515	5	0.315	8.0	81
2050715	7	0.350	8.9	108
▶ **14 AWG (≈ 46/30) • 2.50 mm²**				
2050225	2	0.346	8.8	81
2050325	3	0.374	9.5	101
2050425	4	0.417	10.6	128
2050525	5	0.457	11.6	156
2050725	7	0.504	12.8	200
▶ **12 AWG (≈ 52/28) • 4.00 mm²**				
2050340	3	0.425	10.8	143
2050440	4	0.472	12.0	179
2050540	5	0.516	13.1	220

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **10 AWG (≈ 78/28) • 6.00 mm²**				
2050360	3	0.500	12.7	204
2050460	4	0.555	14.1	256
2050560	5	0.618	15.7	313
2050760	7	0.681	17.3	412
▶ **8 AWG (≈ 69/26)**				
2050361	3	0.622	15.8	331
2050461	4	0.701	17.8	421
2050561	5	0.776	19.7	526
▶ **6 AWG (≈ 110/26)**				
2050462	4	0.831	21.1	628
▶ **4 AWG (≈ 175/26)**				
2050463	4	1.004	25.5	978
▶ **2 AWG (≈ 272/26)**				
2050464	4	1.134	28.8	1329
▶ **1 AWG (≈ 342/26)**				
2050465	4	1.362	34.6	1860

Other dimensions and colors are available on request

CC 500

Flexible control cable with numbered conductors

Marking for CC 500 2001215:
SAB BRÖCKSKES · D-VIERSEN · ÖZ-J ◁VDE-REG 7000▷ CC 500 12x1.5 mm²

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	in layers
Jacket materials:	PVC, TM2 acc. to EN 50363-4-1 + VDE 0207-363-4-1
Jacket color:	gray (RAL 7000)

Outstanding features:

- **flexible**
- **numbered conductors**
- **small bending radius**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 3000 V
Min. bending radius: *fixed installation:* *free movement:*	 4 x O.D. 6 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range: *static:* *flexible:*	 -40/+70°C +5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Oil resistance:	acc. to internal standard, see page O/29
Chemical resistance:	see page O/11
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 20 AWG (≈ 16/32) • 0.50 mm²				
2000205	2	0.201	5.1	25
2000305	3	0.213	5.4	29
2000405	4	0.228	5.8	35
2000505	5	0.256	6.5	43
2000705	7	0.280	7.1	54
2000805	8	0.327	8.3	67
2000905	9	0.346	8.8	74
2001005	10	0.362	9.2	79
2001205	12	0.374	9.5	89
2001405	14	0.390	9.9	99
2001605	16	0.417	10.6	115
2001805	18	0.441	11.2	127
2002105	21	0.488	12.4	151
2002505	25	0.535	13.6	175
▶ 19 AWG (≈ 23/32) • 0.75 mm²				
2000207	2	0.224	5.7	32
2000307	3	0.244	6.2	40
2000407	4	0.264	6.7	48
2000507	5	0.287	7.3	56
2000707	7	0.323	8.2	74
2000807	8	0.378	9.6	91
2000907	9	0.402	10.2	102
2001007	10	0.417	10.6	107
2001207	12	0.429	10.9	122
2001407	14	0.449	11.4	136
2001607	16	0.480	12.2	157
2001807	18	0.508	12.9	173
2002107	21	0.563	14.3	205
2002507	25	0.614	15.6	238
▶ 18 AWG (≈ 30/32) • 1.00 mm²				
2000210	2	0.232	5.9	36
2000310	3	0.252	6.4	45
2000410	4	0.276	7.0	55
2000510	5	0.307	7.8	68
2000710	7	0.335	8.5	86
2000810	8	0.390	9.9	105
2000910	9	0.425	10.8	122
2002507	25	0.614	15.6	238

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 18 AWG (≈ 30/32) • 1.00 mm²				
2001010	10	0.433	11.0	127
2001210	12	0.445	11.3	142
2001410	14	0.476	12.1	164
2001610	16	0.500	12.7	183
2001810	18	0.535	13.6	208
2002110	21	0.591	15.0	244
2002510	25	0.646	16.4	284
▶ 16 AWG (≈ 27-29/30) • 1.50 mm²				
2000215	2	0.264	6.7	48
2000315	3	0.280	7.1	58
2000415	4	0.311	7.9	73
2000515	5	0.339	8.6	87
2000715	7	0.378	9.6	116
2000815	8	0.441	11.2	141
2000915	9	0.480	12.2	157
2001015	10	0.488	12.4	165
2001215	12	0.504	12.8	189
2001415	14	0.535	13.6	218
2001615	16	0.563	14.3	245
2001815	18	0.602	15.3	277
2002115	21	0.665	16.9	327
2002515	25	0.728	18.5	383
▶ 14 AWG (≈ 46/30) • 2.50 mm²				
2000225	2	0.319	8.1	72
2000325	3	0.339	8.6	89
2000425	4	0.374	9.5	112
2000525	5	0.417	10.6	138
2000725	7	0.457	11.6	177
2000825	8	0.543	13.8	220
2000925	9	0.587	14.9	247
2001025	10	0.598	15.2	258
2001225	12	0.618	15.7	296
2001425	14	0.654	16.6	341
2001625	16	0.689	17.5	384
2001825	18	0.736	18.7	431
2002125	21	0.823	20.9	515
2002525	25	0.898	22.8	597

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 12 AWG (≈ 52/28) • 4.00 mm²				
2000340	3	0.402	10.2	132
2000440	4	0.445	11.3	166
2000540	5	0.496	12.6	205
▶ 10 AWG (≈ 78/28) • 6.00 mm²				
2000360	3	0.476	12.1	192
2000460	4	0.520	13.2	237
2000560	5	0.587	14.9	298
▶ 8 AWG (≈ 69/26)				
2000461	4	0.673	17.1	403
2000561	5	0.760	19.3	504
▶ 6 AWG (≈ 110/26)				
2000462	4	0.831	21.1	617
2000562	5	0.929	23.6	765
▶ 4 AWG (≈ 175/26)				
2000463	4	1.004	25.5	966
2000563	5	1.126	28.6	1211
▶ 2 AWG (≈ 272/26)				
2000464	4	1.161	29.5	1334
2000564	5	1.295	32.9	1668
▶ 1 AWG (≈ 342/26)				
2000465	4	1.335	33.9	1824

Other dimensions and colors are available on request

even more than 100 conductors are possible

CC 500 CY (TR)

Shielded flexible control cable with black conductors

Marking for CC 500 CY (TR) 2440410:

SAB BRÖCKSKES · D-VIERSEN · ÖZCuY-J (TR) ◁VDE-REG 7000▷ CC 500 CY (TR) 4x1.0mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	in layers
Inner jacket:	PVC, TM2 acc. to EN 50363-4-1 + VDE 0207-363-4-1
Shielding:	tinned copper braiding
Jacket material:	PVC, TM2 acc. to EN 50363-4-1 + VDE 0207-363-4-1
Jacket color:	transparent

Outstanding features:

- **good EMC characteristics**
- **flexible**
- **high mechanical loading capacity**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 3000 V conductor/shielding: 2000 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range: *static:* *flexible:*	 -40/+70°C +5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Oil resistance:	acc. to internal standard, see page O/29
Chemical resistance:	see page O/11
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **20 AWG (≈ 16/32) ▪ 0.50 mm²**				
2440205	2	0.287	7.3	48
2440305	3	0.307	7.8	56
2440405	4	0.319	8.1	62
2440505	5	0.343	8.7	72
2440705	7	0.374	9.5	87
2441205	12	0.476	12.1	141
2441805	18	0.551	14.0	190
2442505	25	0.654	16.6	261
2443405	34	0.720	18.3	326
2444205	42	0.776	19.7	388
2445005	50	0.839	21.3	440
2446105	61	0.890	22.6	513
► **19 AWG (≈ 23/32) ▪ 0.75 mm²**				
2440207	2	0.319	8.1	67
2440307	3	0.331	8.4	75
2440407	4	0.358	9.1	85
2440507	5	0.382	9.7	101
2440707	7	0.417	10.6	120
2441207	12	0.539	13.7	178
2441807	18	0.626	15.9	243
2442507	25	0.740	18.8	343
2443407	34	0.827	21.0	435
2444207	42	0.874	22.2	512
2445007	50	0.953	24.2	587
2446107	61	1.012	25.7	687

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **18 AWG (≈ 30/32) ▪ 1.00 mm²**				
2440210	2	0.327	8.3	73
2440310	3	0.339	8.6	81
2440410	4	0.370	9.4	97
2440510	5	0.394	10.0	111
2440710	7	0.437	11.1	136
2441210	12	0.563	14.3	204
2441810	18	0.650	16.5	284
2442510	25	0.772	19.6	392
2443410	34	0.854	21.7	507
2444210	42	0.909	23.1	597
2445010	50	0.992	25.2	685
2446110	61	1.063	27.0	798
► **16 AWG (≈ 27-29/30) ▪ 1.50 mm²**				
2440215	2	0.358	9.1	83
2440315	3	0.374	9.5	98
2440415	4	0.398	10.1	113
2440515	5	0.441	11.2	140
2440715	7	0.480	12.2	167
2441215	12	0.622	15.8	265
2441815	18	0.728	18.5	376
2442515	25	0.854	21.7	513
2443415	34	0.953	24.2	650
2444215	42	1.016	25.8	777
2445015	50	1.118	28.4	914
2446115	61	1.185	30.1	1067

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **14 AWG (≈ 46/30) ▪ 2.50 mm²**				
2440325	3	0.441	11.2	140
2440425	4	0.476	12.1	164
2440525	5	0.520	13.2	197
2440725	7	0.575	14.6	249
2441225	12	0.744	18.9	408
2441825	18	0.862	21.9	568

Other dimensions and colors are available on request

CC 500 SY (TR)

Steel braided flexible control cable with black conductors

Marking for CC 500 SY (TR) 2180405:
SAB BRÖCKSKES · D-VIERSEN · ÖSYZ-J (TR) ◁VDE-REG 7000▷ CC 500 SY (TR) 4x0.5mm²

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Inner jacket:	PVC, TM2 acc. to EN 50363-4-1 + VDE 0207-363-4-1
Shielding:	galvanized steel wire braiding
Stranding:	in layers
Jacket materials:	PVC, TM2 acc. to EN 50363-4-1 + VDE 0207-363-4-1
Jacket color:	transparent

Outstanding features:

- **flexible**
- **high mechanical loading capacity**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 3000 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range: *static:* *flexible:*	 -40/+70°C +5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Oil resistance:	acc. to internal standard, see page O/29
Chemical resistance:	see page O/11
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 20 AWG (≈ 16/32) • 0.50 mm²				
2180205	2	0.303	7.7	50
2180305	3	0.315	8.0	56
2180405	4	0.331	8.4	64
2180505	5	0.358	9.1	75
2180705	7	0.382	9.7	87
2181005	10	0.457	11.6	116
2181205	12	0.476	12.1	130
2181405	14	0.500	12.7	147
2181805	18	0.559	14.2	187
2182105	21	0.606	15.4	216
2182505	25	0.654	16.6	243
▶ 19 AWG (≈ 23/32) • 0.75 mm²				
2180207	2	0.327	8.3	60
2180307	3	0.339	8.6	68
2180407	4	0.366	9.3	79
2180507	5	0.390	9.9	90
2180707	7	0.409	10.4	106
2180907	9	0.516	13.1	158
2181007	10	0.520	13.2	153
2181207	12	0.547	13.9	182
2181407	14	0.567	14.4	196
2181807	18	0.622	15.8	239
2182107	21	0.681	17.3	281
2182507	25	0.740	18.8	321
▶ 18 AWG (≈ 30/32) • 1.00 mm²				
2180210	2	0.335	8.5	65
2180310	3	0.346	8.8	73
2180410	4	0.378	9.6	87
2180510	5	0.406	10.3	104
2180710	7	0.437	11.1	125
2180810	8	0.504	12.8	159
2180910	9	0.539	13.7	185
2181010	10	0.551	14.0	183

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 18 AWG (≈ 30/32) • 1.00 mm²				
2181210	12	0.563	14.3	201
2181410	14	0.594	15.1	225
2181810	18	0.650	16.5	278
2182010	20	0.677	17.2	302
2182510	25	0.772	19.6	369
▶ 16 AWG (≈ 27-29/30) • 1.50 mm²				
2180215	2	0.366	9.3	79
2180315	3	0.382	9.7	91
2180415	4	0.406	10.3	105
2180515	5	0.441	11.2	126
2180615	6	0.480	12.2	152
2180715	7	0.480	12.2	159
2180815	8	0.563	14.3	208
2180915	9	0.591	15.0	229
2181015	10	0.606	15.4	228
2181215	12	0.622	15.8	253
2181415	14	0.654	16.6	288
2181815	18	0.720	18.3	354
2182115	21	0.795	20.2	421
2182515	25	0.854	21.7	478
▶ 14 AWG (≈ 46/30) • 2.50 mm²				
2180225	2	0.421	10.7	110
2180325	3	0.441	11.2	128
2180425	4	0.476	12.1	153
2180525	5	0.520	13.2	183
2180625	6	0.571	14.5	226
2180725	7	0.575	14.6	238
2181225	12	0.744	18.9	380
2181425	14	0.780	19.8	427
2181825	18	0.858	21.8	532
2182125	21	0.953	24.2	628
2182525	25	1.031	26.2	715

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 12 AWG (≈ 52/28) • 4.00 mm²				
2180340	3	0.512	13.0	180
2180440	4	0.563	14.3	226
2180540	5	0.610	15.5	270
▶ 10 AWG (≈ 78/28) • 6.00 mm²				
2180460	4	0.646	16.4	310
2180560	5	0.701	17.8	372
▶ 8 AWG (≈ 69/26)				
2180461	4	0.799	20.3	490
2180561	5	0.882	22.4	605
▶ 6 AWG (≈ 110/26)				
2180462	4	0.957	24.3	719
2180562	5	1.063	27.0	895
▶ 4 AWG (≈ 175/26)				
2180463	4	1.138	28.9	1097
2180563	5	1.276	32.4	1385
▶ 2 AWG (≈ 272/26)				
2180464	4	1.311	33.3	1506
2180564	5	1.449	36.8	1858

Other dimensions and colors are available on request

CC 600 P

Oil resistant, tear resistant, flexible polyurethane control cable with black conductors

Marking for CC 600 P 2611604:

SAB BRÖCKSKES · D-VIERSEN · 2610415 4x1.5mm² CC 600 P 16 AWG/4c 2611604 AWM Style 21060 80°C 600V CSA AWM I/II A/B 80°C 600V FT1 FT2

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	in layers
Inner jacket:	from 12 AWG: PVC, TM2 acc. to EN 50363-3 + VDE 0207-363-3
Jacket material:	PU acc. to UL 758
Jacket color:	gray (RAL 7000)

Outstanding features:

- **UL recognized, CSA approved**
- **oil resistant**
- **abrasion resistant**
- **notch resistant**
- **good chemical resistance**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Voltage UL/CSA:	600 V
Testing voltage:	conductor/conductor: 2000 V
Min. bending radius: *fixed installation:* *free movement:*	 4 x O.D. 6 x O.D.
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range: *static:* *flexible:*	**DIN VDE** **UL/CSA:** up to +80°C -40/+70°C +5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, CSA FT1, FT2
Oil resistance:	very good - oil rating 60° C acc to UL 1581
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids etc.
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **20 AWG (≈ 16/32) • 0.50 mm²**				
2612002	2	0.244	6.2	32
2612003	3	0.252	6.4	38
2612004	4	0.268	6.8	44
2612005	5	0.291	7.4	53
2612007	7	0.311	7.9	65
2612012	12	0.398	10.1	97
2612018	18	0.457	11.6	136
2612025	25	0.539	13.7	178
2612034	34	0.598	15.2	233
2612050	50	0.709	18.0	331
► **18 AWG (≈ 30/32) • 1.00 mm²**				
2611802	2	0.272	6.9	43
2611803	3	0.280	7.1	51
2611804	4	0.303	7.7	61
2611805	5	0.327	8.3	74
2611807	7	0.378	9.6	99
2611812	12	0.453	11.5	139
2611818	18	0.528	13.4	200
2611825	25	0.630	16.0	267
2611830	30	0.657	16.7	312
2611834	34	0.709	18.0	355
2611842	42	0.756	19.2	431
2611850	50	0.886	22.5	542

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **16 AWG (≈ 27-29/30) • 1.50 mm²**				
2611602	2	0.295	7.5	53
2611603	3	0.307	7.8	65
2611604	4	0.331	8.4	78
2611605	5	0.358	9.1	94
2611607	7	0.417	10.6	128
2611612	12	0.504	12.8	182
2611618	18	0.587	14.9	263
2611625	25	0.709	18.0	360
2611630	30	0.732	18.6	420
2611634	34	0.791	20.1	528
2611642	42	0.902	22.9	629
2611650	50	0.984	25.0	726
► **14 AWG (≈ 46/30) • 2.50 mm²**				
2611402	2	0.343	8.7	75
2611403	3	0.358	9.1	94
2611404	4	0.386	9.8	114
2611405	5	0.421	10.7	140
2611407	7	0.496	12.6	194
2611412	12	0.602	15.3	277
2611418	18	0.717	18.2	412
2611425	25	0.913	23.2	595

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **12 AWG (≈ 52/28) • 4.00 mm²**				
2611203	3	0.469	11.9	157
2611204	4	0.512	13.0	194
2611205	5	0.547	13.9	230
► **10 AWG (≈ 78/28) • 6.00 mm²**				
2611004	4	0.579	14.7	264
2611005	5	0.634	16.1	324
► **8 AWG (≈ 69/26)**				
2610804	4	0.728	18.5	433

Other dimensions and colors are available on request

also available with blue or red conductors and black or orange jacket

CC 600 CP

Oil resistant, tear resistant, shielded flexible polyurethane control cable with black conductors

Marking for CC 600 CP 2811604:
SAB BRÖCKSKES · D-VIERSEN · 2810415 4x1.5mm² CC 600 CP 16 AWG/4c 2811604 AWM Style 21060 80°C 600V CSA AWM I/II A/B 80°C 600V FT1 FT2

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	in layers
Wrapping:	PETP foil
Shielding:	tinned copper braiding
Wrapping:	non-woven tape
Jacket materials:	PU acc. to UL 758
Jacket color:	gray (RAL 7000)

Outstanding features:

- **UL recognized, CSA approved**
- **oil resistant**
- **abrasion resistant**
- **notch resistant**
- **good chemical resistance**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Voltage UL/CSA:	600 V
Testing voltage:	conductor/conductor: 2000 V conductor/shielding: 2000 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range: *static:* *flexible:*	**DIN VDE** **UL/CSA:** up to +80°C -40/+70°C +5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 UL VW-1, CSA FT1, FT2
Oil resistance:	very good - oil rating 60° C acc to UL 1581
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids etc.
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **20 AWG (≈ 16/32) • 0.50 mm²**				
2812002	2	0.264	6.7	42
2812003	3	0.276	7.0	47
2812004	4	0.291	7.4	54
2812005	5	0.315	8.0	64
2812007	7	0.335	8.5	75
2812012	12	0.417	10.6	112
2812018	18	0.488	12.4	165
2812025	25	0.567	14.4	211
► **19 AWG (≈ 23/32) • 0.75 mm²**				
2811902	2	0.283	7.2	48
2811903	3	0.295	7.5	55
2811904	4	0.315	8.0	64
2811905	5	0.339	8.6	75
2811907	7	0.390	9.9	99
2811912	12	0.465	11.8	147
2811918	18	0.531	13.5	200
2811925	25	0.646	16.4	278

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **18 AWG (≈ 30/32) • 1.00 mm²**				
2811802	2	0.291	7.4	53
2811803	3	0.303	7.7	61
2811804	4	0.327	8.3	72
2811805	5	0.350	8.9	85
2811807	7	0.402	10.2	113
2811809	9	0.457	11.6	135
2811812	12	0.480	12.2	167
2811818	18	0.555	14.1	233
2811825	25	0.669	17.0	324
2811850	50	0.917	23.3	595
► **16 AWG (≈ 27-29/30) • 1.50 mm²**				
2811603	3	0.331	8.4	75
2811604	4	0.354	9.0	89
2811605	5	0.382	9.7	107
2811607	7	0.449	11.4	151
2811612	12	0.531	13.5	212
2811618	18	0.634	16.1	319
2811625	25	0.744	18.9	421

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **14 AWG (≈ 46/30) • 2.50 mm²**				
2811403	3	0.382	9.7	106
2811404	4	0.409	10.4	127
2811405	5	0.453	11.5	161
2811407	7	0.528	13.4	219
2811409	9	0.614	15.6	265
2811412	12	0.650	16.5	333
2811418	18	0.752	19.1	473
2811425	25	0.949	24.1	667
► **12 AWG (≈ 52/28) • 4.00 mm²**				
2811203	3	0.445	11.3	156
2811204	4	0.480	12.2	189
2811205	5	0.524	13.3	228
► **10 AWG (≈ 78/28) • 6.00 mm²**				
2811003	3	0.516	13.1	217
2811004	4	0.559	14.2	265
2811005	5	0.618	15.7	335
► **8 AWG (≈ 69/26)**				
2810804	4	0.748	19.0	465

Other dimensions and colors are available on request

**Drain wire available upon request.
Also available with blue or red conductors and black or orange jacket**

CC 640 P

Halogen-free oil resistant control cable with colored conductors

Marking for CC 640 P 52681604:

SAB BRÖCKSKES · D-VIERSEN · 52680415 4x1.5mm² CC 640 P 16 AWG 4c 52681604 AWM Style 21127 75°C 600V CSA AWM I/II A/B 80°C 600V FT1 FT2

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	SABIX®
Color code:	US 1, see page O/27
Stranding:	in layers with a non-woven tape over the outer layer
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	yellow (RAL 1021)

Outstanding features:

- **UL recognized, CSA approved**
- **oil resistant**
- **abrasion resistant**
- **notch resistant**
- **good chemical resistance**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Voltage UL/CSA:	600 V
Testing voltage:	conductor/conductor: 3000 V
Min. bending radius: *fixed installation:* *free movement:*	 4 x O.D. 6 x O.D.
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range:	**UL:** up to +75°C **CSA:** up to +80°C **DIN VDE** -40/+70°C +5/+70°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, CSA FT1, FT2
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Flexibility:	very good
Weather resistance:	very good
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **18 AWG (≈ 30/32) • 1.00 mm²**				
52681802	2	0.276	7.0	41
52681803	3	0.291	7.4	48
52681804	4	0.311	7.9	58
52681805	5	0.335	8.5	68
52681807	7	0.362	9.2	85
52681812	12	0.457	11.6	134
► **16 AWG (≈ 27-29/30) • 1.50 mm²**				
52681602	2	0.299	7.6	50
52681603	3	0.315	8.0	60
52681604	4	0.339	8.6	73
52681605	5	0.366	9.3	87
52681607	7	0.398	10.1	111
52681612	12	0.504	12.8	175

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **14 AWG (≈ 46/30) • 2.50 mm²**				
52681402	2	0.331	8.4	68
52681403	3	0.350	8.9	83
52681404	4	0.378	9.6	102
52681405	5	0.409	10.4	122
52681407	7	0.445	11.3	158
► **12 AWG (≈ 52/28) • 4.00 mm²**				
52681203	3	0.425	10.8	128
52681204	4	0.461	11.7	157
52681205	5	0.504	12.8	191

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **10 AWG (≈ 78/28) • 6.00 mm²**				
52681003	3	0.484	12.3	172
52681004	4	0.528	13.4	216
52681005	5	0.579	14.7	271

Other dimensions and colors are available on request

CC 640 CP

Halogen-free oil resistant shielded control cable with colored conductors

Marking for CC 640 CP 52841604:
SAB BRÖCKSKES · D-VIERSEN · 52840415 4x1.50mm² CC 640 CP 16 AWG/4c 52841604 AWM Style 21127 75°C 600V CSA AWM I/II A/B 80°C 600V FT1 FT2

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	SABIX®
Color code:	US 1, see page O/27
Stranding:	in layers with a non-woven tape over the outer layer
Shielding:	tinned copper braiding
Wrapping:	non-woven tape
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	yellow (RAL 1021)

Outstanding features:

- **UL recognized, CSA approved**
- **oil resistant**
- **abrasion resistant**
- **notch resistant**
- **good chemical resistance**
- **good EMC characteristics**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Voltage UL/CSA:	600 V
Testing voltage:	conductor/conductor: 2000 V conductor/shielding: 2000V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range: *static:* *flexible:*	**UL:** up to +75°C **CSA:** up to +80°C **DIN VDE** -40/+90°C +5/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, CSA FT1, FT2
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Flexibility:	very good
Weather resistance:	very good
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **18 AWG (≈ 30/32) • 1.00 mm²**				
52841802	2	0.315	8.0	56
52841803	3	0.327	8.3	64
52841804	4	0.346	8.8	74
52841805	5	0.374	9.5	86
52841807	7	0.398	10.1	105
52841812	12	0.504	12.8	167
▶ **16 AWG (≈ 27-29/30) • 1.50 mm²**				
52841602	2	0.339	8.6	67
52841603	3	0.354	9.0	78
52841604	4	0.378	9.6	91
52841605	5	0.406	10.3	106
52841607	7	0.437	11.1	132
52841612	12	0.551	14.0	212

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **14 AWG (≈ 46/30) • 2.50 mm²**				
52841402	2	0.390	9.9	93
52841403	3	0.409	10.4	110
52841404	4	0.437	11.1	130
52841405	5	0.480	12.2	164
52841407	7	0.520	13.2	203
▶ **12 AWG (≈ 52/28) • 4.00 mm²**				
52841203	3	0.465	11.8	157
52841204	4	0.504	12.8	189
52841205	5	0.547	13.9	226

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **10 AWG (≈ 78/28) • 6.00 mm²**				
52841003	3	0.531	13.5	215
52841004	4	0.575	14.6	261
52841005	5	0.646	16.4	331

Other dimensions and colors are available on request

also available with black or orange jacket

CC 550 P

PUR control cable with numbered conductors, halogen-free and oil resistant

Marking for CC 550 P 52791215:
SAB BRÖCKSKES · D-VIERSEN · CC 550 P 12x1.5mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	SABIX®
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	in layers
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	black (RAL 9005)

Outstanding features:

- **halogen-free**
- **very good mechanical strength**
- **abrasion resistant**
- **notch resistant**
- **good chemical resistance**
- **oil resistant**
- **flame retardant**
- **sunlight resistant**
- **weather resistant**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 2000 V
Min. bending radius: *fixed installation:* *free movement:*	 4 x O.D. 6 x O.D.
Temperature range: *static:* *flexible:*	 -40/+90°C +30/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Chemical resistance:	good against acids, akalines, solvents, hydraulic liquids etc.
Flexibility:	very good
Weather resistance:	good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **18 AWG (≈ 30/32) • 1.00 mm²**				
52790210	2	0.244	6.2	35
52790310	3	0.256	6.5	42
52790510	5	0.303	7.7	62
52790710	7	0.327	8.3	79
52791210	12	0.437	11.1	132
52791810	18	0.508	12.9	176
52792410	24	0.606	15.4	248
52793610	36	0.689	17.5	353
52795010	50	0.819	20.8	485
52797210	72	0.996	25.3	702

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **16 AWG (≈ 27-29/30) • 1.50 mm²**				
52790215	2	0.268	6.8	44
52790315	3	0.283	7.2	54
52790515	5	0.335	8.5	81
52790715	7	0.362	9.2	101
52791215	12	0.488	12.4	173
52791815	18	0.567	14.4	248
52792415	24	0.677	17.2	333

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **14 AWG (≈ 46/30) • 2.50 mm²**				
52790325	3	0.335	8.5	81
52790425	4	0.362	9.2	101
► **12 AWG (≈ 52/28) • 4.00 mm²**				
52790540	5	0.476	12.1	185
► **10 AWG (≈ 78/28) • 6.00 mm²**				
52790460	4	0.5	12.7	215

Other dimensions and colors are available on request

Application example: for the flexible laying in building and utility vehicles

CC 550 CP

PUR control cable with numbered conductors, halogen-free, oil resistant and overall copper shielding

Marking for CC 550 CP 52951210:
SAB BRÖCKSKES · D-VIERSEN · CC 550 CP 12x1.0mm²

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	SABIX®
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	in layers
Wrapping:	PETP foil
Shielding:	tinned copper braiding
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	black (RAL 9005)

Outstanding features:

- **halogen-free**
- **very good mechanical strength**
- **abrasion resistant**
- **notch resistant**
- **good chemical resistance**
- **good EMC characteristics**
- **oil resistant**
- **flame retardant**
- **sunlight resistant**
- **weather resistant**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 2000 V conductor/shielding: 2000V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Temperature range: *static:* *flexible:*	 -40/+90°C -30/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Chemical resistance:	good against acids, akalines, solvents, hydraulic liquids etc.
Flexibility:	very good
Weather resistance:	good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **20 AWG (≈ 16/32) ▪ 0.50 mm²**				
52950705	7	0.303	7.7	62
52951805	18	0.461	11.7	146
52953605	36	0.618	15.7	269
► **18 AWG (≈ 30/32) ▪ 1.00 mm²**				
52951210	12	0.469	11.9	157
52954210	42	0.795	20.2	486

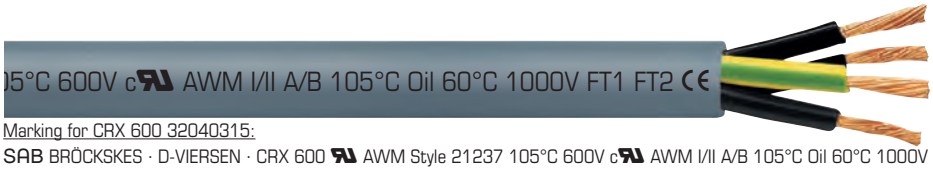
item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **16 AWG (≈ 27-29/30) ▪ 1.50 mm²**				
52950315	3	0.307	7.8	65
52950515	5	0.358	9.1	95
52951815	18	0.622	15.8	305
► **14 AWG (≈ 46/30) ▪ 2.50 mm²**				
52950725	7	0.480	12.2	189

Other dimensions and colors are available on request

Application example: for the flexible laying in building and utility vehicles

CRX 600

Oil & chemical resistant 105°C flexible control cable



Marking for CRX 600 32040315:

SAB BRÖCKSKES · D-VIERSEN · CRX 600 AWM Style 21237 105°C 600V c AWM I/II A/B 105°C Oil 60°C 1000V FT1 FT2

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	TPE
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	in layers
Jacket material:	TPE
Jacket color:	gray (RAL 7000)

Outstanding features:

- **general purpose flexing applications requiring UL and cUL recognition**
- **extra chemical resistant**
- **oil resistant**

Technical data:

Nominal voltage:	Uo/U 300/500 V	
Voltage:	**UL** 600 V	**cUL** 1000 V
Testing voltage:	conductor/conductor:	2000 V
Min. bending radius: *fixed installation:* *free movement:*	 4 x O.D. 6 x O.D.	
Temperature range: *static:* *flexible:*	**UL-AWM + cUL-AWM:** up to +105°C **DIN VDE** -30/+90°C -20/+90°C	
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, cUL FT1, FT2	
Oil resistance:	Oil 60°C	
Approvals:	UR AWM, cUR AWM, CE, EAC, RoHS	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30	

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 20 AWG (≈ 16/32) • 0.50 mm²				
32042002	2	0.209	5.3	24
32042003	3	0.220	5.6	28
32042004	4	0.236	6.0	34
32042005	5	0.256	6.5	40
32042007	7	0.280	7.1	51
32042012	12	0.370	9.4	83
32042015	15	0.417	10.6	105
32042025	25	0.535	13.6	144
► 18 AWG (≈ 30/32) • 1.00 mm²				
32041802	2	0.236	6.0	33
32041803	3	0.248	6.3	40
32041804	4	0.268	6.8	48
32041805	5	0.299	7.6	60
32041807	7	0.323	8.2	75
32041809	9	0.413	10.5	108
32041812	12	0.437	11.1	126
32041815	15	0.492	12.5	159
32041818	18	0.524	13.3	187
32041825	25	0.638	16.2	256
32041850	50	0.850	21.6	484

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 16 AWG (≈ 27-29/30) • 1.50 mm²				
32041602	2	0.260	6.6	45
32041603	3	0.272	6.9	54
32041604	4	0.303	7.7	68
32041605	5	0.331	8.4	78
32041607	7	0.366	9.3	102
32041612	12	0.492	12.5	170
32041615	15	0.555	14.1	213
32041618	18	0.591	15.0	251
32041625	25	0.717	18.2	347
32041650	50	0.965	24.5	669
► 14 AWG (≈ 46/30) • 2.50 mm²				
32041403	3	0.327	8.3	77
32041404	4	0.335	8.5	97
32041405	5	0.398	10.1	120
32041407	7	0.441	11.2	157
32041412	12	0.602	15.3	266
32041418	18	0.717	18.2	391
32041425	25	0.878	22.3	540

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 12 AWG (≈ 52/28) • 4.00 mm²				
32041203	3	0.382	9.7	115
32041204	4	0.425	10.8	146
32041205	5	0.476	12.1	181
32041207	7	0.528	13.4	226
► 10 AWG (≈ 78/28) • 6.00 mm²				
32041003	3	0.449	11.4	166
32041004	4	0.500	12.7	211
32041005	5	0.559	14.2	261
► 8 AWG (≈ 69/26)				
32040804	4	0.76	19.3	406
► 6 AWG (≈ 110/26)				
32040604	4	0.835	21.2	576
► 4 AWG (≈ 175/26)				
32040404	4	1.043	26.5	930
► 2 AWG (≈ 272/26)				
32040204	4	1.189	30.2	1271
► 1 AWG (≈ 342/26)				
32040104	4	1.378	35.0	1736

Other dimensions and colors are available on request

Extra chemical resistance

CRX 600 C

Oil & chemical resistant 105°C flexible shielded control cable

Marking for CRX 600 C 32140315:

SAB BRÖCKSKES · D-VIERSEN · CRX 600 C AWM Style 21237 105°C 600V c AWM I/II A/B 105°C Oil 60°C 1000V FT1 FT2

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	TPE
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	in layers
Wrapping:	non-woven tape
Shielding:	tinned copper braiding
Jacket material:	TPE
Jacket color:	gray (RAL 7000)

Outstanding features:

- **general purpose flexing applications requiring UL and cUL recognition**
- **extra chemical resistant**
- **oil resistant**

Technical data:

Nominal voltage:	Uo/U 300/500 V	
Voltage:	**UL** 600 V	**cUL** 1000 V
Testing voltage:	conductor/conductor: conductor/shielding:	2000 V 2000V
Min. bending radius: *fixed installation:* *free movement:*	 4 x O.D. 6 x O.D.	
Temperature range: *static:* *flexible:*	**UL-AWM + cUL-AWM:** up to +105°C **DIN VDE** -30/+90°C -20/+90°C	
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, cUL FT1, FT2	
Oil resistance:	Oil 60°C	
Approvals:	UR AWM, cUR AWM, CE, EAC, RoHS	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30	

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **20 AWG (≈ 16/32) • 0.50 mm²**				
32142002	2	0.232	5.9	28
32142003	3	0.244	6.2	34
32142004	4	0.260	6.6	40
32142005	5	0.283	7.2	48
32142007	7	0.307	7.8	60
32142012	12	0.394	10.0	95
32142015	15	0.453	11.5	128
32142025	25	0.579	14.7	205
► **18 AWG (≈ 30/32) • 1.00 mm²**				
32141802	2	0.260	6.6	36
32141803	3	0.276	7.0	46
32141804	4	0.295	7.5	56
32141805	5	0.323	8.2	68
32141807	7	0.354	9.0	87
32141809	9	0.445	11.3	126
32141812	12	0.476	12.1	151
32141815	15	0.531	13.5	186
32141818	18	0.563	14.3	223
32141825	25	0.677	17.2	303
32141850	50	0.898	22.8	550

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **16 AWG (≈ 27-29/30) • 1.50 mm²**				
32141602	2	0.283	7.2	45
32141603	3	0.299	7.6	58
32141604	4	0.327	8.3	71
32141605	5	0.362	9.2	88
32141607	7	0.390	9.9	111
32141612	12	0.531	13.5	196
32141615	15	0.602	15.3	257
32141618	18	0.638	16.2	295
32141625	25	0.764	19.4	404
32141650	50	1.012	25.7	745
► **14 AWG (≈ 46/30) • 2.50 mm²**				
32141403	3	0.358	9.1	85
32141404	4	0.386	9.8	105
32141405	5	0.437	11.1	138
32141407	7	0.480	12.2	179
32141412	12	0.650	16.5	308
32141418	18	0.764	19.4	443
32141425	25	0.925	23.5	601

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **12 AWG (≈ 52/28) • 4.00 mm²**				
32141203	3	0.421	10.7	128
32141204	4	0.465	11.8	164
32141205	5	0.508	12.9	198
32141207	7	0.567	14.4	268
► **10 AWG (≈ 78/28) • 6.00 mm²**				
32141003	3	0.488	12.4	178
32141004	4	0.539	13.7	226
32141005	5	0.606	15.4	294
► **8 AWG (≈ 69/26)**				
32140804	4	0.807	20.5	450
► **6 AWG (≈ 110/26)**				
32140604	4	0.882	22.4	609
► **4 AWG (≈ 175/26)**				
32140404	4	1.083	27.5	943
► **2 AWG (≈ 272/26)**				
32140204	4	1.236	31.4	1278
► **1 AWG (≈ 342/26)**				
32140104	4	1.413	35.9	1754

Other dimensions and colors are available on request

Extra chemical resistance

SABIX® A 530 Rugged

Rugged, flexible control cable for indoor and outdoor use

also available as single conductor

SAB Control

CE RoHS

Marking for SABIX® A 530 Rugged 53001215:
SAB BRÖCKSKES · D-VIERSEN · SABIX® A 530 Rugged 12x1.5mm²

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	SABIX®
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Jacket material:	SABIX®
Jacket color:	black (RAL 9005)

Outstanding features:

- **halogen-free**
- **very good resistance against Skydrol hydraulic oil**
- **extremely large temperature range**
- **very good abrasion resistance**
- **low capacity construction**
- **for indoor and outdoor use**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 3000 V
Min. bending radius: *fixed installation:* *free movement:*	 4 x O.D. 10 x O.D.
Temperature range: *static:* *flexible:* *jacket material:*	 -50/+90°C -40/+90°C up to +105°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Oil resistance:	very good
UV and weather resistance:	very good
Salt water resistance:	very good
Battery acid resistance:	very good
Chemical resistance:	very good against a variety of agressive chemicals
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	outer-ø ± 5% inch	outer-ø ± 5% mm	cable weight ≈lbs/mft
► 20 AWG (≈ 16/32) • 0.50 mm²				
53000305	3	0.205	5.2	21
53000705	7	0.272	6.9	41
53001805	18	0.425	10.8	99
► 19 AWG (≈ 23/32) • 0.75 mm²				
53000407	4	0.248	6.3	34
53001207	12	0.398	10.1	90
53002507	25	0.555	14.1	176

item no.	no. of conductors incl. ground	outer-ø ± 5% inch	outer-ø ± 5% mm	cable weight ≈lbs/mft
► 18 AWG (≈ 30/32) • 1.00 mm²				
53000510	5	0.287	7.3	50
53001010	10	0.409	10.4	98
53001210	12	0.421	10.7	111
53001810	18	0.508	12.9	165
53003410	34	0.689	17.5	302
► 16 AWG (≈ 27-29/30) • 1.50 mm²				
53000215	2	0.252	6.4	35
53001215	12	0.480	12.2	153
53001815	18	0.575	14.6	228

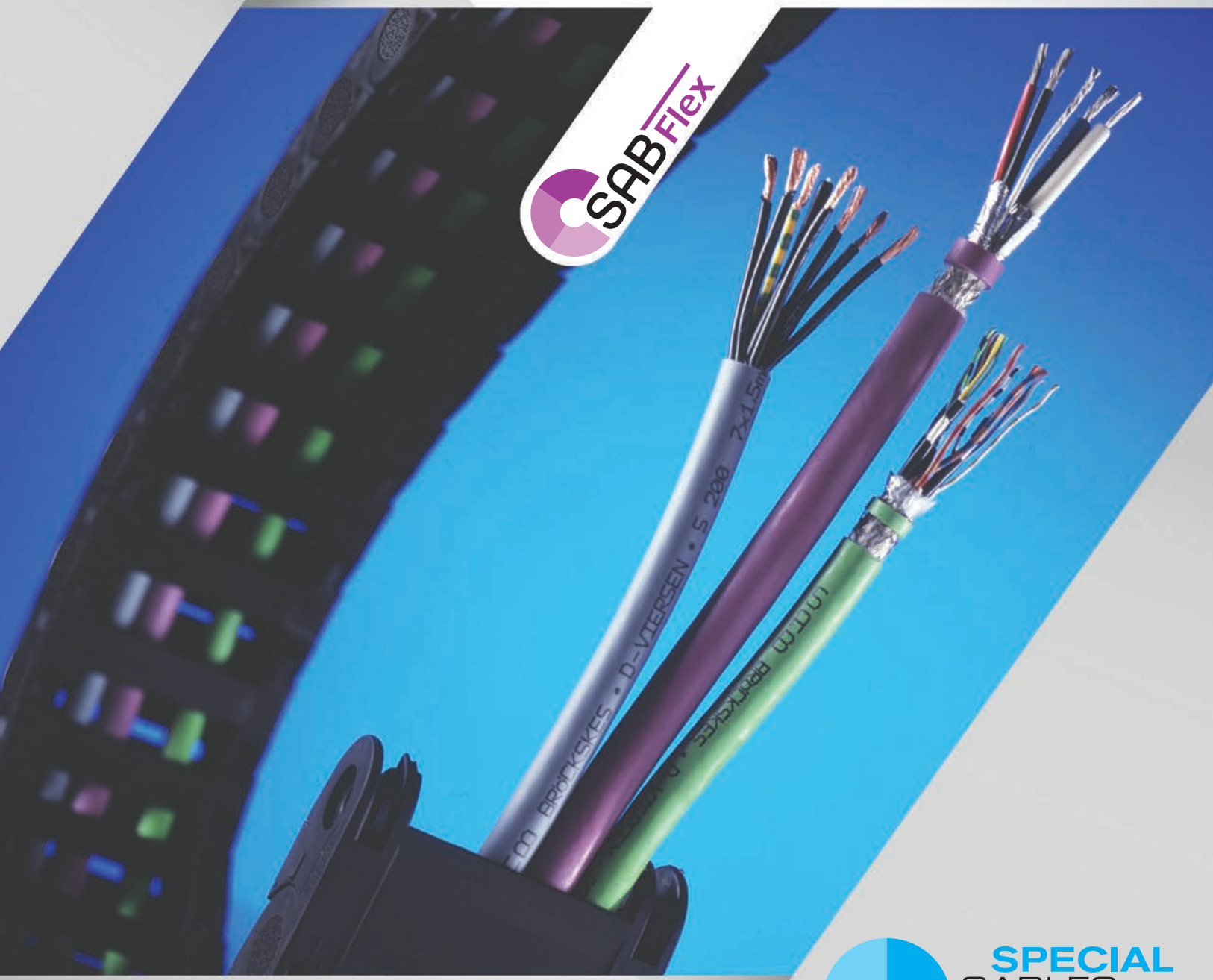
item no.	no. of conductors incl. ground	outer-ø ± 5% inch	outer-ø ± 5% mm	cable weight ≈lbs/mft
► 14 AWG (≈ 46/30) • 2.50 mm²				
53000425	4	0.354	9.0	87
53000725	7	0.441	11.2	144
► 12 AWG (≈ 52/28) • 4.00 mm²				
53000440	4	0.437	11.1	134
► 10 AWG (≈ 78/28) • 6.00 mm²				
53000460	4	0.524	13.3	204

Other dimensions and colors are available on request

Also suitable as ESS cable for energy storage system

CONTINUOUS FLEX
CABLES

B



www.sabcable.com
866-722-2974 ■ info@sabcable.com

SPECIAL CABLES
SAB North America

Content

Content

Applications

Due to high technology automation systems getting increasingly faster in all areas of production and applications, industrial customers are demanding innovative products from the cable industry. Together with our customers, SAB BRÖCKSKES is constantly developing and improving our cable track cables to keep this product range up to date. Cable track cables are produced especially for applications with highly flexible bending stress. One of our top products within this product range is our type S 980 CP. With UL recognition and CSA approval, this cable reflects the high quality standard of our cable track cables.

Our highly flexible cables are suitable for constant use with extremely high bending stress during multiple-shift operation. You can use our advanced cable technology in order to enhance the efficiency of your machines and appliances and, therefore, always be one step ahead of your competitors.

Application of PVC cable track cables

SAB PVC cable track cables are intended for flexible use, e.g. control or data cables in cable tracks installed on machine tools and robot devices, wherever energy supply and signals are transmitted to machines and appliances that are in permanent movement.

Exemplary applications:

SD 86/ S 86 **SD 86 C/ S 86 C** **SD 86 C TP**	Wood working and packaging machines, assembly lines, automation plants
S 900 **SD 960/ S 960/ S 960 red** **SD 960 CY/ S 960 CY/ S 960 CY red** **SD 960 CY TP**	Wood working and packaging machines, assembly lines, automation plants, also for the American market

Applications of PUR/TPE cable track cables

SAB PUR/TPE cable track cables are intended for continuously flexing use, e.g. in cable tracks, control or data cables installed on industrial robots, automation plants, robot devices, automation systems, mostly where very high flexibility, abrasion resistance, notch resistance, oil and chemical resistance are requested. The cables are suitable for permanent use with millions of bending cycles during multiple-shift operation. The cut resistant and low-adhesion PUR/TPE jacket guarantees higher service life and high efficiency.

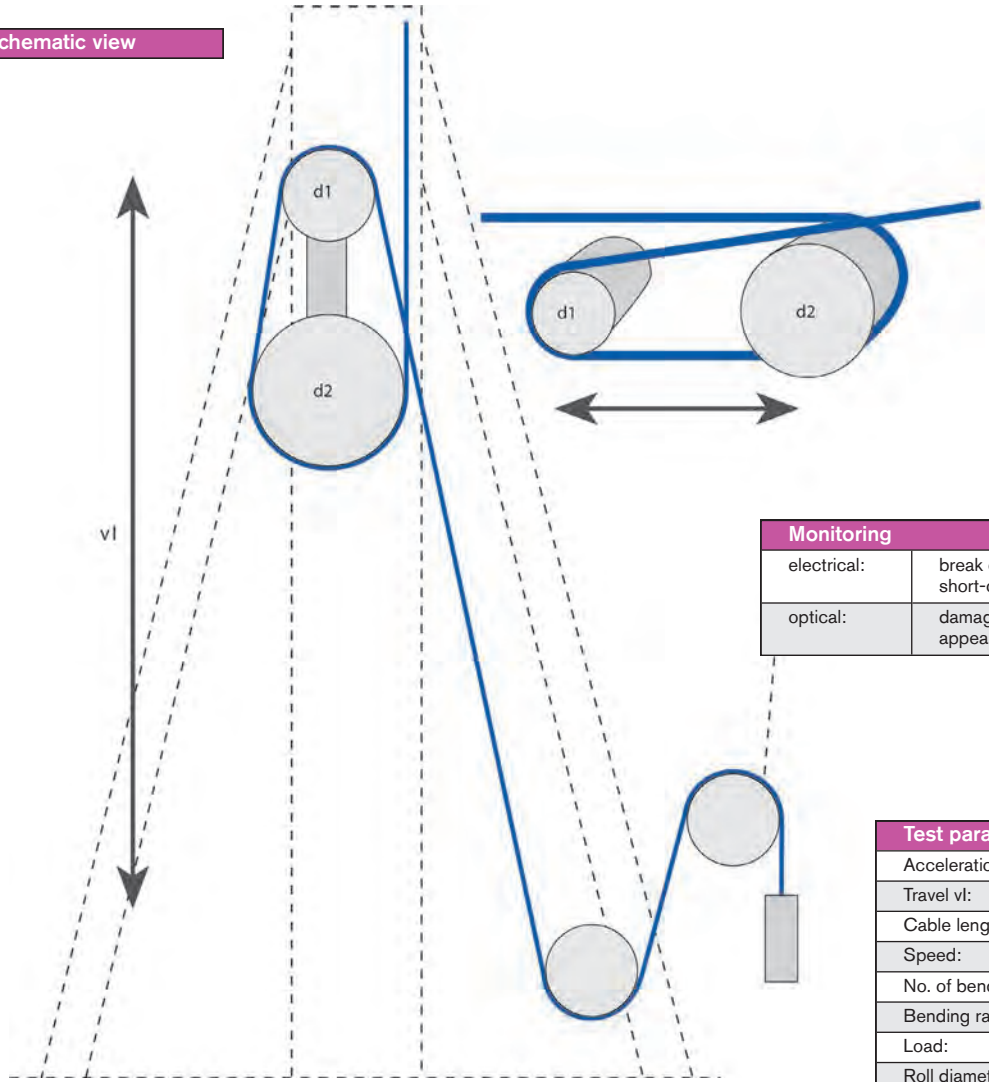
Exemplary applications:

SD 200/ S 200 **SD 200 C/ S 200 C** **SD 200 C TP**	Pick-n-place, material handling and automation technologies, wood working and packaging machines, industrial robot construction, car manufacturing industry, high rack construction
S 900 P/ S 910 P/ S 910 CP **SD 960 P/ S 960 P** **SD 960 CP/ S 960 CP** **SD 960 CP TP**	Pick-n-place, material handling and automation technologies, wood working and packaging machines, car manufacturing industry, press manufacturing
SD 980 P/ S 980 P **SD 980 CP/ S 980 CP** **SD 980 CP TP**	Pick-n-place, material handling and automation technologies, wood working and packaging machines, industrial robot construction, car manufacturing industry, high rack construction

Applications

Cycle life testing machine for continuous flex cables

schematic view



Monitoring	
electrical:	break of a single conductor, short-circuit
optical:	damage of jacket, appearance of kinks

Test parameter	
Acceleration:	55 m/s²
Travel vl:	1400 mm
Cable length in motion:	2800 mm
Speed:	0.8 m/s
No. of bendings:	12 pro min
Bending radius:	variable
Load:	variable
Roll diameter d1:	variable
Roll diameter d2:	variable

Test findings	S 200 (12 x 1.0 mm²)	S 90 (12 x 1.0 mm²)	S 86 (12 x 1.0 mm²)
Bending radius during test:	4.3 x d	3.6 x d	3.5 x d
Travel:	1.9 m	1.9 m	1.9 m
Acceleration:	40 m/s²	40 m/s²	40 m/s²
Temperature during test:	+10°C up to +22°C	+10°C up to +22°C	+10°C up to +22°C
Speed:	1.4 m/s	1.4 m/s	1.4 m/s
Dimension:	10.4 mm	12.5 mm	12.9 mm
Roll diameter d1:	90 mm	90 mm	90 mm
Roll diameter d2:	125 mm	125 mm	125 mm
No. of bendings:	**17,438,485**	**2,929,730**	**2,508,904**

Selection Table

		Cable Type	B/8	B/9	B/10	B/11	B/12	B/13	B/14	B/15	B/16	B/17	B/18	B/19	B/20	B/21	B/22	B/23
			PVC/PVC	PVC/PUR	TPE/PVC	TPE/PUR	PVC/PVC	PVC/PVC	PVC/PVC	PVC/PVC	PVC/PVC	PVC/PVC	PVC/PVC	PVC/PUR	PVC/PUR	PVC/PUR	PVC/PUR	PVC/PUR
			S 900	S 900 P	S 910 P	S 910 CP	SD 960	S 960	S 960 red	SD 960 CY	S 960 CY	S 960 CY red	SD 960 CY TP	SD 960 P	S 960 P	SD 960 CP	S 960 CP	SD 960 CP TP
Application	Data cables						●			●			●	●		●		●
	Control cables		●	●	●	●		●	●		●	●			●		●	
	Shielding					●				●	●	●	●			●	●	●
	Twisted pair stranding												●					●
Temperature range fixed installation*	+ 90°C																	
	+ 70°C																	
	- 25°C																	
	- 30°C																	
	- 40°C																	
	- 50°C																	
Voltage	Peak operating voltage max. 350 V						●			●			●	●		●		●
	Nominal voltage 300/500 V							●	●		●	●			●		●	
	Nominal voltage 0.6/1 kV		●	●	●	●												
	Voltage UL 300 V						●			●			●	●		●		●
	Voltage (UL) 600 V		●	●	●	●		●	●		●	●			●		●	
	Voltage CSA 300 V													●		●		●
	Voltage CSA 600 V		●	●				●	●		●	●			●		●	
	Voltage CSA 1000 V				●	●												
	Testing voltage: 1500 V						●			●			●	●		●		●
	Testing voltage: 2000 V							●	●		●	●			●			
	Testing voltage: 3000 V																●	
Characteristics, standards and approvals	Flexible at low temperature																	
	PWIS-free (PWIS = paint wetting impairment substances)																	
	Halogen-free acc. to IEC 60754-1 + VDE 0482-754-1				●	●												
	Fire performance: Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2		●	●	●	●	●	●	●	●	●	●	●		●		●	
	Fire performance UL VW-1		●				●	●	●	●	●	●	●		●		●	
	Fire performance UL FT1, FT2			●	●	●		●	●		●	●		●	●	●	●	●
	Fire performance CSA FT1, FT2		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	UL recognized		●	●	●	●												
	(UL) listed							●	●		●	●		●	●	●	●	●
	CSA approved		●	●	●	●												
	Very good oil resistance acc. to EN 50363-10-2 + VDE 0207-363-10-2			●	●	●												
	Very good oil resistance acc. to EN 50363-4-1 + VDE 0207-363-4-1		●											●	●	●	●	●
	Oil rating 60°C acc. to UL 758																	
	Oil resistance acc. to internal standard						●	●	●	●	●	●	●					
	Good chemical resistance			●	●	●								●	●	●	●	●
Application Service Life A = High, B= Medium, C= Short	**At acceleration values of**																	
	up to 05 m/s²		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	up to 20 m/s²		B	A	A	A	B	B	B	B	B	B	B	A	A	A	A	A
	up to 40 m/s²		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	more than 40 m/s²		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	At path feet rates of																	
	up to 01 m/s²		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	up to 03 m/s²		B	A	A	A	B	B	B	B	B	B	B	A	A	A	A	A
	up to 10 m/s²		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	more than 10 m/s²		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	For cable tracks with a length of																	
	up to 05 m		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	up to 10 m		B	A	A	A	B	B	B	B	B	B	B	A	A	A	A	A
	up to 25 m		C	B	B	B	C	C	C	C	C	C	C	B	B	B	B	B
	up to 25 m		C	B	B	B	C	C	C	C	C	C	C	B	B	B	B	B

from

to

*The temperature range for flexible application is mentioned on the corresponding catalog page

Selection Table

		Cable Type	SD 980 P	S 980 P	SD 980 CP	S 980 CP	SD 980 CP TP	SD 86	S 86	SD 86 C	S 86 C	SD 86 C TP	SD 200	S 200	SD 200 C	S 200 C	SD 200 C TP
			B/24	B/25	B/26	B/27	B/28	B/29	B/30	B/31	B/32	B/33	B/34	B/35	B/37	B/38	B/40
			TPE/PUR	TPE/PUR	TPE/PUR	TPE/PUR	TPE/PUR	PVC/PVC	PVC/PVC	PVC/PVC	PVC/PVC	PVC/PVC	TPE/PUR	TPE/PUR	TPE/PUR	TPE/PUR	TPE/PUR
Application	Data cables		●		●	●	●	●		●		●	●		●		●
	Control cables			●		●			●		●			●		●	
	Shielding				●	●	●			●	●	●			●	●	●
	Twisted pair stranding						●					●					●
Temperature range fixed installation*	+ 90°C																
	+ 70°C																
	- 25°C																
	- 30°C																
	- 40°C																
	- 50°C																
Voltage	Peak operating voltage max. 350 V		●		●		●	●		●		●	●		●		●
	Nominal voltage 300/500 V			●		●			●		●			●		●	
	Nominal voltage 0.6/1 kV																
	Voltage UL 300 V		●		●		●										
	Voltage (UL) 600 V			●		●											
	Voltage CSA 300 V		●		●		●										
	Voltage CSA 600 V			●		●											
	Voltage CSA 1000 V																
	Testing voltage: 1500 V		●					●		●		●	●		●		●
	Testing voltage: 2000 V			●	●	●	●							●		●	
	Testing voltage: 3000 V								●		●						
Characteristics, standards and approvals	Flexible at low temperature		●	●	●	●	●						●	●	●	●	●
	PWIS-free (PWIS = paint wetting impairment substances)		●	●	●	●	●						●	●	●	●	●
	Halogen-free acc. to IEC 60754-1 + VDE 0482-754-1		●	●	●	●	●						●	●	●	●	●
	Fire performance: Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2		●	●	●	●	●	●	●	●	●	●					
	Fire performance UL VW-1																
	Fire performance UL FT1, FT2		●	●	●	●	●										
	Fire performance CSA FT1, FT2		●	●	●	●	●										
	UL recognized																
	(UL) listed		●	●	●	●	●										
	CSA approved		●	●	●	●	●										
	Very good oil resistance acc. to EN 50363-10-2 + VDE 0207-363-10-2												●	●	●	●	●
	Very good oil resistance acc. to EN 50363-4-1 + VDE 0207-363-4-1																
	Oil rating 60°C acc. to UL 758																
	Oil resistance acc. to internal standard							●	●	●	●	●					
	Good chemical resistance		●	●	●	●	●						●	●	●	●	●
Application Service Life A = High, B= Medium, C= Short	**At acceleration values of**																
	up to 05 m/s²		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	up to 20 m/s²		A	A	A	A	A	B	B	B	B	B	A	A	A	A	A
	up to 40 m/s²		A	A	A	A	A	C	C	C	C	C	A	A	A	A	A
	more than 40 m/s²		A	A	A	A	A	C	C	C	C	C	A	A	A	A	A
	At path feet rates of																
	up to 01 m/s²		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	up to m/s²		A	A	A	A	A	B	B	B	B	B	A	A	A	A	A
	up to 10 m/s²		A	A	A	A	A	C	C	C	C	C	A	A	A	A	A
	more than 10 m/s²		A	A	A	A	A	C	C	C	C	C	A	A	A	A	A
	For cable tracks with a length of																
	up to 05 m		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	up to 10 m		A	A	A	A	A	B	B	B	B	B	A	A	A	A	A
	up to 25 m		A	A	A	A	A	C	C	C	C	C	A	A	A	A	A
	up to 25 m		A	A	A	A	A	C	C	C	C	C	A	A	A	A	A

from

to

*The temperature range for flexible application is mentioned on the corresponding catalog page

S 900

Continuous flex oil resistant power supply cable for small bend radius applications

Marking for S 900 7671362:
SAB BRÖCKSKES · D-VIERSEN · 7670601 16.0 mm² S 900 6 AWG 7671362 AWM Style 10455 90°C 600V CSA AWM I/II A/B 90°C 600V FT1 FT2

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3, black
Wrapping:	non-woven tape
Jacket material:	PVC, TM5 acc. to EN 50363-3 + VDE 0207-363-3
Jacket color:	black (RAL 9005)

Outstanding features:

- **highly flexible single conductor for use in cable tracks**
- **UV resistant jacket**

Technical data:

Nominal voltage:	Uo/U 0.6/1 kV
Voltage UL/CSA:	600 V
Min. bending radius: *continuously flexing:*	7.5 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range: *static:* *flexing:*	**DIN VDE** **UL/CSA:** up to +90°C -40/+70°C +5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, CSA FT1, FT2
Oil resistance:	very good - TM5 acc. to EN 50363-3 + VDE 0207-363-3
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors n x mm²	AWG/MCM	outer-ø ± 5% inch	outer-ø ± 5% mm	cable weight ≈lbs/mft	ampere at 30° C
▶ 7671315	1 x 1.50	16 (≈ 84/34)	0.193	4.9	26	24
▶ 7671325	1 x 2.50	14 (≈ 140/34)	0.228	5.8	37	32
▶ 7671340	1 x 4.00	12 (≈ 224/34)	0.260	6.6	52	42
▶ 7671360	1 x 6.00	10 (≈ 186/32)	0.287	7.3	70	54
▶ 7671361	1 x 10.00	8 (≈ 320/32)	0.358	9.1	108	73
▶ 7671362	1 x 16.00	6 (≈ 512/32)	0.398	10.1	155	98
▶ 7671363	1 x 25.00	4 (≈ 798/32)	0.472	12.0	226	129
▶ 7671364	1 x 35.00	2 (≈ 1083/32)	0.539	13.7	305	158
▶ 7671365	1 x 50.00	1 (≈ 703/28)	0.622	15.8	425	198
▶ 7671385	1 x 54.00	1/0 (≈ 779/28)	0.642	16.3	455	213
▶ 7671386	1 x 68.00	2/0 (≈ 969/28)	0.673	17.1	530	226
▶ 7671366	1 x 70.00	2/0 (≈ 988/28)	0.681	17.3	540	245
▶ 7671387	1 x 86.00	3/0 (≈ 1218/28)	0.776	19.7	696	263
▶ 7671367	1 x 95.00	3/0 (≈ 1340/28)	0.827	21.0	770	292
▶ 7671388	1 x 108.00	4/0 (≈ 1528/28)	0.886	22.5	864	313
▶ 7671368	1 x 120.00	4/0 (≈ 1680/28)	0.898	22.8	941	344
▶ 7671389	1 x 127.00	250 MCM (≈ 1799/28)	0.917	23.3	1001	370
▶ 7671369	1 x 150.00	250 MCM (≈ 2122/28)	0.969	24.6	1158	391
▶ 7671390	1 x 152.00	300 MCM (≈ 2154/28)	0.969	24.6	1158	396
▶ 7671391	1 x 177.00	350 MCM (≈ 1443/26)	1.051	26.7	1378	430
▶ 7671370	1 x 185.00	350 MCM (≈ 1472/26)	1.051	26.7	1401	448
▶ 7671392	1 x 204.00	400 MCM (≈ 1628/26)	1.197	30.4	1620	470
▶ 7671393	1 x 232.00	450 MCM (≈ 1850/26)	1.240	31.5	1809	490
▶ 7671371	1 x 240.00	450 MCM (≈ 1910/26)	1.240	31.5	1856	528
▶ 7671394	1 x 255.00	500 MCM (≈ 2035/26)	1.252	31.8	1962	535
▶ 7671395	1 x 283.00	550 MCM (≈ 2257/26)	1.323	33.6	2284	560
▶ 7671372	1 x 300.00	550 MCM (≈ 2388/26)	1.350	34.3	2286	608
▶ 7671396	1 x 306.00	600 MCM (≈ 2442/26)	1.350	34.3	2329	613

from 283 mm² only UL recognition.
Other dimensions and colors are possible on request.

Possible on request:

- **with green/yellow insulation**

S 900 P

Continuous flex oil and abrasion resistant power supply cable for small bend radius applications with PUR jacket

Marking for S 900 7671362:
SAB BRÖCKSKES · D-VIERSEN · 7680601 16.0 mm² S 900 6 AWG 7671362 AWM Style 10455 90°C 600V CSA AWM I/II A/B 90°C 600V FT1 FT2

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3, black
Wrapping:	non-woven tape
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2 with matte surface
Jacket color:	black (RAL 9005)

Outstanding features:

- **highly flexible single conductor for use in cable tracks**
- **good chemical resistance**
- **high abrasion resistance**
- **UV resistant jacket**

Technical data:

Nominal voltage:	Uo/U 0.6/1 kV
Voltage UL/CSA:	600 V
Min. bending radius: *continuously flexing:*	7.5 x O.D.
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range: *static:* *flexing:*	**DIN VDE** **UL/CSA:** up to +80°C -40/+70°C +5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL/CSA FT1, FT2
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids, etc.
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors n x mm²	AWG/MCM	outer-ø ± 5% inch	outer-ø ± 5% mm	cable weight ≈lbs/mft	ampere at 30° C
▶ 7681315	1 x 1.50	16 (≈ 84/34)	0.220	5.6	30	24
▶ 7681325	1 x 2.50	14 (≈ 140/34)	0.256	6.5	42	32
▶ 7681340	1 x 4.00	12 (≈ 224/34)	0.287	7.3	58	42
▶ 7681360	1 x 6.00	10 (≈ 186/32)	0.315	8.0	77	54
▶ 7681361	1 x 10.00	8 (≈ 320/32)	0.386	9.8	116	73
▶ 7681362	1 x 16.00	6 (≈ 512/32)	0.425	10.8	165	98
▶ 7681363	1 x 25.00	4 (≈ 798/32)	0.500	12.7	237	129
▶ 7681364	1 x 35.00	2 (≈ 1083/32)	0.551	14.0	308	158
▶ 7681365	1 x 50.00	1 (≈ 703/28)	0.634	16.1	429	198
▶ 7681385	1 x 54.00	1/0 (≈ 779/28)	0.654	16.6	459	213
▶ 7681386	1 x 68.00	2/0 (≈ 969/28)	0.713	18.1	563	226
▶ 7681366	1 x 70.00	2/0 (≈ 988/28)	0.713	18.1	574	245
▶ 7681387	1 x 86.00	3/0 (≈ 1218/28)	0.787	20.0	701	263
▶ 7681367	1 x 95.00	3/0 (≈ 1340/28)	0.827	21.0	766	292
▶ 7681388	1 x 108.00	4/0 (≈1528/28)	0.886	22.5	859	313
▶ 7681368	1 x 120.00	4/0 (≈ 1680/28)	0.898	22.8	937	344
▶ 7681389	1 x 127.00	250 MCM (≈ 1799/28)	0.917	23.3	996	370
▶ 7681369	1 x 150.00	250 MCM (≈ 2122/28)	0.969	24.6	1153	391
▶ 7681390	1 x 152.00	300 MCM (≈ 2154/28)	0.969	24.6	1153	396
▶ 7681391	1 x 177.00	350 MCM (≈ 1443/26)	1.051	26.7	1373	430
▶ 7681370	1 x 185.00	350 MCM (≈ 1472/26)	1.051	26.7	1396	448
▶ 7681392	1 x 204.00	400 MCM (≈ 1628/26)	1.197	30.4	1612	470
▶ 7681393	1 x 232.00	450 MCM (≈1850/26)	1.240	31.5	1801	490
▶ 7681371	1 x 240.00	450 MCM (≈1910/26)	1.240	31.5	1848	528
▶ 7681394	1 x 255.00	500 MCM (≈ 2035/26)	1.252	31.8	1953	535
▶ 7681395	1 x 283.00	550 MCM (≈ 2257/26)	1.323	33.6	2274	560
▶ 7681372	1 x 300.00	550 MCM (≈ 2388/26)	1.350	34.3	2277	608
▶ 7681396	1 x 306.00	600 MCM (≈ 2442/26)	1.350	34.3	2319	613

from 283 mm² only UL recognition.
Other dimensions and colors are possible on request.

Possible on request:

- **with green/yellow insulation**

S 910 P

Continuous flex oil resistant power supply cable for small bend radius applications with TPE insulation and PUR jacket

Marking for S 910 P 37681362:
SAB BRÖCKSKES · D-VIERSEN · 37680601 16.0 mm² S 910 P 6 AWG 37681362 AWM Style 10456 80°C 600V CSA AWM I/II A/B 80°C 1000V FT1 FT2

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	TPE, black
Wrapping:	non-woven tape
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2 with matte surface
Jacket color:	black (RAL 9005)

Outstanding features:

- **highly flexible single conductor for use in cable tracks**
- **good chemical resistance**
- **high abrasion resistance**
- **halogen-free**

Technical data:

Nominal voltage:	Uo/U 0.6/1 kV	
Voltage:	**UL:** 600 V	**CSA:** 1000V
Min. bending radius: *continuously flexing:*	7.5 x O.D.	
Radiation resistance:	1 x 10^7 cJ/kg	
Temperature range: *static:* *flexing:*	**DIN VDE** -50/+90°C -40/+90°C	**UL/CSA:** up to +80°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1	
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL/CSA FT1, FT2	
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2	
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids, etc.	
Continuous flexibility:	very good	
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30	

item no.	no. of conductors n x mm²	AWG/MCM	outer-ø ± 5% inch	outer-ø ± 5% mm	cable weight ≈lbs/mft
▶ 37681340	1 x 4.00	12 (≈ 224/34)	0.260	6.6	46
▶ 37681360	1 x 6.00	10 (≈ 186/32)	0.295	7.5	63
▶ 37681361	1 x 10.0	8 (≈ 320/32)	0.331	8.4	93
▶ 37681362	1 x 16.0	6 (≈ 512/32)	0.390	9.9	138
▶ 37681363	1 x 25.0	4 (≈ 798/32)	0.437	11.1	199
▶ 37681364	1 x 35.0	2 (≈ 1083/32)	0.496	12.6	262
▶ 37681365	1 x 50.0	1 (≈ 703/28)	0.579	14.7	372
▶ 37681366	1 x 70.0	2/0 (≈ 988/28)	0.669	17.0	518
▶ 37681367	1 x 95.0	3/0 (≈ 1340/28)	0.803	20.4	688
▶ 37681368	1 x 120.0	4/0 (≈ 1680/28)	0.906	23.0	886
▶ 37681369	1 x 150.0	250 MCM (≈ 2122/28)	1.012	25.7	1108
▶ 37681370	1 x 185.0	350 MCM (≈ 1472/26)	1.087	27.6	1357

Other dimensions and colors are possible on request.

Possible on request:

- **with green/yellow insulation**

S 910 CP

Continuous flex oil and abrasion resistant shielded power supply cable for small bend radius applications with TPE insulation and PUR jacket

Marking for S 910 CP 37692362:
SAB BRÖCKSKES · D-VIERSEN · 37690601 16.0 mm² S 910 CP 6 AWG 37692362 AWM Style 10456 80°C 600V CSA AWM I/II A/B 80°C 1000V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	TPE, black
Wrapping:	non-woven tape
Shielding:	tinned copper braiding
Wrapping:	non-woven tape
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2 with matte surface
Jacket color:	orange (RAL 2003)

Outstanding features:

- **highly flexible single conductor for use in cable tracks**
- **good chemical resistance**
- **high abrasion resistance**
- **halogen-free**

Technical data:

Nominal voltage:	Uo/U 0.6/1 kV	
Voltage:	**UL:** 600 V	**CSA:** 1000V
Min. bending radius: *continuously flexing:*	7.5 x O.D.	
Radiation resistance:	5 x 10^7 cJ/kg	
Temperature range: *static:* *flexing:*	**DIN VDE** -50/+90°C -40/+90°C	**UL/CSA:** up to +80°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1	
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL/CSA FT1, FT2	
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2	
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids, etc.	
Continuous flexibility:	very good	
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30	

item no.	no. of conductors n x mm²	AWG/MCM	outer-ø ± 5% inch	outer-ø ± 5% mm	cable weight ≈lbs/mft
▶ 37692340	1 x 4.00	12 (≈ 224/34)	0.280	7.1	56
▶ 37692360	1 x 6.00	10 (≈ 186/32)	0.315	8.0	75
▶ 37692361	1 x 10.0	8 (≈ 320/32)	0.350	8.9	105
▶ 37692362	1 x 16.0	6 (≈ 512/32)	0.406	10.3	153
▶ 37692363	1 x 25.0	4 (≈ 798/32)	0.461	11.7	225
▶ 37692364	1 x 35.0	2 (≈ 1083/32)	0.524	13.3	292
▶ 37692365	1 x 50.0	1 (≈ 703/28)	0.622	15.8	424
▶ 37692366	1 x 70.0	2/0 (≈ 988/28)	0.705	17.9	564
▶ 37692367	1 x 95.0	3/0 (≈ 1340/28)	0.902	22.9	802
▶ 37692368	1 x 120.0	4/0 (≈ 1680/28)	0.941	23.9	955
▶ 37692369	1 x 150.0	250 MCM (≈ 2122/28)	1.047	26.6	1191

Other dimensions and colors are possible on request.

Possible on request:

- **with green/yellow insulation**

SD 960

Continuous flex data cable for small bending radius

Marking for SD 960 37102625:

SAB BRÖCKSKES · D-VIERSEN · 37102625 25 x 0.14 mm² SD 960 26 AWG/25c 37102625 AWM Style 21083 80°C 300V

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Color code:	acc. to color code US 2, see page O/27
Stranding:	specially adjusted layering with non-woven tape over each layer
Jacket material:	PVC, TM2 acc. to EN 50363-3 + VDE 0207-363-3
Jacket color:	grayish tan (RAL 7032)

Outstanding features:

- **very good flexibility**
- **small bending radius**
- **reinforced outer jacket**

Technical data:

Peak operating voltage:	max. 350 V
Voltage UL:	300 V
Testing voltage:	conductor/conductor: 1500 V
Min. bending radius: *continuously flexing:*	7.5 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range: *static:* *flexing:*	**DIN VDE** **UL/CSA:** up to +80°C -30/+70°C -5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1
Oil resistance:	acc. to our internal standard, see page O/29
Approvals:	UR AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **26 AWG (≈ 18/38) ▪ 0.14 mm²**				
37102602	2	0.154	3.9	11
37102603	3	0.161	4.1	14
37102604	4	0.177	4.5	16
37102605	5	0.193	4.9	20
37102607	7	0.224	5.7	28
37102610	10	0.264	6.7	33
37102614	14	0.283	7.2	42
37102618	18	0.323	8.2	56
37102625	25	0.398	10.1	78

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **24 AWG (≈ 32/38) ▪ 0.25 mm²**				
37102402	2	0.165	4.2	15
37102403	3	0.177	4.5	17
37102404	4	0.189	4.8	21
37102405	5	0.209	5.3	26
37102407	7	0.248	6.3	36
37102410	10	0.287	7.3	44
37102414	14	0.319	8.1	58
37102418	18	0.354	9.0	74
37102425	25	0.433	11.0	102

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **22 AWG (≈ 42/38) ▪ 0.34 mm²**				
37102202	2	0.173	4.4	17
37102203	3	0.185	4.7	20
37102204	4	0.201	5.1	24
37102205	5	0.217	5.5	30
37102207	7	0.260	6.6	41
37102210	10	0.311	7.9	53
37102214	14	0.335	8.5	69
37102218	18	0.374	9.5	87
37102225	25	0.461	11.7	120

Other dimensions and colors are available on request

S 960

Continuous flex control cable for small bending radius with black conductors

Marking for S 960 7521612:
SAB BRÖCKSKES · D-VIERSEN · 7521215 12 x 1.5 mm² S 960 16 AWG/12c 7521612 AWM Style 2587 90°C 600V CSA AWM I/II A/B 90°C 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	specially adjusted layering with non-woven tape over each layer
Jacket material:	PVC, TM2 acc. to EN 50363-3 + VDE 0207-363-3
Jacket color:	black (RAL 9005)

Outstanding features:

- **very good flexibility**
- **small bending radius**
- **reinforced outer jacket**
- **UV resistant jacket**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Voltage UL/CSA:	600 V
Testing voltage:	conductor/conductor: 2000 V
Min. bending radius: *continuously flexing:*	 7.5 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range: *static:* *flexing:*	**DIN VDE** **UL/CSA:** up to +90°C -40/+70°C +5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, CSA FT1, FT2
Oil resistance:	acc. to our internal standard, see page O/29
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 20 AWG (≈ 28/34) • 0.50 mm²				
7522002	2	0.217	5.5	27
7522003	3	0.228	5.8	32
7522004	4	0.248	6.3	38
7522005	5	0.276	7.0	48
7522007	7	0.323	8.2	66
7522012	12	0.398	10.1	97
7522018	18	0.472	12.0	142
7522025	25	0.567	14.4	191
7522034	34	0.638	16.2	254
7522050	50	0.752	19.1	351
7522061	61	0.831	21.1	440
▶ 19 AWG (≈ 42/34) • 0.75 mm²				
7521902	2	0.232	5.9	32
7521903	3	0.248	6.3	38
7521904	4	0.268	6.8	46
7521905	5	0.295	7.5	5
7521907	7	0.358	9.1	82
7521912	12	0.433	11.0	119
7521918	18	0.516	13.1	175
7521925	25	0.622	15.8	238
7521934	34	0.705	17.9	318
7521950	50	0.831	21.1	450
7521961	61	0.925	23.5	558
▶ 18 AWG (≈ 56/34) • 1.00 mm²				
7521802	2	0.244	6.2	37
7521803	3	0.256	6.5	44
7521804	4	0.283	7.2	55
7521805	5	0.311	7.9	68
7521807	7	0.370	9.4	95
7521809	9	0.445	11.3	136
7521812	12	0.453	11.5	142
7521815	15	0.516	13.1	187
7521818	18	0.539	13.7	210

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 18 AWG (≈ 56/34) • 1.00 mm²				
7521825	25	0.650	16.5	285
7521834	34	0.736	18.7	382
7521850	50	0.886	22.5	555
7521861	61	0.965	24.5	671
▶ 16 AWG (≈ 84/34) • 1.50 mm²				
7521602	2	0.268	6.8	47
7521603	3	0.287	7.3	59
7521604	4	0.315	8.0	73
7521605	5	0.346	8.8	91
7521607	7	0.417	10.6	129
7521609	9	0.496	12.6	179
7521612	12	0.512	13.0	194
7521618	18	0.606	15.4	286
7521625	25	0.736	18.7	390
7521634	34	0.831	21.1	522
7521650	50	0.988	25.1	749
7521661	61	1.087	27.6	915
▶ 14 AWG (≈ 140/34) • 2.50 mm²				
7521402	2	0.35	8.9	79
7521403	3	0.374	9.5	97
7521404	4	0.409	10.4	120
7521405	5	0.457	11.6	150
7521407	7	0.551	14.0	214
7521412	12	0.681	17.3	323
7521418	18	0.815	20.7	480
7521425	25	0.988	25.1	654
▶ 12 AWG (≈ 224/34) • 4.00 mm²				
7521203	3	0.445	11.3	150
7521204	4	0.488	12.4	179
7521205	5	0.543	13.8	230
7521207	7	0.657	16.7	331

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 10 AWG (≈ 186/32) • 6.00 mm²				
7521003	3	0.516	13.1	214
7521004	4	0.571	14.5	256
7521005	5	0.638	16.2	329
7521007	7	0.764	19.4	470
▶ 8 AWG (≈ 320/32) • 10.00 mm²				
7520803	3	0.638	16.2	337
7520804	4	0.709	18.0	428
7520805	5	0.791	20.1	529
▶ 6 AWG (≈ 504/32) • 16.00 mm²				
7520603	3	0.764	19.4	507
7520604	4	0.846	21.5	641
7520605	5	0.949	24.1	798
▶ 4 AWG (≈ 760/32) • 25.00 mm²				
7520404	4	1.024	26.0	935
7520405	5	1.142	29.0	1195
▶ 2 AWG (≈ 1083/32) • 35.00 mm²				
7520204	4	1.173	29.8	1284
7520205	5	1.295	32.9	1582
▶ 1 AWG (≈ 703/28) • 50.00 mm²				
7520104	4	1.374	34.9	1795

Other dimensions and colors are available on request

also available with gray jacket and blue or red conductors

S 960 red

Continuous flex control cable for small bending radius with red conductors

Marking for S 960 red 7751607:
SAB BRÖCKSKES · D-VIERSEN · 7750715 7 x 1.5 mm² S 960 red 16 AWG/7c 7751607 AWM Style 2587 90°C 600V CSA AWM I/II A/B 90°C 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Color code:	red conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	specially adjusted layering with non-woven tape over each layer
Jacket material:	PVC, TM2 acc. to EN 50363-3 + VDE 0207-363-3
Jacket color:	black (RAL 9005)

Outstanding features:

- **very good flexibility**
- **small bending radius**
- **reinforced outer jacket**
- **UV resistant jacket**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Voltage UL/CSA:	600 V
Testing voltage:	conductor/conductor: 2000 V
Min. bending radius: *continuously flexing:*	 7.5 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range: *static:* *flexing:*	**DIN VDE** **UL/CSA:** up to +90°C -40/+70°C +5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, CSA FT1, FT2
Oil resistance:	acc. to our internal standard, see page O/29
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 20 AWG (≈ 28/34) • 0.50 mm²				
7752002	2	0.217	5.5	27
7752003	3	0.228	5.8	32
7752004	4	0.248	6.3	38
7752005	5	0.276	7.0	48
7752007	7	0.323	8.2	66
7752012	12	0.398	10.1	97
7752018	18	0.472	12.0	142
7752025	25	0.567	14.4	191
7752034	34	0.638	16.2	254
7752050	50	0.752	19.1	351
7752061	61	0.831	21.1	440
► 19 AWG (≈ 42/34) • 0.75 mm²				
7751902	2	0.232	5.9	32
7751903	3	0.248	6.3	38
7751904	4	0.268	6.8	46
7751905	5	0.295	7.5	57
7751907	7	0.358	9.1	82
7751912	12	0.433	11.0	119
7751918	18	0.516	13.1	175
7751925	25	0.622	15.8	238
7751934	34	0.705	17.9	318
7751950	50	0.831	21.1	450
7751961	61	0.925	23.5	558
► 18 AWG (≈ 56/34) • 1.00 mm²				
7751802	2	0.244	6.2	37
7751803	3	0.256	6.5	44
7751804	4	0.283	7.2	55
7751805	5	0.311	7.9	68

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 18 AWG (≈ 56/34) • 1.00 mm²				
7751807	7	0.370	9.4	95
7751812	12	0.453	11.5	142
7751818	18	0.539	13.7	210
7751825	25	0.650	16.5	285
7751834	34	0.736	18.7	382
7751850	50	0.886	22.5	555
7751861	61	0.965	24.5	671
► 16 AWG (≈ 84/34) • 1.50 mm²				
7751602	2	0.268	6.8	47
7751603	3	0.287	7.3	59
7751604	4	0.315	8.0	73
7751605	5	0.346	8.8	91
7751607	7	0.417	10.6	129
7751612	12	0.512	13.0	194
7751618	18	0.606	15.4	286
7751625	25	0.736	18.7	390
7751634	34	0.831	21.1	522
7751650	50	0.988	25.1	749
7751661	61	1.087	27.6	915
► 14 AWG (≈ 140/34) • 2.50 mm²				
7751402	2	0.350	8.9	79
7751403	3	0.374	9.5	97
7751404	4	0.409	10.4	120
7751405	5	0.457	11.6	150
7751407	7	0.551	14.0	214
7751412	12	0.681	17.3	323
7751418	18	0.815	20.7	480
7751425	25	0.988	25.1	654

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 12 AWG (≈ 224/34) • 4.00 mm²				
7751203	3	0.445	11.3	150
7751204	4	0.488	12.4	179
7751205	5	0.543	13.8	230
7751207	7	0.657	16.7	331
► 10 AWG (≈ 186/32) • 6.00 mm²				
7751003	3	0.516	13.1	214
7751004	4	0.571	14.5	256
7751005	5	0.638	16.2	329
7751007	7	0.764	19.4	470
► 8 AWG (≈ 320/32) • 10.00 mm²				
7750803	3	0.638	16.2	337
7750804	4	0.709	18.0	428
7750805	5	0.791	20.1	529
► 6 AWG (≈ 504/32) • 16.00 mm²				
7750603	3	0.764	19.4	507
7750604	4	0.846	21.5	641
7750605	5	0.949	24.1	798
► 4 AWG (≈ 760/32) • 25.00 mm²				
7750404	4	1.024	26.0	935
7750405	5	1.142	29.0	1195
► 2 AWG (≈ 1083/32) • 35.00 mm²				
7750204	4	1.173	29.8	1284
7750205	5	1.295	32.9	1582
► 1 AWG (≈ 703/28) • 50.00 mm²				
7750104	4	1.374	34.9	1795

Other dimensions and colors are available on request

also available with gray outer jacket and black or blue conductors

SD 960 CY

Shielded continuous flex data cable for small bending radius

Marking for SD 960 CY 7852425:

SAB BRÖCKSKES · D-VIERSEN · 7852502 25 x 0.25 mm² SD 960 CY 24 AWG/25c 7852425 AWM Style 21083 80°C 300V

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Color code:	acc. to color code US 2, see page O/27
Stranding:	specially adjusted layering with non-woven tape over each layer
Wrapping:	non-woven tape
Shielding:	tinned copper braiding
Wrapping:	non-woven tape
Jacket material:	PVC, TM2 acc. to EN 50363-3 + VDE 0207-363-3
Jacket color:	black (RAL 9005)

Outstanding features:

- **good EMC characteristics**
- **very good flexibility**
- **small bending radius**
- **UV resistant jacket**

Technical data:

Peak operating voltage:	max. 350 V
Voltage UL:	300 V
Testing voltage:	conductor/conductor: 1500 V conductor/shielding: 1200 V
Min. bending radius: *continuously flexing:*	7.5 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range: *static:* *flexing:*	**DIN VDE** **UL/CSA:** up to +80°C -30/+70°C +5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1
Oil resistance:	acc. to our internal standard, see page O/29
Approvals:	UR AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **26 AWG (≈ 18/38) • 0.14 mm²**				
7852602	2	0.177	4.5	17
7852603	3	0.185	4.7	20
7852604	4	0.205	5.2	24
7852605	5	0.220	5.6	28
7852607	7	0.252	6.4	38
7852610	10	0.295	7.5	45
7852614	14	0.335	8.5	60
7852618	18	0.366	9.3	73
7852625	25	0.433	11.0	100

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **24 AWG (≈ 32/38) • 0.25 mm²**				
7852402	2	0.193	4.9	20
7852403	3	0.205	5.2	24
7852404	4	0.217	5.5	28
7852405	5	0.244	6.2	36
7852407	7	0.280	7.1	43
7852410	10	0.335	8.5	60
7852414	14	0.362	9.2	75
7852418	18	0.398	10.1	92
7852425	25	0.492	12.5	134

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **22 AWG (≈ 42/38) • 0.34 mm²**				
7852202	2	0.201	5.1	22
7852203	3	0.213	5.4	26
7852204	4	0.228	5.8	31
7852205	5	0.252	6.4	40
7852207	7	0.291	7.4	49
7852210	10	0.346	8.8	69
7852214	14	0.378	9.6	86
7852218	18	0.425	10.8	114
7852225	25	0.512	13.0	153

Other dimensions and colors are available on request

Possible on request:

- **20 AWG & 19 AWG**
- **with gray jacket and colored conductors with reference to DIN 47100**

S 960 CY

Shielded continuous flex control cable for small bending radius with black conductors

Marking for S 960 CY 7541607:
SAB BRÖCKSKES · D-VIERSEN · 754715 7 x 1.5 mm² S 960 CY 16 AWG/7c 7541607 AWM Style 2587 90°C 600V CSA AWM I/II A/B 90°C 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	specially adjusted layering with non-woven tape over each layer
Inner jacket:	PVC, TM2 acc. to EN 50363-3 + VDE 0207-363-3
Shielding:	tinned copper braiding
Wrapping:	non-woven tape
Jacket material:	PVC, TM2 acc. to EN 50363-3 + VDE 0207-363-3
Jacket color:	black (RAL 9005)

Outstanding features:

- **very good EMC characteristics**
- **very good flexibility**
- **small bending radius**
- **UV resistant jacket**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Voltage UL/CSA:	600 V
Testing voltage:	conductor/conductor: 2000 V conductor/shielding: 2000 V
Min. bending radius: *continuously flexing:*	7.5 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range: *static:* *flexing:*	**DIN VDE** **UL/CSA:** up to +90°C -40/+70°C +5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, CSA FT1, FT2
Oil resistance:	acc. to our internal standard, see page O/29
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **20 AWG (≈ 28/34) • 0.50 mm²**				
7542002	2	0.311	7.9	53
7542003	3	0.323	8.2	61
7542004	4	0.343	8.7	70
7542005	5	0.370	9.4	83
7542007	7	0.421	10.7	110
7542012	12	0.516	13.1	163
7542018	18	0.594	15.1	226
7542025	25	0.697	17.7	296
▶ **19 AWG (≈ 42/34) • 0.75 mm²**				
7541902	2	0.327	8.3	60
7541903	3	0.343	8.7	69
7541904	4	0.366	9.3	81
7541905	5	0.394	10.0	95
7541907	7	0.457	11.6	126
7541912	12	0.551	14.0	185
7541918	18	0.638	16.2	261
7541925	25	0.764	19.4	350
▶ **18 AWG (≈ 56/34) • 1.00 mm²**				
7541802	2	0.339	8.6	66
7541803	3	0.350	8.9	75
7541804	4	0.374	9.5	88
7541805	5	0.406	10.3	105
7541807	7	0.476	12.1	144
7541812	12	0.579	14.7	222
7541818	18	0.665	16.9	305
7541825	25	0.791	20.1	404
7541836	36	0.890	22.6	574

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **16 AWG (≈ 84/34) • 1.50 mm²**				
7541602	2	0.366	9.3	79
7541603	3	0.382	9.7	92
7541604	4	0.409	10.4	110
7541605	5	0.453	11.5	140
7541607	7	0.531	13.5	192
7541612	12	0.638	16.2	282
7541618	18	0.744	18.9	394
7541625	25	0.886	22.5	530
▶ **14 AWG (≈ 140/34) • 2.50 mm²**				
7541402	2	0.449	11.4	122
7541403	3	0.472	12.0	147
7541404	4	0.516	13.1	179
7541405	5	0.571	14.5	229
7541407	7	0.622	15.8	294
7541412	12	0.803	20.4	438
7541418	18	0.933	23.7	610
7541425	25	1.110	28.2	815
▶ **12 AWG (≈ 224/34) • 4.00 mm²**				
7541203	3	0.539	13.7	202
7541204	4	0.575	14.6	251
7541205	5	0.630	16.0	304
7541207	7	0.760	19.3	440
▶ **10 AWG (≈ 186/32) • 6.00 mm²**				
7541003	3	0.638	16.2	288
7541004	4	0.685	17.4	347
7541005	5	0.760	19.3	416

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **8 AWG (≈ 320/32) • 10.00 mm²**				
7540804	4	0.835	21.2	531
7540805	5	0.925	23.5	644
▶ **6 AWG (≈ 504/32) • 16.00 mm²**				
7540604	4	0.980	24.9	734
7540605	5	1.079	27.4	902
▶ **4 AWG (≈ 760/32) • 25.00 mm²**				
7540404	4	1.165	29.6	1124
7540405	5	1.291	32.8	1329
▶ **2 AWG (≈ 1083/32) • 35.00 mm²**				
7540204	4	1.303	33.1	1418
▶ **1 AWG (≈ 703/28) • 50.00 mm²**				
7540104	4	1.567	39.8	2022

Other dimensions and colors are available on request

S 960 CY red

Shielded continuous flex control cable for small bending radius with red conductors

Marking for S 960 CY red 7851607:

SAB BRÖCKSKES · D-VIERSEN · 7850715 7 x 1.5 mm² S 960 CY red 16 AWG/7c 7851607 AWM Style 2587 90°C 600V CSA AWM I/II A/B 90°C 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Color code:	red conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	specially adjusted layering with non-woven tape over each layer
Inner jacket:	PVC, TM2 acc. to EN 50363-3 + VDE 0207-363-3
Shielding:	tinned copper braiding
Wrapping:	non-woven tape
Jacket material:	PVC, TM2 acc. to EN 50363-3 + VDE 0207-363-3
Jacket color:	black (RAL 9005)

Outstanding features:

- **very good EMC characteristics**
- **very good flexibility**
- **small bending radius**
- **UV resistant jacket**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Voltage UL/CSA:	600 V
Testing voltage:	conductor/conductor: 2000 V conductor/shielding: 2000 V
Min. bending radius: *continuously flexing:*	7.5 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range: *static:* *flexing:*	**DIN VDE** **UL/CSA:** up to +90°C -40/+70°C +5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, CSA FT1, FT2
Oil resistance:	acc. to our internal standard, see page O/29
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 20 AWG (≈ 28/34) • 0.50 mm²				
7852002	2	0.311	7.9	53
7852003	3	0.323	8.2	61
7852004	4	0.343	8.7	70
7852005	5	0.370	9.4	83
7852007	7	0.421	10.7	110
7852012	12	0.516	13.1	163
7852018	18	0.594	15.1	226
7852025	25	0.697	17.7	296
► 19 AWG (≈ 42/34) • 0.75 mm²				
7851902	2	0.327	8.3	60
7851903	3	0.343	8.7	69
7851904	4	0.366	9.3	81
7851905	5	0.394	10.0	95
7851907	7	0.457	11.6	126
7851912	12	0.551	14.0	185
7851918	18	0.638	16.2	261
7851925	25	0.764	19.4	350
► 18 AWG (≈ 56/34) • 1.00 mm²				
7851802	2	0.339	8.6	66
7851803	3	0.350	8.9	75
7851804	4	0.374	9.5	88
7851805	5	0.406	10.3	105
7851807	7	0.476	12.1	144
7851812	12	0.579	14.7	222
7851818	18	0.665	16.9	305
7851825	25	0.791	20.1	404
7851836	36	0.890	22.6	574

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 16 AWG (≈ 84/34) • 1.50 mm²				
7851602	2	0.366	9.3	79
7851603	3	0.382	9.7	92
7851604	4	0.409	10.4	110
7851605	5	0.453	11.5	140
7851607	7	0.531	13.5	192
7851612	12	0.638	16.2	282
7851618	18	0.744	18.9	394
7851625	25	0.886	22.5	530
► 14 AWG (≈ 140/34) • 2.50 mm²				
7851402	2	0.449	11.4	122
7851403	3	0.472	12.0	147
7851404	4	0.516	13.1	179
7851405	5	0.571	14.5	229
7851407	7	0.622	15.8	294
7851412	12	0.803	20.4	438
7851418	18	0.933	23.7	610
7851425	25	1.110	28.2	815
► 12 AWG (≈ 224/34) • 4.00 mm²				
7851203	3	0.539	13.7	202
7851204	4	0.575	14.6	251
7851205	5	0.630	16.0	304
7851207	7	0.760	19.3	440
► 10 AWG (≈ 186/32) • 6.00 mm²				
7851003	3	0.638	16.2	288
7851004	4	0.685	17.4	347
7851005	5	0.760	19.3	416

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 8 AWG (≈ 320/32) • 10.00 mm²				
7850804	4	0.835	21.2	531
7850805	5	0.925	23.5	644
► 6 AWG (≈ 504/32) • 16.00 mm²				
7850604	4	0.980	24.9	734
7850605	5	1.079	27.4	902
► 4 AWG (≈ 760/32) • 25.00 mm²				
7850404	4	1.165	29.6	1124
7850405	5	1.291	32.8	1329
► 2 AWG (≈ 1083/32) • 35.00 mm²				
7850204	4	1.303	33.1	1418
► 1 AWG (≈ 703/28) • 50.00 mm²				
7850104	4	1.567	39.8	2022

Other dimensions and colors are available on request

SD 960 CY TP

Continuous flex twisted pairs shielded data cable for small bending radius

Marking for SD 960 CY TP 7772403:
SAB BRÖCKSKES · D-VIERSEN · 7770325 3 x 2 x 0.25 mm² SD 960 CY TP 24 AWG/3pr 7772403 AWM Style 21083 80°C 300V CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Color code:	acc. to color code US 3, see page O/27
Stranding:	conductors twisted to pairs, pairs twisted in specially adjusted layering with non-woven tape over the outer layer
Shielding:	tinned copper braiding
Jacket material:	PVC, TM2 acc. to EN 50363-3 + VDE 0207-363-3
Jacket color:	black (RAL 9005)

Outstanding features:

- **very good flexibility**
- **small bending radius**
- **UV resistant jacket**

Technical data:

Peak operating voltage:	max. 350 V
Voltage UL:	300 V
Testing voltage:	conductor/conductor: 1500 V conductor/shielding: 1200 V
Min. bending radius: *continuously flexing:*	7.5 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range: *static:* *flexing:*	**DIN VDE** **UL/CSA:** up to +80°C -30/+70°C -5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1
Oil resistance:	acc. to our internal standard, see page O/29
Approvals:	UR AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of pairs	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **26 AWG (≈ 18/38) ▪ 0.14 mm²**				
7772602	2	0.240	6.1	32
7772603	3	0.264	6.7	39
7772604	4	0.299	7.6	46
7772605	5	0.339	8.6	57
7772607	7	0.362	9.2	73
7772610	10	0.421	10.7	93
7772614	14	0.504	12.8	123
7772618	18	0.547	13.9	163
7772625	25	0.634	16.1	210
► **24 AWG (≈ 32/38) ▪ 0.25 mm²**				
7772402	2	0.256	6.5	36
7772403	3	0.283	7.2	47
7772404	4	0.335	8.5	58
7772405	5	0.366	9.3	69
7772407	7	0.386	9.8	91
7772410	10	0.461	11.7	116
7772414	14	0.555	14.1	168
7772418	18	0.594	15.1	205
7772425	25	0.689	17.5	265

item no.	no. of pairs	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **22 AWG (≈ 42/38) ▪ 0.34 mm²**				
7772202	2	0.268	6.8	40
7772203	3	0.291	7.4	51
7772204	4	0.350	8.9	69
7772205	5	0.378	9.6	79
7772207	7	0.417	10.6	111
7772210	10	0.492	12.5	131
7772214	14	0.587	14.9	193
7772218	18	0.646	16.4	240
7772225	25	0.724	18.4	299

item no.	no. of pairs	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **20 AWG (≈ 28/34) ▪ 0.50 mm²**				
7772002	2	0.291	7.4	47
7772003	3	0.339	8.6	70
7772004	4	0.386	9.8	86
7772005	5	0.425	10.8	108
7772007	7	0.461	11.7	138
7772010	10	0.555	14.1	187
7772014	14	0.657	16.7	251
7772018	18	0.705	17.9	308
7772025	25	0.795	20.2	387

Other dimensions and colors are available on request

Possible on request:

- **with gray jacket and colored conductors acc. to DIN 47100**

SD 960 P

Continuous flex polyurethane data cable for small bending radius

Marking for SD 960 P 7762225:

SAB BRÖCKSKES · D-VIERSEN · 7762503 25 x 0.34 mm² SD 960 P 22 AWG/25c 7762225 AWM Style 20233 80°C 300V CSA AWM I/II A/B 80°C 300V FT1 FT2 CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Color code:	acc. to color code US 2, see page O/27
Stranding:	specially adjusted layering with non-woven tape over each layer
Jacket material:	PU acc. to UL 758 with matte surface
Jacket color:	grayish tan (RAL 7032)

Outstanding features:

- **very good oil resistant**
- **very good chemical resistance**
- **high abrasion resistance**
- **very good flexibility**

Technical data:

Peak operating voltage:	max. 350 V
Voltage UL/CSA:	300 V
Testing voltage:	conductor/conductor: 1500 V
Min. bending radius: *continuously flexing:*	 7.5 x O.D.
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range: *static:* *flexing:*	**DIN VDE** **UL/CSA:** up to +80°C -30/+70°C +5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to UL FT1, CSA FT1, FT2
Oil resistance:	very good oil rating 60°C acc. to UL 758
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **26 AWG (≈ 18/38) • 0.14 mm²**				
7762602	2	0.177	4.5	13
7762603	3	0.185	4.7	16
7762604	4	0.201	5.1	19
7762605	5	0.217	5.5	23
7762607	7	0.248	6.3	30
7762610	10	0.276	7.0	36
7762614	14	0.295	7.5	48
7762618	18	0.339	8.6	56
7762625	25	0.398	10.1	73

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **24 AWG (≈ 32/38) • 0.25 mm²**				
7762402	2	0.189	4.8	16
7762403	3	0.201	5.1	19
7762404	4	0.213	5.4	23
7762405	5	0.232	5.9	28
7762407	7	0.268	6.8	35
7762410	10	0.299	7.6	47
7762414	14	0.323	8.2	56
7762418	18	0.366	9.3	74
7762425	25	0.449	11.4	101

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **22 AWG (≈ 42/38) • 0.34 mm²**				
7762202	2	0.197	5.0	18
7762203	3	0.209	5.3	22
7762204	4	0.224	5.7	26
7762205	5	0.240	6.1	32
7762207	7	0.280	7.1	40
7762210	10	0.315	8.0	52
7762214	14	0.339	8.6	67
7762218	18	0.386	9.8	86
7762225	25	0.476	12.1	118

Other dimensions and colors are available on request

Possible on request:

- **20 AWG or 19 AWG**
- **with orange jacket and colored conductors acc. to DIN 47100**

S 960 P

Continuous flex polyurethane control cable for small bending radius

Marking for S 960 P 7761607:
SAB BRÖCKSKES · D-VIERSEN · 7760715 7 x 1.5 mm² S 960 P 16 AWG/7c 7761607 AWM Style 21060 80°C 600V CSA AWM I/II A/B 80°C 600V FT1 FT2

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	specially adjusted layering with non-woven tape over each layer
Jacket material:	PU acc. to UL 758 with matte surface
Jacket color:	gray (RAL 7000)

Outstanding features:

- **very good oil resistant**
- **very good chemical resistance**
- **high abrasion resistance**
- **very good flexibility**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Voltage UL/CSA:	600 V
Testing voltage:	conductor/conductor: 2000 V
Min. bending radius: *continuously flexing:*	7.5 x O.D.
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range: *static:* *flexing:*	**DIN VDE** **UL/CSA:** up to +80°C -40/+70°C +5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, CSA FT1, FT2
Oil resistance:	very good- oil rating 60°C acc. to UL 758
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids, etc.
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 20 AWG (≈ 28/34) • 0.50 mm²				
7762002	2	0.252	6.4	31
7762003	3	0.264	6.7	36
7762004	4	0.280	7.1	42
7762005	5	0.303	7.7	52
7762007	7	0.346	8.8	70
7762012	12	0.413	10.5	97
7762018	18	0.472	12.0	134
7762025	25	0.563	14.3	180
7762034	34	0.598	15.2	234
7762050	50	0.728	18.5	245
7762061	61	0.787	20.0	298
▶ 19 AWG (≈ 42/34) • 0.75 mm²				
7761902	2	0.268	6.8	37
7761903	3	0.280	7.1	42
7761904	4	0.299	7.6	50
7761905	5	0.323	8.2	60
7761907	7	0.374	9.5	81
7761912	12	0.445	11.3	115
7761918	18	0.516	13.1	161
7761925	25	0.622	15.8	221
7761934	34	0.689	17.5	225
7761950	50	0.787	20.0	400
7761961	61	0.925	23.5	525
▶ 18 AWG (≈ 56/34) • 1.00 mm²				
7761802	2	0.276	7.0	41
7761803	3	0.287	7.3	47
7761804	4	0.311	7.9	57
7761805	5	0.335	8.5	69
7761807	7	0.386	9.8	88
7761812	12	0.461	11.7	136
7761818	18	0.535	13.6	200
7761825	25	0.646	16.4	263
7761834	34	0.709	18.0	350
7761850	50	0.878	22.3	527
7761861	61	0.961	24.4	648

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 16 AWG (≈ 84/34) • 1.50 mm²				
7761602	2	0.299	7.6	50
7761603	3	0.315	8.0	60
7761604	4	0.339	8.6	73
7761605	5	0.366	9.3	90
7761607	7	0.425	10.8	124
7761612	12	0.508	12.9	181
7761618	18	0.594	15.1	263
7761625	25	0.720	18.3	355
7761634	34	0.803	20.4	467
7761650	50	0.976	24.8	710
7761661	61	1.091	27.7	861
▶ 14 AWG (≈ 140/34) • 2.50 mm²				
7761402	2	0.362	9.2	74
7761403	3	0.382	9.7	91
7761404	4	0.413	10.5	113
7761405	5	0.453	11.5	136
7761407	7	0.531	13.5	181
7761412	12	0.654	16.6	293
7761418	18	0.783	19.9	428
7761425	25	1.00	25.4	619
▶ 12 AWG (≈ 224/34) • 4.00 mm²				
7761203	3	0.465	11.8	139
7761204	4	0.469	11.9	165
7761205	5	0.516	13.1	200
7761207	7	0.654	16.6	277
▶ 10 AWG (≈ 186/32) • 6.00 mm²				
7761003	3	0.528	13.4	203
7761004	4	0.571	14.5	247
7761005	5	0.630	16.0	307
▶ 8 AWG (≈ 320/32) • 10.00 mm²				
7760804	4	0.705	17.9	403
7760805	5	0.776	19.7	503

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 6 AWG (≈ 504/32) • 16.00 mm²				
7760604	4	0.823	20.9	575
7760605	5	0.953	24.2	734
▶ 4 AWG (≈ 760/32) • 25.00 mm²				
7760404	4	1.020	25.9	892
7760405	5	1.122	28.5	1088
▶ 2 AWG (≈ 1083/32) • 35.00 mm²				
7760204	4	1.150	29.2	1164
7760205	5	1.272	32.3	1420
▶ 1 AWG (≈ 703/28) • 50.00 mm²				
7760104	4	1.350	34.3	1659

Other dimensions and colors are available on request

also available with orange jacket and blue or red conductors

SD 960 CP

Continuous flex shielded polyurethane data cable for small bending radius

Marking for SD 960 CP 7862625:

SAB BRÖCKSKES · D-VIERSEN · 7862501 25 x 0.14 mm² SD 960 CP 26 AWG/25c 7862625 AWM Style 20233 80°C 300V CSA AWM I/II A/B 80°C 300V FT1 FT2

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Color code:	acc. to color code US 2, see page O/27
Stranding:	specially adjusted layering with non-woven tape over each layer
Wrapping:	non-woven tape
Shielding:	tinned copper braiding
Wrapping:	non-woven tape
Jacket material:	PU acc. to UL 758 with matte surface
Jacket color:	grayish tan (RAL 7032)

Outstanding features:

- **very good EMC characteristics**
- **high abrasion resistance**
- **very good flexibility**

Technical data:

Peak operating voltage:	max. 350 V
Voltage UL/CSA:	300 V
Testing voltage:	conductor/conductor: 1500 V conductor/shielding: 1200 V
Min. bending radius: *continuously flexing:*	7.5 x O.D.
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range: *static:* *flexing:*	**DIN VDE** **UL/CSA:** up to +80°C -30/+70°C +5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to UL FT1, CSA FT1, FT2
Oil resistance:	very good- oil rating 60°C acc. to UL 758
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids, etc.
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **26 AWG (≈ 18/38) • 0.14 mm²**				
7862602	2	0.197	5.0	21
7862603	3	0.205	5.2	22
7862604	4	0.220	5.6	26
7862605	5	0.236	6.0	30
7862607	7	0.268	6.8	38
7862610	10	0.303	7.7	46
7862614	14	0.350	8.9	59
7862618	18	0.358	9.1	69
7862625	25	0.441	11.2	99

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **24 AWG (≈ 32/38) • 0.25 mm²**				
7862402	2	0.209	5.3	22
7862403	3	0.220	5.6	26
7862404	4	0.232	5.9	30
7862405	5	0.252	6.4	36
7862407	7	0.319	8.1	54
7862410	10	0.354	9.0	60
7862414	14	0.378	9.6	75
7862418	18	0.386	9.8	87
7862425	25	0.476	12.1	126

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **22 AWG (≈ 42/38) • 0.34 mm²**				
7862202	2	0.217	5.5	24
7862203	3	0.228	5.8	28
7862204	4	0.244	6.2	34
7862205	5	0.260	6.6	40
7862207	7	0.299	7.6	49
7862210	10	0.370	9.4	82
7862214	14	0.394	10.0	103
7862218	18	0.413	10.5	108
7862225	25	0.500	12.7	144

Other dimensions and colors are available on request

Possible on request:

- **20 AWG or 19 AWG**
- **with orange jacket and colored conductors acc. to DIN 47100**

S 960 CP

Continuous flex shielded polyurethane control cable for small bending radius

Marking for S 960 CP 7861612:
SAB BRÖCKSKES · D-VIERSEN · 7861215 12 x 1.5 mm² S 960 CP 16 AWG/12c 7861612 AWM Style 21060 80°C 600V CSA AWM I/II A/B 80°C 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	specially adjusted layering with non-woven tape over each layer
Inner jacket:	special PVC
Shielding:	tinned copper braiding
Wrapping:	non-woven tape
Jacket material:	PU acc. to UL 758 with matte surface
Jacket color:	gray (RAL 7000)

Outstanding features:

- **very good EMC characteristics**
- **high abrasion resistance**
- **very good flexibility**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Voltage UL/CSA:	600 V
Testing voltage:	conductor/conductor: 3000 V conductor/shielding: 2000 V
Min. bending radius: *continuously flexing:*	7.5 x O.D.
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range: *static:* *flexing:*	**DIN VDE** **UL/CSA:** up to +80°C -40/+70°C +5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, CSA FT1, FT2
Oil resistance:	very good- oil rating 60°C acc. to UL 758
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids, etc.
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **20 AWG (≈ 28/34) • 0.50 mm²**				
7862002	2	0.331	8.4	58
7862003	3	0.343	8.7	65
7862004	4	0.358	9.1	73
7862005	5	0.382	9.7	84
7862007	7	0.425	10.8	108
7862012	12	0.508	12.9	155
7862018	18	0.575	14.6	211
7862025	25	0.665	16.9	270
7862030	30	0.665	16.9	281
7862036	36	0.709	18.0	306
▶ **19 AWG (≈ 42/34) • 0.75 mm²**				
7861902	2	0.346	8.8	65
7861903	3	0.358	9.1	71
7861904	4	0.378	9.6	81
7861905	5	0.402	10.2	94
7861907	7	0.457	11.6	122
7861912	12	0.539	13.7	175
7861918	18	0.626	15.9	248
7861925	25	0.732	18.6	321
7861930	30	0.736	18.7	375
7861936	36	0.799	20.3	411
▶ **18 AWG (≈ 56/34) • 1.00 mm²**				
7861802	2	0.354	9.0	70
7861803	3	0.366	9.3	77
7861804	4	0.386	9.8	89
7861805	5	0.413	10.5	104
7861807	7	0.472	12.0	138
7861812	12	0.563	14.3	209
7861818	18	0.646	16.4	288
7861825	25	0.756	19.2	372
7861830	30	0.764	19.4	432
7861836	36	0.886	22.5	530

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **16 AWG (≈ 84/34) • 1.50 mm²**				
7861602	2	0.378	9.6	82
7861603	3	0.390	9.9	93
7861604	4	0.417	10.6	110
7861605	5	0.453	11.5	136
7861607	7	0.520	13.2	177
7861612	12	0.622	15.8	268
7861618	18	0.705	17.9	363
7861625	25	0.886	22.5	517
7861630	30	0.894	22.7	599
7861636	36	0.969	24.6	680
▶ **14 AWG (≈ 140/34) • 2.50 mm²**				
7861402	2	0.449	11.4	121
7861403	3	0.469	11.9	142
7861404	4	0.508	12.9	171
7861405	5	0.555	14.1	216
7861407	7	0.646	16.4	286
7861412	12	0.768	19.5	398
7861418	18	0.949	24.1	636
7861425	25	1.106	28.1	828
▶ **12 AWG (≈ 224/34) • 4.00 mm²**				
7861203	3	0.512	13.0	185
7861204	4	0.559	14.2	240
7861205	5	0.618	15.7	296
7861207	7	0.709	18.0	356
▶ **10 AWG (≈ 186/32) • 6.00 mm²**				
7861003	3	0.626	15.9	276
7861004	4	0.665	16.9	325
7861005	5	0.728	18.5	393
7861007	7	0.917	23.3	560

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **8 AWG (≈ 320/32) • 10.00 mm²**				
7860803	3	0.760	19.3	430
7860804	4	0.795	20.2	495
7860805	5	0.925	23.5	632
▶ **6 AWG (≈ 504/32) • 16.00 mm²**				
7860603	3	0.949	24.1	606
7860604	4	0.980	24.9	776
7860605	5	1.063	27.0	871
▶ **4 AWG (≈ 760/32) • 25.00 mm²**				
7860404	4	1.138	28.9	1062
7860405	5	1.248	31.7	1260
▶ **2 AWG (≈ 1083/32) • 35.00 mm²**				
7860204	4	1.276	32.4	1365

Other dimensions and colors are available on request

also available with orange jacket

SD 960 CP TP

Continuous flex twisted pairs shielded polyurethane data cable for small bending radius

Marking for SD 960 CP TP 7872405:
SAB BRÖCKSKES · D-VIERSEN · 7870525 5 x 2 x 0.25 mm² SD 960 CP TP 24 AWG/5pr 7872405 AWM Style 20549 80°C 300V CSA AWM I/II A/B 80°C 300V FT1 FT2

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Color code:	acc. to color code US 3, see page O/27
Stranding:	conductors twisted to pairs, pairs twisted in specially adjusted layering with non-woven tape over each layer
Shielding:	tinned copper braiding
Wrapping:	non-woven tape
Jacket material:	PU acc. to UL 758 with matte surface
Jacket color:	grayish tan (RAL 7032)

Outstanding features:

- **very good EMC characteristics**
- **high abrasion resistance**
- **very good flexibility**

Technical data:

Peak operating voltage:	max. 350 V
Voltage UL/CSA:	300 V
Testing voltage:	conductor/conductor: 1500 V conductor/shielding: 1200 V
Min. bending radius: *continuously flexing:*	7.5 x O.D.
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range: *static:* *flexing:*	**DIN VDE** **UL/CSA:** up to +80°C -30/+70°C +5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to UL FT1, CSA FT1, FT2
Oil resistance:	very good- oil rating 60°C acc. to UL 758
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids, etc.
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of pairs	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **26 AWG (≈ 18/38) ▪ 0.14 mm²**				
7872602	2	0.252	6.4	31
7872603	3	0.268	6.8	35
7872604	4	0.311	7.9	43
7872605	5	0.335	8.5	50
7872607	7	0.354	9.0	78
7872610	10	0.417	10.6	84
7872614	14	0.496	12.6	114
7872618	18	0.555	14.1	159
7872625	25	0.638	16.2	196
► **24 AWG (≈ 32/38) ▪ 0.25 mm²**				
7872402	2	0.268	6.8	35
7872403	3	0.295	7.5	42
7872404	4	0.331	8.4	51
7872405	5	0.362	9.2	62
7872407	7	0.386	9.8	81
7872408	8	0.450	11.4	98
7872410	10	0.469	11.9	111
7872414	14	0.563	14.3	160
7872418	18	0.614	15.6	202
7872425	25	0.693	17.6	249

item no.	no. of pairs	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **22 AWG (≈ 42/38) ▪ 0.34 mm²**				
7872202	2	0.280	7.1	40
7872203	3	0.303	7.7	46
7872204	4	0.350	8.9	58
7872205	5	0.378	9.6	68
7872207	7	0.413	10.5	101
7872210	10	0.492	12.5	126
7872214	14	0.594	15.1	184
7872218	18	0.646	16.4	221
7872225	25	0.732	18.6	285
► **20 AWG (≈ 28/34) ▪ 0.50 mm²**				
7872002	2	0.303	7.7	50
7872003	3	0.335	8.5	58
7872004	4	0.382	9.7	73
7872005	5	0.421	10.7	101
7872007	7	0.469	11.9	123
7872010	10	0.563	14.3	179
7872014	14	0.657	16.7	240
7872018	18	0.713	18.1	308
7872025	25	0.807	20.5	376

item no.	no. of pairs	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **19 AWG (≈ 42/34) ▪ 0.75 mm²**				
7871902	2	0.339	8.6	61
7871903	3	0.374	9.5	73
7871904	4	0.441	11.2	101
7871905	5	0.488	12.4	130
7871907	7	0.551	14.0	187
7871910	10	0.642	16.3	223
7871914	14	0.752	19.1	306
7871918	18	0.819	20.8	384
7871925	25	0.976	24.8	531

Other dimensions and colors are available on request

Possible on request:

- **colored conductors acc. to DIN 47100**

SD 980 P

High speed continuous flex heavy duty halogen-free polyurethane data cable

Marking for SD 980 P 77742625:

SAB BRÖCKSKES · D-VIERSEN · 77742501 25 x 0.14 mm² SD 980 P 26 AWG/25c 77742625 AWM Style 21198 80°C 300V CSA AWM I/II A/B 80°C 300V FT1 FT2

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	TPE
Color code:	DIN 47100, see page O/26
Stranding:	specially adjusted layering with non-woven tape over each layer and one additional non-woven tape over the outer layer
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2 with matte surface
Jacket color:	grayish tan (RAL 7032)

Outstanding features:

- **halogen-free**
- **free from paint wetting impairment substances** (PWIS-free)
- **flexible at low temperatures**
- **travel>10 m is possible**
- **high abrasion resistance**
- **minimal bending radius**

Technical data:

Peak operating voltage:	max. 350 V
Voltage UL/CSA:	300 V
Testing voltage:	conductor/conductor: 2000 V
Min. bending radius: *continuously flexing:*	7.5 x O.D.
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range: *static:* *flexing:*	**DIN VDE** **UL/CSA:** up to +80°C -50/+90°C -40/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, CSA FT1 (acc.to dimension), FT2
Oil resistance:	very good - TMPU acc. to IEC 50363-10-2 + VDE 0207-363-10-2
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids, etc.
Continuous flexibilty:	very good
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **26 AWG (≈ 18/38) ▪ 0.14 mm²**				
77742603	3	0.150	3.8	11
77742604	4	0.161	4.1	13
77742605	5	0.177	4.5	15
77742607	7	0.193	4.9	19
77742610	10	0.220	5.6	24
77742614	14	0.236	6.0	30
77742618	18	0.260	6.6	36
77742625	25	0.299	7.6	48

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **24 AWG (≈ 32/38) ▪ 0.25 mm²**				
77742403	3	0.165	4.2	14
77742404	4	0.173	4.4	17
77742405	5	0.189	4.8	20
77742407	7	0.213	5.4	25
77742410	10	0.244	6.2	33
77742414	14	0.260	6.6	42
77742418	18	0.287	7.3	52
77742425	25	0.339	8.6	69

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **22 AWG (≈ 42/38) ▪ 0.34 mm²**				
77742203	3	0.173	4.4	16
77742204	4	0.185	4.7	19
77742205	5	0.205	5.2	24
77742207	7	0.228	5.8	30
77742210	10	0.260	6.6	40
77742214	14	0.280	7.1	50
77742218	18	0.307	7.8	62
77742225	25	0.362	9.2	83

Other dimensions and colors are available on request

Possible on request:

- **colored conductors acc. to US 2**
- **20 AWG & 19 AWG**

S 980 P

High speed continuous flex heavy duty halogen-free polyurethane control cable

Marking for S 980 P 77742012:

SAB BRÖCKSKES · D-VIERSEN · 77741205 S 980 P 12 x 0.50 mm² 20 AWG/12c 77742012 AWM Style 21060 80°C 600V CSA AWM I/II A/B 80°C 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	TPE
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	specially adjusted layering with non-woven tape over each layer and one additional non-woven tape over the outer layer
Jacket material:	PUR, TMPU acc. to EN 50363-3 + VDE 0207-363-3-10-2 with matte surface
Jacket color:	gray (RAL 7000)

Outstanding features:

- **halogen-free**
- **free from paint wetting impairment substances** (PWIS-free)
- **flexible at low temperatures**
- **travel>10 m is possible**
- **high abrasion resistance**
- **minimal bending radius**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Voltage UL/CSA:	600 V
Testing voltage:	conductor/conductor: 2000 V
Min. bending radius: *continuously flexing:*	 7.5 x O.D.
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range: *static:* *flexing:*	**DIN VDE** **UL/CSA:** up to +80°C -50/+90°C -40/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, CSA FT1, FT2
Oil resistance:	very good - TMPU acc. to IEC 50363-10-2 + VDE 0207-363-10-2
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids, etc.
Continuous flexibilty:	very good
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 20 AWG (≈ 28/34) • 0.50 mm²				
77742003	3	0.260	6.6	35
77742004	4	0.280	7.1	41
77742005	5	0.307	7.8	48
77742007	7	0.350	8.9	62
77742012	12	0.413	10.5	93
77742018	18	0.476	12.1	129
77742025	25	0.563	14.3	171
▶ 19 AWG (≈ 42/34) • 0.75 mm²				
77741903	3	0.280	7.1	40
77741904	4	0.299	7.6	48
77741905	5	0.331	8.4	57
77741907	7	0.378	9.6	73
77741912	12	0.441	11.2	110
77741918	18	0.524	13.3	155
77741925	25	0.618	15.7	210
▶ 18 AWG (≈ 56/34) • 1.00 mm²				
77741803	3	0.287	7.3	46
77741804	4	0.311	7.9	56
77741805	5	0.339	8.6	66
77741807	7	0.394	10.0	86
77741812	12	0.461	11.7	131
77741818	18	0.539	13.7	185
77741825	25	0.642	16.3	252

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 16 AWG (≈ 84/34) • 1.50 mm²				
77741603	3	0.315	8.0	58
77741604	4	0.350	8.9	73
77741605	5	0.370	9.4	88
77741607	7	0.429	10.9	113
77741612	12	0.512	13.0	175
77741618	18	0.563	14.3	247
77741625	25	0.720	18.3	344
▶ 14 AWG (≈ 140/34) • 2.50 mm²				
77741403	3	0.366	9.3	85
77741404	4	0.394	10.0	104
77741405	5	0.437	11.1	126
77741407	7	0.504	12.8	167
77741412	12	0.618	15.7	269
77741418	18	0.732	18.6	388
77741425	25	0.925	23.5	569
▶ 12 AWG (≈ 224/34) • 4.00 mm²				
77741203	3	0.413	10.5	148
77741204	4	0.453	11.5	156
77741205	5	0.496	12.6	182
▶ 10 AWG (≈ 186/32) • 6.00 mm²				
77741003	3	0.480	12.2	173
77741004	4	0.524	13.3	217
77741005	5	0.575	14.6	253

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 8 AWG (≈ 320/32) • 10.00 mm²				
77740803	3	0.622	15.8	281
77740804	4	0.685	17.4	360
77740805	5	0.768	19.5	439
▶ 6 AWG (≈ 504/32) • 16.00 mm²				
77740603	3	0.732	18.6	399
77740604	4	0.811	20.6	554
77740605	5	0.965	24.5	714
▶ 4 AWG (≈ 760/32) • 25.00 mm²				
77740404	4	1.024	26.0	835
77740405	5	1.138	28.9	1016
▶ 2 AWG (≈ 1083/32) • 35.00 mm²				
77740204	4	1.161	29.5	1093
77740205	5	1.291	32.8	1332
▶ 1 AWG (≈ 703/28) • 50.00 mm²				
77740104	4	1.425	36.2	1566

Other dimensions and colors are available on request

Possible on request:

- **with blue, red or white conductors**

SD 980 CP

High speed continuous flex heavy duty shielded halogen-free polyurethane data cable

Marking for SD 980 CP 77842625:

SAB BRÖCKSKES · D-VIERSEN · 77842501 25 x 0.14 mm² SD 980 CP 26 AWG/25c 77842625 AWM Style 21198 80°C 300V CSA AWM I/II A/B 80°C 300V FT1 FT2

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	TPE
Color code:	DIN 47100, see page O/26
Stranding:	specially adjusted layering with non-woven tape over each layer
Shielding:	tinned copper braiding
Wrapping:	non-woven tape
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2 with matte surface
Jacket color:	grayish tan (RAL 7032)

Outstanding features:

- **free from paint wetting impairment substances** (PWIS-free)
- **flexible at low temperatures**
- **halogen-free**
- **travel>10 m is possible**
- **good EMC characteristics**
- **high abrasion resistance**

Technical data:

Peak operating voltage:	max. 350 V
Voltage UL/CSA:	300 V
Testing voltage:	conductor/conductor: 2000 V conductor/shielding: 2000V
Min. bending radius: *continuously flexing:*	7.5 x O.D.
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range: *static:* *flexing:*	**DIN VDE** **UL/CSA:** up to +80°C -50/+90°C -40/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, CSA FT1 (acc. to dimension), FT2
Oil resistance:	very good - TMPU acc. to IEC 50363-10-2 + VDE 0207-363-10-2
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids, etc.
Continuous flexibility:	very good
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **26 AWG (≈ 18/38) ▪ 0.14 mm²**				
77842603	3	0.165	4.2	16
77842604	4	0.177	4.5	18
77842605	5	0.193	4.9	22
77842607	7	0.209	5.3	26
77842610	10	0.236	6.0	32
77842614	14	0.252	6.4	37
77842618	18	0.276	7.0	46
77842625	25	0.315	8.0	59

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **24 AWG (≈ 32/38) ▪ 0.25 mm²**				
77842403	3	0.181	4.6	19
77842404	4	0.189	4.8	22
77842405	5	0.205	5.2	27
77842407	7	0.228	5.8	32
77842410	10	0.260	6.6	41
77842414	14	0.276	7.0	51
77842418	18	0.307	7.8	61
77842425	25	0.354	9.0	81

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **22 AWG (≈ 42/38) ▪ 0.34 mm²**				
77842203	3	0.189	4.8	22
77842204	4	0.201	5.1	26
77842205	5	0.220	5.6	30
77842207	7	0.244	6.2	37
77842210	10	0.276	7.0	48
77842214	14	0.295	7.5	60
77842218	18	0.323	8.2	73
77842225	25	0.378	9.6	95

Other dimensions and colors are available on request

Possible on request:

- **with colored conductors acc. to US 2**
- **20 AWG & 19 AWG**

S 980 CP

High speed continuous flex heavy duty shielded halogen-free polyurethane control cable

Marking for S 980 CP 77842012:

SAB BRÖCKSKES · D-VIERSEN · 77841205 x 0.5 mm² S 980 CP 20 AWG/7c 77842012 AWM Style 21060 80°C 600V CSA AWM I/II A/B 80°C 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	TPE
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	specially adjusted layering with non-woven tape over each layer
Inner jacket:	special SABIX®
Wrapping:	non-woven tape
Shielding:	tinned copper braiding
Wrapping:	non-woven tape
Jacket material:	PUR, TMPU acc. to EN 50363-3 + VDE 0207-363-3-10-2 with matte surface
Jacket color:	gray (RAL 7000)

Outstanding features:

- **free from paint wetting impairment substances** (PWIS-free)
- **flexible at low temperatures**
- **travel>10 m is possible**
- **good EMC characteristics**
- **high abrasion resistance**
- **small bending radius**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Voltage UL/CSA:	600 V
Testing voltage:	conductor/conductor: 2000 V conductor/shielding: 2000 V
Min. bending radius: *continuously flexing:*	7.5 x O.D.
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range: *static:* *flexing:*	**DIN VDE** **UL/CSA:** up to +80°C -50/+90°C -40/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, CSA FT1, FT2
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids etc.
Continuous flexibility:	very good
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **20 AWG (≈ 28/34) • 0.50 mm²**				
77842003	3	0.339	8.6	58
77842004	4	0.354	9.0	66
77842005	5	0.382	9.7	75
77842007	7	0.425	10.8	92
77842012	12	0.496	12.6	137
77842018	18	0.579	14.7	192
77842025	25	0.673	17.1	255
▶ **19 AWG (≈ 42/34) • 0.75 mm²**				
77841903	3	0.354	9.0	65
77841904	4	0.374	9.5	74
77841905	5	0.406	10.3	85
77841907	7	0.461	11.7	116
77841912	12	0.543	13.8	171
77841918	18	0.630	16.0	238
77841925	25	0.736	18.7	306
▶ **18 AWG (≈ 56/34) • 1.00 mm²**				
77841803	3	0.362	9.2	71
77841804	4	0.386	9.8	82
77841805	5	0.413	10.5	95
77841807	7	0.476	12.1	129
77841812	12	0.559	14.2	201
77841818	18	0.634	16.1	269
77841825	25	0.760	19.3	350

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **16 AWG (≈ 84/34) • 1.50 mm²**				
77841603	3	0.374	9.5	80
77841604	4	0.425	10.8	102
77841605	5	0.453	11.5	127
77841607	7	0.520	13.2	168
77841612	12	0.618	15.7	258
77841618	18	0.709	18.0	346
77841625	25	0.909	23.1	521
▶ **14 AWG (≈ 140/34) • 2.50 mm²**				
77841403	3	0.449	11.4	123
77841404	4	0.476	12.1	146
77841405	5	0.528	13.4	175
77841407	7	0.610	15.5	248
77841412	12	0.736	18.7	376
77841418	18	0.921	23.4	566
77841425	25	1.071	27.2	725
▶ **12 AWG (≈ 224/34) • 4.00 mm²**				
77841203	3	0.496	12.6	167
77841204	4	0.543	13.8	205
77841205	5	0.598	15.2	251
▶ **10 AWG (≈ 186/32) • 6.00 mm²**				
77841003	3	0.579	14.7	234
77841004	4	0.622	15.8	294
77841005	5	0.681	17.3	334

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **8 AWG (≈ 320/32) • 10.00 mm²**				
77840803	3	0.740	18.8	372
77840804	4	0.807	20.5	458
77840805	5	0.957	24.3	607
▶ **6 AWG (≈ 504/32) • 16.00 mm²**				
77840603	3	0.878	22.3	528
77840604	4	0.992	25.2	703
77840605	5	1.110	28.2	845
▶ **4 AWG (≈ 760/32) • 25.00 mm²**				
77840404	4	1.169	29.7	1011
77840405	5	1.283	32.6	1211
▶ **2 AWG (≈ 1083/32) • 35.00 mm²**				
77840204	4	1.307	33.2	1289
77840205	5	1.437	36.5	1545

Other dimensions and colors are available on request

SD 980 CP TP

High speed continuous flex twisted pairs heavy duty shielded halogen-free polyurethane data cable

Marking for SD 980 CP TP 77892403:
SAB BRÖCKSKES · D-VIERSEN · 77890325 3 x 2 x 0.25 mm² SD 980 CP TP 24 AWG/3pr 77892403 AWM Style 21198 80°C 300V CSA AWM I/II A/B 80°C 300V FT1 FT2

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	TPE
Color code:	DIN 47100, see page O/26
Stranding:	conductors twisted to pairs, pairs twisted in specially adjusted layering with non-woven tape over each layer
Shielding:	tinned copper braiding
Wrapping:	non-woven tape
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2 with matte surface
Jacket color:	grayish tan (RAL 7032)

Outstanding features:

- **free from paint wetting impairment substances** (PWIS-free)
- **flexible at low temperatures**
- **halogen-free**
- **travel>10 m is possible**
- **good EMC characteristics**
- **high abrasion resistance**
- **small bending radius**

Technical data:

Peak operating voltage:	max. 350 V
Voltage UL/CSA:	300 V
Testing voltage:	conductor/conductor: 2000 V conductor/shielding: 2000 V
Min. bending radius: *continuously flexing:*	7.5 x O.D.
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range: *static:* *flexing:*	**DIN VDE** **UL/CSA:** up to +80°C -50/+90°C -40/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, CSA FT1 (acc.to dimension), FT2
Oil resistance:	very good - TMPU acc. to IEC 50363-10-2 + VDE 0207-363-10-2
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids, etc.
Continuous flexibility:	very good
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of pairs	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **26 AWG (≈ 18/38) ▪ 0.14 mm²**				
77892602	2	0.201	5.1	23
77892603	3	0.220	5.6	26
77892604	4	0.248	6.3	32
77892605	5	0.264	6.7	36
77892607	7	0.283	7.2	43
77892610	10	0.331	8.4	56
77892614	14	0.366	9.3	71
77892618	18	0.406	10.3	91
77892625	25	0.461	11.7	117
► **24 AWG (≈ 32/38) ▪ 0.25 mm²**				
77892402	2	0.220	5.6	28
77892403	3	0.244	6.2	35
77892404	4	0.272	6.9	40
77892405	5	0.291	7.4	46
77892407	7	0.311	7.9	57
77892410	10	0.362	9.2	74
77892414	14	0.429	10.9	105
77892418	18	0.457	11.6	126
77892425	25	0.551	14.0	185

item no.	no. of pairs	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **22 AWG (≈ 42/38) ▪ 0.34 mm²**				
77892202	2	0.232	5.9	32
77892203	3	0.256	6.5	40
77892204	4	0.291	7.4	48
77892205	5	0.311	7.9	54
77892207	7	0.335	8.5	66
77892210	10	0.390	9.9	87
77892214	14	0.457	11.6	125
77892218	18	0.492	12.5	150
77892225	25	0.579	14.7	215
► **20 AWG (≈ 28/34) ▪ 0.50 mm²**				
77892002	2	0.268	6.8	40
77892003	3	0.299	7.6	53
77892004	4	0.343	8.7	66
77892005	5	0.370	9.4	76
77892007	7	0.406	10.3	99
77892010	10	0.476	12.1	132
77892014	14	0.563	14.3	189
77892018	18	0.634	16.1	244
77892025	25	0.709	18.0	309

item no.	no. of pairs	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **19 AWG (≈ 42/34) ▪ 0.75 mm²**				
77891902	2	0.303	7.7	53
77891903	3	0.346	8.8	66
77891904	4	0.390	9.9	81
77891905	5	0.437	11.1	108
77891907	7	0.469	11.9	127
77891910	10	0.579	14.7	204
77891914	14	0.681	17.3	271
77891918	18	0.732	18.6	327
77891925	25	0.894	22.7	473

Other dimensions and colors are available on request

Possible on request:

- **20 AWG & 19 AWG**
- **with colored conductors acc. to US 3**

SD 86

Continuous flex data cable for moderate flexing applications

Marking for SD 86 37722502:
SAB BRÖCKSKES · D-VIERSEN · SD 86 25 x 0.25 mm² CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Color code:	DIN 47100, see page O/26
Stranding:	specially adjusted layering with non-woven tape over each layer
Jacket material:	PVC, TM2 acc. to EN 50363-4-1 +VDE 0207-363-4-1, reinforced wall thickness
Jacket color:	grayish tan (RAL 7032)

Outstanding features:

- **very good flexibility**
- **small bending radius**
- **reinforced outer jacket**

Technical data:

Peak operating voltage:	max. 350 V acc. to VDE 0812
Testing voltage:	conductor/conductor: 1500 V
Min. bending radius: *continuously flexing:*	 7.5 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range: *static:* *flexing:*	**DIN VDE** -30/+70°C +5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Oil resistance:	acc. to our internal standard, see page O/29
Chemical resistance:	see page O/11
Flexibility	very good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **26 AWG (≈ 18/38) • 0.14 mm²**				
37720201	2	0.122	3.1	9
37720301	3	0.130	3.3	10
37720401	4	0.138	3.5	11
37720501	5	0.150	3.8	14
37720701	7	0.173	4.4	19
37721201	12	0.220	5.6	29
37721801	18	0.252	6.4	40
37722501	25	0.307	7.8	54

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **24 AWG (≈ 32/38) • 0.25 mm²**				
37720202	2	0.134	3.4	11
37720302	3	0.142	3.6	13
37720402	4	0.154	3.9	15
37720502	5	0.165	4.2	19
37720702	7	0.197	5.0	26
37721202	12	0.244	6.2	40
37721802	18	0.283	7.2	57
37722502	25	0.343	8.7	77

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **22 AWG (≈ 42/38) • 0.34 mm²**				
37720203	2	0.157	4.0	15
37720303	3	0.165	4.2	18
37720403	4	0.181	4.6	22
37720503	5	0.197	5.0	26
37720703	7	0.240	6.1	39
37721203	12	0.295	7.5	56
37721803	18	0.346	8.8	81
37722503	25	0.429	10.9	114

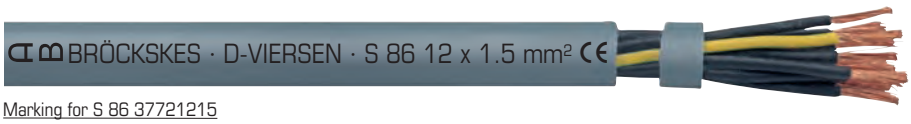
Other dimensions and colors are available on request

Possible on request:

- **20 AWG & 19 AWG**

S 86

Continuous flex cable for moderate flexing applications



Marking for S 86 37721215

SAB BRÖCKSKES · D-VIERSEN · S 86 12 x 1.5 mm²

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	specially adjusted layering with non-woven tape over each layer
Jacket material:	PVC, TM2 acc. to EN 50363-4-1 +VDE 0207-363-4-1, reinforced wall thickness
Jacket color:	gray (RAL 7000)

Outstanding features:

- **very good flexibility**
- **small bend radius**
- **reinforced outer jacket**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 3000 V
Min. bending radius: *continuously flexing:*	7.5 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range: *static:* *flexing:*	**DIN VDE** -40/+70°C +5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Oil resistance:	acc. to our internal standard, see page O/29
Chemical resistance:	see page O/11
Flexibility:	very good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 20 AWG (≈ 28/34) • 0.50 mm²				
37720205	2	0.209	5.3	23
37720305	3	0.220	5.6	30
37720405	4	0.244	6.2	38
37720505	5	0.268	6.8	46
37720705	7	0.315	8.0	65
37721205	12	0.390	9.9	95
37721805	18	0.457	11.6	136
37722505	25	0.559	14.2	188
37723605	36	0.626	15.9	257
37724405	44	0.717	18.2	317
37725205	52	0.744	18.9	361
37726505	65	0.846	21.5	455
▶ 19 AWG (≈ 42/34) • 0.75 mm²				
37720207	2	0.228	5.8	31
37720307	3	0.248	6.3	40
37720407	4	0.268	6.8	48
37720507	5	0.299	7.6	60
37720707	7	0.358	9.1	86
37721207	12	0.437	11.1	125
37721807	18	0.516	13.1	181
37722507	25	0.626	15.9	247
37723607	36	0.713	18.1	347
37724407	44	0.803	20.4	401
37725207	52	0.843	21.4	484
37726507	65	0.957	24.3	613
▶ 18 AWG (≈ 56/34) • 1.00 mm²				
37720210	2	0.244	6.2	38
37720310	3	0.256	6.5	46
37720410	4	0.280	7.1	55
37720510	5	0.311	7.9	70
37720710	7	0.370	9.4	99
37721210	12	0.453	11.5	146
37721810	18	0.543	13.8	218

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 18 AWG (≈ 56/34) • 1.00 mm²				
37722510	25	0.657	16.7	297
37723610	36	0.744	18.9	413
37724410	44	0.843	21.4	486
37725210	52	0.886	22.5	583
37726510	65	1.000	25.4	736
▶ 16 AWG (≈ 84/34) • 1.50 mm²				
37720215	2	0.268	6.8	47
37720315	3	0.283	7.2	58
37720415	4	0.315	8.0	75
37720515	5	0.343	8.7	91
37720715	7	0.417	10.6	133
37721215	12	0.512	13.0	198
37721815	18	0.610	15.5	294
37722515	25	0.740	18.8	399
37723615	36	0.839	21.3	561
37724415	44	0.953	24.2	668
37725215	52	1.000	25.4	794
37726515	65	1.130	28.7	1002
▶ 14 AWG (≈ 140/34) • 2.50 mm²				
37720225	2	0.339	8.6	75
37720325	3	0.366	9.3	96
37720425	4	0.398	10.1	118
37720525	5	0.445	11.3	148
37720725	7	0.535	13.6	218
37721225	12	0.665	16.9	327
37721825	18	0.799	20.3	475
37722525	25	0.972	24.7	669
37722725	27	0.996	25.3	698
37723025	30	1.028	26.1	763
37723625	36	1.098	27.9	934
37724425	44	1.268	32.2	1107
37725225	52	1.319	33.5	1276
37726525	65	1.484	37.7	1589

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 12 AWG (≈ 224/34) • 4.00 mm²				
37720240	2	0.390	9.9	105
37720340	3	0.425	10.8	143
37720440	4	0.465	11.8	181
37720540	5	0.516	13.1	216
37720740	7	0.650	16.5	328
▶ 10 AWG (≈ 186/32) • 6.00 mm²				
37720260	2	0.484	12.3	153
37720360	3	0.512	13.0	205
37720460	4	0.567	14.4	263
37720560	5	0.634	16.1	317
37720760	7	0.768	19.5	464
▶ 8 AWG (≈ 320/32) • 10.00 mm²				
37720461	4	0.681	17.3	423
37720561	5	0.768	19.5	519
▶ 6 AWG (≈ 504/32) • 16.00 mm²				
37720462	4	0.823	20.9	634
37720562	5	0.917	23.3	761
▶ 4 AWG (≈ 760/32) • 25.00 mm²				
37720463	4	0.972	24.7	880
37720563	5	1.098	27.9	1159
▶ 2 AWG (≈ 1083/32) • 35.00 mm²				
37720464	4	1.13	28.7	1214
37720564	5	1.268	32.2	1564
▶ 1 AWG (≈ 703/28) • 50.00 mm²				
37720465	4	1.358	34.5	1762
37720565	5	1.524	38.7	2236

Other dimensions and colors are available on request

SD 86 C

Shielded continuous flex data cable for moderate flexing applications

Marking for SD 86 C 37822502:
SAB BRÖCKSKES · D-VIERSEN · SD 86 C 25 x 0.25 mm² CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Color code:	DIN 47100, see page O/26
Stranding:	specially adjusted layering with non-woven tape over each layer
Wrapping:	non-woven tape
Shielding:	tinned copper braiding
Wrapping:	non-woven tape
Jacket material:	PVC, TM2 acc. to EN 50363-3 +VDE 0207-363-3, reinforced wall thickness
Jacket color:	grayish tan (RAL 7032)

Outstanding features:

- **very good flexibility**
- **good EMC characteristics**
- **small bend radius**
- **reinforced outer jacket**

Technical data:

Peak operating voltage:	max. 350 V acc. to VDE 0812
Testing voltage:	conductor/conductor: 1500 V conductor/shielding: 1200V
Min. bending radius: *continuously flexing:*	7.5 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range: *static:* *flexing:*	**DIN VDE** -30/+70°C +5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Oil resistance:	acc. to our internal standard, see page O/29
Chemical resistance:	see page O/11
Flexibility	very good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **26 AWG (≈ 18/38) • 0.14 mm²**				
37820201	2	0.146	3.7	13
37820301	3	0.154	3.9	16
37820401	4	0.161	4.1	17
37820501	5	0.173	4.4	22
37820701	7	0.205	5.2	28
37821201	12	0.248	6.3	40
37821801	18	0.280	7.1	52
37822501	25	0.346	8.8	74

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **24 AWG (≈ 32/38) • 0.25 mm²**				
37820202	2	0.157	4.0	16
37820302	3	0.165	4.2	20
37820402	4	0.177	4.5	23
37820502	5	0.197	5.0	28
37820702	7	0.224	5.7	36
37821202	12	0.272	6.9	51
37821802	18	0.327	8.3	75
37822502	25	0.382	9.7	97

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **22 AWG (≈ 42/38) • 0.34 mm²**				
37820203	2	0.189	4.8	22
37820303	3	0.197	5.0	26
37820403	4	0.213	5.4	30
37820503	5	0.228	5.8	36
37820703	7	0.268	6.8	50
37821203	12	0.335	8.5	74
37821803	18	0.386	9.8	101
37822503	25	0.461	11.7	140

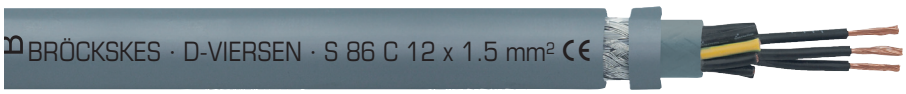
Other dimensions and colors are available on request

Possible on request:

- **20 AWG or 19 AWG**

S 86 C

Shielded continuous flex cable for moderate flexing applications



Marking for S 86 C 37821215:
SAB BRÖCKSKES · D-VIERSEN · S 86 C 12 x 1.5 mm²

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	specially adjusted layering with non-woven tape over each layer
Inner jacket:	PVC, TM2 acc. to EN 50363-3 + VDE 0207-363-3
Shielding:	tinned copper braiding
Wrapping:	non-woven tape
Jacket material:	PVC, TM2 acc. to EN 50363-3 +VDE 0207-363-3
Jacket color:	gray (RAL 7000)

Outstanding features:

- **very good flexibility**
- **good EMC characteristics**
- **small bending radius**
- **reinforced outer jacket**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 3000 V conductor/shielding: 2000 V
Min. bending radius: *continuously flexing:*	7.5 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range: *static:* *flexing:*	**DIN VDE** -40/+70°C +5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Oil resistance:	acc. to our internal standard, see page O/29
Chemical resistance:	see page O/11
Flexibility:	very good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 20 AWG (≈ 28/34) • 0.50 mm²				
37820205	2	0.307	7.8	57
37820305	3	0.319	8.1	60
37820405	4	0.335	8.5	68
37820505	5	0.366	9.3	81
37820705	7	0.406	10.3	105
37821205	12	0.504	12.8	155
37821805	18	0.591	15.0	221
37822505	25	0.681	17.3	284
► 19 AWG (≈ 42/34) • 0.75 mm²				
37820207	2	0.327	8.3	66
37820307	3	0.339	8.6	69
37820407	4	0.366	9.3	83
37820507	5	0.390	9.9	96
37820707	7	0.457	11.6	130
37821207	12	0.551	14.0	190
37821807	18	0.634	16.1	268
37822507	25	0.764	19.4	360
► 18 AWG (≈ 56/34) • 1.00 mm²				
37820210	2	0.339	8.6	68
37820310	3	0.354	9.0	79
37820410	4	0.378	9.6	91
37820510	5	0.402	10.2	106
37820710	7	0.476	12.1	167
37821210	12	0.575	14.6	225
37821810	18	0.665	16.9	312
37822510	25	0.776	19.7	409
37823610	36	0.878	22.3	548

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 16 AWG (≈ 84/34) • 1.50 mm²				
37820215	2	0.366	9.3	81
37820315	3	0.382	9.7	94
37820415	4	0.413	10.5	114
37820515	5	0.449	11.4	142
37820715	7	0.524	13.3	193
37821215	12	0.634	16.1	286
37821815	18	0.732	18.6	395
37822515	25	0.878	22.3	533
37822715	27	0.878	22.3	557
► 14 AWG (≈ 140/34) • 2.50 mm²				
37820225	2	0.445	11.3	123
37820325	3	0.472	12.0	151
37820425	4	0.512	13.0	181
37820525	5	0.567	14.4	232
37820725	7	0.657	16.7	307
37821225	12	0.795	20.2	442
37821825	18	0.929	23.6	631
37822525	25	1.110	28.2	834
► 12 AWG (≈ 224/34) • 4.00 mm²				
37820240	2	0.508	12.9	167
37820340	3	0.539	13.7	206
37820440	4	0.591	15.0	261
37820540	5	0.646	16.4	304

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 10 AWG (≈ 186/32) • 6.00 mm²				
37820260	2	0.591	15.0	230
37820360	3	0.618	15.7	285
37820460	4	0.689	17.5	343
37820560	5	0.740	18.8	411
► 8 AWG (≈ 320/32) • 10.00 mm²				
37820461	4	0.819	20.8	533
37820561	5	0.898	22.8	620
► 6 AWG (≈ 504/32) • 16.00 mm²				
37820462	4	0.953	24.2	761
37820562	5	1.063	27.0	902
► 4 AWG (≈ 760/32) • 25.00 mm²				
37820463	4	1.118	28.4	1084
37820563	5	1.244	31.6	1299
► 2 AWG (≈ 1083/32) • 35.00 mm²				
37820464	4	1.283	32.6	1424

Other dimensions and colors are available on request

SD 86 C TP

Continuous flex twisted pairs shielded data cable for moderate flexing applications

Marking for SD 86 C TP 37650305:
SAB BRÖCKSKES · D-VIERSEN · SD 86 C TP 3 x 2 x 0.5 mm² CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Color code:	DIN 47100, see page O/26
Stranding:	conductors twisted to pairs, pairs twisted in specially adjusted layering with non-woven tape over each layer
Wrapping:	non-woven tape
Shielding:	tinned copper braiding
Jacket material:	PVC, TM2 acc. to EN 50363-3 + VDE 0207-363-3
Jacket color:	grayish tan (RAL 7032)

Outstanding features:

- **very good flexibility**
- **good EMC characteristics**
- **small bending radius**
- **reinforced outer jacket**

Technical data:

Peak operating voltage:	max. 350 V acc. to VDE 0812
Testing voltage:	conductor/conductor: 1500 V conductor/shielding: 1200 V
Min. bending radius: *continuously flexing:*	7.5 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range: *static:* *flexing:*	**DIN VDE** -30/+70°C +5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Oil resistance:	acc. to our internal standard, see page O/29
Flexibility:	very good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of pairs	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **26 AWG (≈ 18/38) ▪ 0.14 mm²**				
37640214	2	0.193	4.9	21
37640314	3	0.213	5.4	27
37640414	4	0.244	6.2	33
37640514	5	0.264	6.7	39
37640714	7	0.283	7.2	53
37641014	10	0.343	8.7	64
37641214	12	0.374	9.5	73
37641414	14	0.394	10.0	81
37641814	18	0.429	10.9	106
37642514	25	0.500	12.7	141

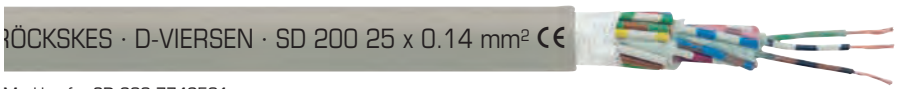
item no.	no. of pairs	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **24 AWG (≈ 32/38) ▪ 0.25 mm²**				
37640225	2	0.213	5.4	27
37640325	3	0.240	6.1	35
37640425	4	0.272	6.9	43
37640525	5	0.291	7.4	51
37640725	7	0.311	7.9	65
37641025	10	0.378	9.6	83
37641225	12	0.421	10.7	104
37641425	14	0.445	11.3	118
37641825	18	0.492	12.5	148
37642525	25	0.563	14.3	197

item no.	no. of pairs	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **22 AWG (≈ 42/38) ▪ 0.34 mm²**				
37640234	2	0.256	6.5	36
37640334	3	0.280	7.1	45
37640434	4	0.335	8.5	60
37640534	5	0.362	9.2	73
37640734	7	0.386	9.8	91
37641034	10	0.457	11.6	120
37641234	12	0.520	13.2	146
37641434	14	0.555	14.1	175
37641834	18	0.594	15.1	214
37642534	25	0.689	17.5	277

Other dimensions and colors are available on request

SD 200

Continuous flex halogen-free polyurethane data cable with extreme temperature range



Marking for SD 200 7742501:
SAB BRÖCKSKES · D-VIERSEN · SD 200 25 x 0.14 mm² CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	TPE
Color code:	DIN 47100, see page O/26
Stranding:	specially adjusted layering with non-woven tape over each layer
Wrapping:	non-woven tape
Jacket material:	PUR, TMPU acc. to EN50363-10-2 + VDE 0207-363-10-2 with matte surface
Jacket color:	grayish tan (RAL 7032)

Outstanding features:

- **free from paint wetting impairment substances** (PWIS-free)
- **flexible at low temperatures**
- **halogen-free**
- **travel>10 m is possible**
- **high abrasion resistance**
- **minimal bending radius**
- **small outer diameter**

Technical data:

Peak operating voltage:	max. 350 V acc. to VDE 0812
Testing voltage:	conductor/conductor: 1500 V
Min. bending radius: *continuously flexing:*	7.5 x O.D.
Radiation resistance:	1 x 10^7 cJ/kg
Temperature range: *static:* *flexing:*	**DIN VDE** -50/+90°C -40/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids, etc.
Continuous flexibility	very good
Weather resistance:	very good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **26 AWG (≈ 18/38) ▪ 0.14 mm²**				
7740201	2	0.122	3.1	8
7740301	3	0.130	3.3	10
7740401	4	0.146	3.7	13
7740501	5	0.161	4.1	16
7740701	7	0.185	4.7	22
7741001	10	0.217	5.5	28
7741201	12	0.224	5.7	32
7741401	14	0.232	5.9	36
7741801	18	0.268	6.8	48
7742501	25	0.319	8.1	63
7743201	32	0.350	8.9	81

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **24 AWG (≈ 32/38) ▪ 0.25 mm²**				
7740202	2	0.130	3.3	11
7740302	3	0.146	3.7	13
7740402	4	0.157	4.0	15
7740502	5	0.169	4.3	20
7740702	7	0.197	5.0	26
7741002	10	0.217	5.5	34
7741202	12	0.232	5.9	40
7741402	14	0.240	6.1	46
7741802	18	0.268	6.8	59
7742502	25	0.319	8.1	82
7743202	32	0.350	8.9	104

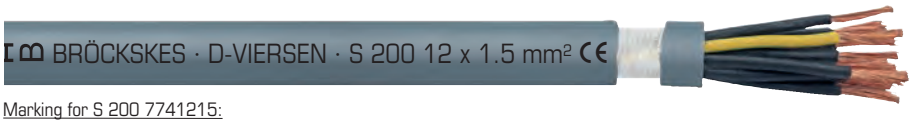
item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **22 AWG (≈ 42/38) ▪ 0.34 mm²**				
7740203	2	0.146	3.7	11
7740303	3	0.154	3.9	14
7740403	4	0.165	4.2	17
7740503	5	0.177	4.5	20
7740703	7	0.205	5.2	28
7741003	10	0.240	6.1	35
7741203	12	0.248	6.3	40
7741403	14	0.260	6.6	46
7741803	18	0.287	7.3	59
7742503	25	0.350	8.9	82
7743203	32	0.374	9.5	104

Other dimensions and colors are available on request

Possible on request:
- **20 AWG or 19 AWG**

S 200

Continuous flex halogen-free polyurethane control cable with extreme temperature range



Marking for S 200 7741215:
SAB BRÖCKSKES · D-VIERSEN · S 200 12 x 1.5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	TPE
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	specially adjusted layering with non-woven tape over each layer
Wrapping:	non-woven tape
Jacket material:	PUR, TMPU acc. to EN 50363-3 + VDE 0207-363-3-10-2 with matte surface
Jacket color:	gray (RAL 7000)

Outstanding features:

- **free from paint wetting impairment substances** (PWIS-free)
- **flexible at low temperatures**
- **halogen-free**
- **travel>10 m is possible**
- **high abrasion resistance**
- **minimal bending radius**
- **small outer diameter**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 2000 V
Min. bending radius: *continuously flexing:*	7.5 x O.D.
Radiation resistance:	1 x 10^7 cJ/kg
Temperature range: *static:* *flexing:*	 -50/+90°C -40/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids etc.
Continuous flexibility:	very good
Weather resistance:	very good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 20 AWG (≈ 28/34) • 0.50 mm²				
7740205	2	0.193	4.9	19
7740305	3	0.201	5.1	23
7740405	4	0.217	5.5	28
7740505	5	0.236	6.0	34
7740705	7	0.272	6.9	46
7741205	12	0.327	8.3	67
7741805	18	0.390	9.9	96
7742505	25	0.469	11.9	132
7743605	36	0.539	13.7	189
7745005	50	0.634	16.1	256
7746505	65	0.717	18.2	321
► 19 AWG (≈ 42/34) • 0.75 mm²				
7740207	2	0.213	5.4	24
7740307	3	0.224	5.7	30
7740407	4	0.240	6.1	36
7740507	5	0.264	6.7	45
7740707	7	0.311	7.9	62
7741207	12	0.378	9.6	92
7741807	18	0.445	11.3	136
7742507	25	0.547	13.9	187
7743607	36	0.606	15.4	258
7745007	50	0.724	18.4	355
7746507	65	0.819	20.8	462

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 18 AWG (≈ 56/34) • 1.00 mm²				
7740210	2	0.228	5.8	30
7740310	3	0.240	6.1	36
7740410	4	0.260	6.6	45
7740510	5	0.283	7.2	55
7740710	7	0.339	8.6	78
7741210	12	0.409	10.4	116
7741810	18	0.484	12.3	172
7742510	25	0.594	15.1	237
7743610	36	0.669	17.0	333
7745010	50	0.799	20.3	458
7746510	65	0.902	22.9	595
► 16 AWG (≈ 84/34) • 1.50 mm²				
7740115	1	0.157	4.0	17
7740215	2	0.252	6.4	38
7740315	3	0.264	6.7	47
7740415	4	0.287	7.3	60
7740515	5	0.315	8.0	74
7740715	7	0.378	9.6	107
7741215	12	0.465	11.8	163
7741815	18	0.559	14.2	243
7742515	25	0.673	17.1	329
7743615	36	0.760	19.3	464
7745015	50	0.906	23.0	638
7746515	65	1.024	26.0	833

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 14 AWG (≈ 140/34) • 2.50 mm²				
7740125	1	0.185	4.7	26
7740225	2	0.307	7.8	57
7740325	3	0.327	8.3	74
7740425	4	0.362	9.2	95
7740525	5	0.402	10.2	118
7740725	7	0.480	12.2	172
7741225	12	0.606	15.4	268
7741825	18	0.713	18.1	395
7742525	25	0.870	22.1	539
7743625	36	0.976	24.8	758
► 12 AWG (≈ 224/34) • 4.00 mm²				
7740140	1	0.213	5.4	38
7740240	2	0.366	9.3	87
7740340	3	0.386	9.8	116
7740440	4	0.425	10.8	146
7740540	5	0.476	12.1	180
7740740	7	0.575	14.6	265

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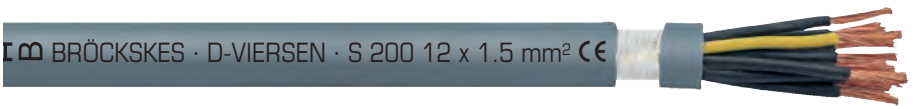
S 200

Continuous flex halogen-free polyurethane control cable with extreme temperature range

Marking for S 200 7740161:
SAB BRÖCKSKES · D-VIERSEN · S 200 1 x 10.0 mm² CE



Marking for S 200 7741215:
SAB BRÖCKSKES · D-VIERSEN · S 200 12 x 1.5 mm² CE

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **10 AWG (≈ 186/32) ▪ 6.00 mm²**				
7740160	1	0.240	6.1	51
7740260	2	0.425	10.8	118
7740360	3	0.461	11.7	165
7740460	4	0.504	12.8	212
7740560	5	0.571	14.5	261
7740760	7	0.681	17.3	339
▶ **8 AWG (≈ 320/32) ▪ 10.00 mm²**				
7740161	1	0.280	7.1	81
7740361	3	0.555	14.1	265
7740461	4	0.622	15.8	341
7740561	5	0.677	17.2	410
▶ **6 AWG (≈ 504/32) ▪ 16.00 mm²**				
7740162	1	0.327	8.3	119
7740362	3	0.669	17.0	401
7740462	4	0.748	19.0	525
7740562	5	0.835	21.2	659

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **4 AWG (≈ 760/32) ▪ 25.00 mm²**				
7740163	1	0.390	9.9	177
7740363	3	0.811	20.6	570
7740463	4	0.898	22.8	776
7740563	5	1.000	25.4	913
▶ **2 AWG (≈ 1083/32) ▪ 35.00 mm²**				
7740164	1	0.453	11.5	247
7740464	4	1.039	26.4	1030
7740564	5	1.173	29.8	1273
▶ **1 AWG (≈ 703/28) ▪ 50.00 mm²**				
7740165	1	0.551	14.0	361
7740465	4	1.252	31.8	1523
▶ **2/0 AWG (≈ 988/28) ▪ 70.00 mm²**				
7740166	1	0.657	16.7	507
▶ **3/0 AWG (≈ 1340/28) ▪ 95.00 mm²**				
7740167	1	0.807	20.5	691

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **4/0 AWG (≈ 1680/28) ▪ 120.00 mm²**				
7740168	1	0.846	21.5	847
▶ **250 MCM (≈ 2122/28) ▪ 150.00 mm²**				
7740169	1	0.969	24.6	1087
▶ **350 MCM (≈ 1472/28) ▪ 185.00 mm²**				
7740170	1	1.051	26.7	1305
▶ **450 MCM (≈ 1910/28) ▪ 240.00 mm²**				
7740171	1	1.185	30.1	1668

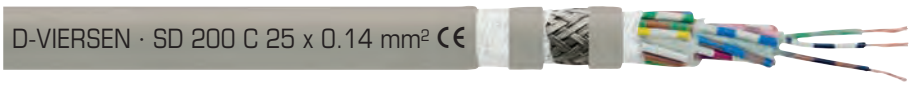
Other dimensions and colors are available on request

Possible on request:

- **single conductor with green/yellow insulation and black outer jacket or 0.6/1 kV**

SD 200 C

Continuous flex halogen-free polyurethane shielded data cable with extreme temperature range



Marking for SD 200 C 7842501:
SAB BRÖCKSKES · D-VIERSEN · SD 200 C 25 x 0.14 mm² CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	TPE
Color code:	DIN 47100, see page O/26
Stranding:	specially adjusted layering with non-woven tape over each layer
Wrapping:	non-woven tape
Shielding:	tinned copper braiding
Wrapping:	non-woven tape
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2 with matte surface
Jacket color:	grayish tan (RAL 7032)

Outstanding features:

- **free from paint wetting impairment substances** (PWIS-free)
- **flexible at low temperatures**
- **halogen-free**
- **travel>10 m is possible**
- **good EMC characteristics**
- **high abrasion resistance**

Technical data:

Peak operating voltage:	max. 350 V acc. to VDE 0812
Testing voltage:	conductor/conductor: 1500 V conductor/shielding: 1200 V
Min. bending radius: *continuously flexing:*	7.5 x O.D.
Radiation resistance:	1 x 10^7 cJ/kg
Temperature range: *static:* *flexing:*	**DIN VDE** -50/+90°C -40/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids etc.
Continuous flexibility:	very good
Weather resistance:	very good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **26 AWG (≈ 18/38) • 0.14 mm²**				
7840201	2	0.130	3.3	11
7840301	3	0.142	3.6	13
7840401	4	0.154	3.9	16
7840501	5	0.161	4.1	17
7840701	7	0.185	4.7	24
7841001	10	0.226	5.7	30
7841201	12	0.232	5.9	32
7841801	18	0.256	6.5	42
7842501	25	0.299	7.6	54
7843201	32	0.319	8.1	65

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **24 AWG (≈ 32/38) • 0.25 mm²**				
7840202	2	0.150	3.8	13
7840302	3	0.157	4.0	16
7840402	4	0.165	4.2	19
7840502	5	0.181	4.6	23
7840702	7	0.205	5.2	32
7841002	10	0.244	6.2	38
7841202	12	0.252	6.4	44
7841402	14	0.268	6.8	51
7841802	18	0.287	7.3	59
7842502	25	0.346	8.8	79
7843202	32	0.366	9.3	95

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **22 AWG (≈ 42/38) • 0.34 mm²**				
7840203	2	0.165	4.2	17
7840303	3	0.173	4.4	21
7840403	4	0.185	4.7	24
7840503	5	0.197	5.0	28
7840703	7	0.224	5.7	36
7841203	12	0.264	6.7	50
7841803	18	0.307	7.8	71
7842503	25	0.370	9.4	95
7843203	32	0.402	10.2	122

Other dimensions and colors are available on request

S 200 C

Continuous flex halogen-free polyurethane shielded control cable with extreme temperature range

Marking for S 200 C 7841215:
SAB BRÖCKSKES · D-VIERSEN · S 200 C 12 x 1.5 mm²

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	TPE
Color code: **from 2 conductors**	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	specially adjusted layering with non-woven tape over each layer
Inner jacket:	SABIX®
Wrapping:	non-woven tape
Shielding:	tinned copper braiding
Wrapping:	non-woven tape
Jacket material:	PUR, TMPU acc. to EN 50363-3 + VDE 0207-363-3-10-2 with matte surface
Jacket color:	gray (RAL 7000)

Outstanding features:

- **free from paint wetting impairment substances** (PWIS-free)
- **flexible at low temperatures**
- **halogen-free**
- **travel>10 m is possible**
- **good EMC characteristics**
- **high abrasion resistance**
- **minimal bending radius**
- **small outer diameter**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 2000 V conductor/shielding: 2000 V
Min. bending radius: *continuously flexing:*	7.5 x O.D.
Radiation resistance:	1 x 10^7 cJ/kg
Temperature range: *static:* *flexing:*	 -50/+90°C -40/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids etc.
Continuous flexibility:	very good
Weather resistance:	very good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **20 AWG (≈ 28/34) • 0.50 mm²**				
7840205	2	0.268	6.8	37
7840305	3	0.276	7.0	42
7840405	4	0.291	7.4	48
7840505	5	0.311	7.9	56
7840705	7	0.354	9.0	73
7841205	12	0.417	10.6	102
7841805	18	0.480	12.2	144
7842505	25	0.583	14.8	206
7843605	36	0.646	16.4	255
7845205	52	0.756	19.2	352
7846505	65	0.854	21.7	435
► **19 AWG (≈ 42/34) • 0.75 mm²**				
7840207	2	0.287	7.3	43
7840307	3	0.299	7.6	50
7840407	4	0.315	8.0	58
7840507	5	0.346	8.8	71
7840707	7	0.386	9.8	87
7841207	12	0.469	11.9	137
7841807	18	0.559	14.2	198
7842507	25	0.654	16.6	259
7843607	36	0.736	18.7	349
7845207	52	0.862	21.9	488
7846507	65	0.965	24.5	583

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **18 AWG (≈ 56/34) • 1.00 mm²**				
7840210	2	0.303	7.7	48
7840310	3	0.315	8.0	58
7840410	4	0.335	8.5	66
7840510	5	0.366	9.3	81
7840710	7	0.421	10.7	117
7841210	12	0.504	12.8	167
7841810	18	0.598	15.2	248
7842510	25	0.724	18.4	334
7843610	36	0.799	20.3	441
7845210	52	0.937	23.8	612
7846510	65	1.055	26.8	759
► **16 AWG (≈ 84/34) • 1.50 mm²**				
7840115	1	0.181	4.6	24
7840215	2	0.327	8.3	58
7840315	3	0.339	8.6	71
7840415	4	0.370	9.4	88
7840515	5	0.398	10.1	100
7840715	7	0.469	11.9	141
7841215	12	0.579	14.7	236
7841815	18	0.665	16.9	325
7842515	25	0.803	20.4	439
7843615	36	0.906	23.0	597
7845215	52	1.059	26.9	799
7846515	65	1.177	29.9	1017

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **14 AWG (≈ 140/34) • 2.50 mm²**				
7840125	1	0.209	5.3	33
7840225	2	0.390	9.9	82
7840325	3	0.417	10.6	111
7840425	4	0.453	11.5	137
7840525	5	0.496	12.6	167
7840725	7	0.591	15.0	245
7841225	12	0.728	18.5	364
7841825	18	0.850	21.6	515
7842525	25	1.024	26.0	696
7843625	36	1.130	28.7	934
7845225	52	1.299	33.0	1250
► **12 AWG (≈ 224/34) • 4.00 mm²**				
7840140	1	0.232	5.9	45
7840240	2	0.457	11.6	122
7840340	3	0.476	12.1	151
7840440	4	0.539	13.7	201
7840540	5	0.591	15.0	240
7840740	7	0.709	18.0	357

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S 200 C

Continuous flex halogen-free polyurethane shielded control cable with extreme temperature range

Marking for S 200 C 7840161:
SAB BRÖCKSKES · D-VIERSEN · S 200 C 1 x 10.0 mm² CE

Marking for S 200 C 7841215:
SAB BRÖCKSKES · D-VIERSEN · S 200 C 12 x 1.5 mm² CE

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **10 AWG (≈ 186/32) • 6.00 mm²**				
7840160	1	0.260	6.6	61
7840260	2	0.539	13.7	169
7840360	3	0.575	14.6	228
7840460	4	0.626	15.9	282
7840560	5	0.709	18.0	351
7840760	7	0.811	20.6	478
▶ **8 AWG (≈ 320/32) • 10.00 mm²**				
7840161	1	0.303	7.7	91
7840361	3	0.685	17.4	347
7840461	4	0.744	18.9	434
7840561	5	0.807	20.5	491
▶ **6 AWG (≈ 504/32) • 16.00 mm²**				
7840162	1	0.358	9.1	140
7840362	3	0.815	20.7	486
7840462	4	0.886	22.5	615
7840562	5	0.972	24.7	740

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **4 AWG (≈ 760/32) • 25.00 mm²**				
7840163	1	0.421	10.7	202
7840363	3	0.941	23.9	698
7840463	4	1.016	25.8	871
7840563	5	1.146	29.1	1082
▶ **2 AWG (≈ 1083/32) • 35.00 mm²**				
7840164	1	0.492	12.5	278
7840464	4	1.185	30.1	1196
7840564	5	1.303	33.1	1424
▶ **1 AWG (≈ 703/28) • 50.00 mm²**				
7840165	1	0.591	15.0	405
7840465	4	1.398	35.5	1756
▶ **2/0 AWG (≈ 988/28) • 70.00 mm²**				
7840166	1	0.693	17.6	560
▶ **3/0 AWG (≈ 1340/28) • 95.00 mm²**				
7840167	1	0.846	21.5	765

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **4/0 AWG (≈ 1680/28) • 120.00 mm²**				
7840168	1	0.894	22.7	923
▶ **250 MCM (≈ 2122/28) • 150.00 mm²**				
7840169	1	1.031	26.2	1164
▶ **350 MCM (≈ 1472/26) • 185.00 mm²**				
7840170	1	1.008	25.6	1402
▶ **450 MCM (≈ 1910/26) • 240.00 mm²**				
7840171	1	1.232	31.3	1777

Other dimensions and colors are available on request

Possible on request:

- **single conductor with green/yellow insulation and black outer jacket or 0.6/1 kV**

SD 200 C TP

Continuous flex halogen-free twisted pairs shielded polyurethane data cable with extreme temperature range

Marking for SD 200 C TP 7890350:
SAB BRÖCKSKES · D-VIERSEN · SD 200 C TP 3 x 2 x 0.5 mm² CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	TPE
Color code:	DIN 47100, see page O/26
Stranding:	conductors twisted to pairs, pairs twisted in specially adjusted layering with non-woven tape over each layer
Wrapping:	non-woven tape
Shielding:	tinned copper braiding
Wrapping:	non-woven tape
Jacket material:	PUR, TMPU acc. to EN50363-10-2 + VDE 0207-363-10-2 with matte surface
Jacket color:	grayish tan (RAL 7032)

Outstanding features:

- **free from paint wetting impairment substances** (PWIS-free)
- **flexible at low temperatures**
- **halogen-free**
- **travel>10 m is possible**
- **good EMC characteristics**
- **high abrasion resistance**

Technical data:

Peak operating voltage:	max. 350 V acc. to VDE 0812
Testing voltage:	conductor/conductor: 1500 V conductor/shielding: 1200 V
Min. bending radius: *continuously flexing:*	7.5 x O.D.
Radiation resistance:	1 x 10^7 cJ/kg
Temperature range: *static:* *flexing:*	**DIN VDE** -50/+90°C -40/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids, etc.
Continuous flexibility	very good
Weather resistance:	very good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of pairs	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **26 AWG (≈ 18/38) ▪ 0.14 mm²**				
7890214	2	0.173	4.4	19
7890314	3	0.193	4.9	20
7890414	4	0.220	5.6	27
7890514	5	0.236	6.0	29
7890614	6	0.252	6.4	35
7890714	7	0.264	6.7	40
7891014	10	0.311	7.9	48
7891414	14	0.354	9.0	65
7891814	18	0.394	10.0	85
7892514	25	0.461	11.7	112
► **24 AWG (≈ 32/38) ▪ 0.25 mm²**				
7890225	2	0.193	4.9	22
7890325	3	0.217	5.5	28
7890425	4	0.252	6.4	34
7890525	5	0.272	6.9	40
7890625	6	0.280	7.1	46
7890725	7	0.291	7.4	54
7891025	10	0.350	8.9	67
7891425	14	0.429	10.9	101
7891825	18	0.457	11.6	124
7892525	25	0.543	13.8	174

item no.	no. of pairs	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **22 AWG (≈ 42/38) ▪ 0.34 mm²**				
7890234	2	0.205	5.2	26
7890334	3	0.228	5.8	32
7890434	4	0.272	6.9	42
7890534	5	0.291	7.4	48
7890734	7	0.315	8.0	63
7891034	10	0.378	9.6	82
7891434	14	0.457	11.6	120
7891834	18	0.492	12.5	148
7892534	25	0.579	14.7	208
► **20 AWG (≈ 28/34) ▪ 0.50 mm²**				
7890250	2	0.248	6.3	34
7890350	3	0.272	6.9	45
7890450	4	0.311	7.9	56
7890550	5	0.346	8.8	68
7890750	7	0.370	9.4	90
7891050	10	0.445	11.3	125
7891450	14	0.531	13.5	169
7891850	18	0.579	14.7	221
7892550	25	0.669	17.0	288

item no.	no. of pairs	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **19 AWG (≈ 42/34) ▪ 0.75 mm²**				
7890275	2	0.283	7.2	46
7890375	3	0.311	7.9	56
7890475	4	0.350	8.9	72
7890575	5	0.409	10.4	99
7890775	7	0.457	11.6	140
7891075	10	0.531	13.5	177
7891475	14	0.634	16.1	246
7891875	18	0.681	17.3	306
7892575	25	0.791	20.1	401

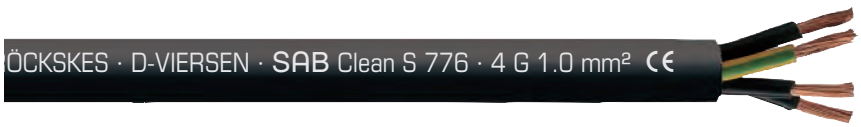
Other dimensions and colors are available on request

Cables for Cleanroom Technology

SABclean SD 776 — Continuously flexible data cable

SABclean S 776 — Continuously flexible control cable

Marking for SABclean SD 776 37761402:
SAB BRÖCKSKES · D-VIERSEN · SAB Clean SD 776 · 14 x 0.25 mm² CE RoHS



Marking for SABclean S 776 37760410:
SAB BRÖCKSKES · D-VIERSEN · SAB Clean S 776 · 4G 1.0 mm² CE RoHS

Construction:

Conductor:	
SD 776:	bare copper strands extra fine wire
S 776:	bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	TPE
Color code:	
SD 776:	acc. to DIN 47100, see below
S 776:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	specially adjusted layering
Wrapping:	non-woven tape
Jacket material:	TPE
Jacket color:	black (RAL 9005)

Technical data:

Peak operating voltage:	***SD 776:*** max. 350 V
Nominal voltage:	***S 776:*** Uo/U 300/500 V
Testing voltage:	
SD 776:	conductor/conductor: 1500 V
S 776:	conductor/conductor: 2000 V
Min. bending radius:	7.5 x O.D.
Temperature range:	
static:	-40/+80°C
flexing:	-30/+80°C
Oil resistance:	very good- oil rating 60°C acc. to UL 758
Air cleanliness class 1:	acc. to ISO 14644-1
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

Outstanding features:

- **flexible at low temperatures**
- **high abrasion resistance**
- **small outer diameter**
- **oil resistant**

Cleanroom classification ISO 14644-1 Air Cleanliness Class 1

SD 776

item no.	no. of conductors	outer-ø inch ±5%	outer-ø mm ±5%	cable weight ≈lbs/mft	ohmic resistance at 20°C max. Ω/km
► **24 AWG • 0.25 mm²**					
37760302	3	0.161	4.1	15	78
37760402	4	0.169	4.3	17	78
37760502	5	0.181	4.6	21	78
37760602	6	0.197	5.0	25	78
37760702	7	0.209	5.3	28	78
37761002	10	0.240	6.1	35	78
37761402	14	0.256	6.5	44	78
► **22 AWG • 0.34 mm²**					
37760503	5	0.193	4.9	25	57.4
37763203	32	0.390	9.9	109	57.4

Other dimensions and colors are available on request

S 776

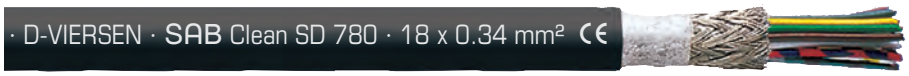
item no.	no. of conductors incl. ground	outer-ø inch ±5%	outer-ø mm ±5%	cable weight ≈lbs/mft	ohmic resistance at 20°C max. Ω/km
► **20 AWG • 0.50 mm²**					
37760205	2	0.209	5.3	24	39
37760305	3	0.217	5.5	28	39
37760405	4	0.232	5.9	33	39
37760505	5	0.252	6.4	40	39
37760705	7	0.287	7.3	53	39
37761205	12	0.343	8.7	75	39
► **19 AWG • 0.75 mm²**					
37760407	4	0.256	6.5	42	26
37760507	5	0.280	7.1	52	26
37760707	7	0.319	8.1	70	26
► **18 AWG • 1.0 mm²**					
37760410	4	0.276	7.0	52	19.5
► **16 AWG • 1.5 mm²**					
37760415	4	0.303	7.7	67	13.3
37760515	5	0.331	8.4	83	13.3
► **14 AWG • 2.5 mm²**					
37760425	4	0.378	9.6	105	7.98
► **12 AWG • 4.0 mm²**					
37760440	4	0.476	12.1	169	4.95
► **10 AWG • 6.0 mm²**					
37760460	4	0.520	13.2	225	3.3
► **8 AWG • 10 mm²**					
37760461	4	0.622	15.8	345	1.91

Other dimensions and colors are available on request

Cables for Cleanroom Technology

SABclean **SD 780 C** **Continuously flexible data cable with overall shield**

SABclean **S 780 C** **Continuously flexible control cable with overall shield**



Marking for **SAB**clean SD 780 37801803:
SAB BRÖCKSKES · D-VIERSEN · **SAB** Clean SD 780· 18 x 0.34 mm² CE RoHS

Marking for **SAB**clean S 776 37780410:
SAB BRÖCKSKES · D-VIERSEN · **SAB** Clean S 780 C · 4G 1.0 mm² CE RoHS

Construction:

Conductor:	
SD 780:	bare copper strands extra fine wire
S 780 C:	bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	TPE
Color code:	
SD 780:	acc. to DIN 47100, see below
S 780 C:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	specially adjusted layering
Wrapping:	non-woven tape
Inner jacket:	***S 780 C:*** SABIX®
Wrapping:	***S 780 C:*** non-woven tape
Shielding:	tinned copper braiding
Wrapping:	non-woven tape
Jacket material:	TPE
Jacket color:	black (RAL 9005)

Technical data:

Peak operating voltage:	***SD 780 C*** max. 350 V
Nominal voltage:	***S 780 C:*** Uo/U 300/500 V
Testing voltage:	
SD 780 C	conductor/conductor: 1500 V conductor/shielding: 1200 V
S 780 C:	conductor/conductor: 2000 V conductor/shielding: 2000 V
Min. bending radius:	7.5 x O.D.
Temperature range:	
static:	-40/+80°C
flexing:	-30/+80°C
Oil resistance:	very good- oil rating 60°C acc. to UL 758
Air cleanliness class 1:	acc. to ISO 14644-1
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

Outstanding features:

- **flexible at low temperatures**
- **high abrasion resistance**
- **small outer diameter**
- **oil resistant**
- **good EMC characteristics**

Cleanroom classification ISO 14644-1 Air Cleanliness Class 1

SD 780 C

item no.	no. of conductors	outer-ø inch ±5%	outer-ø mm ±5%	cable weight ≈lbs/mft	ohmic resistance at 20°C max. Ω/km
► **26 AWG ▪ 0.14 mm²**					
37800201	2	0.169	4.3	17	139.3
37800301	3	0.173	4.4	18	139.3
► **24 AWG ▪ 0.25 mm²**					
37800302	3	0.189	4.8	22	78
37800402	4	0.197	5.0	24	78
► **22 AWG ▪ 0.34 mm²**					
37800303	3	0.197	5.0	24	57.4
37800503	5	0.220	5.6	34	57.4
37800703	7	0.248	6.3	42	57.4
37801003	10	0.283	7.2	52	57.4
37801803	18	0.331	8.4	79	57.4

Other dimensions and colors are available on request

S 780 C

item no.	no. of conductors incl. ground	outer-ø inch ±5%	outer-ø mm ±5%	cable weight ≈lbs/mft	ohmic resistance at 20°C max. Ω/km
► **20 AWG ▪ 0.50 mm²**					
37800305	3	0.283	7.2	46	39
37800405	4	0.299	7.6	51	39
► **19 AWG ▪ 0.75 mm²**					
37800207	2	0.295	7.5	47	26
37800407	4	0.323	8.2	62	26
► **18 AWG ▪ 1.00 mm²**					
37800210	2	0.311	7.9	54	19.5
37800310	3	0.322	8.2	62	19.5
37800410	4	0.350	8.9	76	19.5
► **16 AWG ▪ 1.50 mm²**					
37800315	3	0.354	9.0	79	13.3
37800415	4	0.378	9.6	93	13.3
► **14 AWG ▪ 2.50 mm²**					
37800425	4	0.461	11.7	145	7.98
► **12 AWG ▪ 4.00 mm²**					
37800440	4	0.547	13.9	210	4.95

Other dimensions and colors are available on request

SABclean SD 787 C TP

Continuously flexible paired data cable with overall shield

Marking for SABclean SD 787 C TP 37810725:
SAB BRÖCKSKES · D-VIERSEN · SAB Clean SD 787 C TP · 7 x 2 x 0.25 mm² RoHS

Construction:

Conductor:	tinned copper strands, extra fine wires with reference to VDE 0812
Insulation:	TPE
Color code:	acc. to DIN 47100, see below
Stranding:	conductors twisted to pairs in specially adjusting layering
Wrapping:	non-woven tape
Shielding:	tinned copper braiding
Wrapping:	non-woven tape
Jacket material:	TPE
Jacket color:	black (RAL 9005)

Outstanding features:

- **flexible at low temperatures**
- **high abrasion resistance**
- **oil resistant**
- **good EMC characteristics**

Technical data:

Peak operating voltage:	max. 350 V
Testing voltage:	conductor/conductor: 1500 V conductor/shielding: 1200 V
Min. bending radius:	7.5 x O.D.
Temperature range: *static:* *flexing:*	 -40/+80°C -30/+80°C
Oil resistance:	very good- oil rating 60°C acc. to UL 758
Air cleanliness class 1:	acc. to ISO 14644-1
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of pairs	outer-ø inch ±5%	outer-ø mm ±5%	cable weight ≈lbs/mft	ohmic resistance at 20°C max. Ω/km
▶ **24 AWG ▪ 0.25 mm²**					
37810225	2	0.217	5.5	30	80
37810325	3	0.240	6.1	36	80
37810425	4	0.276	7.0	45	80
37810525	5	0.295	7.5	52	80
37810625	6	0.303	7.7	58	80
37810725	7	0.315	8.0	67	80
37810825	8	0.378	9.6	84	80
37811225	12	0.425	10.8	106	80
▶ **20 AWG ▪ 0.50 mm²**					
37810850	8	0.476	12.1	142	40.1

Other dimensions and colors are available on request

TORSION
CABLES

C

SAB Clean

SAB Robot

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SPECIAL CABLES

SAB North America

Content

Applications

Torsional data cables

Torsional data cables are designed for applications as connection cables in various industrial areas, e.g. industrial plant construction, industrial robot construction and the manufacturing of machine tools. These cables are suitable for medium mechanical stress, particularly from scrubbing or abrasion, as well as continuous torsional and linear stress in free moving applications without tensile load. The cables can be used in cable tracks, in dry, wet or damp conditions, and with appropriate protection class in low temperature applications as well as in hazardous areas.

Torsional control cables

Torsional control cables are designed for applications as connection cables in various industrial areas, e.g. industrial plant construction, industrial robot construction and the manufacturing of machine tools. These cables are suitable for medium mechanical stress, particularly from scrubbing or abrasion, as well as continuous torsional and linear stress in free moving applications without tensile load. The cables can be used in cable tracks, in dry, wet or damp conditions, and appropriate protection class in low temperature applications as well as in hazardous areas.

Exemplary applications:

RT 123 **RT 123 D** **RT 113** **RT 113 D**	Packaging, wood working, textile, welding and cutting machine construction, car manufacturing industry, industrial robot construction, electrical drive, control, and measurement technology, construction of industrial plants, and machine tooling construction

Cleanroom Torsion Cables

SABclean cables are used in cleanrooms where combined twisting and bending stresses occur. The high quality insulation with its smooth surface and slide wrapping increases cable life expectancy under extreme twisting and bending stresses. The outer jacket made of specially formulated TPE is highly resistant to abrasion, oil, notching, microbes and hydrolysis. In addition, the surface quality prevents adhesion to adjacently installed cables. SABclean cables meet the highest requirements acc. to ISO 14644-1 and US Federal Standard 209 E.

Exemplary applications:

SABclean RT 793 D	Production of semi-conductors, machines for display manufacturing, devices for biological or medical engineering, food and medical production

You will find further information about the safe application of cables in Chapter O.

Selection Table

		C/5	C/6	C/7	C/8	C/9
	Cable Type	RT 123	RT 123 D	RT 113	RT 113 D	SABclean RT 793 D
Application	Color conductors	●	●	●	●	
	Numbered conductors	●	●	●		●
	Copper shielding		●		●	●
	Torsion angle 450° /0.5m	●	●			
	Torsion angle 360° /0.5m					●
	Torsion angle 270° /0.5m			●	●	
Temperature range fixed laying*	+ 90°C	▮	▮	▮ 1 / ▮ 2	▮	▮
	+ 80°C					
	+ 70°C					
	- 40°C					
	- 50°C					
Voltage	0.14 mm² - 0.34 mm²: Peak operating voltage max. 350 V	●	●	●	●	
	from 0.50 mm²: Nominal voltage Uo/U 300/500 V	●	●	●		●
	0.14 mm² - 0.34 mm²: Voltage UL/CSA 300 V	●	●	●	●	
	from 0.50 mm²: Voltage UL/ CSA 600 V	●	●	●		●
	0.14 mm² - 0.34 mm²: Test voltage conductor/conductor: 1500 V	●	●	●	●	
	0.14 mm² - 0.34 mm²: Test voltage conductor/shielding: 1200 V		●		●	
	from 0.50 mm²: Test voltage conductor/conductor: 2000 V			●		
	from 0.50 mm²: Test voltage conductor/conductor: 3000 V	●	●			●
	from 0.50 mm²: Test voltage conductor/shielding: 2000 V		●			●
Standards	Halogen-free acc. to IEC 60754-1 + VDE 0482-754-1	●	●			
	Fire performance: IEC 60332-1-2 + VDE 0482-332-1-2	●	●	●	●	
	Fire performance UL VW-1	●	●	●	●	
	Fire performance CSA FT1, FT2	●	●	●		
	UL recognized	●	●	●	●	●
	CSA approved	●	●	●		●
Characteristics	Very good oil resistance acc. to EN 50363-10-2 + VDE 0207-363-10-2	●	●			
	Very good oil resistance acc. to EN 50363-4-1 + VDE 0207-363-4-1			●	●	
	Oil rating 60°C acc. to UL 758, Fuel oil acc. to CSA C22.2 No. 210.2-M90			●		
	Good chemical resistance	●	●			
	Very good continuous flexibility	●	●	●	●	●

▮ from / to

1 = up to 22 AWG
2 = from 20 AWG

*The temperature range for flexible application is mentioned on the corresponding catalog page

RT 123

PUR rugged and dependable robot/track cable ±450° torsion over 0.5 m

torsional/twisting angle up to ± 450°

SAB Robot

Marking for RT 123 7951618:
SAB BRÖCKSKES · D-VIERSEN · 7951815 18 x 1.5 mm² RT 123 16 AWG/18c 7951618 AWM Style 21060 80°C 600V CSA AWM I/II A/B 80°C 600V FT1 FT2 CE

Construction:

Conductor: *26 AWG - 22 AWG:*	bare copper strands, extra fine wires
Conductor: *from 20 AWG:*	bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	TPE
Color code: *26 AWG - 22 AWG:*	acc. to color code US 2, see page O/27
Color code: *from 20 AWG:*	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	specially adjusted layering with non-woven tape over each layer and one additional non-woven tape over the outer layer
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	black (RAL 9005)

Outstanding features:

- **rugged and reliable**
- **torsion angle up to ± 450° over 0.5 meter**
- **weld resistant**

Technical data:

Peak operating voltage: *26 AWG - 22 AWG:*	max. 350 V
Peak operating voltage: *from 20 AWG:*	Uo/U 300/500 V
Voltage UL/CSA: *26 AWG - 22 AWG:*	300 V
Voltage UL/CSA: *from 20 AWG:*	600 V
Testing voltage: *26 AWG - 22 AWG:*	conductor/conductor: 1500 V
Testing voltage: *from 20 AWG:*	conductor/conductor: 3000 V
Torsion angle:	up to ± 450°/0.5 m
Min. bending radius: *continuously flexible:* *from 34 conductors:*	12 x O.D. 20 x O.D.
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range: *static:* *motion:*	**DIN VDE** -50/+90°C -40/+90°C **UL/CSA:** up to +80°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, CSA FT1, FT2
Oil resistance:	very good - TMPU acc. to IEC 50363-10-2 + VDE 0207-363-10-2
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids, etc.
Continuous flexibility:	very good
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **26 AWG (≈ 18/38) • 0.14 mm²**				
7952603	3	0.217	5.5	21
7952604	4	0.185	4.7	17
7952616	16	0.295	7.5	87
▶ **24 AWG (≈ 14/34) • 0.25 mm²**				
7952403	3	0.181	4.6	17
7952404	4	0.189	4.8	19
7952407	7	0.213	5.4	26
7952425	25	0.358	9.1	79
▶ **22 AWG (≈ 7/30) • 0.34 mm²**				
7952202	2	0.189	4.8	18
▶ **20 AWG (≈ 28/34) • 0.50 mm²**				
7952018	18	0.492	12.5	138
7952025	25	0.579	14.7	193

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **19 AWG (≈ 42/34) • 0.75 mm²**				
7951904	4	0.315	8.0	53
7951914	14	0.496	12.6	139
▶ **18 AWG (≈ 56/34) • 1.00 mm²**				
7951802	2	0.287	7.3	43
7951803	3	0.299	7.6	50
7951804	4	0.319	8.1	61
7951806	6	0.370	9.4	85
7951807	7	0.394	10.0	99
7951812	12	0.480	12.2	144
7951818	18	0.579	14.7	212
7951825	25	0.654	16.6	288
7951834	34	0.776	19.7	376
7951840	40	0.823	20.9	443
7951841	41	0.823	20.9	450

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **16 AWG (≈ 84/34) • 1.50 mm²**				
7951603	3	0.335	8.5	67
7951607	7	0.445	11.3	132
7951612	12	0.563	14.3	204
7951618	18	0.654	16.6	292
7951625	25	0.752	19.1	409
▶ **14 AWG (≈ 140/34) • 2.50 mm²**				
7951403	3	0.390	9.9	91
7951404	4	0.406	10.3	112
7951405	5	0.465	11.8	141
▶ **12 AWG (≈ 224/34) • 4.00 mm²**				
7951203	3	0.453	11.5	142
▶ **8 AWG (≈ 320/32) • 10.00 mm²**				
7950803	3	0.650	16.5	316
▶ **6 AWG (≈ 504/32) • 16.00 mm²**				
7950603	3	0.764	19.4	458
▶ **4 AWG (≈ 760/32) • 25.00 mm²**				
7950403	3	0.945	24.0	695
▶ **2 AWG (≈ 1083/32) • 35.00 mm²**				
7950203	3	1.071	27.2	933

Other dimensions and colors are available on request

Also suitable for flexing applications

torsional/twisting angle up to ± 450°

SAB Robot

RT 123 D

Spiral shielded PUR rugged and dependable robot/track cable
±450° torsion over 0.5 m

Marking for RT 123 D 7961618:
SAB BRÖCKSKES · D-VIERSEN · 7961815 18 x 1.5 mm² RT 123 D 16 AWG/18c 7961618 AWM Style 21060 80°C 600V CSA AWM I/II A/B 80°C 600V FT1 FT2

Construction:

Conductor: *26 AWG - 22 AWG:*	bare copper strands, extra fine wires
Conductor: *from 20 AWG:*	bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	TPE
Color code: *26 AWG - 22 AWG:*	acc. to color code US 2, see page O/27
Color code: *from 20 AWG:*	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	specially adjusted layering with non-woven tape over each layer and one additional non-woven tape over the outer layer
Shielding:	wrapped with bare copper wires
Wrapping:	non-woven tape
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	black (RAL 9005)

Outstanding features:

- **rugged and reliable**
- **torsion angle up to ± 450° per 0.5 meter**

Technical data:

Peak operating voltage: *26 AWG - 22 AWG:*	max. 350 V
Peak operating voltage: *from 20 AWG:*	Uo/U 300/500 V
Voltage UL/CSA: *26 AWG - 22 AWG:*	300 V
Voltage UL/CSA: *from 20 AWG:*	600 V
Testing voltage: *26 AWG - 22 AWG:*	conductor/conductor: 1500 V conductor/shielding: 1200 V
Testing voltage: *from 20 AWG:*	conductor/conductor: 3000 V conductor/shielding: 2000 V
Torsion angle:	up to ± 450°/0.5 m (tested)
Min. bending radius: *continuously flexible:* *from 34 conductors:*	 12 x O.D. 20 x O.D.
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range: *static:* *motion:*	**DIN VDE** **UL/CSA:** up to +80°C -50/+90°C -40/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, CSA FT1, FT2
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids, etc.
Continuous flexibility:	very good
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **26 AWG (≈ 18/38) ▪ 0.14 mm²**				
7962612	12	0.272	6.9	42
▶ **24 AWG (≈ 14/34) ▪ 0.25 mm²**				
7962425	25	0.394	10.0	105
▶ **20 AWG (≈ 28/34) ▪ 0.50 mm²**				
7962005	5	0.323	8.2	63

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **18 AWG (≈ 56/34) ▪ 1.00 mm²**				
7961807	7	0.421	10.7	120
▶ **16 AWG (≈ 84/34) ▪ 1.50 mm²**				
7961612	12	0.587	14.9	227
7961618	18	0.673	17.1	333

Other dimensions and colors are available on request

Also suitable for flexing applications

RT 113

Economical torsional cable for moderate torsional stress
±270° torsion over 0.5 m

torsional/twisting angle up to ± 270°

SAB Robot

90°C Oil 60°C 600V CSA AWM I/II A/B 90°C F 600V FT1 FT2 CE

Marking for RT 113 7971618:
SAB BRÖCKSKES · D-VIERSEN · 7971815 18 x 1.5 mm² RT 113 16 AWG/18c 7971618 AWM Style 21216 90°C Oil 60°C 600V CSA AWM I/II A/B 90°C F 600V FT1 FT2 CE

Construction:

Conductor: *26 AWG - 22 AWG:*	bare copper strands, extra fine wires
Conductor: *from 20 AWG:*	bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	PVC, T12 acc. to EN 50363-3 + VDE 0207-363-3
Color code: *26 AWG - 22 AWG:*	acc. to color code US 2, see page O/27
Color code: *from 20 AWG:*	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	specially adjusted layering with non-woven tape over each layer and one additional non-woven tape over the outer layer
Jacket material:	PVC, TM5 acc. to EN 50363-4-1+ VDE 0207-363-4-1
Jacket color:	black (RAL 9005)

Outstanding features:

rugged and reliable

torsion angle up to ± 270° per 0.5 meter

Technical data:

Peak operating voltage: *26 AWG - 22 AWG:*	max. 350 V
Nominal voltage: *from 20 AWG:*	Uo/U 300/500 V
Voltage UL: *26 AWG - 22 AWG:*	300 V
Voltage UL/CSA: *from 20 AWG:*	600 V
Testing voltage: *26 AWG - 22 AWG:*	conductor/conductor: 1500 V
Testing voltage: *from 20 AWG:*	conductor/conductor: 2000 V
Torsion angle:	up to ± 270/0.5 m (tested)
Min. bending radius: *continuously flexible:* *from 34 conductors:*	12 x O.D. 20 x O.D.
Temperature range: *26 AWG - 22 AWG:* *static:* *motion:*	**DIN VDE** **UL:** up to +80°C -40/+70°C +5/+70°C
Temperature range *from 20 AWG:* *static:* *motion:*	**DIN VDE** **UL/CSA:** up to +90°C -40/+70°C +5/+70°C
Burning characteristics: *26 AWG - 22 AWG:*	acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1
Burning characteristics: *from 20 AWG:*	acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, CSA FT1, FT2
Oil resistance:	very good - TM5 acc. to EN 50363-4-1 + VDE 0207-363-4-1, oil rating 60°C acc. to UL 758, Fuel-Oil acc. to CSA C22.2 No. 210.2-M90
Continuous flexibility:	very good
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

C
7

UR / CE

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **26 AWG (≈ 18/38) ▪ 0.14 mm²**				
7972603	3	0.205	5.2	21
7972604	4	0.220	5.6	24
▶ **24 AWG (≈ 14/34) ▪ 0.25 mm²**				
7972403	3	0.213	5.4	25
7972404	4	0.232	5.9	29
7972407	7	0.287	7.3	45
7972425	25	0.441	11.2	116
▶ **22 AWG (≈ 7/30) ▪ 0.34 mm²**				
7972202	2	0.209	5.3	24
7972025	25	0.583	14.8	223

UR / CSA / CE

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **20 AWG (≈ 28/34) ▪ 0.50 mm²**				
7972025	25	0.583	14.8	223
▶ **19 AWG (≈ 42/34) ▪ 0.75 mm²**				
7971904	4	0.291	7.4	50
7971907	7	0.378	9.6	90
7971914	14	0.492	12.5	151
▶ **18 AWG (≈ 56/34) ▪ 1.00 mm²**				
7971802	2	0.268	6.8	40
7971803	3	0.272	6.9	48
7971804	4	0.307	7.8	60
7971812	12	0.488	12.4	157
7971818	18	0.567	14.4	224
7971825	25	0.665	16.9	314
7971834	34	0.791	20.1	419
7971841	41	0.843	21.4	492

UR / CSA / CE

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **16 AWG (≈ 84/34) ▪ 1.50 mm²**				
7971618	18	0.650	16.5	306
7971625	25	0.736	18.7	423
▶ **14 AWG (≈ 140/34) ▪ 2.50 mm²**				
7971403	3	0.386	9.8	98
7971404	4	0.417	10.6	124
▶ **12 AWG (≈ 224/34) ▪ 4.00 mm²**				
7971203	3	0.476	12.1	151
▶ **8 AWG (≈ 320/32) ▪ 10.00 mm²**				
7970803	3	0.661	16.8	337
▶ **6 AWG (≈ 504/32) ▪ 16.00 mm²**				
7970603	3	0.776	19.7	491
▶ **4 AWG (≈ 760/32) ▪ 25.00 mm²**				
7970403	3	0.937	23.8	726
▶ **2 AWG (≈ 1083/32) ▪ 35.00 mm²**				
7970203	3	1.071	27.2	988

Other dimensions and colors are available on request

torsional/twisting angle up to ± 270°

SAB Robot

RT 113 D

Spiral shielded economical torsional cable for moderate torsional stress
±270° torsion over 0.5 m

Marking for RT 113 D 7982612:
SAB BRÖCKSKES · D-VIERSEN · 7981201 12 x 0.14 mm² RT 113 D 26 AWG/12c 7982612 AWM Style 2464 80°C 300V

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	PVC, T12 acc. to EN 50363-3 + VDE 0207-363-3
Color code:	acc. to color code US 2, see page O/27
Stranding:	specially adjusted layering with non-woven tape over each layer and one additional non-woven tape over the outer layer
Shielding:	wrapped with bare copper wires
Wrapping:	non-woven tape
Jacket material:	PVC, TM5 acc. to EN 50363-4-1 + VDE 0207-363-4-1
Jacket color:	black (RAL 9005)

Outstanding features:

rugged and reliable

torsion angle up to ± 270° per 0.5 meter

Technical data:

Peak operating voltage: *26 AWG - 22 AWG:*	max. 350 V
Voltage UL:	300 V
Testing voltage:	conductor/conductor: 1500 V conductor/shielding: 1200 V
Torsion angle:	up to ± 270°/0.5 m (tested)
Min. bending radius: *continuously flexible:* *from 34 conductors:*	 12 x O.D. 20 x O.D.
Temperature range: *static:* *motion:*	**DIN VDE** **UL/CSA:** up to +80°C -40/+70°C +5/+70°C
Burning characteristics:	acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1
Oil resistance:	very good - TM5 acc. to IEC 50363-4-1 + VDE 0207-363-4-1
Continuous flexibility:	very good
Approvals:	UR AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **26 AWG (≈ 18/38) ▪ 0.14 mm²**				
7982612	12	0.331	8.4	59
▶ **24 AWG (≈ 14/34) ▪ 0.25 mm²**				
7982425	25	0.457	11.6	135

Other dimensions and colors are available on request

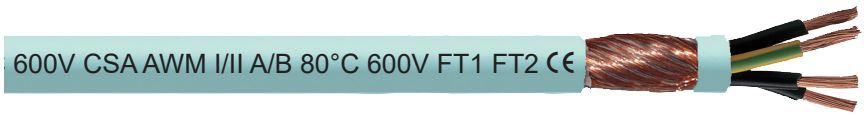
SABclean RT 793 D

TPE Cleanroom shielded torsional cable ± 360° torsion over 1 m

torsional/twisting angle up to ± 360°

SABClean

SABRobot



Marking for SABclean RT 793 D 37930415:
SAB BRÖCKSKES · D-VIERSEN · 4 x 1.5 mm² SAB Clean RT 793 D 16 AWG/4c 37930415 AWM Style 21060 80°C 600V CSA AWM I/II A/B 80°C 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands, acc. to IEC 60228, VDE 0295, class 6
Insulation:	TPE
Color code:	black conductors with consecutive white numbers acc. to EN 50334 + VDE 0293-334 and green/yellow ground from 3 conductors
Stranding:	conductors twisted with specially adjusted layering
Wrapping:	non-woven tape
Shielding:	wrapped with bare copper wires
Wrapping:	non-woven tape
Jacket material:	TPE
Jacket color:	white green (RAL 6019)

Outstanding features:

rugged and reliable

torsion angle up to ± 360° over 1 meter

Technical data:

Nominal voltage:	Uo/U 300/500 V	
Voltage UL/CSA:	600 V	
Testing voltage:	conductor/conductor: 3000 V conductor/shielding: 2000 V	
Torsion angle:	up to ± 360°/1 m (tested)	
Min. bending radius: *continuously flexible:*	7.5 x O.D.	
Temperature range:	**DIN VDE**	**UL/CSA:**
static:	-50/+70°C	up to +80°C
motion:	-40/+70°C	up to +80°C
Air cleanliness class 1:	acc. to ISO 14644-1	
Approvals:	UR AWM, CSA AWM, EAC, CE, RoHS	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30	

item no.	dimensions	outer-ø inch	outer-ø mm	cable weight ≈lbs/mft	ohmic resistance at 20°C max Ω/km
▶ 37930505	20 AWG (≈ 28/34) / 5c	0.343	8.7	67	39.0
▶ 37930415	16 AWG (≈ 84/34) / 4c	0.378	9.6	97	13.3
▶ 37931215	16 AWG (≈ 84/34) / 12c	0.555	14.1	213	13.3
▶ 37930225	14 AWG (≈ 140/34) / 2c	0.386	9.8	94	7.98
▶ 37930425	14 AWG (≈ 140/34) / 4c	0.433	11.0	129	7.98

Other dimensions and colors are possible on request.

Cleanroom classification
ISO 14644-1
Air Cleanliness Class 1

REELING, LIFT & SPECIALTY
CABLES

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SPECIAL CABLES
SAB North America

Content

Content

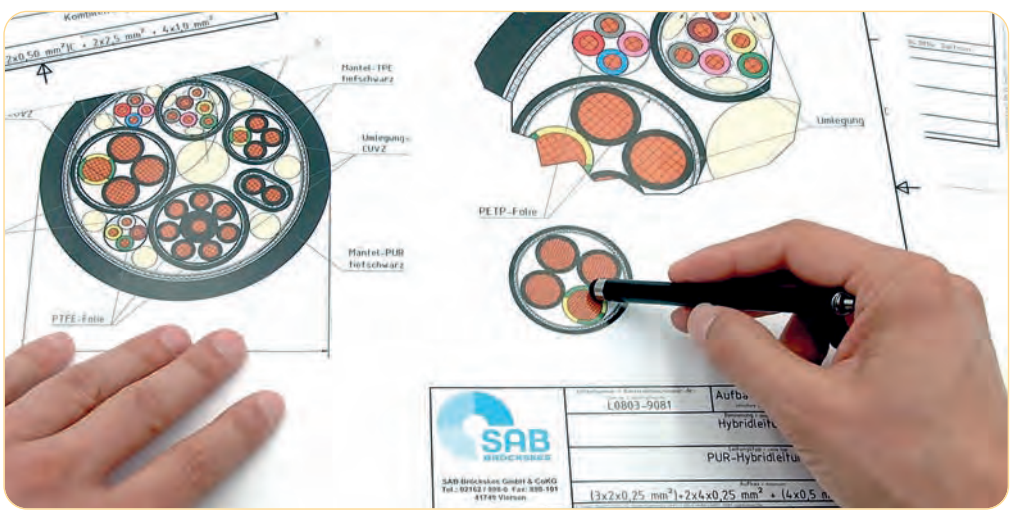
Applications

Technical problems often arise that can not be solved properly with standard cables. At SAB North America, we believe the customer deserves the best possible solution and we are proud to be your source for special cable requirements. If we must modify one of our existing standard products or completely design a new construction, we will work together with you to meet all of your cable requirements. Whether you choose one of our standard cables from stock or require a completely new design you will find that our variety of cable styles and our flexibility as a specialty cable manufacturer are among our company's strengths.

We produce nearly every type of specialty cable, with minimums as low as 1500 feet - and in some cases even lower - to your exact construction specifications. Please provide us with the following details:

- conductor materials
- number of conductors
- cross sections
- colors
- outer diameter
- flexibility
- low and high temperature resistance
- materials
- types of shielding
- combined cables
- technical specifications
- optical waveguide
- number of fibers
- POF (polymeric optical fibers)

Of course we can also meet other requirements not listed above. Your special cable requests are always a priority and our highly motivated team will meet and exceed all of your special needs. By applying our comprehensive know-how, you will surely be able to improve the efficiency of your machines.



Selection Table

	Cable Type	D/8 SAB Lift	D/9 SAB Lift ST	D/10 SABIX® Lift	D/11 SABIX® Lift ST	D/12 H05VVH6-F	D/13 H07VVH6-F	D/14 DR 717 P Highflex	D/15 DR 718 CP High flex	D/16 DR 721 P	D/17 DR 720 P Highflex	D/18 DR 730 P Highflex	D/19 DR 750 P Offshore	D/20 DR 724 P Spreader	D/21 Spreader 722	D/22 Festoon 715 P	D/23 Festoon 716 CP	D/24 MR 460	D/25 SAB 755 - Exploration	D/26 SAB S 745 - Exploration	D/27 SL 851 C - Exploration	D/28 BB 380 Boarding Bridge
Application	Single conductors															●	●					
	Colored conductors						●	●	●	●	●	●	●	●		●	●		●		●	
	Numbered conductors	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●
	Copper shielded								●								●		●	●	●	
	Inner jacket							●	●	●	●	●	●	●						●		
Temperature range fixed aying*	+ 90°C																					
	+ 70°C																					
	+ 60°C																					
	- 20°C																					
	- 30°C																					
	- 40°C																					
	- 50°C																					
Voltage	Nominal voltage Uo/U: 300/500 V	●	●	●	●	●		●	●						●			●		●		●1
	Nominal voltage Uo/U: 450/750 V						●															
	Nominal voltage Uo/U: 0.6/1 k V									●	●	●	●	●		●	●		●		●	●2
	Voltage UL / cUL: 1000 V																		●		●	
	Voltage UL: 1000 V											●										
	Voltage cUL: 600 V											●										
	Test voltage conductor/conductor: 2000 V	●	●	●	●			●	●						●			●		●		
	Test voltage conductor/conductor: 3000 V																					●1
	Test voltage conductor/conductor: 4000 V									●	●	●	●	●		●	●		●		●	●2
	Test voltage conductor/shielding: 2000 V								●											●		
	Test voltage conductor/shielding: 4000 V																●		●		●	
Standards & Approvals	Halogen-free acc. to IEC 60754-1 + VDE 0482-754-1			●	●			●	●		●	●		●		●	●	●	●	●	●	●
	Halogen-free + fluorine content acc. to IEC/EN												●									
	no flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25			●	●																	
	Flame retardant and self-extinguishing acc. to IEC 603332-1-2 and VDE 0482-332-1-2	●	●			●	●	●	●	●	●	●	●	●					●	●	●	●
	Flame retardant and self-extinguishing acc. to cUL FT1 FT2											●							●	●	●	
	UL / cUL approval												●						●	●	●	
Characteristics	Tensile strength							●	●	●	●	●	●		●				●			
	Oil resistant acc. to internal standard					●	●															
	Oil resistant acc. acc. to EN 50363-10-2 + VDE 0207-363-10-2							●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Mud resistance acc. to IEC 630092-350, IEC 61892-4, NEK TS 606												●						●	●	●	
	Chemical resistance							●	●	●	●	●	●	●		●	●	●				●
	Weather resistance									●	●	●	●	●	●	●	●					●
	Sunlight resistance							●	●	●	●	●	●	●				●	●	●	●	●
	Ozone & salt water resistance																		●	●	●	
	Reeling applications							●	●	●	●	●	●	●								
	Continuous flex applications															●	●			●		

from

to

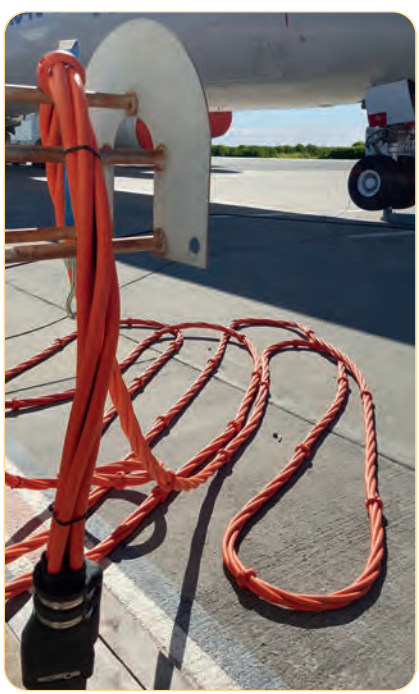
1 = up to 22 AWG
2 = from 20 AWG

*The temperature range for flexible application is mentioned on the corresponding catalog page

D 5

Selection Table

	Cable Type	D29 GP 400 Sy	D/30 GP 400 SC	D/31 GP 400 QF	D/32 GP 400 7F	D/33 GP 400 SF	D/34 GP 400 SF S Supply	D/35 GP 400 SF S Control	D/36 GP 400 SC DC	D/37 GP 400 SF 28 V DC
Application	Single core		●						●	
	Symmetrical	●		●	●	●	●	●		
	TripleFlex									
	QuadFlex			●						
	SevenFlex				●					
	Fixed installation	●								
	Flexible application		●	●	●	●	●	●	●	●
Temperature range fixed laying*	+ 90°C									
	+ 70°C									
	- 30°C									
	- 40°C									
	- 50°C									
Voltage	Nominal voltage 28 V DC								●	●
	Nominal voltage 300/500 V							●		
	Nominal voltage Uo/U 0.6/1 k V	●			●	●	●			
	Nominal voltage Uo/U 115/200 V		●	●						
	Test voltage conductor/conductor: 600 V AC								●	●
	Test voltage conductor/conductor: 4000 V AC	●	●	●	●			●		
Standards & Approvals	Halogen-free		●	●	●			●	●	
	Oil resistant		●	●	●		●	●	●	●
	Weather resistance		●	●	●		●		●	
	Cold flexible		●	●				●	●	



Selection Table

	Cable Type	D/40 HV 1000 C - SC	D/41 HV 1000 C - MC	D/42 HV Measuring Cable (DC)	D/43 HV Measuring Cable (AC)	D/44 B 107	D/45 B 110 C	D/46 B 110 C Sense
Application	Single conductors	●				●	●	
	Colored conductors		●	●	●			●
	Alu foil & tinned copper braiding	●	●	●	●		●	●
	Inner jacket			●	●			
Temperature range fixed laying*	+250°C					●	●	●
	+180°C					▮	▮	▮
	+150°C			●	●			
	+125°C	●	●	▮	▮			
	+ 90°C	▮	▮					
	- 40°C							
	- 50°C							
Voltage	Nominal voltage Uo/U: 0.6/1 k V	●	●					
	Nominal voltage Uo/U: 2.7/5.4 k DC							
	Nominal voltage Uo/U: 1.8/8 k V AC							
	Nominal voltage: 1500 V AC					●	●	
	Nominal voltage: 2200 V DC							●
	Operating Voltage: 1000 V DC			●	●			●
	Operating Voltage: 1800 V DC				●			
	Operating Voltage: 2200 V DC							
	Operating Voltage: 1000 V AC				●			
	Scoop proof- 1000 V DC over the blue inner jacket			●	●			
	Test voltage: 4000 V							
	Test voltage: 6500 V					●		
	Test voltage conductor/conductor: 5000 V	●	●					
	Test voltage conductor/shielding: 5000 V		●					
	Test voltage conductor/conductor: 5000 V AC			●	●			
	Test voltage conductor/shielding: 5000 V AC			●	●			
Fire Performance	Flame retardant and self-extinguishing acc. to IEC 603332-1-2 and VDE 0482-332-1-2	●	●			●	●	●
Characteristics	Tensile strength	●	●					
	Halogen-free- acc. to IEC 60754-1 + VDE 0482-754-1					●	●	●
	Oil resistant- very good TMPU acc to EN 50363-10-2 + VDE 0207-363-10-2	●	●	●	●			
	Mud resistance acc. to IEC 630092-360, IEC 61892-4, NEK TS 606	●	●					
	Weather resistance- very good					●	●	●
	UV resistance acc. to HD 605	●	●					
	Ozone resistance acc. to EN 50396	●	●					
	Salt water resistance acc, to UL 1309	●	●					

▮ from / to ● short-term use

*The temperature range for flexible application is mentioned on the corresponding catalog page

SAB Lift

PVC Lift control cable with sisal cord as supporting member

with improved fire performance

SAB Control

CE EAC RoHS

Marking for SAB Lift 37902410:
SAB BRÖCKSKES · D-VIERSEN · SAB Lift 24 x 1.0 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	special PVC
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 and a green/yellow earth wire from 3 conductors
Strain relief:	sisal cord
Stranding:	sisal cord as core, optimized twisting of the conductors in layers
Wrapping:	non-woven tape on each layer with overlap wrapping
Torsion protecting:	special braid
Jacket material:	special PVC
Jacket color:	black (RAL 9005)

Outstanding features:

- **long service life**
- **elevated economic efficiency**
- **flame retardant and self-extinguishing**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 2000 V
Min. bending radius:	15 x O.D.
Temperature range:	
static:	-30/+70°C
flexible:	-15/+70°C
Burning characteristics:	flame retardant and self extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Suspended height:	up to 60 m
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft	ohmic resistance at 20°C max. Ω/km
► **18 AWG (≈ 56/34) ▪ 1.00 mm²**					
37900510	5	0.437	11.1	101	19.5
37900710	7	0.457	11.6	120	19.5
37900910	9	0.512	13.0	152	19.5
37901210	12	0.606	15.4	207	19.5
37901810	18	0.815	20.7	323	19.5
37902410	24	0.815	20.7	369	19.5
37903010	30	0.862	21.9	439	19.5
► **16 AWG (≈ 27-29/30) ▪ 1.50 mm²**					
37901215	12	0.717	18.2	282	19.5
37905215	52	1.350	34.3	1150	19.5
► **14 AWG (≈ 46/30) ▪ 2.50 mm²**					
37901225	12	0.921	23.4	462	19.5

Other dimensions and colors are available on request

Possible on request:

- **with overall tinned copper braiding**
- **with different conductor and jacket colors**

SAB Lift ST

PVC Lift control cable with steel center as supporting member

highest hanging lengths

SAB Control

CE EAC RoHS

Marking for SAB Lift ST 37912410:
SAB BRÖCKSKES · D-VIERSEN · SAB Lift ST 24 x 1.0 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	special PVC
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 and a green/yellow earth wire from 3 conductors
Strain relief:	steel rope in the center
Stranding:	steel rope as core, optimized twisting of the conductors in layers
Wrapping:	non-woven tape on each layer with overlap wrapping
Torsion protecting:	special braid
Jacket material:	special PVC
Jacket color:	black (RAL 9005)

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 2000 V
Min. bending radius:	15 x O.D.
Temperature range: *static:* *flexible:*	 -30/+70°C -15/+70°C
Burning characteristics:	flame retardant and self-extinguising acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Suspended height:	up to 200 m
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

Outstanding features:

- **highest hanging lengths**
- **long service life**
- **flame retardant and self-extinguishing**

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft	ohmic resistance at 20°C max. Ω/km
▶ **19 AWG (≈ 23/32) ▪ 0.75 mm²**					
37912407	24	0.673	17.1	280	19.5
▶ **18 AWG (≈ 56/34) ▪ 1.00 mm²**					
37910510	5	0.366	9.3	89	19.5
37910710	7	0.409	10.4	117	19.5
37910910	9	0.469	11.9	179	19.5
37911210	12	0.583	14.8	252	19.5
37911810	18	0.685	17.4	309	19.5
37912410	24	0.693	17.6	360	19.5
37913010	30	0.811	20.6	484	19.5

Other dimensions and colors are available on request

Possible on request:

- **with overall tinned copper braiding**
- **with different conductor and jacket colors**

SABIX® Lift

Lift control cable with sisal cord as supporting member

with improved fire performance

SAB Control

Marking for SABIX® Lift 53902410:
SAB BRÖCKSKES · D-VIERSEN · SABIX® Lift 24 x 1.0 mm² CE

Application: Our halogen-free lift cables are used whenever there are highest safety requirements, especially in public buildings and institutions as for example department stores, hospitals, railway and airport institutions, etc.

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	special SABIX®
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 and a green/yellow ground
Strain relief:	sisal cord
Stranding:	sisal cord as core, optimized twisting of the conductors in layers
Wrapping:	non-woven tape on each layer with overlap wrapping
Torsion protecting:	special braid
Jacket material:	thermoplastic special elastomer
Jacket color:	black (RAL 9005)

Outstanding features:

- **halogen-free**
- **long service life**
- **elevated economic efficiency**
- **flame retardant and self-extinguishing**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 2000 V
Min. bending radius:	15 x O.D.
Temperature range: *static:* *flexible:*	 -40/+90°C -30/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	no flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 cat. C resp. D, see chapter O
Suspended height:	up to 60 m
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft	ohmic resistance at 20°C max. Ω/km
▶ **18 AWG (≈ 56/34) • 1.00 mm²**					
53900510	5	0.421	10.7	89	19.5
53900710	7	0.421	10.7	89	19.5
53900910	9	0.488	12.4	134	19.5
53901210	12	0.567	14.4	175	19.5
53901810	18	0.783	19.9	283	19.5
53902410	24	0.783	19.9	330	19.5
53903010	30	0.823	20.9	390	19.5

Other dimensions and colors are available on request

Possible on request:

- **with overall tinned copper braiding**
- **with different conductor and jacket colors**

- **Please pay attention to the installation instructions on page O/13**
- **You will find a life cycle test SABIX® Lift on page O/38**

SABIX® Lift ST

Lift control cable with steel center as supporting member

highest hanging lengths

SAB Control

CE EAC RoHS

Marking for SABIX® Lift 53902410:
SAB BRÖCKSKES · D-VIERSEN · SABIX® Lift 24 x 1.0 mm² CE

Application: Our halogen-free lift cables are used whenever there are highest safety requirements, especially in public buildings and institutions as for example department stores, hospitals, railway and airport institutions, etc.

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	special SABIX®
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 and a green/yellow ground
Strain relief:	steel rope in the center
Stranding:	steel rope as core, optimized twisting of the conductors in layers
Wrapping:	non-woven tape on each layer with overlap wrapping
Torsion protecting:	special braid
Jacket material:	thermoplastic special elastomer
Jacket color:	black (RAL 9005)

Outstanding features:

- **halogen-free**
- **highest hanging lengths**
- **long service life**
- **flame retardant and self-extinguishing**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 2000 V
Min. bending radius:	15 x O.D.
Temperature range: *static:* *flexible:*	 -40/+90°C -30/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	no flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 cat. C resp. D, see chapter O
Suspended height:	up to 200 m
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft	ohmic resistance at 20°C max. Ω/km
▶ **18 AWG (≈ 56/34) • 1.00 mm²**					
53910510	5	0.343	8.7	77	19.5
53910710	7	0.386	9.8	103	19.5
53910910	9	0.453	11.5	165	19.5
53911210	12	0.551	14.0	227	19.5
53911810	18	0.654	16.6	279	19.5
53912410	24	0.661	16.8	332	19.5
53913010	30	0.780	19.8	452	19.5

Other dimensions and colors are available on request

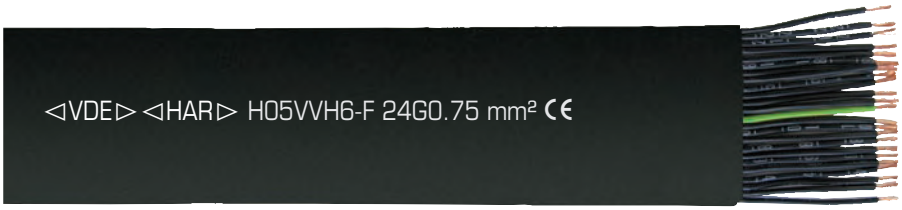
Possible on request:

- **with overall tinned copper braiding**
- **with different conductor and jacket colors**

- **Please pay attention to the installation instructions on page O/13**
- **You will find a life cycle test SABIX® Lift on page O/38**

H05VVH6-F

PVC flat festoon power and control cable, 300/500V



Marking for PVC Flat cable 2142407:
SAB BRÖCKSKES · D-VIERSEN · ◁VDE▷ ◁HAR▷ H05VVH6-F 24G0.75 mm²

Application: H05VVH6-F is a flexible, flame retardant, PVC festoon power and control cable designed for use on overhead crane and material handling systems. The flat construction allows cables to be stacked for applications where space is limited.

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	PVC
Color code:	black conductors with white numbers and a green/yellow ground
Stranding:	conductors parallel side by side in groups
Jacket material:	PVC
Jacket color:	black (RAL 9005)

Outstanding features:

smaller bending radius in contrast to round cables

Technical data:

Nominal voltage:	Uo/U 300/500 V
Min. bending radius:	10 x height
Temperature range: *static:* *flexible:*	 -40/+70°C 0/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Oil resistance:	acc. to internal standard, see page O/29
Approvals:	VDE, HAR, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

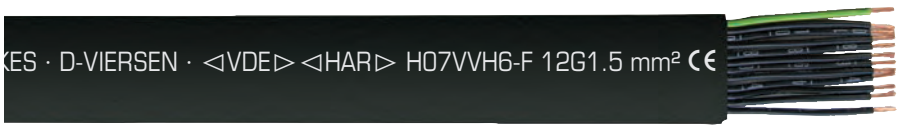
item no.	no. of conductors incl. ground	dimension width x height inch	dimension width x height mm	cable weight ≈lbs/mft
► **19 AWG (≈ 23/32) ▪ 0.75 mm²**				
2140607	6	0.701 x 0.165	17.8 x 4.2	92
2140907	9	1.016 x 0.165	25.8 x 4.2	134
2141207	12	1.539 x 0.165	39.1 x 4.2	175
2141607	16	1.712 x 0.165	43.5 x 4.2	230
2141807	18	1.906 x 0.165	48.4 x 4.2	257
2142007	20	2.122 x 0.165	53.9 x 4.2	286
2142407	24	2.531 x 0.165	64.3 x 4.2	342
► **18 AWG (≈ 30/32) ▪ 1.00 mm²**				
2140410	4	0.500 x 0.169	12.7 x 4.3	71
2140510	5	0.602 x 0.169	15.3 x 4.3	87
2140610	6	0.724 x 0.169	18.4 x 4.3	103
2140910	9	1.051 x 0.169	26.7 x 4.3	151
2141210	12	1.350 x 0.169	34.3 x 4.3	196
2141610	16	1.776 x 0.169	45.1 x 4.3	259
2141810	18	1.976 x 0.169	50.2 x 4.3	289
2142010	20	2.201 x 0.169	55.9 x 4.3	322
2142410	24	2.626 x 0.169	66.7 x 4.3	384

Other dimensions and colors are available on request

Application example: in elevators up to 35 m freely suspended or in fitted vehicles for cranes and hoisting systems with one level bending

H07VVH6-F

PVC flat festoon power and control cable, 450/750V



Marking for PVC Flat cable 2491215:
SAB BRÖCKSKES · D-VIERSEN · ◁VDE▷ ◁HAR▷ H07VVH6-F 12G1.5 mm² CE

Application: H07VVH6-F is a flexible, flame retardant, PVC festoon power and control cable designed for use on overhead crane and material handling systems. The flat construction allows cables to be stacked for applications where space is limited.

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	PVC
Color code:	colored acc. to HD 308 (VDE 0293-308), see page O/26 from 6 conductors: black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 from 3 conductors a green/yellow ground
Stranding:	conductors parallel side by side in groups
Jacket material:	PVC
Jacket color:	black (RAL 9005)

Outstanding features:

smaller bending radius in contrast to round cables

Technical data:

Nominal voltage:	Uo/U 450/750 V
Min. bending radius:	10 x height
Temperature range: *static:* *flexible:*	 -40/+70°C 0/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Oil resistance:	acc. to internal standard, see page O/29
Approvals:	VDE, HAR, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	dimension width x height inch	dimension width x height mm	cable weight ≈lbs/mft
▶ **16 AWG (≈ 27-29/30) • 1.50 mm²**				
2490415	4	0.602 x 0.205	15.3 x 5.2	97
2490715	7	1.008 x 0.205	25.6 x 5.2	168
2490815	8	1.126 x 0.205	28.6 x 5.2	190
2491215	12	1.650 x 0.205	41.9 x 5.2	283
▶ **14 AWG (≈ 46/30) • 2.50 mm²**				
2490425	4	0.720 x 0.228	18.3 x 5.8	138
2491225	12	1.996 x 0.228	50.7 x 5.8	406
▶ **12 AWG (≈ 52/28) • 4.00 mm²**				
2491240	12	2.260 x 0.268	57.4 x 6.8	576
▶ **10 AWG (≈ 78/28) • 6.00 mm²**				
2490460	4	0.894 x 0.287	22.7 x 7.3	253
2490560	5	1.083 x 0.287	27.5 x 7.3	295
▶ **8 AWG (≈ 77/26) • 10.00 mm²**				
2490570	5	1.406 x 0.366	35.7 x 9.3	542
▶ **4 AWG (≈ 190/26) • 25.00 mm²**				
2490490	4	1.673 x 0.508	42.5 x 12.9	945

Other dimensions and colors are available on request

Application example: in elevators up to 35 m freely suspended or in fitted vehicles for cranes and hoisting systems with one level bending

DR 717 P Highflex

PUR reeling cable

Marking for DR 717 P Highflex 7170425:
SAB BRÖCKSKES · D-VIERSEN · DR 717 P Highflex 4 G 2.5 mm² CE

Application: The DR 717 P Highflex is used for spring cables reels on stages and theaters.

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	special polymer
Color code:	colored acc. to HD 308 (VDE 0293-308), see page O/26 from 6 conductors: black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 from 3 conductors a green/yellow ground *DMX-bus:* white/brown, green/yellow *IE Cat 5:* white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Stranding:	specially adjusted layering around a central suspension unit
Inner jacket:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Supporting screen:	high-tech yarn
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	black (RAL 9005)

Outstanding features:

- **reeling length up to 60 m**
- **extremely high winding and unwinding strength**
- **corresponds to low voltage guideline 73/23/EWG CE**
- **small outer diameter**
- **lighter cable weight**

Technical data:

Peak operating voltage:	**item no. 07179001:** max. 500 V (DMX-bus) **item no. 07179002:** max. 125 V (IE Cat 5)
Nominal voltage:	Uo/U 300/500 V (supply conductors)
Testing voltage:	conductor/conductor: 2000 V
Current-carrying capacity:	acc. to VDE 0298-4, see chapter O/20 & 21
Min. bending radius: *for laying and installation (fixed installation):* *for repeated winding action (flexible):* *guided on pulleys (flexible):*	≤ 12 mm: 3 x O.D. >12 mm: 4 x O.D. 6 x O.D. 7.5 x O.D.

Temperature range:	**item no. 07179001**	**item no. 07179002**
with installation:		0/+50°C
static:	-40/+70°C	-20/+60°C
flexible:	-40/+70°C	-20/+60°C

Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids, etc.
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Sunlight resistance:	very good - enhanced due to black jacket color
Tensile strength:	with reference to VDE 0298-3 section 7.1
Mechanical characteristics:	the main mechanical characteristics accomplished by the PUR outer jacket are: - high tensile strength - high tear strength - high abrasion resistance - high notch resistance
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	AWG/c	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft	tensile strength max. N	min breaking load of suspension unit N
▶ 7170425	14 AWG (≈ 46/30) / 4c	0.382	9.7	96	150	1345
▶ 7170440	12 AWG (≈ 52/28) / 4c	0.461	11.7	154	240	1690
▶ 7171440	12 AWG (≈ 52/28) / 14c	0.823	20.9	538	840	3200
▶ 7172040	12 AWG (≈ 52/28) / 20c	0.917	23.3	768	1200	3700
▶ 7172540	12 AWG (≈ 52/28) / 25c	1.114	28.3	960	1500	4200
▶ 7170460	10 AWG (≈ 78/28) / 4c	0.528	13.4	230	360	1860
▶ 7171360	10 AWG (≈ 78/28) / 13c	0.957	24.3	749	1170	3400
▶ 7171860	10 AWG (≈ 78/28) / 18c	1.012	25.7	1037	1620	6000
▶ 7170470	8 AWG (≈ 77/26) / 4c	0.673	17.1	384	600	2300
▶ 7170480	6 AWG (≈ 122/26) / 4c	0.839	21.3	614	960	2800
▶ 7179001	12 AWG (≈ 52/28) / 14c + 24 AWG (≈ 14/34) / 2pr	0.882	22.4	575	840	2500
▶ 7179002	6 AWG (≈ 122/26) / 5c + 26 AWG (≈ 18/38) / 4pr	1.039	26.4	792	1200	3000
▶ 7179013	12 AWG (≈ 52/28) / 25c	0.984 1.102	min. 25.0 max. 28.0	960	1500	2600

Other dimensions and colors are available on request
Please mention the required winding length when placing the order.

● **Please pay attention to the installation instructions on page O/13**

DR 718 CP Highflex

PUR shielded reeling cable

Marking for DR 718 CP Highflex 7180425:
SAB BRÖCKSKES · D-VIERSEN · DR 718 CP Highflex 4 x 2.5 mm² CE

Application: The DR 718 CP Highflex is shielded and is used for spring loaded cable reels on stages in theaters as well as control cable in crane arms.

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	special polymer
Color code:	colored acc. to HD 308 (VDE 0293-308), see page O/26 from 6 conductors: black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 from 3 conductors a green/yellow ground
Stranding:	specially adjusted layering around a central suspension unit
Inner jacket:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Shielding:	tinned copper braiding
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	black (RAL 9005)

Outstanding features:

- **extremely high winding and unwinding strength**
- **lighter cable weight**
- **good EMC characteristics**

Also possible without inner jacket

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 2000 V conductor/shielding: 2000 V
Current-carrying capacity:	acc. to VDE 0298-4, see chapter O/20 & 21
Min. bending radius:	
for laying and installation (fixed installation):	5 x O.D.
for repeated winding action (flexible):	7.5 x O.D.
guided on pulleys (flexible):	10 x O.D.
Temperature range:	
static:	-50/+90°C
flexible:	-40/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids, etc.
Sunlight resistance:	very good - enhanced due to black jacket color
Tensile strength:	with reference to VDE 0298-3 section 7.1
Mechanical characteristics:	the main mechanical characteristics accomplished by the PUR outer jacket are: - high tensile strength - high tear strength - high abrasion resistance - high notch resistance
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	AWG/c	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft	tensile strength max. N	min breaking load of suspension unit N
▶ 7182005	20 AWG (≈ 16/32) / 20c	0.504	12.8	173	150	1600
▶ 7182505	20 AWG (≈ 16/32) / 25c	0.587	14.9	222	187	1700
▶ 7182507	19 AWG (≈ 23/32) / 25c	0.665	16.9	297	281	2000
▶ 7180410	18 AWG (≈ 30/32) / 4c	0.315	8.0	69	60	1100
▶ 7181210	18 AWG (≈ 30/32) / 12c	0.591	15.0	213	180	2000
▶ 7181810	18 AWG (≈ 30/32) / 18c	0.571	14.5	234	270	2200
▶ 7182510	18 AWG (≈ 30/32) / 25c	0.701	17.8	351	375	2400
▶ 7182610	18 AWG (≈ 30/32) / 26c	0.701	17.8	358	390	2400
▶ 7180415	16 AWG (≈ 27-29/30) / 4c	0.350	8.9	89	90	1340
▶ 7180515	16 AWG (≈ 27-29/30) / 5c	0.402	10.2	118	112	1690
▶ 7180715	16 AWG (≈ 27-29/30) / 7c	0.469	11.9	159	157	2150
▶ 7181215	16 AWG (≈ 27-29/30) / 12c	0.665	16.9	282	270	2600
▶ 7181415	16 AWG (≈ 27-29/30) / 14c	0.642	16.3	295	315	2600
▶ 7181615	16 AWG (≈ 27-29/30) / 16c	0.642	16.3	303	360	2600
▶ 7181815	16 AWG (≈ 27-29/30) / 18c	0.646	16.4	325	405	2600
▶ 7182415	16 AWG (≈ 27-29/30) / 24c	0.717	18.2	415	540	2800
▶ 7183015	16 AWG (≈ 27-29/30) / 30c	0.921	23.4	565	675	2900
▶ 7183715	16 AWG (≈ 27-29/30) / 37c	0.874	22.2	600	832	3200
▶ 7180425	14 AWG (≈ 46/30) / 4c	0.425	10.8	135	150	1345
▶ 7180525	14 AWG (≈ 46/30) / 5c	0.469	11.9	167	187	2100
▶ 7180725	14 AWG (≈ 46/30) / 7c	0.539	13.7	223	262	2500

item no.	AWG/c	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft	tensile strength max. N	min breaking load of suspension unit N
▶ 7181225	14 AWG (≈ 46/30) / 12c	0.783	19.9	410	450	2900
▶ 7181825	14 AWG (≈ 46/30) / 18c	0.768	19.5	476	675	3450
▶ 7182425	14 AWG (≈ 46/30) / 24c	0.929	23.6	638	900	2600
▶ 7183025	14 AWG (≈ 46/30) / 30c	1.055	26.8	798	1125	4200
▶ 7183625	14 AWG (≈ 46/30) / 36c	1.028	26.1	860	1350	5000
▶ 7184825	14 AWG (≈ 46/30) / 48c	1.209	30.7	1160	1800	6500
▶ 7185625	14 AWG (≈ 46/30) / 56c	1.283	32.6	1283	2100	7900
▶ 7180440	12 AWG (≈ 52/28) / 4c	0.484	12.3	191	240	1690
▶ 7180540	12 AWG (≈ 52/28) / 5c	0.539	13.7	232	300	2200
▶ 7180740	12 AWG (≈ 52/28) / 7c	0.642	16.3	336	420	2600
▶ 7180460	10 AWG (≈ 78/28) / 4c	0.539	13.7	261	360	1860
▶ 7180560	10 AWG (≈ 78/28) / 5c	0.618	15.7	331	450	2300
▶ 7180760	10 AWG (≈ 78/28) / 7c	0.744	18.9	464	630	2600
▶ 7180470	8 AWG (≈ 77/26) / 4c	0.713	18.1	441	600	2900
▶ 7180570	8 AWG (≈ 77/26) / 5c	0.799	20.3	543	750	3000
▶ 7180480	6 AWG (≈ 122/26) / 4c	0.878	22.3	662	960	2800
▶ 7180580	6 AWG (≈ 122/26) / 5c	0.980	24.9	811	1200	3000
▶ 7180490	4 AWG (≈ 190/26) / 4c	1.063	27.0	972	1500	3300
▶ 7180495	2 AWG (≈ 272/26) / 4c	1.213	30.8	1324	2100	3300
▶ 7180496	1 AWG (≈ 400/26) /4c	1.390	35.3	1855	3000	3800

Other dimensions and colors are available on request
Please mention the required winding length when placing the order.

Please pay attention to the installation instructions on page O/13

DR 721 P

Reeling cable

Marking for DR 721 P 7210425:
SAB BRÖCKSKES · D-VIERSEN · DR 721 P 4 G 2.5 mm² CE

Application: The DR 721 P is used for spring cable and motor cable reels, hoists, transport systems and farm vehicles with medium mechanical stress.

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	special polymer
Color code:	colored acc. to HD 308 (VDE 0293-308), see page O/26 from 6 conductors: black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 from 3 conductors a green/yellow ground
Stranding:	specially adjusted layering
Inner jacket:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Supporting screen:	high-tech yarn
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	black (RAL 9005)

Outstanding features:

- **high winding and unwinding strength**
- **small outer diameter**
- **lighter cable weight**
- **correspond to low voltage guideline 73/23/EWG CE**

Technical data:

Nominal voltage:	Uo/U 0.6/1 kV
Testing voltage:	conductor/conductor: 4000 V
Current-carrying capacity:	acc. to VDE 0298-4, see chapter O 20 & 21
Min. bending radius: *for laying and installation (fixed installation):* *for repeated winding action (flexible):* *guided on pulleys (flexible):*	 6 x O.D. 10 x O.D. 12 x O.D.
Temperature range: *static:* *flexible:*	 -50/+90°C -40/+90°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids, etc.
Weather resistance:	very good
Sunlight resistance:	very good - enhanced due to black jacket color
Tensile strength:	with reference to VDE 0298-3 section 7.1
Mechanical characteristics:	the main mechanical characteristics accomplished by the PUR outer jacket are: - high tensile strength - high tear strength - high abrasion resistance - high notch resistance
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	AWG/c	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 7210415	16 AWG (≈ 27-29/30) / 4c	0.346	8.8	78
▶ 7210515	16 AWG (≈ 27-29/30) / 5c	0.378	9.6	94
▶ 7210715	16 AWG (≈ 27-29/30) / 7c	0.461	11.7	136
▶ 7211215	16 AWG (≈ 27-29/30) / 12c	0.646	16.4	228
▶ 7211815	16 AWG (≈ 27-29/30) / 18c	0.642	16.3	287
▶ 7212415	16 AWG (≈ 27-29/30) / 24c	0.772	19.6	384
▶ 7213615	16 AWG (≈ 27-29/30) / 36c	0.870	22.1	536
▶ 7210425	14 AWG (≈ 46/30) / 4c	0.402	10.2	113
▶ 7210525	14 AWG (≈ 46/30) / 5c	0.441	11.2	138
▶ 7210725	14 AWG (≈ 46/30) / 7c	0.535	13.6	200
▶ 7211225	14 AWG (≈ 46/30) / 12c	0.764	19.4	341
▶ 7211825	14 AWG (≈ 46/30) / 18c	0.764	19.4	426
▶ 7212425	14 AWG (≈ 46/30) / 24c	0.929	23.6	574
▶ 7213625	14 AWG (≈ 46/30) / 36c	1.039	26.4	804

item no.	AWG/c	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 7210440	12 AWG (≈ 52/28) / 4c	0.488	12.4	172
▶ 7210460	10 AWG (≈ 78/28) / 4c	0.567	14.4	244
▶ 7210560	10 AWG (≈ 78/28) / 5c	0.614	15.6	294
▶ 7210470	8 AWG (≈ 77/26) / 4c	0.705	17.9	393
▶ 7210480	6 AWG (≈ 122/26) / 4c	0.882	22.4	608
▶ 7210580	6 AWG (≈ 122/26) / 5c	0.984	25.0	760
▶ 7210390	4 AWG (≈ 190/26) / 3c + 10 AWG (≈ 78/28) / 3c	0.953	24.2	791
▶ 7210395	2 AWG (≈ 272/26) / 3c + 10 AWG (≈ 78/28) / 3c	1.102	28.0	1054
▶ 7210396	1 AWG (≈ 400/26) / 3c + 8 AWG (≈ 77/26) / 3c	1.252	31.8	1511

Other dimensions and colors are available on request
Please mention the required winding length when placing the order.

Please pay attention to the installation instructions on page O/13

DR 720 P Highflex

PUR reeling cable

Marking for DR 720 P Highflex 7200425:
SAB BRÖCKSKES · D-VIERSEN · DR 720 P Highflex 4 G 2.5 mm² CE

Application: The DR 720 P Highflex is used for heavy applications, for example, motor cable reels hoists, transport systems, movable motors and farm vehicles with high mechanical stress.

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	special polymer
Color code:	colored acc. to HD 308 (VDE 0293-308), see page O/26 from 6 conductors: black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 from 3 conductors a green/yellow ground
Stranding:	specially adjusted layering around central suspension unit
Inner jacket:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Supporting screen:	high-tech yarn
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	black (RAL 9005)

Outstanding features:

- **path feed rate up to 120 m/min.**
- **extremely high winding and unwinding strength**
- **small outer diameter**
- **lighter cable weight**
- **correspond to low voltage guideline 73/23/EWG CE**

Technical data:

Nominal voltage:	Uo/U 0.6/1 kV
Testing voltage:	conductor/conductor: 4000 V
Current-carrying capacity:	acc. to VDE 0298-4, see chapter O/20 & 21
Min. bending radius: *for laying and installation (fixed installation):* *for repeated winding action (flexible):* *guided on pulleys (flexible):*	 ≤ 12 mm: 3 x O.D. >12 mm: 4 x O.D. 6 x O.D. 7.5 x O.D.
Temperature range: *static:* *flexible:*	 -50/+90°C -40/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids, etc.
Weather resistance:	very good
Sunlight resistance:	very good - enhanced due to black jacket color
Tensile strength:	acc. to VDE 0298-3 section 7.1
Mechanical characteristics:	the main mechanical characteristics accomplished by the PUR outer jacket are: - high tensile strength - high tear strength - high abrasion resistance - high notch resistance
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	AWG/c	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft	min breaking load of suspension unit N
► 7200415	16 AWG (≈ 27-29/30) / 4c	0.354	9.0	80	1340
► 7200515	16 AWG (≈ 27-29/30) / 5c	0.386	9.8	95	1690
► 7200715	16 AWG (≈ 27-29/30) / 7c	0.465	11.8	137	2150
► 7201215	16 AWG (≈ 27-29/30) / 12c	0.654	16.6	241	2600
► 7201815	16 AWG (≈ 27-29/30) / 18c	0.646	16.4	289	2600
► 7200425	14 AWG (≈ 46/30) / 4c	0.409	10.4	114	1345
► 7200525	14 AWG (≈ 46/30) / 5c	0.457	11.6	143	2100
► 7200725	14 AWG (≈ 46/30) / 7c	0.543	13.8	201	2500
► 7201225	14 AWG (≈ 46/30) / 12c	0.772	19.6	357	2900
► 7201825	14 AWG (≈ 46/30) / 18c	0.776	19.7	431	3450
► 7202425	14 AWG (≈ 46/30) / 24c	0.937	23.8	591	2700
► 7203025	14 AWG (≈ 46/30) / 30c	1.047	26.6	738	4200
► 7205025	14 AWG (≈ 46/30) / 50c	1.276	32.4	1168	6750

item no.	AWG/c	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft	min breaking load of suspension unit N
► 7200440	12 AWG (≈ 52/28) / 4c	0.488	12.4	171	1690
► 7201240	12 AWG (≈ 52/28) / 12c	0.945	24.0	561	5000
► 7200460	10 AWG (≈ 78/28) / 4c	0.583	14.8	248	1860
► 7200470	8 AWG (≈ 77/26) / 4c	0.717	18.2	398	2300
► 7200480	6 AWG (≈ 122/26) / 4c	0.894	22.7	615	2800
► 7200390	4 AWG (≈ 190/26) / 3c + 10 AWG (≈ 78/28) / 3c	0.957	24.3	798	3300
► 7200490	4 AWG (≈ 190/26 / 4	1.059	26.9	908	3300
► 7200395	2 AWG (≈ 272/26) / 3c + 10 AWG (≈ 78/28) / 3c	1.106	28.1	1060	3300
► 7200495	2 AWG (≈ 272/26) / 4	1.240	31.5	1272	3300
► 7200396	1 AWG (≈ 400/26) / 3c + 8 AWG (≈ 77/26) / 3c	1.256	31.9	1521	3800

Other dimensions and colors are available on request
Please mention the required winding length when placing the order.

Please pay attention to the installation instructions on page O/13

DR 730 P Highflex

PUR reeling cable

Marking for DR 730 P Highflex 7300425:
SAB BRÖCKSKES · D-VIERSEN · DR 730 P Highflex 4 G 2.5 mm² AWM Style 21897 80°C c AWM I/II A/B 80°C 600V FT1 FT2 CE

Application: The DR 730 P Highflex is a UL AWM approved polyurethane cable. It is used for heavy applications, for example, motor cable reels hoists, transport systems, movable motors and farm vehicles with high mechanical stress.

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	special polymer
Color code:	colored acc. to HD 308 (VDE 0293-308), see page O/26 from 6 conductors: black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 from 3 conductors a green/yellow ground
Stranding:	specially adjusted layering around central suspension unit
Inner jacket:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Supporting screen:	high-tech yarn
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	black (RAL 9005)

Outstanding features:

- **UL recognized - Style 21897**
- **cUL recognized**
- **path feed rate up to 120 m/min.**
- **extremely high winding and unwinding strength**
- **small outer diameter**
- **small cable weight**
- **correspond to low voltage guideline 73/23/EWG CE**

Hybrid cable on request

Technical data:

Nominal voltage:	Uo/U 0.6/1 kV
Voltage UL:	1000 V
Voltage cUL:	600 V
Testing voltage:	conductor/conductor: 4000 V
Current-carrying capacity:	acc. to VDE 0298-4, see chapter O/20 & 21
Min. bending radius: *for laying and installation (fixed installation):* *for repeated winding action (flexible):* *guided on pulleys (flexible):*	≤ 12 mm: 3 x O.D. >12 mm: 4 x O.D. 6 x O.D. 7.5 x O.D.
Temperature range: *static:* *flexible:*	**DIN VDE** **UL/cUL:** up to +80°C -50/+90°C -40/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 cUL FT1 FT2
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids, etc.
Weather resistance:	very good
Sunlight resistance:	very good - enhanced due to black jacket color
Tensile strength:	acc. to VDE 0298-3 section 7.1
Mechanical characteristics:	the main mechanical characteristics accomplished by the PUR outer jacket are: - high tensile strength - high tear strength - high abrasion resistance - high notch resistance
Approvals:	UR AWM, cUR AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	AWG/c	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft	min breaking load of suspension unit N
► 7300415	16 AWG (≈ 27-29/30) / 4c	0.402	10.2	98	1340
► 7300515	16 AWG (≈ 27-29/30) / 5c	0.433	11.0	114	1340
► 7300715	16 AWG (≈ 27-29/30) / 7c	0.492	12.5	151	1690
► 7301215	16 AWG (≈ 27-29/30) / 12c	0.665	16.9	256	2150
► 7301815	16 AWG (≈ 27-29/30) / 18c	0.673	17.1	306	2600
► 7300425	14 AWG (≈ 46/30) / 4c	0.445	11.3	130	2600
► 7300525	14 AWG (≈ 46/30) / 5c	0.484	12.3	154	1345
► 7300725	14 AWG (≈ 46/30) / 7c	0.551	14.0	207	2100
► 7301225	14 AWG (≈ 46/30) / 12c	0.772	19.6	368	2500
► 7301825	14 AWG (≈ 46/30) / 18c	0.772	19.6	437	2900
► 7302425	14 AWG (≈ 46/30) / 24c	0.941	23.9	599	3450
► 7303625	14 AWG (≈ 46/30) / 36c	1.059	26.9	822	2700

item no.	AWG/c	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft	min breaking load of suspension unit N
► 7300440	12 AWG (≈ 52/28) / 4c	0.508	12.9	181	4200
► 7301240	12 AWG (≈ 52/28) / 12c	0.945	24.0	561	1690
► 7300460	10 AWG (≈ 78/28) / 4c	0.579	14.7	249	5000
► 7300470	8 AWG (≈ 77/26) / 4c	0.709	18.0	409	1860
► 7300480	6 AWG (≈ 122/26) / 4c	0.929	23.6	661	2300
► 7300390	4 AWG (≈ 190/26) / 3c + 10 AWG (≈ 78/28) / 3c	0.984	25.0	836	2800
► 7300395	2 AWG (≈ 272/26) / 3c + 10 AWG (≈ 78/28) / 3c	1.114	28.3	1088	3300
► 7300495	2 AWG (≈ 272/26) / 4c	1.240	31.5	1272	3300

Other dimensions and colors are available on request
Please mention the required winding length when placing the order.

Please pay attention to the installation instructions on page O/13

DR 750 P Offshore

Reeling cable for offshore applications

Marking for DR 750 P Offshore 7500425:
SAB BRÖCKSKES · D-VIERSEN · DR 750 P Offshore 4 G 2.5 mm² 0.6/1 kV CE

Application: The DR 750 P Offshore is a reeling cable for offshore areas. It is designed for spring loaded and motor driven cable reels in lifting and handling equipment on offshore platforms or ships

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	special polymer
Color code:	colored acc. to HD 308 (VDE 0293-308), see page O/26 from 6 conductors: black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 from 3 conductors a green/yellow ground
Stranding:	specially adjusted layering
Inner jacket:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Supporting screen:	high-tech yarn
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	black (RAL 9005) matte

Outstanding features:

- **suitable for offshore applications**
- **extremely high winding and unwinding strength**
- **small outer diameter**
- **lighter cable weight**
- **flame retardant and self-extinguishing**
- **halogen-free**
- **asbestos-free**

Technical data:

Nominal voltage:	Uo/U 0.6/1 kV
Testing voltage:	conductor/conductor: 4000 V
Min. bending radius: *fixed installation:* *flexible:* *for repeated winding action (flexible):* *guided on deflection pulleys (flexible):*	 5 x O.D. 10 x O.D. 10 x O.D. 15 x O.D.
Temperature range: *flexible:*	 -40/+90°C lower temperatures on request
Halogen and fluorine content:	acc. to IEC 60754-1 + EN 60754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
MUD resistance:	very good - acc. to IEC 630092-350, IEC 61892-4, NEK TS 606
Chemical resistance:	very good against acids, alkalines, solvents, hydraulic liquids, etc.
Weather resistance:	very good
Sunlight resistance:	very good - enhanced due to black jacket color
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

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item no.	AWG/c	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft	min breaking load of suspension unit N
▶ 7500210	18 AWG (≈ 56/34) / 2c	0.406	10.3	79	500
▶ 7500410	18 AWG (≈ 56/34) / 4c	0.429	10.9	94	1100
▶ 7501210	18 AWG (≈ 56/34) / 12c	0.732	18.6	275	2000
▶ 7500315	16 AWG (≈ 84/34) / 3c	0.429	10.9	97	1000
▶ 7500415	16 AWG (≈ 84/34) / 4c	0.457	11.6	112	1340
▶ 7500715	16 AWG (≈ 84/34) / 7c	0.579	14.7	183	2150
▶ 7501215	16 AWG (≈ 84/34) / 12c	0.787	20.0	343	2600
▶ 7501815	16 AWG (≈ 84/34) / 18c	0.787	20.0	351	3375
▶ 7500325	14 AWG (≈ 140/34) / 3c	0.461	11.7	122	1200
▶ 7500425	14 AWG (≈ 140/34) / 4c	0.512	13.0	148	1345

item no.	AWG/c	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft	min breaking load of suspension unit N
▶ 7500440	12 AWG (≈ 224/34) / 4c	0.567	14.4	199	2000
▶ 7500460	10 AWG (≈ 186/32) / 4c	0.622	15.8	262	3000
▶ 7500461	8 AWG (≈ 320/32) /4c	0.748	19.0	411	5000
▶ 7500462	6 AWG (≈ 504/32) / 4c	0.902	22.9	609	8000
▶ 7500463	4 AWG (≈ 760/32) /4c	1.063	27.0	915	12500
▶ 7500464	2 AWG (≈ 1083/32) / 4c	1.213	30.8	1212	17500
▶ 7500465	1 AWG (≈ 703/28) / 4c	1.362	34.6	1712	25000
▶ 7500466	2/0 AWG (≈ 988/28) /4c	1.622	41.2	2317	35000

Other dimensions and colors are available on request
Please mention the required winding length when placing the order.

Please pay attention to the installation instructions on page O/13

DR 724 P Spreader

PUR reeling cable for spreader applications

Marking for DR 724 P Spreader 7244610:
SAB BRÖCKSKES · D-VIERSEN · DR 724 P Spreader 46 G 1.0 mm² CE

Application: The DR 724 P Spreader is for use in reeling applications with heavy duty mechanical stress e.g. in motor driven drums on container cranes.

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	special polymer
Color code:	colored acc. to HD 308 (VDE 0293-308), see page O/26 from 6 conductors: black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 from 3 conductors a green/yellow ground
Stranding:	specially adjusted layering around central Aramid suspension unit
Inner jacket:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Torsion protecting net:	Aramid
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	black (RAL 9005)

Outstanding features:

- **path feed rate up to 240 m/min.**
- **high winding and unwinding strength**
- **for high mechanical stress in reeling processes**
- **flame retardant and self-extinguishing**
- **small outer diameter**
- **lighter cable weight**

Technical data:

Nominal voltage:	Uo/U 0.6/1 kV
Testing voltage:	conductor/conductor: 4000 V
Current-carrying capacity:	acc. to VDE 0298-4, see chapter O/20 & 21
Min. bending radius: *for laying and installation (fixed installation):* *for repeated winding action (flexible):* *guided on pulleys (flexible):*	 5 x O.D. 7.5 x O.D. 10 x O.D.
Temperature range: *static:* *flexible:*	 -50/+90°C -40/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids, etc.
Weather resistance:	very good
Sunlight resistance:	very good - enhanced due to black jacket color
Tensile strength:	acc. to VDE 0298-3 section 7.1
Mechanical characteristics:	the main mechanical characteristics accomplished by the PUR outer jacket are: - high tensile strength - high tear strength - high abrasion resistance - high notch resistance
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	AWG/c	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft	min breaking load of suspension unit N
▶ 7244610	18 AWG (≈ 30/32) / 46c	1.110	28.2	667	25
▶ 7244910	18 AWG (≈ 30/32) / 49c	1.209	30.7	759	25
▶ 7242425	14 AWG (≈ 46/30) / 24c	0.957	24.3	610	25
▶ 7243025	14 AWG (≈ 46/30) / 30c	1.106	28.1	806	25
▶ 7243625	14 AWG (≈ 46/30) / 36c	1.280	32.5	990	25
▶ 7244225	14 AWG (≈ 46/30) / 42c	1.409	35.8	1189	25
▶ 7244425	14 AWG (≈ 46/30) / 44c	1.457	37.0	1261	25
▶ 7245625	14 AWG (≈ 46/30) / 56c	1.799	45.7	1791	25

Other dimensions and colors are available on request
Please mention the required winding length when placing the order.

Please pay attention to the installation instructions on page O/13

Spreader 722

PUR control cable for basket operation

Marking for Spreader 722 7224225:
SAB BRÖCKSKES · D-VIERSEN · Spreader 722 42 G 2.5 mm²

Application: The Spreader 722 is used for load-lift equipment, e.g. spreader with high mechanical stress in gravity-fed vertical basket operation.

Construction:

Conductor:	bare copper strands
Insulation:	PVC
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 and a green/yellow ground
Suspension unit	Armid braided with lead, 50 m of the suspended cable are supported by a 5 times safety calculation
Stranding:	conductors are twisted to bundles with lead cord in the center
Wrapping:	overlapping non-woven tape
Stranding	bundle and lead cords twisted, suspension unit in the center
Wrapping:	overlapping non-woven tape
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	black (RAL 9005)

Outstanding features:

- **for basket applications**
- **high tensile load of supporting unit**
- **oil resistant**
- **weather resistant**

Technical data:

Nominal voltage:	Uo/U 300/500V
Testing voltage:	conductor/conductor: 2000 V
Temperature range:	
fixed installation:	-20/+60°C
flexible	-20/+60°C
max. allowed operating temperature at conductor:	+70°C
short circuit temperature at conductor:	+150°C
Tensile strength:	max. 15 N/mm² x sum of all cable sections
Recommended cage dimensions:	cage diameter min. 30 x O.D. cage height approx. 45 x O.D.
Travel speed hoisting gear:	max. 160m/min.
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Approvals:	EAC
Weather resistance:	appropriate for applications in dry, damp, and wet rooms as well as in the open-air with a very good resistance against ozone, UV radiation and humidity
	Due to the lead cord, this cable isn't free of harmful substances acc. to RoHS directive of the European Union

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **18 AWG (≈ 56/34) ▪ 1.00 mm²**				
7224810	48	1.264	32.1	1311
▶ **14 AWG (≈ 140/34) ▪ 2.50 mm²**				
7222425	24	1.169	29.7	1115
7223025	30	1.295	32.9	1355
7223625	36	1.425	36.2	1725
7224225	42	1.543	39.2	2135
7224825	48	1.650	41.9	2389
▶ **12 AWG (≈ 70/24) ▪ 3.50 mm²**				
7222035	20	1.217	30.9	1157
7222435	24	1.307	33.2	1393
7223035	30	1.457	37.0	1723
7223635	36	1.583	40.2	2162

Other dimensions and colors are available on request

Festoon 715 P

PUR cable for flexible application in festoon systems

CE EAC RoHS

Marking for Festoon 715 P 7150162:
SAB BRÖCKSKES · D-VIERSEN · Festoon 715 P 1x16.0 mm² CE *and current meter marking*

Marking for Festoon 715 P 7151825:
SAB BRÖCKSKES · D-VIERSEN · Festoon 715 P 18 G 2.5 mm² CE *and current meter marking*

Application: The Festoon 715 P cable is designed for high mechanical stress. It is particularly suitable for use in cable roller assemblies.

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	TPE
Color code:	single conductor black; from 2 conductors: colored acc. to HD 308 (VDE 0293-308), see page O/26 from 6 conductors: black with consecutive numbers acc. to EN 50334 + VDE 0293-334; from 3 conductors a green/yellow ground
Stranding:	specially adjusted layering with a suspension unit (single conductor cables without a suspension unit)
Wrapping:	non-woven tape
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	black (RAL 9005)

Outstanding features:

- **halogen-free**
- **high abrasion resistance**
- **small outer diameter**
- **path feed rate in cable roller assemblies up to 240 m/min.**

Technical data:

Nominal voltage:	Uo/U 0.6/1 kV
Testing voltage:	conductor/conductor: 4000 V
Min. bending radius:	6 x O.D.
Continuous tensile load:	max. 15 n/mm2 acc. to DIN VDE 0298 part 3 section 7.1
Temperature range: *static:* *flexible:*	 -50/+90°C -40/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids, etc.
Continuous flexibility:	very good
Weather resistance:	very good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **16 AWG (≈ 27-29/30) • 1.50 mm²**				
7150315	3	0.287	7.3	51
7150415	4	0.311	7.9	63
7150515	5	0.346	8.8	79
7150715	7	0.409	10.4	112
7151215	12	0.492	12.5	165
7151815	18	0.594	15.1	247
7152415	24	0.689	17.5	343
7153015	30	0.736	18.7	398
▶ **14 AWG (≈ 46/38) • 2.50 mm²**				
7150325	3	0.319	8.1	71
7150425	4	0.346	8.8	90
7150525	5	0.398	10.1	114
7150725	7	0.472	12.0	163
7151225	12	0.571	14.5	247
7151825	18	0.681	17.3	365
7152425	24	0.795	20.2	536
7153025	30	0.843	21.4	579
▶ **12 AWG (≈ 52/28) • 4.00 mm²**				
7150440	4	0.421	10.7	138

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **10 AWG (≈ 78/28) • 6.00 mm²**				
7150460	4	0.476	12.1	193
▶ **8 AWG (≈ 77/26) • 10.00 mm²**				
7150361	3	0.563	14.3	256
7150461	4	0.622	15.8	331
7150561	5	0.681	17.3	406
▶ **6 AWG (≈ 122/26) • 16.00 mm²**				
7150162	1	0.343	8.7	120
7150362	3	0.689	17.5	379
7150462	4	0.752	19.1	507
7150562	5	0.858	21.8	633
▶ **4 AWG (≈ 190/26) • 25.00 mm²**				
7150163	1	0.398	10.1	177
7150463	4	0.933	23.7	763
7150563	5	1.035	26.3	953
▶ **2 AWG (≈ 272/26) • 35.00 mm²**				
7150164	1	0.476	12.1	253
7150464	4	1.091	27.7	1069

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **1 AWG (≈ 400/26) • 50.00 mm²**				
7150165	1	0.531	13.5	358
7150465	4	1.240	31.5	1520
▶ **2/0 AWG (≈ 543/26) • 70.00 mm²**				
7150166	1	0.630	16.0	482
▶ **3/0 AWG (≈ 484/24) • 95.00 mm²**				
7150167	1	0.744	18.9	665
▶ **4/0 AWG (≈ 589/24) • 120.00 mm²**				
7150168	1	0.819	20.8	808
▶ **250 MCM (≈ 740/24) • 150.00 mm²**				
7150169	1	0.894	22.7	1008
▶ **350 MCM (≈ 902/24) • 185.00 mm²**				
7150170	1	0.976	24.8	1222
▶ **450 MCM (≈ 1220/24) • 240.00 mm²**				
7150171	1	1.122	28.5	1635
▶ **1 AWG (≈ 400/26) x 8 AWG (≈ 77/26) 50.00 mm² + 10.00 mm²**				
715....	3 + 3	1.102	28.0	1728

Other dimensions and colors are available on request

Festoon 716 CP

Shielded PUR cable for flexible application in festoon systems

Marking for Festoon 716 CP 7160162:
SAB BRÖCKSKES · D-VIERSEN · Festoon 716 CP 1x25.0 mm² CE *and current meter marking*

Marking for Festoon 716 CP 7161825:
SAB BRÖCKSKES · D-VIERSEN · Festoon 716 CP 18 G 2.5 mm² CE *and current meter marking*

Application: The Festoon 716 CP cable is designed for high mechanical stress. It is particularly suitable for use in cable roller assemblies. An overall tinned copper braid is recommended whenever electrical interference distorts signal transmission, or when EMI emissions need to be suppressed.

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	TPE
Color code:	single conductor black; from 2 conductors: colored acc. to HD 308 (VDE 0293-308), see page O/26 from 6 conductors: black with consecutive numbers acc. to EN 50334 + VDE 0293-334; from 3 conductors a green/yellow ground
Stranding:	specially adjusted layering with a suspension unit (single conductor cables without a suspension unit)
Wrapping:	non-woven tape
Shielding:	tinned copper braiding
Wrapping:	non-woven tape
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	black (RAL 9005)

Outstanding features:

- **very good EMC characteristics**
- **halogen-free**
- **high abrasion resistance**
- **small outer diameter**
- **path feed rate in cable roller assemblies up to 240 m/min.**

Technical data:

Nominal voltage:	Uo/U 0.6/1 kV
Testing voltage:	conductor/conductor: 4000 V conductor/shielding: 4000 V
Min. bending radius:	7.5 x O.D.
Continuous tensile load:	max. 15 n/mm2 acc. to DIN VDE 0298 part 3 section 7.1
Temperature range: *static:* *flexible:*	 -50/+90°C -40/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids, etc.
Continuous flexibility:	very good
Weather resistance:	very good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **16 AWG (≈ 27-29/30) • 1.50 mm²**				
7160215	2	0.295	7.5	54
7160715	7	0.441	11.2	136
7161215	12	0.524	13.3	192
7161815	18	0.642	16.3	298
▶ **14 AWG (≈ 46/30) • 2.50 mm²**				
7160425	4	0.402	10.2	119
7160525	5	0.437	11.1	138
7161225	12	0.618	15.7	285
7161825	18	0.748	19.0	432
▶ **12 AWG (≈ 52/28) • 4.00 mm²**				
7160440	4	0.476	12.1	174

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **10 AWG (≈ 78/28) • 6.00 mm²**				
7160460	4	0.559	14.2	246
▶ **8 AWG (≈ 77/26) • 10.00 mm²**				
7160461	4	0.697	17.7	403
▶ **6 AWG (≈ 122/26) • 16.00 mm²**				
7160462	4	0.866	22.0	607
▶ **4 AWG (≈ 190/26) • 25.00 mm²**				
7160163	1	0.433	11.0	206
7160463	4	1.016	25.8	875
▶ **2 AWG (≈ 272/26) • 35.00 mm²**				
7160464	4	1.173	29.8	1203

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **1 AWG (≈ 400/26) • 50.00 mm²**				
7160165	1	0.575	14.6	408
7160465	4	1.315	33.4	1653
▶ **2/0 AWG (≈ 543/26) • 70.00 mm²**				
7160166	1	0.673	17.1	539
▶ **3/0 AWG (≈ 484/24) • 95.00 mm²**				
7160167	1	0.787	20.0	736
▶ **4/0 AWG (≈ 589/24) • 120.00 mm²**				
7160168	1	0.862	21.9	881

Other dimensions and colors are available on request

MR 460

PUR control cable with fiber-reinforced jacket

Marking for MR 460 34601207:
SAB BRÖCKSKES · D-VIERSEN · MR 460 12 x 0.75 mm² 34601207 CE

Application: The MR 460 cable is intended for unprotected usage with high mechanical stress e.g. in the forest and agriculture industry.

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	TPE
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 from 3 conductors a green/yellow ground
Stranding:	specially adjusted layering
Wrapping:	non-woven tape
Supporting screen:	high-tech yarn
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	black (similar RAL 9005)

Outstanding features:

- **halogen-free**
- **reinforced outer jacket for high mechanical stress**
- **notch resistant abrasion resistant**
- **good flexibility also at low temperatures**
- **weather resistant**
- **oil resistance**
- **good chemical resistance**
- **sunlight resistance**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 2000 V
Min. bending radius: *fixed installation:* *flexible application:*	 5 x O.D. 10 x O.D.
Temperature range: *static:* *flexible:*	 -50/+90°C -40/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids, etc.
UV resistance:	very good - enhanced due to black jacket color
Mechanical characteristics:	the main mechanical characteristics accomplished by the PUR outer jacket are: - high tensile strength - high tear strength - high abrasion resistance - high notch resistance - high transverse strength
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **20 AWG (≈ 28/34) • 0.50 mm²**				
84600305	3	0.252	6.4	34
84600405	4	0.264	6.7	38
84600505	5	0.287	7.3	44
84600705	7	0.323	8.2	59
84601205	12	0.386	9.8	86
84601805	18	0.441	11.2	118
84602505	25	0.520	13.2	157
▶ **19 AWG (≈ 42/34) • 0.75 mm²**				
84600307	3	0.276	7.0	42
84600407	4	0.291	7.4	48
84600507	5	0.315	8.0	59
84600707	7	0.354	9.0	74
84601207	12	0.429	10.9	106
84601807	18	0.508	12.9	159
84602507	25	0.598	15.2	217

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **18 AWG (≈ 56/34) • 1.00 mm²**				
84600310	3	0.291	7.4	48
84600410	4	0.311	7.9	60
84600510	5	0.335	8.5	70
84600710	7	0.390	9.9	92
84601210	12	0.469	11.9	141
84601810	18	0.535	13.6	190
84602510	25	0.654	16.6	273
▶ **16 AWG (≈ 84/34) • 1.50 mm²**				
84600315	3	0.315	8.0	65
84600415	4	0.339	8.6	76
84600515	5	0.366	9.3	89
84600715	7	0.429	10.9	138
84601215	12	0.516	13.1	186
84601815	18	0.610	15.5	271
84602515	25	0.724	18.4	363

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **14 AWG (≈ 140/34) • 2.50 mm²**				
84600325	3	0.386	9.8	94
84600425	4	0.413	10.5	114
84600525	5	0.453	11.5	138
84600725	7	0.531	13.5	184
84601225	12	0.657	16.7	300
84601825	18	0.764	19.4	443
84602525	25	0.921	23.4	583

Other dimensions and colors are available on request

SAB 755 - Exploration

Highly flexible PUR control and power supply cable

Marking for SAB 755 - Exploration 7550715:
SAB BRÖCKSKES · D-VIERSEN · SAB 755-Exploration 7x1.5mm² cULus AWM Style 21233 80°C 1000V AWM I/II A/B 80°C 1000V FT1 FT2 755-0715 CE

Application: Halogen-free, shielded connection and control cable applied for drilling equipment, compressors or pumps in especially rough and wet environments of machine tools and production lines.

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	SABIX®
Color code:	colored acc. to HD 308 (VDE 0293-308), see page O/26 from 5 conductors: black with consecutive numbers acc. to EN 50334 + VDE 0293-334; and a green/yellow ground
Shielding:	tinned copper braiding
Supporting screen:	high-tech yarn
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	black (RAL 9005)

Outstanding features:

- **UL/cUL recognized**
- **extremely large temperature range**
- **small outer diameter**
- **lighter cable weight**
- **application in Topside drilling loop**

Technical data:

Nominal voltage:	Uo/U 0.6/1 kV
Voltage UL/cUL:	1000 V
Testing voltage:	conductor/conductor: 4000 V conductor/shielding: 4000 V
Current-carrying capacity:	acc. to VDE 0298-4
Min. bending radius: *fixed installation:* *flexible application:*	 6 x O.D. 15 x O.D.
Temperature range: *static:* *flexible:*	**DIN VDE** **UL/cUL:** up to +80°C -50/+90°C -45/+90°C
Cold resistance:	-50°C acc. to DIN EN 60811-506
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 cUL FT1 FT2
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
MUD resistance:	very good - acc. to IEC 60992-360, IEC 61892-4 NEK TS 606
Tensile strength:	max. 20 N/mm²
Sunlight resistance:	acc. to HD 605
Ozone resistance:	acc. to DIN EN 50396
Salt water resistance:	acc.to UL 1309
Approvals:	UR AWM, cUR AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **16 AWG ▪ 1.50 mm²**				
7550715	7	0.445	11.3	140
7551215	12	0.520	13.2	194
7551515	15	0.598	15.2	260
7551815	18	0.626	15.9	293
7552515	25	0.748	19.0	386
▶ **14 AWG ▪ 2.50 mm²**				
7550525	5	0.433	11.0	148
7550725	7	0.512	13.0	198
7551225	12	0.622	15.8	304
▶ **12 AWG ▪ 4.00 mm²**				
7550340	3	0.437	11.1	136
7550440	4	0.480	12.2	182
7550540	5	0.524	13.3	216
▶ **10 AWG ▪ 6.00 mm²**				
7550360	3	0.520	13.2	205
7550460	4	0.563	14.3	260
7550560	5	0.618	15.7	316
▶ **8 AWG ▪ 10.00 mm²**				
7550361	3	0.630	16.0	323
7550461	4	0.654	16.6	377
7550561	5	0.752	19.1	480

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **6 AWG ▪ 16.00 mm²**				
7550362	3	0.768	19.5	466
7550462	4	0.835	21.2	577
7550562	5	0.921	23.4	713
▶ **4 AWG ▪ 25.00 mm²**				
7550363	3	0.902	22.9	683
7550463	4	0.984	25.0	857
7550563	5	1.087	27.6	1054
▶ **2 AWG ▪ 35.00 mm²**				
7550164	1	0.610	15.5	314
7550364	3	1.035	26.3	958
7550464	4	1.134	28.8	1185
7550564	5	1.232	31.3	1451
▶ **1 AWG ▪ 50.00 mm²**				
7550165	1	0.681	17.3	434
7550365	3	1.154	29.3	1299
7550465	4	1.268	32.2	1641
7550565	5	1.398	35.5	2020

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **2/0 AWG ▪ 70.00 mm²**				
7550166	1	0.780	19.8	579
▶ **3/0 AWG ▪ 95.00 mm²**				
7550167	1	0.909	23.1	792
▶ **4/0 AWG ▪ 120.00 mm²**				
7550168	1	0.969	24.6	954
▶ **250 MCM ▪ 150.00 mm²**				
7550169	1	1.063	27.0	1174
▶ **350 MCM ▪ 185.00 mm²**				
7550170	1	1.142	29.0	1396
▶ **450 MCM ▪ 240.00 mm²**				
7550171	1	1.350	34.3	1885
▶ **550 MCM ▪ 300.00 mm²**				
7550172	1	1.476	37.5	2315

Other dimensions and colors are available on request

Hybrid cable on request!

SPECIAL CABLES SAB North America
www.sabcable.com
866-722-2974 ■ info@sabcable.com

SAB S 745 - Exploration

Continuous flex oil resistant PUR control cable

· D-VIERSEN · SAB S 745 - Exploration 18x1.5mm²

Marking for SAB S 745 - Exploration 7451815:
SAB BRÖCKSKES · D-VIERSEN · SAB S 745 - Exploration 18x1.5mm² c us AWM Style 21233 80°C 1000V AWM I/II A/B 80°C 1000V FT1 FT2 745-0715 CE

Application: Halogen-free, shielded control cable for continuous flexible use in cable chains in rough environments for example drilling equipment or wet areas of machine tools and production lines. Appropriate for outdoor and indoor areas.

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	SABIX®
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334; and a green/yellow ground
Inner jacket:	SABIX® (only for multi-conductor cables)
Shielding:	tinned copper braiding
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	black (RAL 9005)

Outstanding features:

- **UL/cUL recognized**
- **extremely large temperature range**
- **small outer diameter**
- **lighter cable weight**
- **long travels possible**
- **very good EMC characteristics**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Voltage UL/cUL:	600 V
Testing voltage:	conductor/conductor: 2000 V conductor/shielding: 2000 V
Min. bending radius: *continuously flexible:*	10 x O.D.
Temperature range: *fixed installation:* *flexible application*:*	**DIN VDE** **UL/cUL:** up to +80°C -50/+90°C -45/+90°C
Cold resistance:	-50°C acc. to DIN EN 60811-506
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 cUL FT1 FT2
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
MUD resistance:	very good - acc. to IEC 60992-360, IEC 61892-4 NEK TS 606
Sunlight resistance:	acc. to HD 605
Ozone resistance:	acc. to DIN EN 50396
Salt water resistance:	acc.to UL 1309
Approvals:	UR AWM, cUR AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

*protected installation

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **16 AWG ▪ 1.50 mm²**				
7450315	3	0.307	7.8	65
7450515	5	0.358	9.1	91
7451815	18	0.610	15.5	270
7452515	25	0.748	19.0	409
▶ **14 AWG ▪ 2.50 mm²**				
7450325	3	0.398	10.1	105
7450525	5	0.445	11.3	157
7451825	18	0.717	18.2	472
7452525	25	0.850	21.6	665

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **12 AWG ▪ 4.00 mm²**				
7450440	4	0.492	12.5	182
▶ **10 AWG ▪ 6.00 mm²**				
7450160	1	0.252	6.4	59
7450460	4	0.602	15.3	284
▶ **8 AWG ▪ 10.00 mm²**				
7450161	1	0.291	7.4	91

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **6 AWG ▪ 16.00 mm²**				
7450162	1	0.339	8.6	133
7450462	4	0.878	22.3	656
▶ **4 AWG ▪ 25.00 mm²**				
7450163	1	0.417	10.6	204
▶ **1 AWG ▪ 50.00 mm²**				
7450165	1	0.579	14.7	406

Other dimensions and colors are available on request

Hybrid cable on request!

SL 851 C - Exploration

PUR shielded motor connection cable, 0.6/1 kV

0.6/1 kV

Marking for SL 851 C - Exploration 8510425:

SAB BRÖCKSKES · D-VIERSEN · SL 851 C - Exploration 4x2.5mm² AWM Style 21223 80°C 1000V cUus AWM I/II A/B 80°C 1000V FT1 FT2 CE

Application: Motor connection cable for the electrical hook-up of drilling equipment, compressors, generators as well as pumps in rough environments.

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	SABIX®
Color code:	colored acc. to HD 308 (VDE 0293-308), see page O/26 and a green/yellow ground
Wrapping:	alu-foil
Shielding:	tinned copper braiding
Wrapping:	non-woven tape
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	black (RAL 9005)

Outstanding features:

- **UL/cUL recognized**
- **extremely large temperature range**
- **low surface transfer impedance**
- **low mutual capacitance**
- **very good EMC characteristics**

Technical data:

Nominal voltage:	Uo/U 0.6/1 kV
Voltage UL/cUL:	1000 V
Maximum operating voltage:	*in three-phase current and single phase current operation:* Uo/U 0.7/1.2 kV *in D.C. current operation:* Uo/U 0,9/1.8 kV *peak value of AC voltage:* U^ 1.7 kV
Testing voltage:	conductor/conductor: 4000 V conductor/shielding: 4000 V
Min. bending radius:	**≤ 12 mm** / **> 12 mm up to ≤ 20 mm** / **> 20 mm** *fixed installation:* 5 x O.D. / 7.5 x O.D / 10 x O.D *flexible application:* 10 x O.D / 15 x O.D / 20 x O.D
Temperature range:	**DIN VDE** / **UL/cUL:** up to +80°C *static:* -50/+90°C *flexible*:* -45/+90°C
Cold resistance:	-50°C acc. to DIN EN 60811-506
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 cUL FT1 FT2
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
MUD resistance:	very good - acc. to IEC 60992-360, IEC 61892-4, NEK TS 606
Sunlight resistance:	acc. to HD 605
Ozone resistance:	acc. to DIN EN 50396
Salt water resistance:	acc.to UL 1309
Approvals:	UR AWM, cUR AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30 *protected installation

D
27

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **14 AWG ▪ 2.50 mm²**				
8510425	4	0.394	10.0	113
▶ **12 AWG ▪ 4.00 mm²**				
8510440	4	0.484	12.3	178
▶ **10 AWG ▪ 6.00 mm²**				
8510460	4	0.551	14.0	259
▶ **8 AWG ▪ 10.00 mm²**				
8510470	4	0.669	17.0	425
▶ **6 AWG ▪ 16.00 mm²**				
8510480	4	0.870	22.1	626
▶ **4 AWG ▪ 25.00 mm²**				
8510490	4	1.020	25.9	474
▶ **2 AWG ▪ 35.00 mm²**				
8510495	4	1.173	29.8	1216
▶ **1 AWG ▪ 50.00 mm²**				
8510496	4	1.311	33.3	1670
▶ **2/0 AWG ▪ 70.00 mm²**				
8510498	4	1.563	39.7	2319

Other dimensions and colors are available on request

for DNC motors
on frequency converters
U^ 1.7 kV

BB 380 Boarding Bridge

Cables for the flexible applications in passenger bridges

Marking for BB 380 Boarding Bridge 53800410:
SAB BRÖCKSKES · D-VIERSEN · BB 380 Boarding Bridge 300/500V 4 G 1.0 mm2 CE

Application: The BB 380 Boarding Bridge is ideally suitable for use in passenger boarding bridges. In addition to halogen-free, this cable has further advantages such as oil resistance, weather resistance and UV resistance.

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228 VDE 0295, class 5
Insulation:	special SABIX®
Color code:	black conductors with consecutive numbers acc. to EN 50334, from 3 conductors a green/yellow ground
Stranding:	in layers
Wrapping:	non-woven tape
Jacket material:	PUR
Jacket color:	black (RAL 9005)

Outstanding features:

- **halogen-free**
- **oil resistant**
- **weather resistant**
- **sunlight resistant**

Technical data:

Nominal voltage:	up to AWG 18: Uo/U 300/500 V up to AWG 16: Uo/U 0.6/1 kV
Testing voltage:	300/500 V: 3000 V 0.6/1 kV: 4000 V
Min. bending radius: *fixed installation:* *flexible application:*	 4 x O.D. 7.5 x O.D.
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range: *static:* *flexible:*	 -40/+90°C -30/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids, etc.
Flexibility:	very good
Weather resistance:	good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

300/500 V

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **20 AWG (≈ 16/32) • 0.50 mm²**				
53800205	2	0.201	5.1	20
53800305	3	0.213	5.4	26
53800405	4	0.228	5.8	31
53800505	5	0.248	6.3	37
53800705	7	0.287	7.3	50
53801205	12	0.358	9.1	78
► **19 AWG (≈ 23/32) • 0.75 mm²**				
53800207	2	0.224	5.7	26
53800307	3	0.236	6.0	33
53800407	4	0.256	6.5	40
53800507	5	0.280	7.1	49
53800707	7	0.327	8.3	67
53801207	12	0.406	10.3	107
► **18 AWG (≈ 30/32) • 1.00 mm²**				
53800210	2	0.232	5.9	30
53800310	3	0.244	6.2	38
53800410	4	0.264	6.7	47
53800510	5	0.291	7.4	58
53800710	7	0.339	8.6	78
53801210	12	0.421	10.7	126

0.6/1 kV

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **16 AWG (≈ 27-29/30) • 1.50 mm²**				
53800215	2	0.320	8.1	52
53800315	3	0.339	8.6	67
53800415	4	0.374	9.5	40
53800515	5	0.409	10.4	103
► **14 AWG (≈ 46/30) • 2.50 mm²**				
53800225	2	0.374	9.5	75
53800325	3	0.394	10.0	98
53800425	4	0.429	10.9	120
53800525	5	0.480	12.2	151
► **12 AWG (≈ 52/28) • 4.00 mm²**				
53800240	2	0.421	10.7	102
53800340	3	0.453	11.5	136
53800440	4	0.496	12.6	171
53800540	5	0.559	14.2	216

0.6/1 kV

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **10 AWG (≈ 78/28) • 6.00 mm²**				
53800260	2	0.469	11.9	136
53800360	3	0.496	12.6	179
53800460	4	0.559	14.2	234
53800560	5	0.614	15.6	286
► **8 AWG (≈ 77/26) • 10.00 mm²**				
53800261	2	0.626	15.9	222
53800361	3	0.661	16.8	303
53800461	4	0.732	18.6	380
53800561	5	0.815	20.7	475

Other dimensions and colors are available on request

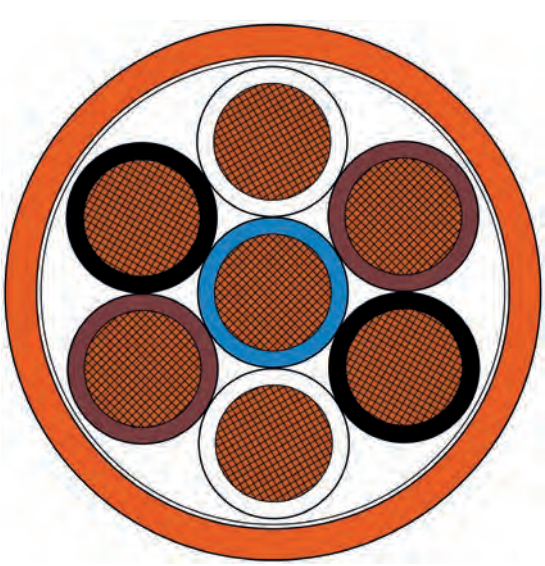
Shielded version on request

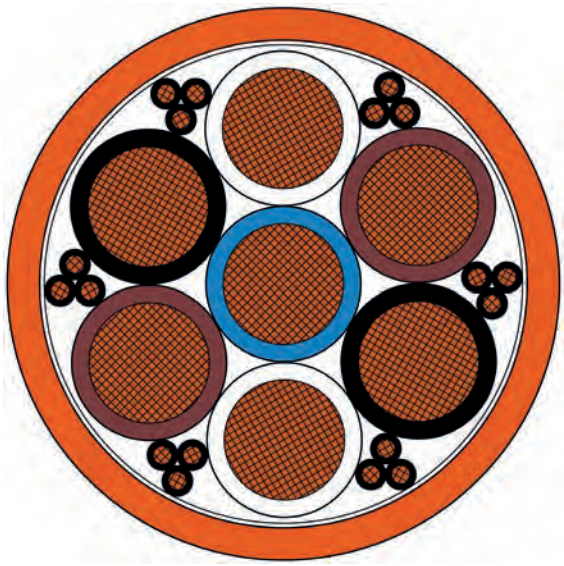
GP 400 Sy

400 Hz Ground Power Supply Cable - Symmetrical

for fixed installation

CE EAC RoHS





Application: For use as fixed installed cable in 400 Hz systems, e.g. between 400 Hz generator and cable dispenser

Construction:

Conductor:	bare copper strands
Insulation:	2 AWG: PVC 18 AWG: SABIX®
Color code:	control conductors: black with numbers 1 - 18 neutral conductor: blue phase conductor: white, brown, black (two conductors of the same color for the phase)
Stranding:	phase conductors concentrically around the neutral conductor, control conductor as triple in the interstices
Jacket material:	PVC
Jacket color:	orange
Marking:	SAB BRÖCKSKES · D-VIERSEN · GP 400 Sy 7x35.0mm²+6x3x1.0mm² 3400-7213 CE and current meter marking

Outstanding features:

reduced outer diameter

Technical data:

Nominal voltage:	Uo/U 0.6/1 kV
Testing voltage:	conductor/conductor: 4000 V AC
Min. bending radius:	
fixed installation:	4 x O.D
flexible application:	8 x O.D
Temperature range:	
static:	-40/+70°C
flexible:	+5/+70°C
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	AWG/c	outer-ø inch	outer-ø mm	cable weight ≈lbs/mft	DC resistance at 20°C max. Ω/km		voltage drop [mV/(A*m)]	
▶ 34007210	2 AWG / 7c	1.457	37	2018	2 AWG:	0.554	2 AWG:	1.108
▶ 34007213	2 AWG / 7c + 18 AWG / 6x3	1.457	37	2100	2 AWG:	0.554	2 AWG:	1.108
					18 AWG:	19.500	18 AWG:	39.0

Other dimensions and colors are available on request

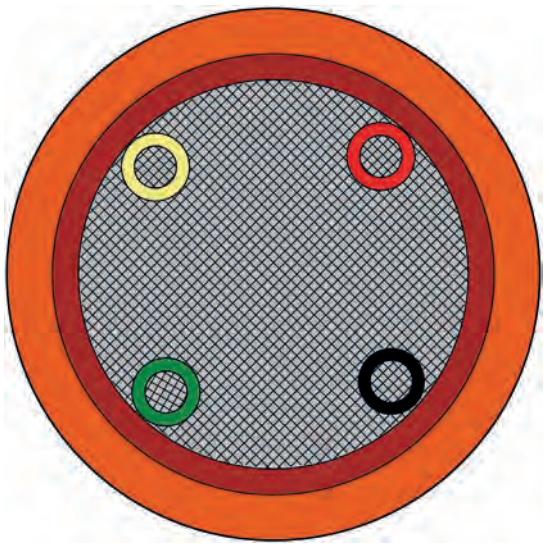
Also avaliable with 24 control conductors

GP 400 SC

400 Hz Ground Power Supply Cable - SingleCore

for flexible application

CE EAC RoHS



Application: For use in flexible applications, e.g. on mobile generators, in cable dispensers in the ground or on the passenger bridge.

Construction:

Conductor:	tinned copper strands
Insulation:	SABIX®
Color code:	control conductors: red, black, green, yellow power supply conductor: red
Stranding:	control conductors within the power supply conductor
Jacket material:	PUR
Jacket color:	orange
Marking:	SAB BRÖCKSKES · D-VIERSEN · GP 400 SC 50mm²+4x1.0mm² 34001321 CE and current meter marking

Outstanding features:

- **low capacity insulation**
- **abrasion-resistant PUR jacket**
- **control conductors symmetrically arranged inside power supply conductor**
- **cold flexible**
- **halogen-free**
- **oil resistant**
- **weather resistant**

Technical data:

Nominal voltage:	Uo/U 115/200 V
Max. permissible operating voltage*:	Uo/U 0.6/1 kV
Testing voltage:	conductor/conductor: 4000 V AC
Min. bending radius: *fixed installation:* *flexible application:*	 4 x O.D 6 x O.D
Temperature range: *static:* *flexible*:*	 -50/+90°C -40/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Weather resistance:	very good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

* using all wires on one potential

item no.	AWG/c	outer-ø inch	outer-ø mm	cable weight ≈lbs/mft	DC resistance at 20°C max. Ω/km		voltage drop [mV/(A*m)]	
► 34001321	2 AWG / 1c + 18 AWG/ 4c	0.614	15.6	394	2 AWG: 18 AWG:	0.393 20.000	2 AWG: 18 AWG:	0.786 40.0
► 34001421	2/0 AWG / 1c + 18 AWG/ 4c	0.697	17.7	538	2/0 AWG: 18 AWG:	0.277 20.000	2/0 AWG: 18 AWG:	0.554 40.0
► 34001521	3/0 AWG / 1c + 18 AWG/ 4c	0.772	19.6	693	3/0 AWG: 18 AWG:	0.210 20.000	3/0 AWG: 18 AWG:	0.420 40.0

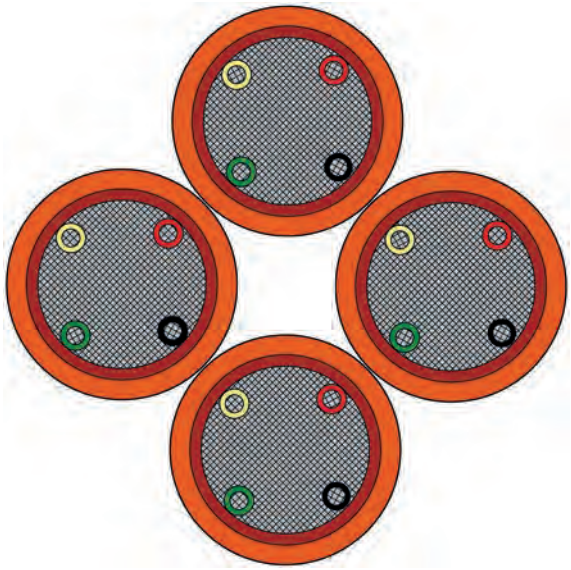
Other dimensions and colors are available on request

GP 400 QF

400 Hz Ground Power Supply Cable - QuadFlex

for flexible application

CE RoHS



Application: For use in flexible applications, e.g. on mobile generators, in cable dispensers in the ground or on the passenger bridge.

Construction:

Conductor:	tinned copper strands
Insulation:	SABIX®
Color code:	control conductors: red, black, green, yellow power conductor: red
Stranding:	control conductors within the power supply conductor
Jacket material:	PUR
Jacket color:	orange
Stranding:	openly stranded
Marking:	SAB BRÖCKSKES · D-VIERSEN · GP 400 QF 4x(50mm²+4x1.0mm²) 34004321 L1 resp. L2 resp. L3 resp. N CE and current meter marking

Outstanding features:

- **low capacity insulation**
- **abrasion-resistant PUR jacket**
- **control conductors symmetrically arranged inside power supply conductor**
- **cold flexible**
- **halogen-free**
- **oil resistant**
- **weather resistant**

Technical data:

Nominal voltage:	Uo/U 115/200 V
Max. permissable operating voltage*:	Uo/U 0.6/1 kV
Testing voltage:	conductor/conductor: 4000 V AC
Min. bending radius: *fixed installation:* *flexible application:*	 4 x O.D 6 x O.D
Temperature range: *static:* *flexible*:*	 -50/+90°C -40/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Weather resistance:	very good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

* using all wires on one potential

item no.	AWG/c	outer-ø inch	outer-ø mm	cable weight ≈lbs/mft	DC resistance at 20°C max. Ω/km		voltage drop [mV/(A*m)]	
► 34004321	4 x (2 AWG + 4 x 18 AWG)	1.476	37.5	1613	2 AWG: 18 AWG:	0.393 20.000	2 AWG: 18 AWG:	0.786 40.0
► 34004421	4 x (2/0 AWG + 4 x 18 AWG)	1.673	42.5	2193	2/0 AWG: 18 AWG:	0.277 20.000	2/0 AWG: 18 AWG:	0.554 40.0

Other dimensions and colors are available on request

GP 400 7F

400 Hz Ground Power Supply Cable - SevenFlex

for flexible application

CE RoHS

Application: Symmetrical cable with high flexibility. Minimum bending radius (easy to coil even in tight spaces) and high quality electrical performance (low voltage drop and low voltage unbalance). Can be used in long lengths.

Construction:

Conductor:	tinned copper strands
Insulation:	SABIX®
Color code:	control conductors: red, black, green, yellow power supply conductor: red
Stranding:	control conductors within the power supply conductor
Jacket material:	PUR
Jacket color:	orange
Stranding:	openly stranded
Marking:	SAB BRÖCKSKES · D-VIERSEN · Special GP 400 35.0mm²+4x1.0mm² 34009006 CE *and current meter marking*

Outstanding features:

- **low capacity insulation**
- **abrasion-resistant PUR jacket**
- **control conductors symmetrically arranged inside power supply conductor**
- **cold flexible**
- **halogen-free**
- **oil resistant**
- **weather resistant**

Technical data:

Nominal voltage:	Uo/U 0.6/1kV
Testing voltage:	conductor/conductor: 4000 V AC
Min. bending radius: *fixed installation:* *flexible application:*	 4 x O.D 6 x O.D
Temperature range: *static:* *flexible*:*	 -50/+90°C -40/+90°C
Approvals:	CE, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	AWG/c	outer-ø inch	outer-ø mm	cable weight ≈lbs/mft	DC resistance at 20°C max. Ω/km	voltage drop [mV/(A*m)]
▶ 34009006	2 AWG / 7c + 18 AWG/ 4c	1.58	40.2	1995	2 AWG: 0.554 18 AWG: 19.5	2 AWG: 1.108 18 AWG: 39.0

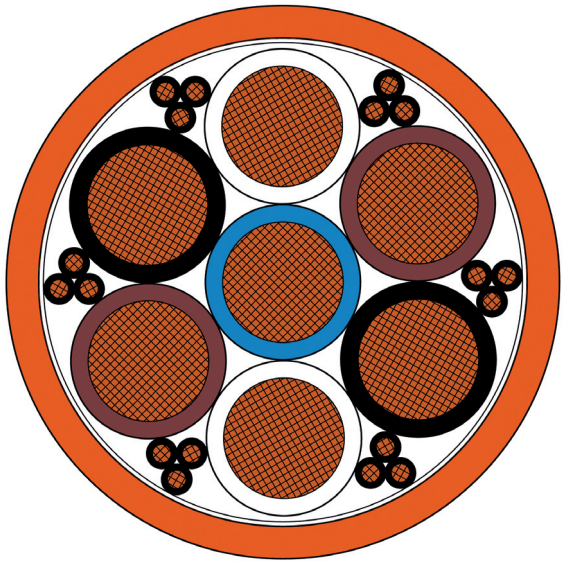
Other dimensions and colors are available on request

GP 400 SF

400 Hz Ground Power Supply Cable - SymmetricalFlex

for flexible application

CE EAC RoHS



Application: For use as fixed cable with particularly good laying ability or for flexible use without high mechanical stress, e.g. in slow moving drag chains on passenger boarding bridges. Optimized flexibility due to flexible core and jacket materials, thus easy installation and easy handling in the cable dispenser. Depending on the operating conditions, it can also be used as a direct supply line to the aircraft with a connector.

Construction:

Conductor:	bare copper strands
Insulation:	SABIX®
Color code:	control conductors: black with numbers 1 - 18 neutral conductor: blue phase conductor: white, brown, black (two conductors of the same color for the phase)
Stranding:	Phase conductors concentrically around neutral core, control cores as tripple in the interstices, triple wrapped with non-woven tape, all elements twisted in specially adjusted layers, non-woven tape overlapping wrapped
Jacket material:	special compound
Jacket color:	orange
Marking:	SAB BRÖCKSKES · D-VIERSEN · GP 400 SF 7x35.0mm²+6x3x1.0mm² 34007223 CE and current meter marking

Technical data:

Nominal voltage:	Uo/U 0.6/1 kV
Testing voltage:	conductor/conductor: 4000 V AC
Min. bending radius: *fixed installation:* *flexible application:*	 4 x O.D 6 x O.D
Temperature range: *static:* *flexible:*	 -40/+70°C -20/+70°C
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

Outstanding features:

- **low capacity insulation**
- **very smooth handling**
- **also usable as a supply cable directly on the aircraft**
- **very good installation in the smallest possible space**

Also avaliable with 24 control conductors

item no.	AWG/c	outer-ø inch	outer-ø mm	cable weight ≈lbs/mft	DC resistance at 20°C max. Ω/km	voltage drop [mV/(A*m)]
▶ 34007123	7 x 4 AWG + (6x3 x 18 AWG)	1.276	32.4	1509	4 AWG: 0.780 18 AWG: 19.500	4 AWG: 1.560 18 AWG: 39.0
▶ 34007223	7 x 2 AWG + (6x3 x 18 AWG)	1.661	42.2	1972	2 AWG: 0.544 18 AWG: 19.500	2 AWG: 1.108 18 AWG: 39.0

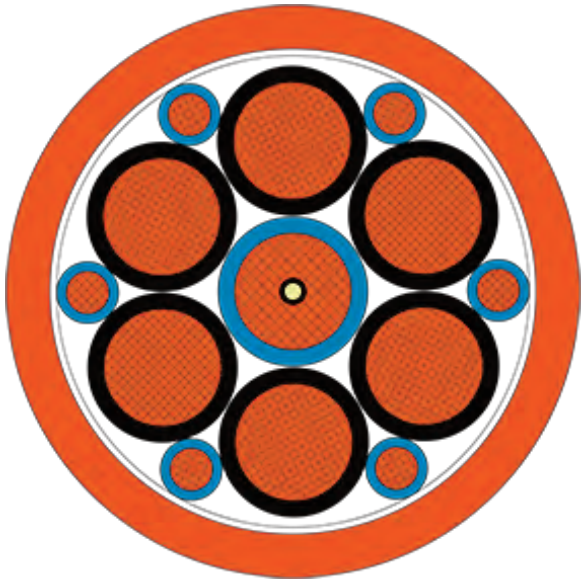
Other dimensions and colors are available on request

GP 400 SF S Supply Cable

400 Hz Ground Power Supply Cable

for flexible application

CE RoHS



Application: For the application as cable track cables in energy supply chains or as Festoon cable on passenger boarding bridges.

Construction:

Conductor:	tinned copper strands
Insulation:	SABIX®
Color code:	16 AWG: blue 2 AWG: black with numbers, 2 x 1-3 blue
Stranding:	2 AWG: neutral core with strain relief in the core, wrapped with non-woven tape
Wrapping:	non-woven tape
Jacket material:	PUR
Jacket color:	orange
Marking:	SAB BRÖCKSKES · D-VIERSEN · GP 400 SF S 7x35,0mm²+6x6,0mm² 34006230 CE and current meter marking

Outstanding features:

- **low capacity insulation**
- **abrasion resisistant PUR jacket**
- **cold flexible**
- **halogen-free**
- **oil resistant**
- **weather resistant**

Technical data:

Nominal voltage:	Uo/U 0.6/1 kV
Testing voltage:	conductor/conductor: 4000 V AC
Min. bending radius: *continuously flexible:*	 7.5 x O.D
Temperature range: *static:* *flexible:*	 -50/+90°C -40/+90°C
Approvals:	CE, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

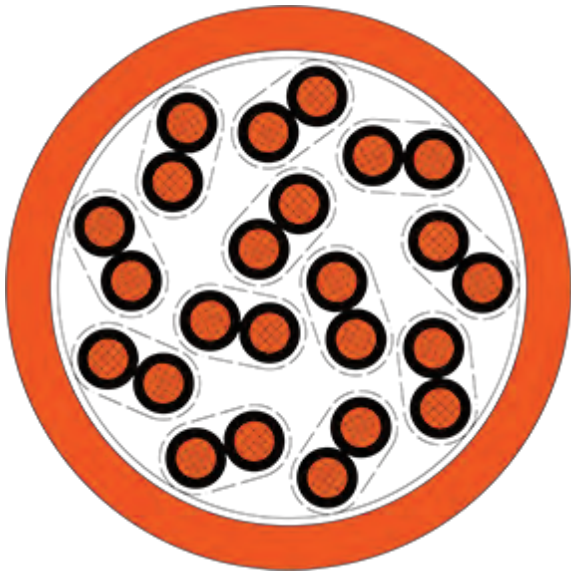
item no.	AWG	outer-ø inch	outer-ø mm	cable weight ≈lbs/mft	DC resistance at 20°C max. Ω/km
▶ 34006230	16 AWG/7c + 2 AWG/6	1.50	38	2132	2 AWG: 0.565 16 AWG: 3.39

Other dimensions and colors are available on request

GP 400 SF S Control Cable

400 Hz Ground Power Control Cable

for flexible application



Application: For the application as cable track cables in energy supply chains or as Festoon cable on passenger boarding bridges.

Construction:

Conductor:	bare copper strands, fine wires
Insulation:	SABIX®
Color code:	black with numbers: 1-24
Stranding:	conductors twisted to pairs, optimized twisting of pairs in layers
Jacket material:	PUR
Jacket color:	orange
Marking:	SAB BRÖCKSKES · D-VIERSEN · GP 400 SF S 12x2x1,5mm² 34009028 CE and current meter marking

Outstanding features:

- **low capacity insulation**
- **abrasion resisistant PUR jacket**
- **cold flexible**
- **halogen-free**
- **oil resistant**
- **weather resistant**

Technical data:

Nominal voltage:	300/500 V
Testing voltage:	conductor/conductor: 4000 V AC
Min. bending radius: *continuously flexible:*	7.5 x O.D
Temperature range: *static:* *flexible:*	-50/+90°C -40/+90°C
Approvals:	CE, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	AWG/prs	outer-ø inch	outer-ø mm	cable weight ≈lbs/mft	DC resistance at 20°C max. Ω/km
▶ 34009028	16 AWG/12pr	0.906	23	323	16 AWG: 13.7

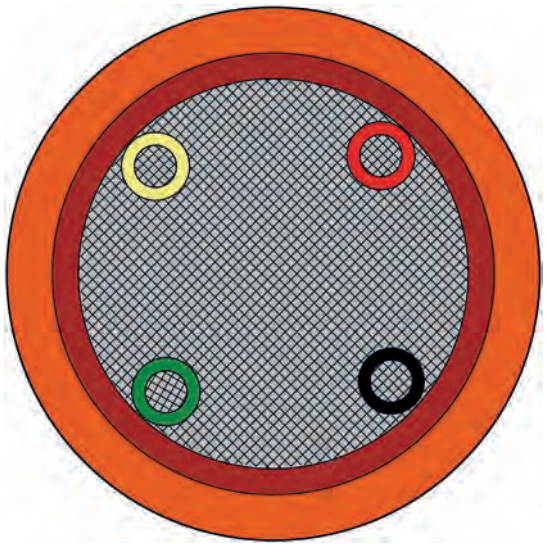
Other dimensions and colors are available on request

GP 400 SC DC

Ground Power supply cable 28 V DC - SingleCore Direct Current

for flexible application

CE RoHS



Application: For use in flexible applications, e.g. on mobile generators, in cable dispensers in the ground or on the passenger bridge at 28 V DC.

Construction:

Conductor:	tinned copper strands
Insulation:	SABIX®
Color code:	control conductors: red, black, green, yellow power supply conductor: red
Stranding:	control conductors within the power supply conductor
Jacket material:	PUR
Jacket color:	orange
Marking:	SAB BRÖCKSKES · D-VIERSEN · GP 400 SC DC (120mm²+4x1.0mm²) 34001621 CE and current meter marking

Outstanding features:

- **low capacity insulation**
- **abrasion-resistant PUR jacket**
- **control conductors symmetrically arranged inside power supply conductor**
- **cold flexible**
- **halogen-free**
- **oil resistant**
- **weather resistant**

Technical data:

Nominal voltage:	28 V DC
Testing voltage:	conductor/conductor: 600 V AC
Min. bending radius: *fixed installation:* *flexible application:*	 4 x O.D 6 x O.D
Temperature range: *static:* *flexible:*	 -50/+90°C -40/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Weather resistance:	very good
Approvals:	CE, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	AWG/c	outer-ø inch	outer-ø mm	cable weight ≈lbs/mft	DC resistance at 20°C max. Ω/km		voltage drop [mV/(A*m)]	
▶ 34001621	4/0 AWG/ 1c + 18 AWG/ 4c	0.874	22.2	894	4/0 AWG: 18 AWG:	0.164 20.000	4/0 AWG: 18 AWG:	0.328 40.0

Other dimensions and colors are available on request

GP 400 SF 28V DC

400 Hz Ground Power supply cable - 28 V DC

for flexible application

Application: For the application as fixed supply cable with optimised installation or for a flexible hand-held application without elevated mechanical stress for example mobile GPUs. Excellent flexibility due to smooth core and sheath materials make possible an easy laying and handling.

Construction:

Conductor:	tinned copper strands, fine wires
Insulation:	SABIX®
Color code:	1.0 mm²: black conductors with consecutive numbers 1 - 14 40 mm²: white conductors with consecutive numbers 1 - 3, black conductors with consecutive numbers 1 - 3
Stranding:	in layers
Jacket material:	PVC
Jacket color:	orange
Marking:	SAB BRÖCKSKES · D-VIERSEN · GP 400 SF 28V DC 6x40.0mm²+14x1.0mm² 34009020 CE and current meter marking

Technical data:

Nominal voltage:	28 V DC
Testing voltage:	conductor/conductor: 600 V AC
Min. bending radius:	
fixed installation:	4 x O.D
flexible application:	6 x O.D
Temperature range:	
static:	-50/+90°C
flexible:	-40/+90°C
Oil resistance:	acc. to internal standard
Approvals:	CE, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

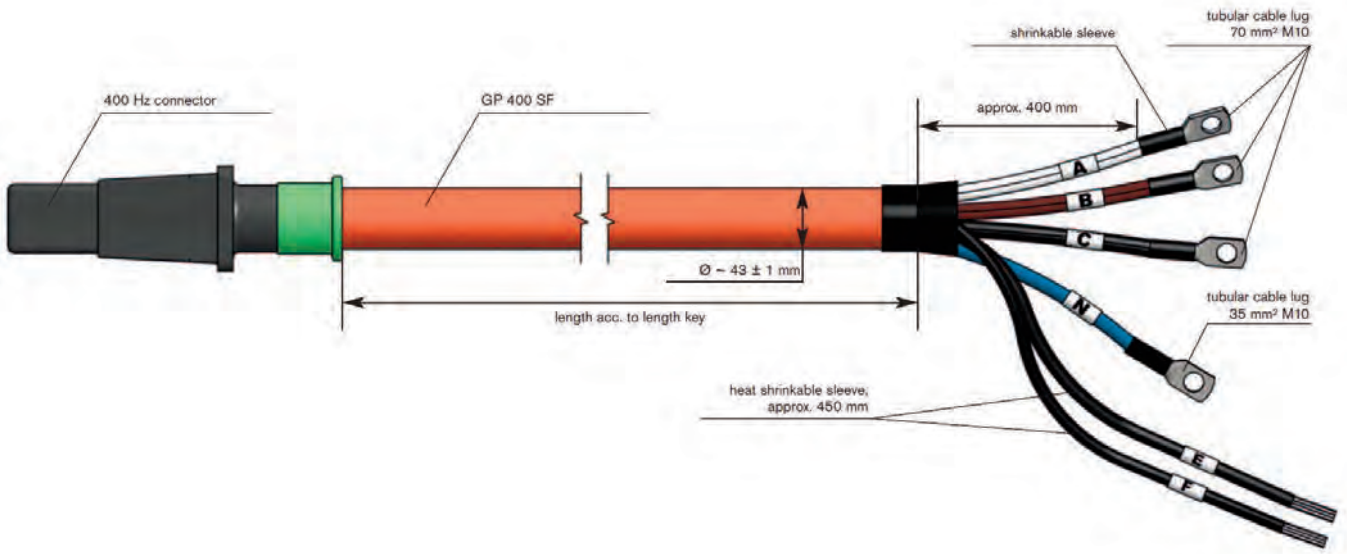
Outstanding features:

- **low capacity insulation**
- **extremely flexible and smooth handling**
- **also usable as supply cable on the aircraft itself**
- **very good installation in narrowest spaces**
- **good resistance characteristics also against wear and tear**

item no.	Dimensions	outer-ø inch	outer-ø mm	cable weight ≈lbs/mft	DC resistance at 20°C max. Ω/km
► 34009020	6 x 40.0 + 14 x 1.0	min. 1.417 max. 1.496	min. 36 max. 38	1955	40 mm²: 0.500 1.0 mm²: 20.0

Other dimensions and colors are available on request

SAB 400 Hz cable for mobile GPUs with connectors



Pin Assignment:

400 Hz Connector	Cable	Connection Piece
pin A	2 x wh (35 mm²)	tubular cable lug 70 mm², M10
pin B	2 x bn (35 mm²)	tubular cable lug 70 mm², M10
pin C	2 x bk (35 mm²)	tubular cable lug 70 mm², M10
pin N	1 x bu (35 mm²)	tubular cable lug 35 mm², M10
pin E	conductors 1-9 (1 mm²)	cores pulled into shrinkable sleeves, core ends untreated
pin F	conductors 10-18 (1 mm²)	

Weight:

connnector and tubular cable lugs	Cable
approx. 3 kg	approx. 3.2 kg/m

Configuration examples:

item no.	length "L" in cm
► S3400-3003-01000	100
► S3400-3003-02000	200

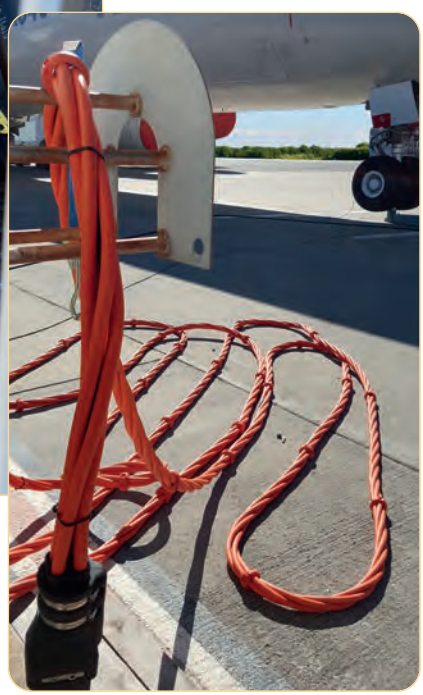
Plug'n'Play - ready harnessed with plug connector

Ready-to-connect ground power cables with plug connectors

SAB also supplies 400 Hz cables ready for installation.

Various 400 Hz connectors available.

- on request also with cable lugs.
- each assembly is packed safely and individually.
- each product is tested for function.
- on request with test report for 100% documentation.



HV 1000 C - SC

Flexible high-voltage single conductor cable with overall copper shield

Marking for HV 1000 C SC 39100163:
SAB BRÖCKSKES · D-VIERSEN · HV 1000 C - SC 1x25mm² 39100163 CE

Application: These high-voltage cables can be used in high-voltage applications e.g. in the fields of agricultural vehicles, construction vehicles and special vehicles. The HV 1000 C - SC is used e.g. between inverters and electric motors.

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	TPFP
Color code:	orange
Shielding:	alu. foil and tinned copper braiding
Wrapping:	non-woven tape
Jacket material:	TPE-U
Jacket color:	orange (RAL 2003)

Outstanding features:

- **extremely high mechanical strength**
- **high protection against environmental influences**
- **100% oil resistance acc. to standard**
- **application range from -50° to +125°C**

Technical data:

Nominal voltage:	Uo/U max. 0.6/1 kV AC/DC
Testing voltage:	conductor/conductor: 5000 V
Min. bending radius:	
fixed installation:	5 x O.D.
flexible application:	10 x O.D.
Temperature range:	
fixed installation:	-50/+90°C
flexible application:	-40/+90°C
limited use time:	+125°C (2000 h)
Low temperature resistance:	-50°C acc. to DIN EN 60811-506
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
MUD resistance:	very good - acc. to IEC 60992-360, IEC 61892-4 NEK TS 606
Sunlight resistance:	acc. to HD 605
Ozone resistance:	acc. to EN 50396
Salt water resistance:	acc.to UL 1309
Mechanical characteristics:	the main mechanical characteristics accomplished by the PUR outer jacket are: - high tensile strength - high tear strength - high abrasion resistance - high notch resistance - high transverse strength
Approvals:	CE, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	AWG/c	outer-ø inch	outer-ø mm	cable weight ≈lbs/mft	ohmic resistance at 20°C max. Ω/km
▶ 39100140	12 AWG / 1c	0.228	5.8	50	4.95
▶ 39100160	10 AWG / 1c	0.256	6.5	67	3.300
▶ 39100161	8 AWG / 1c	0.346	8.8	116	1.910
▶ 39100162	6 AWG / 1c	0.402	10.2	165	1.210
▶ 39100163	4 AWG / 1c	0.480	12.2	244	0.780
▶ 39100164	2 AWG / 1c	0.567	14.4	340	0.554
▶ 39100165	1 AWG / 1c	0.622	15.8	451	0.386
▶ 39100166	2/0 AWG / 1c	0.717	18.2	605	0.227
▶ 39100167	3/0 AWG / 1c	0.823	20.9	814	0.206

Other dimensions and colors are available on request

Construction, materials and tests with reference to:

- **DIN EN 60228**
- **DIN EN 50525**
- **DIN EN 50290-2-30**
- **DIN EN 50620**
- **DIN EN 60811**

In individual cases, the specific application must be agreed with SAB Bröckskes.

HV 1000 C - MC

Flexible high-voltage multi-conductor cable with overall copper shield

Marking for HV 1000 C MC 39100240:
SAB BRÖCKSKES · D-VIERSEN · HV 1000 C - MC 2x4.0mm² 39100240 CE

Application: These high-voltage cables can be used in high-voltage applications e.g. in the fields of agricultural vehicles, construction vehicles and special vehicles. The HV 1000 C - MC is used as a connection cable e.g. for cabin heating, the electric compressor, the high-voltage heat pump in electric and hybrid vehicles.

Construction:

Conductor:	bare copper strands, extra fine wires acc. to IEC 60228, VDE 0295, class 5
Insulation:	TPFP
Color code:	red, black from 3 conductors acc. to HD 308 or acc. to customer request
Stranding:	together
Inner jacket:	Besilen®
Shielding:	alu. foil and tinned copper braiding
Wrapping:	non-woven tape
Jacket material:	TPE-U
Jacket color:	orange (RAL 2003)

Outstanding features:

- **extremely high mechanical strength**
- **high protection against environmental influences**
- **100% oil resistance acc. to standard**
- **application range from -50° to +125°C**

Technical data:

Nominal voltage:	Uo/U max. 0.6/1 kV AC/DC
Testing voltage:	conductor/conductor: 5000 V conductor/shielding: 5000 V
Min. bending radius: *fixed installation:* *flexible application:*	 5 x O.D. 10 x O.D.
Temperature range: *fixed installation:* *flexible application:* *limited use time:*	 -50/+90°C -40/+90°C +125°C (2000 h)
Low temperature resistance:	-50°C acc. to DIN EN 60811-506
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
MUD resistance:	very good - acc. to IEC 60992-360, IEC 61892-4 NEK TS 606
Sunlight resistance:	acc. to HD 605
Ozone resistance:	acc. to EN 50396
Salt water resistance:	acc.to UL 1309
Mechanical characteristics:	the main mechanical characteristics accomplished by the PUR outer jacket are: - high tensile strength - high tear strength - high abrasion resistance - high notch resistance - high transverse strength
Approvals:	CE, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	AWG/c	outer-ø inch	outer-ø mm	cable weight ≈lbs/mft	ohmic resistance at 20°C max. Ω/km
▶ **14 AWG ▪ 2.50 mm²**					
39100225	2	0.378	9.6	99	7.98
39100325	3	0.409	10.4	122	7.98
▶ **12 AWG ▪ 4.0 mm²**					
39100240	2	0.445	11.3	138	4.95
39100340	3	0.476	12.1	169	4.95
▶ **10 AWG ▪ 6.00 mm²**					
39100260	2	0.504	12.8	179	3.10
39100360	3	0.555	14.1	246	3.10
39100460	4	0.594	15.1	291	3.10
39100560	5	0.642	16.3	346	3.10

Other dimensions and colors are available on request

Construction, materials and tests with reference to:

- **DIN EN 60228**
- **DIN EN 50525**
- **DIN EN 50290-2-30**
- **DIN EN 50620**
- **DIN EN 60811**

In individual cases, the specific application must be agreed with SAB Bröckskes.

HV Measuring Cable (DC)

High-voltage multi-conductor shielded cable for DC Voltage Measurement, scoop-proof

Marking for HV measuring cable 38339800:
SAB BRÖCKSKES · D-VIERSEN · ϟHV-Messleitung (2x0.25mm²) ϟ CE

Application: This high voltage measuring cable is used in the development of electric vehicles where scoop-proof testing & measuring of up to 1000 V DC operating voltage and application in the high voltage environment of electromobility takes place. Examples of applications are HV power electronics, HV batteries, electric motors, inverters, etc. High voltage measuring cables are used on the test benches and in test vehicles.

Construction:

Conductor:	tinned copper strands, extra fine wire
Insulation:	FEP
Color code:	black and red
Stranding:	in layers with tinned copper drain wire, AWG 24
Shielding:	alu foil and tinned copper braiding
Inner jacket:	FEP - blue acc. to RAL 5024
Jacket material:	PUR
Jacket color:	orange with black vertical stripes

Outstanding features:

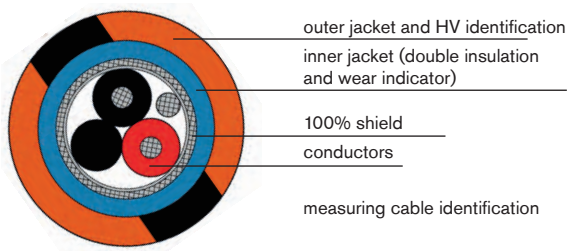
- **temperature resistance up to +150°C (up to 3000 hours)**
- **high flexibility**
- **high abrasion resistance**
- **easy harnessing**

Technical data:

Scoop-proof Testing voltage:	1000 V DC over the blue inner jacket 5000 V AC over the blue inner jacket
Operating voltage:	1000 V DC
Testing voltage:	conductor/conductor: 5000 V AC conductor/shielding: 5000 V AC
Min. bending radius: *fixed installation:* *flexible application:*	 2 x O.D. 10 x O.D.
Temperature range: *static* *flexible:* *limited use time:*	 -50/+125°C -40/+125°C +150°C (up to 3.000 hours)
Low temperature resistance:	-50°C acc. to DIN EN 60811-506
Temperature range of conductors:	up to +180°C (short time use up to 205°C)
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Approvals:	RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	AWG/c	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft	ohmic resistance at 20°C max. Ω/km
38339800	24 AWG/2c	0.256	6.5	41	80.0
38339819	22 AWG/2c	0.264	6.7	40	58.8
38339801	20 AWG/2c	0.280	7.1	50	40.1
38339802	18 AWG/2c	0.307	7.8	63	20.0
38339803	16 AWG/2c	0.331	8.4	76	13.7

Other dimensions and colors are available on request



Possible on request:

also possible as harnessed measuring cable with connected lab plugs to collect the tension at HV components.

HV measuring cable (AC)

High-voltage multi-conductor shielded cable for AC voltage measurement, scoop-proof

CE RoHS

Marking for HV connecting cable 38339813:
SAB BRÖCKSKES · D-VIERSEN · ϟHV-Messleitung (3x1.50mm²) ϟ CE

Application: The high voltage measuring cable is used in the development of electric vehicles where scoop-proof testing and measuring of up to 1800 V DC operating voltage and application in the HV environment of electromobility take place. Examples of applications are HV power electronics, HV batteries, electric motors, inverters, etc. High voltage measuring cables are used on the test benches and in test vehicles.

Construction:

Conductor:	tinned copper strands, extra fine wire
Insulation:	FEP
Color code:	brown, black, gray
Stranding:	in layers with tinned copper drain wire, 24 AWG
Shielding:	alu foil and tinned copper braiding
Inner jacket:	FEP - blue acc. to RAL 5024
Jacket material:	PUR
Jacket color:	orange with black vertical stripes

Outstanding features:

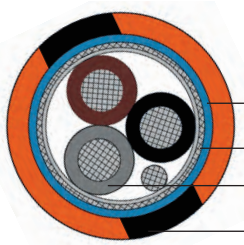
- **temperature resistance up to +150°C (up to 3,000 hours)**
- **high flexibility**
- **high abrasion resistance**
- **easy harnessing**

Technical data:

Scoop-proof Testing voltage:	1000 V DC over the blue inner jacket 5000 V AC over the blue inner jacket
Operating voltage:	conductor/conductor: 1800 V DC conductor/conductor: 1000 V AC
Testing voltage:	conductor/conductor: 5000 V AC conductor/shielding: 5000 V AC
Min. bending radius:	
fixed installation:	5 x O.D.
free movement:	10 x O.D.
Temperature range:	
static	-50/+125°C
flexible:	-40/+125°C
short-term use:	+150°C (up to 3,000 hours)
Temperature range of conductors:	up to +180°C (short-term use up to 205°C)
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Approvals:	RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	AWG/c	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft	ohmic resistance at 20°C max. Ω/km
▶ 38339820	24 AWG/3c	0.268	6.8	44	80.0
▶ 38339816	22 AWG/3c	0.276	7.0	48	58.8
▶ 38339815	20 AWG/3c	0.291	7.4	54	40.1
▶ 38339814	18 AWG/3c	0.319	8.1	71	20.0
▶ 38339813	16 AWG/3c	0.346	8.8	87	13.7

Other dimensions and colors are available on request



outer jacket and HV identification

inner jacket (double insulation and wear indicator)

100% shield

conductors

measuring cable identification

Possible on request:

As harnessed measuring cable with connected lab plugs to collect the voltage at HV components

B 107

Highly flexible silicone high-voltage single conductor, unshielded

Marking for B 107 1071000:
SAB BRÖCKSKES · D-VIERSEN · B 107 Uo/U 1.8/3 kV 10.0mm²

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	Besilen® EI2 acc. to EN 50363-1 + VDE 0207-363-1
Color:	translucent

Outstanding features:

- **extremely flexible**
- **halogen-free**
- **heat resistant**
- **flexible at low temperatures**
- **flame retardant and self-extinguishing**
- **weather resistant**

Technical data:

Nominal voltage:	Uo/U 1.8/3 kV
Testing voltage:	6500 V
Current carrying capacity:	acc. to VDE 0298-4, see page O20 & O21
Min. bending radius:	5 x O.D.
Temperature range:	
static:	-40/+180°C
flexible:	-25/+180°C
short-term use:	+250°C
Halogen-free	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Weather resistance:	very good
Approvals:	RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	mm²	AWG		nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 1070100	1.00	18		0.169	4.3	17
▶ 1070150	1.50	16	(≈ 84/34)	0.185	4.7	22
▶ 1070250	2.50	14	(≈ 140/34)	0.205	5.2	29
▶ 1070400	4.00	12	(≈ 224/34)	0.209	5.3	36
▶ 1070600	6.00	10	(≈ 186/32)	0.224	5.7	50
▶ 1071000	10.00	8	(≈ 32032)	0.354	9.0	98
▶ 1071600	16.00	6	(≈ 504/32)	0.366	9.3	132
▶ 1072500	25.00	4	(≈ 760/32)	0.472	12.0	211
▶ 1073500	35.00	2	(≈ 1083/32)	0.543	13.8	286
▶ 1075000	50.00	1	(≈ 703/28)	0.618	15.7	390
▶ 1077000	70.00	2/0	(≈ 988/28)	0.697	17.7	522
▶ 1079500	95.00	3/0	(≈ 1340/28)	0.740	18.8	680
▶ 1071200	120.00	4/0	(≈ 1680/28)	0.807	20.5	836
▶ 1071500	150.00	250 MCM	(≈ 2122/28)	0.933	23.7	1042
▶ 1071850	185.00	350 MCM	(≈ 1472/26)	0.996	25.3	1272
▶ 1072400	240.00	450 MCM		1.098	27.9	1685
▶ 1073000	300.00	550 MCM		1.213	30.8	2018

Other dimensions and colors are available on request

Copper rope with orange jacket for E-Mobility HV test benches

B 110 C

Silicone insulated shielded copper rope with overall copper shield

RoHS

Marking for B 110 C 1109507:
SAB BRÖCKSKES · D-VIERSEN · B 110 C Uo/U 1.8/3 kV 95.0mm²

Construction:

Conductor:	tinned copper strands, extra fine wires
Insulation:	Besilen® EI2 acc. to EN 50363-1 + VDE 0207-363-1, orange
Wrapping:	alu-foil
Shielding:	tinned copper braiding
Jacket material:	Besilen® EM9 acc. to EN 50363-2-1 + VDE 0207-363-2-1
Jacket color:	orange (similar RAL 2004)

Outstanding features:

- **extremely flexible**
- **halogen-free**
- **good EMC characteristics**
- **flexible at low temperatures**
- **heat resistant**
- **flame retardant and self-extinguishing**
- **weather resistant**

Technical data:

Nominal voltage:	Uo/U 1.8/3 kV AC Uo/U 2.7/5.4 kV DC
Testing voltage:	6500 V
Current carrying capacity:	acc. to VDE 0298-4, see page O20 & O21
Min. bending radius: *fixed installation:* *free movement:*	 6 x O.D. 10 x O.D.
Temperature range: *static:* *flexible:* *short-term use:*	 -40/+180°C -25/+180°C +250°C
Halogen-free	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Weather resistance:	very good
Approvals:	RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	mm²	AWG		ø over inner jacket approx. inch	ø over inner jacket approx. mm	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 1100107	1	18		0.169	4.3	0.299	7.6	42
▶ 1100157	1.5	16		0.185	4.7	0.315	8	54
▶ 1100257	2.5	14		0.205	5.2	0.335	8.5	65
▶ 1100407	4	12	(≈ 224/34)	0.232	5.9	0.358	9.1	65
▶ 1100607	6	10	(≈ 186/32)	0.248	6.3	0.378	9.6	96
▶ 1101007	10	8	(≈ 320/32)	0.323	8.2	0.461	11.7	154
▶ 1101607	16	6	(≈ 504/32)	0.335	8.5	0.472	12	188
▶ 1102507	25	4	(≈ 760/32)	0.441	11.2	0.579	14.7	282
▶ 1103507	35	2	(≈ 1083/32)	0.496	12.6	0.642	16.3	368
▶ 1105007	50	1	(≈ 703/28)	0.571	14.5	0.717	18.2	486
▶ 1107007	70	2/0	(≈ 988/28)	0.650	16.5	0.803	20.4	640
▶ 1109507	95	3/0	(≈ 1340/28)	0.724	18.4	0.878	22.3	828
▶ 1101207	120	4/0	(≈ 1680/28)	0.791	20.1	0.953	24.2	1004
▶ 1101507	150	250 MCM	(≈ 2122/28)	0.917	23.3	1.079	27.4	1232
▶ 1101857	185	350 MCM	(≈ 1472/26)	0.980	24.9	1.150	29.2	1497
▶ 1102407	240	450 MCM		1.083	27.5	1.260	32	1906
▶ 1103007	300	550 MCM		1.181	30	1.366	34.7	2250

Other dimensions and colors are available on request

Application:
for example: the connection of converters to test benches for electric mobility.
Very good laying compatibility due to the extremely flexible construction.

B 110 C Sense Cable

Halogen-free, high temperature and voltage shielded silicone cable

Marking for B 110 C Sense Cable:
SAB BRÖCKSKES · D-VIERSEN · B 110 C Sense Cable 2x1.0mm² 1109001 CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	Besilen® EI2 acc. to EN 50363-1 + VDE 0207-363-1
Color code:	black and red
Stranding:	conductor twisted with tinned copper drain wire, AWG 26
Shield:	alu foil and tinned copper braiding
Jacket material:	Besilen® EM9 acc. to EN 50363-2-1 + VDE 0207-363-2-1
Jacket color:	orange (similar RAL 2004)

Outstanding features:

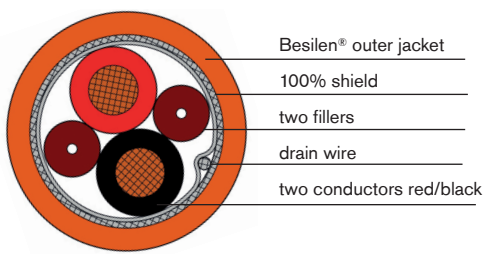
- **extremely flexible**
- **good EMC characteristics**
- **halogen-free**
- **heat resistant**
- **flexible at low temperatures**
- **flame retardant and self-extinguishing**
- **weather resistant**

Technical data:

Nominal voltage:	1500 V AC 2200 V DC
Testing voltage:	conductor/conductor: 6500 V conductor/shielding: 6500 V
Current carrying capacity:	acc. to VDE 0298-4, see page O20 & O21
Min. bending radius: *fixed installation:* *free movement:*	 6 x O.D. 10 x O.D.
Temperature range: *static:* *flexible:* *cURus:*	 -40/+180°C -25/+180°C up to 150°C
Halogen-free	acc. to IEC 60754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	IEC 60754-2 - no development of corrosive conflagration gases
Weather resistance:	very good
Approvals:	cURus AWM, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	mm²	AWG	outer-ø inch	outer-ø mm	cable weight ≈lbs/mft	ohmic resistance at 20 °C max. Ω/km
▶ 1109006	0.25	24 AWG/2c	0.421	10.7	75	80.0
▶ 1109007	0.34	22 AWG/2c	0.437	11.1	87	58.8
▶ 1109008	0.50	20 AWG/2c	0.461	11.7	95	39.0
▶ 1109001	1.00	18 AWG/2c	0.500	12.7	114	20.0
▶ 1109002	1.50	16 AWG/2c	0.531	13.5	132	13.3
▶ 1109003	2.50	14 AWG/2c	0.575	14.6	159	7.98
▶ 1109004	4.00	12 AWG/2c	0.634	16.1	199	4.95
▶ 1109005	6.00	10 AWG/2c	0.673	17.1	245	3.30

Other dimensions and colors are available on request



Possible on request:

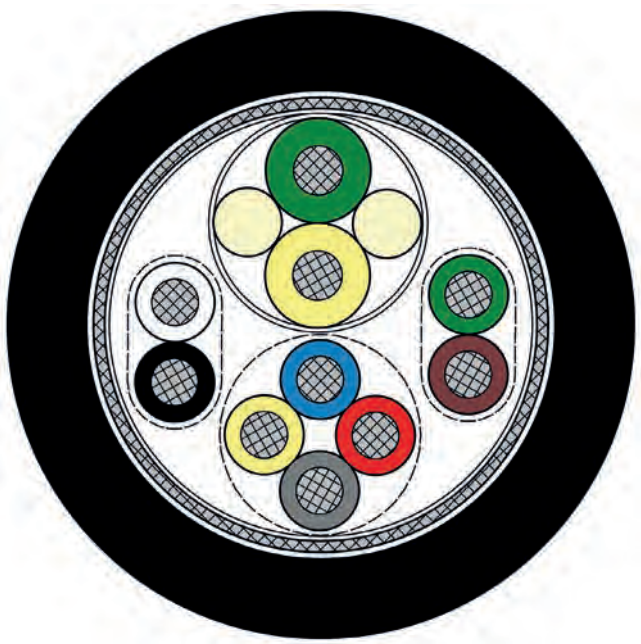
As harnessed measuring cable with connected lab plugs to collect the voltage at HV components

Example: CAN-Bus cable

Halogen-free combined cable with overall copper shield

item no. 63359002

cross section: 2 x 2 x 20 AWG +
4 x 20 AWG +
2 x 20 AWG



Construction:

Conductor:	tinned copper strands, fine wires with reference to VDE 0812
Insulation:	SABIX® thermoplastic material and 02YI1 acc. to EN 50290-2-23 + VDE 0819-103 (for 2 x 20 AWG)
Stranding:	pairs and quads twisted together in layers
Shielding:	tinned copper braiding, optical coverage ≥ 85%
Jacket material:	SABIX® thermoplastic material
Jacket color:	black (RAL 9005)
Marking:	SAB BRÖCKSKES · D-VIERSEN · SO. SABIX® CAN-BUS-LEITUNG

Technical Data:

Peak operating voltage:	max. 450 V
Testing voltage:	conductor/conductor: 1000 V (DC) conductor/shielding: 1500 V (DC)
Min. bending radius: *free movement:*	10 x O.D.
Temperature range: *static:* *flexible:*	 -40/+70°C -30/+70°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	no flame propagation resp. IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 cat. C resp. D, see chapter O. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Characteristic impedance:	acc. to EN 50289-1-11 nom. 120 Ω (CAN-Bus)
Oil resistance:	acc. to EN 60811-507 section 10 + VDE 0473-811-507 section 10
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

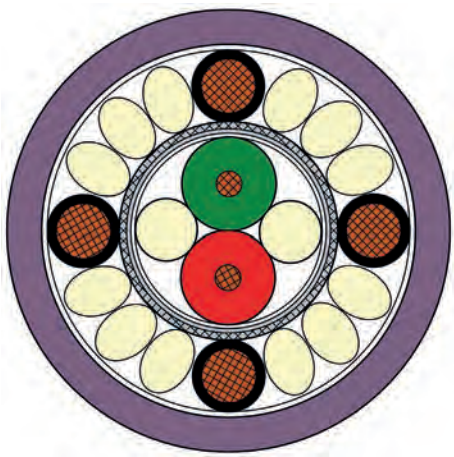
item no.	dimension	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► 63359002	2 x 2 x 20 AWG + 4 x 20 AWG + 2 x 20 AWG	0.433	11.0	108

Example: Profibus-DP cable

Halogen-free Profibus-DP cable with valve control for use in cable tracks

item no. 6349010

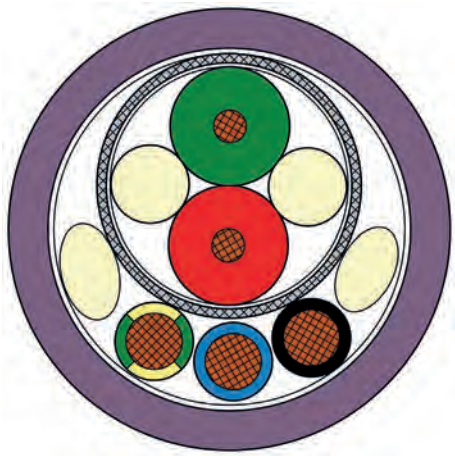
cross section: 2 x 22 AWG + 4 x 16 AWG



Halogen-free Profibus-DP cable with separate current supply for use in cable tracks

item no. 6349015

cross section: 2 x 22 AWG + 3 x 18 AWG



Construction:

Conductor:	bare copper strands, fine wires
Insulation:	22 AWG: cellular PE 18 & 16 AWG: TPE
Stranding:	Profibus twisted pairwise, pairs and conductors twisted in layers
Profibus Shielding:	tinned copper braiding
Jacket material:	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	red lilac (RAL 4001)
Marking item no. 06349010:	SAB BRÖCKSKES · D-VIERSEN · S PB 634 2 x 0.34 mm² + 4 x 1.5 mm² CE
Marking item no. 06349015:	SAB BRÖCKSKES · D-VIERSEN · S PB 634 2 x 0.34 mm² + 3 x 1.0 mm² CE

Technical Data:

Peak operating voltage:	**item no. 06349010:** 100 V **item no. 06349015:** max. 350 V
Testing voltage:	conductor/conductor: 1500 V conductor/shielding: 1000 V
Min. bending radius *free movement:*	12 x O.D.
Temperature range: *static:* *flexible:*	-40/+80°C -40/+80°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Oil resistance:	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Characteristic impedance:	acc. to EN 50289-1-11 at 3-20 MHz: 150 Ω ± 15 Ω
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	dimension	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft	ohmic resistance at 20°C max. Ω/km
▶ 6349010	22 AWG/2c 16 AWG/4c	0.472	12	111	55.0 13.3

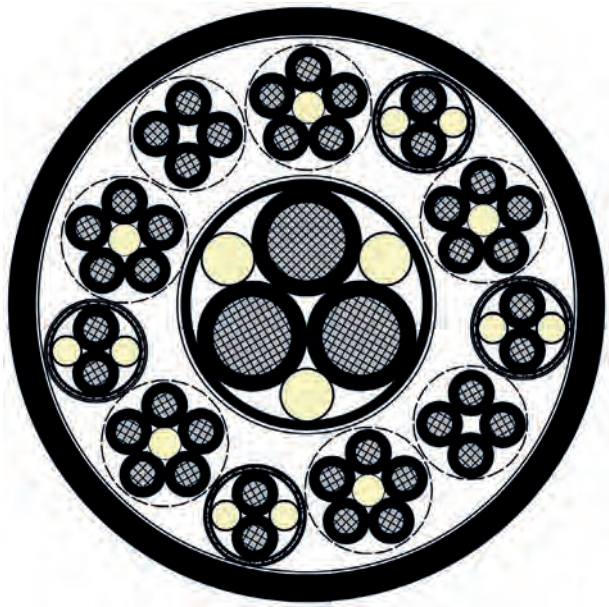
item no.	dimension	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft	ohmic resistance at 20°C max. Ω/km
▶ 6349015	22 AWG/2c 18 AWG/3c	0.417	10.6	69	55.0 19.5

Example: Coupling cable T 790

Torsional connecting cable

item no. 7909008

cross section: 33 x 16 AWG +
3 x 8 AWG +
4 x (2 x 16 AWG)



Construction:

Conductor:	special copper, fine wires
Insulation:	TPE
Shielding:	special copper braiding, optical coverage ≥ 85%
Jacket material:	special PUR
Jacket color:	black (RAL 9005)

Technical data:

Nominal voltage:	16 AWG: Uo/U 0.6/1.0 kV 8 AWG: Uo/U 1.8/3.0 kV
Testing voltage:	conductor/conductor: 16 AWG: 4000 V 8 AWG: 12000 V conductor/shielding: 16 AWG: 2000 8 AWG: 6000 V
Min. bending radius *free movement:*	10 x O.D.
Temperature range: *static:* *flexible:*	-50/+90°C -40/+90°C
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30“

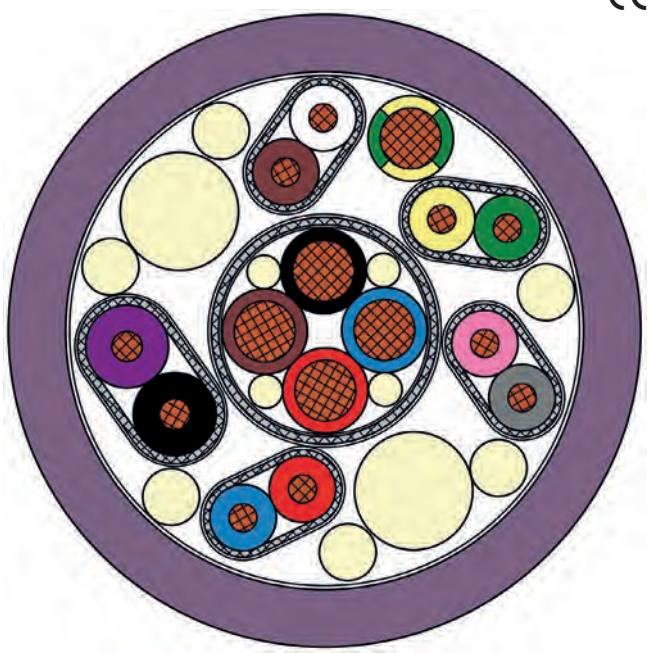
item no.	dimension	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► 7909008	33 x 16 AWG + 3 x 8 AWG + 4 x (2 x 16 AWG)	1.654	42	1391

Example: Interbus Hybrid cable for the automotive industry

PUR interbus hybrid cable pairwise with copper wrapping for flexible application

item no. 3679048

cross section: 4 x 18 AWG +
5 x 2 x 24 AWG +
1 x 18 AWG



Construction:

Conductor:	bare copper strands, fine wires
Insulation:	24 AWG: PE 18 AWG: TPE
Color code:	24 AWG: DIN 47100, see page O/26 18 AWG: black, blue, red, brown, green/yellow
Shielding:	pairs wrapped with tinned copper braiding, optical coverage min. 90%
Jacket material: **item no. 03679048:**	special PUR
Jacket color:	red lilac (RAL 4001)
Marking **item no. 03679048:**	SAB BRÖCKSKES · D-VIERSEN · Hybridleitung 0367-9048 CE

Technical data:

Peak operating voltage:	max. 350 V
Testing voltage:	conductor/conductor: 1700 V (AC) conductor/shielding: 1000 V (AC) conductor/conductor: 2500 V (DC) conductor/shielding: 1500 V (DC)
Min. bending radius:	7.5 x O.D.
Temperature range: *static:* *flexible:*	**item no. 03679048** -40/+70°C -40/+70°C
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	dimension	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► 3679048	4 x 18 AWG + 5 x 2 x 24 AWG + 1 x 18 AWG	0.520	13.2	140

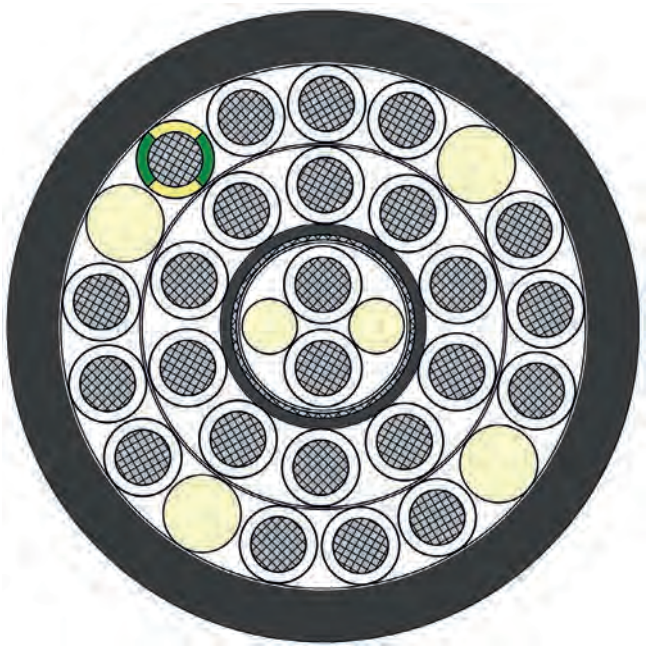
Example: Control cable for the automotive industry

CE RoHS

Special PUR connection cable with numbered conductors and overall copper shielding

item no. 7649065

cross section: 23 x 18 AWG + (2 x 18 AWG) D



Construction:

Conductor:	tinned copper strands
Insulation:	TPE
Color code:	white conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 and a green/yellow ground
Shielding:	wrapped with tinned copper braiding
Inner jacket:	TPE
Jacket color:	black (RAL 9005)
Jacket material:	special PUR
Jacket color:	black (RAL 9005)
Marking:	SAB BRÖCKSKES · D-VIERSEN · 23 x 1.0 mm² + (2 x 1.0 mm²) D

Technical data:

Operating voltage:	max. 600 V DC conductor-conductor
Testing voltage:	conductor/conductor: 2500 V DC conductor/shielding: 1250 V DC
Min. bending radius: *free movement:*	10 x O.D.
Temperature range: *static:* *flexible:*	 -50/+90 °C -40/+90 °C
Approvals:	CE, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

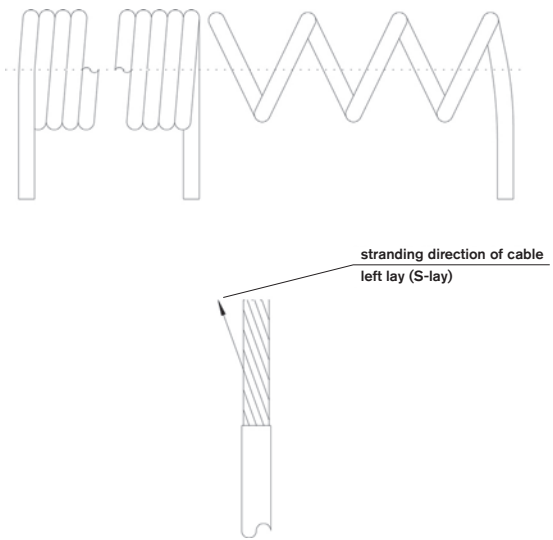
item no.	dimension	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ 7649065	23 x 18 AWG + (2 x 18 AWG)D	0.531	13.5	216
▶ 7649079	16 x 18 AWG + (2 x 18 AWG)D	0.528	13.4	187

pair in ( ) denotes shielded. D= tinned copper spiral

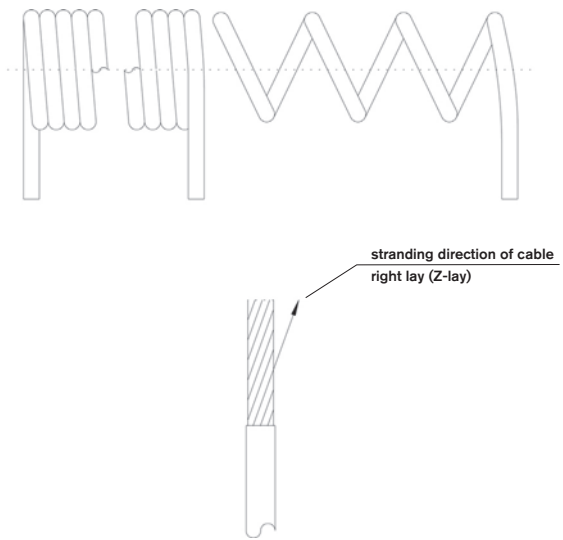
Overview

- By a special method cables can be transferred from their straight form to a coiled form. According to the application the cable can be adjusted to your demands and specifications.
- It is possible to make helix cables of both, PVC as well as PUR jacketed cables. You can also buy shielded helix cables from us.
- PVC helix cables can be used as extension or connection cables. These cost saving cables are used if there is no continuous restoring force demanded, e.g. for lamps or electrical appliances …
- PUR helix cables are used for when repeated product performance is essential. The extended length of these cables is approximately 4:1 and they have a good memory as well. For this reason these cables are used in material handling appliances, in machines, on gates …
- The helical direction is dependent on the stranding direction of a cable.

Helical direction ⇨ left (counter-clockwise)



Helical direction ⇨ right (clockwise)



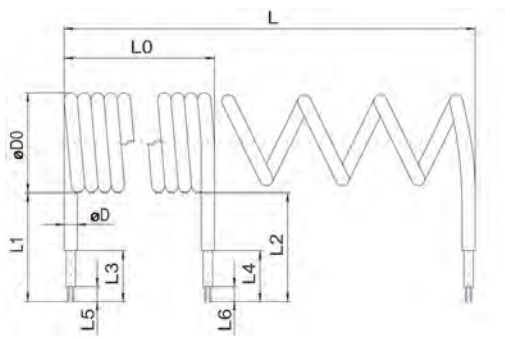
- You can send us an inquiry for helix cables using the form shown on the next page.

Construction details for helix cables

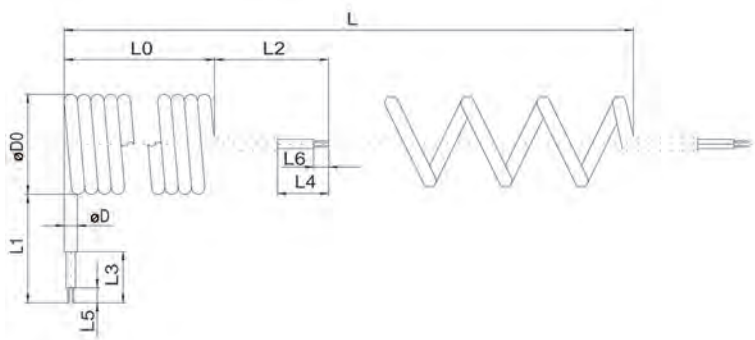
to SAB North America
Fax: 973-276-1515 ▪ Toll Free: 1-866-722-2974 ▪ Phone: 973-276-0500

Company/Name: _____

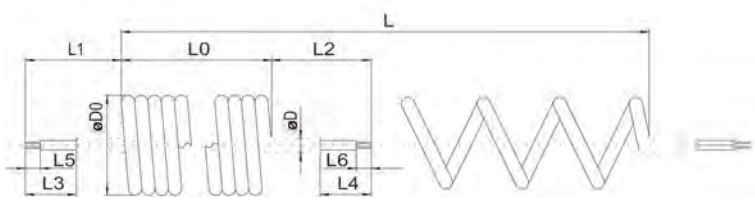
Please calculate a non-binding offer based on the following requirements:



❑ Cable ends: radial



❑ Cable ends: radial and axial



❑ Cable ends: axial

L = _____ mm
L0 = _____ mm
øD = _____ mm
øD0 = _____ mm
L1 = _____ mm
L2 = _____ mm
L3 = _____ mm
L4 = _____ mm
L5 = _____ mm
L6 = _____ mm

Quantity: _____

Application
(type of installation): _____

Helical direction: _____

Standard cable
(item no.): _____

Insulation material
(conductor): _____

Shielding: ❑ yes ❑ no

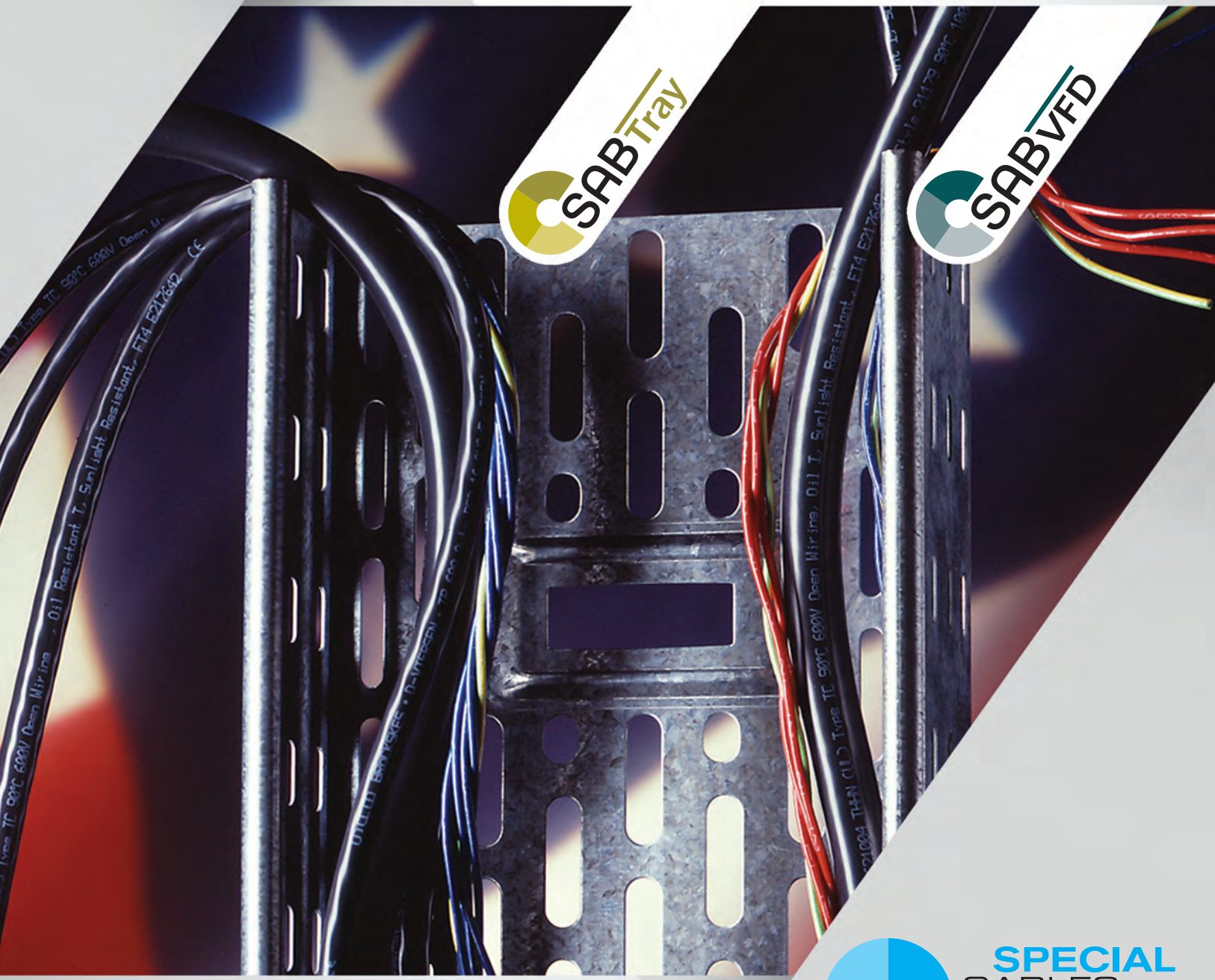
Insulation material
(jacket): _____

No. of conductors: _____

Cross section: _____

Notes: _____

TRAY & VFD
CABLES



www.sabcable.com
866-722-2974 ■ info@sabcable.com

SPECIAL CABLES
SAB North America

Content

Tray & VFD Cables

Content

Applications

Application of flexible power and control tray cable, Type TC, MTW and WTTC

These special multi-conductor cables shall be permitted for use in power, lighting, control and signal circuits in accordance with the National Electrical Code (NEC), NFPA 70 Article 336. They are also approved for use in cable trays, in raceways and in outdoor locations supported by a messenger wire in accordance with Underwriters Laboratories Inc. (UL) Standard of Safety UL 1277 and for class I division 2 circuits as permitted in NEC article 501.10 (B) and for class II division 2 circuits as permitted in NEC article 502.10 (B) and in industrial establishments where the conditions of maintenance and supervision ensure that only qualified persons service the installation, and where the cables are continuously supported and protected against physical damage using mechanical protection, such as struts, angles or channels. These tray cables comply with the crush and impact requirements of Type TC and are identified for such use with the ER marking on the jacket.

Tray cables are for use as exposed runs between a cable tray and the utilization device where the cables are continuously supported and protected against physical damage and are secured at intervals not exceeding 1.8 m (6 feet). Grounding for the utilization equipment shall be provided by an equipment grounding conductor within the cables. These tray cables shall also be permitted to be used in wet locations and are resistant to moisture and corrosive agents. Cables that are surface marked “oil resistant I” have a jacket that is for exposure to mineral oil at temperature not in excess of 60°C (140°F). Marked with “oil resistant II” they have a jacket that is for exposure to mineral oil at temperatures not in excess of 75°C (167°C). The cables are flame retardant and self-extinguishing and sunlight resistant depending on the jacket color. The cables listed as UR AWM or UL MTW can be applied in the NFPA 79 machinery area. These cables are specified for use acc. to National Electrical Code (NFPA 70) and acc. to the National Fire Protection Association Electrical Standard for industrial machinery (NFPA 79). Wind turbine power and control cables are intended to be installed in cable trays or raceways within a wind turbine generator.

Exemplary applications:

DC 105	Type PLTC, ITC, & CMG	Recommended for use with computers, data transmission, office equipment, process control equipment and instrumentation, and all other signal and data communications
DC 105 C	Type PLTC, ITC, & CMG	
DC 105 C TP	Type PLTC, ITC, & CMG	

Exemplary applications:

TR 600 S	Type TC-ER, MTW & WTTC	Recommended applications are machine tools, control systems assembly lines, CNC machining, grinding machines, bottling equipment, data processing equipment and connections between control panels and machines
TR 600 S CY	Type TC-ER, MTW & WTTC	
TR 600 Plus	Type TC-ER, MTW & WTTC	
TR 600 CY Plus	Type TC-ER, MTW & WTTC	
TR 850 S	Type TC-ER & STOOW	

Exemplary applications:

TRAY HD TPE	Type TC-ER	In hazardous (classified) areas Class I, Division 2 per NEC Article 501.4 (B), UL Type TC is in accordance with UL standard 1277 and NEC Article 336
TR 600 HD	Type TC-ER	
TR 600 C HD	Type TC-ER	
TR 600 Auto HD	Type TC-ER	
TR 600 Auto C HD	Type TC-ER	
TR 600 Auto Combo C HD	Type TC-ER and MTW	

Exemplary applications:

VFD XLPE TR	Type TC-ER	Can be used to connect alternating current variable frequency drives to alternating current variable frequency motors
VFD XLPE TR D	Type TC-ER	
VFD XLPE TR Lean	Type TC-ER	
VFD Combo XLPE	Type TC-ER	
VFD XLPE Auto TR	Type TC-ER	
VFD Symmetrical XLPE TR	Type TC-ER	
VFD XLPE 2KV TR	Type TC-ER	

Selection Chart

		Cable Type	E/7 DC 105	E/8 DC 105 C	E/9 DC 105 C TP	E/10 TR 600 S	E/11 TR 600 S Gray	E/12 TR 600 S CY	E/13 TR 600 S CY Gray	E/14 TR 600 Plus	E/15 TR 600 CY Plus	E/16 TR 850 S	E/17 TRAY HD TPE	E/18 TRAY 600 HD	E/19 TR 600 C HD	E/20 TR 600 Auto HD	E/21 TR 600 Auto C HD	E/22 TR 600 Auto Combo C HD
Conductors	Numbered conductors					●	●	●	●	●	●		●	●	●	●	●	●
	Color code chart 2, 4, and 6		●	●														
	Color code chart 3				●													
	Colored											●						
Insulation	Semi-rigid PVC (26-20 AWG)		●	●	●													
	PVC											●						
	PVC/Nylon		●	●	●	●	●	●	●	●	●		●	●	●	●	●	
Shielding	Tinned Copper Braid							●	●						●		●	
	Foil & Tinned Copper Braid			●	●						●							●
	Inner jacket														●			
Jacket	Gray jacket		PVC	PVC	PVC		PVC		PVC				TPE					
	Black jacket					PVC		PVC		PVC	PVC	TPE				TPE	TPE	TPE
	Orange jacket													TPE	TPE			
Temperature range static*	+105°C		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	+ 90°C		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	- 25°C		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	- 40°C		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Voltage	300 V		●	●	●													
	600 V					●	●	●	●	●	●	●	●	●	●	●	●	●
	1000 V CSA AWM					●	●	●	●			●						
	1000 V (UL) WTTC					●	●	●	●	●	●	●	●	●	●	●	●	●
	Test voltage: 2000 V		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Characteristics	Burning characteristics: FT1, FT4					●	●	●	●	●	●	●	●	●	●	●	●	●
	Cold bend test -25°C		●	●	●													
	Cold bend test -40°C					●	●	●	●	●	●	●	●	●	●	●	●	●
	Oil resistance																	●
	Oil resistance I									●	●							
	Oil resistance I & II					●	●	●	●			●	●	●	●	●	●	●
	Sunlight resistance					●	●	●	●	●	●	●		●	●	●	●	●
	Exposed runs		●[1]	●[1]	●[1]	●	●	●	●	●	●	●	●	●	●	●	●	●
	Direct burial					●	●	●	●	●	●	●	●	●	●	●	●	●
	Machinery area		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Continuous Flex															●	●	

from
to

[1] 18-16 AWG only

*The temperature range for flexible application is mentioned on the corresponding catalog page

Selection Chart

	Cable Type	E/23 VFD XLPE TR	E/24 VFD XLPE TR D (with drain wire)	E/25 VFD XLPE TR Lean	E/26 VFD Combo XLPE (available with drain wire)	E/27 VFD XLPE Auto TR	E/28 VFD Symmetrical XLPE TR	E/29 VFD XLPE 2KV TR
Construction	Numbered conductors	●	●	●	●	●	●	●
	Black conductors with green/yellow ground	●	●	●	●	●	●	●
	Pair: PVC/Nylon				●			
	Insulation: Special formulated crosslinked PE, PVC ground	●	●	●	●			
	Insulation: Special formulated crosslinked PE					●	●	●
	Drain wire		●		●[1]			
	Stranding: in layers	●	●	●	●	●		
	Stranding: in layers with 3 ground wires						●	●
	Double shield: foil and tinned copper braiding	●	●	●	●	●	●	
	Uncoated 5 mil copper tape shield with 50% overlap							●
Jacket	Special sunlight and oil resistant copolymer	●	●	●	●	●	●	
	Special sunlight resistant & flame retardant PVC							●
Temperature range static*	+105°C	▮	▮	▮	▮	▮	▮	
	+ 90°C	▮	▮	▮	▮	▮	▮	▮
	- 25°C	▮	▮	▮	▮	▮	▮	▮
	- 40°C	▮	▮	▮	▮	▮	▮	
Voltage	600 V	●	●	●	●	●	●	
	1000 V CSA AWM	●	●	●	●	●	●	
	1000 V (UL) WTTC	●	●	●	●	●	●	
	2000 V (UL)							●
	Test voltage: 3000 V	●	●	●	●	●	●	
	Test voltage: 7500 V							●
Standards & Approvals	Burning characteristics: FT1, FT2, FT4	●	●	●	●	●	●	●
	Cold bend test -40°C	●	●	●	●	●	●	
	Oil resistance I & II	●	●	●	●	●	●	
	Sunlight resistance	●	●	●	●	●	●	●
	Exposed runs	●	●	●	●	●	●	●
	Direct burial	●	●	●	●	●	●	●
	Machinery area	●	●	●	●	●	●	●
	Long installations (over 100 ft)	●	●		●	●	●	●

▮ from / to

[1] Drain wire with 16 AWG pair configuration only. Available with the other sized upon special request.

**The temperature range for flexible application is mentioned on the corresponding catalog page

DC 105

Semi-rigid PVC data cable
Type PLTC, ITC, and CMG

RS 232
24 - 20 AWG

SAB Tray

Marking for DC 105 DC3332203:
SAB North America P/N DC3332203 22AWG/3c (UL) TYPE PLTC or ITC or CMG 105°C (DC 105) - CSA TYPE CMG or AWM I/II A/B 105°C 300V FT4 RoHS CE

Construction:

Conductor:	tinned copper strands
Insulation:	
26 - 20 AWG:	semi-rigid PVC
18 - 16 AWG:	PVC/nylon
Color code:	
26 - 24 AWG:	color code, chart 2, see page O/27
22 AWG:	color code, chart 4, see page O/28
20 - 16 AWG:	color code chart 6 , page O/28
Stranding:	twisted together in layers with non-wicking fillers
Jacket material:	PVC
Jacket color:	grayish tan (RAL 7032)

Technical data:

Nominal voltage:	300 V
Testing voltage:	2000 V
Min. bending radius:	
fixed installation:	4 x O.D.
Temperature range:	-25/+105°C
Approvals:	**UL:** CMG (26-16 AWG) PLTC & ITC (22 - 20 AWG) PLTC-ER & ITC-ER (18 -16 AWG) **CSA:** CMG/FT4 AWM I/II A/B CE, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

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Color Code Chart 2:

no.	Conductor color	no.	Conductor color
1	black	14	green/white
2	white	15	blue/white
3	red	16	black/red
4	green	17	white/red
5	orange	18	orange/red
6	blue	19	blue/red
7	white/black	20	red/green
8	red/black	21	orange/green
9	green/black	22	black/white/red
10	orange/black	23	white/black/red
11	blue/black	24	red/black/white
12	black/white	25	green/black/white
13	red/white		

Color Code Chart 4:

no.	Conductor color	no.	Conductor color
1	black	14	white/orange
2	brown	15	white/yellow
3	red	16	white/green
4	orange	17	white/blue
5	yellow	18	white/violet
6	green	19	white/gray
7	blue	20	white/black/brown
8	violet	21	white/black/red
9	gray	22	white/black/orange
10	white	23	white/black/yellow
11	white/black	24	white/black/green
12	white/brown	25	white/black/blue
13	white/red		

Color Code Chart 6:

no.	Conductor color	no.	Conductor color
1	black	14	red/yellow
2	red	15	red/black
3	white	16	white/black
4	green	17	white/red
5	orange	18	white/green
6	blue	19	white/yellow
7	brown	20	white/blue
8	yellow	21	white/brown
9	violet	22	white/orange
10	gray	23	white/gray
11	pink	24	white/violet
12	tan	25	white/black/red
13	red/green		

item no.	no. of conductors	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **26 AWG (7/34)**				
DC3222603	3	0.156	4.0	18
DC3222604	4	0.166	4.2	20
DC3222606	6	0.189	4.8	25
DC3222607	7	0.192	4.9	26
DC3222608	8	0.204	5.2	28
DC3222610	10	0.230	5.8	36
DC3222615	15	0.261	6.6	48
DC3222620	20	0.295	7.5	58
DC3222625	25	0.323	8.2	70
▶ **24 AWG (7/32)**				
DC3222402	2	0.160	4.1	20
DC3222403	3	0.167	4.2	23
DC3222404	4	0.182	4.6	24
DC3222405	5	0.191	4.9	27
DC3222406	6	0.204	5.2	30
DC3222407	7	0.207	5.3	31
DC3222408	8	0.220	5.6	35
DC3222410	10	0.249	6.3	43
DC3222412	12	0.256	6.5	49
DC3222415	15	0.283	7.2	59
DC3222418	18	0.303	7.7	65
DC3222420	20	0.311	7.9	70
DC3222425	25	0.343	8.7	86
▶ **22 AWG (7/30)**				
DC3332202	2	0.178	4.5	22
DC3332203	3	0.190	4.8	25
DC3332204	4	0.202	5.1	29
DC3332205	5	0.213	5.4	34
DC3332206	6	0.228	5.8	40
DC3332207	7	0.231	5.9	41
DC3332208	8	0.244	6.2	46
DC3332209	9	0.261	6.6	53
DC3332210	10	0.289	7.3	60
DC3332212	12	0.297	7.5	67
DC3332215	15	0.317	8.1	79
DC3332218	18	0.339	8.6	87
DC3332220	20	0.348	8.8	94
DC3332225	25	0.385	9.8	117
DC3332230	30	0.430	10.9	143
DC3332240	40	0.475	12.1	184
DC3332250	50	0.517	13.1	221

item no.	no. of conductors	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **20 AWG (≈ 19/32)**				
DC3332002	2	0.196	5.0	29
DC3332003	3	0.205	5.2	35
DC3332004	4	0.220	5.6	42
DC3332006	6	0.254	6.5	55
DC3332007	7	0.254	6.5	52
DC3332008	8	0.275	7.0	62
DC3332009	9	0.303	7.7	74
DC3332010	10	0.325	8.3	80
DC3332012	12	0.335	8.5	92
DC3332015	15	0.358	9.1	110
DC3332020	20	0.415	10.5	143
DC3332025	25	0.459	11.7	184
▶ **18 AWG (19/30)**				
DC3331802	2	0.276	7.0	45
DC3331803	3	0.29	7.4	58
DC3331804	4	0.313	8.0	70
DC3331805	5	0.339	8.6	78
DC3331806	6	0.366	9.3	91
DC3331807	7	0.367	9.3	98
DC3331808	8	0.395	10.0	110
DC3331809	9	0.423	10.7	124
DC3331810	10	0.457	11.6	144
DC3331812	12	0.472	12.0	164
DC3331815	15	0.507	12.9	194
DC3331818	18	0.579	14.7	244
DC3331820	20	0.595	15.1	263
DC3331825	25	0.662	16.8	325
DC3331850	50	0.904	23.0	621
▶ **16 AWG (26/30)**				
DC3331602	2	0.296	7.5	54
DC3331603	3	0.312	7.9	68
DC3331604	4	0.337	8.6	83
DC3331605	5	0.366	9.3	95
DC3331606	6	0.396	10.1	109
DC3331607	7	0.397	10.1	119
DC3331608	8	0.428	10.9	134
DC3331609	9	0.459	11.7	160
DC3331610	10	0.497	12.6	174
DC3331612	12	0.513	13.0	199
DC3331615	15	0.584	14.8	261
DC3331618	18	0.629	16.0	297
DC3331620	20	0.647	16.4	330
DC3331625	25	0.721	18.3	400

Other dimensions and colors are available on request

RS 232
24 - 20 AWG

SAB Tray

DC 105 C

Shielded semi-rigid PVC data cable
Type PLTC, ITC, and CMG

Marking for DC 105 C DC3332204S:

SAB North America P/N DC3332204S 22AWG/4c (UL) TYPE PLTC OR ITC OR CMG SHIELDED 105°C (DC 105 C) CSA TYPE CMG OR AWM I/II A/B 105°C 300V FT4 RoHS CE

Construction:

Conductor:	tinned copper strands
Insulation:	
26 - 20 AWG:	semi-rigid PVC
18 - 16 AWG:	PVC/nylon
Color code:	
26 - 24 AWG:	color code, chart 2, see page O/27
22 AWG:	color code, chart 4, see page O/28
20 - 16 AWG:	color code chart 6, page O/28
Stranding:	twisted together in layers with non-wicking fillers
Shielding:	double shielding, alu-foil, tinned copper braiding and tinned drain wire
Jacket material:	PVC
Jacket color:	grayish tan (RAL 7032)

Technical data:

Nominal voltage:	300 V
Testing voltage:	2000 V
Min. bending radius:	
fixed installation:	6 x O.D.
Temperature range:	-25/+105°C
Approvals:	**UL:** CMG (26 - 16 AWG) PLTC & ITC (22 - 20 AWG) PLTC-ER & ITC-ER (18 -16 AWG) **CSA:** CMG/FT4 AWM I/II A/B CE, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

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Color Code Chart 2:

no.	Conductor color	no.	Conductor color
1	black	14	green/white
2	white	15	blue/white
3	red	16	black/red
4	green	17	white/red
5	orange	18	orange/red
6	blue	19	blue/red
7	white/black	20	red/green
8	red/black	21	orange/green
9	green/black	22	black/white/red
10	orange/black	23	white/black/red
11	blue/black	24	red/black/white
12	black/white	25	green/black/white
13	red/white		

Color Code Chart 4:

no.	Conductor color	no.	Conductor color
1	black	14	white/orange
2	brown	15	white/yellow
3	red	16	white/green
4	orange	17	white/blue
5	yellow	18	white/violet
6	green	19	white/gray
7	blue	20	white/black/brown
8	violet	21	white/black/red
9	gray	22	white/black/orange
10	white	23	white/black/yellow
11	white/black	24	white/black/green
12	white/brown	25	white/black/blue
13	white/red		

Color Code Chart 6:

no.	Conductor color	no.	Conductor color
1	black	14	red/yellow
2	red	15	red/black
3	white	16	white/black
4	green	17	white/red
5	orange	18	white/green
6	blue	19	white/yellow
7	brown	20	white/blue
8	yellow	21	white/brown
9	violet	22	white/orange
10	gray	23	white/gray
11	pink	24	white/violet
12	tan	25	white/black/red
13	red/green		

item no.	no. of conductors	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **26 AWG (7/34)**				
DC3222602S	2	0.180	4.6	27
DC3222603S	3	0.186	4.7	30
DC3222604S	4	0.196	5.0	32
DC3222605S	5	0.207	5.3	34
DC3222606S	6	0.219	5.6	37
DC3222607S	7	0.221	5.6	39
DC3222608S	8	0.231	5.9	43
DC3222610S	10	0.258	6.6	51
DC3222615S	15	0.289	7.3	66
DC3222618S	18	0.307	7.8	70
DC3222625S	25	0.343	8.7	88
▶ **24 AWG (7/32)**				
DC3222403S	3	0.197	5.0	35
DC3222404S	4	0.209	5.3	36
DC3222405S	5	0.221	5.6	39
DC3222406S	6	0.234	5.9	45
DC3222407S	7	0.236	6.0	46
DC3222408S	8	0.248	6.3	51
DC3222409S	9	0.261	6.6	56
DC3222410S	10	0.288	7.3	62
DC3222412S	12	0.288	7.3	67
DC3222415S	15	0.312	7.9	80
DC3222418S	18	0.332	8.4	86
DC3222420S	20	0.340	8.6	92
DC3222425S	25	0.372	9.4	111

item no.	no. of conductors	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **22 AWG (7/30)**				
DC3332203S	3	0.210	5.3	40
DC3332204S	4	0.224	5.7	43
DC3332205S	5	0.237	6.0	49
DC3332206S	6	0.252	6.4	54
DC3332207S	7	0.260	6.6	57
DC3332208S	8	0.267	6.8	61
DC3332210S	10	0.312	7.9	77
DC3332212S	12	0.320	8.1	86
DC3332215S	15	0.339	8.6	99
DC3332218S	18	0.362	9.2	110
DC3332220S	20	0.371	9.4	118
DC3332225S	25	0.433	11	150
▶ **20 AWG (≈ 19/32)**				
DC3332002S	2	0.220	5.6	42
DC3332003S	3	0.229	5.8	51
DC3332004S	4	0.244	6.2	59
DC3332006S	6	0.289	7.3	73
DC3332008S	8	0.307	7.8	85
DC3332010S	10	0.348	8.8	102
DC3332015S	15	0.380	9.7	135
DC3332020S	20	0.437	11.1	169
DC3332025S	25	0.481	12.2	213
▶ **18 AWG (19/30)**				
DC3331803S	3	0.314	8.0	79
DC3331804S	4	0.337	8.6	92
DC3331806S	6	0.390	9.9	116
▶ **16 AWG (26/30)**				
DC3331603S	3	0.336	8.5	93
DC3331604S	4	0.361	9.2	111
DC3331606S	6	0.420	10.7	139

Other dimensions and colors are available on request

RS 232
24 - 20 AWG

SAB Tray

DC 105 C TP

Shielded, semi-rigid, twisted pair, PVC data cable
Type PLTC, ITC, and CMG

Marking for DC 105 C TP DC3332203TP:
SAB North America P/N DC3332203TP 22AWG/3pr (UL) TYPE PLTC or ITC or CMG SHIELDED 105°C (DC 105 CTP) CSA TYPE CMG or AWM I/II A/B 105°C 300V FT4 RoHS CE

Construction:

Conductor:	tinned copper strands
Insulation: *24 - 20 AWG:* *18 - 16 AWG:*	 semi-rigid PVC PVC/nylon
Color code:	color code, chart 3, see page O/27
Stranding:	paired and twisted together in layers with non-wicking fillers
Shielding:	double shielding, alu-foil tinned copper braiding and tinned drain wire
Jacket material:	PVC
Jacket color:	grayish tan (RAL 7032)

Technical data:

Nominal voltage:	300 V
Testing voltage:	2000 V
Min. bending radius: *fixed installation:*	 6 x O.D.
Temperature range:	-25/+105°C
Approvals:	**UL:** CMG (24 - 16 AWG) PLTC & ITC (22 - 20 AWG) PLTC-ER & ITC-ER (18 -16 AWG) **CSA:** CMG/FT4 AWM I/II A/B CE, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

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Color Code Chart 3:

Pair no.	color combination	
1	black	paired with red
2	black	paired with white
3	black	paired with green
4	black	paired with blue
5	black	paired with yellow
6	black	paired with brown
7	black	paired with orange
8	red	paired with white
9	red	paired with green
10	red	paired with blue
11	red	paired with yellow
12	red	paired with brown
13	red	paired with orange
14	green	paired with white
15	green	paired with blue
16	green	paired with yellow
17	green	paired with brown
18	green	paired with orange
19	white	paired with blue
20	white	paired with yellow
21	white	paired with brown
22	white	paired with orange
23	blue	paired with yellow
24	blue	paired with brown
25	blue	paired with orange

item no.	no. of pairs	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **24 AWG (7/32)**				
DC3222401TP*	1	0.190	4.8	31
DC3222402TP	2	0.246	6.2	44
DC3222403TP	3	0.258	6.6	51
DC3222404TP	4	0.292	7.4	57
DC3222405TP	5	0.307	7.8	65
DC3222406TP	6	0.328	8.3	73
DC3222408TP	8	0.351	8.9	85
DC3222409TP	9	0.373	9.5	97
DC3222415TP	15	0.460	11.7	151
▶ **22 AWG (7/30)**				
DC3332201TP*	1	0.203	5.2	32
DC3332202TP	2	0.266	6.8	50
DC3332203TP	3	0.289	7.3	63
DC3332204TP	4	0.323	8.2	71
DC3332205TP	5	0.333	8.5	80
DC3332206TP	6	0.358	9.1	90
DC3332208TP	8	0.383	9.7	107
DC3332209TP	9	0.429	10.9	128
DC3332211TP	11	0.460	11.7	154
DC3332215TP	15	0.505	12.8	188

item no.	no. of pairs	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **20 AWG (≈ 19/32)**				
DC3332001TP	1	0.220	5.6	42
DC3332002TP	2	0.305	7.7	67
DC3332003TP	3	0.321	8.2	80
DC3332004TP	4	0.345	8.8	95
DC3332006TP	6	0.422	10.7	129
DC3332009TP	9	0.482	12.2	180
DC3332015TP	15	0.572	14.5	254
▶ **18 AWG (19/30)**				
DC3331801TP	1	0.300	7.6	68
DC3331802TP	2	0.415	10.5	106
DC3331803TP	3	0.439	11.2	128
DC3331804TP	4	0.476	12.1	162
DC3331806TP	6	0.595	15.1	231
DC3331809TP	9	0.686	17.4	312
DC3331815TP	15	0.823	20.9	461
▶ **16 AWG (26/30)**				
DC3331601TP	1	0.320	8.1	78
DC3331602TP	2	0.448	11.4	124
DC3331603TP	3	0.474	12.0	162
DC3331604TP	4	0.515	13.1	192

*DC3222401TP & DC3332201TP: black paired with white color code

TR 600 S

UV and oil resistant 90°C flexible tray cable
Type TC-ER, MTW, WTTC, and CSA approved

Marking for TR 600 S 93331641:

SAB NORTH AMERICA TR 600 S 93331641 16 AWG/41C (UL) TC-ER 90C DRY/WET 600V SUN RES DIR BUR OIL RES I/II OR WTTC 1000V OR MTW "FLEXING" OR DP-1 OR AWM 2586 105°C CSA CIC-TC PVC/N 90°C DRY 75°C WET 600V -25°C SR FT4 OR AWM I/II A/B 90C 1000V FT4 RoHS CE

Construction:

Conductor:	bare copper strands class K (30 AWG multiple strands)
Insulation:	special formulated PVC/Nylon
Color code:	black conductors with consecutive white numbers; green/yellow ground from 3 conductors
Stranding:	in layers
Jacket material:	special oil resistant pressure extruded PVC
Jacket color:	black (RAL 9005)

Outstanding features:

- **flexible stranding for easy installation**
- **oil resistant meeting UL Oil Res I and II**
- **NFPA 79 for Industrial Machinery**
- **UL TC-ER (exposed runs)**
- **CSA approved for TC**
- **Submersible pump (14 AWG ≥ 3 thru 7 cond.)**
- **WTTC: Wind Turbine tray cable**
- **90°C Wet rated**
- **Class 1 Div 2 per NEC Article 501.4 (B)**

Technical data:

Voltage:	**UL-AWM / (UL) / CSA:** **(UL) WTTC:**	600 V 1000 V
Testing voltage:	2500 V	
Min. bending radius: *fixed installation:* *free movement:*	 4 x O.D. 6 x O.D.	
Temperature range: *static:*	**UL -AWM** up to +105°C -40°C	**(UL) / CSA:** up to +90°C
Burning characteristics:	(UL) FT4 and CSA FT1, FT2, FT4	
Oil resistance I & II:	yes	
Sunlight resistance:	yes	
Exposed runs:	yes	
Cold bend test:	-40°C	
Direct burial:	yes	
Machinery area:	yes	
Approvals:	UL TC-ER UL MTW, UL WTTC, UR AWM, CSA CIC-TC, CSA AWM, CE, RoHS	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30	

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 18 AWG				
93331802*	2	0.286	7.3	45
93331803	3	0.300	7.6	55
93331804	4	0.324	8.2	67
93331805	5	0.349	8.9	79
93331807	7	0.376	9.6	100
93331809	9	0.432	11.0	125
93331812	12	0.480	12.2	157
93331818	18	0.596	15.1	244
93331825	25	0.686	17.4	319
93331850	50	0.940	23.9	622
► 16 AWG				
93331602*	2	0.306	7.8	52
93331603	3	0.321	8.2	70
93331604	4	0.348	8.8	81
93331605	5	0.376	9.6	96
93331607	7	0.412	10.5	126
93331608	8	0.440	11.2	137
93331609	9	0.473	12.0	152
93331612	12	0.527	13.4	196
93331616	16	0.613	15.6	273
93331618	18	0.646	16.4	300
93331619	19	0.646	16.4	310
93331625	25	0.746	18.9	395
93331634	34	0.884	22.5	544
93331637	37	0.896	22.8	592
93331641	41	0.945	24.0	654
93331650	50	1.025	26.0	756

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 14 AWG				
93331402*	2	0.346	8.8	65
93331403	3	0.364	9.2	88
93331404	4	0.396	10.1	112
93331405	5	0.430	10.9	130
93331407	7	0.472	12.0	169
93331409	9	0.578	14.7	236
93331412	12	0.644	16.4	297
93331418	18	0.744	18.9	417
93331425	25	0.904	23.0	596
► 12 AWG				
93331202*	2	0.385	9.8	99
93331203	3	0.403	10.2	120
93331204	4	0.440	11.2	150
93331205	5	0.479	12.2	189
93331207	7	0.526	13.4	240
► 10 AWG				
93331003	3	0.487	12.4	179
93331004	4	0.568	14.4	248
93331005	5	0.618	15.7	298
93331007	7	0.674	17.1	403
► 8 AWG				
93330803	3	0.662	16.8	309
93330804	4	0.728	18.5	388
93330805	5	0.826	21.0	465
► 6 AWG				
93330603	3	0.765	19.4	443
93330604	4	0.879	22.3	580
93330605	5	0.954	24.2	717

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 4 AWG				
93330403	3	0.966	24.5	696
93330404	4	1.061	26.9	845
93330405	5	1.179	29.9	1035
► 2 AWG				
93330203	3	1.114	28.3	977
93330204	4	1.160	29.5	1215
93330205	5	1.363	34.6	1575
► 1 AWG				
93330104	4	1.401	35.6	1588
► 1/0 AWG				
93331104	4	1.458	37.0	1971
► 2/0 AWG				
93332104	4	1.588	40.3	2301
► 3/0 AWG				
93333104	4	1.733	44.0	2946
► 4/0 AWG				
93334104	4	1.841	46.8	3459
► 250 MCM				
93332504	4	2.138	54.3	4538
► 350 MCM				
93333504	4	2.335	59.3	5591
► 500 MCM				
93335004	4	2.815	71.5	8065

Other dimensions and colors are available on request
* 2 conductor cables are rated UL TC only

UL TC-ER-JP (joist pull) available upon request

TR 600 S gray

UV and oil resistant 90°C flexible tray cable
Type TC-ER, MTW, WTTC, and CSA approved

Marking for TR 600 S 93351641:
SAB NORTH AMERICA TR 600 S 93351641 16 AWG/41C (UL) TC-ER 90C DRY 75C WET 600V SUN RES DIR BUR OIL RES I/II OR WTTC 1000V OR MTW "FLEXING" OR DP-1 OR AWM 2586 CSA CIC-TC PVC/N 90°C DRY 75°C WET 600V -25°C SR FT4 OR AWM I/II A/B 90C 1000V FT4 RoHS CE

Construction:

Conductor:	bare copper strands class K (30 AWG multiple strands)
Insulation:	special formulated PVC/Nylon
Color code:	black conductors with consecutive white numbers; green/yellow ground from 3 conductors
Stranding:	in layers
Jacket material:	special oil resistant pressure extruded PVC
Jacket color:	gray (RAL 7000)

Outstanding features:

- **flexible stranding for easy installation**
- **oil resistant meeting UL Oil Res I and II**
- **NFPA 79 for Industrial Machinery**
- **UL TC-ER (exposed run)**
- **CSA approved for TC**
- **Submersible pump (14 AWG ≥ 3 thru 7 cond.)**
- **WTTC: Wind Turbine tray cable**
- **Class 1 Div 2 per NEC Article 501.4 (B)**

Technical data:

Voltage:	**UL-AWM / (UL) / CSA:** **(UL) WTTC:**	600 V 1000 V
Testing voltage:	2500 V	
Min. bending radius: *fixed installation:* *free movement:*	 4 x O.D. 6 x O.D.	
Temperature range: *static:*	**UL -AWM** up to +105°C -40°C	**(UL) / CSA:** up to +90°C
Burning characteristics:	(UL) FT4 and CSA FT1, FT2, FT4	
Oil resistance I & II:	yes	
Sunlight resistance:	yes	
Exposed runs:	yes	
Cold bend test:	-40°C	
Direct burial:	yes	
Machinery area:	yes	
Approvals:	UL TC-ER, UL MTW, UL WTTC, UR AWM, CSA CIC-TC, CSA CIC, CSA AWM, CE, RoHS	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30	

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item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
18 AWG				
93351802*	2	0.286	7.3	45
93351803	3	0.300	7.6	55
93351804	4	0.324	8.2	67
93351805	5	0.349	8.9	79
93351807	7	0.376	9.6	100
93351809	9	0.432	11.0	125
93351812	12	0.480	12.2	157
93351818	18	0.596	15.1	244
93351825	25	0.686	17.4	319
93351850	50	0.940	23.9	622
16 AWG				
93351602*	2	0.306	7.8	52
93351603	3	0.321	8.2	70
93351604	4	0.348	8.8	81
93351605	5	0.376	9.6	96
93351607	7	0.412	10.5	126
93351608	8	0.440	11.2	137
93351609	9	0.473	12.0	152
93351612	12	0.527	13.4	196
93351616	16	0.613	15.6	273
93351618	18	0.646	16.4	300
93351619	19	0.646	16.4	310
93351625	25	0.746	18.9	395
93351634	34	0.884	22.5	544
93351641	41	0.945	24.0	654
93351650	50	1.025	26.0	756

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
14 AWG				
93351402*	2	0.346	8.8	65
93351403	3	0.364	9.2	88
93351404	4	0.396	10.1	112
93351405	5	0.430	10.9	130
93351407	7	0.472	12.0	169
93351409	9	0.578	14.7	236
93351412	12	0.644	16.4	297
93351418	18	0.744	18.9	417
93351425	25	0.904	23.0	596
12 AWG				
93351202*	2	0.385	9.8	99
93351203	3	0.403	10.2	120
93351204	4	0.440	11.2	150
93351205	5	0.479	12.2	189
93351207	7	0.526	13.4	240
10 AWG				
93351003	3	0.487	12.4	179
93351004	4	0.568	14.4	248
93351005	5	0.618	15.7	298
93351007	7	0.674	17.1	403
8 AWG				
93350803	3	0.662	16.8	309
93350804	4	0.728	18.5	388
93350805	5	0.826	21.0	465

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
6 AWG				
93350603	3	0.765	19.4	443
93350604	4	0.879	22.3	580
93350605	5	0.954	24.2	717
4 AWG				
93350403	3	0.966	24.5	696
93350404	4	1.061	26.9	845
93350405	5	1.179	29.9	1035
2 AWG				
93350203	3	1.114	28.3	977
93350204	4	1.160	29.5	1215
93350205	5	1.363	34.6	1575

Other dimensions and colors are available on request
*2 conductor cables are rated UL TC only

TR 600 S CY

UV and oil resistant 90°C shielded flexible tray cable
Type TC-ER, MTW, WTTC, and CSA approved

Marking for TR 600 S CY 93341604:
SAB NORTH AMERICA TR 600 S CY 93341604 16 AWG/ 4C (UL) TC-ER 90C DRY/WET 600V SUN RES DIR BUR OIL RES I/II OR WTTC 1000V OR MTW "FLEXING" OR DP-1 OR AWM 2586 105°C CSA CIC-TC PVC/N 90°C DRY 75°C WET 600V -25°C SR FT4 OR AWM I/II A/B 90C 1000V FT4 RoHS CE

Construction:

Conductor:	bare copper strands class K (30 AWG multiple strands)
Insulation:	special formulated PVC/Nylon
Color code:	black conductors with consecutive white numbers; green/yellow ground from 3 conductors
Stranding:	in layers
Wrapping:	fleece tape
Shielding:	tinned copper braiding (85% coverage)
Jacket material:	special oil resistant pressure extruded PVC
Jacket color:	black (RAL 9005)

Outstanding features:

- **flexible stranding for easy installation**
- **oil resistant meeting UL Oil Res I and II**
- **NFPA 79 for Industrial Machinery**
- **UL TC-ER (exposed run)**
- **CSA approved for TC**
- **Submersible pump (14 AWG ≥ 3 thru 7 cond.)**
- **WTTC: Wind Turbine tray cable**
- **90°C Wet rated**
- **Class 1 Div 2 per NEC Article 501.4 (B)**

Technical data:

Voltage:	**UL-AWM / (UL) / CSA:** **(UL) WTTC:**	600 V 1000 V
Testing voltage:	2500 V	
Min. bending radius: *fixed installation:* *free movement:*	 6 x O.D. 8 x O.D.	
Temperature range: *static:*	**UL -AWM** up to +105°C -40°C	**(UL) / CSA:** up to +90°C
Burning characteristics:	(UL) FT4 and CSA FT1, FT2, FT4	
Oil resistance I & II:	yes	
Sunlight resistance:	yes	
Exposed runs:	yes	
Cold bend test:	-40°C	
Direct burial:	yes	
Machinery area:	yes	
Approvals:	UL TC-ER, UL MTW, UL WTTC, UR AWM, CSA CIC-TC, CSA AWM, CE, RoHS	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30	

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **18 AWG**				
93341803	3	0.324	8.2	71
93341804	4	0.348	8.8	85
93341805	5	0.373	9.5	95
93341807	7	0.400	10.2	120
93341809	9	0.455	11.6	149
93341812	12	0.504	12.8	185
93341818	18	0.617	15.7	270
93341825	25	0.710	18.0	365
▶ **16 AWG**				
93341603	3	0.345	8.8	83
93341604	4	0.372	9.4	100
93341605	5	0.400	10.2	116
93341607	7	0.430	10.9	145
93341609	9	0.492	12.5	187
93341612	12	0.579	14.7	245
93341618	18	0.664	16.9	335
93341625	25	0.770	19.6	445

UL TC-ER-JP (joist pull) available upon request

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **14 AWG**				
93341403	3	0.388	9.9	108
93341404	4	0.420	10.7	131
93341405	5	0.454	11.5	155
93341407	7	0.490	12.4	190
93341412	12	0.662	16.8	350
93341418	18	0.764	19.4	482
93341425	25	0.924	23.5	701
▶ **12 AWG**				
93341203	3	0.427	10.8	145
93341204	4	0.464	11.8	178
93341205	5	0.506	12.9	210
93341207	7	0.578	14.7	307
▶ **10 AWG**				
93341003	3	0.562	14.3	190
93341004	4	0.568	14.4	250
93341005	5	0.643	16.3	350
93341007	7	0.695	17.7	408

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **8 AWG**				
93340804	4	0.759	19.3	447
▶ **6 AWG**				
93340604	4	0.915	23.2	672
93340605	5	0.936	23.8	766
▶ **4 AWG**				
93340404	4	1.097	27.9	993
▶ **2 AWG**				
93340204	4	1.271	32.3	1455

Other dimensions and colors are available on request

TR 600 S CY gray

UV and oil resistant 90°C shielded flexible tray cable
Type TC-ER, MTW, WTTC, and CSA approved

Marking for TR 600 S CY gray 93361604:

SAB NORTH AMERICA TR 600 S CY 93361604 16 AWG/ 4C (UL) TC-ER 90C DRY 75C WET 600V SUN RES DIR BUR OIL RES I/II OR WTTC 1000V OR MTW "FLEXING" OR DP-1 OR AWM 2586 105°C CSA CIC-TC PVC/N 90°C DRY 75°C WET 600V -25°C SR FT4 OR AWM I/II A/B 90C 1000V FT4 RoHS CE

Construction:

Conductor:	bare copper strands class K (30 AWG multiple strands)
Insulation:	special formulated PVC/Nylon
Color code:	black conductors with consecutive white numbers; green/yellow ground from 3 conductors
Stranding:	in layers
Wrapping:	fleece tape
Shielding:	tinned copper braiding (85% coverage)
Jacket material:	special oil resistant pressure extruded PVC
Jacket color:	gray (RAL 7000)

Outstanding features:

- **flexible stranding for easy installation**
- **oil resistant meeting UL Oil Res I and II**
- **NFPA 79 for Industrial Machinery**
- **UL TC-ER (exposed run)**
- **CSA approved for TC**
- **Submersible pump (14 AWG ≥ 3 thru 7 cond.)**
- **WTTC: Wind Turbine tray cable**
- **Class 1 Div 2 per NEC Article 501.4 (B)**

Technical data:

Voltage:	**UL-AWM / (UL) / CSA:** 600 V **(UL) WTTC:** 1000 V
Testing voltage:	2500 V
Min. bending radius: *fixed installation:* *free movement:*	 6 x O.D. 8 x O.D.
Temperature range: *static:*	**UL -AWM** up to +105°C / **(UL) / CSA:** up to +90°C -40°C
Burning characteristics:	(UL) FT4 and CSA FT1, FT2, FT4
Oil resistance I & II:	yes
Sunlight resistance:	yes
Exposed runs:	yes
Cold bend test:	-40°C
Direct burial:	yes
Machinery area:	yes
Approvals:	UL TC-ER, UL MTW, UL WTTC, UR AWM, CSA CIC-TC, CSA CIC, CSA AWM, CE, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **18 AWG**				
93361803	3	0.324	8.2	71
93361804	4	0.348	8.8	85
93361805	5	0.373	9.5	95
93361807	7	0.400	10.2	120
93361809	9	0.455	11.6	149
93361812	12	0.504	12.8	185
93361818	18	0.617	15.7	270
93361825	25	0.710	18.0	365
► **16 AWG**				
93361603	3	0.345	8.8	83
93361604	4	0.372	9.4	100
93361605	5	0.400	10.2	116
93361607	7	0.430	10.9	145
93361609	9	0.492	12.5	187
93361612	12	0.579	14.7	245
93361618	18	0.664	16.9	335
93361625	25	0.770	19.6	445

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **14 AWG**				
93361403	3	0.388	9.9	108
93361404	4	0.420	10.7	131
93361405	5	0.454	11.5	155
93361407	7	0.490	12.4	190
93361412	12	0.662	16.8	350
93361418	18	0.764	19.4	482
93361425	25	0.924	23.5	701
► **12 AWG**				
93361203	3	0.427	10.8	145
93361204	4	0.464	11.8	178
93361205	5	0.506	12.9	210
► **10 AWG**				
93361003	3	0.562	14.3	190
93361004	4	0.568	14.4	250
93361005	5	0.643	16.3	350
93361007	7	0.695	17.7	408

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **8 AWG**				
93360804	4	0.759	19.3	447
► **6 AWG**				
93360604	4	0.915	23.2	672
► **4 AWG**				
93360404	4	1.097	27.9	993
► **2 AWG**				
93360204	4	1.271	32.3	1455

Other dimensions and colors are available on request

TR 600 Plus

UV and oil resistant 90°C reduced O.D. flexible tray cable
Type TC-ER, MTW, and WTTC

Marking for TR 600 Plus 95551641:

SAB BRÖCKSKES · D-VIERSEN · TR 600 Plus 16AWG/41 95551641 (UL) Type TC-ER 90°C 600V, Oil Resistant I, Sunlight Resistant, Direct Burial, FT4 (UL) WTTC 90°C 1000V (UL) MTW 600 V AWM Style 21179 600 V c(UL) Type CIC 90°C dry 600V FT1, FT2, FT4 CSA AWM I/II A/B 90°C 1000V FT1, FT2 CE

Construction:

Conductor:	bare copper finely stranded class 5
Insulation:	special formulated PVC/Nylon
Color code:	black conductors with consecutive white numbers; green/yellow ground from 3 conductors
Stranding:	in layers
Jacket material:	special sunlight and oil resistant PVC
Jacket color:	black (RAL 9005)

Outstanding features:

- **improved flexibility**
- **flexible cable for tray use even where sunlight resistance and open wiring is required.**
- **NFPA 79 for Industrial Machinery**
- **WTTC: UL subject 2277**
- **TC: UL subject 1277**
- **(UL) / c(UL) listed**
- **Class 1 Div 2 per NEC Article 501.4 (B)**

Technical data:

Voltage:	**UL-AWM / (UL) / c(UL):** **(UL) WTTC / CSA-AWM:**	600 V 1000 V
Testing voltage:	6000 V	
Min. bending radius: *fixed installation:* *free movement:*	 4 x O.D. 5 x O.D.	
Radiation resistance:	8 x 10^7 cJ/kg	
Temperature range: *static:*	**UL -AWM** up to +105°C -25°C	**(UL) / c(UL) / CSA-AWM:** up to +90°C
Burning characteristics:	(UL) FT4 and c(UL) FT1, FT2, FT4 and CSA FT1, FT2	
Oil resistance I:	yes	
Sunlight resistance:	yes	
Exposed runs:	yes	
Direct burial:	yes	
Machinery area:	yes	
Approvals:	UL TC-ER, UL MTW, UL WTTC, UR AWM, CSA CIC, CSA AWM, CE, RoHS	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30	

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **18 AWG**				
95551803	3	0.280	7.1	50
95551804	4	0.303	7.7	60
95551805	5	0.327	8.3	71
95551807	7	0.354	9.0	88
95551809	9	0.433	11.0	117
95551812	12	0.457	11.6	137
95551816	16	0.504	12.8	175
95551818	18	0.563	14.3	210
95551819	19	0.563	14.3	216
95551825	25	0.661	16.8	275
95551827	27	0.665	16.9	292
95551837	37	0.740	18.8	380
95551850	50	0.906	23.0	533
▶ **16 AWG**				
95551603	3	0.299	7.6	93
95551604	4	0.327	8.3	113
95551605	5	0.354	9.0	134
95551607	7	0.382	9.7	168
95551608	8	0.441	11.2	200
95551609	9	0.472	12.0	224
95551612	12	0.496	12.6	266
95551616	16	0.583	14.8	366
95551618	18	0.610	15.5	405
95551619	19	0.610	15.5	421
95551625	25	0.724	18.4	534
95551627	27	0.724	18.4	569
95551637	37	0.846	21.5	796
95551641	41	0.906	23.0	886
95551650	50	0.988	25.1	1040
95551661	61	1.043	26.5	1231

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **14 AWG**				
95551403	3	0.335	8.5	84
95551404	4	0.362	9.2	103
95551405	5	0.398	10.1	123
95551407	7	0.465	11.8	164
95551409	9	0.563	14.3	225
95551412	12	0.594	15.1	269
95551418	18	0.689	17.5	381
95551425	25	0.862	21.9	542
▶ **12 AWG**				
95551203	3	0.386	9.8	117
95551204	4	0.421	10.7	145
95551205	5	0.461	11.7	175
95551207	7	0.575	14.6	251
▶ **10 AWG**				
95551003	3	0.457	11.6	174
95551004	4	0.500	12.7	218
95551005	5	0.583	14.8	280
95551007	7	0.685	17.4	374

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **8 AWG**				
95550804	4	0.681	17.3	374
95550805	5	0.748	19.0	451
▶ **6 AWG**				
95550604	4	0.811	20.6	549
95550605	5	0.937	23.8	703
▶ **4 AWG**				
95550404	4	1.028	26.1	884
95550405	5	1.138	28.9	1074
▶ **2 AWG**				
95550204	4	1.189	30.2	1266
95550205	5	1.319	33.5	1533

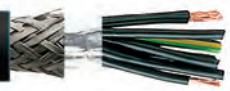
Other dimensions and colors are available on request

TR 600 CY Plus

Shielded UV and oil resistant 90°C reduced O.D. flexible tray cable
Type TC-ER, MTW, and WTTC

NFPA 79 · SAB Tray

Type CIC SHIELDED 90°C dry 600V FT1 FT2 FT4 CE



UL · CSA · CE · RoHS

Marking for TR 600 CY Plus 95561807:

SAB BRÖCKSKES · D-VIERSEN · TR 600 CY Plus 18AWG/7 95561807 TFFN (UL) Type TC-ER 90°C 600V, Oil Resistant I, Sunlight Resistant, Direct Burial, FT4 (UL) WTTC 90°C 1000V (UL) MTW 600 V AWM Style 21179 600 V c(UL) Type CIC 90°C dry 600V FT1, FT2, FT4 CSA Type CIC Shielded 90°C dry 600V FT1, FT2, FT4 CE

Construction:

Conductor:	bare copper finely stranded class 5
Insulation:	special formulated PVC/Nylon
Color code:	black conductors with consecutive white numbers; green/yellow ground from 3 conductors
Stranding:	in layers
Shielding:	double shield, alu-foil, tinned copper braiding
Jacket material:	special oil resistant pressure extruded PVC
Jacket color:	black (RAL 9005)

Outstanding features:

- **improved flexibility**
- **flexible cable for tray use even where sunlight resistance and open wiring is required.**
- **NFPA 79 for Industrial Machinery**
- **WTTC: UL subject 2277**
- **TC: UL subject 1277**
- **(UL) / c(UL) listed**
- **Class 1 Div 2 per NEC Article 501.4 (B)**

Technical data:

Voltage:	**UL-AWM / (UL) / c(UL):**	600 V
	(UL) WTTC / CSA-AWM:	1000 V
Testing voltage:	6000 V	
Min. bending radius:		
fixed installation:	5 x O.D.	
free movement:	10 x O.D.	
Radiation resistance:	8 x 10^7 cJ/kg	
Temperature range:	**UL -AWM**	**(UL) / c(UL) / CSA AWM:**
	up to +105°C	up to +90°C
static:	-25°C	
Burning characteristics:	(UL) FT4 and c(UL) FT1, FT2, FT4 and CSA FT1, FT2	
Oil resistance I:	yes	
Sunlight resistance:	yes	
Exposed runs:	yes	
Direct burial:	yes	
Machinery area:	yes	
Approvals:	UL TC-ER, UL MTW, UL WTTC, UR AWM, CSA CIC, CSA AWM, CE, RoHS	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30	

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item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **18 AWG**				
95561803	3	0.299	7.6	58
95561804	4	0.323	8.2	67
95561805	5	0.346	8.8	79
95561807	7	0.374	9.5	97
95561809	9	0.461	11.7	138
95561812	12	0.484	12.3	159
95561816	16	0.563	14.3	214
95561818	18	0.598	15.2	247
95561819	19	0.598	15.2	252
95561825	25	0.701	17.8	323
95561827	27	0.701	17.8	339
95561837	37	0.776	19.7	431
95561850	50	0.941	23.9	603
▶ **16 AWG**				
95561603	3	0.319	8.1	68
95561604	4	0.346	8.8	83
95561605	5	0.374	9.5	98
95561607	7	0.402	10.2	122
95561608	8	0.469	11.9	155
95561609	9	0.500	12.7	172
95561612	12	0.555	14.1	217
95561616	16	0.618	15.7	286
95561618	18	0.646	16.4	312
95561619	19	0.646	16.4	320
95561625	25	0.760	19.3	411
95561627	27	0.760	19.3	433
95561637	37	0.882	22.4	592
95561641	41	0.941	23.9	661
95561650	50	1.024	26.0	769
95561661	61	1.079	27.4	898

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **14 AWG**				
95561403	3	0.354	9.0	88
95561404	4	0.382	9.7	110
95561405	5	0.425	10.8	139
95561407	7	0.492	12.5	182
95561409	9	0.598	15.2	258
95561412	12	0.630	16.0	307
95561418	18	0.724	18.4	424
95561425	25	0.898	22.8	599
▶ **12 AWG**				
95561203	3	0.406	10.3	120
95561204	4	0.449	11.4	159
95561205	5	0.488	12.4	189
95561207	7	0.610	15.5	286
▶ **10 AWG**				
95561003	3	0.484	12.3	181
95561004	4	0.559	14.2	244
95561005	5	0.618	15.7	308
95561007	7	0.720	18.3	409

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **8 AWG**				
95560804	4	0.717	18.2	393
95560805	5	0.783	19.9	474
▶ **6 AWG**				
95560604	4	0.886	22.5	595
95560605	5	0.972	24.7	726
▶ **4 AWG**				
95560404	4	1.063	27.0	878
95560405	5	1.173	29.8	1076
▶ **2 AWG**				
95560204	4	1.224	31.1	1235
95560205	5	1.354	34.4	1509

Other dimensions and colors are available on request

TR 850 S

UV and oil resistant 90°C flexible tray cable - flexible cord
Type TC-ER and STOOW

Marking for TR 850 S 8501205:
SAB NORTH AMERICA 12AWG/5C (UL) TYPE TC-ER 90C DRY 75C WET 600V SUN RES DIR BUR OIL RES I/II OR TYPE STOOW 105C 600V OR WTTC 1000V OR C(UL) CIC-TC PVC 600V FT4 --- CSA STOOW 105C 600V FT1 OR AWM I/II A/B 105C 1000V FT4

Construction:

Conductor:	bare copper strands class K
Insulation:	special formulated PVC
Color code:	3c- black, white, green/yellow; 4c- black, white, red, green/yellow; 5c- black, white red, brown, green/yellow; 7c- black numbered plus green/yellow ground
Stranding:	in layers
Jacket material:	special sunlight and oil resistant PVC
Jacket color:	black (RAL 9005)

Outstanding features:

- **flexible cable for cable tray use even where sunlight resistance is required.**
- **UL STOOW / CSA STOOW**
- **Class I Div I for flexible use only**

Technical data:

Voltage:	**UL-TC / STOOW / CSA STOOW:** **(UL) WTTC / CSA AWM:**	600 V 1000 V
Testing voltage:	2500 V	
Min. bending radius: *fixed installation:* *free movement:*	 4 x O.D. 6 x O.D.	
Temperature range: *static:*	**UL / CSA STOOW** up to +105°C -40°C	**(UL) / c(UL):** up to +90°C
Burning characteristics:	(UL) FT4 and c(UL) FT1, FT2, FT4	
Oil resistance I & II:	yes	
Sunlight resistance:	yes	
Exposed runs:	yes	
Direct burial:	yes	
Machinery area:	yes	
Approvals:	UL TC-ER, UL WTTC, UR AWM, c(UL) CIC-TC, CSA AWM, CE, RoHS	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30	

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **18 AWG**				
8501803	3	0.363	9.2	77
8501804	4	0.394	10.0	95
8501805	5	0.462	11.7	133
8501807	7	0.495	12.6	157
► **16 AWG**				
8501603	3	0.392	10.0	96
8501604	4	0.422	10.7	111
8501605	5	0.497	12.6	159
8501607	7	0.535	13.6	192
► **14 AWG**				
8501403	3	0.541	13.7	170
8501404	4	0.584	14.8	208
8501405	5	0.656	16.7	264
8501407	7	0.708	18.0	324

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **12 AWG**				
8501203	3	0.614	15.6	232
8501204	4	0.640	16.3	329
8501205	5	0.716	18.2	329
8501207	7	0.773	19.6	418
► **10 AWG**				
8501003	3	0.696	17.7	307
8501004	4	0.742	18.8	378
8501005	5	0.819	20.8	445
8501007	7	0.850	21.6	544
► **8 AWG**				
8500804	4	0.990	25.1	623
► **6 AWG**				
8500604	4	1.120	28.4	828

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **4 AWG**				
8500404	4	1.277	32.4	1174
► **2 AWG**				
8500204	4	1.442	36.6	1578

Other dimensions and colors are available on request

TRAY HD TPE

Heavy duty tray cable
Type TC-ER

Marking for TRAY HD TPE 94441842:
SAB NORTH AMERICA TRAY HD TPE 18 AWG 42c P/N 94441842 (UL) TC-ER 90C DRY 75C WET 600V OIL RES I/II SUN RES DIR BUR OR WTTC 1000V OR AWM 21270 105C 600V OR c (UL) CIC-TC PVC/N 600V FT4 CSA AWM I/II A/B 90C 600V FT4 RoHS CE

Construction:

Conductor:	bare copper strands class K
Insulation:	special formulated PVC/nylon
Color code:	blue with numerical print* one with white-blue conductor and one green/yellow ground** *Alpha-Numeric Alternate and Inverted, ie: 1-ONE
Stranding:	in layers
Jacket material:	TPE
Jacket color:	gray (RAL 7000)

Outstanding features:

- **heavy duty tray cable and control and instrumentation cable**
- **UL-AWM recognized for 105°C**
- **extremely oil resistant**
- **WTTC: UL subject 2277**
- **TC: UL standard 1277**
- **CSA listed**
- **NFPA 79 for Industrial Machinery**
- **c(UL) CIC-TC FT4**
- **Class 1 Div 2 per NEC Article 501.4 (B)**

Technical data:

Voltage:	**UL-AWM /(UL) /c(UL):** 600 V **(UL) WTTC:** 1000 V
Testing voltage:	2500 V
Min. bending radius:	7.5 x O.D.
Temperature range:	**UL-AWM** up to +105°C / **(UL) / c(UL) / CSA-AWM:** up to +90°C
static:	-40°C
Burning characteristics:	(UL) FT4 and c(UL) FT1, FT2, FT4
Oil resistance I & II:	yes
Exposed runs:	yes
Cold bend test:	-40°C
Approvals:	UL TC-ER, UL WTTC, UR AWM, c(UL) CIC-TC, CSA AWM, CE, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30
Alt. Color code:	** Add B at the end of Part No. for Black conductors: black conductors with numbers; and green/yellow ground ** Add R at the end of Part No. for Red conductors: red conductors with numbers; and green/yellow ground

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **18 AWG**				
94441803	3	0.295	7.5	55
94441805	5	0.343	8.7	79
94441807	7	0.370	9.4	100
94441811	11	0.465	11.8	149
94441812	12	0.476	12.1	157
94441819	19	0.583	14.8	247
94441825	25	0.677	17.2	319
94441833	33	0.736	18.7	391
94441842	42	0.815	20.7	498
94441849	49	0.906	23.0	607
94441865	65	1.008	25.6	675

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **16 AWG**				
94441603	3	0.323	8.2	70
94441605	5	0.409	10.4	96
94441607	7	0.539	13.7	166
94441611	11	0.555	14.1	191
94441612	12	0.634	16.1	196
94441619	19	0.642	16.3	307
94441625	25	0.736	18.7	395
94441633	33	0.815	20.7	475
94441642	42	0.949	24.1	612
94441649	49	1.004	25.5	748
94441665	65	1.122	28.5	998

Other dimensions and colors are available on request

Possible on request:

- **with black jacket as well as red conductors**

* For red conductors add R at end of P/N, ie 94441803R

TR 600 HD

Heavy duty tray cable
Type TC-ER

NFPA 79 SAB Tray

600V FT4 CSA AWM I/II A/B 90C 600V FT4 RoHS CE

Marking for TR 600 HD 32301604:

SAB NORTH AMERICA TR 600 HD 16 AWG 4c P/N 32301604 (UL) TC-ER 90C DRY 75C WET 600V OIL RES I/II SUN RES DIR BUR OR WTTC 1000V OR AWM 21270 105C 600V OR c (UL) CIC-TC PVC/N 600V FT4 CSA AWM I/II A/B 90C 600V FT4 RoHS CE

Construction:

Conductor:	bare copper strands class K
Insulation:	special formulated PVC/Nylon
Color code:	black with numerical print* and one green/yellow ground** *Alpha-Numeric Alternate and Inverted, ie: 1-One
Stranding:	in layers
Jacket material:	TPE
Jacket color:	orange

Outstanding features:

- **heavy duty tray cable and control and instrumentation cable**
- **UL-AWM recognized for 105°C**
- **extremely oil resistant**
- **WTTC: UL subject 2277**
- **TC: UL standard 1277**
- **CSA listed**
- **NFPA 79 for Industrial Machinery**
- **c(UL) CIC-TC FT4**
- **Class 1 Div 2 per NEC Article 501.4 (B)**

Technical data:

Voltage:	**UL-AWM / UL / c(UL):** 600 V **(UL) WTTC:** 1000 V
Testing voltage:	2500 V
Min. bending radius:	7.5 x O.D.
Temperature range:	**UL-AWM** up to +105°C; **(UL) / c(UL) / CSA-AWM:** up to +90°C
static:	-40°C
Burning characteristics:	(UL) FT4 and c(UL) FT1, FT2, FT4
Oil resistance I & II:	yes
Exposed runs:	yes
Cold bend test:	-40°C
Approvals:	UL TC-ER, UL WTTC, UR AWM, c(UL) CIC-TC, CSA AWM, CE, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30
Alt. Color code:	** Add B at the end of Part No. for Blue conductors: blue conductors with numbers; one white-blue conductor and green/yellow ground ** Add R at the end of Part No. for Red conductors: red conductors with numbers; one white-red conductor and green/yellow ground

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
18 AWG				
32301803	3	0.300	7.6	55
32301804	4	0.324	8.2	67
32301805	5	0.349	8.9	79
32301807	7	0.376	9.6	100
32301812	12	0.480	12.2	157
32301818	18	0.596	15.1	244
32301825	25	0.685	17.4	319
16 AWG				
32301603	3	0.321	8.2	70
32301604	4	0.348	8.8	81
32301605	5	0.376	9.6	96
32301607	7	0.412	10.5	166
32301612	12	0.527	13.4	196
32301618	18	0.646	16.4	300
32301625	25	0.746	18.9	395

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
14 AWG				
32301403	3	0.364	9.2	88
32301404	4	0.396	10.1	92
32301405	5	0.434	11.0	130
32301407	7	0.472	12.0	169
32301412	12	0.644	16.4	297
12 AWG				
32301203	3	0.403	10.2	120
32301204	4	0.440	11.2	150
32301205	5	0.479	12.2	182
32301207	7	0.526	13.4	240
32301212	12	0.719	18.3	420
10 AWG				
32301003	3	0.506	12.9	179
32301004	4	0.590	15.0	248
32301005	5	0.642	16.3	298

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
8 AWG				
32300804	4	0.756	19.2	385
32300805	5	0.826	21.0	465
6 AWG				
32300603	3	0.767	19.5	426
32300604	4	0.878	22.3	580
4 AWG				
32300404	4	1.061	26.9	845
32300405	5	1.179	29.9	1035
2 AWG				
32300204	4	1.235	31.4	1278
32300205	5	1.363	34.6	1575
1 AWG				
32300104	4	1.403	35.6	1605

Other dimensions and colors are available on request

Possible on request:

- **with gray or black jacket as well as blue or red conductors**

* For blue conductors add B at end of P/N, for red add an R, ie 32301404B

SPECIAL CABLES SAB North America
www.sabcable.com
866-722-2974 ■ info@sabcable.com

TR 600 C HD

Shielded heavy duty tray cable
Type TC-ER

NFPA 79 SAB Tray

600V FT4 CSA AWM I/II AB SOC 90C 600V FT4 RoHS

Marking for TR 600 C HD 32401604:

SAB NORTH AMERICA TR 600 C HD 16 AWG 4c P/N 32401604 (UL) TC-ER 90C DRY 75C WET 600V OIL RES I/II SUN RES DIR BUR OR WTTC 1000V OR AWM 21270 105C 600V OR c (UL) CIC-TC PVC/N 600V FT4 CSA AWM I/II A/B 90C 600V FT4 RoHS CE

Construction:

Conductor:	bare copper strands class K
Insulation:	special formulated PVC/Nylon
Color code:	black with numerical print* and one green/yellow earth ground** *Alpha-Numeric Alternate and Inverted, ie: 1-ONE
Stranding:	in layers
Inner jacket:	PVC, color black
Shielding:	tinned copper braiding, 85% coverage
Jacket material:	TPE
Jacket color:	orange

Outstanding features:

- **heavy duty tray cable and control and instrumentation cable**
- **UL-AWM recognized for 105°C**
- **extremely oil resistant**
- **WTTC: UL subject 2277**
- **TC: UL standard 1277**
- **CSA listed**
- **NFPA 79 for Industrial Machinery**
- **c(UL) CIC-TC FT4**
- **Class 1 Div 2 per NEC Article 501.4 (B)**

Technical data:

Voltage:	**UL-AWM / (UL) / c(UL):** 600 V **(UL) WTTC:** 1000 V
Testing voltage:	2500 V
Min. bending radius:	7.5 x O.D.
Temperature range:	**UL-AWM** up to +105°C / **(UL) / c(UL) / CSA-AWM:** up to +90°C
static:	-40°C
Burning characteristics:	(UL) FT4 and c(UL) FT1, FT2, FT4
Oil resistance I & II:	yes
Exposed runs:	yes
Cold bend test:	-40°C
Approvals:	UL TC-ER, UL WTTC, UR AWM, c(UL) CIC-TC, CSA AWM, CE, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30
Alt. Color code:	** Add B at the end of Part No. for Blue conductors: blue conductors with numbers; one white-blue conductor and green/yellow ground ** Add R at the end of Part No. for Red conductors: red conductors with numbers; one white-red conductor and green/yellow ground

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
18 AWG				
32401803	3	0.385	9.8	99
32401804	4	0.408	10.4	113
32401805	5	0.433	11.0	126
32401807	7	0.460	11.7	151
32401812	12	0.599	15.2	250
32401818	18	0.700	17.8	352
32401825	25	0.783	19.9	449
16 AWG				
32401603	3	0.406	10.3	112
32401604	4	0.413	10.5	107
32401605	5	0.460	11.7	154
32401607	7	0.490	12.4	182
32401612	12	0.640	16.3	301
32401618	18	0.750	19.0	425
32401625	25	0.882	22.4	569

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
14 AWG				
32401403	3	0.450	11.4	138
32401404	4	0.480	12.2	149
32401407	7	0.584	14.8	257
12 AWG				
32401204	4	0.523	13.3	217
32401205	5	0.597	15.2	272
10 AWG				
32401004	4	0.698	17.7	366
8 AWG				
32400804	4	0.930	23.6	579
6 AWG				
32400604	4	1.023	26.0	793

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
4 AWG				
32400404	4	1.204	30.6	1157
2 AWG				
32400204	4	1.382	35.1	1579
1 AWG				
32400104	4	1.548	39.3	2815

Other dimensions and colors are available on request

Possible on request:

- **with gray or black jacket as well as blue or red conductors**

* For blue conductors add B at end of P/N, for red add an R, ie 32401404B

TR 600 Auto HD

Continuous flex heavy duty tray cable
Type TC-ER

Marking for TR 600 Auto HD 32321604:
SAB NORTH AMERICA TR 600 Auto HD 16AWG/4c P/N 32321604 (UL) TC-ER 90C DRY 75 C WET 600V OIL RES I/II SUN RES DIR BUR OR WTTC 1000V OR AWM 21270 105C 600V OR c (UL) CIC-TC PVC/N 600V FT4 CSA AWM I/II A/B 90C 600V FT4 RoHS CE

Construction:

Conductor:	bare copper strands class M
Insulation:	special formulated PVC/Nylon
Color code:	black with numerical print* and one green/yellow earth ground** *Alpha-Numeric Alternate and Inverted, ie: 1-ONE
Stranding:	in layers with fleece tape separator
Jacket material:	TPE
Jacket color:	black (RAL 9005)

Outstanding features:

- **heavy duty tray cable and control and instrumentation cable**
- **UL-AWM 21270 recognized for 105°C**
- **extremely oil resistant**
- **WTTC: UL subject 2277**
- **TC: UL standard 1277**
- **CSA listed**
- **NFPA 79 for Industrial Machinery**
- **c(UL) CIC-TC FT4**
- **continuous flex applications**
- **Class 1 Div 2 per NEC Article 501.4 (B)**

Technical data:

Voltage:	**UL-AWM / (UL) / c(UL):** **(UL) WTTC:**	600 V 1000 V
Testing voltage:	2500 V	
Min. bending radius: *fixed installation:* *free movement:* *continuous flexing:*	 4 x O.D. 6 x O.D. 10 x O.D.	
Temperature range: *static:*	**UL-AWM** up to +105°C -40°C	**(UL) / c(UL) / CSA-AWM:** up to +90°C
Cold bend test:	-40°C	
Burning characteristics:	(UL) Vertical Tray Flame and c(UL) FT1, FT2, FT4	
Oil resistance I & II:	yes	
Exposed runs:	yes	
Approvals:	UL TC-ER, UL WTTC, UR AWM, c(UL) CIC-TC, CSA AWM, CE, RoHS	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30	
Alt. Color code:	** Add B at the end of Part No. for Blue conductors: blue conductors with numbers; one white-blue conductor and green/yellow ground ** Add R at the end of Part No. for Red conductors: red conductors with numbers; one white-red conductor and green/yellow ground	

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
18 AWG				
32321803	3	0.302	7.7	48
32321804	4	0.325	8.3	58
32321805	5	0.350	8.9	75
32321807	7	0.405	10.3	94
32321812	12	0.480	12.2	134
32321818	18	0.589	15.0	214
32321825	25	0.714	18.1	307
16 AWG				
32321603	3	0.336	8.5	63
32321604	4	0.364	9.2	77
32321605	5	0.394	10.0	98
32321607	7	0.458	11.6	125
32321612	12	0.580	14.7	204
32321618	18	0.669	17.0	300
32321625	25	0.819	20.8	423

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
14 AWG				
32321403	3	0.361	9.2	82
32321404	4	0.391	9.9	102
32321405	5	0.423	10.7	125
32321407	7	0.495	12.6	169
32321412	12	0.625	15.9	282
12 AWG				
32321203	3	0.420	10.7	115
32321204	4	0.458	11.6	145
32321205	5	0.499	12.7	189
32321207	7	0.621	15.8	264
32321212	12	0.742	18.8	398
10 AWG				
32321003	3	0.506	12.9	179
32321004	4	0.590	15.0	248
32321005	5	0.642	16.3	298

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
8 AWG				
32320804	4	0.756	19.2	385
32320805	5	0.826	21.0	465
6 AWG				
32320603	3	0.767	19.5	426
32320604	4	0.879	22.3	580
4 AWG				
32320404	4	1.061	26.9	845
32320405	5	1.177	29.9	1035
2 AWG				
32320204	4	1.235	31.4	1278
32320205	5	1.363	34.6	1575

Other dimensions and colors are available on request

Possible on request:

- **with gray jacket as well as blue or red conductors**

* For blue conductors add B at end of P/N, for red add an R, ie 32321404B

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TR 600 Auto C HD

Shielded continuous flex heavy duty tray cable
Type TC-ER

Marking for TR 600 Auto C HD 32421604:

SAB NORTH AMERICA TR 600 Auto HD 16AWG/4c P/N 32421604 (UL) TC-ER 90C DRY 75 C WET 600V OIL RES I/II SUN RES DIR BUR OR WTTC 1000V OR AWM 21270 105C 600V OR c (UL) CIC-TC PVC/N 600V FT4 CSA AWM I/II A/B 90C 600V FT4 RoHS CE

Construction:

Conductor:	bare copper strands class M
Insulation:	special formulated PVC/Nylon
Color code:	black with numerical print* and one green/yellow earth ground** *Alpha-Numeric Alternate and Inverted, ie: 1-ONE
Stranding:	in layers
Wrapping:	fleece binder
Shielding:	tinned copper braiding (85% coverage)
Separator:	tissue tape
Jacket material:	TPE
Jacket color:	black (RAL 9005)

Outstanding features:

- **heavy duty tray cable and control and instrumentation cable**
- **UL-AWM 21270 recognized for 105°C**
- **extremely oil resistant**
- **WTTC: UL subject 2277**
- **TC: UL standard 1277**
- **CSA listed**
- **NFPA 79 for Industrial Machinery**
- **c(UL) CIC-TC FT4**
- **continuous flex applications**
- **Class 1 Div 2 per NEC Article 501.4 (B)**

Technical data:

Voltage:	**UL-AWM / (UL) / c(UL):** **(UL) WTTC:**	600 V 1000 V
Testing voltage:	2500 V	
Min. bending radius: *fixed installation:* *free movement:* *continuous flexing:*	 5 x O.D. 10 x O.D. 12 x O.D.	
Temperature range: *static:*	**UL-AWM** up to +105°C -40°C	**(UL) / c(UL) / CSA-AWM:** up to +90°C
Cold bend test:	-40°C	
Burning characteristics:	(UL) Vertical Tray Flame and c(UL) FT1, FT2, FT4	
Oil resistance I & II:	yes	
Exposed runs:	yes	
Approvals:	UL TC-ER, UL WTTC, UR AWM, c(UL) CIC-TC, CSA AWM, CE, RoHS	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30	
Alt. Color code:	** Add B at the end of Part No. for Blue conductors: blue conductors with numbers; one white-blue conductor and green/yellow ground ** Add R at the end of Part No. for Red conductors: red conductors with numbers; one white-red conductor and green/yellow ground	

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
18 AWG				
32421803	3	0.322	8.2	45
32421804	4	0.345	8.8	85
32421807	7	0.425	10.8	120
32421812	12	0.500	12.7	185
32421818	18	0.609	15.5	260
32421825	25	0.714	18.1	307
16 AWG				
32421603	3	0.356	9.0	78
32421604	4	0.384	9.8	100
32421605	5	0.414	10.5	127
32421607	7	0.478	12.1	145
32421612	12	0.600	15.2	245
32421618	18	0.669	17.0	337
32421625	25	0.883	22.4	541

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
14 AWG				
32421403	3	0.381	9.7	108
32421404	4	0.411	10.4	123
32421405	5	0.443	11.3	147
32421407	7	0.515	13.1	185
12 AWG				
32421204	4	0.478	12.1	178
32421205	5	0.519	13.2	210
32421207	7	0.586	14.9	272
10 AWG				
32421004	4	0.613	15.6	280
32421005	5	0.673	17.1	350
8 AWG				
32420804	4	0.785	19.9	450

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
6 AWG				
32420604	4	0.914	23.2	630
4 AWG				
32420404	4	1.094	27.8	945
2 AWG				
32420204	4	1.264	32.1	1450

Other dimensions and colors are available on request

Possible on request:
- **with blue or red conductors**

* For blue conductors add B at end of P/N, for red add an R, ie 32421404B

TR 600 Auto Combo C HD

Shielded heavy duty motor supply cable with one shielded pair
Type TC-ER and MTW

Marking for the TR 600 Auto Combo C HD 32431404:
SAB NORTH AMERICA · TR 600 AUTO COMBO C HD P/N 32431404 (UL) TC-ER 14 AWG/4C XHHW-2 +14 AWG/1PR 90C DRY/WET 600V OIL RES I/II SUN RES DIR BUR OR WTTC 1000V OR FLEXIBLE MOTOR SUPPLY CABLE OR AWM 21270 105C 600V OR C(UL) CIC-TC XLPE/PVC/N 600V FT4 CSA AWM I/II A/B 90C 600V FT4 CE ROHS

Construction:

Conductor:	tinned copper strands class M
Insulation:	special formulated crosslinked PE, pair: PVC/Nylon
Color code:	black conductors with consecutive white numbers and a green/yellow ground
Stranding:	signal conductors in pairs
Shielding:	pairwise with alu foil, tinned copper drain wire AWG 26 and braided with tinned copper wires
Wrapping:	pairwise with PETP foil
Stranding:	shielded signal pair(s) and power conductors in layers
Wrapping:	non-woven tape
Shielding:	double shielded, alu foil and tinned copper braiding
Jacket material:	TPE
Jacket color:	black (RAL 9005)

Outstanding features:

- **WTTC: UL subject 2277**
- **TC: UL standard 1277**
- **c(UL)/(cUL) listed**
- **Class 1 Div 2 per NEC Article 501.4 (B)**

Technical data:

Voltage:	**(UL) / c(UL):** **UL-AWM / CSA-AWM:** **(UL) WTTC:**	600 V 1000 V 1000 V
Testing voltage:	2500 V	
Min. bending radius: *fixed installation:* *free movement:* *continuous flexing:*	 5 x O.D. 10 x O.D. 12 x O.D.	
Temperature range: *static:*	**UL-AWM** up to +105°C -40°C	**(UL) / c(UL) / CSA-AWM:** up to +90°C
Cold bend test:	-40°C	
Burning characteristics:	(UL) / c(UL) FT1, FT2, FT4	
Oil resistance:	yes	
Sunlight resistance:	yes	
Exposed runs:	yes	
Direct burial:	yes	
Machinery area:	yes	
Approvals:	UL TC-ER, UL WTTC, UR AWM, c(UL) CIC-TC, CSA AWM, CE, RoHS	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30	

item no.	dimensions	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 32431614	16 AWG/4c + 18 AWG/1pr	0.523	13.3	172
▶ 32431414	14 AWG/4c + 18 AWG/1pr	0.580	14.7	217
▶ 32431404	14 AWG/4c + 14 AWG/1pr	0.624	15.8	265
▶ 32431214	12 AWG/4c + 18 AWG/1pr	0.633	16.1	274
▶ 32431204	12 AWG/4c + 14 AWG/1pr	0.671	17.0	310
▶ 32431004	10 AWG/4c + 14 AWG/1pr	0.724	18.4	375
▶ 32430804	8 AWG/4c + 14 AWG/1pr	0.917	23.3	586

Other dimensions and colors are possible on request.

Possible on request:

- **with blue conductors**

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VFD XLPE TR

Variable frequency drive - double shielded VFD cable with XLPE insulation
Type TC-ER

Marking for VFD XLPE TR 35681404:
SAB NORTH AMERICA VFD XLPE TR P/N 35681404 (UL) Type TC-ER 14AWG/3C RHW-2 CDRS + GNDG CDR 90C Dry/Wet 600V, Oil Res I & II, Sunlight Resistant, Direct Burial, (UL) WTTC 1000V, (UL) Flexible Motor Supply Cable, c(UL) CIC-TC XLPE 600V FT4, CSA AWM I/II A/B 90C 1000V FT4 RoHS CE

Construction:

Conductor:	tinned copper strands class K
Insulation:	special formulated crosslinked PE, ground wire PVC
Color code:	blackish gray conductors with consecutive white numbers and green/yellow ground
Stranding:	in layers
Shielding:	double shield, AMA foil and tinned copper braiding
Jacket material:	special sunlight and oil resistant copolymer
Jacket color:	black (RAL 9005)

Outstanding features:

- **interconnection of variable frequency drive control device to variable frequency motors**
- **UL 90°C wet**
- **WTTC: UL subject 2277**
- **TC:-ER UL standard 1277**
- **UL flexible motor supply cable 1000 V**
- **crosslinked conductors, better for longer installations**
- **Oil Res I & II**
- **double shielded (100% shielded)**
- **Class 1 Div 2 per NEC Article 501.4 (B)**

Technical data:

Voltage:	**(UL) / c(UL):** 600 V **CSA-AWM:** 1000 V **(UL) WTTC:** 1000 V
Testing voltage:	3000 V
Min. bending radius:	12 x O.D.
Temperature range:	**(UL) / c(UL) / CSA-AWM:** up to +90°C
static:	-40/105°C
Burning characteristics:	(UL) / c(UL) FT4, c(UL) / CSA-AWM FT1, FT2
Oil resistance I & II:	yes
Sunlight resistance:	yes
Exposed runs:	yes
Cold bend test:	-40°C
Direct burial:	yes
Approvals:	UL TC-ER, UL WTTC, c(UL) CIC-TC, CSA AWM, CE, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

- **Temperature resistant down to -40°C**
- **Heavy duty application**

item no.	AWG/c	nominal outer-ø inch 10%	nominal outer-ø mm 10%	cable weight ≈lbs/mft
▶ 35681604	16/4c	0.477	12.1	125
▶ 35681404	14/4c	0.522	13.3	159
▶ 35681204	12/4c	0.592	15.0	214
▶ 35681004	10/4c	0.680	17.3	294
▶ 35680804	8/4c	0.886	22.5	556
▶ 35680604	6/4c	0.968	24.6	736
▶ 35680404	4/4c	1.090	27.7	1079
▶ 35680204	2/4c	1.247	31.7	1550
▶ 35680104	1/4c	1.444	36.7	1190

* UL TC-ER-JP (joist pull) available upon request

Larger AWG Sizes - minimums may apply

item no.	AWG/c	nominal outer-ø inch 10%	nominal outer-ø mm 10%	cable weight ≈lbs/mft
▶ 35681104	1/0-4c	1.565	39.8	2168
▶ 35682104	2/0-4c	1.661	42.2	2550
▶ 35683104	3/0-4c	1.830	46.5	3135
▶ 35684104	4/0-4c	2.083	52.9	3844
▶ 35682504	250/4c	2.217	56.3	4566
▶ 35683504	350/4c	2.471	62.8	6106
▶ 35685004	500/4c	2.820	71.6	8440

Other dimensions and colors are possible on request.

VFD XLPE TR D

Variable frequency drive - double shielded VFD cable with drain wire and XLPE insulation, Type TC-ER

Marking for VFD XLPE TR D 35681404D:
SAB NORTH AMERICA VFD XLPE TR D P/N 35681404D (UL) Type TC-ER 14AWG/3C RHW-2 CDRS + GNDG CDR 90C Dry/Wet 600V, Oil Res I & II, Sunlight Resistant, Direct Burial, (UL) WTTC 1000V, (UL) Flexible Motor Supply Cable, c(UL) CIC-TC XLPE 600V FT4, CSA AWM I/II A/B 90C 1000V FT4 RoHS CE

Construction:

Conductor:	tinned copper strands class K
Insulation:	special formulated crosslinked PE, ground wire PVC
Color code:	blackish gray conductors with consecutive white numbers and green/yellow ground
Stranding:	in layers
Shielding:	double shield, AMA foil and tinned copper braiding and drain wire
Jacket material:	special sunlight and oil resistant copolymer
Jacket color:	black (RAL 9005)

Outstanding features:

- **interconnection of variable frequency drive control device to variable frequency motors**
- **UL 90°C wet**
- **WTTC: UL subject 2277**
- **TC-ER: UL standard 1277**
- **UL flexible motor supply cable 1000 V**
- **crosslinked conductors, better for longer installations**
- **Oil Res I & II**
- **double shielded (100% shielded)**
- **drain wire included**
- **Class 1 Div 2 per NEC Article 501.4 (B)**

Technical data:

Voltage:	**(UL) / c(UL):** 600 V **CSA-AWM:** 1000 V **(UL) WTTC:** 1000 V
Testing voltage:	3000 V
Min. bending radius:	12 x O.D.
Temperature range:	**(UL) / c(UL) / CSA-AWM:** up to +90°C
static:	-40/105°C
Burning characteristics:	(UL) / c(UL) FT4, c(UL) / CSA-AWM FT1, FT2
Oil resistance I & II:	yes
Sunlight resistance:	yes
Exposed runs:	yes
Cold bend test:	-40°C
Direct burial:	yes
Approvals:	UL TC-ER, UL WTTC, c(UL) CIC-TC, CSA AWM, CE, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	AWG/c	drain wire AWG	nominal outer-ø inch 10%	nominal outer-ø mm 10%	cable weight ≈lbs/mft
▶ 35681604D	16/4c	16	0.493	12.5	144
▶ 35681404D	14/4c	14	0.522	13.3	180
▶ 35681204D	12/4c	12	0.592	15.0	237
▶ 35681004D	10/4c	10	0.680	17.3	327
▶ 35680804D	8/4c	4x14	0.886	22.5	620
▶ 35680604D	6/4c	4x12	0.974	24.7	805
▶ 35680404D	4/4c	4x10	1.090	27.7	1150
▶ 35680204D	2/4c	4x8	1.247	31.7	1600

Other dimensions and colors are possible on request.

* UL TC-ER-JP (joist pull) available upon request

- **Temperature resistant down to -40°C**
- **Heavy duty application**

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VFD XLPE TR Lean

Variable frequency drive - double shielded VFD cable with XLPE insulation
Type TC-ER

Marking for VFD XLPE TR LEAN 35661404:
SAB NORTH AMERICA VFD XLPE TR LEAN P/N 35661404 (UL) Type TC-ER 14AWG/3C XHHW-2 CDRS + GNDG CDR 90C Dry/Wet 600V, Oil Res I & II, Sunlight Resistant, Direct Burial, (UL) WTTC 1000V, (UL) Flexible Motor Supply Cable, c(UL) CIC-TC XLPE 600V FT4, CSA AWM I/II A/B 90C 1000V FT4 RoHS CE

Construction:

Conductor:	tinned copper strands class K
Insulation:	special formulated crosslinked PE, ground wire PVC
Color code:	blackish gray conductors with consecutive white numbers and green/yellow ground
Stranding:	in layers
Shielding:	double shield, AMA foil and tinned copper braiding
Jacket material:	special sunlight and oil resistant copolymer
Jacket color:	black (RAL 9005)

Outstanding features:

- **interconnection of variable frequency drive control device to variable frequency motors**
- **UL 90°C wet**
- **WTTC: UL subject 2277**
- **TC-ER: UL standard 1277**
- **UL flexible motor supply cable 1000 V**
- **recommended for installations up to 100ft**
- **Oil Res I & II**
- **double shielded (100% shielded)**
- **Class 1 Div 2 per NEC Article 501.4 (B)**

Technical data:

Voltage:	**(UL) / c(UL):** 600 V **CSA-AWM:** 1000 V **(UL) WTTC:** 1000 V
Testing voltage:	3000 V
Min. bending radius:	12 x O.D.
Temperature range:	**(UL) / c(UL) / CSA-AWM:** up to +90°C
static:	-40/105°C
Burning characteristics:	(UL) / c(UL) FT4, c(UL) / CSA-AWM FT1, FT2
Oil resistance I & II:	yes
Sunlight resistance:	yes
Exposed runs:	yes
Cold bend test:	-40°C
Direct burial:	yes
Approvals:	UL TC-ER, UL WTTC, c(UL) CIC-TC, CSA AWM, CE, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	AWG/c	nominal outer-ø inch 10%	nominal outer-ø mm 10%	cable weight ≈lbs/mft
▶ 35661804	18/4c	0.383	9.7	94
▶ 35661604	16/4c	0.423	10.7	120
▶ 35661404	14/4c	0.468	11.9	153
▶ 35661204	12/4c	0.530	13.5	207
▶ 35661004	10/4c	0.606	15.4	286
▶ 35660804	8 /4c	0.814	20.7	471

Other dimensions and colors are possible on request.

* UL TC-ER-JP (joist pull) available upon request

- **Temperature resistant down to -40°C**
- **Heavy duty application**

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VFD Combo XLPE

Variable frequency drive - double shielded VFD cable with XLPE insulation and shielded pair, Type TC-ER

Marking for VFD Combo XLPE 35691404:
SAB NORTH AMERICA VFD Combo XLPE P/N 35691404 (UL) Type TC-ER 14AWG/3C RHW-2 CDRS + GNDG CDR + 14AWG/1PR 90C Dry/Wet 600V, Oil Res I & II, Sunlight Resistant, Direct Burial, (UL) WTTC 1000V, (UL) Flexible Motor Supply Cable, c(UL) CIC-TC XLPE 600V FT4, CSA AWM I/II A/B 90C 1000V FT4 RoHS CE

Construction:

Conductor:	tinned copper strands class K
Insulation:	special formulated crosslinked PE, ground wire: PVC, pair: PVC/Nylon
Color code:	blackish gray conductors with consecutive white numbers and green/yellow ground, pair is black with white #5 and #6
Stranding:	in layers
Shielding (pair):	aluminum foil and drain wire (drain wire same size as pair)
Shielding (overall):	double shield, AMA foil and tinned copper braiding
Jacket material:	special sunlight and oil resistant copolymer
Jacket color:	black (RAL 9005)

Outstanding features:

- **interconnection of variable frequency drive control device to variable frequency motors**
- **shielded pairs for a brake or temperature sensor**
- **WTTC: UL subject 2277**
- **TC-ER: UL standard 1277**
- **UL flexible motor supply cable 1000 V**
- **crosslinked conductors, better for longer installations**
- **Oil Res I & II**
- **double shielded (100% shielded)**
- **rated for UL 90°C wet**
- **Class 1 Div 2 per NEC Article 501.4 (B)**

Technical data:

Voltage:	**(UL) / c(UL):** 600 V **CSA-AWM:** 1000 V **(UL) WTTC:** 1000 V
Testing voltage:	3000 V
Min. bending radius:	12 x O.D.
Temperature range:	**(UL) / c(UL) / CSA-AWM:** up to +90°C
static:	-40/105°C
Burning characteristics:	(UL) / c(UL) FT4, c(UL) / CSA-AWM FT1, FT2
Oil resistance I & II:	yes
Sunlight resistance:	yes
Exposed runs:	yes
Cold bend test:	-40°C
Direct burial:	yes
Approvals:	UL TC-ER, UL WTTC, c(UL) CIC-TC, CSA AWM, CE, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

- **Temperature resistant down to -40°C**
- **Heavy duty application**

item no.	AWG/c	AWG/pair	nominal outer-ø inch 10%	nominal outer-ø mm 10%	cable weight ≈lbs/mft
35691614	16/4c	18/1pr	0.573	14.6	144
35691624D	16/4c	16/1pr	0.580	14.7	210
35691414	14/4c	18/1pr	0.616	15.6	175
35691404	14/4c	14/1pr	0.628	16.0	213
35691424D	14/4c	16/1pr	0.626	15.9	257
35691464	14/4c	18/2pr	0.662	16.8	254
35691214	12/4c	18/1pr	0.654	16.6	231
35691224D	12/4c	16/1pr	0.662	16.8	308
35691204	12/4c	14/1pr	0.667	16.9	277
35691264	12/4c	18/2pr	0.698	17.7	299
35691004	10/4c	14/1pr	0.736	18.7	354
35691024D	10/4c	16/1pr	0.746	18.9	417

item no.	AWG/c	AWG/pair	nominal outer-ø inch 10%	nominal outer-ø mm 10%	cable weight ≈lbs/mft
35691064	10/4c	18/2pr	0.762	19.4	383
35690804	8/4c	14/1pr	0.960	24.4	536
35690864	8/4c	18/2pr	0.961	24.4	576
35690604	6/4c	14/1pr	1.030	26.2	726
35690664	6/4c	16/2pr	1.032	26.2	766
35690404	4/4c	14/1pr	1.140	29.0	1011
35690464	4/4c	14/2pr	1.192	30.3	1068
35690204	2/4c	14/1pr	1.280	32.5	1401

Other dimensions and colors are possible on request.
D means drain wire in P/N

* UL TC-ER-JP (joist pull) aavailable upon request

VFD XLPE Auto TR

Variable frequency drive - continuous flex double shielded VFD cable with XLPE insulation, Type TC-ER

Marking for VFD XLPE Auto TR 35781404:

SAB NORTH AMERICA VFD XLPE Auto TR 14 AWG/4C P/N 35781404 (UL) Type TC-ER 14AWG/4C RHW-2 90C Dry/Wet 600V, Oil Res I & II, Sunlight Resistant, Direct Burial, (UL) WTTC 1000V, (UL) Flexible Motor Supply Cable, c(UL) CIC-TC XLPE 600V FT4, CSA AWM I/II A/B 90C 1000V FT4 RoHS CE

Construction:

Conductor:	tinned copper strands class M
Insulation:	special formulated crosslinked PE
Color code:	blackish gray conductors with consecutive white numbers and green/yellow ground
Stranding:	in layers
Shielding:	double shield, AMA foil and tinned copper braiding
Jacket material:	special sunlight and oil resistant copolymer
Jacket color:	black (RAL 9005)

Outstanding features:

- **interconnection of variable frequency drive control device to variable frequency motors**
- **UL 90°C wet**
- **WTTC: UL subject 2277**
- **TC-ER: UL standard 1277**
- **UL flexible motor supply cable 1000 V**
- **crosslinked conductors, better for longer installations**
- **Oil Res I & II**
- **double shielded (100% shielded)**
- **Class 1 Div 2 per NEC Article 501.4 (B)**

Technical data:

Voltage:	**(UL) / c(UL):** 600 V **CSA-AWM:** 1000 V **(UL) WTTC:** 1000 V
Testing voltage:	3000 V
Min. bending radius:	12 x O.D.
Temperature range:	**(UL) / c(UL) / CSA-AWM:** up to +90°C *static:* -40/105°C
Burning characteristics:	(UL) / c(UL) FT4, c(UL) / CSA-AWM FT1, FT2
Oil resistance I & II:	yes
Sunlight resistance:	yes
Exposed runs:	yes
Cold bend test:	-40°C
Direct burial:	yes
Approvals:	UL TC-ER, UL WTTC, c(UL) CIC-TC, CSA AWM, CE, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	AWG/c	nominal outer-ø inch 10%	nominal outer-ø mm 10%	cable weight ≈lbs/mft
▶ 35781604	16/4c	0.512	13.0	129
▶ 35781404	14/4c	0.569	14.5	164
▶ 35781204	12/4c	0.646	16.4	220
▶ 35781004	10/4c	0.704	17.9	303
▶ 35780804	8/4c	0.909	23.1	567
▶ 35780604	6/4c	0.988	25.1	758
▶ 35780404	4/4c	1.173	29.8	1111

Other dimensions and colors are possible on request.

- **Temperature resistant down to -40°C**
- **Heavy duty application**

VFD Symmetrical XLPE TR

Variable frequency drive - double shielded VFD cable with XLPE insulation and 3 symmetrical grounds, Type TC-ER

Marking for VFD Symmetrical XLPE TR 35681003:
SAB NORTH AMERICA VFD Symmetrical XLPE TR P/N 35681003 (UL) TC-ER 10AWG/3C RHW-2 CDRS + 3 x 14 AWG GNDS 90C Dry/Wet, Oil Resistant I/II, Sunlight Resistant, Direct Burial, (UL) WTTC 1000V, (UL) Flexible Motor Supply Cable, c(UL) CIC-TC XLPE 600V FT4, CSA AWM I/II A/B 90C 1000V FT4 RoHS CE

Construction:

Conductor:	tinned copper strands class K
Insulation:	special formulated crosslinked PE
Color code:	blackish gray conductors with consecutive white numbers
Stranding:	in layers with 3 tinned ground wires in the interstices
Shielding:	double shield, AMA foil and tinned copper braiding
Jacket material:	special sunlight and oil resistant copolymer
Jacket color:	black (RAL 9005)

Outstanding features:

- **interconnection of variable frequency drive control device to variable frequency motors**
- **WTTC approval**
- **finer strand for better flexibility**
- **TC-ER: UL standard 1277**
- **UL flexible motor supply cable 1000 V**
- **crosslinked conductors, better for longer installations**
- **Oil Res I & II**
- **double shielded (100% shielded)**
- **3 symmetrical grounds**
- **Class 1 Div 2 per NEC Article 501.4 (B)**

Technical data:

Voltage:	**(UL) / c(UL):** 600 V **CSA-AWM:** 1000 V **(UL) WTTC:** 1000 V
Testing voltage:	3000 V
Min. bending radius:	12 x O.D.
Temperature range:	**(UL) / c(UL) / CSA-AWM:** up to +90°C
static:	-40/105°C
Burning characteristics:	(UL) / c(UL) FT4, c(UL) / CSA-AWM FT1, FT2
Oil resistance I & II:	yes
Sunlight resistance:	yes
Exposed runs:	yes
Cold bend test:	-40°C
Direct burial:	yes
Approvals:	UL TC-ER, UL WTTC, c(UL) CIC-TC, CSA AWM, CE, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	AWG/c kcmil/c	ground wire n x AWG	nominal outer-ø inch 10%	nominal outer-ø mm 10%	cable weight ≈lbs/mft
35681403	14/3c	3x18	0.501	12.7	170
35681203	12/3c	3x16	0.570	14.5	230
35681003	10/3c	3x14	0.642	16.3	312
35680803	8/3c	3x14	0.811	20.6	465
35680603	6/3c	3x12	0.954	24.2	674
35680403	4/3c	3x12	1.062	27.0	877
35680203	2/3c	3x10	1.226	31.1	1266
35680103	1/3c	3x8	1.305	33.1	1545
35681103	1/0-3c	3x8	1.408	35.8	1757
35682103	2/0-3c	3x8	1.507	38.3	2167
35683103	3/0-3c	3x6	1.601	40.7	2508
35684103	4/0-3c	3x6	1.890	48.0	3060
35682503	250/3c	3x6	2.005	50.9	3680
35683503	350/3c	3x2	2.231	56.7	5170
35685003	500/3c	3x2	2.490	63.2	6353

Other dimensions and colors are possible on request.

- **Temperature resistant down to -40°C**
- **Heavy duty application**

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VFD XLPE 2KV TR

Variable frequency drive - shielded VFD cable with three ground wires, 2 kV
Type TC-ER

Marking for VFD XLPE 2KV TR 8692103:
SAB NORTH AMERICA P/N 8692103 2/0 AWG/3/C RHW-2 2000V 3x6 AWG GNDS Shielded Type TC-ER SUN RES DIR BUR

Construction:

Conductor:	uncoated annealed copper strands acc. to ASTM B-3 and B-8
Insulation:	special formulated crosslinked PE
Color code:	black conductors with numbers with three ground wires
Stranding:	in layers with three uninsulated bare ground wires in the filler
Shielding:	uncoated 5mil copper tape shield with 50% overlap
Jacket material:	special sunlight resistant and flame retardant PVC
Jacket color:	black (RAL 9005)

Outstanding features:

- **interconnection of variable frequency drive control device to variable frequency motors**
- **RHW-2: UL standard 44**
- **TC-ER: UL standard 1277**
- **IEEE 1202/FT4**
- **three bare ground wires for optimal performance**
- **Class 1 Div 2 per NEC Article 501.4 (B)**

Technical data:

Voltage:	**(UL):** 2000 V
Testing voltage:	7500 V
Min. bending radius:	15 x O.D.
Temperature range:	**(UL):** up to +90°C
static:	-25°C
Burning characteristics:	(UL) FT4 / IEEE 1202
Sunlight resistance:	yes
Moisture resistance:	yes
Exposed runs:	yes
Direct burial:	yes
Approvals:	UL TC-ER, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	AWG/c kcmil/c	ground wire n x AWG	nominal outer-ø inch 10%	nominal outer-ø mm 10%	cable weight ≈lbs/mft
8690203	1/3c	3x8	1.266	32.2	1465
8691103	1/0-3c	3x6	1.384	35.2	1822
8692103	2/0-3c	3x6	1.476	37.5	2130
8693103	3/0-3c	3x5	1.582	40.2	2650
8694103	4/0-3c	3x4	1.800	45.7	3251
8692503	250/3c	3x2	1.978	50.2	3760
8692513	250/3c	3x4	1.835	46.6	3720
8693503	350/3c	3x2	2.130	54.1	5025
8695003	500/3c	3x1	2.402	61.0	6805

Other dimensions and colors are possible on request.

DATA & SENSOR
CABLES

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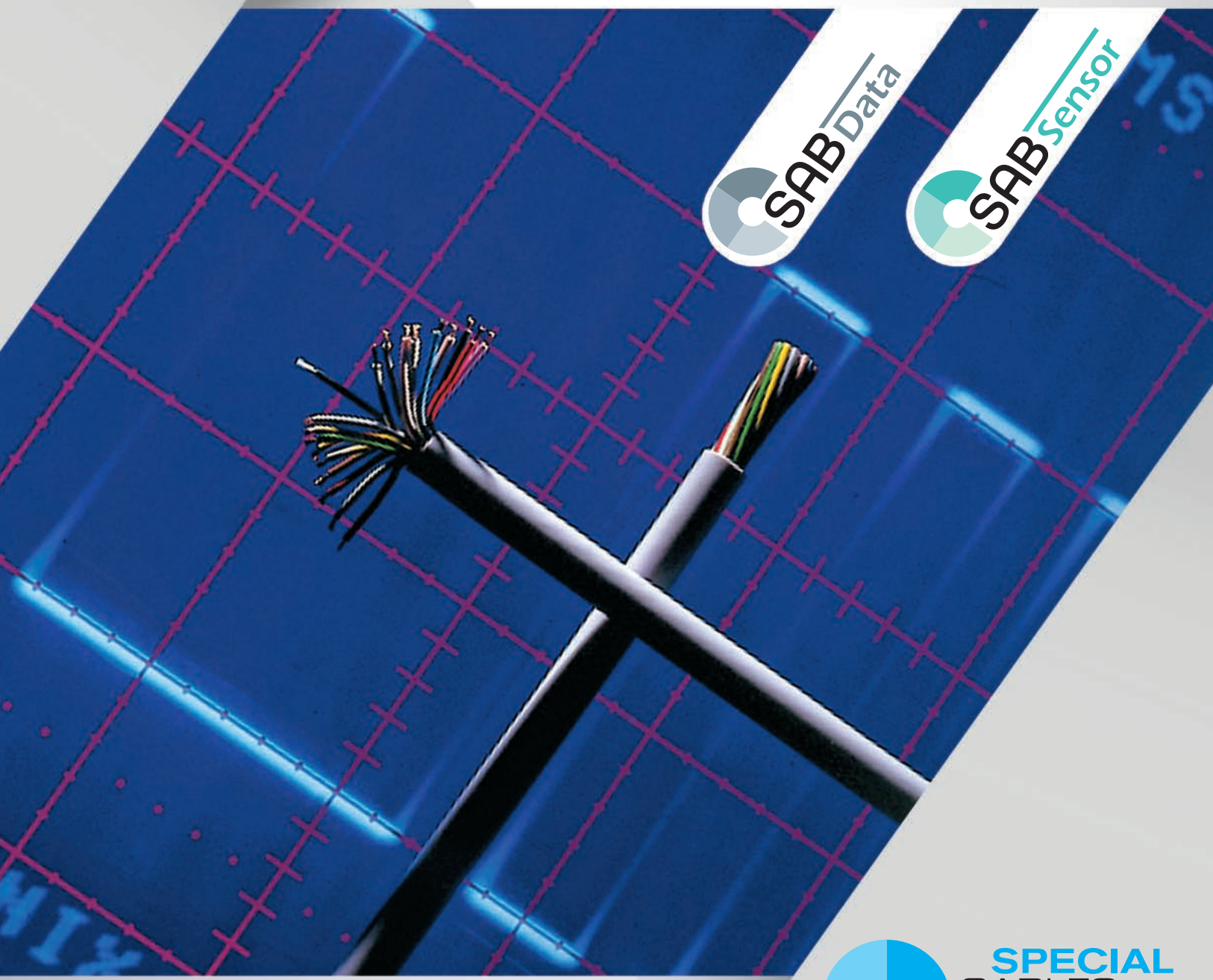

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SPECIAL CABLES
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Content

Applications

Modern electronics and miniaturized appliances require data cables with the smallest cross sections, best shielding and highest flexibility. SAB data cables meet these requirements to a high degree. Different types of shieldings, i.e. single or double shields, tinned copper wrappings or braids, protect the cables against outer high-frequency interference. Different types of strandings (in layers or pair-wise) can prevent mutual interference of adjoining circuits. Especially in the computer era, data cables have become essential and they must be continuously adjusted to the latest technical developments. The color code with reference to DIN 47100 guarantees a perfect assignment of the conductors for the connection of the cable. The cables are produced with reference to the usual DIN VDE regulations.

Applications of PVC data cables

SAB data cables are used for the transmission of measuring, control and voice signals in electronic control appliances, in electronics for data processing systems, for paging and intercom systems, weighing installations, office machines, etc. The cables can be used for fixed installations and flexible applications with free movement, without tensile load and mechanically guided movement in dry, damp, and wet conditions. They are not suitable for outdoor use.

Exemplary applications:

LiYY	Scales, construction of appliances and control panels, construction of low-voltage switchboard plants, communication technologies
LiYCY	Scales, construction of appliances and control panels, construction of low-voltage switchboard plants, process controls, construction of appliances for electric installations, test and control technologies
LiYCY (B) TP	Measuring, control and voice signals, e.g. in low-voltage switchboard plants, scales and appliance engineering, in communication technologies, in control and measuring technologies, in office and computing machines
LiYDY-CY TP	Measuring, control and voice signals, e.g. in scales and low-voltage switchboard plant engineering, for interference-prone operation controls, in control and measuring technologies, in high-sensitive data processing systems
DC 300 DS **DC 300 DS TP**	Measuring, control and voice signals, e.g. in scales and low-voltage switchboard plant engineering, for interference-prone process controls, in control and measuring technologies, in high-sensitive data processing systems

Applications of sensor cables

The sensor cables are especially designed for the application at the polar circle or in extremely hot regions. The high flexibility and robustness as well as the large temperature range make these products especially suitable for temperature measuring and test technique. The smooth jacket surface doesn´t produce a stick-slip effect and the slim cable construction enables small bending radii to 2 x d. This makes equally possible a comfortable laying especially for narrow spaces. Furthermore, these cables can be used for miniature sensors, as strain gauge feed cable or as connection cable for modular technique due to the small outer diameters and sections.

Exemplary applications:

Sensor minus 50 **Sensor plus 150** **Sensor plus 250**	Temperature measurement and test technique, truck and car test runs, miniature sensors, as strain gauge feed cable or as connection cable in modular technique

Selection Table

	Cable Type	F/5 DC 300 DS	F/6 DC 300 DS TP	F/7 LiYY	F/9 LiYCY	F/11 LiYCY (B) TP	F/12 LiYDY-CY TP	F/13 S 355	F/14 Sensor minus 50	F/15 Sensor plus 150	F/16 Sensor plus 250
Basic construction	Bare copper strands with reference to VDE 0812			●	●	●	●				
	Bare copper strands, fine wires							●			
	Tinned copper strands								●	●	
	Tinned copper strands acc. to ASTM B 286	●	●								
	Silver plated strands								●	●	●
	Overall copper shielding	●	●		●	●	●				
	No coupling of individual signals, low influence of neighboring cable circuits effective suppression of crosstalk and side-to-side crosstalk effects		●			●	●				
	Drain wire	●	●			●	●				
Temperature range fixed installation*	+250°C										
	+150°C										
	+125°C										
	+105°C										
	+ 90°C										
	+ 80°C										
	+ 70°C										
	- 30°C										
	- 50°C										
	- 90°C										
Voltage	Peak operating voltage max. 48 V								●	●	●
	Peak operating voltage max. 300 V							●3			
	Peak operating voltage max. 350 V	●	●	●1	●1	●1	●1				
	Peak operating voltage max. 500 V			●2	●2	●2	●2				
	Voltage UL 300 V							●			
	Voltage UL/CSA 300 V	●	●								
	Testing voltage 600 V								●	●	●
	Testing voltage 1200 V (conductor/shielding)				●	●	●				
	Testing voltage 1500 V (conductor/conductor)			●	●	●	●				
	Testing voltage 2000 V	●	●								
Standards and approvals	Fire performance flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2	●	●	●	●	●	●				
	Fire performance UL VW-1	●	●								
	Fire performance CSA FT1, FT2	●	●								
	UL recognition	●	●					●3			
	CSA approved	●	●								
Characteristics	Very good oil resistance							●	●	●	●
	Oil resistance acc. to internal standard	●	●	●	●	●	●				
	Very good chemical resistance							●			●
	Good flexibility			●	●	●	●	●			

from

to

[1] < 0.25 mm²

[2] ≥ from .25 mm²

[3] depending on dimension

*The temperature range for flexible application is mentioned on the corresponding catalog page

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DC 300 DS

Multi-conductor double shielded PVC signal and control cable
Type AWM

very good EMC

SAB Data

Marking for DC 300 DS 3242225:
SAB BRÖCKSKES · D-VIERSEN · 3242522 DC 300 DS 22 AWG/25c 3242225 AWM Style 2464 80°C 300V CSA AWM I/II A/B 80°C 300V FT1 FT2

Construction:

Conductor:	tinned copper strands acc. to ASTM B 286
Insulation:	semi-rigid PVC
Color code:	color code US 2, see page O/27
Stranding:	in layers
Shielding:	double shielding, Alu-foil, tinned copper braiding with tinned drain wire (0.22 mm²)
Jacket material:	PVC
Jacket color:	grayish tan (RAL 7032)

Outstanding features:

- **very good EMC characteristics**
- **small outer diameter**
- **small bending radius**

Technical data:

Peak operating voltage:	max. 350 V
Voltage UL/CSA:	300 V
Testing voltage:	conductor/conductor: 2000 V conductor/shielding: 2000 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range: *static:* *flexible:*	**DIN VDE** **UL/CSA:** up to +80°C -30/+70°C -5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, CSA FT1, FT2
Oil resistance:	acc. to internal standard, see page O/29
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

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item no.	no. of conductors	nominal outer-ø ± 5% inch	± 5% mm	cable weight ≈lbs/mft
► **AWG 28/7**				
3242802	2	0.169	4.3	14
3242803	3	0.173	4.4	16
3242804	4	0.181	4.6	17
3242805	5	0.193	4.9	20
3242807	7	0.201	5.1	23
3242810	10	0.236	6.0	29
3242812	12	0.244	6.2	32
3242814	14	0.252	6.4	34
3242818	18	0.272	6.9	41
3242825	25	0.311	7.9	50
► **AWG 26/7**				
3242602	2	0.177	4.5	16
3242603	3	0.181	4.6	17
3242604	4	0.193	4.9	20
3242605	5	0.201	5.1	24
3242607	7	0.213	5.4	26
3242610	10	0.252	6.4	34
3242612	12	0.260	6.6	38
3242614	14	0.268	6.8	41
3242618	18	0.291	7.4	50
3242625	25	0.335	8.5	63

item no.	no. of conductors	nominal outer-ø ± 5% inch	± 5% mm	cable weight ≈lbs/mft
► **AWG 24/7**				
3242402	2	0.185	4.7	18
3242403	3	0.193	4.9	20
3242404	4	0.201	5.1	24
3242405	5	0.217	5.5	28
3242407	7	0.228	5.8	32
3242410	10	0.272	6.9	42
3242412	12	0.280	7.1	47
3242414	14	0.287	7.3	52
3242418	18	0.315	8.0	64
3242425	25	0.366	9.3	82

item no.	no. of conductors	nominal outer-ø ± 5% inch	± 5% mm	cable weight ≈lbs/mft
► **AWG 22/7**				
3242202	2	0.197	5.0	21
3242203	3	0.205	5.2	25
3242204	4	0.217	5.5	28
3242205	5	0.232	5.9	34
3242207	7	0.248	6.3	40
3242210	10	0.295	7.5	54
3242212	12	0.303	7.7	60
3242214	14	0.315	8.0	67
3242218	18	0.346	8.8	83
3242225	25	0.406	10.3	110

Other dimensions and colors are available on request

DC 300 DS TP

Multi-pair double shielded PVC signal and control cable
Type AWM

very good EMC

SAB Data

Marking for DC 300 DS TP 3842203:
SAB BRÖCKSKES · D-VIERSEN · 3840322 DC 300 DS TP 22 AWG/3pr 3842203 AWM Style 2464 80°C 300V CSA AWM I/II A/B 80°C 300V FT1 FT2

Construction:

Conductor:	tinned copper strands acc. to ASTM B 286
Insulation:	semi-rigid PVC
Color code:	color code US 3, see page O/27
Stranding:	conductors twisted to pairs, pairs twisted in layers
Shielding:	double shielding, Alu-foil, tinned copper braiding with tinned drain wire (0.22 mm²)
Jacket material:	PVC
Jacket color:	grayish tan (RAL 7032)

Outstanding features:

- **very good EMC characteristics**
- **small outer diameter**
- **small bending radius**

Technical data:

Peak operating voltage:	max. 350 V
Voltage UL/CSA:	300 V
Testing voltage:	conductor/conductor: 2000 V conductor/shielding: 2000 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range: *static:* *flexible:*	**DIN VDE** **UL/CSA:** up to +80°C -30/+70°C -5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, CSA FT1, FT2
Oil resistance:	acc. to internal standard, see page O/29
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of pairs	nominal outer-ø ± 5% inch	± 5% mm	cable weight ≈lbs/mft
► **AWG 28/7**				
3842802	2	0.201	5.1	19
3842803	3	0.217	5.5	23
3842804	4	0.240	6.1	27
3842805	5	0.256	6.5	31
3842807	7	0.272	6.9	36
3842810	10	0.311	7.9	45
3842814	14	0.354	9.0	57
3842818	18	0.378	9.6	70
3842825	25	0.425	10.8	87
► **AWG 26/7**				
3842602	2	0.213	5.4	22
3842603	3	0.232	5.9	27
3842604	4	0.260	6.6	32
3842605	5	0.276	7.0	38
3842607	7	0.287	7.3	42
3842610	10	0.335	8.5	56
3842614	14	0.386	9.8	73
3842618	18	0.413	10.5	89
3842625	25	0.465	11.8	112

item no.	no. of pairs	nominal outer-ø ± 5% inch	± 5% mm	cable weight ≈lbs/mft
► **AWG 24/7**				
3842402	2	0.228	5.8	26
3842403	3	0.248	6.3	32
3842404	4	0.280	7.1	39
3842405	5	0.299	7.6	46
3842407	7	0.311	7.9	54
3842410	10	0.362	9.2	71
3842414	14	0.421	10.7	94
3842418	18	0.453	11.5	116
3842425	25	0.508	12.9	148

item no.	no. of pairs	nominal outer-ø ± 5% inch	± 5% mm	cable weight ≈lbs/mft
► **AWG 22/7**				
3842202	2	0.248	6.3	32
3842203	3	0.268	6.8	40
3842204	4	0.303	7.7	48
3842205	5	0.327	8.3	58
3842207	7	0.343	8.7	70
3842210	10	0.402	10.2	95
3842214	14	0.465	11.8	124
3842218	18	0.500	12.7	156
3842225	25	0.579	14.7	207

Other dimensions and colors are available on request

LiYY

Multi-conductor signal and control cable with DIN color code

Marking for LiYY 3053225:
SAB BRÖCKSKES · D-VIERSEN · LIYY 32x0.25mm²

Construction:

Conductor:	bare copper strands with reference to VDE 0812
Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Color code:	DIN 47100, see page O/26
Stranding:	in layers
Jacket material:	PVC, TM2 acc. to EN 50363-4-1 + VDE 0207-363-4-1
Jacket color:	grayish tan (RAL 7032)

Outstanding features:

- **flexible**
- **small outer diameter**
- **small bending radius**

Technical data:

Peak operating voltage:	< 24 AWG = max. 350 V ≥ 24 AWG = max. 500 V
Testing voltage:	conductor/conductor: 1500 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Capacitance:	see page O/9
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range: *static:* *flexible:*	 -30/+70°C -5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Oil resistance:	acc. to internal standard, see page O/29
Chemical resistance:	see page O/11
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

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item no.	no. of conductors	nominal outer-ø ± 5% inch	nominal outer-ø ± 5% mm	cable weight ≈lbs/mft
► **26 AWG (≈ 18/38) • 0.14 mm²**				
3050214	2	0.122	3.1	9
3050314	3	0.130	3.3	10
3050414	4	0.138	3.5	11
3050514	5	0.150	3.8	14
3050614	6	0.161	4.1	17
3050714	7	0.161	4.1	17
3050814	8	0.185	4.7	22
3051014	10	0.201	5.1	23
3051214	12	0.209	5.3	26
3051414	14	0.217	5.5	30
3051614	16	0.236	6.0	36
3051814	18	0.248	6.3	40
3052014	20	0.260	6.6	44
3052114	21	0.272	6.9	46
3052414	24	0.287	7.3	49
3052514	25	0.303	7.7	53
3052714	27	0.303	7.7	56
3053014	30	0.311	7.9	60
3053214	32	0.323	8.2	65
3053614	36	0.335	8.5	72
3054014	40	0.358	9.1	80
3054414	44	0.374	9.5	85
3054814	48	0.398	10.1	97
3055014	50	0.406	10.3	100
3055214	52	0.406	10.3	103
3055614	56	0.417	10.6	111
3056114	61	0.429	10.9	118

item no.	no. of conductors	nominal outer-ø ± 5% inch	nominal outer-ø ± 5% mm	cable weight ≈lbs/mft
► **24 AWG (≈ 14/34) • 0.25 mm²**				
3050225	2	0.134	3.4	11
3050325	3	0.142	3.6	13
3050425	4	0.154	3.9	16
3050525	5	0.165	4.2	19
3050625	6	0.181	4.6	23
3050725	7	0.181	4.6	24
3050825	8	0.205	5.2	30
3050925	9	0.220	5.6	34
3051025	10	0.232	5.9	34
3051225	12	0.240	6.1	39
3051425	14	0.252	6.4	44
3051625	16	0.264	6.7	50
3051825	18	0.280	7.1	56
3052025	20	0.299	7.6	64
3052125	21	0.311	7.9	67
3052425	24	0.331	8.4	73
3052525	25	0.339	8.6	75
3052725	27	0.339	8.6	80
3053025	30	0.350	8.9	88
3053225	32	0.362	9.2	93
3053625	36	0.394	10.0	110
3054025	40	0.417	10.6	122
3054425	44	0.437	11.1	129
3054825	48	0.445	11.3	138
3055025	50	0.457	11.6	144
3055225	52	0.457	11.6	148
3055625	56	0.469	11.9	159
3056125	61	0.484	12.3	171

item no.	no. of conductors	nominal outer-ø ± 5% inch	nominal outer-ø ± 5% mm	cable weight ≈lbs/mft
► **22 AWG (≈ 7/30) • 0.34 mm²**				
3050234	2	0.157	4.0	15
3050334	3	0.165	4.2	18
3050434	4	0.181	4.6	22
3050534	5	0.197	5.0	28
3050634	6	0.217	5.5	33
3050734	7	0.217	5.5	34
3050834	8	0.256	6.5	45
3051034	10	0.280	7.1	48
3051234	12	0.287	7.3	56
3051434	14	0.311	7.9	66
3051634	16	0.327	8.3	75
3051834	18	0.346	8.8	83
3052034	20	0.362	9.2	92
3052134	21	0.394	10.0	103
3052434	24	0.417	10.6	111
3052534	25	0.425	10.8	114
3052734	27	0.425	10.8	122
3053034	30	0.441	11.2	132
3053234	32	0.457	11.6	141
3053634	36	0.476	12.1	157
3054034	40	0.508	12.9	175
3054434	44	0.531	13.5	186
3054834	48	0.539	13.7	200
3055234	52	0.571	14.5	224
3055634	56	0.587	14.9	239
3056134	61	0.606	15.4	257

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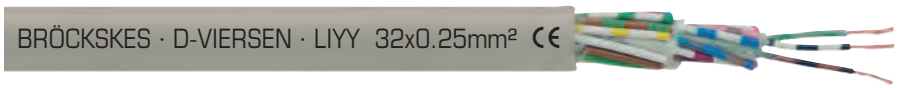
LiYY

Multi-conductor signal and control cable with DIN color code



Marking for LiYY 3053225:
SAB BRÖCKSKES · D-VIERSEN · LIYY 32x0.25mm²

item no.	no. of conductors	nominal outer-ø ± 5% inch	nominal outer-ø ± 5% mm	cable weight ≈lbs/mft
► **20 AWG (≈ 16/32) • 0.50 mm²**				
3050250	2	0.169	4.3	18
3050350	3	0.177	4.5	22
3050450	4	0.193	4.9	27
3050550	5	0.213	5.4	34
3050650	6	0.240	6.1	42
3050750	7	0.240	6.1	44
3050850	8	0.280	7.1	56
3051050	10	0.311	7.9	62
3051250	12	0.319	8.1	71
3051450	14	0.335	8.5	81
3051650	16	0.354	9.0	92
3051850	18	0.374	9.5	102
3052050	20	0.409	10.4	120
3052150	21	0.429	10.9	127
3052450	24	0.453	11.5	136
3052550	25	0.461	11.7	141
3052750	27	0.461	11.7	150
3053050	30	0.476	12.1	164
3053250	32	0.496	12.6	175
3053650	36	0.516	13.1	195
3054050	40	0.571	14.5	226
3054450	44	0.594	15.1	241
3054850	48	0.602	15.3	258
3055250	52	0.618	15.7	277
3055650	56	0.638	16.2	297
3056150	61	0.657	16.7	319

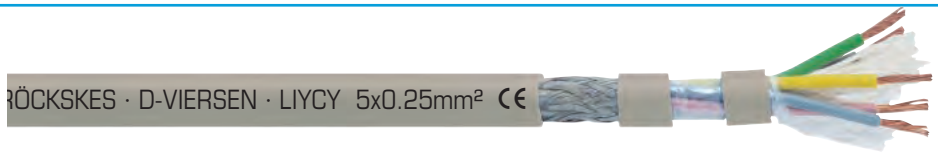
item no.	no. of conductors	nominal outer-ø ± 5% inch	nominal outer-ø ± 5% mm	cable weight ≈lbs/mft
► **19 AWG (≈ 23/32) • 0.75 mm²**				
3050275	2	0.193	4.9	25
3050375	3	0.205	5.2	30
3050475	4	0.232	5.9	39
3050575	5	0.252	6.4	48
3050675	6	0.276	7.0	56
3050775	7	0.276	7.0	60
3050875	8	0.327	8.3	78
3051075	10	0.358	9.1	85
3051275	12	0.370	9.4	98
3051475	14	0.406	10.3	118
3051675	16	0.425	10.8	133
3051875	18	0.449	11.4	148
3052175	21	0.492	12.5	175
3052475	24	0.524	13.3	188
3052775	27	0.535	13.6	208
3053075	30	0.571	14.5	236
3053275	32	0.591	15.0	252
3053675	36	0.614	15.6	280

item no.	no. of conductors	nominal outer-ø ± 5% inch	nominal outer-ø ± 5% mm	cable weight ≈lbs/mft
► **18 AWG (≈ 30/32) • 1.00 mm²**				
3050280	2	0.201	5.1	29
3050380	3	0.213	5.4	36
3050480	4	0.240	6.1	47
3050580	5	0.264	6.7	58
3050680	6	0.287	7.3	69
3050780	7	0.287	7.3	74
► **16 AWG (≈ 27-29/30) • 1.50 mm²**				
3050285	2	0.220	5.6	36
3050385	3	0.240	6.1	47
3050485	4	0.264	6.7	58
3050585	5	0.303	7.7	77
3050685	6	0.331	8.4	91
3050785	7	0.331	8.4	98

Other dimensions and colors are available on request

LiYCY

Multi-conductor signal and control cable with overall tinned copper braid DIN color code



Marking for LiYCY 3150525:
SAB BRÖCKSKES · D-VIERSEN · LIYCY 5x0.25mm²

Construction:

Conductor:	bare copper strands with reference to VDE 0812
Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Color code:	DIN 47100, see page O/26
Stranding:	in layers
Wrapping:	PETP foil
Shielding:	tinned copper braiding
Jacket material:	PVC, TM2 acc. to EN 50363-4-1 + VDE 0207-363-4-1
Jacket color:	grayish tan (RAL 7032)

Outstanding features:

- **good EMC characteristics**
- **flexible**
- **small outer diameter**
- **small bending radius**

Technical data:

Peak operating voltage:	< 24 AWG = max. 350 V ≥ 24 AWG = max. 500 V
Testing voltage:	conductor/conductor: 1500 V conductor/shielding: 1200 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Capacitance:	see page O/9
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range: *static:* *flexible:*	 -30/+70°C -5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Oil resistance:	acc. to internal standard, see page O/29
Chemical resistance:	see page O/11
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

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9

item no.	no. of conductors	nominal outer-ø ± 5% inch	± 5% mm	cable weight ≈lbs/mft
▶ **26 AWG (≈ 18/38) ▪ 0.14 mm²**				
3150214	2	0.142	3.6	12
3150314	3	0.150	3.8	14
3150414	4	0.157	4.0	16
3150514	5	0.169	4.3	19
3150614	6	0.181	4.6	22
3150714	7	0.181	4.6	22
3150814	8	0.213	5.4	30
3151014	10	0.228	5.8	32
3151214	12	0.244	6.2	37
3151414	14	0.252	6.4	41
3151614	16	0.264	6.7	46
3151814	18	0.276	7.0	50
3152014	20	0.287	7.3	55
3152114	21	0.299	7.6	58
3152414	24	0.315	8.0	62
3152514	25	0.339	8.6	69
3152714	27	0.339	8.6	71
3153014	30	0.346	8.8	78
3153214	32	0.358	9.1	82
3153614	36	0.370	9.4	89
3154014	40	0.394	10.0	99
3154414	44	0.417	10.6	113
3154814	48	0.425	10.8	119
3155014	50	0.433	11.0	123
3155214	52	0.433	11.0	126
3155614	56	0.445	11.3	136
3156114	61	0.457	11.6	143

item no.	no. of conductors	nominal outer-ø ± 5% inch	± 5% mm	cable weight ≈lbs/mft
▶ **24 AWG (≈ 14/34) ▪ 0.25 mm²**				
3150125	1	0.106	2.7	9
3150225	2	0.154	3.9	15
3150325	3	0.161	4.1	17
3150425	4	0.173	4.4	21
3150525	5	0.193	4.9	26
3150625	6	0.209	5.3	30
3150725	7	0.209	5.3	31
3150825	8	0.240	6.1	40
3150925	9	0.256	6.5	45
3151025	10	0.260	6.6	44
3151225	12	0.268	6.8	49
3151425	14	0.280	7.1	54
3151525	15	0.291	7.4	60
3151625	16	0.291	7.4	61
3151825	18	0.307	7.8	69
3152025	20	0.335	8.5	79
3152125	21	0.346	8.8	84
3152425	24	0.366	9.3	89
3152525	25	0.374	9.5	93
3152725	27	0.374	9.5	97
3153025	30	0.386	9.8	105
3153225	32	0.398	10.1	112
3153625	36	0.421	10.7	131
3154025	40	0.445	11.3	146
3154425	44	0.465	11.8	154
3154825	48	0.488	12.4	171
3155025	50	0.500	12.7	176
3155225	52	0.500	12.7	181
3155625	56	0.512	13.0	194
3156125	61	0.528	13.4	206

item no.	no. of conductors	nominal outer-ø ± 5% inch	± 5% mm	cable weight ≈lbs/mft
▶ **22 AWG (≈ 7/30) ▪ 0.34 mm²**				
3150234	2	0.177	4.5	19
3150334	3	0.193	4.9	24
3150434	4	0.209	5.3	29
3150534	5	0.224	5.7	35
3150634	6	0.252	6.4	43
3150734	7	0.252	6.4	44
3150834	8	0.283	7.2	54
3151034	10	0.307	7.8	60
3151234	12	0.315	8.0	67
3151434	14	0.346	8.8	81
3151634	16	0.362	9.2	90
3151834	18	0.382	9.7	101
3152034	20	0.398	10.1	110
3152134	21	0.421	10.7	124
3152434	24	0.445	11.3	134
3152734	27	0.453	11.5	145
3153034	30	0.469	11.9	157
3153234	32	0.500	12.7	173
3153634	36	0.520	13.2	191
3154034	40	0.551	14.0	212
3154234	42	0.551	14.0	219
3154434	44	0.575	14.6	224
3154834	48	0.583	14.8	239
3155034	50	0.622	15.8	270
3155234	52	0.622	15.8	277
3155634	56	0.638	16.2	294
3156134	61	0.657	16.7	312

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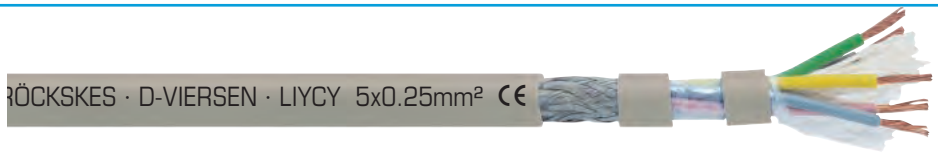
LiYCY

Multi-conductor signal and control cable with overall tinned copper braid DIN color code



Marking for LiYCY 3150525:
SAB BRÖCKSKES · D-VIERSEN · LIYCY 5x0.25mm²

item no.	no. of conductors	nominal outer-ø ± 5% inch	nominal outer-ø ± 5% mm	cable weight ≈lbs/mft
► 20 AWG (≈ 16/32) • 0.50 mm²				
3150150	1	0.126	3.2	13
3150250	2	0.197	5.0	24
3150350	3	0.205	5.2	28
3150450	4	0.220	5.6	34
3150550	5	0.248	6.3	43
3150650	6	0.268	6.8	50
3150750	7	0.268	6.8	52
3150850	8	0.307	7.8	67
3151050	10	0.346	8.8	77
3151250	12	0.354	9.0	86
3151450	14	0.370	9.4	96
3151650	16	0.390	9.9	109
3151850	18	0.417	10.6	128
3152050	20	0.437	11.1	140
3152150	21	0.457	11.6	151
3152450	24	0.496	12.6	167
3152550	25	0.504	12.8	172
3152750	27	0.504	12.8	181
3153050	30	0.520	13.2	197
3153250	32	0.539	13.7	209
3153650	36	0.559	14.2	231
3154050	40	0.622	15.8	280
3154250	42	0.622	15.8	288
3155050	50	0.669	17.0	327
3155250	52	0.669	17.0	336
3156150	61	0.709	18.0	380

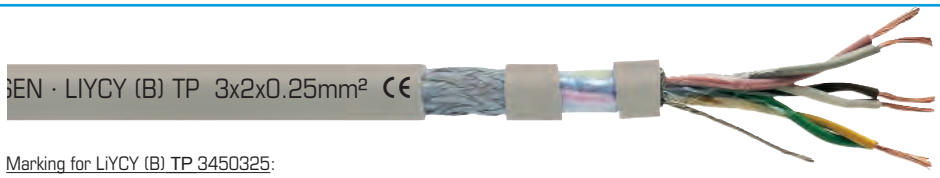
item no.	no. of conductors	nominal outer-ø ± 5% inch	nominal outer-ø ± 5% mm	cable weight ≈lbs/mft
► 19 AWG (≈ 23/32) • 0.75 mm²				
3150175	1	0.138	3.5	15
3150275	2	0.220	5.6	30
3150375	3	0.240	6.1	38
3150475	4	0.260	6.6	46
3150575	5	0.280	7.1	56
3150675	6	0.303	7.7	67
3150775	7	0.303	7.7	69
3150875	8	0.362	9.2	91
3151075	10	0.394	10.0	101
3151275	12	0.413	10.5	123
3151475	14	0.433	11.0	136
3151675	16	0.453	11.5	155
3151875	18	0.488	12.4	177
3152175	21	0.535	13.6	206
3152475	24	0.567	14.4	224
3152775	27	0.579	14.7	244
3153075	30	0.622	15.8	288
3153275	32	0.642	16.3	304
3153675	36	0.665	16.9	333

item no.	no. of conductors	nominal outer-ø ± 5% inch	nominal outer-ø ± 5% mm	cable weight ≈lbs/mft
► 18 AWG (≈ 30/32) • 1.00 mm²				
3150180	1	0.142	3.6	17
3150280	2	0.228	5.8	34
3150380	3	0.248	6.3	43
3150480	4	0.268	6.8	53
3150580	5	0.291	7.4	65
3150680	6	0.315	8.0	76
3150780	7	0.315	8.0	81
► 16 AWG (≈ 27-29/30) • 1.50 mm²				
3150185	1	0.150	3.8	21
3150285	2	0.256	6.5	46
3150385	3	0.268	6.8	53
3150485	4	0.291	7.4	66
3150585	5	0.339	8.6	88
3150685	6	0.366	9.3	104
3150785	7	0.366	9.3	110

Other dimensions and colors are available on request

LiYCY (B) TP

Multi-pair signal and control cable with overall tinned copper braid and DIN color code



Marking for LiYCY (B) TP 3450325:
SAB BRÖCKSKES · D-VIERSEN · LIYCY (B) TP 3x2x0.25mm²

Construction:

Conductor:	bare copper strands with reference to VDE 0812
Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Color code:	DIN 47100, see page O/26
Stranding:	conductors twisted to pairs, pairs twisted in layers
Wrapping:	PETP foil
Shielding:	tinned copper braiding with a tinned copper drain wire (22 AWG)
Jacket material:	PVC, TM2 acc. to EN 50363-4-1 + VDE 0207-363-4-1
Jacket color:	grayish tan (RAL 7032)

Outstanding features:

- **good EMC characteristics**
- **flexible**
- **small outer diameter**
- **small bending radius**

Technical data:

Peak operating voltage:	< 24 AWG = max. 350 V ≥ 24 AWG = max. 500 V
Testing voltage:	conductor/conductor: 1500 V conductor/shielding: 1200 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Capacitance:	see page O/9
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range: *static:* *flexible:*	 -30/+70°C -5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Oil resistance:	acc. to internal standard, see page O/29
Chemical resistance:	see page O/11
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of pairs	nominal outer-ø ± 10% inch	nominal outer-ø ± 10% mm	cable weight ≈lbs/mft
► **26 AWG (≈ 18/38) • 0.14 mm²**				
3450214	2	0.205	5.2	23
3450314	3	0.224	5.7	28
3450414	4	0.256	6.5	36
3450514	5	0.276	7.0	40
3450614	6	0.283	7.2	46
3450814	8	0.307	7.8	54
3451014	10	0.350	8.9	67
3451214	12	0.382	9.7	75
3451614	16	0.413	10.5	91
3451814	18	0.437	11.1	107
3452014	20	0.437	11.1	110
3452414	24	0.504	12.8	136
3452514	25	0.504	12.8	139
3452814	28	0.516	13.1	148
3453014	30	0.543	13.8	159
3453614	36	0.575	14.6	185
3454014	40	0.587	14.9	199
3454414	44	0.642	16.3	234
3455214	52	0.669	17.0	261
3456114	61	0.720	18.3	298

item no.	no. of pairs	nominal outer-ø ± 10% inch	nominal outer-ø ± 10% mm	cable weight ≈lbs/mft
► **24 AWG (≈ 14/34) • 0.25 mm²**				
3450225	2	0.224	5.7	28
3450325	3	0.252	6.4	37
3450425	4	0.283	7.2	45
3450625	6	0.311	7.9	57
3450825	8	0.354	9.0	73
3451025	10	0.386	9.8	89
3451225	12	0.429	10.9	108
3451625	16	0.469	11.9	131
3451825	18	0.500	12.7	149
3452425	24	0.559	14.2	181
► **22 AWG (≈ 7/30) • 0.34 mm²**				
3450234	2	0.268	6.8	38
3450334	3	0.291	7.4	48
3450434	4	0.346	8.8	67
3450534	5	0.374	9.5	78
3450634	6	0.382	9.7	86
3450834	8	0.417	10.6	97
3451234	12	0.528	13.4	151
3451634	16	0.575	14.6	188
3451834	18	0.594	15.1	206
3452434	24	0.693	17.6	279

item no.	no. of pairs	nominal outer-ø ± 10% inch	nominal outer-ø ± 10% mm	cable weight ≈lbs/mft
► **20 AWG (≈ 16/32) • 0.50 mm²**				
3450250	2	0.283	7.2	44
3450350	3	0.311	7.9	56
3450450	4	0.370	9.4	75
3450650	6	0.409	10.4	98
3450850	8	0.429	10.9	112
3451050	10	0.520	13.2	154
3451250	12	0.567	14.4	180
3451650	16	0.642	16.3	247
3451850	18	0.665	16.9	268
3452050	20	0.665	16.9	281
3452450	24	0.748	19.0	330
► **19 AWG (≈ 23/32) • 0.75 mm²**				
3450275	2	0.335	8.5	62
3450375	3	0.370	9.4	75
3450475	4	0.429	10.9	101
3450675	6	0.492	12.5	146
3451275	12	0.673	17.1	259
3451675	16	0.732	18.6	324
3451875	18	0.760	19.3	359
3452475	24	0.858	21.8	444

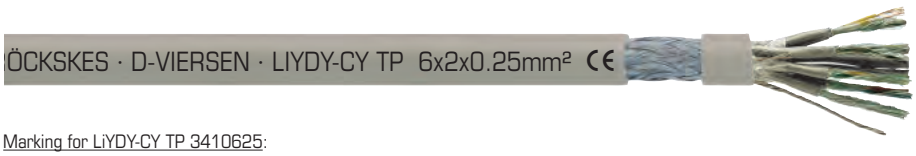
Other dimensions and colors are available on request

LiYDY-CY TP

Multi-pair signal and control cable with overall tinned copper braid and DIN color code

very good EMC

SAB Data



CE EAC RoHS

Marking for LiYDY-CY TP 3410625:
SAB BRÖCKSKES · D-VIERSEN · LIYDY-CY TP 6x2x0.25mm² CE

Construction:

Conductor:	bare copper strands with reference to VDE 0812
Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Color code:	DIN 47100, see page O/26
Stranding:	2 cores twisted to pairs
Shielding:	wrapped pair-wise with tinned copper wires
Inner jacket:	pair-wise PVC, TM2 acc. to EN50363-4-1 + VDE 0207-363-4-1
Stranding:	pairs in concentric layers
Wrapping:	PETP foil
Shielding:	tinned copper braiding with a tinned copper drain wire (equal to conductor section)
Jacket material:	PVC, TM2 acc. to EN 50363-4-1 + VDE 0207-363-4-1
Jacket color:	grayish tan (RAL 7032)

Outstanding features:

- **very good EMC characteristics**
- **flexible**

Technical data:

Peak operating voltage:	< 24 AWG = max. 350 V ≥ 24 AWG = max. 500 V
Testing voltage:	conductor/conductor: 1500 V conductor/shielding: 1200 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Capacitance:	see page O/9
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range: *static:* *flexible:*	 -30/+70°C -5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Oil resistance:	acc. to internal standard, see page O/29
Chemical resistance:	see page O/11
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

F
12

item no.	no. of pairs	nominal outer-ø ± 10% inch	nominal outer-ø ± 10% mm	cable weight ≈lbs/mft
► **26 AWG (≈ 18/38) ▪ 0.14 mm²**				
3410214	2	0.319	8.1	55
3410314	3	0.362	9.2	75
3410414	4	0.390	9.9	85
3410614	6	0.465	11.8	126
3410814	8	0.543	13.8	165
3411014	10	0.583	14.8	200
3411214	12	0.614	15.6	222
3411414	14	0.618	15.7	237
3411614	16	0.681	17.3	279
3412414	24	0.803	20.4	384
► **24 AWG (≈ 14/34) ▪ 0.25 mm²**				
3410225	2	0.331	8.4	62
3410325	3	0.370	9.4	82
3410425	4	0.457	11.6	118
3410625	6	0.547	13.9	162
3410825	8	0.594	15.1	210
3411025	10	0.650	16.5	238
3411225	12	0.665	16.9	261
3411425	14	0.685	17.4	286
3411625	16	0.736	18.7	323
3412425	24	0.933	23.7	476

item no.	no. of pairs	nominal outer-ø ± 10% inch	nominal outer-ø ± 10% mm	cable weight ≈lbs/mft
► **22 AWG (≈ 7/30) ▪ 0.34 mm²**				
3410234	2	0.417	10.6	89
3410334	3	0.441	11.2	102
3410434	4	0.480	12.2	133
3410634	6	0.575	14.6	188
3410834	8	0.673	17.1	257
3411034	10	0.724	18.4	288
3411234	12	0.740	18.8	318
3411434	14	0.811	20.6	386
3411634	16	0.823	20.9	421
3412434	24	0.976	24.8	572

item no.	no. of pairs	nominal outer-ø ± 10% inch	nominal outer-ø ± 10% mm	cable weight ≈lbs/mft
► **20 AWG (≈ 16/32) ▪ 0.50 mm²**				
3410250	2	0.425	10.8	95
3410350	3	0.441	11.2	112
3410450	4	0.528	13.4	157
3410650	6	0.591	15.0	216
3410850	8	0.717	18.2	291
3411050	10	0.783	19.9	339
3411250	12	0.819	20.8	373
3411450	14	0.843	21.4	408
3411650	16	0.909	23.1	468
3412450	24	1.043	26.5	645

Other dimensions and colors are available on request

S 355

PUR sensor cable, reticulated by irradiation

Marking for S 355 3559037:
SAB BRÖCKSKES · D-VIERSEN · Li9Y11Y 3559037 AWM Style 21198 80°C 300V

Construction:

Conductor:	bare copper strands, fine wires
Insulation:	TPE, thermoplastic material on basis of TPE-E 03559037: PP
Insulation:	TPE, thermoplastic material on basis of TPE-E
Color code:	3 cores 22 AWG: brown, black, blue 4 cores 22 AWG: white, blue, black, brown 20 AWG: green/yellow
Stranding:	specially adjusted layering
Wrapping:	non-woven tape
Jacket material:	PUR, reticulated by irradiation
Jacket color:	orange or black

Outstanding features:

- **flexible installation**
- **reticulated by irradiation**
- **high abrasion resistance**
- **halogen-free**
- **free from paint wetting impairment substances** (PWIS-free)
- **suitable for cable tracks**

Technical data:

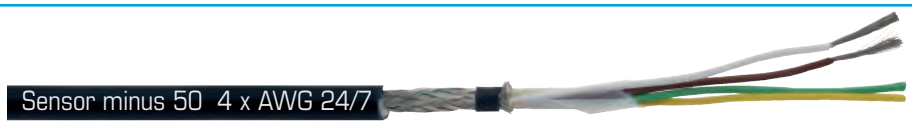
Peak operating voltage:	max. 350 V (AC) 03559037: max. 300 V	
Voltage UL:	03559037: 300 V	
Test Voltage:	conductor/conductor:	2000 V
Min. bending radius:		**03559037:**
fixed installation:	5 x O.D.	5 x O.D.
free movement:	7.5 x O.D.	10 x O.D.
Capacitance:	see page O/9	
Radiation resistance:	8 x 10^7 cJ/kg	
Temperature range:		**03559037:**
static:	-50/+105°C	-50/+90°C
flexible:	-40/+105°C	-50/+90°C
Oil resistance:	very good - TMPU acc. to DIN VDE 0282 part 10 + HD 22.10	
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids etc.	
Approvals:	UR AWM, CE, RoHS	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30	

item no.	no. of conductors	nominal cross section AWG	jacket color	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft	ohmic resistance at 20°C max. Ω/km
▶ 3559026	4	22	orange	0.189	4.8 ± 0.2	21	56
▶ 3559025	3	22	orange	0.189	4.8 ± 0.2	19	56
▶ 3559027	4	22	orange	0.205	5.2 ± 0.2	27	56
	1	20					38
▶ 3559037	4	22	black	0.193	4.9 ± 0.2	22	56

Other dimensions and colors are available on request

Sensor minus 50

Low temperature resistant FEP insulated sensor cable up to -50°C



RoHS

Marking for Sensor minus 50 38360424:
SAB BRÖCKSKES · D-VIERSEN · Sensor minus 50 4 x AWG 24/7 3836-0424

Application: Low temperature resistant sensor cable down to -50°C for measuring and testing technology. Supply cable for miniature sensors. Strain gauge supply cable with smallest bending radii for indoor and outdoor use.

Construction:

Conductor:	tinned copper strands, silver-plated from AWG 32
Insulation:	FEP
Color code:	DIN 47100, see page O/26
Wrapping:	foil
Shielding:	tinned copper braiding, optical coverage ≥ 85%
Jacket material:	PUR 420 with matte surface
Jacket color:	black (RAL 9005)

Outstanding features:

- **highest flexibility even with low temperatures down to -45°C**
- **absolutely weather resistant**
- **very easy installation due to anti-adhesive outer jacket - avoidance of stick-slip effect**
- **low capacity**
- **smallest bending radius**
- **easy harnessing**
- **small outer diameter**

Technical Data:

Peak operating voltage:	max. 48 V
Testing voltage:	conductor/conductor: 600 V conductor/shielding: 600 V
Min. bending radius *fixed installation:* *flexible application:*	 2 x O.D. (one single bend) 10 x O.D.
Temperature range cable: *static*:* *flexible*:*	 -50/+125°C -45/+125°C
Temperature range conductor:	up to +180°C (short time use up to +205°C)
Low temperature resistance:	-50°C acc. to DIN EN 60811-506
Oil resistance:	very good - TMPU acc. to EN 50363-10-2
Fuel resistance:	good
Battery acid resistance:	good
UV resistance:	acc. to HD 605
Ozone resistance:	acc. to EN 50396
Saltwater resistance:	acc. to UL 1309
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

*+125 °C – up to 2500 hours

item no.	no. of conductors	nominal outer-ø ± 5% inch	nominal outer-ø ± 5% mm	cable weight ≈lbs/mft
► **AWG 34/7**				
38360234	2	0.087	2.2	5
38360334	3	0.091	2.3	5
38360434	4	0.094	2.4	6
38360634	6	0.102	2.6	7
38360834	8	0.110	2.8	9
► **AWG 32/7**				
38360232	2	0.091	2.3	5
38360332	3	0.091	2.3	6
38360432	4	0.098	2.5	7
38360632	6	0.110	2.8	9
38360832	8	0.122	3.1	11

item no.	no. of conductors	nominal outer-ø ± 5% inch	nominal outer-ø ± 5% mm	cable weight ≈lbs/mft
► **AWG 30/7**				
38360230	2	0.094	2.4	6
38360330	3	0.098	2.5	7
38360430	4	0.102	2.6	8
38360630	6	0.118	3.0	11
38360830	8	0.126	3.2	13
► **AWG 28/7**				
38360228	2	0.102	2.6	7
38360328	3	0.106	2.7	9
38360428	4	0.110	2.8	9
38360628	6	0.122	3.1	12
38360828	8	0.150	3.8	17

item no.	no. of conductors	nominal outer-ø ± 5% inch	nominal outer-ø ± 5% mm	cable weight ≈lbs/mft
► **AWG 26/7**				
38360226	2	0.118	3.0	10
38360326	3	0.122	3.1	11
38360426	4	0.150	3.8	15
38360626	6	0.154	3.9	19
38360826	8	0.173	4.4	24
► **AWG 24/7**				
38360224	2	0.126	3.2	11
38360324	3	0.130	3.3	13
38360424	4	0.150	3.8	17
38360624	6	0.173	4.4	24
38360824	8	0.197	5.0	31

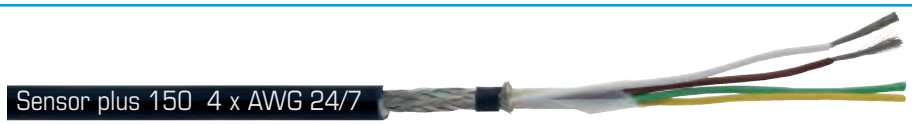
Other dimensions and colors are available on request

Possible on request:

- **harnessed cable**
- **also available without copper braiding**

Sensor plus 150

High temperature resistant FEP insulated sensor cable up to +150°C



Marking for Sensor plus 150 38370424:
SAB BRÖCKSKES · D-VIERSEN · Sensor plus 150 4 x AWG 24/7 3837-0424

Application: High temperature resistant sensor cable up to max. +150°C for measuring and testing technology. Supply cable for miniature sensors. Strain gauge supply cable for smallest bending radii. Connecting cable for modular technology.

Construction:

Conductor:	tinned copper strands, silver-plated from AWG 32
Insulation:	FEP
Color code:	DIN 47100, see page O/26
Wrapping:	foil
Shielding:	tinned copper braiding, optical coverage ≥ 85%
Jacket material:	PUR 490 with smooth surface
Jacket color:	black (RAL 9005)

Outstanding features:

- **Temperature resistance up to +150 °C (up to 3000 hours)**
- **high flexibility and high abrasion resistance**
- **high robustness**
- **low capacity**
- **smallest bending radius**
- **easy harnessing**
- **small outer diameter**

Technical Data:

Peak operating voltage:	max. 48 V
Testing voltage:	conductor/conductor: 600 V conductor/shielding: 600 V
Min. bending radius *fixed installation:* *flexible application:*	 2 x O.D. (one single bend) 10 x O.D.
Temperature range cable: *static*:* *flexible*:*	 -50/+150°C -45/+150°C
Temperature range conductor:	up to +180°C (short time use up to +205°C)
Oil resistance:	very good - TMPU acc. to EN 50363-10-2
Fuel resistance:	good
Battery acid resistance:	good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

*+150 °C – up to 3000 hours

item no.	no. of conductors	nominal outer-ø ± 5% inch	± 5% mm	cable weight ≈lbs/mft
► **AWG 34/7**				
38370234	2	0.087	2.2	5
38370334	3	0.091	2.3	5
38370434	4	0.094	2.4	6
38370634	6	0.102	2.6	7
38370834	8	0.114	2.9	9
► **AWG 32/7**				
38370232	2	0.091	2.3	5
38370332	3	0.091	2.3	6
38370432	4	0.098	2.5	7
38370632	6	0.110	2.8	9
38370832	8	0.122	3.1	11

item no.	no. of conductors	nominal outer-ø ± 5% inch	± 5% mm	cable weight ≈lbs/mft
► **AWG 30/7**				
38370230	2	0.094	2.4	6
38370330	3	0.098	2.5	7
38370430	4	0.102	2.6	8
38370630	6	0.114	2.9	10
38370830	8	0.126	3.2	12
► **AWG 28/7**				
38370228	2	0.102	2.6	7
38370328	3	0.106	2.7	9
38370428	4	0.110	2.8	9
38370628	6	0.122	3.1	13
38370828	8	0.150	3.8	17

item no.	no. of conductors	nominal outer-ø ± 5% inch	± 5% mm	cable weight ≈lbs/mft
► **AWG 26/7**				
38370226	2	0.118	3.0	10
38370326	3	0.122	3.1	11
38370426	4	0.130	3.3	13
38370626	6	0.154	3.9	19
38370826	8	0.173	4.4	24
► **AWG 24/7**				
38370224	2	0.126	3.2	11
38370324	3	0.130	3.3	13
38370424	4	0.150	3.8	17
38370624	6	0.173	4.4	24
38370824	8	0.189	4.8	30

Other dimensions and colors are available on request

Possible on request:

- **harnessed cable**
- **also available as HV thermo cable type K (1-channel and 4-channel)**
- **also available without copper braiding**

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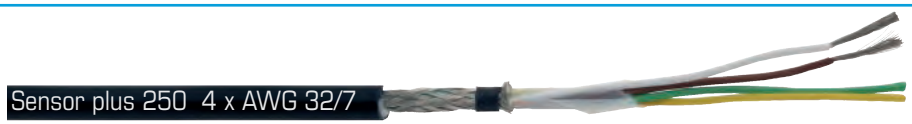
Sensor plus 250

High temperature resistant PFA insulated sensor cable up to +250°C



Marking for Sensor plus 250 38390432:
SAB BRÖCKSKES · D-VIERSEN · Sensor plus 250 4 x AWG 32/7 3839-0432

Application: High temperature resistant sensor cable up to max. +250°C for measuring and testing technology. Supply cable for miniature sensors. Strain gauge supply cable for smallest bending radii. Connecting cable for modular technology.

Construction:

Conductor:	silver-plated copper strands
Insulation:	PFA
Color code:	DIN 47100, see page O/26
Wrapping:	foil
Shielding:	tinned copper braiding, optical coverage ≥ 85%
Jacket material:	PFA
Jacket color:	black (RAL 9005)

Outstanding features:

- **Temperature resistance up to +250°C**
- **low capacity**
- **absolutely weather resistant**
- **high abrasion resistance**
- **very good chemical resistance**
- **small outer diameter**

Technical Data:

Peak operating voltage:	max. 48 V
Testing voltage:	conductor/conductor: 600 V conductor/shielding: 600 V
Min. bending radius *fixed installation:* *flexible application:*	 2 x O.D. (one single bend) 10 x O.D.
Temperature range: *static:* *flexible:*	 -90/+250°C -55/+250°C
Dielectric constant:	approx. 2.1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Oil resistance:	very good
Hydraulic oil resistance:	very good
Fuel resistance:	very good
Battery acid resistance:	very good
UV resistance:	very good
Ozone resistance:	very good
Saltwater resistance:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors	nominal outer-ø ± 5% inch	nominal outer-ø ± 5% mm	cable weight ≈lbs/mft
► **AWG 34/7**				
38390234	2	0.071	1.8	5
► **AWG 32/7**				
38390432	4	0.083	2.1	7
► **AWG 30/7**				
38390330	3	0.083	2.1	7
► **AWG 28/7**				
38390628	6	0.106	2.7	13

Other dimensions and colors are available on request

Possible on request:

- **harnessed cable**
- **also available without copper braiding**

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Content

SAB Servo cables are particularly applicable on Siemens and Indramat drives and controls.

Applications

Applications of combined motor connection cables

These flexible motor connection cables are used for the power supply of motors. Depending on the construction type, power and control conductors are possible. The cables are suitable for high mechanical demands in dry, damp and wet conditions as well as at low temperatures.

Exemplary applications:

SL 841 C **SL 871 C** **SL 863 C**	Highly flexible, cable track applications in industries with intelligent servo drives, e.g. automation technologies, machine construction, construction of industrial robots and plants, motor power, control and manufacturing engineering, in handling systems, car manufacturing industry, in cable tracks on wood-working machines, color coding acc. to DESINA
SL 875 C	All-in-one cable solution with integrated elements for digital signal feedback

Applications of motor, feedback and transmission cables

Feedback cables are used for controlling motor speed and for giving feedback values. Transmission cables transmit control pulses for positioning and procedure characteristics, e.g. connection of speedometer, brake and pulse generators.

Exemplary applications:

SL 839 C **SL 842 C** **SL 843 C**	Highly flexible, mobile connection cables for e.g. speedometer, brake, temperature control in motors, for continuous flex applications in automation technology, control and production engineering, in cable tracks on wood-working machines, machine and industrial plant construction, even with high mechanical demands and in dry, damp and wet conditions, as well as at low temperatures

Applications of motor connection cables for DNC* motors 0.6/1kV

These cables are suitable for the fixed installation and flexible use e.g. in machine and industrial plant construction with average mechanical demand in dry, damp and wet conditions.

Exemplary applications:

SL 833 C **SL 834 C** **SL 860 C**	Industries with intelligent servo drives, e.g. automation technology, motor power, control and production engineering, handling systems, car manufacturing industry, cable tracks *three-phase shunt motor

DESINA - DistributEd and Standardized INstAllation technology

DESINA is an extensive concept for standardizing and distributing fluid and electric installations of machines and plants. A co-operation of machine construction, car manufacturing and supply industries has, furthermore, set up the specification of necessary components.

DESINA applies already existing solutions such as open bus systems, industrial standards for connectors, etc. By standardizing components, interfaces and connecting systems, e.g. an optical fiber copper hybrid cable, most varying systems can be realized on a physical basis.

The following jacket colors are defined as a function code:

	orange	RAL 2003:	servo cable, shielded
	green	RAL 6018:	measuring systems, shielded
	violet	RAL 4001:	field bus, hybrid cables
	yellow	RAL 1021:	sensor/actuator cable, unshielded 4 x 0.34 mm² copper
	black	RAL 9005:	power cable, unshielded
	gray	RAL 7001:	24 V control cable, unshielded

The jackets of all cables are to be resistant against industrial lubricants.

Selection Table

	Cable Type	G/5 SL 860 C	G/6 SL 863 C	G/7 SL 833 C	G/8 SL 841 C	G/9 SL 834 C	G/10 SL 871 C	G/11 SL 875 C	G/12 SL 842 C	G/13 SL 839 C	G/14 SL 843 C
Application	Feedback cable								●		
	Transmission cable									●	●
	Motor connection cable	●		●		●					
	Combined motor connection cable		●		●		●	●			
	Motor connection cable for frequency converters			●		●					
	Suitable for resolvers and shaft encoders								●	●	●
	Shielded	●	●	●	●	●	●	●	●	●	●
Temperature range fixed laying*	+90°C										
	+70°C										
	-30°C										
	-40°C										
	-50°C										
Voltage	Peak operating voltage max. 30 V									●	
	Peak operating voltage max. 350 V		●		●		●				●
	Peak operating voltage max. 500 V							●	●		
	Nominal voltage Uo/U 0.6/1 kV	●	●	●	●	●	●	●			
	Voltage UL 30 V									●	
	Voltage UL 300 V				●		●		●		●
	Voltage UL 1000 V	●	●	●		●	●	●			
	Voltage CSA 300 V				●		●	●	●		●
	Voltage CSA 1000 V			●		●	●	●			
	Testing voltage 600 V									●	
	Testing voltage 1500 V				●						
	Testing voltage 2000 V		●				●		●		●
	Testing voltage 3000 V							●			
	Testing voltage 4000 V	●	●	●	●	●	●	●			
Standards and approvals	Fire performance flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2	●	●	●	●	●	●	●	●		●
	Fire performance UL FT1	●	●	●	●	●	●	●	●		●
	Fire performance CSA FT1										●
	Fire performance CSA FT1, FT 2			●	●	●	●	●	●		
	UL recognized	●	●	●	●	●	●	●	●	●	●
	CSA approved			●	●	●	●	●	●		●
	DESINA® colors		●	●	●	●	●	●	●	●	●
Characteristics	Halogen-free				●	●	●	●	●	●	●
	PWIS-free (PWIS = paint wetting impairment substances)			●	●	●	●	●	●	●	●
	Low capacity construction	●	●			●	●	●			
	Outer jacket surface: low adhesion			●	●	●	●	●	●	●	●
	Very good oil resistance acc. to EN 50363-10-2 + VDE 0207-363-10-2	●	●		●	●	●	●	●	●	●
	Oil rating 60°C acc. to UL 758			●						●	
	Good resistance against acids, alkalines, solvents, hydraulic liquids, etc.			●	●	●	●	●	●	●	●

from

to

*The temperature range for flexible application is mentioned on the corresponding catalog page

SL 860 C

PVC motor connection cable with overall tinned copper shield, low capacitance 0.6/1 kV

Marking for SL 860 C 8601604:
SAB BRÖCKSKES · D-VIERSEN · 8600415 4 x 1.5 mm² SL 860 C 16 AWG/4c 8601604 DESINA AWM Style 21179 80°C 1000V CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	special polymer
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 and a green/yellow ground
Stranding:	specially adjusted layering
Wrapping:	foil
Shielding:	tinned copper braiding
Jacket material:	PVC
Jacket color:	orange (RAL 2003)

Outstanding features:

- **UL recognition**
- **very good EMC characteristics**
- **low capacitance construction**
- **very good stripping**
- **very good oil resistance**

Technical data:

Nominal voltage:	Uo/U 0.6/1 kV
Voltage UL:	1000 V
Testing voltage:	conductor/conductor: 4000 V conductor/shielding: 4000 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Temperature range: *static:* *flexible:*	**DIN VDE** **UL/CSA:** up to +80°C -30/+70°C 0/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL FT1
Oil resistance:	very good - TM5 acc. to EN 50363-4-1 + VDE 0207-363-4-1
Approvals:	UR AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

DESINA®

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **16 AWG (≈ 27-29/30) • 1.50 mm²**				
8601604	4	0.335	8.5	78
▶ **14 AWG (≈ 46/30) • 2.50 mm²**				
8601404	4	0.366	9.3	107
▶ **12 AWG (≈ 52/28) • 4.00 mm²**				
8601204	4	0.469	11.9	176
▶ **10 AWG (≈ 78/28) • 6.00 mm²**				
8601004	4	0.535	13.6	238
▶ **8 AWG (≈ 77/26) • 10.00 mm²**				
8600804	4	0.843	21.4	415
▶ **6 AWG (≈ 122/26) • 16.00 mm²**				
8600604	4	0.874	22.2	617
▶ **4 AWG (≈ 190/26) • 25.00 mm²**				
8600404	4	1.024	26.0	886
▶ **2 AWG (≈ 272/26) • 35.00 mm²**				
8600204	4	1.154	29.3	1183
▶ **1 AWG (≈ 400/26) • 50.00 mm²**				
8600104	4	1.205	30.6	1633

Other dimensions and colors are available on request

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SL 863 C

PVC motor connection cable with a pair and overall tinned copper shield, low capacitance 0.6/1 kV

Marking for SL 863 C 8631415:
SAB BRÖCKSKES · D-VIERSEN · 8631415 SL 863 C 4 x 1.50 mm² + (2 x 1.50 mm²) DESINA AWM Style 21179 80°C 1000V

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	special polymer
Color code:	supply conductors: black conductors with printing conductor 1: U/L1/C/L+ conductor 2: V/L2 conductor 3: W/L3/D/L- and a green/yellow ground control conductors: with numbers 5+6
Stranding:	control conductor twisted to pairs
Shielding:	tinned copper braiding
Wrapping:	PETP foil
Stranding:	shielded control pairs and supply conductors twisted together in layers
Wrapping:	PETP foil
Shielding:	tinned copper braiding
Jacket material:	PVC
Jacket color:	orange (RAL 2003)

Outstanding features:

- **UL recognition**
- **very good EMC characteristics**
- **low capacitance construction**
- **very good stripping**
- **very good oil resistance**

Technical data:

Nominal voltage:	supply conductors: Uo/U 0.6/1 kV
Voltage UL:	supply conductors: 1000 V
Peak operating voltage:	control conductors: max. 350 V
Voltage UL:	control conductors: 1000 V
Testing voltage:	
supply conductors:	conductor/conductor: 4000 V conductor/shielding: 4000 V
control conductors:	conductor/conductor: 2000 V conductor/shielding: 2000 V
Min. bending radius:	
fixed installation:	5 x O.D.
free movement:	10 x O.D.
Temperature range:	**DIN VDE** **UL/CSA:** up to +80°C
static:	-30/+70°C
flexible:	0/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL FT1
Oil resistance:	very good - TM5 acc. to EN 50363-4-1 + VDE 0207-363-4-1
Approvals:	UR AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	power conductors	single pairs individually shielded	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
8631415	16 AWG/ 4c	16 AWG/ 1pr	0.409	10.4	120
8631425	14 AWG/ 4c	16 AWG/ 1pr	0.480	12.2	172
8631440	12 AWG/ 4c	16 AWG/ 1pr	0.539	13.7	218
8631460	10 AWG/ 4c	16 AWG/ 1pr	0.638	16.2	317
8631470	8 AWG/ 4c	16 AWG/ 1pr	0.744	18.9	452
8631480	6 AWG/ 4c	16 AWG/ 1pr	0.917	23.3	655
8631490	4 AWG/ 4c	16 AWG/ 1pr	1.051	26.7	916
8631495	2 AWG/ 4c	16 AWG/ 1pr	1.173	29.8	1202

Other dimensions and colors are available on request

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SL 833 C

TPE/PUR motor connection cable with overall tinned copper shield 0.6/1 kV

Marking for SL 833 C 8331604:
SAB BRÖCKSKES · D-VIERSEN · 8330415 4 x 1.5 mm² SL 833 C 16 AWG/4c 1000V 8331604 DESINA AWM Style 20235 80°C CSA AWM I/II A/B 80°C 1000V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	TPE
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 and a green/yellow ground
Stranding:	in layers
Wrapping:	non-woven tape
Shielding:	tinned copper braiding
Jacket material:	PU acc. to UL 758
Jacket color:	orange (RAL 2003)

Outstanding features:

- **UL recognized, CSA approval**
- **very good EMC characteristics**
- **very high flexibility**
- **suitable for cable tracks**
- **oil resistant**
- **very long service life**
- **adhesion-free installation**
- **free from paint wetting impairment substances** (PWIS-free)
- **flexible at low temperatures**
- **in accordance with Siemens 6FX8008**
- **DESINA® colors** (see page G/3)

Technical data:

Nominal voltage:	Uo/U 0.6/1 kV
Voltage UL:	1000 V
Testing voltage:	conductor/conductor: 4000 V conductor/shielding: 4000 V
Min. bending radius: *fixed installation:* *free movement:* *continuous flexing:*	 5 x O.D. 10 x O.D. 12 x O.D.
Radiation resistance:	5 x 10^7 cuj/kg
Temperature range: *static:* *flexing:*	**DIN VDE** **UL/CSA:** up to +80°C -50/+80°C -40/+80°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL FT1, CSA FT1, FT2
Oil resistance:	very good - oil rating 60°C acc. to UL 1581
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids etc.
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

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item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
16 AWG (≈ 84/34) • 1.50 mm²				
8331604	4	0.358	9.1	85
14 AWG (≈ 140/34) • 2.50 mm²				
8331404	4	0.433	11.0	129
12 AWG (≈ 224/34) • 4.00 mm²				
8331204	4	0.492	12.5	183
10 AWG (≈ 186/32) • 6.00 mm²				
8331004	4	0.61	15.5	268
8 AWG (≈ 320/32) • 10.00 mm²				
8330804	4	0.701	17.8	406
6 AWG (≈ 504/32) • 16.00 mm²				
8330604	4	0.898	22.8	639
4 AWG (≈ 760/32) • 25.00 mm²				
8330404	4	1.012	25.7	894
2 AWG (≈ 1083/32) • 35.00 mm²				
8330204	4	1.15	29.2	1164
1 AWG (≈ 703/28) • 50.00 mm²				
8330104	4	1.35	34.3	1631

Other dimensions and colors are available on request

for DNC motors on frequency converters

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SL 841 C

TPE motor connection cable with 1 or 2 pairs and overall tinned copper shield, 0.6/1 kV

Marking for SL 841 C 8410407:
SAB BRÖCKSKES · D-VIERSEN · 8410407 SL 841 C 4 x 0.75 mm² (1000V) + 2 x (2 x 0.34 mm²) (300V) DESINA AWM Style 20235 80°C CSA AWM I/II A/B 80°C 300V FT1 FT2

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 6 < 20 AWG with reference to VDE 0812
Insulation:	TPE
Color code: **from item no. 08411415:**	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 and a green/yellow ground supply conductors: * U1, V2, W3 and a green/yellow ground control conductors: ** BR1 and BR2
Stranding:	control conductors 22 - 14 AWG twisted to pairs
Shielding:	pairs wrapped with alu-foil, tinned copper braiding
Wrapping:	pairs with PETP foil
Stranding:	shielded control pairs and supply conductors twisted together in layers
Wrapping:	two layers non-woven tape
Shielding:	overall tinned copper braiding
Wrapping:	non-woven tape
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2 with matte surface
Jacket color:	orange (RAL 2003)

Outstanding features:

- **UL recognition, CSA approval**
- **very good EMC characteristics**
- **long service life**
- **adhesion-free installation**
- **suitable for cable tracks**
- **halogen-free**
- **free from paint wetting impairment substances** (PWIS-free)
- **flexible at low temperatures**
- **DESINA® colors** (see page G/3)
- **in accordance with Indramat INK and Siemens 6FX8008**

Technical data:

Nominal voltage:	supply conductors: Uo/U 0.6/1 kV
Peak operating voltage:	control conductors: max. 350 V
Voltage UL/CSA:	control conductors: 300 V supply conductors: 1000 V
Testing voltage: *supply conductors:* *control conductors:*	 conductor/conductor: 4000 V conductor/shielding: 4000 V conductor/conductor: 2000 V conductor/shielding: 2000 V
Min. bending radius: *fixed installation:* *free movement:* *for continuous flexing:*	 5 x O.D. 10 x O.D. 12 x O.D.
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range: *static:* *flexible:*	**DIN VDE** **UL/CSA:** up to +80°C -50/+90°C -40/+90°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL FT1, CSA FT1, FT2
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids, etc.
Weather resistance:	very good
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

Cable harnessing possible on request

item no.	power conductors	single pairs individually shielded	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
8410407	19 AWG/ 4c	22 AWG/ 2pr	0.457 ± 0.020	11.6 ± 0.5	113
8410410	18 AWG/ 4c	19 AWG/ 2pr	0.465 ± 0.020	11.8 ± 0.5	135
8410415	16 AWG/ 4c	19 AWG/ 2pr	0.484 ± 0.020	12.3 ± 0.5	153
8410425	14 AWG/ 4c	18 AWG/ 2pr	0.571 ± 0.031	14.5 ± 0.8	215
8410441	12 AWG/ 4c	18 AWG/ 1pr + 16 AWG/ 1pr	0.685 ± 0.024	17.4 ± 0.6	308
8410461	10 AWG/ 4c	18 AWG/ 1pr + 16 AWG/ 1pr	0.744 ± 0.031	18.9 ± 0.8	374
8410471	8 AWG/ 4c	18 AWG/ 1pr + 16 AWG/ 1pr	0.803 ± 0.039	20.4 ± 1.0	495
8410485	6 AWG/ 4c	16 AWG/ 2pr	1.024 ± 0.031	26.0 ± 0.8	746
8410490	4 AWG/ 4c	16 AWG/ 2pr	1.157 ± 0.031	29.4 ± 0.8	1019
8410495	2 AWG/ 4c	16 AWG/ 2pr	1.232 ± 0.031	31.3 ± 0.8	1265
8410496	1 AWG/ 4c	14 AWG/ 2pr	1.504 ± 0.031	38.2 ± 0.8	1787

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item no.	power conductors	single pairs individually shielded	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
8411415	16 AWG/ 4c	16 AWG/ 1pr	0.492 ± 0.012	12.5 ± 0.3	49
8411425	14 AWG/ 4c	16 AWG/ 1pr	0.524 ± 0.016	13.3 ± 0.4	191
8411440	12 AWG/ 4c	16 AWG/ 1pr	0.598 ± 0.016	15.2 ± 0.4	248
8411460	10 AWG/ 4c	16 AWG/ 1pr	0.654 ± 0.043	16.6 ± 1.1	326
8411470	8 AWG/ 4c	16 AWG/ 1pr	0.768 ± 0.063	19.5 ± 1.6	455
8411480	6 AWG/ 4c	16 AWG/ 1pr	0.933 ± 0.039	23.7 ± 1.0	685
8411490	4 AWG/ 4c	16 AWG/ 1pr	1.071 ± 0.028	27.2 ± 0.7	953
8411495	2 AWG/ 4c	16 AWG/ 1pr	1.185 ± 0.039	30.1 ± 1.0	1216
8411496	1 AWG/ 4c	16 AWG/ 1pr	1.354 ± 0.039	34.4 ± 1.0	1655

Other dimensions and colors are available on request

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www.sabcable.com
866-722-2974 ■ info@sabcable.com

SL 834 C

PUR motor connection cable with overall tinned copper shield, low capacitance 0.6/1 kV

Marking for SL 834 C 8341604:
SAB BRÖCKSKES · D-VIERSEN · 8340415 4 x 1.5 mm² SL 834 C 16 AWG/4c 1000V 8341604 DESINA AWM Style 20235 80°C CSA AWM I/II A/B 80°C 1000V FT1 FT2

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	special polymer
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 and a green/yellow ground
Stranding:	in layers
Wrapping:	non-woven tape
Shielding:	tinned copper braiding
Jacket material:	PUR
Jacket color:	orange (RAL 2003)

Outstanding features:

- **UL recognition, CSA approval**
- **low capacitance construction**
- **very good EMC characteristics**
- **halogen-free**
- **very high flexibility**
- **suitable for cable tracks**
- **very good oil resistance**
- **very long service life**
- **adhesion-free installation**
- **free from paint wetting impairment substances** (PWIS-free)
- **flexible at low temperatures**
- **DESINA® colors** (see page G/3)

Technical data:

Nominal voltage:	Uo/U 0.6/1 kV
Voltage UL/CSA:	1000 V
Testing voltage:	conductor/conductor: 4000 V conductor/shielding: 4000 V
Min. bending radius: *fixed installation:* *free movement:* *for continuous flexing:*	 5 x O.D. 10 x O.D. 12 x O.D.
Radiation resistance:	5 x 10^7 cuj/kg
Temperature range: *static:* *flexible:*	**DIN VDE** **UL/CSA:** up to +80°C -50/+90°C -40/+90°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL FT1, CSA FT1, FT2
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids, etc.
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

for DNC motors on frequency converters

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
16 AWG (≈ 84/34) • 1.50 mm²				
8341604	4	0.354	9.0	85
14 AWG (≈ 140/34) • 2.50 mm²				
8341404	4	0.425	10.8	131
12 AWG (≈ 224/34) • 4.00 mm²				
8341204	4	0.488	12.4	181
10 AWG (≈ 186/32) • 6.00 mm²				
8341004	4	0.606	15.4	267
8 AWG (≈ 320/32) • 10.00 mm²				
8340804	4	0.693	17.6	406
6 AWG (≈ 504/32) • 16.00 mm²				
8340604	4	0.894	22.7	640
4 AWG (≈ 760/32) • 25.00 mm²				
8340404	4	1.008	25.6	875
2 AWG (≈ 1083/32) • 35.00 mm²				
8340204	4	1.138	28.9	1176
1 AWG (≈ 703/28) • 50.00 mm²				
8340104	4	1.358	34.5	1670

Other dimensions and colors are available on request

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SL 871 C

TPE motor connection cable with 1 or 2 pairs and overall tinned copper shield, low capacitance 0.6/1 kV

Marking for SL 871 C 8710415:
SAB BRÖCKSKES · D-VIERSEN · SL 871 C 4 x 1.5 mm² (1000V) + (2 x 1.5 mm²) (300V) 8710415 DESINA AWM Style 20235 80°C 1000V CSA AWM I/II A/B 80°C 300V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 6 < 20 AWG with reference to VDE 0812
Insulation:	special polymer
Color code:	supply conductors up to 08710496: black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 and a green/yellow ground supply conductors up to 08711415: conductor 1: U/L1/C/L+, conductor 2: V/L2 conductor 3: W/L3/D/L- and a green/yellow ground control conductors: with 1 control pair: black, white with 2 control pairs: black with numbers 5, 6 and 7, 8
Stranding:	control conductors: twisted to pairs
Wrapping:	control conductors: non-woven tape
Shielding:	control conductors: tinned copper braiding
Wrapping:	control conductors: non-woven tape
Stranding:	shielded control pairs and supply conductors twisted together with fillers in layers
Wrapping:	non-woven tape
Shielding:	overall tinned copper braiding
Wrapping:	non-woven tape
Jacket material:	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2 with matte surface
Jacket color:	orange (RAL 2003)

Technical data:

Nominal voltage:	supply conductors:	.0.6/1 kV
Peak operating voltage:	control conductors:	max. 350 V
Voltage UL/CSA:	supply conductors: control conductors:	1000 V 300 V from 08711415: 1000 V
Testing voltage: *supply conductors:* *control conductors:*	 conductor/conductor: conductor/shielding: conductor/conductor: conductor/shielding:	 4000 V 4000 V 2000 V 2000 V
Min. bending radius: *fixed installation:* *free movement:* *for continuous flexing:*	 5 x O.D. 10 x O.D. 12 x O.D.	
Temperature range: *static:* *flexible:*	**DIN VDE** -50/+90°C -40/+90°C	**UL/CSA:** up to +80°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL FT1, CSA FT1, FT2	
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2	
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids, etc.	
Weather resistance:	very good	
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30	

Outstanding features:

- **low capacitance construction**
- **very good EMC characteristics**
- **long service life**
- **adhesion-free installation**
- **suitable for cable tracks**
- **halogen-free**
- **free from paint wetting impairment substances** (PWIS-free)
- **flexible at low temperatures**
- **in accordance with Indramat INK and Siemens 6FX8008**

Cable harnessing possible on request

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item no.	power conductors	single pairs individually shielded	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 8710407	19 AWG/ 4c	22 AWG/ 2pr	0.457 ± 0.020	11.6 ± 0.5	113
▶ 8710410	18 AWG/ 4c	19 AWG/ 2pr	0.465 ± 0.020	11.8 ± 0.5	135
▶ 8710415	16 AWG/ 4c	19 AWG/ 2pr	0.484 ± 0.020	12.3 ± 0.5	151
▶ 8710425	14 AWG/ 4c	18 AWG/ 2pr	0.571 ± 0.031	14.5 ± 0.8	215
▶ 8710441	12 AWG/ 4c	18 AWG/ 1pr + 16 AWG/ 1pr	0.685 ± 0.024	17.4 ± 0.6	308
▶ 8710461	10 AWG/ 4c	18 AWG/ 1pr + 16 AWG/ 1pr	0.744 ± 0.031	18.9 ± 0.8	374
▶ 8710471	8 AWG/ 4c	18 AWG/ 1pr + 16 AWG/ 1pr	0.803 ± 0.039	20.4 ± 1.0	509
▶ 8710485	6 AWG/ 4c	16 AWG/ 2pr	1.024 ± 0.031	26.0 ± 0.8	746
▶ 8710490	4 AWG/ 4c	16 AWG/ 2pr	1.157 ± 0.031	29.4 ± 0.8	1019
▶ 8710495	2 AWG/ 4c	16 AWG/ 2pr	1.232 ± 0.031	31.3 ± 0.8	1265
▶ 8710496	1 AWG/ 4c	14 AWG/ 2pr	1.504 ± 0.031	38.2 ± 0.8	1787

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item no.	power conductors	single pairs individually shielded	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 8711415	16 AWG/ 4c	16 AWG/ 1pr	0.472 ± 0.012	12.0 ± 0.3	134
▶ 8712415	16 AWG/ 4c	20 AWG/ 1pr	0.504 ± 0.012	12.8 ± 0.3	147
▶ 8711425	14 AWG/ 4c	16 AWG/ 1pr	0.512 ± 0.016	13.0 ± 0.4	195
▶ 8712425	14 AWG/ 4c	20 AWG/ 1pr	0.551 ± 0.016	14.0 ± 0.4	190
▶ 8711440	12 AWG/ 4c	16 AWG/ 1pr	0.591 ± 0.016	15.0 ± 0.4	228
▶ 8711460	10 AWG/ 4c	16 AWG/ 1pr	0.654 ± 0.043	16.6 ± 1.1	316
▶ 8711470	8 AWG/ 4c	16 AWG/ 1pr	0.768 ± 0.063	19.5 ± 1.6	470
▶ 8711480	6 AWG/ 4c	16 AWG/ 1pr	0.906 ± 0.039	23.0 ± 1.0	679
▶ 8711490	4 AWG/ 4c	16 AWG/ 1pr	1.063 ± 0.028	27.0 ± 0.7	974
▶ 8711495	2 AWG/ 4c	16 AWG/ 1pr	1.181 ± 0.039	30.0 ± 1.0	1451
▶ 8711496	1 AWG/ 4c	16 AWG/ 1pr	1.354 ± 0.039	34.4 ± 1.0	1982

Other dimensions and colors are available on request

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SL 875 C

TPE/PUR hybrid motor connection cable with overall tinned copper shield, low capacitance 0.6/1 kV

Marking for SL 875 C 8750105:
SAB BRÖCKSKES · D-VIERSEN · 8750105 SL 875 C 4G1.5 mm² (1000V) + (2 x 1.0 mm²)C (1000V) + (2 x AWG 22)C (1000V) DESINA AWM Style 20910 80°C CSA AWM I/II A/B 80°C 300V FT1 FT2

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 6 < 20 AWG with reference to VDE 0812
Insulation:	special polymer
Color code: *supply conductors:*	**item 087501..** black conductors with printing conductor 1: U/L1/C/L+ conductor 2: V/L2 conductor 3: W/L3/D/L- and a green/yellow ground
control feedback pairs:	pair #1: black numbered 5 & 6 pair #2: white/blue
	item 087505..
supply conductors: *control pair:* *feedback pairs:*	black, blue, brown, green/yellow white-blue/white-green white-green/brown-green + gray-pink, yellow-violet
Stranding:	control conductors pairwise, item 0875-01 . . feedback conductors pairwise item 0875-05 . . feedback conductors 0.09 mm² pairwise pairs with conductors 0.24 mm² in layers optimally stranded
Wrapping:	non-woven tape resp. foil
Shielding:	elements with tinned copper braid item 0875-01 . . feedback conductors additional Alu-foil
Wrapping:	non-woven tape resp. foil
Stranding:	shielded elements and supply conductors in layers optimally stranded
Wrapping:	non-woven tape
Jacket material:	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2 with matte surface
Jacket color:	orange (RAL 2003)

Outstanding features:

- **used as all-in-one cable solution for motor feedback systems**
- **low capacity construction**
- **very good EMC characteristics**
- **long service life**
- **adhesion-free installation**
- **suitable for cable tracks**
- **halogen-free**
- **free from paint wetting impairment substances** (PWIS-free)
- **flexible at low temperatures**
- **DESINA® colors** (see page G/3)

Technical data:

Nominal voltage:	**DIN VDE:** supply conductors: Uo/U 0.6/1 kV
Peak operating voltage:	**DIN VDE:** control conductors + feedback conductors:max. 500 V
Voltage UL/CSA:	**UL:** 1000 V **CSA:** ≥ 20 AWG 1000 V < 20 AWG 300 V
Testing voltage: *supply conductors &* *control conductors:*	conductor/conductor: 4000 V conductor/shielding: 4000 V
feedback conductors:	conductor/conductor: 3000 V conductor/shielding: 3000 V
Min. bending radius: *fixed installation:* *free movement:* *for continuous flexing:*	5 x O.D. 10 x O.D. 12 x O.D.
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range: *static:* *flexible:*	**DIN VDE** **UL/CSA:** up to +80°C -50/+90°C -40/+90°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL FT1, CSA FT1, FT2
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids, etc.
Weather resistance:	very good
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	dimensions	nominal outer-ø approx. inch	mm	cable weight ≈lbs/mft
acc. to SICK HIPERFACE DSL®				
8750101	20 AWG/4c + (22 AWG/2c)C + (26 AWG/2c)C	0.386	9.8	88
8750102	19 AWG/4c + (22 AWG/2c)C + (26 AWG/2c)C	0.394	10.0	93
8750103	18 AWG/4c + (19 AWG/2c)C + (22 AWG/2c)C	0.465	11.8	134
8750104	16 AWG/4c + (19 AWG/2c)C + (22 AWG/2c)C	0.496	12.6	155
8750105	16 AWG/4c + (18 AWG/2c)C + (22 AWG/2c)C	0.504	12.8	159
8750106	14 AWG/4c + (18 AWG/2c)C + (22 AWG/2c)C	0.547	13.9	192
8750107	12 AWG/4c + (18 AWG/2c)C + (22 AWG/2c)C	0.606	15.4	253
8750108	10 AWG/4c + (18 AWG/2c)C + (22 AWG/2c)C	0.713	18.1	349
8750109	8 AWG/4c + (16 AWG/2c)C + (22 AWG/2c)C	0.787	20.0	480
8750110	6 AWG/4c + (16 AWG/2c)C + (22 AWG/2c)C	0.961	24.4	709
acc. to HEIDENHAIN HMC®				
8750501	19 AWG / 4c + (22 AWG / 2c)C + (24 AWG / 2c + 28 AWG / 2pr)C	0.425	10.8	110
8750502	16 AWG / 4c + (19 AWG / 2c)C + (24 AWG / 2c + 28 AWG / 2pr)C	0.476	12.1	147
8750503	14 AWG / 4c + (18 AWG / 2c)C + (24 AWG / 2c + 28 AWG / 2pr)C	0.539	13.7	189
8750504	12 AWG / 4c + (18 AWG / 2c)C + (24 AWG / 2c + 28 AWG / 2pr)C	0.606	15.4	241

Other dimensions and colors are available on request

pair in ( ) denotes shielded. C = tinned copper braid.

Note: SICK HIPERFACE DSL® is a registered trademark of SICK AG. It is only used for comparative purposes.
HEIDENHAIN HMC6® is a registered trademark of Dr. Johannes Heidenhain GmbH.
It is only used for comparative purposes.

SL 842 C

TPE/PUR feedback cable with overall tinned copper shield

Marking for SL 842 C 8422009:
SAB BRÖCKSKES · D-VIERSEN · 8420050 9 x 0.5 mm² SL 842 C 20 AWG/9c 8422009 AWM-Style 20233 80°C 300V CSA AWM I/II A/B 80°C 300V FT1 FT2

Construction:

Conductor:	bare copper strands with reference to VDE 0812
Insulation:	TPE
Color code:	BU+GY+BK+BN+YE+GN+PK+RD+WH
Stranding:	in layers
Stranding:	conductors/pairs twisted together in layers
Wrapping:	one or two layers non-woven tape
Shielding:	tinned copper braiding
Wrapping:	non-woven tape
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2 with matte surface
Jacket color:	orange (RAL 2003)

Outstanding features:

- **UL recognition, CSA approval**
- **good EMC characteristics**
- **high flexibility**
- **suitable for cable tracks**
- **oil resistant**
- **long service life**
- **adhesion-free installation**
- **halogen-free**
- **free from paint wetting impairment substances** (PWIS-free)
- **in accordance with Indramat INK**

Technical data:

Peak operating voltage:	max. 500 V
Voltage UL/CSA:	300 V
Testing voltage:	conductor/conductor: 2000 V conductor/shielding: 2000 V
Min. bending radius: *fixed installation:* *free movement:* *for continuous flexing:*	 5 x O.D. 10 x O.D. 12 x O.D.
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range: *static:* *flexible:*	**DIN VDE** **UL/CSA:** up to +80°C -50/+90°C -40/+90°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL FT1, CSA FT1, FT2
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids, etc.
Weather resistance:	very good
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	dimensions	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 8422009	20 AWG/ 9c	0.346 ± 0.012	8.8 ± 0.03	70

Other dimensions and colors are available on request

suitable for resolvers and shaft encoders

SL 839 C

Composite PUR transmission cable with overall tinned copper shield

mm² DESINA AWM Style 20236 80°C 30V

Marking for SL 839 C 8390122:
SAB BRÖCKSKES · D-VIERSEN · 8390122 SL 839 C 12 x 0.22 mm² DESINA AWM Style 20236 80°C 30V

Construction:

Conductor:	tinned copper strands with reference to VDE 0812
Insulation:	special polymer
Color code:	colored (see chart below)
	acc. to dimension:
Shielding:	pairs shielded with tinned copper braiding
Inner jacket:	special polymer
Stranding:	conductors or pairs
Stranding:	conductors/pairs twisted together in layers
Wrapping:	one non-woven tape or non-woven tape and PETP foil
Shielding:	tinned copper braiding
Wrapping:	non-woven tape
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2 with matte surface or PU acc. to UL 758
Jacket color:	green (RAL 6018)

Technical data:

Nominal voltage:	max. 30 V
Voltage UL:	30 V
Testing voltage:	conductor/conductor: 600 V conductor/shielding: 600 V
Min. bending radius: *fixed installation:* *free movement:* *for continuous flexing:*	 5 x O.D. 10 x O.D. 12 x O.D.
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range: *static:* *flexible:*	**DIN VDE** **UL/CSA:** up to +80°C -40/+70°C -20/+70°C
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2 or oil rating 60°C acc. to UL 758
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids, etc.
Weather resistance:	very good
Approvals:	UR AWM, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

Outstanding features:

- **UL recognition**
- **good EMC characteristics**
- **flexible and flexing installation**
- **oil resistant**
- **long service life**
- **adhesion-free installation**
- **halogen-free**
- **suitable for cable tracks**
- **free from paint wetting impairment substances** (PWIS-free)
- **DESINA® colors** (see page G/3)
- **Siemens Drive CLiQ**

suitable for resolvers and shaft encoders and Sinamics DRIVE CLiQ

item no.	dimensions	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft	color codes
Jacket material TMPU acc. to DIN VDE 0282					
8390114	(26/3pr)D + (20/2c)D	0.362 ± 0.016	9.2 ± 0.4	71	(GN/YE+BN/BK+OR/RD) - (RD+BK)
8390214	(26/3pr)D + 26/4c + 20/2c	0.354 ± 0.016	9.0 ± 0.4	68	(RD/OR+BN/BK+GN/YE) - (BU+GY+WH-BK+WH-YE) - (BN-BU+BN-RD)
8391050	(26/3pr)D + 26/4c + 24/4c + 20/2c	0.378 ± 0.016	9.6 ± 0.4	77	(RD/OR+BN/BK+GN/YE) - (BU+GY+WH-BK+WH-YE) - (BN-YE+GN-RD+BN-GY+GN-BK) - (BN-BU+BN-RD)
8390138	22/4pr + 20/4c	0.346 ± 0.016	8.8 ± 0.4	75	(RD/OR+GN/YE+BU/VT+BN/BK) - (BK-WH+RD-WH+YE-WH+BU-WH)
8390318	26/8pr	0.307 ± 0.016	7.8 ± 0.4	52	(WH/GY+VT/BU+GN/YE+OR/RD+BK/BN+WH-RD/WH-OR+ WH-BK/WH-BN+WH-YE/WH-GN)
08390122	22/12c	0.264 ± 0.016	6.7 ± 0.4	44	(RD+BK+BN+WH+GY+VT+BU+GN+YE+OR+WH-BN+WH-BK)
Jacket material PU acc. to UL 758					
8390118	26/4c	0.193 ± 0.016	4.9 ± 0.4	20	(RD+BK+OR+BN)
8390218	26/4pr	0.248 ± 0.016	6.3 ± 0.4	34	(VT/BU+GN/YE+OR/RD+BK/BN)
Siemens Sinamics/ DRIVE CLiQ					
8390115	2 x 2 x 0.15 mm² + 2 x 0.38 mm² ≈ 26/2pr + 22/2c	0.272 ± 0.012	6.9 ± 0.3	45	(GN/YE+BU/PK) + (RD+BK)
8390220	2 x 2 x 0.20 mm² + 2 x 0.38 mm² ≈ 25/2pr + 22/2c	0.272 ± 0.012	6.9 ± 0.3	41	(GN/YE+BU/PK) + (RD+BK)

D = spiral shield with pairs

Other dimensions and colors are available on request

Note: DESINA® is a registered trademark of the German Machine Tool Builders' Association.

SL 843 C

Composite TPE/PUR transmission cable with overall tinned copper shield

Marking for SL 843 C 8431050:
SAB BRÖCKSKES · D-VIERSEN · 8431050 SL 843 C 3 x (2 x 0.14 mm² D) + 4 x 0.22 mm² + 2 x 0.5 mm² DESINA AWM-Style 20235 80°C CSA AWM I/II A/B 80°C 300V FT1

Construction:

Conductor:	bare copper strands with reference to VDE 0812
Insulation:	TPE
Color code:	colored (see chart below)
Stranding:	in layers or pairwise
	acc. to dimension:
Shielding:	pairs with tinned copper wires braided or wrapped
Inner jacket:	TPE over shielded pairs
Stranding:	conductors/pairs twisted together in layers
Wrapping:	one or two layers non-woven tape
Shielding:	tinned copper braiding
Wrapping:	non-woven tape
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2 with matte surface
Jacket color:	green (RAL 6018) or orange (RAL 2003)

Technical data:

Peak operating voltage:	max. 350 V
Voltage UL/CSA:	300 V
Testing voltage:	conductor/conductor: 2000 V conductor/shielding: 2000 V
Min. bending radius: *fixed installation:* *free movement:* *for continuous flexing:*	 5 x O.D. 10 x O.D. 12 x O.D.
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range: *static:* *flexible:*	**DIN VDE** **UL/CSA:** up to +80°C -50/+90°C -40/+90°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL FT1, CSA FT1
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids, etc.
Weather resistance:	very good
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

Outstanding features:

- **UL recognition, CSA approval**
- **good EMC characteristics**
- **suitable for cable tracks**
- **oil resistant**
- **long service life**
- **adhesion-free installation**
- **halogen-free**
- **free from paint wetting impairment substances** (PWIS-free)
- **in accordance with Indramat INK and Siemens 6FX8008**

suitable for resolvers and shaft encoders

item no.	dimensions	jacket color	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft	color codes
8430009	24/4pr + 20/2c	orange	0.346 ± 0.012	8.8 ± 0.3	62	(BN/GN+RD/BK+BU/VT+GY/PK) - (WH+BN)
8430010	24/4pr + 18/2c	orange	0.346 ± 0.012	8.8 ± 0.3	65	(BN/GN+RD/BK+BU/VT+GY/PK) - (WH+BN)
8430160	(24/3pr)D + 24/3c + 18/2c	orange	0.394 ± 0.012	10.0 ± 0.3	89	(GN/YE+GY/PK+BU/RD) - (GY-PK+RD-BU+WH-GN) - (WH+BN)
8430040	(24/3pr)D	orange	0.343 ± 0.012	8.7 ± 0.3	63	(WH/BN+GN/YE+GY/PK)
8430060	26/4pr + (26/4c)D + 18/4c	orange	0.386 ± 0.012	9.8 ± 0.3	91	(GY/PK+YE/VT+BN/GN+BK/RD) - (GN-BK+BU-BK+YE-BK+RD-BK) - (WH+BU+WH-GN+BN-GN)
8430012	26/4pr + 20/4c	green	0.358 ± 10%	9.1 ± 10%	68	(PK/GY+RD/BK+BN/GN+YE/VT) - (BU+WH+BN-GN+WH-GN)
8430112	26/10c + 20/2c	green	0.335 ± 10%	8.5 ± 10%	60	(WH+BN+GN+YE+GY+PK+BU+RD+BK+VT) - (WH+BN)
8430114	26/10c + 20/4c	green	0.354 ± 10%	9.0 ± 10%	71	(WH+BN+GN+YE+GY+PK+BU+RD+BK+VT) - (WH+BN+GN+YE)
8430006	24/3pr + 20/2c	green	0.343 ± 10%	8.7 ± 10%	60	(WH/BN+GN/YE+GY/PK) - (BU+RD)
8430013	22/4pr + 20/4c	green	0.406 ± 10%	10.3 ± 10%	91	(WH/BN+GN/YE+GY/PK+BU/RD) - (BK+VT+GY-PK+RD-BU)
8430020	(26/3pr)C + 18/2c	green	0.394 ± 10%	10.0 ± 10%	85	(GN/YE+GY/PK+BU/RD) - (WH+BN)
8430022	(26/3pr)C + (20/2c)C	green	0.398 ± 10%	10.1 ± 10%	90	(GN/YE+GY/PK+BU/RD) - (WH+BN)
8431050	(26/3pr)D + 26/4c + 24/4c + 20/2c	green	0.421 ± 10%	10.7 ± 10%	87	(RD/OR+BN/BK+GN/YE) - (BU+GY+WH-BK+WH-YE) - (BN-YE+GN-RD+BN-GY+GN-BK) - (BN-BU+BN-RD)
8430070	(26/3pr)D + 26/4c + 20/2c	green	0.398 ± 10%	10.1 ± 10%	82	(RD/OR+BN/BK+GN/YE) - (BU+GY+WH-BK+WH-YE) - (BN-BU+BN-RD)
8430310	24/12c	green	0.335 ± 10%	8.5 ± 10%	58	(WH+BN+GN+YE+GY+PK+BU+RD+BK+VT+GY-PK+RD-BU)
8430212	26/2pr	green	0.264 ± 10%	6.7 ± 10%	34	(WH/BN+GN/YE)
8430214	26/4pr	green	0.323 ± 10%	8.2 ± 10%	48	(WH/BN+GN/YE+GY/PK+BU/RD)
8430216	26/8pr	green	0.382 ± 10%	9.7 ± 10%	70	(WH/BN+GN/YE+GY/PK+BU/RD+BK/VT+GY-PK/RD-BU+ WH-GN/BN-GN+WH-YE/YE-BN)

Other dimensions and colors are available on request
pair in ( ) denotes shielded. C = tinned copper braid. D = tinned copper spiral.

Note: SIEMENS® is a registered trademark. It is only used for comparative purposes.
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DESINA® is a registered trademark of the German Machine Tool Builders' Association.

EUROPEAN STANDARDIZED CABLES

SPECIAL CABLES

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Content

Applications

Applications of PVC control and connection cables

PVC control and connection cables are particularly suitable for control devices, e.g. on machine tools, conveyor or assembly lines, transporting equipment, production lines and construction of industrial plants. The cables can be moved after installation, especially for alignment and adjustment as well as inspection of machines, provided that the cables are not mechanically overloaded. These cables are not to be used for outdoor installation.

Exemplary applications:

05V-K/MTW/TEW **H05V-K/MTW/TEW** **H07V-K/MTW/TEW** **H05Z-K** **H07Z-K** **MEGA 147** **H05V2-K/H05V-K** **MEGA 157** **H07V2-K/H07V-K**	Construction of control cabinets, appliances and devices for communication technologies, household appliances, generator, transformer and machine construction
H07RN-F	Flexible, rubber insulated, neoprene jacketed, harmonized cord recommended for use in electronic and electrical equipment such as office machines and appliances designed for export to European countries and for MRO replacement of European made equipment cables.

Selection Table

		Cable Type	H/5 05V-K/MTW/TEW	H/5 H05V-K/MTW/TEW	H/5 H07V-K/MTW/TEW	H/6 H05Z-K	H/6 H07Z-K	H/7 MEGA 147	H/7 MEGA 147 H05V2-K, H05V-5	H/7 MEGA157/H07V2-K/H07V-K	H/7 MEGA 157	H/8 H07RN-F
Basic construction	Single conductor		●	●	●	●	●	●	●	●	●	
	Color code acc. to HD 308											●
Temperature range static	+105°C		▮	▮	▮			▮	▮	▮	▮	
	+ 90°C		▮	▮	▮	▮	▮	▮	▮	▮	▮	
	+ 60°C		▮	▮	▮	▮	▮	▮	▮	▮	▮	▮
	- 25°C		▮	▮	▮	▮	▮	▮	▮	▮	▮	▮
	- 40°C		▮	▮	▮	▮	▮	▮	▮	▮	▮	
Voltage	Nominal Voltage UL/CSA 600 V		●	●	●			●	●	●	●	
	Nominal voltage Uo/U 300/500 V		●	●		●		●	●			
	Nominal voltage Uo/U 450/750 V				●		●			●	●	●
	Testing voltage 2000 V		●	●				●	●			
	Testing voltage 2500 V				●	●	●			●	●	●
Standards and approvals	Halogen-free					●	●					
	Burning characteristics: flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2		●	●	●			●	●	●	●	
	Burning characteristics: flame retardant and self-extinguishing acc. to UL VW-1 and acc. to CSA FT1		●	●	●			●	●	●	●	
	Burning characteristics: acc. to EN 60332-1-2					●	●					
	<HAR> standardized			●	●[1]	●	●[2]		●	●		●
	UL recognized		●	●	●			●	●	●	●	
	CSA approved		●	●	●			●	●	●	●	

▮ from / to

[1] from 16 - 2 AWG
[2] from 16 - 6 AWG

*The temperature range for flexible application is mentioned on the corresponding catalog page

05V-K/H05V-K/MTW/TEW Harmonized PVC hook-up wire tri-rated, 300/500 V

H07V-K/MTW/TEW Harmonized PVC hook-up wire tri-rated, 450/750 V

Marking for H05V-K/MTW/TEW 31660180:

SAB BRÖCKSKES · D-VIERSEN · <VDE> <HAR> H05V-K 1.0mm² 18 AWG (UL) Type MTW 600V AWM Style 1015/10519 105°C 600V VW-1 CSA Type TEW 105°C 600V FT1 CE

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Color code:	see color code chart below

Outstanding features:

- **flexing single conductor**
- **harmonized acc. to European standards**
- **MTW (Machine Tool Wire)**
- **TEW (Thermoplastic Equipment Wire)**
- **H05V-K & H07V-K:** **with reference to BS 6231 type BK**

Technical data:

Nominal voltage:	**05V-K & H05V-K** Uo/U 300/500 V	**H07V-K** Uo/U 450/750 V	
Voltage UL/CSA:	600 V		
Testing voltage:	**05V-K & H05V-K** 2000 V	**H07V-K** 2500 V	
Min. bending radius:	4 x O.D.		
Temperature range:	**DIN VDE**	**UL-AWM/CSA**	**(UL) MTW**
static:	-40/+70°C	up to +105°C	up to +90°C
flexible:	+5/+70°C	up to +105°C	up to +90°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, CSA FT1		
Approvals:			
05V-K/MTW/TEW:	*26 - 24 AWG:* UR AWM, CSA, CE, RoHS 22 AWG: UL MTW, UR AWM, CSA, CE, RoHS		
H05V-K/MTW/TEW:	HAR, UL MTW, UR AWM, CSA, CE, RoHS		
H07V-K/MTW/TEW:	*16 - 2 AWG:* HAR, UL MTW, UR AWM, CSA, CE, RoHS *1 - 4/0 AWG:* UL MTW, UR AWM, CSA, CE, RoHS		
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30		

H
5

05V-K/MTW/TEW - UL/CSA/CE

item no.	mm²	AWG		nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 3166 .. 14⁺	0.14	26	(≈ 18/38)	0.079	2.0	4
▶ 3166 .. 25⁺	0.25	24	(≈ 14/34)	0.087	2.2	5
▶ 3166 .. 34	0.34	22	(≈ 7/30)	0.091	2.3	6

⁺ without MTW

Other colors are available on request

H07V-K/MTW/TEW - HAR/UL/CSA/CE

item no.	mm²	AWG		nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 3167 .. 82	1.50	16	(≈ 27/30)	0.122	3.1	13
▶ 3167 .. 84	2.50	14	(≈ 46/30)	0.146	3.7	22
▶ 3167 .. 86	4.00	12	(≈ 52/28)	0.169	4.3	34
▶ 3167 .. 87	6.00	10	(≈ 78/28)	0.189	4.8	44
▶ 3167 .. 88	10.00	8	(≈ 77/26)	0.268	6.8	81
▶ 3167 .. 89	16.00	6	(≈ 122/26)	0.358	9.1	142
▶ 3167 .. 90	25.00	4	(≈ 190/26)	0.417	10.6	204
▶ 3167 .. 91	35.00	2	(≈ 272/26)	0.465	11.8	273

Other colors are available on request

H05V-K/MTW/TEW - HAR/UL/CSA/CE

item no.	mm²	AWG		nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 3166 .. 50	0.50	20	(≈ 16/32)	0.098	2.5	7
▶ 3166 .. 75	0.75	19	(≈ 23/32)	0.106	2.7	9
▶ 3166 .. 80	1.00	18	(≈ 30/32)	0.110	2.8	11

Other colors are available on request

H07V-K/MTW/TEW - UL/CSA/CE

item no.	mm²	AWG		nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 3167 .. 92	50.00	1	(≈ 400/26)	0.598	15.2	403
▶ 3167 .. 93	70.00	2/0	(≈ 543/26)	0.638	16.2	531
▶ 3167 .. 94	95.00	3/0	(≈ 484/24)	0.760	19.3	717
▶ 3167 .. 95	120.00	4/0	(≈ 589/24)	0.819	20.8	858

Other colors are available on request

Color code for single conductors:

01 = black	06 = green¹	16 = dark blue
02 = blue	07 = violet	17 = pink
03 = brown	08 = white	27 = green/yellow
04 = gray	09 = orange	32 = blue/white¹
05 = yellow¹	11 = red	63 = white/blue¹

¹Non <HAR> approved

H05Z-K Harmonized halogen-free hook-up wire, 300/500 V

H07Z-K Harmonized halogen-free hook-up wire, 450/750 V

HAR CE RoHS

Construction:

Conductor:	class 5 annealed bare copper conductor acc. to EN 60228
Insulation:	special thermosetting low smoke zero halogen compound type EI5 acc. to EN 50363-5
Color code:	see color code chart below

Outstanding features:

- **flexing single conductor**
- **harmonized acc. to European standards**
- **halogen-free, low smoke and low corrosive gases**

Technical data:

Nominal voltage: *DIN/VDE:*	**H05Z-K** Uo/U 300/500 V	**H07Z-K** Uo/U 450/750 V
Testing voltage:	**H05V-K** 2500 V	**H07V-K** 2500 V
Min. bending radius: ≤ 8 mm ≤12 mm >12mm	 4 x O.D. 5 x O.D. 6 x O.D.	
Temperature range: *static:* *flexible:*	 -40/+90°C +5/+90°C	
Burning characteristics:	flame retardant and self-extinguishing acc. to EN 60332-1-2	
Corrosivity:	EN 50267-2.2/ VDE 0482-267-2-2 HD 22.1/ VDE 0282-1	
Smoke Density:	EN 61034-2	
Approvals: *H05Z-K:* *H07Z-K:*	 HAR/CE 16 AWG - 6 AWG: HAR/CE 4 AWG - 4/0 AWG: CE	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30	

H05Z-K - HAR/CE

item no.	mm²	AWG	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 3186 .. 50	0.50	20 (≈ 16/32)	0.102	2.6	6
▶ 3186 .. 80	1.00	18 (≈ 30/32)	0.114	2.9	7

Other colors are available on request

H07Z-K - HAR/CE

item no.	mm²	AWG	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 3187 .. 82	1.50	16 (≈ 27/30)	0.138	3.5	13
▶ 3187 .. 84	2.50	14 (≈ 46/30)	0.169	4.3	21
▶ 3187 .. 86	4.00	12 (≈ 52/28)	0.193	4.9	30
▶ 3187 .. 87	6.00	10 (≈ 78/28)	0.217	5.5	44
▶ 3187 .. 88	10.00	8 (≈ 77/26)	0.280	7.1	74
▶ 3187 .. 89	16.00	6 (≈ 122/26)	0.331	8.4	114

Other colors are available on request

H07Z-K - CE

item no.	mm²	AWG	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 3187 .. 90	25.00	4 (≈ 190/26)	0.417	10.6	195
▶ 3187 .. 91	35.00	2 (≈ 272/26)	0.476	12.1	255
▶ 3187 .. 92	50.00	1 (≈ 400/26)	0.567	14.4	355
▶ 3187 .. 93	70.00	2/0 (≈ 353/26)	0.654	16.6	503
▶ 3187 .. 94	95.00	3/0 (≈ 484/24)	0.740	18.8	671
▶ 3187 .. 95	120.00	4/0 (≈ 589/24)	0.768	19.5	846

Other colors are available on request

Color code for single conductors:

01 = black	08 = white
02 = blue	09 = orange
03 = brown	11 = red
04 = gray	17 = pink
07 = violet	27 = green/yellow

MEGA 147/H05V2-K/H05V-K Harmonized PVC hook-up wire tri-rated, 300/500 V
MEGA 157/H07V2-K/H07V-K Harmonized PVC hook-up wire tri-rated, 450/750 V

Marking for H05V2-K 31470150:
SAB BRÖCKSKES · D-VIERSEN · ◁ VDE ▷ ◁ HAR ▷ H05V2-K H05V-K 0.5 mm² 20 AWG AWM Style 1015 105°C 600V E172204 CSA Type TEW 105°C 600V FT1 LL104758

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	PVC, TI3 acc. to EN 50363-3 + VDE 0207-363-3
Color code:	see color code chart below

Outstanding features:

flexing single conductor
harmonized acc. to European standards

Technical data:

Nominal voltage:	**MEGA 147/H05V-K/ H05V2-K:** Uo/U 300/500 V **MEGA 157/H07V-K/ H07V-K:** Uo/U 450/750 V	
Voltage UL/CSA:	600 V	
Testing voltage:	**MEGA 147/H05V-K/ H05V2-K:** 2000 V **MEGA 157/H07V-K/ H07V-K:** 2500 V	
Min. bending radius: *fixed installation:* *free movement:*	 4 x O.D. 6 x O.D.	
Temperature range: *static:* *flexible:*	**DIN VDE** -40/+90°C +5/+90°C	**UL/CSA** up to +105°C up to +105°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, CSA FT1	
Approvals: *MEGA 147/H05V2-K/ H05V-K:* *MEGA 147:* *MEGA 157/H07V2-K/ H07V-K:* *MEGA 157:*	 *20 - 18 AWG:* *HAR,* UR AWM, CSA, CE, RoHS 26 - 22 AWG: UR AWM, CSA, CE, RoHS *16 - 2 AWG:* HAR, UR AWM, CSA, CE, RoHS *1 - 4/0 AWG:* UR AWM, CSA, CE, RoHS	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30	

H
7

MEGA 147- UL/CSA/CE

item no.	mm²	AWG		nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 3147 .. 14	0.14	26	(≈ 18/38)	0.079	2.0	4
▶ 3147 .. 25	0.25	24	(≈ 14/34)	0.087	2.2	5
▶ 3147 .. 34	0.34	22	(≈ 7/30)	0.091	2.3	6

Other colors are available on request

MEGA 147/H05V2-K/H05V-K - HAR/UL/CSA/CE

item no.	mm²	AWG		nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 3147 .. 50	0.50	20	(≈ 16/32)	0.098	2.5	7
▶ 3147 .. 75	0.75	19	(≈ 23/32)	0.106	2.7	9
▶ 3147 .. 80	1.00	18	(≈ 30/32)	0.110	2.8	11

Other colors are available on request

MEGA 157/H07V2-K/H07V-K - HAR/UL/CSA/CE

item no.	mm²	AWG		nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 3157 .. 82	1.50	16	(≈ 27/30)	0.122	3.1	13
▶ 3157 .. 84	2.50	14	(≈ 46/30)	0.146	3.7	22
▶ 3157 .. 86	4.00	12	(≈ 52/28)	0.169	4.3	34
▶ 3157 .. 87	6.00	10	(≈ 78/28)	0.189	4.8	44
▶ 3157 .. 88	10.00	8	(≈ 77/26)	0.268	6.8	81
▶ 3157 .. 89	16.00	6	(≈ 122/26)	0.358	9.1	142
▶ 3157 .. 90	25.00	4	(≈ 190/26)	0.417	10.6	204
▶ 3157 .. 91	35.00	2	(≈ 272/26)	0.465	11.8	273

Other colors are available on request

MEGA 157- UL/CSA/CE

item no.	mm²	AWG		nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 3157 .. 92	50.00	1	(≈ 400/26)	0.598	15.2	403
▶ 3157 .. 93	70.00	2/0	(≈ 543/26)	0.638	16.2	531
▶ 3157 .. 94	95.00	3/0	(≈ 484/24)	0.760	19.3	717
▶ 3157 .. 95	120.00	4/0	(≈ 589/24)	0.819	20.8	858

Other colors are available on request

Color code for single conductors:

01 = black	08 = white
02 = blue	09 = orange
03 = brown	11 = red
04 = gray	16 = dark blue
07 = violet	27 = green/yellow

H07RN-F

Heavy duty neoprene jacketed harmonized cordage 450/750 V

HAR CE RoHS

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, class 5
Insulation:	synthetic rubber, Type E14
Color code:	acc. to HD 308, see page O/26
Stranding:	from 2 conductors stranded in layers
Jacket material:	synthetic rubber, EM2
Jacket color:	black

Technical data:

Nominal voltage:	Uo/U 450/750 V
Testing voltage:	2500 V
Min. bending radius:	6 x O.D.
Temperature range:	-25/+60°C
Approvals:	HAR, CE, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

Outstanding features:

- **harmonized to European standards**
- **high mechanical loading capacity**
- **UV resistant**

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **18 AWG (≈ 30/32) • 1.00 mm²**				
39550210	2	0.295	7.5	54
39550310	3	0.327	8.3	64
39550410	4	0.354	9.0	81
39550510	5	0.386	9.8	97
▶ **16 AWG (≈ 27-29/30) • 1.50 mm²**				
39550215	2	0.327	8.3	67
39550315	3	0.362	9.2	84
39550415	4	0.406	10.3	108
39550515	5	0.437	11.1	128
▶ **14 AWG (≈ 46/30) • 2.50 mm²**				
39550225	2	0.386	9.8	97
39550325	3	0.429	10.9	124
39550425	4	0.469	11.9	155
39550525	5	0.520	13.2	188
▶ **12 AWG (≈ 52/28) • 4.00 mm²**				
39550240	2	0.429	10.9	131
39550340	3	0.488	12.4	175
39550440	4	0.543	13.8	215
39550540	5	0.602	15.3	269
▶ **10 AWG (≈ 78/28) • 6.00 mm²**				
39550160	1	0.323	8.2	74
39550260	2	0.488	12.4	178
39550360	3	0.567	14.4	235
39550460	4	0.614	15.6	292
39550560	5	0.697	17.7	366

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **8 AWG (≈ 77/26) • 10.00 mm²**				
39550161	1	0.394	10.0	114
39550261	2	0.689	17.5	326
39550361	3	0.764	19.4	420
39550461	4	0.843	21.4	517
39550561	5	0.933	23.7	635
▶ **6 AWG (≈ 122/26) • 16.00 mm²**				
39550162	1	0.441	11.2	158
39550262	2	0.768	19.5	437
39550362	3	0.858	21.8	575
39550462	4	0.957	24.3	722
39550562	5	1.059	26.9	887
▶ **4 AWG (≈ 190/26) • 25.00 mm²**				
39550163	1	0.520	13.2	235
39550263	2	0.976	24.8	679
39550363	3	1.024	26.0	843
39550463	4	1.161	29.5	1089
39550563	5	1.295	32.9	1341
▶ **2 AWG (≈ 272/26) • 35.00 mm²**				
39550164	1	0.579	14.7	312
39550364	3	1.150	29.2	1112
39550464	4	1.280	32.5	1415
▶ **1 AWG (≈ 400/26) • 50.00 mm²**				
39550165	1	0.669	17.0	423
39550365	3	1.319	33.5	1502
39550465	4	1.472	37.4	1932

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **2/0 AWG (≈ 543/26) • 70.00 mm²**				
39550166	1	0.744	18.9	564
39550366	3	1.469	37.3	1996
39550466	4	1.646	41.8	2570
▶ **3/0 AWG (≈ 484/24) • 95.00 mm²**				
39550167	1	0.843	21.4	739
39550367	3	1.732	44.0	2644
39550467	4	1.866	47.4	3347
▶ **4/0 AWG (≈ 589/24) • 120.00 mm²**				
39550168	1	0.933	23.7	921
▶ **250 MCM (≈ 740/24) • 150.00 mm²**				
39550169	1	1.016	25.8	1132
▶ **350 MCM (≈ 902/24) • 185.00 mm²**				
39550170	1	1.106	28.1	1371
▶ **450 MCM (≈ 1220/24) • 240.00 mm²**				
39550171	1	1.232	31.3	1757
▶ **550 MCM (≈ 1525/24) • 300.00 mm²**				
39550172	1	1.358	34.5	2201

Other dimensions and colors are available on request

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CABLES

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SPECIAL CABLES
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Content

Content

Applications

Applications of Besilen® single conductors

Our Besilen® ignition cables and Besilen® high-voltage ignition cables are suitable for applications with high or very unsteady ambient temperatures of up to +180°C. Besilen® insulated wires and Besilen® insulated conductors are suitable for use at high temperatures especially for the internal wiring of lamps and appliances as well as for the wiring of switchboard plants and distributors, at low mechanical loads.

Exemplary applications:

SC 113	Flexible applications for internal wiring of lamps, heating appliances, switchboard plants and distributors in industries such as smelteries, steelworks and hot-rolling mills, industrial oven and textile machine construction, illumination and electric industries, wood working and paper processing industries
B 118 **B 119** **B 120**	These insulated strands with 0.6/1kV, 1.8/3 kV resp. 3.6/6 kV are for example used in switchboards and distributors, in industrial furnaces and textile machine construction as well as in railway technology. Equally they are applied as connection of battery system or energy storage.

Applications of Besilen® single conductors with fiberglass braiding

These Besilen® cables with fiberglass braiding are for use at high ambient temperatures for internal wiring e.g. of lamps, heating appliances and electric machines as well as for wiring of switchboard plants and distributors. The fiberglass braiding offers protection against mechanical damage and at the same time offers excellent heat resistance.

Exemplary applications:

SC 123	Application at ambient temperatures higher than +55°C, for internal wiring of e.g. lamps and illuminations, heating appliances, household, kitchen and laboratory appliances, electric machines, switchboard plants and distributors, medical appliances

Application of Besilen® jacketed cables

Our Besilen® jacketed cables are suitable for applications at high ambient temperatures in dry, damp and wet areas as well as for outdoor use; as flexible connection cable with low mechanical load. The mechanical load capacity can be enhanced by using a steel wire armoring, a fiberglass braiding or an inner jacket. The EMC characteristics can be improved with an overall tinned copper screen. If these cables are used for fixed installation, they are only to be installed in ventilated tube systems or conduits.

Exemplary applications:

BiHF-J **BiHF(K)-J** **SC 600 HDTR** **SC 700 HDTR**	Application in plastics processing, packaging machine construction, smelteries, steelworks and hot-rolling mills, safety technology, measuring and control technologies, cement, glass and ceramic industries, refrigeration, heat and air-conditioning technologies, power plants, sauna construction
BiHFP-J **SC 600 HDTRS**	Application in plastics processing, packaging and textile machine engineering, smelteries, steelworks and hot-rolling mills, cement, glass and ceramic industries sauna construction, refrigeration, heat and air-conditioning technologies, paper industry, foundries
BiHF/Cu/Bi-J **BiHF/Cu/Bi(K)-J** **SC 600 C HDTR** **SC 700 C HDTR**	Application in packaging and textile machine construction, refrigeration, heat and airconditioning, plastics processing, smelteries, steelworks and hot-rolling mills, cement, glass and ceramic industries, plastic processing machine construction

Note: If hermetically sealed and used at temperatures higher than 90°C the mechanical characteristics of Silicone rubber will be reduced.

You will find further information about the safe application of cables in chapter O

Besilen® is a specially developed silicone rubber-based material with good electrical characteristics and it is a registered trademark of SAB BRÖCKSKES GmbH & Co. KG.

Applications

Applications of cable track cables with Besilen® outer jacket

SAB cable track cables with Besilen® outer jacket are for continuous flex use in high temperature areas as for example in cable tracks as control cable with medium mechanical stress.

Exemplary applications:

S 180 HT **S 180 C HT**	Conveyor systems in steel production and steel processing industries, at feeding lines for blast furnaces

Application of silicone insulated round single conductors for railway technology

The conductors can be laid easily in narrow spaces due to its extremely flexible construction. The translucent insulation enables an easy inspection of the state of conductor. An additional copper support braiding under the insulation provides a supplementary reinforcement for applications with high mechanical stress.

Exemplary applications:

R 107	Highly flexible single conductor for current or ground connection in railway technology
B 108	Current or ground connection in railway technology

Note: If hermetically sealed and used at temperatures higher than 90°C the mechanical characteristics of Silicone rubber will be reduced.

Selection Table

	Cable Type	I/7 SC 600 HDTR	I/8 SC 600 C HDTR	I/9 SC 600 HDTRS	I/10 SC 700 HDTR	I/11 SC 700 C HDTR	I/12 SC 113	I/13 SC 123	I/14 B 118	I/15 B 119	I/16 B 120	I/17 I/18 BiHF-J/BiHF(K)-J	I/19 BiHFP-J	I/20 I/21 BihF/Cu/Bi-J / BiHF/Cu/Bi(K)-J	I/22 Besilen ESD	I/23 S 180 HT	I/24 S 180 C HT	I/25 R 107	I/26 B 108
Basic construction	Single conductor						●	●	●	●	●								
	Multi-conductor	●	●	●	●	●						●	●	●	●	●	●		
	Copper rope																	●	●
	Shielding		●			●								●			●		●
	Steel wire braiding			●									●						
Temperature range fixed laying*	+250°C	●	●	●	●	●	●	●				●	●					●	●
	+200°C															●	●		
	+180°C																		
	+105°C																		
	+ 90°C																		
	- 25°C																		
	- 40°C																		
	- 50°C																		
Voltage	Nominal voltage Uo/U 300/500 V	●	●	●	●	●	●	●				●	●	●	●				
	Nominal voltage Uo/U 0.6/1 kV								●							●	●		
	Nominal voltage Uo/U 1.5/1.5 kV																		●1
	Nominal voltage Uo/U 1.8/3 kV									●								●	●2
	Nominal voltage Uo/U 3.6/6 kV										●								
	Voltage UL/CSA resp. UL/cUL 600 V	●	●	●	●	●													
	Testing voltage 1500 V																		
	Testing voltage 2000 V	●	●	●	●	●	●	●				●	●	●	●				
	Testing voltage 4000 V								●										●1
	Testing voltage 6000 V									●									●2
	Testing voltage 6500 V																	●	
	Testing voltage 11 k V										●								
Standards and approvals	Halogen-free acc. to IEC 60754-1+ VDE 0482-754-1	●	●	●	●	●	●	●	●	●	●	●	●	●					●
	Halogen-free acc. to EN 50306-1 + EN 50264-1																	●	
	Fire performance: Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●		●
	Fire performance: No flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 and EN 50305 + VDE 0260-305 section 9.1.2																	●	
	Fire performance: CSA FT1, FT2	●	●	●															
	Fire performance: cUL FT1, FT2				●	●													
	Corrosiveness of conflagration gases: IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases	●	●	●	●	●	●	●	●	●	●	●	●	●					●
	Toxicity acc. to EN 50305 + VDE 0260-305																	●	
	Smoke density acc. to IEC 61034 + VDE 0482-1034																	●	
	Tested acc. to EN 45545-2																	●	
	UL + cUL recognized resp. CSA approved	●	●	●	●	●													
Special features	Antistatic outer jacket														●				
	very good weather resistance						●		●	●	●	●	●	●				●	●
	Ozone resistance acc. to EN 50382-2 + VDE 0260-382-2																	●	
	Good oil resistance																	●	
	Highly flexible																●	●	●
	Flexible	●	●	●	●	●			●	●	●	●	●	●	●	●			
	Protection against mechanical damage			●									●						

from to ● short-term use

[1] to 10 AWG · [2] from 8 AWG

*The temperature range for flexible application is mentioned on the corresponding catalog page

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SC 600 HDTR

Besilen® insulated conductors with silicone outer jacket

Marking for SC 600 HDTR 1271804:
SAB BRÖCKSKES · D-VIERSEN · SC 600 HDTR AWM Style 4535 150°C 600V CSA AWM I/II A 150°C 600V FT1 FT2

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	Besilen® EI2 acc. to EN 50363-1 + VDE 0207-363-1
Color code:	colored acc. to HD 308 (VDE 0293-308), from 6 conductors- black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 from 3 conductors- a green/yellow ground
Stranding:	in layers
Jacket material:	Besilen® better than EM9 acc. to EN 50363-2-1 + VDE 0207-363-2-1
Jacket color:	reddish brown (similar RAL 3016)

Outstanding features:

- **halogen-free**
- **flexible at low temperatures**
- **heat resistant**
- **UL recognized and CSA approved**

Technical data:

Nominal voltage:	Uo/U 300/500 V	
Voltage UL/CSA:	600 V	
Testing voltage:	conductor/conductor: 2000 V	
Min. bending radius: *fixed installation:* *free movement:*	 4 x O.D. 6 x O.D.	
Radiation resistance:	2 x 10^7 cJ/kg	
Temperature range: *static:* *flexible:* *short-term use:*	**DIN VDE** -40/+180°C +200°C (2000h) -25/+180°C +250°C	**UL/CSA:** up to +150°C Style 4535
Halogen-free	acc. to IEC 60754-1 + VDE 0482-754-1	
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, CSA FT1, FT2	
Corrosivity:	IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases	
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30	

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 20 AWG (≈ 16/32) • 0.50 mm²				
1272002	2	0.220	5.6	26
1272003	3	0.232	5.9	30
1272004	4	0.248	6.3	36
1272005	5	0.272	6.9	42
1272007	7	0.295	7.5	53
1272008	8	0.339	8.6	61
1272010	10	0.366	9.3	73
1272012	12	0.378	9.6	83
1272016	16	0.417	10.6	105
1272018	18	0.441	11.2	117
1272024	24	0.516	13.1	161
▶ 19 AWG (≈ 23/32) • 0.75 mm²				
1271902	2	0.232	5.9	31
1271903	3	0.252	6.4	36
1271904	4	0.272	6.9	44
1271905	5	0.299	7.6	52
1271907	7	0.323	8.2	66
1271908	8	0.374	9.5	76
1271910	10	0.406	10.3	91
1271912	12	0.417	10.6	104
1271916	16	0.465	11.8	132
1271918	18	0.492	12.5	148
1271924	24	0.583	14.8	206
▶ 18 AWG (≈ 30/32) • 1.00 mm²				
1271802	2	0.248	6.3	34
1271803	3	0.260	6.6	42
1271804	4	0.283	7.2	50
1271805	5	0.307	7.8	60
1271807	7	0.335	8.5	77
1271808	8	0.386	9.8	89
1271810	10	0.421	10.7	106
1271812	12	0.433	11.0	122
1271816	16	0.480	12.2	157
1271818	18	0.512	13.0	176
1271824	24	0.626	15.9	255

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 16 AWG (≈ 27-29/30) • 1.50 mm²				
1271602	2	0.280	7.1	46
1271603	3	0.295	7.5	56
1271604	4	0.315	8.0	67
1271605	5	0.350	8.9	81
1271607	7	0.382	9.7	105
1271608	8	0.449	11.4	122
1271610	10	0.496	12.6	150
1271612	12	0.512	13.0	173
1271616	16	0.583	14.8	229
1271618	18	0.614	15.6	255
1271624	24	0.724	18.4	339
▶ 14 AWG (≈ 46/30) • 2.50 mm²				
1271402	2	0.335	8.5	68
1271403	3	0.354	9.0	85
1271404	4	0.386	9.8	104
1271405	5	0.437	11.1	129
1271407	7	0.476	12.1	168
1271408	8	0.563	14.3	197
1271410	10	0.622	15.8	241
1271412	12	0.642	16.3	279
1271416	16	0.720	18.3	363
1271418	18	0.760	19.3	403
1271424	24	0.913	23.2	597
▶ 12 AWG (≈ 52/28) • 4.00 mm²				
1271202	2	0.382	9.7	91
1271203	3	0.417	10.6	124
1271204	4	0.457	11.6	155
1271205	5	0.508	12.9	189
1271207	7	0.555	14.1	248
▶ 10 AWG (≈ 78/28) • 6.00 mm²				
1271002	2	0.441	11.2	134
1271003	3	0.461	11.7	167
1271004	4	0.512	13.0	212
1271005	5	0.563	14.3	256
1271007	7	0.630	16.0	348

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 8 AWG (≈ 77/26) • 10.00 mm²				
1270802	2	0.575	14.6	228
1270803	3	0.610	15.5	291
1270804	4	0.669	17.0	363
1270805	5	0.744	18.9	443
1270807	7	0.831	21.1	601
▶ 6 AWG (≈ 122/26) • 16.00 mm²				
1270602	2	0.669	17.0	329
1270603	3	0.736	18.7	429
1270604	4	0.807	20.5	537
1270605	5	0.823	20.9	650
1270607	7	1.012	25.7	893
▶ 4 AWG (≈ 190/26) • 25.00 mm²				
1270402	2	0.850	21.6	518
1270403	3	0.906	23.0	665
1270404	4	1.008	25.6	849
▶ 2 AWG (≈ 77/26) • 35.00 mm²				
1270202	2	0.976	24.8	722
1270203	3	1.039	26.4	935
1270204	4	1.142	29.0	1181

Other dimensions and colors are available on request

Temperature range up to +200°C Style 4511 with nickel or silver plated copper strands.

SC 600 C HDTR

Shielded Besilen® insulated conductors with silicone outer jacket

Marking for SC 600 C HDTR 1241804:
SAB BRÖCKSKES · D-VIERSEN · SC 600 C HDTR AWM Style 4535 150°C 600V CSA AWM I/II A 150°C 600V FT1 FT2

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	Besilen® EI2 acc. to EN 50363-1 + VDE 0207-363-1
Color code:	colored acc. to HD 308 (VDE 0293-308), from 6 conductors- black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 from 3 conductors- a green/yellow ground
Stranding:	in layers
Inner jacket:	Besilen® EM9 acc. to EN 50363-2-1 + VDE 0207-363-2-1
Shielding:	tinned copper braiding
Jacket material:	Besilen® better than EM9 acc. to EN 50363-2-1 + VDE 0207-363-2-1
Jacket color:	black (similar RAL 9011)

Outstanding features:

- **good EMC characteristics**
- **halogen-free**
- **flexible at low temperatures**
- **heat resistant**
- **UL recognized and CSA approved**

Technical data:

Nominal voltage:	Uo/U 300/500 V	
Voltage UL/CSA:	600 V	
Testing voltage:	conductor/conductor: 2000 V conductor/shielding: 2000 V	
Min. bending radius: *fixed installation:* *free movement:*	 4 x O.D. 6 x O.D.	
Radiation resistance:	2 x 10^7 cJ/kg	
Temperature range: *static:* *flexible:* *short-term use:*	**DIN VDE** -40/+180°C +200°C (2000h) -25/+180°C +250°C	**UL/CSA:** up to +150°C Style 4535
Halogen-free	acc. to IEC 60754-1 + VDE 0482-754-1	
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, CSA FT1, FT2	
Corrosivity:	IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases	
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30	

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **19 AWG (≈ 23/32) • 0.75 mm²**				
1241902	2	0.323	8.2	62
1241903	3	0.335	8.5	68
1241904	4	0.354	9.0	83
1241905	5	0.382	9.7	93
▶ **18 AWG (≈ 30/32) • 1.00 mm²**				
1241802	2	0.331	8.4	68
1241803	3	0.343	8.7	81
1241804	4	0.366	9.3	91
1241805	5	0.398	10.1	112
1241807	7	0.433	11.0	136

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **16 AWG (≈ 27-29/30) • 1.50 mm²**				
1241602	2	0.370	9.4	87
1241603	3	0.394	10.0	110
1241604	4	0.425	10.8	129
1241605	5	0.457	11.6	158
1241607	7	0.504	12.8	186
▶ **14 AWG (≈ 46/30) • 2.50 mm²**				
1241402	2	0.441	11.2	141
1241403	3	0.461	11.7	157
1241404	4	0.508	12.9	189
1241405	5	0.563	14.3	226

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **12 AWG (≈ 52/28) • 4.00 mm²**				
1241203	3	0.543	13.8	221
1241204	4	0.583	14.8	258
1241205	5	0.657	16.7	323
▶ **10 AWG (≈ 78/28) • 6.00 mm²**				
1241003	3	0.594	15.1	266
1241004	4	0.661	16.8	352
1241005	5	0.713	18.1	390

Other dimensions and colors are available on request

Temperature range up to +200°C
Style 4511 with nickel
or silver plated copper strands.

SC 600 HDTRS

Besilen® insulated conductors with silicone outer jacket and steel wire armoring for mechanical protection

Marking for SC 600 HDTRS 1281803:
SAB BRÖCKSKES · D-VIERSEN · SC 600 HDTRS AWM Style 4535 150°C 600V CSA AWM I/II A 150°C 600V FT1 FT2

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	Besilen® EI2 acc. to EN 50363-1 + VDE 0207-363-1
Color code:	colored acc. to HD 308 (VDE 0293-308), from 6 conductors- black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 from 3 conductors- a green/yellow ground
Stranding:	in layers
Jacket material:	Besilen® better than EM9 acc. to EN 50363-2-1 + VDE 0207-363-2-1
Jacket color:	reddish brown (similar RAL 3016)
Armor:	galvanized steel wire braiding

Outstanding features:

- **halogen-free**
- **flexible at low temperatures**
- **heat resistant**
- **protection against mechanical damage**
- **UL recognized and CSA approved**

Technical data:

Nominal voltage:	Uo/U 300/500 V	
Voltage UL/CSA:	600 V	
Testing voltage:	conductor/conductor: 2000 V	
Min. bending radius: *fixed installation:* *free movement:*	 4 x O.D. 6 x O.D.	
Radiation resistance:	2 x 10^7 cJ/kg	
Temperature range: *static:* *flexible:* *short-term use:*	**DIN VDE** -40/+180°C +200°C (2000h) -25/+180°C +250°C	**UL/CSA:** up to +150°C Style 4535
Halogen-free	acc. to IEC 60754-1 + VDE 0482-754-1	
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, CSA FT1, FT2	
Corrosivity:	IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases	
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30	

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **19 AWG (≈ 23/32) • 0.75 mm²**				
1281902	2	0.272	6.9	44
1281903	3	0.283	7.2	50
1281904	4	0.303	7.7	58
1281905	5	0.331	8.4	70
1281906	6	0.354	9.0	78
1281907	7	0.354	9.0	84
▶ **18 AWG (≈ 30/32) • 1.00 mm²**				
1281802	2	0.280	7.1	48
1281803	3	0.291	7.4	56
1281804	4	0.315	8.0	65
1281805	5	0.339	8.6	78
1281806	6	0.366	9.3	88
1281807	7	0.366	9.3	95

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **16 AWG (≈ 27-29/30) • 1.50 mm²**				
1281602	2	0.311	7.9	60
1281603	3	0.327	8.3	73
1281604	4	0.346	8.8	85
1281605	5	0.382	9.7	99
1281606	6	0.413	10.5	116
1281607	7	0.413	10.5	128
▶ **14 AWG (≈ 46/30) • 2.50 mm²**				
1281402	2	0.366	9.3	86
1281403	3	0.386	9.8	103
1281404	4	0.417	10.6	126
1281405	5	0.469	11.9	152
1281406	6	0.508	12.9	174
1281407	7	0.508	12.9	192

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **12 AWG (≈ 52/28) • 4.00 mm²**				
1281202	2	0.413	10.5	114
1281203	3	0.449	11.4	147
1281204	4	0.488	12.4	177
1281205	5	0.539	13.7	220
1281206	6	0.587	14.9	253
1281207	7	0.587	14.9	280
▶ **10 AWG (≈ 78/28) • 6.00 mm²**				
1281002	2	0.472	12.0	157
1281003	3	0.500	12.7	194
1281004	4	0.543	13.8	244
1281005	5	0.594	15.1	288

Other dimensions and colors are available on request

Temperature range up to +200°C Style 4511 with nickel or silver plated copper strands.

SC 700 HDTR

Besilen® insulated strands with Besilen® outer jacket

temperature range up to +200°C

Marking for SC 700 HDTR 1251804:
SAB BRÖCKSKES · D-VIERSEN · SC 700 HDTR AWM Style 4511 200°C 600V c AWM I/II A/B 200°C 600V FT1 FT2

Construction:

Conductor:	< 10 mm²: nickel-plated copper strands > 10 mm²: tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	Besilen® EI2 acc. to EN 50363-1 + VDE 0207-363-1
Color code:	colored acc. to HD 308 (VDE 0293-308), from 6 conductors- black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 from 3 conductors- a green/yellow ground
Stranding:	in layers
Jacket material:	Besilen® EM9 acc. to EN 50363-2-1 + VDE 0207-363-2-1
Jacket color:	reddish brown (similar RAL 3016)

Outstanding features:

- **halogen-free**
- **flexible at low temperatures**
- **heat resistant**
- **UL/cUL recognized**
- **rated for 200°C**

Technical data:

Nominal voltage:	Uo/U 300/500 V	
Voltage UL/CSA:	600 V	
Testing voltage:	conductor/conductor: 2000 V	
Min. bending radius:		
fixed installation:	4 x O.D.	
free movement:	6 x O.D.	
Radiation resistance:	2 x 10^7 cJ/kg	
Temperature range:	**DIN VDE**	**UL/cUL:**
static:	-40/+180°C	up to +200°C
flexible:	-25/+180°C	
short-term use:	+250°C	
Halogen-free	acc. to IEC 60754-1 + VDE 0482-754-1	
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, cUL FT1, FT2	
Corrosivity:	IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases	
Approvals:	UR AWM, cUR AWM, CE, EAC, RoHS	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30	

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 20 AWG (≈ 16/32) • 0.50 mm²				
1252002	2	0.220	5.6	26
1252003	3	0.232	5.9	31
1252004	4	0.248	6.3	36
1252005	5	0.272	6.9	44
1252007	7	0.295	7.5	54
1252008	8	0.339	8.6	69
1252010	10	0.366	9.3	74
1252012	12	0.378	9.6	85
1252016	16	0.417	10.6	109
1252018	18	0.441	11.2	122
1252024	24	0.516	13.1	155
▶ 19 AWG (≈ 23/32) • 0.75 mm²				
1251902	2	0.232	5.9	31
1251903	3	0.252	6.4	37
1251904	4	0.272	6.9	44
1251905	5	0.299	7.6	55
1251907	7	0.323	8.2	67
1251908	8	0.374	9.5	85
1251910	10	0.406	10.3	92
1251912	12	0.417	10.6	105
1251916	16	0.465	11.8	136
1251918	18	0.492	12.5	155
1251924	24	0.583	14.8	199
▶ 18 AWG (≈ 30/32) • 1.00 mm²				
1251802	2	0.248	6.3	35
1251803	3	0.260	6.6	42
1251804	4	0.283	7.2	52
1251805	5	0.307	7.8	63
1251807	7	0.335	8.5	79
1251808	8	0.386	9.8	98
1251810	10	0.421	10.7	108
1251812	12	0.433	11.0	124
1251816	16	0.480	12.2	161
1251818	18	0.512	13.0	182
1251824	24	0.626	15.9	249

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 16 AWG (≈ 27-29/30) • 1.50 mm²				
1251602	2	0.280	7.1	46
1251603	3	0.295	7.5	56
1251604	4	0.315	8.0	68
1251605	5	0.350	8.9	85
1251607	7	0.382	9.7	107
1251608	8	0.449	11.4	134
1251610	10	0.496	12.6	152
1251612	12	0.512	13.0	176
1251616	16	0.583	14.8	235
1251618	18	0.614	15.6	263
1251624	24	0.724	18.4	343
▶ 14 AWG (≈ 46/30) • 2.50 mm²				
1251402	2	0.335	8.5	69
1251403	3	0.354	9.0	85
1251404	4	0.386	9.8	108
1251405	5	0.437	11.1	134
1251407	7	0.476	12.1	171
1251408	8	0.563	14.3	220
1251410	10	0.622	15.8	245
1251412	12	0.642	16.3	283
1251416	16	0.720	18.3	372
1251418	18	0.760	19.3	417
1251424	24	0.913	23.2	550
▶ 12 AWG (≈ 52/28) • 4.00 mm²				
1251202	2	0.382	9.7	92
1251203	3	0.417	10.6	126
1251204	4	0.457	11.6	156
1251205	5	0.508	12.9	196
1251207	7	0.555	14.1	251
▶ 10 AWG (≈ 78/28) • 6.00 mm²				
1251002	2	0.457	11.6	135
1251003	3	0.484	12.3	161
1251004	4	0.528	13.4	217
1251005	5	0.598	15.3	274
1251007	7	0.654	16.6	351

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 8 AWG (≈ 77/26) • 10.00 mm²				
1250802	2	0.575	14.6	230
1250803	3	0.610	15.5	293
1250804	4	0.669	17.0	367
1250805	5	0.744	18.9	458
1250807	7	0.831	21.1	595
▶ 6 AWG (≈ 122/26) • 16.00 mm²				
1250602	2	0.669	17.0	341
1250603	3	0.736	18.7	438
1250604	4	0.807	20.5	576
1250605	5	0.823	20.9	683
1250607	7	1.012	25.7	916
▶ 4 AWG (≈ 190/26) • 25.00 mm²				
1250402	2	0.850	21.6	521
1250403	3	0.906	23.0	671
1250404	4	1.008	25.6	857
▶ 2 AWG (≈ 77/26) • 35.00 mm²				
1250202	2	0.976	24.8	712
1250203	3	1.039	26.4	922
1250204	4	1.142	29.0	1162

Other dimensions and colors are available on request

SC 700 C HDTR

Besilen® insulated strands with overall copper shield and Besilen® outer jacket

temperature range up to +200°C

Marking for SC 700 C HDTR 1261904:
SAB BRÖCKSKES · D-VIERSEN · SC 700 C HDTR AWM Style 4511 200°C 600V c AWM I/II A/B 200°C 600V FT1 FT2 CE

Construction:

Conductor:	< 10 mm²: nickel-plated copper strands ≥ 10 mm²: tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	Besilen® EI2 acc. to EN 50363-1 + VDE 0207-363-1
Color code:	colored acc. to HD 308 (VDE 0293-308), from 6 conductors- black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, from 3 conductors- a green/yellow ground
Stranding:	in layers
Inner jacket:	Besilen® EM9 acc. to EN 50363-2-1 + VDE 0207-363-2-1
Shielding:	tinned copper braiding
Jacket material:	Besilen® EM9 acc. to EN 50363-2-1 + VDE 0207-363-2-1
Jacket color:	black (similar RAL 9011)

Outstanding features:

- **good EMC characteristics**
- **halogen-free**
- **flexible at low temperatures**
- **heat resistant**
- **UL/cUL recognized**
- **rated for 200°C**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Voltage UL/CSA:	600 V
Testing voltage:	conductor/conductor: 2000 V conductor/shielding: 2000 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range: *static:* *flexible:* *short-term use:*	**DIN VDE** / **UL/CSA:** -40/+180°C / up to +200°C -25/+180°C +250°C
Halogen-free	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, cUL FT1, FT2
Corrosivity:	IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Approvals:	UR AWM, cUR AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **19 AWG (≈ 23/32) • 0.75 mm²**				
1261902	2	0.323	8.2	58
1261903	3	0.335	8.5	65
1261904	4	0.354	9.0	75
1261905	5	0.382	9.7	87
▶ **18 AWG (≈ 30/32) • 1.00 mm²**				
1261802	2	0.331	8.4	62
1261803	3	0.343	8.7	77
1261804	4	0.366	9.3	83
1261805	5	0.398	10.1	106
1261807	7	0.433	11.0	126

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **16 AWG (≈ 27-29/30) • 1.50 mm²**				
1261602	2	0.370	9.4	79
1261603	3	0.394	10.0	100
1261604	4	0.425	10.8	118
1261605	5	0.457	11.6	138
1261607	7	0.504	12.8	172
▶ **14 AWG (≈ 46/30) • 2.50 mm²**				
1261402	2	0.441	11.2	121
1261403	3	0.461	11.7	139
1261404	4	0.508	12.9	174
1261405	5	0.563	14.3	210

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **12 AWG (≈ 52/28) • 4.00 mm²**				
1261203	3	0.543	13.8	197
1261204	4	0.583	14.8	233
1261205	5	0.657	16.7	302
▶ **10 AWG (≈ 78/28) • 6.00 mm²**				
1261003	3	0.594	15.1	251
1261004	4	0.661	16.8	335
1261005	5	0.713	18.1	382

Other dimensions and colors are available on request

SC 113

Silicone insulated hook-up wire

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	Besilen® EI2 acc. to DIN EN 50363-1

Outstanding features:

- **halogen-free**
- **flexible at low temperatures**
- **heat resistant**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	2000 V
Min. bending radius:	7.5 x O.D.
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range: *static:* *flexible:* *short-term use:*	 -40/+180°C -25/+180°C +250°C
Halogen-free	acc. to DIN VDE 0472 part 815 and IEC 60754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Corrosivity:	in compliance with IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2- no development of corrosive conflagration gases
Chemical resistance:	see page O/11
Weather resistance:	very good
Approvals:	CE, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	mm²	AWG		nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 113002…*	0.25	24	(≈ 14/34)	0.067	1.7	3
▶ 113003…*	0.34	22	(≈ 7/30)	0.071	1.8	4
▶ 113005…*	0.50	20	(≈ 16/32)	0.075	1.9	5
▶ 113007…*	0.75	19	(≈ 23/32)	0.087	2.2	7
▶ 113010…*	1.00	18	(≈ 30/32)	0.091	2.3	9
▶ 113015…*	1.50	16	(≈ 27-29/30)	0.110	2.8	12
▶ 113025…*	2.50	14	(≈ 46/30)	0.134	3.4	19
▶ 113040…*	4.00	12	(≈ 52/28)	0.157	4.0	30
▶ 113060…*	6.00	10	(≈ 78/28)	0.177	4.5	42
▶ 113100…*	10.00	8	(≈ 77/26)	0.240	6.1	72
▶ 113160…*	16.00	6	(≈ 122/26)	0.295	7.5	112
▶ 113250…*	25.00	4	(≈ 190/26)	0.366	9.3	182
▶ 113350…*	35.00	2	(≈ 272/26)	0.421	10.7	253
▶ 113500…*	50.00	1	(≈ 400/26)	0.484	12.3	351
▶ 113700…*	70.00	2/0	(≈ 543/26)	0.575	14.6	479
▶ 113950…*	95.00	3/0	(≈ 484/24)	0.689	17.5	646
▶ 113120…*	120.00	4/0	(≈ 589/24)	0.748	19.0	791
▶ 113150…*	150.00	250 MCM	(≈ 740/24)	0.823	20.9	982
▶ 113185…*	185.00	350 MCM	(≈ 902/24)	0.906	23.0	1200
▶ 113240…*	240.00	450 MCM	(≈ 1220/24)	1.059	26.9	1615
▶ 113300…*	300.00	550 MCM	(≈ 1525/24)	1.181	30.0	2015

Other dimensions and colors are available on request

*** Color code for single conductors:**

...0 = green/yellow
...1 = blue
...2 = black
...3 = brown
...4 = gray
...5 = white
...6 = reddish brown
...7 = red

SC 123

Silicone insulated hook-up wire with fiberglass braid

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	Besilen® EI2 acc. to DIN EN 50363-1
Standard color:	nature
Braiding:	fiberglass
Impregnation:	impregnating lacquer

Outstanding features:

- **halogen-free**
- **flexible at low temperatures**
- **heat resistant**
- **fiberglass braid for additional protection**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	2000 V
Min. bending radius:	7.5 x O.D.
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range: *static:* *flexible:* *short-term use:*	 -40/+180°C -25/+180°C +250°C
Halogen-free	acc. to DIN VDE 0472 part 815 and IEC 60754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Corrosivity:	in compliance with IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2- no development of corrosive conflagration gases
Approvals:	CE, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	mm²	AWG		nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 1230050	0.5	20	(≈ 16/32)	0.094	2.4	7
▶ 1230070	0.75	19	(≈ 23/32)	0.106	2.7	11
▶ 1230100	1.00	18	(≈ 30/32)	0.110	2.8	12
▶ 1230150	1.50	16	(≈ 27-29/30)	0.126	3.2	15
▶ 1230250	2.50	14	(≈ 46/30)	0.154	3.9	24
▶ 1230400	4.00	12	(≈ 52/28)	0.177	4.5	34
▶ 1230600	6.00	10	(≈ 78/28)	0.205	5.2	50
▶ 1231000	10.00	8	(≈ 77/26)	0.287	7.3	91
▶ 1231600	16.00	6	(≈ 122/26)	0.327	8.3	133
▶ 1232500	25.00	4	(≈ 190/26)	0.402	10.2	206
▶ 1233500	35.00	2	(≈ 272/26)	0.449	11.4	271
▶ 1235000	50.00	1	(≈ 400/26)	0.555	14.1	384
▶ 1237000	70.00	2/0	(≈ 543/26)	0.594	15.1	509
▶ 1239500	95.00	3/0	(≈ 484/24)	0.728	18.5	702

Other dimensions and colors are available on request

High Temperature Cables

B 118

Silicone insulated hook-up wire Uo/U 0.6/1kV

On request with UL recognition

nominal voltage Uo/U 0.6/1 kV

CE EAC RoHS

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	Besilen® EI2 acc. to EN 50363-1 + VDE 0207-363-1

Outstanding features:

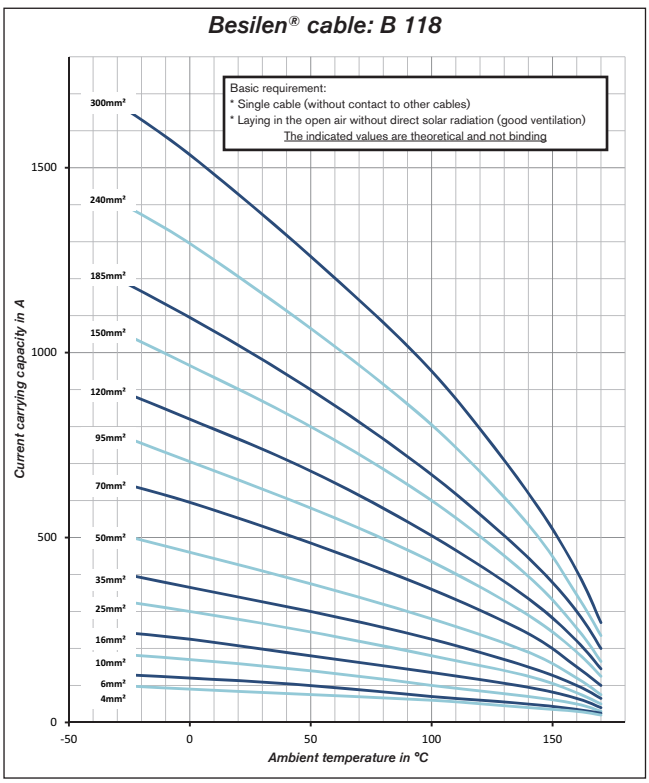
- **halogen-free**
- **flexible at low temperatures**
- **heat resistant**

Technical data:

Nominal voltage:	Uo/U 0.6/1 kV
Testing voltage:	2500 V
Current carrying capacity:	acc. to VDE 0298-4, see page O20 & O21
Min. bending radius:	7.5 x O.D.
Temperature range: *static:* *flexible:*	 -40/+180°C -25/+180°C
Halogen-free	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Weather resistance:	very good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	mm²	AWG		nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 118..50*	0.50	20	(≈ 16/32)	0.098	2.5	7
▶ 118..75*	0.75	19	(≈ 23/32)	0.110	2.8	9
▶ 118..80*	1.00	18	(≈ 30/32)	0.114	2.9	11
▶ 118..82*	1.50	16	(≈ 27-29/30)	0.126	3.2	13
▶ 118..84*	2.50	14	(≈ 46/30)	0.150	3.8	21
▶ 118..86*	4.00	12	(≈ 52/28)	0.181	4.6	32
▶ 118..87*	6.00	10	(≈ 78/28)	0.201	5.1	44
▶ 118..88*	10.00	8	(≈ 77/26)	0.264	6.7	76
▶ 118..89*	16.00	6	(≈ 122/26)	0.319	8.1	115
▶ 118..90*	25.00	4	(≈ 190/26)	0.390	9.9	176
▶ 118..91*	35.00	2	(≈ 272/26)	0.445	11.3	243
▶ 118..92*	50.00	1	(≈ 400/26)	0.508	12.9	354
▶ 118..93*	70.00	2/0	(≈ 543/26)	0.598	15.2	468
▶ 118..94*	95.00	3/0	(≈ 484/24)	0.697	17.7	637
▶ 118..95*	120.00	4/0	(≈ 589/24)	0.772	19.6	780
▶ 118..96*	150.00	250 MCM	(≈ 740/24)	0.846	21.5	976
▶ 118..97*	185.00	350 MCM	(≈ 902/24)	0.929	23.6	1193
▶ 118..98*	240.00	450 MCM	(≈ 1220/24)	1.075	27.3	1598
▶ 118..99*	300.00	550 MCM	(≈ 1525/24)	1.197	30.4	1991

Other dimensions and colors are available on request



Color code for single conductors:

01 = black	06 = green
02 = blue	07 = violet
03 = brown	08 = white
04 = gray	16 = gentian blue
05 = yellow	27 = green/yellow

B 119

Silicone insulated hook-up Uo/U 1.8/3kV

On request with UL recognition

nominal voltage Uo/U 1.8/3 kV

RoHS

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	Besilen® EI2 acc. to EN 50363-1 + VDE 0207-363-1

Outstanding features:

- **halogen-free**
- **flexible at low temperatures**
- **heat resistant**

Technical data:

Nominal voltage:	Uo/U 1.8/3 kV
Testing voltage:	6500 V
Current carrying capacity:	acc. to VDE 0298-4, see page O20 & O21
Min. bending radius:	7.5 x O.D.
Temperature range:	
static:	-40/+180°C
flexible:	-25/+180°C
Halogen-free	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Weather resistance:	very good
Approvals:	RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	mm²	AWG		nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 119..82*	1.50	16	(≈ 27-29/30)	0.165	4.2	19
▶ 119..84*	2.50	14	(≈ 46/30)	0.181	4.6	26
▶ 119..86*	4.00	12	(≈ 52/28)	0.205	5.2	36
▶ 119..87*	6.00	10	(≈ 78/28)	0.224	5.7	49
▶ 119..88*	10.00	8	(≈ 77/26)	0.287	7.3	82
▶ 119..89*	16.00	6	(≈ 122/26)	0.343	8.7	122
▶ 119..90*	25.00	4	(≈ 190/26)	0.421	10.7	187
▶ 119..91*	35.00	2	(≈ 272/26)	0.476	12.1	256
▶ 119..92*	50.00	1	(≈ 400/26)	0.524	13.3	357
▶ 119..93*	70.00	2/0	(≈ 543/26)	0.614	15.6	476
▶ 119..94*	95.00	3/0	(≈ 484/24)	0.728	18.5	657
▶ 119..95*	120.00	4/0	(≈ 589/24)	0.803	20.4	802
▶ 119..96*	150.00	250 MCM	(≈ 740/24)	0.862	21.9	989
▶ 119..97*	185.00	350 MCM	(≈ 902/24)	0.945	24.0	1201
▶ 119..98*	240.00	450 MCM	(≈ 1220/24)	1.091	27.7	1613
▶ 119..99*	300.00	550 MCM	(≈ 1525/24)	1.213	30.8	2008

Other dimensions and colors are available on request

Color code for single conductors:

01 = black	06 = green
02 = blue	07 = violet
03 = brown	08 = white
04 = gray	16 = gentian blue
05 = yellow	27 = green/yellow

B 120

Silicone insulated hook-up wire Uo/U 3.6/6kV

nominal voltage Uo/U 3.6/6 kV

RoHS

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	Besilen® EI2 acc. to EN 50363-1 + VDE 0207-363-1

Outstanding features:

- **halogen-free**
- **flexible at low temperatures**
- **heat resistant**

Technical data:

Nominal voltage:	Uo/U 3.6/6 kV
Testing voltage:	11 kV
Current carrying capacity:	acc. to VDE 0298-4, see page O20 & O21
Min. bending radius:	7.5 x O.D.
Temperature range:	
static:	-40/+180°C
flexible:	-25/+180°C
Halogen-free	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Weather resistance:	very good
Approvals:	RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	mm²	AWG		nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 120..82*	1.50	16	(≈ 27-29/30)	0.268	6.8	38
▶ 120..84*	2.50	14	(≈ 46/30)	0.283	7.2	46
▶ 120..86*	4.00	12	(≈ 52/28)	0.307	7.8	59
▶ 120..87*	6.00	10	(≈ 78/28)	0.327	8.3	74
▶ 120..88*	10.00	8	(≈ 77/26)	0.374	9.5	108
▶ 120..89*	16.00	6	(≈ 122/26)	0.429	10.9	151
▶ 120..90*	25.00	4	(≈ 190/26)	0.508	12.9	223
▶ 120..91*	35.00	2	(≈ 272/26)	0.563	14.3	296
▶ 120..92*	50.00	1	(≈ 400/26)	0.610	15.5	402
▶ 120..93*	70.00	2/0	(≈ 543/26)	0.701	17.8	527
▶ 120..94*	95.00	3/0	(≈ 484/24)	0.807	20.5	711
▶ 120..95*	120.00	4/0	(≈ 589/24)	0.882	22.4	860
▶ 120..96*	150.00	250 MCM	(≈ 740/24)	0.941	23.9	1052
▶ 120..97*	185.00	350 MCM	(≈ 902/24)	1.008	25.6	1334

Other dimensions and colors are available on request

**** Color code for single conductors:***

01 = black	06 = green
02 = blue	07 = violet
03 = brown	08 = white
04 = gray	16 = gentian blue
05 = yellow	27 = green/yellow

BiHF-J

Silicone insulated conductors with silicone outer jacket

also possible with extremely notch resistant jacket

CE EAC RoHS

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	Besilen® EI2 acc. to EN 50363-1 + VDE 0207-363-1
Color code:	colored acc. to HD 308 (VDE 0293-308), from 6 conductors- black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 from 3 conductors- a green/yellow ground
Stranding:	in layers
Jacket material:	Besilen® EM9 acc. to EN 50363-2-1 + VDE 0207-363-2-1
Jacket color:	reddish brown (similar RAL 3016)

Outstanding features:

- **halogen-free**
- **flexible at low temperatures**
- **heat resistant**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 2000 V
Min. bending radius: *fixed installation:* *free movement:*	 4 x O.D. 6 x O.D.
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range: *static:* *flexible:* *short-term use:*	 -40/+180°C -25/+180°C +250°C
Halogen-free	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Chemical resistance:	see page O/11
Weather resistance:	very good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **20 AWG (≈ 16/32) • 0.50 mm²**				
1410205	2	0.189	4.8	21
1410305	3	0.201	5.1	25
1410405	4	0.217	5.5	30
1410505	5	0.240	6.1	36
1410705	7	0.260	6.6	46
1411205	12	0.350	8.9	76
1411805	18	0.417	10.6	110
1412505	25	0.508	12.9	151
▶ **19 AWG (≈ 23/32) • 0.75 mm²**				
1410207	2	0.213	5.4	28
1410307	3	0.224	5.7	33
1410407	4	0.244	6.2	40
1410507	5	0.272	6.9	48
1410607	6	0.303	7.7	58
1410707	7	0.303	7.7	65
1411007	10	0.394	10.0	91
1411207	12	0.406	10.3	105
1411807	18	0.520	13.2	153
1412507	25	0.587	14.9	211
▶ **18 AWG (≈ 30/32) • 1.00 mm²**				
1410210	2	0.220	5.6	31
1410310	3	0.232	5.9	38
1410410	4	0.256	6.5	47
1410510	5	0.280	7.1	56
1410610	6	0.315	8.0	68
1410710	7	0.315	8.0	76
1410810	8	0.366	9.3	87
1411210	12	0.421	10.7	124
1411810	18	0.504	12.8	181
1412510	25	0.610	15.5	248

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **16 AWG (≈ 27-29/30) • 1.50 mm²**				
1410215	2	0.260	6.6	42
1410315	3	0.276	7.0	54
1410415	4	0.307	7.8	69
1410515	5	0.339	8.6	81
1410615	6	0.370	9.4	95
1410715	7	0.370	9.4	106
1410815	8	0.441	11.2	126
1411215	12	0.504	12.8	178
1411815	18	0.606	15.4	263
1412015	20	0.638	16.2	288
1412515	25	0.732	18.6	362
▶ **14 AWG (≈ 46/30) • 2.50 mm²**				
1410225	2	0.315	8.0	67
1410325	3	0.335	8.5	83
1410425	4	0.366	9.3	103
1410525	5	0.417	10.6	129
1410625	6	0.457	11.6	151
1410725	7	0.457	11.6	169
1410925	9	0.598	15.2	224
1411225	12	0.618	15.7	280
1412425	24	0.882	22.4	546
▶ **12 AWG (≈ 52/28) • 4.00 mm²**				
1410240	2	0.378	9.6	99
1410340	3	0.402	10.2	125
1410440	4	0.437	11.1	155
1410540	5	0.492	12.5	189
1410740	7	0.535	13.6	249

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **10 AWG (≈ 78/28) • 6.00 mm²**				
1410260	2	0.425	10.8	135
1410360	3	0.449	11.4	171
1410460	4	0.492	12.5	213
1410560	5	0.543	13.8	257
▶ **8 AWG (≈ 77/26) • 10.00 mm²**				
1410461	4	0.661	16.8	374
1410561	5	0.736	18.7	456
▶ **6 AWG (≈ 122/26) • 16.00 mm²**				
1410462	4	0.799	20.3	551
▶ **4 AWG (≈ 190/26) • 25.00 mm²**				
1410463	4	1.000	25.4	894
▶ **2 AWG (≈ 77/26) • 35.00 mm²**				
1410464	4	1.134	28.8	1209

Other dimensions and colors are available on request

BiHF(K)-J

Silicone insulated conductors with extremely notch resistant silicone outer jacket

EWKF

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	Besilen® EI2 acc. to EN 50363-1 + VDE 0207-363-1
Color code:	colored acc. to HD 308 (VDE 0293-308), from 6 conductors- black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 from 3 conductors- a green/yellow ground
Stranding:	in layers
Jacket material:	Besilen® notch resistant
Jacket color:	black (similar RAL 9011)

Outstanding features:

- **improved initial tear resistance**
- **improved tear-growth resistance**
- **extremely notch resistant**
- **good sunlight resistance**
- **halogen-free**
- **flexible at low temperatures**
- **heat resistant**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 2000 V
Min. bending radius: *fixed installation:* *free movement:*	 4 x O.D. 6 x O.D.
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range: *static:* *flexible:* *short-term use:*	 -40/+180°C -25/+180°C +250°C
Halogen-free	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Chemical resistance:	see page O/11
Weather resistance:	very good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **19 AWG (≈ 23/32) • 0.75 mm²**				
1450207	2	0.213	5.4	27
1450307	3	0.224	5.7	33
1450407	4	0.244	6.2	40
1450507	5	0.272	6.9	48
1450707	7	0.303	7.7	65
1451207	12	0.406	10.3	105
▶ **18 AWG (≈ 30/32) • 1.00 mm²**				
1450210	2	0.220	5.6	30
1450310	3	0.232	5.9	38
1450410	4	0.256	6.5	46
1450510	5	0.280	7.1	56
1450710	7	0.315	8.0	75
1451210	12	0.421	10.7	124

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **16 AWG (≈ 27-29/30) • 1.50 mm²**				
1450215	2	0.260	6.6	43
1450315	3	0.276	7.0	53
1450415	4	0.307	7.8	68
1450515	5	0.339	8.6	81
1450715	7	0.370	9.4	106
1451215	12	0.504	12.8	178
1451815	18	0.606	15.4	263
1452415	24	0.717	18.2	350
1452515	25	0.732	18.6	363
▶ **14 AWG (≈ 46/30) • 2.50 mm²**				
1450225	2	0.315	8.0	65
1450325	3	0.335	8.5	82
1450425	4	0.366	9.3	101
1450525	5	0.417	10.6	128
1450625	6	0.457	11.6	150
1450725	7	0.457	11.6	168

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **12 AWG (≈ 52/28) • 4.00 mm²**				
1450340	3	0.402	10.2	124
1450440	4	0.437	11.1	153
1450540	5	0.492	12.5	188
1450740	7	0.535	13.6	248
▶ **10 AWG (≈ 78/28) • 6.00 mm²**				
1450360	3	0.449	11.4	169
1450460	4	0.492	12.5	212
1450560	5	0.543	13.8	256

Other dimensions and colors are available on request

BiHFP-J

Silicone insulated conductors with silicone outer jacket and steel wire armoring for mechanical protection

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	Besilen® EI2 acc. to EN 50363-1 + VDE 0207-363-1
Color code:	colored acc. to HD 308 (VDE 0293-308), from 6 conductors- black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 from 3 conductors- a green/yellow ground
Stranding:	in layers
Jacket material:	Besilen® EM9 acc. to EN 50363-2-1 + VDE 0207-363-2-1
Jacket color:	reddish brown (similar RAL 3016)
Armor:	galvanized steel wire braiding

Outstanding features:

- **halogen-free**
- **flexible at low temperatures**
- **heat resistant**
- **protection against mechanical damage**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 2000 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range: *static:* *flexible:* *short-term use:*	 -40/+180°C -25/+180°C +250°C
Halogen-free	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Chemical resistance:	see page O/11
Weather resistance:	very good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **19 AWG (≈ 23/32) • 0.75 mm²**				
1430207	2	0.252	6.4	46
1430307	3	0.264	6.7	53
1430407	4	0.283	7.2	60
1430507	5	0.311	7.9	73
1430607	6	0.343	8.7	89
1430707	7	0.343	8.7	91
▶ **18 AWG (≈ 30/32) • 1.00 mm²**				
1430210	2	0.260	6.6	51
1430310	3	0.272	6.9	58
1430410	4	0.295	7.5	69
1430510	5	0.319	8.1	81
1430610	6	0.354	9.0	99
1430710	7	0.354	9.0	103

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **16 AWG (≈ 27-29/30) • 1.50 mm²**				
1430215	2	0.295	7.5	64
1430315	3	0.311	7.9	75
1430415	4	0.343	8.7	93
1430515	5	0.378	9.6	113
1430615	6	0.409	10.4	133
1430715	7	0.409	10.4	139
▶ **14 AWG (≈ 46/30) • 2.50 mm²**				
1430225	2	0.354	9.0	94
1430325	3	0.374	9.5	112
1430425	4	0.406	10.3	132
1430525	5	0.457	11.6	170
1430625	6	0.504	12.8	211
1430725	7	0.504	12.8	222

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **12 AWG (≈ 52/28) • 4.00 mm²**				
1430240	2	0.417	10.6	132
1430340	3	0.441	11.2	159
1430440	4	0.476	12.1	194
1430540	5	0.539	13.7	251
1430640	6	0.583	14.8	291
1430740	7	0.583	14.8	308
▶ **10 AWG (≈ 78/28) • 6.00 mm²**				
1430260	2	0.465	11.8	172
1430360	3	0.496	12.6	224
1430460	4	0.539	13.7	269
1430560	5	0.606	15.4	333

Other dimensions and colors are available on request

BiHF/Cu/Bi-J

Shielded silicone insulated conductors with silicone outer jacket

also possible with extremely notch resistant jacket

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	Besilen® EI2 acc. to EN 50363-1 + VDE 0207-363-1
Color code:	colored acc. to HD 308 (VDE 0293-308), from 6 conductors- black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 from 3 conductors- a green/yellow ground
Stranding:	in layers
Inner jacket:	Besilen® EM9 acc. to EN 50363-2-1 + VDE 0207-363-2-1
Shielding:	tinned copper braiding
Jacket material:	Besilen® EM9 acc. to EN 50363-2-1 + VDE 0207-363-2-1
Jacket color:	reddish brown (similar RAL 3016)

Outstanding features:

- **good EMC characteristics**
- **halogen-free**
- **flexible at low temperatures**
- **heat resistant**
- **increased mechanical protection**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 2000 V conductor/shielding: 2000 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range: *static:* *flexible:* *short-term use:*	 -40/+180°C -25/+180°C +250°C
Halogen-free	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Chemical resistance:	see page O/11
Weather resistance:	very good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **20 AWG (≈ 16/32) • 0.50 mm²**				
1900205	2	0.299	7.6	56
1900305	3	0.311	7.9	60
1900405	4	0.327	8.3	67
1900505	5	0.350	8.9	77
1900705	7	0.370	9.4	89
1901005	10	0.457	11.6	128
1901205	12	0.469	11.9	142
1901605	16	0.531	13.5	179
1901805	18	0.551	14.0	196
▶ **19 AWG (≈ 23/32) • 0.75 mm²**				
1900207	2	0.323	8.2	67
1900307	3	0.335	8.5	73
1900407	4	0.354	9.0	83
1900507	5	0.382	9.7	93
1900707	7	0.421	10.7	122
1901007	10	0.528	13.4	171
1901207	12	0.539	13.7	189
1901607	16	0.587	14.9	224
1901807	18	0.642	16.3	269

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **18 AWG (≈ 30/32) • 1.00 mm²**				
1900210	2	0.331	8.4	72
1900310	3	0.343	8.7	80
1900410	4	0.366	9.3	91
1900510	5	0.398	10.1	106
1900710	7	0.433	11.0	135
1901010	10	0.551	14.0	190
1901210	12	0.555	14.1	208
1901610	16	0.634	16.1	271
1901810	18	0.661	16.8	301
▶ **16 AWG (≈ 27-29/30) • 1.50 mm²**				
1900215	2	0.370	9.4	92
1900315	3	0.398	10.1	111
1900415	4	0.425	10.8	128
1900515	5	0.457	11.6	147
1900715	7	0.504	12.8	182
1901015	10	0.646	16.4	273
1901215	12	0.661	16.8	300
1901615	16	0.732	18.6	362
1901815	18	0.764	19.4	404

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **14 AWG (≈ 46/30) • 2.50 mm²**				
1900225	2	0.433	11.0	134
1900325	3	0.453	11.5	152
1900425	4	0.500	12.7	184
1900525	5	0.551	14.0	220
1900725	7	0.591	15.0	263

Other dimensions and colors are available on request

BiHF/Cu/Bi(K)-J

Shielded silicone insulated conductors with extremely notch resistant silicone outer jacket

EWKF

CE EAC RoHS

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	Besilen® EI2 acc. to EN 50363-1 + VDE 0207-363-1
Color code:	colored acc. to HD 308 (VDE 0293-308), from 6 conductors- black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 from 3 conductors- a green/yellow ground
Stranding:	in layers
Inner jacket:	Besilen® EM9 acc. to EN 50363-2-1 + VDE 0207-363-2-1
Shielding:	tinned copper braiding
Jacket material:	Besilen® notch resistant
Jacket color:	black (similar RAL 9011)

Outstanding features:

- **improved initial tear resistance**
- **improved tear-growth resistance**
- **extremely notch resistant**
- **good sunlight resistance**
- **good EMC characteristics**
- **halogen-free**
- **flexible at low temperatures**
- **heat resistant**
- **increased mechanical protection**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 2000 V conductor/shielding: 2000 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range: *static:* *flexible:* *short-term use:*	 -40/+180°C -25/+180°C +250°C
Halogen-free	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Chemical resistance:	see page O/11
Weather resistance:	very good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **19 AWG (≈ 23/32) • 0.75 mm²**				
1950207	2	0.323	8.2	67
1950307	3	0.335	8.5	73
1950407	4	0.354	9.0	83
1950507	5	0.382	9.7	94
1950707	7	0.421	10.7	124
1951207	12	0.539	13.7	191
▶ **18 AWG (≈ 30/32) • 1.00 mm²**				
1950210	2	0.331	8.4	73
1950310	3	0.343	8.7	81
1950410	4	0.366	9.3	92
1950510	5	0.398	10.1	107
1950710	7	0.433	11.0	136
1951210	12	0.555	14.1	211

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **16 AWG (≈ 27-29/30) • 1.50 mm²**				
1950215	2	0.370	9.4	93
1950315	3	0.394	10.0	112
1950415	4	0.425	10.8	130
1950515	5	0.457	11.6	148
1950715	7	0.504	12.8	184
1951215	12	0.661	16.8	304
1951815	18	0.764	19.4	410
1952415	24	0.882	22.4	528
1952515	25	0.898	22.8	550
▶ **14 AWG (≈ 46/30) • 2.50 mm²**				
1950225	2	0.433	11.0	135
1950325	3	0.453	11.5	153
1950425	4	0.500	12.7	185
1950525	5	0.543	13.8	215
1950625	6	0.591	15.0	249
1950725	7	0.591	15.0	267

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ **12 AWG (≈ 52/28) • 4.00 mm²**				
1950340	3	0.535	13.6	203
1950440	4	0.571	14.5	253
1950540	5	0.626	15.9	305
1950740	7	0.685	17.4	385
▶ **10 AWG (≈ 78/28) • 6.00 mm²**				
1950360	3	0.618	15.7	300
1950460	4	0.669	17.0	364
1950560	5	0.732	18.6	432

Other dimensions and colors are available on request

Possible on request without inner jacket

Besilen® ESD Control Cable

Silicone insulated conductors with anti-static silicone outer jacket for ESD protective components

electrostatic discharge

CE EAC RoHS

Marking for Besilen® ESD Control Cable 1730004:
SAB BRÖCKSKES · D-VIERSEN · ESD-Control Cable 2x4.0mm² 0173-0004 CE

Construction:

Conductor:	tinned copper strands, extra fine wires
Insulation:	Besilen®
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334
CAN-Bus element	
Color code:	acc. to DIN 47100
Screen:	tinned copper braiding
Stranding:	in layers
Jacket material:	special Besilen®
Jacket color:	black (similar RAL 9005)

Outstanding features:

- **high flexibility**
- **antistatic outer jacket**
- **ESD - electrostatic discharge**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 2000 V
CAN-Bus element	
Peak operating voltage:	max. 350 V
Testing voltage:	conductor/conductor: 1500 V conductor/shielding: 1200 V
Min. bending radius:	
fixed installation:	5 x O.D.
free movement:	10 x O.D.
Temperature range:	
static:	-40/+180 °C
flexing:	-25/+180 °C
Surface resistance:	1 x 10^4 - 1 x 10^9 Ω acc. to EN 50395 section 11
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	dimensions	nominal outer-ø inch	mm	cable weight ≈lbs/mft
1730002	30 x 1.00	0.717	18.2	321
1730003	26 x 1.00	0.661	16.8	266
1730004	2 x 4.00	0.417	10.6	97
1730005	3 x 4.00	0.441	11.2	126
1730006	4 x 1.00 + (2 x 0.50)C CB	0.480	12.2	112
1730007	6 x 0.50	0.283	7.2	4

Other dimensions and colors are available on request

S 180 HT

Continuous flex control cable with silicone outer jacket for cable tracks

+180°C

SABFlex

CE EAC RoHS

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	FEP
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 from 3 conductors- a green/yellow ground
Stranding:	specially adjusted layering with non-woven tape over each layer
Wrapping:	tape
Jacket material:	special Besilen®
Jacket color:	gray (similar RAL 7000)

Outstanding features:

- **extreme temperature resistance**
- **high notch resistance**
- **very good flexibility**

Technical data:

Nominal voltage:	Uo/U 0.6/1 kV
Testing voltage:	conductor/conductor: 4000 V
Min. bending radius: *continuously flexible:*	10 x O.D.
Temperature range: *static:* *flexing:* *short-term use:*	 -25/+180°C -25/+180°C +200°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Flexibility:	very good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	outer-ø ± 5% inch	outer-ø ± 5% mm	cable weight ≈lbs/mft
▶ **16 AWG (≈ 84/34) • 1.50 mm²**				
31800315	3	0.303	7.7	63
31800415	4	0.327	8.3	78
31800515	5	0.362	9.2	99
31800715	7	0.417	10.6	134
▶ **14 AWG (≈ 140/34) • 2.50 mm²**				
31800325	3	0.370	9.4	97
31800425	4	0.398	10.1	119
31800525	5	0.453	11.5	153
31800625	6	0.504	12.8	180
31800725	7	0.531	13.5	215
31801225	12	0.650	16.5	316
31802025	20	0.795	20.2	512

item no.	no. of conductors incl. ground	outer-ø ± 5% inch	outer-ø ± 5% mm	cable weight ≈lbs/mft
▶ **12 AWG (≈ 224/34) • 4.00 mm²**				
31800440	4	0.480	12.2	177
31800540	5	0.528	13.4	224
31800740	7	0.626	15.9	315
31801240	12	0.772	19.6	475
▶ **10 AWG (≈ 186/32) • 6.00 mm²**				
31800360	3	0.528	13.4	203
31800460	4	0.575	14.6	274
31800560	5	0.646	16.4	333
31800760	7	0.764	19.4	468
▶ **8 AWG (≈ 320/32) • 10.00 mm²**				
31800361	3	0.602	15.3	307
31800461	4	0.669	17.0	409
31800561	5	0.744	18.9	501

item no.	no. of conductors incl. ground	outer-ø ± 5% inch	outer-ø ± 5% mm	cable weight ≈lbs/mft
▶ **6 AWG (≈ 504/32) • 16.00 mm²**				
31800362	3	0.846	21.5	671
31800462	4	0.815	20.7	613
31800562	5	0.913	23.2	770
▶ **4 AWG (≈ 760/32) • 25.00 mm²**				
31800463	4	0.945	24.0	882
▶ **2 AWG (≈ 1083/32) • 35.00 mm²**				
31800164	1	0.508	12.9	288
31800464	4	1.110	28.2	1209
▶ **3/0 AWG (≈ 1340/28) • 95 mm²**				
31800167	1	0.831	21.1	750
▶ **250 MCM (≈ 2122/28) • 150 mm²**				
31800169	1	1.004	25.5	1172

Other dimensions and colors are available on request

Application:
for use in cable tracks with extremely high ambient temperatures
for example: steel industry

S 180 C HT

Continuous flex shielded control cable with silicone outer jacket for cable tracks

+180°C

SABFlex

CE EAC RoHS

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	FEP
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 from 3 conductors- a green/yellow ground
Stranding:	specially adjusted layering with non-woven tape over each layer
Wrapping:	tape
Shielding:	tinned copper braiding
Jacket material:	special Besilen®
Jacket color:	gray (similar RAL 7000)

Outstanding features:

- **very good EMC characteristics**
- **extreme temperature resistance**
- **high notch resistance**
- **very good flexibility**

Technical data:

Nominal voltage:	Uo/U 0.6/1 kV
Testing voltage:	conductor/conductor: 4000 V conductor/shielding: 4000 V
Min. bending radius: *continuously flexible:*	15 x O.D.
Temperature range: *static:* *flexing:* *short-term use:*	 -25/+180°C -25/+180°C +200°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Flexibility:	very good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	outer-ø ± 5% inch	outer-ø ± 5% mm	cable weight ≈lbs/mft
▶ **16 AWG (≈ 89/34) • 1.50 mm²**				
31850315	3	0.319	8.1	74
31850415	4	0.350	8.9	92
31850515	5	0.378	9.6	112
31850715	7	0.449	11.4	161
▶ **14 AWG (≈ 140/34) • 2.50 mm²**				
31850325	3	0.386	9.8	110
31850425	4	0.437	11.1	148
31850525	5	0.476	12.1	180
31850725	7	0.551	14.0	245
31852025	20	0.827	21.0	575

item no.	no. of conductors incl. ground	outer-ø ± 5% inch	outer-ø ± 5% mm	cable weight ≈lbs/mft
▶ **12 AWG (≈ 224/34) • 4.00 mm²**				
31850440	4	0.500	12.7	204
31850540	5	0.551	14.0	254
31850740	7	0.657	16.7	363
31851240	12	0.799	20.3	531
▶ **10 AWG (≈ 186/32) • 6.00 mm²**				
31850360	3	0.551	14.0	229
31850460	4	0.598	15.2	307
31850560	5	0.677	17.2	382
31850760	7	0.795	20.2	524
▶ **8 AWG (≈ 320/32) • 10.00 mm²**				
31850461	4	0.701	17.8	459
31850561	5	0.776	19.7	556

item no.	no. of conductors incl. ground	outer-ø ± 5% inch	outer-ø ± 5% mm	cable weight ≈lbs/mft
▶ **6 AWG (≈ 504/32) • 16.00 mm²**				
31850462	4	0.846	21.5	677
31850562	5	0.945	24.0	844
▶ **4 AWG (≈ 760/32) • 25.00 mm²**				
31850463	4	0.992	25.2	970
▶ **2 AWG (≈ 1083/32) • 35.00 mm²**				
31850464	4	1.142	29	1299
▶ **3/0 AWG (≈ 1340/28) • 95 mm²**				
31850167	1	0.878	22.3	825
▶ **250 MCM (≈ 2122/28) • 150 mm²**				
31850170	1	1.126	28.6	1512

Other dimensions and colors are available on request

Application:
for use in cable tracks with extremely high ambient temperatures
for example: steel industry

R 107

Silicone insulated copper rope

EN 45545-2 · Nominal voltage up to Uo/U 1.8/3 kV · SAB Rail

RoHS

Marking for R 107 61070890:
SAB BRÖCKSKES · D-VIERSEN · R 107 1.8/3 kV 25.0mm² 6107-0890

Application: For the use in rail vehicles, e. g. bogies and boxes.

Construction:

Conductor:	bare copper strands, extremely fine wires
Insulation:	Besilen® EI2 acc. to EN 50363-1 + VDE 0207-363-1
Color:	slate gray (RAL 7015)

Outstanding features:

- **extremely flexible**
- **fulfills fire protection requirements acc. to EN 45545-2 /**
  from 18 AWG to 8 AWG:
  R15 (EL1A) HL 1 / R16 (EL1B) HL 1-2
  from 6 AWG:
  R15 (EL1A) HL 1-2 / R16 (EL1B) HL 1-3
- **halogen-free**
- **heat resistant**
- **flexible at low temperatures**
- **flame retardant and self-extinguishing**
- **good ozone, UV, and weather resistance**

Technical data:

Nominal voltage:	Uo/U 1.8/3 kV
Testing voltage:	6500 V
Current carrying capacity:	acc. to VDE 0298-4, see page O20 & O21
Min. bending radius:	5 x O.D.
Temperature range: *static:* *flexible:* *short-term use:*	 -50/+180°C -25/+180°C +250°C
Halogen-free	acc. to EN 50306-1 + EN 50264-1 are fulfilled. Development of HCl is < 0.5% acc. to IEC 60754-1. pH-value is > 4.3 IEC 60754-2. Conductivity is < 10.0 µS/mm acc. to IEC 60754-2. Fluoric content < 0.1% acc. to IEC 60684-2.
Burning characteristics:	No flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 and EN 50305 + VDE 0260-305 section 9.1.2. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Toxicity:	acc. to EN 50305 + VDE 0260-305
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Weather resistance:	very good
Ozone resistance:	acc. to EN 50382-2 + VDE 0260-382-2
Oil resistance:	good
Approvals:	RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	mm²	AWG		nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 61070882	1.50	16	(≈ 84/34)	0.272	6.9	42
▶ 61070884	2.50	14	(≈ 140/34)	0.291	7.4	51
▶ 61070886	4.00	12	(≈ 224/34)	0.319	8.1	65
▶ 61070887	6.00	10	(≈ 186/32)	0.335	8.5	80
▶ 61070888	10.00	8	(≈ 32032)	0.394	10.0	116
▶ 61070889	16.00	6	(≈ 504/32)	0.406	10.3	149
▶ 61070890	25.00	4	(≈ 760/32)	0.476	12.1	220
▶ 61070891	35.00	2	(≈ 1083/32)	0.543	13.8	292
▶ 61070892	50.00	1	(≈ 703/28)	0.618	15.7	397
▶ 61070893	70.00	2/0	(≈ 988/28)	0.697	17.7	529
▶ 61070894	95.00	3/0	(≈ 1340/28)	0.756	19.2	699
▶ 61070895	120.00	4/0	(≈ 1680/28)	0.883	20.9	861
▶ 61070896	150.00	250 MCM	(≈ 2122/28)	0.949	24.1	1067
▶ 61070897	185.00	350 MCM	(≈ 1472/26)	0.996	25.3	1285
▶ 61070898	240.00	450 MCM		1.173	29.8	1664
▶ 61070899	300.00	550 MCM		1.248	31.7	2079

Other dimensions and colors are available on request

On request with tinned copper strands.

Also available with copper braiding as R108.

B 108

Shielded silicone insulated specially stranded copper rope with copper braid

Nominal voltage up to Uo/U 1.8/3 kV

SAB Rail

RoHS

Marking for B 108 1081000:
SAB BRÖCKSKES · D-VIERSEN · B 108 Uo/U 1.8/3 kV 10.0mm²

Construction:

Conductor:	bare copper strands, extra fine wires
Shielding:	bare copper braiding
Insulation:	Besilen® EI2 acc. to EN 50363-1 + VDE 0207-363-1
Color:	translucent

Outstanding features:

- **extremely flexible**
- **halogen-free**
- **heat resistant**
- **flexible at low temperatures**
- **flame retardant and self-extinguishing**
- **weather resistant**
- **dimensionally stable construction**

Technical data:

Nominal voltage:	12 - 10 AWG: Uo/U 1.5/1.5 kV from 8 AWG: Uo/U 1.8/3 kV
Testing voltage:	12 - 10 AWG: 4000 V from 8 AWG: 6500 V
Current carrying capacity:	acc. to VDE 0298-4, see page O20 & O21
Min. bending radius:	5 x O.D.
Temperature range: *static:* *flexible:* *short-term use:*	 -40/+180°C -25/+180°C +250°C
Halogen-free	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Weather resistance:	very good
Approvals:	RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	mm²	AWG		nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 1080400	4.00	12	(≈ 224/34)	0.224	5.7	44
▶ 1080600	6.00	10	(≈ 186/32)	0.240	6.1	58
▶ 1081000	10.00	8	(≈ 32032)	0.370	9.4	110
▶ 1081600	16.00	6	(≈ 504/32)	0.382	9.7	143
▶ 1082500	25.00	4	(≈ 760/32)	0.496	12.6	236
▶ 1083500	35.00	2	(≈ 1083/32)	0.567	14.4	314
▶ 1085000	50.00	1	(≈ 703/28)	0.642	16.3	419
▶ 1087000	70.00	2/0	(≈ 988/28)	0.728	18.5	572
▶ 1089500	95.00	3/0	(≈ 1340/28)	0.772	19.6	734
▶ 1081200	120.00	4/0	(≈ 1680/28)	0.839	21.3	897
▶ 1081500	150.00	250 MCM	(≈ 2122/28)	0.965	24.5	1120

Other dimensions and colors are available on request

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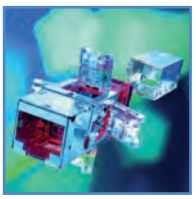
Applications





Application for Industrial ETHERNET cables

Industrial Ethernet is a quickly developing network technology. Ethernet with the worldwide accepted **TCP/IP** (**T**ransmission **C**ontrol **P**rotocol/**I**nternet **P**rotocol) will be the future connection to the well established field bus or sensor / actuator level. Generally, the following transmission rates are divided into:

SHARED ETHERNET = 10 Mbit/s

FAST ETHERNET = 100 Mbit/s (CAT 5 requirements)

GIGABIT ETHERNET = 1000 Mbit/s (1 Gbit/s)

SAB BRÖCKSKES developed a variety of cable solutions due to the strong innovative forces of the automation industry. Depending on the application, we are able to offer CAT 5, CAT 6 and CAT 7 cable solutions for flexible and continuous flex use, for chemical and thermal stress as well as special cable constructions for reeling and robotic applications.

Application for USB 2.0 and USB 3.0 Cables

SAB USB 2.0 and USB 3.0 cables were developed for high frequency data transmission for industrial applications because intelligent image processing systems are very important. They are the key to more efficiency, precision and productivity with the installation and treatment by robots for the most stringent applications. Whether for the identification of parts and components, for visual inspection, welded seam control or for the collection of bar codes or type tests; a quick and reliable collection and transmission of data from the camera to the industrial PC are absolutely important. Our highly flexible robot cable USB 2.0 and USB 3.0 was especially developed for this application. It guarantees excellent transmission characteristics as it is demanded for intelligent image processing under extreme industrial application conditions. The use of PC compatible components make possible the recourse to established standards and simplifies further treatment in electronic data processing systems.

Applications for INTERBUS-S cables · remote bus cables · remote installation bus cables

Interbus has been developed for sensor/actuator communication for automation technology. This technically matured system has been standardized in the meantime acc. to IEC 61158 and 61784. For the main application fields, different cable types are defined: remote bus cable, installation remote bus cable, S-line and loop.

Applications for Interbus-Loop cables

The two-conductor Interbus-Loop cable is to be applied as a data transmission cable as well as for the supply of sensors.
The three-conductor Interbus-Loop cable is applied for supply of actuators. These cables are also suitable for Interbus-Loop 2.

Applications for CAN-bus cables

Cables for a **C**ontroller **A**rea **N**etwork have been standardized for different application fields. The most common can require high speed in acc. to ISO 11898-2. The bus is optimized for a band efficient digital information exchange on the controller level.

Applications for DeviceNet™ cables

Based on CAN structures, DeviceNet™ was developed for the industrial process automation on the North American continent. This system is divided into Trunk and Drop cable.

Applications

Applications for Profibus cables

PROFIBUS systems are especially made for process automation (PA). PROFIBUS is standardized acc. to IEC 61158 that means the best interoperability of components from different manufacturers. The modular peripheral construction (DP: decentralized periphery) of the bus system simplifies installation and maintenance. The PROFIBUS type A is generally used in current systems, while cables of PROFIBUS type B are only used for replacement purpose in already existing systems.

“Fast Connect” cable construction

These cables have a symmetric construction. This enables the use of special stripping tools that make for quicker field installation.

Applications for SafetyBUS p cables

SafetyBUS is an open bus system that has been especially optimized for the transmission of data with regard to machine safety: the consistency of data with regard to time and contents have the highest priority. SafetyBUS fulfills a variety of standards to guarantee the protection of humans and goods during production.

Applications for Hybrid field bus cables

S 670 and S 671 are flexible UL recognized, CSA approval hybrid field bus control cables, suitable for cable continuous flexing with optical fiber and copper conductors. The cable S 670 with its polyurethane outer jacket has a very good resistance against acids, alkalines, solvents hydraulic liquids and oil.

Applications for Profinet / Profibus cable assemblies

Profinet cable assemblies are for the wiring of Profinet field bus systems in industrial environments. This cable type is for example used in cable track applications with rough environmental conditions, in automation, machine and plant construction. The PUR jacket is resistant against harsh environmental conditions. Profibus cable assemblies are for the field bus wiring in automation technique. Profibus signals are transmitted by these bus cables with different cable and plug combinations. The PUR cable for cable track applications is resistant against rough environmental conditions in industrial applications. On request we are able to manufacture cable assemblies acc. to UL Wiring Harnesses ZPFW2 and ZPFW8 from the cable to the assembly. In the manufacturer’s database (www.ul.com) SAB is listed under file no. E473226 as a qualified and reliable manufacturer.


CERTIFICATE OF COMPLIANCE

Certificate Number 20150123-E473226
Report Reference E473226-20150123
Issue Date 2015-JANUARY-23

Issued to: SAB BROECKSKES GMBH & CO KG
GREFRATHERSTRASSE 204-2128
POSTFACH 12 01 80
41748 VIERSEN GERMANY

This is to certify that representative samples of COMPONENT - WIRING HARNESSES
General Coverage

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: Wiring Harnesses, Subject 764, and CSA Informs Wiring Harnesses No. 1

Additional Information: See the UL Online Certifications Directory at www.ul.com/database for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's Certification and Follow-Up Service.

Recognized components are incomplete in certain constructional features or restricted in performance capabilities and are intended for use as components of complete equipment submitted for investigation rather than for direct separate installation in the field. The final acceptance of the component is dependent upon its installation and use in complete equipment submitted to UL LLC.

Look for the UL Certification Mark on the product.

Selection Table

	Cable Type	J/14 PN 654 UL	J/14 PN 661	J/14 S PN 668	J/15 S PN 667	J/15 S PN 669	J/16 PN 678	J/16 PN 679	J/16 S PN 681	J/17 DR PN 689 P Highflex	J/17 S PN 668 Hybrid	J/17 RT PN 668	J/18 PN 675	J/18 S PN 676	J/19 CATLine CAT 6 S CATLine CAT 6A S	J/19 CATLine CAT 6 RT CATLine CAT 6A RT	J/20 CATLine CAT 6A HT	J/21 CATLine CAT 5e DR CATLine CAT 6A DR CATLine CAT7A DR	J/22 CATLine CAT 7A S	J/22 CATLine CAT 7A RT
		Industrial Ethernet Cables																		
Basic construction	Shielded	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Inner jacket	●	●	●	●	●				●	●									
	Optical waveguide POF																			
Temperature range fixed installation*	+180°C																			
	+ 90°C																			
	+ 85°C																			
	+ 80°C																			
	+ 75°C																			
	+ 70°C																			
	- 30°C																			
	- 40°C																			
	- 50°C																			
	- 90°C																			
Voltage	Nominal voltage 300/500 V																			
	Peak operating voltage max. 30V																			
	Peak operating voltage max. 50V																			
	Peak operating voltage max. 90V														●	●	●	●	●	●
	Peak operating voltage max. 350V	●	●	●	●	●	●	●	●	●	●	●	●	●						
	Voltage UL 30 V																			
	Voltage UL resp. CSA 300 V	●	●	●	●	●					●			●	●	●			●	●
	Voltage UL resp. CSA 600 V												●				●			
	Testing Voltage 600 V																			
	Testing Voltage 750 V																	●		
	Testing Voltage 1000 V																			
	Testing voltage 1500 V						●	●	●		●		●	●						
	Testing voltage 2000 V	●	●	●	●	●											●		●	●
	Testing voltage 3000 V																			
Standards and approvals	Halogen-free acc. to IEC 60754-1 + VDE 0482-754-1		●	●	●	●		●	●	●	●	●			●	●		●	●	●
	Halogen-free for rail types																			
	Burning characteristics acc. to IEC + VDE											●			●	●	●		●	●
	Fire performance: no flame propagation acc. to IEC 60332-3-24 + IEC 60332-3-25 CAT C resp. D																			
	Fire performance: UL Horizontal Flame Test FT2														●	●			●	●
	Fire performance: UL VW1																●			
	Corrosiveness of conflagration gases																			
	Smoke density acc. to IEC 61034 + VDE 0482-1034																			
	Toxicity acc. to EN 50305 + VDE 0260-305																			
	UL recognized	●	●	●		●					●		●	●	●	●	●		●	●
	CSA approved													●	●	●			●	●
	ABS approved																			
	Rail type acc. to EN 45545-2																			
Characteristics	Oil resistance acc. to internal standard	●		●									●							
	Oil resistance acc. to VDE				●	●	●	●	●	●	●	●		●	●	●		●	●	●
	Oil resistance acc. to EN				●	●		●	●	●	●	●			●	●		●	●	●
	Chemical resistance																A			
	Weather resistance																	A		
	Suitable for cable tracks			●	●	●			●		●			●	●				●	
	Torsion angle											2				2				2
	Flexibility														A	A			A	A

from
to

A = very good
B = good
C = medium

1 = up to ± 360°/m
2 = up to ± 180°/m

*The temperature range for flexible application is mentioned on the corresponding catalogue page

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Selection Table

		J/23	J/24	J/25	J/26	J/27	J/27	J/27	J/28	J/29	J/29	J/29	J/30	J/30	J/30	J/31	J/32	J/32	J/32	J/33
	Cable Type	CATLine CAT 5e, 6A, & 7A R	CATLine CAT 5e, 6A, & 7A R Flex	CATLine CAT 5e, 6A, 7A BL	SABclean CATLine CAT 5e, 6A, 7A S	CATLine SPE C- Track	CATLine SPE Robot	CATLine SPE HT	CATLine SPE Rugged	USB 2.0	USB 2.0 UL	USB 2.0 FRNC	USB 2.0 S	USB 2.0 S UL/CSA	USB 2.0 RT UL/CSA	SABIX USB 2.0 flex	USB 3.0 S	USB 3.0 RT	USB 3.0	USB 3.0 M
		Industrial Ethernet Cables								USB 2.0 Cables							USB 3.0 Cables			
Basic construction	Shielded	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Inner jacket																			
	Optical waveguide POF																			
Temperature range fixed installation*	+180°C																			
	+ 90°C																			
	+ 85°C																			
	+ 80°C																			
	+ 75°C																			
	+ 70°C																			
	- 30°C																			
	- 40°C																			
	- 50°C																			
	- 90°C																			
Voltage	Nominal voltage 300/500 V																			
	Peak operating voltage max. 30V															●				
	Peak operating voltage max. 50V																			●
	Peak operating voltage max. 90V	●	●	●	●	●	●	●	●											
	Peak operating voltage max. 350V									●	●	●	●	●	●		●	●	●	
	Voltage UL 300 V				●															
	Voltage UL resp. CSA 300 V			●		●	●				●			●	●		●	●	●	
	Voltage UL resp. CSA 600 V							●												●
	Testing Voltage 600 V									●						●				
	Testing Voltage 750 V																			
	Testing Voltage 1000 V																			
	Testing voltage 1500 V	●	●									●								
	Testing voltage 2000 V				●	●	●	●	●		●									
	Testing voltage 3000 V																			
Standards and approvals	Halogen-free acc. to IEC 60754-1 + VDE 0482-754-1					●	●					●	●	●						
	Halogen-free for rail types	●	●																	
	Burning characteristics acc. to IEC + VDE	●	●	●								●				●	●	●	●	
	Fire performance: no flame propagation acc.to IEC 60332-3-24 + IEC 60332-3-25 CAT C resp. D																			
	Fire performance: UL Horizontal Flame Test FT2				●															
	Fire performance: UL VW1																			
	Corrosiveness of conflagration gases			●																
	Smoke density acc. to IEC 61034 + VDE 0482-1034	●	●	●												●				
	Toxicity acc. to EN 50305 + VDE 0260-305	●	●													●				
	UL recognized			●	●	●	●	●			●			●	●		●	●	●	
	CSA approved													●	●					
	ABS approved			●																
	Rail type acc. to EN 45545-2	●	●													●				
Characteristics	Oil resistance acc. to internal standard									●	●									
	Oil resistance acc. to VDE					●	●	●					●	●	●					
	Oil resistance acc. to EN					●	●	●	●				●	●	●			●	●	
	Oil resistance acc. to UL				●															
	Weather resistance																			
	Suitable for cable tracks				●	●								●			●			
	Torsion angle						2								2			1		
	Flexibility	B	B	B																

from
to

A = very good
B = good
C = medium

1 = up to ± 360°/m
2 = up to ± 180°/m

*The temperature range for flexible application is mentioned on the corresponding catalogue page

Selection Table

	Cable Type	J/34 & 35 IBS 612	J/34 & 35 IBS 617	J/34 & 35 S IBS 618	J/34 & 35 S IBS 616	J/36 SABIX IBS 610	J/36 SABIX IBS 610 FRNC	J/37 SABIX IBL 600 FRNC	J/37 IBL 600	J/37 SABIX IBL 600	J/37 S IBL 605	J/38 S CB 626	J/38 S CB 625	J/38 SABIX CB 620	J/38 SABIX CB 620 FRNC	J/39 CB 627	J/39 S CB 628
		Interbus-S Cables						Interbus-Loop Cables				CAN-BUS Cables					
Basic construction	Shielded	●	●	●		●	●					●	●	●	●	●	●
	Inner jacket																
	Optical waveguide POF																
Temperature range fixed installation*	+180°C																
	+ 90°C																
	+ 85°C																
	+ 80°C																
	+ 75°C																
	+ 70°C																
	- 30°C																
	- 40°C																
	- 50°C																
	- 90°C																
Voltage	Nominal voltage 300/500 V																
	Peak operating voltage max. 30V																
	Peak operating voltage max. 50V																
	Peak operating voltage max. 90V																
	Peak operating voltage max. 350V	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Voltage UL 30 V																
	Voltage UL resp. CSA 300 V		●	●												●	●
	Voltage UL resp. CSA 600 V																
	Testing Voltage 600 V																
	Testing Voltage 750 V																
	Testing Voltage 1000 V	●		●	●	●									●		
	Testing voltage 1500 V						●	●	●	●	●	●	●	●	●		
	Testing voltage 2000 V															●	●
	Testing voltage 3000 V																
Standards and approvals	Halogen-free acc. to IEC 60754-1 + VDE 0482-754-1			●	●	●	●	●		●	●		●	●	●		●
	Halogen-free for rail types																
	Burning characteristics acc. to IEC + VDE	●	●	●			●		●							●	●
	Fire performance: no flame propagation acc.to IEC 60332-3-24 + IEC 60332-3-25 CAT C resp. D						●	●							●		
	Fire performance: UL Horizontal Flame Test FT2																
	Fire performance: UL VW1																
	Corrosiveness of conflagration gases					●	●	●		●				●	●		
	Smoke density acc. to IEC 61034 + VDE 0482-1034						●	●							●		
	Toxicity acc. to EN 50305 + VDE 0260-305																
	UL recognized		●	●												●	●
	CSA approved																
	ABS approved																
	Rail type acc. to EN 45545-2																
Characteristics	Oil resistance acc. to internal standard	●															
	Oil resistance acc. to VDE		●	●	●				●		●	●	●			●	●
	Oil resistance acc. to EN			●	●	●				●	●	●	●				●
	Chemical resistance										B	B	B				B
	Weather resistance	C	C	A	A	B	B	B	C	B	A	A	A			C	A
	Suitable for cable tracks			●	●						●	●	●				●
	Torsion angle																
	Flexibility	B	B	A	A	A	B	B		A	A	A	A	B	B	B	A

from
to

A = very good
B = good
C = medium

1 = up to ± 360°/m
2 = up to ± 180°/m

*The temperature range for flexible application is mentioned on the corresponding catalogue page

Selection Table

	Cable Type	J/40 DN 651	J/40 DN 650	J/41 DN 656	J/41 DN 657	J/42 DN 659	J/42 DN 658	J/43 DN 658 robot cable/Drop	J/44 SABIX PB 630	J/44 SABIX PB 630 FRNC	J/44 PB 631	J/44 PB 633	J/45 PB 630	J/45 PB 639	J/45 PB 636	J/45 PB 635	J/46 PB 637	J/46 S PB 634	J/46 PB 632
		DeviceNet Cables							Profibus-DP Cables										
Basic construction	Shielded	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Inner jacket																		
	Optical waveguide POF																		
Temperature range fixed installation*	+180°C																		
	+ 90°C																		
	+ 85°C																		
	+ 80°C																		
	+ 75°C																		
	+ 70°C																		
	- 30°C																		
	- 40°C																		
	- 50°C																		
	- 90°C																		
Voltage	Nominal voltage 300/500 V																		
	Peak operating voltage max. 30V																		
	Peak operating voltage max. 50V																		
	Peak operating voltage max. 90V																		
	Peak operating voltage max. 350V	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Voltage UL 30 V	●	●			●	●										●		
	Voltage UL resp. CSA 300 V			●				●											
	Voltage UL resp. CSA 600 V																		
	Testing Voltage 600 V																		
	Testing Voltage 750 V																		
	Testing Voltage 1000 V																		
	Testing voltage 1500 V	●	●		●				●	●	●	●	●	●	●	●	●	●	●
	Testing voltage 2000 V			●		●	●	●											
	Testing voltage 3000 V																		
Standards and approvals	Halogen-free acc. to IEC 60754-1 + VDE 0482-754-1								●	●	●								
	Halogen-free for rail types																		
	Burning characteristics acc. to IEC + VDE									●			●	●	●	●	●		●
	Fire performance: no flame propagation acc.to IEC 60332-3-24 + IEC 60332-3-25 CAT C resp. D									●									
	Fire performance: UL Horizontal Flame Test FT2																		
	Fire performance: UL VW1																		
	Corrosiveness of conflagration gases								●	●	●	●							
	Smoke density acc. to IEC 61034 + VDE 0482-1034																		
	Toxicity acc. to EN 50305 + VDE 0260-305																		
	UL recognized	●	●	●		●	●	●									●		
	CSA approved																		
	ABS approved																		
	Rail type acc. to EN 45545-2																		
Characteristics	Oil resistance acc. to internal standard												●						●
	Oil resistance acc. to VDE																	●	
	Oil resistance acc. to EN								●									●	
	Chemical resistance																		
	Weather resistance								B	B	B	B	C	B	B	B	A	A	C
	Suitable for cable tracks																		
	Torsion angle							2											
	Flexibility																		

from / to

A = very good
B = good
C = medium

1 = up to ± 360°/m
2 = up to ± 180°/m

*The temperature range for flexible application is mentioned on the corresponding catalogue page

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Selection Table

	Cable Type	J/47 PB 640	J/47 PB 640 UL	J/47 S PB 640	J/47 PB 640 UL	J/48 PB 642	J/48 S PB 644	J/49 SBP 680	J/49 S SBP 684 Move	J/50 S 670	J/50 S 671
		Profibus-DP Cables				Profibus		SafetyBus p		Hybrid Field Bus	
Basic construction	Shielded	●	●	●	●	●	●		●		
	Inner jacket	●	●	●	●						
	Optical waveguide POF									●	●
Temperature range fixed installation*	+180°C										
	+ 90°C										
	+ 85°C										
	+ 80°C										
	+ 75°C										
	+ 70°C										
	- 30°C										
	- 40°C										
	- 50°C										
	- 90°C										
Voltage	Nominal voltage 300/500 V									●	●
	Peak operating voltage max. 30V										
	Peak operating voltage max. 50V										
	Peak operating voltage max. 90V										
	Peak operating voltage max. 350V	●	●	●	●	●	●	●	●		
	Voltage UL 30 V				●						
	Voltage UL resp. CSA 300 V		●								
	Voltage UL resp. CSA 600 V									●	●
	Testing Voltage 600 V										
	Testing Voltage 750 V										
	Testing Voltage 1000 V										
	Testing voltage 1500 V	●	●	●	●	●	●				
	Testing voltage 2000 V										
	Testing voltage 3000 V									●	●
Standards and approvals	Halogen-free acc. to IEC 60754-1 + VDE 0482-754-1							●	●		
	Halogen-free for rail types										
	Burning characteristics acc. to IEC + VDE	●	●	●	●					●	●
	Fire performance: no flame propagation acc.to IEC 60332-3-24 + IEC 60332-3-25 CAT C resp. D										
	Fire performance: UL Horizontal Flame Test FT2										
	Fire performance: UL VW1										
	Corrosiveness of conflagration gases										
	Smoke density acc. to IEC 61034 + VDE 0482-1034										
	Toxicity acc. to EN 50305 + VDE 0260-305										
	UL recognized									●	●
	CSA approved									●	●
	ABS approved										
	Rail type acc. to EN 45545-2										
Characteristics	Oil resistance acc. to internal standard	●	●			●					●
	Oil resistance acc. to VDE			●	●		●	●	●	●	
	Oil resistance acc. to EN			●	●		●	●	●	●	
	Chemical resistance										
	Weather resistance					C	A				
	Suitable for cable tracks			●	●		●		●		
	Torsion angle										
	Flexibility								A		

from
to

A = very good
B = good
C = medium

1 = up to ± 360°/m
2 = up to ± 180°/m

*The temperature range for flexible application is mentioned on the corresponding catalogue page

SPECIAL CABLES SAB North America
www.sabcable.com
866-722-2974 ■ info@sabcable.com

Industrial Ethernet Cables

PN 654 UL PVC Profinet type A, for fixed installation with UL recognition
PN 661 Halogen-free Profinet type B, for flexible applications with UL recognition
S PN 668 PUR Profinet type C, continuous flex, suitable for cable tracks

Marking for PN 661 6612202:
SAB BRÖCKSKES · D-VIERSEN · S PN 661 Profinet CAT 5 Type B 2x2x22AWG AWM Style 21080 80° 300V

"Fast Connect" construction

Construction:	PN 654 UL Profinet type A *fixed installation*	PN 661 Profinet type B *flexible*	S PN 668 Profinet type C *continuous flex*
Item numbers:	6549002	6612202	6682202
Dimensions:	2 x 2 x 22 AWG	2 x 2 x 22 AWG	2 x 2 x 22 AWG
Conductor:	bare copper wire	bare copper strands, fine wires with reference to VDE 0812	tinned copper strands, extra fine wires
Insulation:	SABIX®	PE, L/MD acc. to EN 50290-2-23	PE
Color code:	blue, yellow, white, orange	blue, yellow, white, orange	blue, yellow, white, orange
Stranding:	star quad	star quad	in layers
Wrapping:	PETP foil	PETP foil	PETP foil
Inner jacket:	PVC	thermoplastic material	thermoplastic material
Wrapping:	alu foil	alu foil	alu foil
Shielding:	tinned copper braiding	tinned copper braiding	tinned copper braiding
Wrapping:	---	non-woven tape	non-woven tape
Jacket material:	PVC	SABIX®	PUR
Jacket color:	green (similar RAL 6018)	green (similar RAL 6018)	green (similar RAL 6018)

Technical data:	PN 654 UL Profinet type A *fixed installation*	PN 661 Profinet type B *flexible*	S PN 668 Profinet type C *continuous flex*
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V
Voltage UL:	300 V	300 V	—
Testing voltage: conductor/conductor: conductor/shielding:	 2000 V 2000 V	 2000 V 2000 V	 1500 V 1200 V
Min. bending radius: fixed installation: free movement: continuous flex:	 5 x O.D. — —	 5 x O.D. 12 x O.D. —	 5 x O.D. 12 x O.D. 15 x O.D.
Temperature range VDE: static: flexible:	**UL:** up to +80°C -30/+70°C -5/+70°C	**UL:** up to +75°C -40/+70°C -30/+70 °C	 -40/+70°C -30/+70°C
Halogen-free:	---	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1
Oil resistance:	acc. to internal standard see page O/29	---	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Characteristic impedance:	100Ω ± 5Ω, accomplishes the electrical and transmission requirements with high frequency acc. to EN 50288-2-2 + VDE 0819-2-2 (CAT 5 acc. to EN 50173-1)		
UL Style:	2464	21080	—
Application:	suitable for EtherCAT and EtherNET/IP applications		
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30		

item no.	type	dimensions AWG	max. cond.-ø mm	outer-ø inch ±5%	outer-ø mm ±5%	cable weight ≈lbs/mft	ohmic resistance at 20°C acc. to VDE 0812 max. Ω/km
▶ 6549002	PN 654 UL	22/4c	1.55	0.256	6.5	44	54.1
▶ 6612202	PN 661	22 (≈ 7/30)/4c	1.55	0.260	6.6	47	55.4
▶ 6682202	S PN 668	22 (≈ 19/34)/4c	1.55	0.252	6.4	39	58.0

Other dimensions and colors are available on request

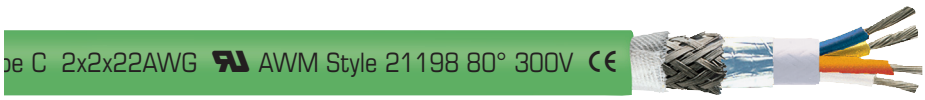
Also possible as a cable assembly with M12 or RJ 45 plug

CABLE ASSEMBLY POSSIBLE

Industrial Ethernet Cables

S PN 667 PUR Profinet type C, continuous flex with UL recognition and CSA approval

S PN 669 PUR Profinet type C, continuous flex suitable for cable tracks with UL recognition



Marking for S PN 669 6692202:
SAB BRÖCKSKES · D-VIERSEN · S PN 669 Profinet CAT 5 Type C 2x2x22AWG AWM Style 21198 80° 300V

Construction:	S PN 667 Profinet type C *continuous flex*	S PN 669 Profinet type C *continuous flex*
Item numbers:	6672202 / 6679001	6692202
Dimensions:	2 x 2 x 22 AWG	2 x 2 x 22 AWG
Conductor:	tinned copper strands, 7 wires or 19 wires	tinned copper strands, extra fine wires
Insulation:	special polymer	PE
Color code:	blue, yellow, white, orange	blue, yellow, white, orange
Stranding:	in layers	in layers
Wrapping:	PETP foil	PETP foil
Inner jacket:	thermoplastic material	thermoplastic material
Wrapping:	alu foil	alu foil
Shielding:	tinned copper braiding	tinned copper braiding
Wrapping:	non-woven tape	non-woven tape
Jacket material:	PUR	PUR
Jacket color:	green (similar RAL 6018)	green (similar RAL 6018)

Technical data:	PN 667 Profinet type C *continuous flex*	S PN 669 Profinet type C *continuous flex*
Peak operating voltage:	max. 350 V	max. 350 V
Voltage:	**UL/CSA:** 300 V	**UL:** 300 V
Testing voltage: conductor/conductor: conductor/shielding:	 2000 V 2000 V	 2000 V 2000 V
Min. bending radius: fixed installation: free movement: continuous flex:	 5 x O.D. 10 x O.D. 15 x O.D.	 5 x O.D. 10 x O.D. 15 x O.D.
Temperature range VDE: static: flexible:	**UL/CSA:** up to +80°C -40/+70°C -40/+70°C	**UL:** up to +80°C -30/+70°C -20/+70 °C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1
Oil resistance:	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2	
Characteristic impedance:	100Ω ± 5Ω, accomplishes the electrical and transmission requirements with high frequency acc. to EN 50288-2-2 + VDE 0819-2-2 (CAT 5 acc. to EN 50173-1)	
UL Style:	21198	21198
Application:	suitable for EtherCAT and EtherNET/IP applications	—
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30	

item no.	type	dimensions AWG	max. cond.-ø mm	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft	ohmic resistance at 20°C acc. to VDE 0812 max. Ω/km
▶ 6672202	S PN 667	22 (≈ 7/30)/4c	1.55	0.256	6.5	40	58.8
▶ 6692202	S PN 669	22 (≈ 19/34)/4c	1.55	0.272	6.9	46	58.0
For extreme bending stress - conductor construction 19 wires:							
▶ 6679001	S PN 667	22 (≈ 19/34)/4c	1.55	0.256	6.5	39	58.8

Other dimensions and colors are available on request

short assembling time by "Fast Connect" construction (7 wires)

Also possible as a cable assembly with M12 or RJ 45 plug

CABLE ASSEMBLY POSSIBLE

SPECIAL CABLES SAB North America
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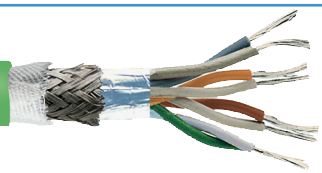
866-722-2974 ■ info@sabcable.com

Industrial Ethernet Cables

PN 678 PVC Ethernet cable type A for fixed installation, twisted pairs
PN 679 PVC Ethernet cable type B for flexible applications, twisted pairs
S PN 681 PUR paired Ethernet cable type C for continuous flex suitable for cable tracks

D-VIERSEN · S PN 681 CAT 5 Typ C 4x2x26AWG CE



Marking for S PN 681 6812604:
SAB BRÖCKSKES · D-VIERSEN · S PN 681 CAT 5 Type C 4x2x26AWG CE

Construction:	PN 678 Ethernet cable type A *fixed installation*	PN 679 Ethernet cable type B *flexible*	S PN 681 Ethernet cable type C *continuous flex*
Item numbers:	6782604	6792604	6812604
Dimensions:	4 x 2 x 26 AWG	4 x 2 x 26 AWG	4 x 2 x 26 AWG
Conductor:	tinned copper wire	tinned copper strands, fine wires with reference to VDE 0812	tinned copper strands, extra fine wires
Insulation:	PE, L/MD acc. to EN 50290-2-23	PE, L/MD acc. to EN 50290-2-23	SABIX®
Color code:	white conductors with numbers 1-4 + (blue, orange, green, brown)	white conductors with numbers 1-4 + (blue, orange, green, brown)	white conductors with numbers 1-4 + (blue, orange, green, brown)
Stranding:	twisted to pairs & paired together	twisted to pairs & paired together	twisted to pairs & paired together
Wrapping:	alu foil	PETP foil + alu foil	non-woven tapes + alu foil
Shielding	tinned copper braiding	tinned copper braiding	tinned copper braiding
Wrapping:	---	non-woven tape	non-woven tape
Jacket material:	PVC	PUR	PUR
Jacket color:	green (similar RAL 6018)	green (similar RAL 6018)	green (similar RAL 6018)

Technical data:	PN 678 Ethernet cable type A *fixed installation*	PN 679 Ethernet cable type B *flexible*	S PN 681 Ethernet cable type C *continuous flex*
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V
Testing voltage: conductor/conductor: conductor/shielding:	 1500 V 1200 V	 1500 V 1200 V	 1500 V 1200 V
Min. bending radius fixed installation: free movement: continuous flex:	 5 x O.D. — —	 5 x O.D. 10 x O.D. —	 5 x O.D. 10 x O.D. 12 x O.D.
Temperature range VDE: static: flexible:	 -30/+70°C -5/+70°C	 -40/+70°C -40/+70 °C	 -40/+90°C -30/+90°C
Halogen-free:	---	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1
Oil resistance:	acc. to internal standard see page O/29	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Characteristic impedance:	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency acc. to EN 50288-2-2 + VDE 0819-2-2 (CAT 5 acc. to EN 50173-1)		
Application:	suitable for EtherCAT and EtherNET/IP applications		
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30		

item no.	type	dimensions AWG	max. cond.-ø mm	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft	ohmic resistance at 20°C acc. to VDE 0812 max. Ω/km
▶ 6782604	PN 678	26/4pr	1.10	0.244	6.2	33	150
▶ 6792604	PN 679	26 (≈ 7/34)/4pr	1.05	0.272	6.9	38	148
▶ 6812604	S PN 681	26 (≈ 19/38)/4pr	1.10	0.283	7.2	39	145

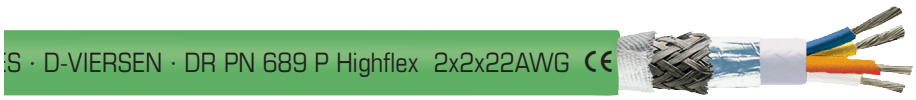
Other dimensions and colors are available on request

Also possible as a cable assembly with M12 or RJ 45 plug

CABLE ASSEMBLY POSSIBLE

Industrial Ethernet Cables

DR PN 689 P Highflex PUR Reeling Profinet cable/ CAT 5 cable
S PN 668 PUR Hybrid cable continuous flex suitable for cable tracks with UL recognition
RT PN 668 PUR Profinet cable suitable for robots



Marking for DR PN 689 P Highflex 6892202:
SAB BRÖCKSKES · D-VIERSEN · DR PN 689 P Highflex 2x2x22AWG CE

Construction:	DR PN 689 P Highflex *reeling Profinet cable*	DR PN 689 P Highflex *reeling CAT 5 cable*	S PN 668 Hybrid *Hybrid cable type C continuous flex*	RT PN 668 *Profinet cable suitable for robots*
Item numbers:	6892202	6899001	6689010	6689001
Dimensions:	2 x 2 x 22 AWG	4 x 2 x 26 AWG	2 x 2 x 22 AWG + 4 x 16 AWG	2 x 2 x 22 AWG
Conductor:	tinned copper strands, fine wires	tinned copper strands, fine wires	22 AWG: tinned copper strands, extra fine wires 16 AWG: bare copper strands acc. to IEC 60228, VDE 0295, class 6	tinned copper strands, extra fine wires
Insulation:	SABIX®	SABIX®	22 AWG: SABIX® 16 AWG: TPE	special polymer
Color code:	blue, yellow, white, orange	blue, orange, green, brown + 4 white conductors with consecutive numbers	22 AWG: blue, yellow, white, orange 16 AWG: black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334	blue, yellow, white, orange
Stranding:	in layers	twisted to pairs and pairs together	22 AWG: in layers/ together in layers	in layers
Wrapping:	PETP foil	PETP foil	22 AWG: PETP foil	tape
Inner jacket:	SABIX®	SABIX®	22 AWG: SABIX®	—
Wrapping:	alu foil	alu foil	22 AWG: alu foil	alu foil
Shielding:	tinned copper braiding	tinned copper braiding	—	tinned copper braiding
Wrapping:	non-woven tape	non-woven tape	22 AWG: non-woven tape	non-woven tape
Wrapping:	—	—	overall non-woven tape	—
Jacket material:	PUR/supporting braid/PUR	PUR/supporting braid/PUR	PUR	PUR
Jacket color:	green (similar RAL 6018)	black (similar RAL 9005)	green (similar RAL 6018)	green (similar RAL 6018)

Technical data:	DR PN 689 P Highflex *reeling Profinet cable*	DR PN 689 P Highflex *reeling CAT 5 cable*	S PN 668 Hybrid *Hybrid cable type C continuous flex*	RT PN 668 *Profinet cable suitable for robots*
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V	max. 350 V
Voltage UL:	—	—	300 V	—
Testing voltage: conductor/conductor: conductor/shielding:	1500 V 1200 V	1500 V 1200 V	2000 V 2000 V	1500 V 1200 V
Min. bending radius:	for laying and installation (fixed installation): 5 x O.D. for repeated winding action (flexible): 10 x O.D. guided on deflection pulleys (flexible): 12 x O.D.		fixed installation: 5 x O.D. flexible: 10 x O.D. continuous flex: 12 x O.D.	flexible: 10 x O.D. torsion angle: ± 360°/m
Temperature range VDE: static: flexible:	-40/+90°C -30/+90°C	-40/+90°C -30/+90°C	**UL:** up to +80°C -40/+90°C -30/+90°C	-40/+70°C -30/+70°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1
Oil resistance:	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2		TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2	
Characteristic impedance:	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency acc. to EN 50288-2-2 + VDE 0819-2-2 (CAT 5 acc. to EN 50173-1)			
UL Style:	—	—	20233	—
Application:	suitable for EtherCAT and EtherNET/IP applications			
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30			

item no.	type	jacket color	dimensions AWG	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft	ohmic resistance at 20°C acc. to VDE 0812 max. Ω/km
▶ 6892202	DR PN 689 P Highflex	green (similar RAL 6018)	22 (≈ 19/34)/2pr	0.323	8.2	56	58.8
▶ 6899001	DR PN 689 P Highflex	black (similar RAL 9005)	26 (≈ 19/38)/4pr	0.343	8.7	57	139
▶ 6689010	S PN 668 Hybrid	green (similar RAL 6018)	22 (≈ 19/34)/2pr + 16 (≈ 84/34)/4c	0.394	10.0	106	58.0 / 13.3
▶ 6689001	RT PN 668	green (similar RAL 6018)	22 (≈ 19/34)/2pr	0.276	7.0	42	58.0

Other dimensions and colors are available on request

Industrial Ethernet Cables CAT 5 & 5e

PN 675 PVC Ethernet cable type B, for flexible applications, PLTC 600 V, CAT 5e

S PN 676 PUR Ethernet cable type C, continuous flex, CAT 5

Marking for PN 675 6752202:
SAB NORTH AMERICA 6752202 2/P 22 AWG SHIELDED INDUSTRIAL ETHERNET CAT5E (UL) TYPE CMR c(UL) TYPE CMG 75C or (UL) PLTC SUN RES OIL RES I OR (UL) AWM STYLE 2570 80C 600V -- RoHS

Construction:

	PN 675 type B *flexible*		S PN 676 type C *continuous flex*
Item numbers:	6752202	6752204	6762404
Dimensions:	2 x 2 x 22 AWG	4 x 2 x 22 AWG	4 x 2 x 24 AWG
Conductor:	tinned copper strands, fine wires	tinned copper strands, fine wires	tinned copper strands, extra fine wires
Insulation:	Polyolefin	PFA/PP	SABIX®
Color code:	orange & white/orange stripe green & white/green stripe	blue & white/blue stripe orange & white/orange stripe green & white/green stripe brown & white/brown stripe	white conductors with numbers 1 - 4 + (blue, orange, green, brown)
Stranding:	in layers	in layers	twisted pairs
Wrapping:	—	—	non-woven tapes + alu foil
Shielding:	aluminum foil/polyester tape + 24 AWG (7/32) tinned copper drain wire		tinned copper braiding
Wrapping:	—	—	non-woven tape
Jacket material:	PVC	PVC	PUR
Jacket color:	teal	teal	green (similar RAL 6018)

Technical data:

	PN 675 type B *flexible*		S PN 676 type C *continuous flex*
Approvals:	c(UL) CMG 75C, (UL) PLTC, (UL) AWM 2570 600V 80°C		UL, CSA
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V
Voltage:	**UL:** 600 V	**UL:** 600 V	**UL/CSA:** 300 V
Testing voltage: conductor/conductor: conductor/shielding:	 1500 V 1200 V	 1500 V 1200 V	 1500 V 1200 V
Min. bending radius: fixed installation: free movement: continuous flex:	 5 x O.D. 10 x O.D. —	 5 x O.D. 10 x O.D. —	 5 x O.D. 10 x O.D. 12 x O.D.
Temperature range VDE: static: flexible:	**UL:** up to +80°C -40/+80°C -25/+80°C	**UL:** up to +80°C -40/+80°C -25/+80°C	**UL/CSA:** up to +80°C -40/+90°C -30/+90°C
Halogen-free:	—	—	acc. to DIN VDE 0472 part 815 IEC 60754-1
Oil resistance:	oil resistance I	oil resistance I	TMPU acc. to DIN VDE 0282 part 10 + HD 22.10
UV resistance:	yes	yes	—
Characteristic impedance:	100Ω ± 15Ω (0.722-100.0 MHz)	100Ω ± 15Ω (0.722-100.0 MHz)	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency acc. to EN 50288-2-2 (CAT 5 acc. to EN 50173-1)
Transmission performance:	1 - 250 MHz	1 - 250 MHz	—
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30		

item no.	type	jacket color	dimensions AWG	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft	ohmic resistance at 20°C acc. to VDE 0812 max. Ω/km
▶ 6752202	PN 675	teal	22 (≈ 7/30)/2pr	0.310	7.9	45	—
▶ 6752204	PN 675	teal	22 (≈ 7/30)/4pr	0.330	8.4	59	—
▶ 6762404	S PN 676	green (similar RAL 6018)	24 (≈ 19/36)/4pr	0.327	8.3	53	145

Other dimensions and colors are available on request

Also possible as a cable assembly with M12 or RJ 45 plug — CABLE ASSEMBLY POSSIBLE

Industrial Ethernet Cables CAT 6 & 6A

CATLine CAT 6 S / CAT 6A S — Gigabit Ethernet cable suitable for cable tracks

CATLine CAT 6 RT / CAT 6A RT — Gigabit Ethernet cable suitable for cable tracks, suitable for robots

Marking for CATLine CAT 6 S 16774630:
SAB BRÖCKSKES · D-VIERSEN · CATLine Cat.6 S 4x2x26AWG 1677-4630 AWM Style 20549 80°C 300V CSA AWM I/II A/B 80°C 300V FT2

Construction:	CATLine CAT 6 S *suitable for cable tracks*	CATLine CAT 6A S *suitable for cable tracks*	CATLine CAT 6 RT *suitable for cable tracks/ suitable for robots*	CATLine CAT 6A RT *suitable for cable tracks/ suitable for robots*
Item numbers:	16774630	16774631	16874630	16874631
Dimensions:	4 x 2 x 26 AWG	4 x 2 x 26 AWG	4 x 2 x 26 AWG	4 x 2 x 26 AWG
Conductor:	bare copper strands, fine wires	bare copper strands, fine wires	bare copper strands, fine wires	bare copper strands, fine wires
Insulation:	special polymer	special polymer	special polymer	special polymer
Color code:	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown		white-blue/blue, white-orange/orange, white-green/green, white-brown/brown	
Stranding:	conductors twisted to pairs, pairs together		conductors twisted to pairs, pairs together	
Wrapping:	non-woven tape	non-woven tape	non-woven tape	non-woven tape
Shielding:	alu foil	alu foil	alu foil	alu foil
Shielding:	tinned copper braiding	tinned copper braiding	tinned copper braiding	tinned copper braiding
Wrapping:	non-woven tape	non-woven tape	non-woven tape	non-woven tape
Jacket material:	PUR	PUR	PUR	PUR
Jacket color:	green (similar RAL 6018)	green (similar RAL 6018)	green (similar RAL 6018)	green (similar RAL 6018)

Technical data:	CATLine CAT 6 S *suitable for cable tracks*	CATLine CAT 6A S *suitable for cable tracks*	CATLine CAT 6 RT *suitable for cable tracks/ suitable for robots*	CATLine CAT 6A RT *suitable for cable tracks/ suitable for robots*
Peak operating voltage:	max. 90 V	max. 90 V	max. 90 V	max. 90 V
Voltage UL/CSA:	300 V	300 V	300 V	300 V
Testing voltage: conductor/conductor: conductor/shielding:	 2000 V 2000 V	 2000 V 2000 V	 2000 V 2000 V	 2000 V 2000 V
Min. bending radius: fixed installation free movement: continuous flex:	 5 x O.D. 10 x O.D. 15 x O.D.	 5 x O.D. 10 x O.D. 15 x O.D.	 5 x O.D. 10 x O.D. 15 x O.D.	 5 x O.D. 10 x O.D. 15 x O.D.
Torsion:	—	—	up to ± 180°/m	up to ± 180°/m
Temperature range VDE: static: flexible:	**UL:** up to +80°C -40/+70°C -40/+70°C	**UL:** up to +80°C -40/+70°C -40/+70°C	**UL:** up to +80°C -40/+70°C -40/+70°C	**UL:** up to +80°C -40/+70°C -40/+70°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2; UL Horizontal Flame Test FT2			
Oil resistance:	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2		TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2	
Characteristic impedance (100 MHz): accomplishes the electrical and transmission requirements with high frequency	100Ω ± 10Ω, with reference to EN 50288-5-2 / CAT 6	100Ω ± 10Ω, with reference to EN 50288-10-2 / CAT 6A	100Ω ± 10Ω, with reference to EN 50288-5-2 / CAT 6	100Ω ± 10Ω, with reference to EN 50288-10-2 / CAT 6A
Flexibility:	very good	very good	very good	very good
UL Style:	20549	20549	20549	20549
Application:	suitable for EtherCAT and EtherNET/IP applications			
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30			

item no.	type	dimensions AWG	max. cond.-ø mm	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 16774630	CATLine CAT 6 S	26 (≈ 7/34)/4pr	1.05	0.280	7.1	38
▶ 16774631	CATLine CAT 6A S	26 (≈ 7/34)/4pr	1.05	0.280	7.1	38
▶ 16874630	CATLine CAT 6 RT	26 (≈ 7/34)/4pr	1.05	0.280	7.1	38
▶ 16874631	CATLine CAT 6A RT	26 (≈ 7/34)/4pr	1.05	0.280	7.1	38

Other dimensions and colors are available on request

+90°C on request

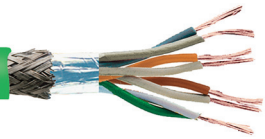
Also possible as a cable assembly with M12 or RJ 45 plug — CABLE ASSEMBLY POSSIBLE

SPECIAL CABLES SAB North America
www.sabcable.com
866-722-2974 ■ info@sabcable.com

CATLine CAT 6A HT

Gigabit Ethernet cable – high temperature resistant

26AWG 1631-4631 AWM Style 21618 150°C 600V CE



Marking for CATLine CAT 6A HT 16314631:
SAB BRÖCKSKES · D-VIERSEN · CATLine Cat.6A HT 4x2x26AWG 16314631 AWM Style 21618 150°C 600V CE

Construction:

Conductor:	bare copper strands, fine wires
Insulation:	FEP
Color code:	white/blue, white/orange, white/green, white/brown
Stranding:	twisted to pairs
Wrapping:	PETP foil
Shielding:	alu. foil + tinned copper braiding
Jacket material:	FEP
Jacket color:	green (similar RAL 6018)

Outstanding features:

- **high temperature resistant**
- **low temperature resistant**
- **flame retardant and self-extinguishing**
- **oil and chemical resistant**
- **UL recognized**

Technical data:

Peak operating voltage:	max. 90 V
Voltage UL:	600 V
Testing voltage:	conductor/conductor: 2000 V conductor/shielding: 2000 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Temperature range: *static:* *flexible:*	**UL:** up to +150°C -90/+180°C -55/+180°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1
Oil resistance:	very good
Chemical resistance:	very good against acids, halogens, bases, chlorinated solvents as well as organic and inorganic compounds
Character impedance:	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-10-2 (CAT 6A)
Approvals:	UL AWM Style 21618, CE, EAC, RoHS
Application:	suitable for EtherCAT and EtherNET/IP applications
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	type	dimensions AWG	max. cond.-ø mm	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 16314631	CATLine CAT 6A HT	26 (≈ 7/34)/4pr	1.05	0.224	5.7	35

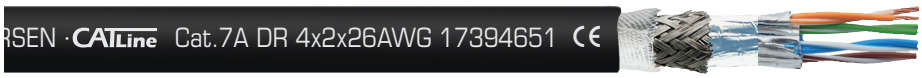
Other dimensions and colors are available on request

Also possible as a cable assembly with M12 or RJ 45 plug

CABLE ASSEMBLY POSSIBLE

Industrial Ethernet Cables CAT 5e, 6A & 7A

CATLine CAT 5e DR CAT 5e reeling industrial Ethernet cable
CATLine CAT 6A DR CAT 6A reeling gigabit Ethernet cable
CATLine CAT 7A DR CAT 7A reeling gigabit Ethernet cable



Marking for CATLine CAT 7A DR 17394651:
SAB BRÖCKSKES · D-VIERSEN · CATLine Cat.7A DR 4x2x26AWG 17394651 CE

Construction:	CATLine CAT 5e DR *reeling Ethernet cable*	CATLine CAT 6A DR *reeling Ethernet cable*	CATLine CAT 7A DR *reeling Ethernet cable*
Item numbers:	15394651	16394651	17394651
Dimensions:	4 x 2 x 26 AWG	4 x 2 x 26 AWG	4 x 2 x 26 AWG
Conductor:	bare copper strands, fine wires	bare copper strands, fine wires	bare copper strands, fine wires
Insulation:	special polymer	special polymer	special polymer
Color code:	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Stranding:	conductors twisted to pairs, pairs together	conductors twisted to pairs, pairs together	conductors twisted to pairs, pairs shielded with foil, pairs together
Wrapping:	non-woven tape	non-woven tape	—
Shielding:	alu foil	alu foil	aluminized non-woven tape
Shielding:	tinned copper braiding	tinned copper braiding	tinned copper braiding
Wrapping:	non-woven tape	non-woven tape	non-woven tape
Jacket material:	PUR / supporting braid/ PUR	PUR / supporting braid/ PUR	PUR / supporting braid/ PUR
Jacket color:	black (RAL 9005)	black (RAL 9005)	black (RAL 9005)

Technical data:	CATLine CAT 5e DR *reeling Ethernet cable*	CATLine CAT 6A DR *reeling Ethernet cable*	CATLine CAT 7A DR *reeling Ethernet cable*
Peak operating voltage:	max. 90 V	max. 90 V	max. 90 V
Testing voltage: conductor/conductor: conductor/shielding:	 750 V 750 V	 750 V 750 V	 750 V 750 V
Min. bending radius fixed laying and installation (fixed installation): for repeated winding action (flexible application): guided on pulleys (flexible application):	 5 x O.D. 10 x O.D. 12 x O.D.	 5 x O.D. 10 x O.D. 12 x O.D.	 5 x O.D. 10 x O.D. 12 x O.D.
Temperature range VDE: static: flexible:	 -50/+90°C -40/+90°C	 -50/+90°C -40/+90°C	 -50/+90°C -40/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1
Oil resistance:	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Characteristic impedance (100 MHz):	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-2-2 / CAT 5	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-10-2 / CAT 6A	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-9-2 / CAT 7A
Weather resistance:	very good	very good	very good
Application:	suitable for EtherCAT and EtherNET/IP applications		
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30		

item no.	type	dimensions AWG	max. cond.-ø mm	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft	tensile strength max. N
▶ 15394651	CATLine CAT 5e DR	26 (≈ 7/34)/4pr	1.05	0.335	8.5	53	200
▶ 16394651	CATLine CAT 6A DR	26 (≈ 7/34)/4pr	1.05	0.335	8.5	54	200
▶ 17394651	CATLine CAT 7A DR	26 (≈ 7/34)/4pr	1.05	0.413	10.5	79	200

Other dimensions and colors are available on request

Also possible as a cable assembly with M12 or RJ 45 plug

CABLE ASSEMBLY POSSIBLE

Industrial Ethernet Cables CAT 7A

CATLine CAT 7A S Gigabit Ethernet cable suitable for cable tracks

CATLine CAT 7A RT Gigabit Ethernet cable suitable for suitable for robots

Marking for CATLine CAT 7A S 17774631:
SAB BRÖCKSKES · D-VIERSEN · CATLine Cat.7A S 4x2x26AWG 17774631 AWM Style 20549 80°C 300V CSA AWM I/II A/B 80°C 300V FT2

Construction:	CATLine CAT 7A S *suitable for cable tracks*	CATLine CAT 7A RT *suitable for robots*
Item numbers:	17774631 / 17774431	17874631 / 17874431
Dimensions:	4 x 2 x 26 AWG / 4 x 2 x 24 AWG	4 x 2 x 26 AWG / 4 x 2 x 24 AWG
Conductors:	bare copper strands, fine wires	bare copper strands, fine wires
Insulation:	special polymer	special polymer
Color code:	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Stranding:	conductors twisted to pairs, pairs shielded with foil, pairs together	conductors twisted to pairs, pairs shielded with foil, pairs together
Shielding:	aluminized non-woven tape	aluminized non-woven tape
Shielding:	tinned copper braiding	tinned copper braiding
Wrapping:	non-woven tape	non-woven tape
Jacket material:	PUR	PUR
Jacket color:	green (similar RAL 6018)	green (similar RAL 6018)

Technical data:	CATLine CAT 7A S *suitable for cable tracks*	CATLine CAT 7A RT *suitable for robots*
Peak operating voltage:	max. 90 V	max. 90V
Voltage UL/CSA:	300 V	300 V
Testing voltage: conductor/conductor: conductor/shielding:	 2000 V 2000 V	 2000 V 2000 V
Min. bending radius: fixed installation: free movement: continuous flex:	 5 x O.D. 10 x O.D. 15 x O.D.	 5 x O.D. 10 x O.D. —
Torsion angle:	—	up to ± 180°/m
Temperature range VDE: static: flexible:	**UL/CSA:** up to +80°C -40/+70°C -40/+70°C	**UL/CSA:** up to +80°C -40/+70°C -40/+70°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 UL Horizontal Flame Test FT2	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 UL Horizontal Flame Test FT2
Oil resistance:	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Characteristic impedance (100 MHz):	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-9-2 + VDE 0819-9-2 / CAT 7A	
Flexibility:	very good	very good
UL Style:	20549	20549
Application:	suitable for EtherCAT and EtherNET/IP applications	
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30	

item no.	type	dimensions AWG	max. cond.-ø mm	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 17774631	CATLine CAT 7A S	26 (≈ 7/34)/4pr	1.50	0.355	8.5	54
▶ 17774431	CATLine CAT 7A S	24 (≈ 7/34)/4pr	1.60	0.409	10.4	68
▶ 17874631	CATLine CAT 7A RT	26 (≈ 7/34)/4pr	1.50	0.350	8.9	56
▶ 17874431	CATLine CAT 7A RT	24 (≈ 7/34)/4pr	1.60	0.366	9.3	66

Other dimensions and colors are available on request

+90°C on request

Also possible as a cable assembly with M12 or RJ 45 plug

CABLE ASSEMBLY POSSIBLE

SPECIAL CABLES SAB North America
www.sabcable.com
866-722-2974 ■ info@sabcable.com

Ethernet Cables for Railway

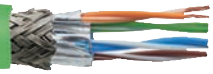
CATLine CAT 5e R
CATLine CAT 6A R
CATLine CAT 7A R

Halogen-free industrial Ethernet cables for railway technology

EN 45545-2 · UN / ECE R118 · SAB Rail

CE EAC RoHS

D-VIERSEN · CATLine Cat.7A R 4x2x24AWG 1767-4621 CE



Marking for CATLine CAT 7A R 17674621:
SAB BRÖCKSKES · D-VIERSEN · CATLine Cat.7A R 4x2x24AWG 17674621 CE

Construction:	CATLine CAT 5e R *flexible*		CATLine CAT 6A R *flexible*	CATLine CAT 7A R *flexible*
Item numbers:	15672625 15679002 15679004	15674421	16674621	17674621
Dimensions:	2 x 2 x 26 AWG 2 x 2 x 24 AWG 2 x 2 x 22 AWG	4 x 2 x 22 AWG	4 x 2 x 26 AWG	4 x 2 x 26 AWG
Conductor:	bare copper strands, fine wires		bare copper strands, fine wires	bare copper strands, fine wires
Insulation:	PE	PE	PE	PE
Color code:	blue, yellow, white, orange	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown		white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Stranding:	star quad	conductors twisted to pairs, pairs together		twisted to pairs with alu foil, pairs together
Wrapping:	foil	foil	foil	—
Shielding:	alu foil + tinned copper braiding		alu foil + tinned copper braiding	tinned copper braiding
Jacket material:	special SABIX®	special SABIX®	special SABIX®	special SABIX®
Jacket color:	green (similar RAL 6018)		green (similar RAL 6018)	green (similar RAL 6018)

Technical data:	CATLine CAT 5e R *flexible*	CATLine CAT 6A R *flexible*	CATLine CAT 7A R *flexible*
Peak operating voltage:	max. 90 V	max. 90 V	max. 90 V
Testing voltage: conductor/conductor: conductor/shielding:	 750 V 750 V	 750 V 750 V	 750 V 750 V
Min. bending radius: fixed installation: free movement:	 5 x O.D. 12 x O.D.	 5 x O.D. 12 x O.D.	 5 x O.D. 12 x O.D.
Temperature range VDE: static: flexible:	 -40/+70°C -30/+70°C	 -40/+70°C -30/+70°C	 -40/+70°C -30/+70°C
Low smoke halogen-free (LSHF):	acc. to EN 50306-1 + EN 50264-1; Development of HCl is ≤ 0.5% acc. to IEC 60754-1; pH-value is ≥ 4.3 acc. to IEC 60754-2; Conductivity is ≤ 10.0 µS/mm acc. to IEC 60754-2; Fluoric content ≤ 0.1% acc. to IEC 60684-2		
Burning characteristics:	no flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 and EN 50305 + VDE 0260-305 section 9.1.2. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2. Flame retardant acc. to ISO 6722 (UN/ECE R118)		
Smoke density:	acc. to IEC 61034 + VDE 0482-1034	acc. to IEC 61034 + VDE 0482-1034	acc. to IEC 61034 + VDE 0482-1034
Toxicity:	acc. to EN 50305 + VDE 0260-305	acc. to EN 50305 + VDE 0260-305	acc. to EN 50305 + VDE 0260-305
Characteristic impedance:	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-2-2 / CAT 5	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-10-2 / CAT 6A	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-9-2 / CAT 7A
Flexibility:	good	good	good
Application:	suitable for EtherCAT and EtherNET/IP applications		
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30		

item no.	type	dimensions AWG	max. cond.-ø mm	nominal outer-ø inch ± 5%	nominal outer-ø mm ± 5%	cable weight ≈lbs/mft
▶ 15672625	CATLine CAT 5e R	26 (≈ 18/38)/2pr	1.05	0.157	4.0	17
▶ 15679002	CATLine CAT 5e R	24 (≈ 14/34)/2pr	1.30	0.205	5.2	28
▶ 15679004	CATLine CAT 5e R	22 (≈ 7/30)/2pr	1.60	0.232	5.9	35
▶ 15674421	CATLine CAT 5e R	24 (≈ 14/34)/4pr	1.30	0.315	8.0	47
▶ 16674621	CATLine CAT 6A R	26 (≈ 18/38)/4pr	1.05	0.268	6.8	37
▶ 17674621	CATLine CAT 7A R	26 (≈ 18/38)/4pr	1.60	0.307	7.8	50

Other dimensions and colors are available on request

Fulfills fire protection requirements R15 (EL1A) acc. to EN 45545-2 for hazard levels HL1-3

Also possible as a cable assembly with M12 or RJ 45 plug

CABLE ASSEMBLY POSSIBLE

Ethernet Cables for Railway

CATLine CAT 5e R flex
CATLine CAT 6A R flex
CATLine CAT 7A R flex

Halogen-free continuous flex industrial Ethernet cables for railway technology

EN 45545-2 · UN / ECE R118 · SAB Rail

CE EAC RoHS

Marking for CATLine CAT 7A R flex 17694431:
SAB BRÖCKSKES · D-VIERSEN · CATLine Cat.7A R flex 4x2x24AWG 17694431 CE

Construction:	CATLine CAT 5e R flex *continuous flex*		CATLine CAT 6A R flex *continuous flex*	CATLine CAT 7A R flex *continuous flex*
Item numbers:	15692435 15692235	15694431 15694631	16694431 16694631	17694431 17694631
Dimensions:	2 x 2 x 24 AWG 2 x 2 x 22 AWG	4 x 2 x 26 AWG 4 x 2 x 24 AWG	4 x 2 x 24 AWG 4 x 2 x 26 AWG	4 x 2 x 24 AWG 4 x 2 x 26 AWG
Conductor:	bare copper strands, fine wires		bare copper strands, fine wires	bare copper strands, fine wires
Insulation:	special SABIX®		special SABIX®	special SABIX®
Color code:	blue, yellow, white, orange	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown		white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Stranding:	star quad	conductors twisted to pairs, pairs together		twisted to pairs with alu foil, pairs together
Wrapping:	foil		foil	—
Shielding:	alu foil + tinned copper braiding		alu foil + tinned copper braiding	tinned copper braiding
Jacket material:	special SABIX®		special SABIX®	special SABIX®
Jacket color:	green (similar RAL 6018)		green (similar RAL 6018)	green (similar RAL 6018)

Technical data:	CATLine CAT 5e R flex *continuous flex*	CATLine CAT 6A R flex *continuous flex*	CATLine CAT 7A R flex *continuous flex*
Peak operating voltage:	max. 90 V	max. 90 V	max. 90 V
Testing voltage: conductor/conductor: conductor/shielding:	 750 V 750 V	 750 V 750 V	 750 V 750 V
Min. bending radius: fixed installation: free movement: continuous flex:	 5 x O.D. 12 x O.D. 15 x O.D.	 5 x O.D. 12 x O.D. 15 x O.D.	 5 x O.D. 12 x O.D. 15 x O.D.
Temperature range VDE: static: flexible:	 -50/+90°C -40/+90°C	 -50/+90°C -40/+90°C	 -50/+90°C -40/+90°C
Low smoke halogen-free (LSHF):	acc. to EN 50306-1 + EN 50264-1; Development of HCl is ≤ 0.5% acc. to IEC 60754-1; pH-value is ≥ 4.3 acc. to IEC 60754-2; Conductivity is ≤ 10.0 µS/mm acc. to IEC 60754-2; Fluoric content ≤ 0.1% acc. to IEC 60684-2		
Burning characteristics:	no flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 and EN 50305 + VDE 0260-305 section 9.1.2. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2. Flame retardant acc. to ISO 6722 (UN/ECE R118)		
Smoke density:	acc. to IEC 61034 + VDE 0482-1034	acc. to IEC 61034 + VDE 0482-1034	acc. to IEC 61034 + VDE 0482-1034
Toxicity:	acc. to EN 50305 + VDE 0260-305	acc. to EN 50305 + VDE 0260-305	acc. to EN 50305 + VDE 0260-305
Oil and fuel resistance:	acc. to EN 50264-1 + VDE 0260-264-1	acc. to EN 50264-1 + VDE 0260-264-1	acc. to EN 50264-1 + VDE 0260-264-1
Characteristic impedance:	100Ω ± 5Ω with reference to EN 50288-2-2 / CAT 5	100Ω ± 10Ω with reference to EN 50288-2-2 / CAT 5	100Ω ± 10Ω with reference to EN 50288-10-2 / CAT 6A	100Ω ± 10Ω with reference to EN 50288-9-2 / CAT 7A
Flexibility:	good	good	good
Application:	suitable for EtherCAT and EtherNET/IP applications		
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30		

item no.	type	dimensions AWG	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 15692435	CATLine CAT 5e R flex	24 (≈ 14/34)/2pr	0.201	5.1	27
▶ 15692235	CATLine CAT 5e R flex	22 (≈ 7/30)/2pr	0.228	5.8	36
▶ 15694431	CATLine CAT 5e R flex	24 (≈ 14/34)/4pr	0.307	7.8	54
▶ 15694631	CATLine CAT 5e R flex	26 (≈ 18/38)/4pr	0.256	6.5	37
▶ 16694431	CATLine CAT 6A R flex	24 (≈ 14/34)/4pr	0.311	7.9	54
▶ 16694631	CATLine CAT 6A R flex	26 (≈ 18/38)/4pr	0.256	6.5	38
▶ 17694431	CATLine CAT 7A R flex	24 (≈ 14/34)/4pr	0.382	9.7	73
▶ 17694631	CATLine CAT 7A R flex	26 (≈ 18/38)/4pr	0.339	8.6	62

Other dimensions and colors are available on request

Fulfills fire protection requirements R15 (EL1A) and R16 (EL1B) acc. to EN 45545-2 for hazard levels HL1-3

Also possible as a cable assembly with M12 or RJ 45 plug

CABLE ASSEMBLY POSSIBLE

SPECIAL CABLES SAB North America
www.sabcable.com
866-722-2974 ■ info@sabcable.com

Industrial Ethernet Cables for Maritime Use

CATLine CAT 5e BL Halogen-free CAT 5e industrial Ethernet cables for maritime use
CATLine CAT 6A BL Halogen-free CAT 6A industrial Ethernet cables for maritime use
CATLine CAT 7A BL Halogen-free CAT 7A industrial Ethernet cables for maritime use

Marking for CATLine CAT 7A BL 17474421:
SAB BRÖCKSKES · D-VIERSEN · CATLine Cat.7A BL 4x2x24AWG 17474421 AWM Style 21080 75°C 300V

Construction:	CATLine CAT 5e BL		CATLine CAT 6A BL	CATLine CAT 7A BL
Item numbers:	15479001 15479002	15474621	16474421 16474621	17474421 17474621
Dimensions:	2 x 2 x 24 AWG 2 x 2 x 22 AWG	4 x 2 x 26 AWG	4 x 2 x 24 AWG 4 x 2 x 26 AWG	4 x 2 x 24 AWG 4 x 2 x 26 AWG
Conductor:	bare copper strands, fine wires		bare copper strands, fine wires	bare copper strands, fine wires
Insulation:	special polymer		special polymer	special polymer
Color code:	blue, yellow, white, orange	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown		white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Stranding:	star quad	conductors twisted to pairs, pairs together		conductors twisted to pairs, pairs shielded with foil, pairs together
Wrapping:	alu foil		alu foil	—
Shielding:	tinned copper braiding		tinned copper braiding	tinned copper braiding
Jacket material:	special SABIX®		special SABIX®	special SABIX®
Jacket color:	black		black	black

Technical data:	CATLine CAT 5e BL	CATLine CAT 6A BL	CATLine CAT 7A BL
Peak operating voltage:	max. 90 V	max. 90 V	max. 90 V
Voltage UL:	300 V	300 V	300 V
Testing voltage: conductor/conductor: conductor/shielding:	 2000 V 2000 V	 2000 V 2000 V	 2000 V 2000 V
Min. bending radius: fixed installation free movement (only 7 wires):	 5 x O.D. 10 x O.D.	 5 x O.D. 10 x O.D.	 5 x O.D. 10 x O.D.
Temperature range VDE: static: flexible:	**UL:** up to +75°C -40/+70°C -30/+70°C	**UL:** up to +75°C -40/+70°C -30/+70°C	**UL:** up to +75°C -40/+70°C -30/+70°C
Low smoke halogen-free (LSHF):	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 Cat. A, UL Horizontal Flame Test FT2, UL AWM Style 21080		
Corrosiveness of conflagration gases:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases		
Smoke density:	acc. to IEC 61034 + VDE 0482-1034	acc. to IEC 61034 + VDE 0482-1034	acc. to IEC 61034 + VDE 0482-1034
Characteristic impedance (100 MHz):	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-2-2 / CAT 5	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-10-2 / CAT 6A	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-9-2 / CAT 7A
Flexibility:	good	good	good
UL Style:	21080	21080	21080
Application:	suitable for EtherCAT and EtherNET/IP applications		
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30		

item no.	type	dimensions AWG	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 15479001	CATLine CAT 5e BL	24 (7 strand)/2pr	0.224	5.7	32
▶ 15479002	CATLine CAT 5e BL	22 (7 strand)/2pr	0.252	6.4	41
▶ 15474621	CATLine CAT 5e BL	26 (7 strand)/4pr	0.287	7.3	43
▶ 16474621	CATLine CAT 6A BL	26 (7 strand)/4pr	0.287	7.3	43
▶ 16474421	CATLine CAT 6A BL	24 (7 strand)/4pr	0.327	8.3	54
▶ 17474621	CATLine CAT 7A BL	26 (7 strand)/4pr	0.350	8.9	57
▶ 17474421	CATLine CAT 7A BL	24 (7 strand)/4pr	0.413	10.5	78

Other dimensions and colors are available on request

Also possible as a cable assembly with M12 or RJ 45 plug — CABLE ASSEMBLY POSSIBLE

Industrial Ethernet Cables for Cleanrooms

SABclean CATLine CAT 5e S — CAT 5e industrial Ethernet cable
SABclean CATLine CAT 6A S — CAT 6A industrial Ethernet cable
SABclean CATLine CAT 7A S — CAT 7A industrial Ethernet cable

Marking for SABclean CATLine CAT 7A S 17779003:
SAB BRÖCKSKES · D-VIERSEN · SAB Clean CATLine Cat. 7A S 4x2x26AWG 17779003 AWM Style 20549 80°C 300V RoHS

Construction:	SABclean CATLine CAT 5e S	SABclean CATLine CAT 6A S	SABclean CATLine CAT 7A S
Item numbers:	15779001	16779006	17779003
Dimensions:	4 x 2 x 26 AWG	4 x 2 x 26 AWG	4 x 2 x 26 AWG
Conductor:	bare copper strands, fine wires	bare copper strands, fine wires	bare copper strands, fine wires
Insulation:	special polymer	special polymer	special polymer
Color code:	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Stranding:	conductors twisted to pairs, pairs together	conductors twisted to pairs, pairs together	conductors twisted to pairs, pairs shielded with foil, pairs together
Shielding:	alu foil and tinned copper braiding	alu foil and tinned copper braiding	aluminized non-woven tape and tinned copper braiding
Wrapping:	non-woven tape	non-woven tape	non-woven tape
Jacket material:	TPE	TPE	TPE
Jacket color:	black (RAL 9005)	black (RAL 9005)	black (RAL 9005)

Technical data:	SABclean CATLine CAT 5e S	SABclean CATLine CAT 6A S	SABclean CATLine CAT 7A S
Peak operating voltage:	max. 90 V	max. 90 V	max. 90 V
Voltage UL:	300 V	300 V	300 V
Testing voltage: conductor/conductor: conductor/shielding:	 2000 V 2000 V	 2000 V 2000 V	 2000 V 2000 V
Min. bending radius fixed laying: flexible application: continuously flexible:	 5 x O.D. 10 x O.D. 15 x O.D.	 5 x O.D. 10 x O.D. 15 x O.D.	 5 x O.D. 10 x O.D. 15 x O.D.
Temperature range VDE: static: flexible:	UL: up to +80°C -40/+70°C -30/+70°C	UL: up to +80°C -40/+70°C -30/+70°C	UL: up to +80°C -40/+70°C -30/+70°C
Burning Characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 UL Horizontal Flame Test FT2		
Oil resistance:	very good - Oil 60°C acc. to UL 758	very good - Oil 60°C acc. to UL 758	very good - Oil 60°C acc. to UL 758
Characteristic impedance (100 MHz):	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-2-2 / CAT 5	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-10-2 / CAT 6A	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-9-2 / CAT 7A
Flexibility:	very good	very good	very good
Air cleanliness class 1:	acc. to ISO 14644-1	acc. to ISO 14644-1	acc. to ISO 14644-1
UL Style:	20549	20549	20549
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30		

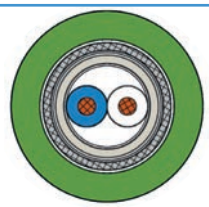
item no.	type	dimensions AWG	outer-ø max. inch	outer-ø max. mm	cable weight ≈lbs/mft
▶ 15779001	SABclean CATLine CAT 5e S	26 (≈ 7/34)/4pr	0.251	6.4	32
▶ 16779006	SABclean CATLine CAT 6A S	26 (≈ 7/34)/4pr	0.271	6.9	38
▶ 17779003	SABclean CATLine CAT 7A S	26 (≈ 7/34)/4pr	0.350	8.9	57

Other dimensions and colors are available on request

Cleanroom classification ISO 14644-1 Air Cleanliness Class 1

Industrial Ethernet Cables

CATLine SPE C-Track Single-Pair-Ethernet cable, suitable for cable tracks
CATLine SPE Robot Single-Pair-Ethernet cable, suitable for robots
CATLine SPE HT Single-Pair-Ethernet cable, high temperature resistant



Marking for CATLine SPE C-Track 17771630:
SAB BRÖCKSKES · D-VIERSEN · CATLine SPE C-Track 2xAWG26/7 17771630 AWM Style 20549 80°C 300V

Construction:	CATLine SPE C-Track *suitable for cable tracks*	CATLine SPE Robot *suitable for robots*	CATLine SPE HT *high temperature resistant*
Item numbers:	17771630	17871630	17211620
Dimensions:	2 x 26 AWG	2 x 26 AWG	2 x 26 AWG
Conductor:	bare copper strands, 7 or 19 wires	bare copper strands, 7 or 19 wires	bare copper strands, 7 wires
Insulation:	special polymer	special polymer	TPFP
Color code:	white, blue	white, blue	white, blue
Stranding:	twisted to pairs	twisted to pairs	twisted to pairs
Inner jacket:	SABIX®	SABIX®	TPFP
Shielding:	alu foil + tinned copper braiding	alu foil + tinned copper braiding	alu foil + tinned copper braiding
Wrapping:	non-woven tape	non-woven tape	—
Jacket material:	PUR	PUR	Besilen®
Jacket color:	green (similar RAL 6018)	green (similar RAL 6018)	green

Technical data:	CATLine SPE C-Track *suitable for cable tracks*	CATLine SPE Robot *suitable for robots*	CATLine SPE HT *high temperature resistant*
Peak operating voltage:	max. 90 V	max. 90 V	max. 90 V
Voltage UL:	300 V	300 V	600 V
Testing voltage: conductor/conductor: conductor/shielding:	 2000 V 2000 V	 2000 V 2000 V	 2000 V 2000 V
Min. bending radius: fixed installation: free movement: continuous flex:	 5 x O.D. 10 x O.D. 15 x O.D.	 5 x O.D. 10 x O.D. 15 x O.D.	 5 x O.D. 10 x O.D. —
Torsion angle:	---	up to ± 180°/m	---
Temperature range: static: flexible:	**UL:** up to 80°C -40/+70°C -40/+70°C	**UL:** up to 80°C -40/+70°C -40/+70°C	**UL:** up to 150°C -40/+180°C -25/+180°C
Temperature range conductor:	---	---	up to ± 180°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1	---
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2	---
Characteristic impedance:	100Ω ± 10Ω, fulfills the electrical and transmission requirements with high frequency with reference to IEC 61156-12. Bandwidth 1 - 600 MHz.		
UL Style	20549	20549	4535
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30		

item no.	type	dimensions AWG	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 17771630	CATLine SPE C-Track	26 (7 strand)/1pr	0.181	4.6	19
▶ 17771230	CATLine SPE C-Track	22 (19 strand)/1pr	0.224	5.7	27
▶ 17871630	CATLine SPE Robot	26 (7 strand)/1pr	0.181	4.6	19
▶ 17871230	CATLine SPE Robot	22 (19 strand)/1pr	0.224	5.7	27
▶ 17211620	CATLine SPE HT	26 (7 strand)/1pr	0.173	4.4	23
▶ 17211220	CATLine SPE HT	22 (7 strand)/1pr	0.209	5.3	30

Other dimensions and colors are available on request

Outstanding features:

C-Track / Robot:
- UL recognized
- low cabling effort
- short latency periods
- small outer diameter
- free from paint wetting impairment substances (PWIS-free)

SPE HT:
- high temperature resistant
- flame retardant and self-extinguishing
- very easy installation

SPECIAL CABLES SAB North America
www.sabcable.com
866-722-2974 ■ info@sabcable.com

CATLine SPE Rugged

Single-Pair-Ethernet cable for robust indoor and outdoor use

Marking for CATLine SPE Rugged 17399003:
SAB BRÖCKSKES · D-VIERSEN · CATline SPE Rugged 2x26AWG 17399003 CE

Construction:

Conductor:	bare copper strands, 7 wires
Insulation:	TPFK
Color code:	white, blue
Stranding:	twisted to pairs
Inner jacket:	SABIX®
Shielding:	alu. foil + tinned copper braiding
Wrapping:	non-woven tape
Jacket material:	PUR 420 with matte surface
Jacket color:	black (RAL 9005)

Outstanding features:

- **flexible down to -45°C**
- **absolutely weather resistant**
- **very easy installation**
- **small bending radius**

Technical data:

Peak operating voltage:	max. 90V
Testing voltage:	conductor/conductor: 750 V conductor/shielding: 750 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 12 x O.D.
Temperature range: *static:* *flexible:*	 -90/+90°C / +125°C / 2500 h -40/+90°C / +125°C / 2500 h
Temperature range conductor:	up to +180°C
Oil resistance:	very good - TMPU acc. to EN 50363-10-2
Fuel resistance:	good
Battery acid resistance:	good
UV resistance:	acc. to HD 605
Ozone resistance:	acc. to EN 50396
Characteristic impedance:	100Ω ± 10Ω, fulfills the electrical and transmission requirements with high frequency with reference to IEC 61156-12. Bandwidth 1 - 600 MHz.
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	type	dimensions AWG	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 17191620	CATLine SPE Rugged	26 (7 strand)/1pr	0.177	4.5	19
▶ 17191220	CATLine SPE Rugged	22 (7 strand)/1pr	0.224	5.7	26

Other dimensions and colors are available on request

Also possible as a cable assembly with USB type A or B plug

CABLE ASSEMBLY POSSIBLE

USB 2.0 Cables

transmission length up to 10 m

SAB Bus

USB 2.0 Flexible USB 2.0 cable
USB 2.0 UL Flexible USB 2.0 cable with UL recognition
USB 2.0 FRNC Halogen-free flexible USB 2.0 cable

Marking for USB 2.0 UL 6010222:
SAB BRÖCKSKES · D-VIERSEN · USB 2.0 Leitung · (2x0.22mm²)ST+2x0.5mm² 0601-0222 AWM Style 2655 80°C 300V

Construction:	USB 2.0 *flexible*	USB 2.0 UL *flexible*	USB 2.0 FRNC *flexible*
Item numbers:	6010122	6010222	6019001
Dimensions:	(2 x 0.22 mm²) ST + 2 x 0.50 mm²	(2 x 0.22 mm²) ST + 2 x 0.50 mm²	(2 x 0.22 mm²) ST + 2 x 0.50 mm²
Conductor:	bare copper strands (0.50 mm²) silver-plated strands (0.22 mm²)	bare copper strands (0.50 mm²) silver-plated strands (0.22 mm²)	bare copper strands (0.50 mm²) silver-plated strands (0.22 mm²)
Insulation:	SABIX®	SABIX®	SABIX®
Color code:	black, red (0.50 mm²), white, green (0.22 mm²)	black, red (0.50 mm²), white, green (0.22 mm²)	black, red (0.50 mm²), white, green (0.22 mm²)
Stranding:	2 x 0.22 mm² wrapped with alu foil, together with 0.5 mm²		
Wrapping:	non-woven tape	non-woven tape	non-woven tape
Shielding:	tinned copper braiding	tinned copper braiding	tinned copper braiding
Jacket material:	PVC	PVC	SABIX®
Jacket color:	black (RAL 9005)	black (RAL 9005)	black (RAL 9005)

Technical data:	USB 2.0 *flexible*	USB 2.0 UL *flexible*	USB 2.0 FRNC *flexible*
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V
Voltage UL:	—	300 V	—
Testing voltage: conductor/conductor: conductor/shielding:	 600 V 600 V	 2000 V 2000 V	 1500 V 1200 V
Min. bending radius: fixed installation: free movement:	 5 x O.D. 10 x O.D.	 5 x O.D. 10 x O.D.	 5 x O.D. 10 x O.D.
Temperature range VDE: static: flexible:	 -30/+70°C -5/+70°C	**UL:** up to 80°C -30/+70°C -5/+70°C	 -40/+90°C -30/+90°C
Halogen-free:	---	—	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	---	---	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Oil resistance:	acc. to internal standard see page O/29	acc. to internal standard see page O/29	---
UL Style:	—	2655	—
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30		

item no.	type	dimensions AWG	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 6010122	USB 2.0	(2x0.22) ST + 2x0.50	0.268	6.8	40
▶ 6010222	USB 2.0 UL	(2x0.22) ST + 2x0.50	0.276	7.0	43
▶ 6019001	USB 2.0 FRNC	(2x0.22) ST + 2x0.50	0.268	6.8	42

Other dimensions and colors are available on request

USB 2.0 Cables

transmission length up to 10 m

SAB BUS

USB 2.0 S Continuous flex cable, suitable for cable tracks

USB 2.0 S UL/CSA Continuous flex cable, suitable for cable tracks

USB 2.0 RT UL/CSA Continuous flex cable, suitable for robots

Marking for USB 2.0 S UL/CSA 6011122:
SAB BRÖCKSKES · D-VIERSEN · USB 2.0 Leitung · (2x0.22mm²)ST+2x0.5mm² 601-1122 AWM Style 21198 80°C 300V CSA AWM I/II A/B 80°C 300V FT2

Construction:	USB 2.0 S *suitable for cable tracks*	USB 2.0 S UL/CSA *suitable for cable tracks*	USB 2.0 RT UL/CSA *suitable for robots*
Item numbers:	6011022	6011122	6012022
Dimensions:	(2 x 0.22 mm²) ST + 2 x 0.50 mm²	(2 x 0.22 mm²) ST + 2 x 0.50 mm²	(2 x 0.22 mm²) ST + 2 x 0.50 mm²
Conductor:	bare copper strands (0.50 mm²) silver-plated strands (0.22 mm²)	bare copper strands (0.50 mm²) silver-plated strands (0.22 mm²)	bare copper strands (0.50 mm²) silver-plated strands (0.22 mm²)
Insulation:	SABIX®	SABIX®	SABIX®
Color code:	black, red (0.50 mm²), white, green (0.22 mm²)	black, red (0.50 mm²), white, green (0.22 mm²)	black, red (0.50 mm²), white, green (0.22 mm²)
Stranding:	2 x 0.22 mm² wrapped with alu foil, together with 0.5 mm²		
Wrapping:	non-woven tape	non-woven tape	PTFE foil
Shielding:	tinned copper braiding	tinned copper braiding	wrapping with tinned copper round wires
Wrapping:	non-woven tape	non-woven tape	non-woven tape
Jacket material:	PUR	PUR	PUR
Jacket color:	black (RAL 9005)	black (RAL 9005)	black (RAL 9005)

Technical data:	USB 2.0 S *suitable for cable tracks*	USB 2.0 S UL/CSA *suitable for cable tracks*	USB 2.0 RT UL/CSA *suitable for robots*
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V
Voltage UL/CSA:	—	300 V	300 V
Testing voltage: conductor/conductor: conductor/shielding:	 600 V 600 V	 2000 V 2000 V	 2000 V 2000 V
Min. bending radius: fixed installation: free movement: continuous flex:	 5 x O.D. 6 x O.D. 7.5 x O.D.	 5 x O.D. 6 x O.D. 7.5 x O.D.	 5 x O.D. 7.5 x O.D. 10 x O.D.
Torsion angle:	---	---	up to ± 180°/m
Temperature range VDE: static: flexible:	 -50/+90°C -40/+90°C	**UL/CSA:** up to 80°C -50/+90°C -40/+90°C	**UL/CSA:** up to 80°C -50/+90°C -40/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1	—
Oil resistance:	TMPU EN 50363-10-2 + VDE 0207-363-10-2	TMPU EN 50363-10-2 + VDE 0207-363-10-2	TMPU EN 50363-10-2 + VDE 0207-363-10-2
UL Style:	—	21198	21198
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30		

item no.	type	dimensions AWG	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 6011022	USB 2.0 S	(2x0.22) ST + 2x0.50	0.276	7.0	40
▶ 6011122	USB 2.0 S UL/CSA	(2x0.22) ST + 2x0.50	0.283	7.2	44
▶ 6012022	USB 2.0 RT UL/CSA	(2x0.22) ST + 2x0.50	0.276	7.0	43

Other dimensions and colors are available on request

Also possible as a cable assembly with USB type A or B plug

CABLE ASSEMBLY POSSIBLE

SABIX® USB 2.0 R flex

Halogen-free continuous flex SABIX® USB 2.0 Rail cable

EN 45545-2 · UN/ECE R118 · SAB Rail

RoHS

ES · D-VIERSEN · SABIX® USB 2.0 R flex 4x28AWG 6019013

Marking for SABIX® USB 2.0 R flex 6019013:
SAB BRÖCKSKES · D-VIERSEN · SABIX® USB 2.0 R flex 4x28AWG 6019013

Construction:

Conductor:	bare copper strands, fine wires
Insulation:	SABIX®
Color code:	white, green, red, black
Shielding:	alu. foil + tinned copper braiding Drain AWG 30 of tinned copper under the braid
Jacket material:	SABIX®
Jacket color:	black (RAL 9005)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **continuous flex**
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **good oil and fuel resistance**
- **fulfills fire protection requirements R15 (EL1A) and R16 (EL1B) acc. to EN 45545-2 for hazard levels HL1-3**
- **flame rertardant acc. to UN/ECE R118**

Technical data:

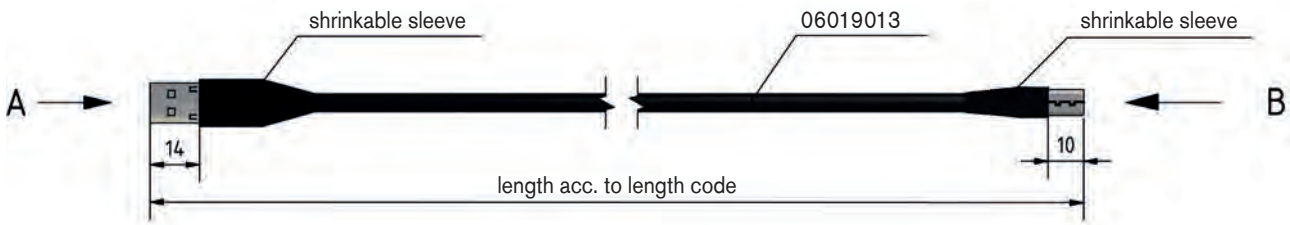
Peak operating voltage:	max. 30V
Testing voltage:	conductor/conductor: 600 V conductor/shielding: 600 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Temperature range: *static:* *flexible*	 -50/+90°C -50/+90°C
Halogen-free:	acc. to EN 50306-1 + EN 50264-1 are fulfilled. Development of HCl is < 0.5% acc. to IEC 60754-1. pH-value is > 4.3 acc. to IEC 60754-2. Conductivity is < 10.0 µS/mm acc. to IEC 60754-2. Fluoric content < 0.1% acc. to IEC 60684-2.
Burning characteristics:	No flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 and EN 50305 + VDE 0260-305 section 9.1.2. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 Flame retardant acc. to ISO 6722 (UN/ECE R118)
Toxicity:	acc. to EN 50305 + VDE 0260-305
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Oil and fuel resistance:	acc. to EN 50264-1 + VDE 0260-264-1
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	type	dimensions AWG	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft	ohmic resistance at 20°C max.Ω/km
► 6019013	SABIX® USB 2.0 R flex	28 (7 strand)/4c	0.205	5.2	28	223.8

Other dimensions and colors are available on request

Also possible as a cable assembly with USB type A or B plug — CABLE ASSEMBLY POSSIBLE

USB 2.0 cable with USB type A and USB type B plug

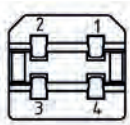


Pin configuration

USB A	color code	USB B
1	red	1
2	white	2
3	green	3
4	black	4
housing	screen	housing

view A (2:1)

view B (3:1)



view soldering side

USB 3.0 Cables

transmission length up to 3 m

SAB BUS

USB 3.0 S Continuous flex USB 3.0 cable suitable for cable tracks
USB 3.0 RT Continuous flex USB 3.0 cable suitable for robots
USB 3.0 Flexible USB 3.0 cable

Marking for USB 3.0 S 6042098:
SAB BRÖCKSKES · D-VIERSEN · USB 3.0 S 3x(2x28AWG)ST+2x26AWG 6042098
AWM Style 20549 80° 300V

Construction:	USB 3.0 S *suitable for cable tracks*	USB 3.0 RT *suitable for robots*	USB 3.0 *flexible*
Item numbers:	6042098	6043098 / 6043096	6030078
Dimensions:	3 x (2 x 28 AWG)ST + 2 x 26 AWG	3 x (2 x 28 AWG)ST + 2 x 26 AWG 3 x (2 x 26 AWG)ST + 2 x 24 AWG	2 x (2 x 28 AWG)ST + 2 x 28 AWG + 2 x 26 AWG
Conductor:	silver-plated strands and tinned copper strands	silver-plated strands and tinned copper strands	silver-plated strands and tinned copper strands
Insulation:	special polymer	special polymer	special polymer
Color code:	yellow, blue + orange, violet (USB 3.0), green, white (USB 2.0), red, black (power supply)		
Stranding:	twisted pairs and data pairs shielded, all elements together	twisted pairs and data pairs shielded, all elements together	USB 3.0 twisted and screened pairs, USB 2.0 twisted pairs, all elements together
Wrapping:	non-woven tape	woven tape + non-woven tape	non-woven tape
Shielding:	tinned copper braiding	tinned copper braiding	tinned copper braiding
Wrapping:	non-woven tape	non-woven tape	non-woven tape
Jacket material:	PUR	PUR	PVC
Jacket color:	black (RAL 9005)	black (RAL 9005)	black (RAL 9005)

Technical data:	USB 3.0 S *suitable for cable tracks*	USB 3.0 RT *suitable for robots*	USB 3.0 *flexible*
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V
Voltage UL:	300 V	300 V	300 V
Testing voltage: conductor/conductor: conductor/shielding:	 2000 V 2000 V	 2000 V 2000 V	 2000 V 2000 V
Min. bending radius: fixed installation: free movement: continuous flex:	 5 x O.D. 10 x O.D. 12 x O.D.	 5 x O.D. 10 x O.D. 15 x O.D.	 5 x O.D. 10 x O.D. —
Torsion angle:	---	up to ± 360°/m	—
Temperature range VDE: static: flexible:	**UL:** up to 80°C -50/+90°C -40/+90°C	**UL:** up to 80°C -50/+90°C -40/+90°C	**UL:** up to 80°C -30/+70°C -5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2		
Oil resistance:	very good, TMPU acc. to EN 50363-10-2	very good, TMPU acc. to EN 50363-10-2	very good - TM5 acc. to EN 50363-4-1
UL Style:	20549	20549	21083
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30		

item no.	type	dimensions AWG	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft	ohmic resistance at 20°C max.Ω/km 28 AWG	26 AWG	24 AWG
▶ 6042098	USB 3.0 S	28 (≈ 7/38)ST/3pr + 26 (≈ 7/34)/2c	0.240	6.1	30	223	140	—
▶ 6043098	USB 3.0 RT	28 (≈ 7/38)ST/3pr + 26 (≈ 7/34)/2c	0.252	6.4	34	223	140	—
▶ 6043096	USB 3.0 RT	26 (≈ 7/34)ST/3pr + 24 (7 strand)/2c	0.315	8.0	49	—	130	83.3
▶ 6030078	USB 3.0	28 (≈ 7/38)ST/2pr + 28 (≈ 7/38)/2c + 26 (≈ 7/34)/2c	0.240	6.1	32	223	140	—

Other dimensions and colors are available on request

Also possible as a cable assembly with USB type A or B plug

CABLE ASSEMBLY POSSIBLE

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USB 3.0 Cables

USB 3.0 M

Flexible USB 3.0 cable for Medical Technology Applications

transmission length up to 3 m

SAB Bus

CE EAC RoHS

Marking for USB 3.0 M 6061018:
SAB BRÖCKSKES · D-VIERSEN · USB 3.0 M
2x(2x28AWG)ST+2x28AWG+2x26AWG 6061018 CE

Construction:

Conductor:	28 AWG: silver-plated strands, fine wires 26 AWG: tinned copper strands, fine wires
Insulation:	FEP
Color code:	28 AWG: yellow, blue + orange, violet (USB 3.0), green, white (USB 2.0), 26 AWG: red, black (power supply)
Stranding:	USB 3.0 twisted and shielded pairs, USB 2.0 twisted pairs, all elements together
Drain wire:	bare copper strands, fine wires
Shielding:	alu foil
Stranding:	all USB 3.0 elements together
Wrapping:	foil
Shielding:	tinned copper braiding
Jacket material:	SABmed S
Jacket color:	grey (RAL 7000)

Outstanding features:

- **biocompatible jacket material**
- **biological harmlessness acc. to EN ISO 10993-1, cytotoxicity acc. to EN ISO 10993-5**
- **high temperature resistant**
- **high notch and tear resistance**
- **very good flexibility**
- **surface not adhesive**

Technical data:

Peak operating voltage:	max. 50V
Testing voltage:	conductor/conductor: 600 V conductor/shielding: 600 V
Min. bending radius:	
fixed installation:	5 x O.D.
free movement:	10 x O.D.
Temperature range:	
static:	-40/+180°C
flexible:	-25/+180°C
Impedance of data pairs:	nom. 90Ω
Approvals:	CE, EAC. RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

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33

item no.	type	dimensions AWG	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft	ohmic resistance at 20°C max.Ω/km 28 AWG	ohmic resistance at 20°C max.Ω/km 26 AWG
▶ 6061018	USB 3.0 M	28 (≈ 7/38)ST/2pr + 28 (≈ 7/38)/2c + 26 (≈ 7/34)/2c	0.220	5.6	32	223	140

Other dimensions and colors are available on request

For transmission lengths more than 3 m, please contact us.

Also possible as a cable assembly with USB type A or B plug

CABLE ASSEMBLY POSSIBLE

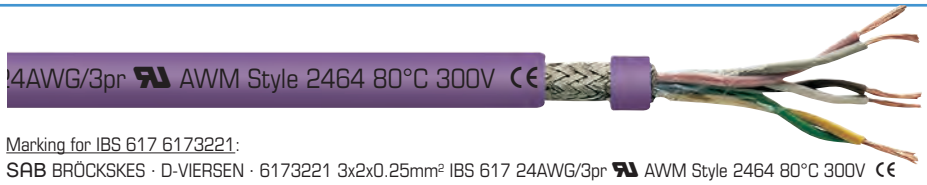
Remote Bus Cables

IBS 612 PVC Interbus-S cable for indoor and outdoor installation

IBS 617 PVC Interbus-S cable with UL recognition

S IBS 618 PUR Interbus-S cable for cable tracks with UL recognition

S IBS 616 PUR Interbus-S cable for cable tracks



Marking for IBS 617 6173221:
SAB BRÖCKSKES · D-VIERSEN · 6173221 3x2x0.25mm² IBS 617 24AWG/3pr AWM Style 2464 80°C 300V

Construction:	IBS 612 *for indoor & outdoor*	IBS 617	S IBS 618* *suitable for cable tracks*	S IBS 616* *suitable for cable tracks*
Item numbers:	6123228	6173221	6183251	6163251
Dimensions:	3 x 2 x 0.22 mm²	3 x 2 x 0.22 mm²	3 x 2 x 0.25 mm²	3 x 2 x 0.25 mm²
Conductor:	bare copper strands with reference to VDE 0812	bare copper strands with reference to VDE 0812	bare copper strands with reference to VDE 0812	bare copper strands with reference to VDE 0812
Insulation:	PE, 2YI1 acc. to EN 50290-2-23 + VDE 0819-103		PE, 2YI1 acc. to EN 50290-2-23 + VDE 0819-103	
Color code:	acc. to DIN 47100	acc. to DIN 47100	acc. to DIN 47100	acc. to DIN 47100
Stranding:	twisted to pairs	twisted to pairs	twisted to pairs and pairs together	twisted to pairs
Wrapping:	PETP foil	PETP foil	non-woven tape	non-woven tape
Shielding:	tinned copper braiding	tinned copper braiding	tinned copper braiding	tinned copper braiding
Jacket material:	PVC, TM2 acc. to EN 50363-4-1	PVC, TM5 acc. to EN 50363-4-1	PUR	PUR, TMPU acc. to EN 50363-10-2 with rough surface
Jacket color:	black (RAL 9005)	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)

Technical data:	IBS 612 *for indoor & outdoor*	IBS 617	S IBS 618 *suitable for cable tracks*	S IBS 616 *suitable for cable tracks*
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V	max. 350 V
Voltage UL:	—	300 V	300 V	—
Testing voltage: conductor/conductor: conductor/shielding:	 1000 V 1000 V	 2000 V 2000 V	 2000 V 2000 V	 1000 V 1000 V
Min. bending radius:	7.5 x O.D.	7.5 x O.D.	7.5 x O.D.	7.5 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg	8 x 10^7 cJ/kg	5 x 10^7 cJ/kg	5 x 10^7 cJ/kg
Temperature range: static: flexible:	 -30/+70°C -5/+70°C	 **UL:** up to +80°C -30/+70°C -5/+70°C	 **UL:** up to +80°C -40/+70°C -40/+70°C	 -40/+70°C -40/+70°C
Halogen-free:	—	—	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2			—
Oil resistance:	acc. to internal standard see page O/29	very good acc. to VDE 0207-5	very good acc. to EN 50363-10-2 + VDE 0207-363-10-2	very good acc. to EN 50363-10-2 + VDE 0207-363-10-2
Characteristic impedance at 0.064 MHz:	120Ω ± 20%	120Ω ± 20%	120Ω ± 20%	120Ω ± 20%
Characteristic impedance at > 1 MHz:	100Ω ± 15Ω	100Ω ± 15Ω	100Ω ± 15Ω	100Ω ± 15Ω
Flexibility:	good	good	very good	very good
Application in cable tracks:	not recommended	not recommended	recommended	recommended
Weather resistance:	medium	medium	very good	very good
Bending characteristics: # of bendings acc. to VDE 0472-603 test method H	—	—	min. 1,000,000 single bendings	min. 1,000,000 single bendings
Direct burial:	suitable	not suitable	suitable	not suitable
UL Style:	—	2464- 80°C	20235- 80°C	—
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30			

item no.	type	jacket color	dimensions AWG	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 6123228	IBS 612	black (RAL 9005)	24 (≈ 14/34)/3pr	0.354	9.0	64
▶ 6173221	IBS 617	red lilac (RAL 4001)	24 (≈ 14/34)/3pr	0.276	7.0	40
▶ 6183251*	S IBS 618	red lilac (RAL 4001)	24 (≈ 14/34)/3pr	0.335	8.5	55
▶ 6163251*	S IBS 616	red lilac (RAL 4001)	24 (≈ 14/34)/3pr	0.315	8.0	43

Other dimensions and colors are available on request

* Interbus-S remote bus cables 3 x 2 x 0.22 mm² or 3 x 2 x 0.25 mm² are used for the sensor/actuator level of industrial communication

Installation Remote BUS Cables

IBS 612 PVC Interbus-S cable for indoor and outdoor installation

IBS 617 PVC Interbus-S cable with UL recognition

S IBS 618 PUR Interbus-S cable for cable tracks with UL recognition

S IBS 616 PUR Interbus-S cable for cable tracks

Marking for IBS 617 6176221:
SAB BRÖCKSKES · D-VIERSEN · IBS 617 3x2x0.22mm²+3x1.0mm² AWM Style 2464 80°C 300V

Construction:	IBS 612 *for indoor & outdoor*	IBS 617	S IBS 618* *suitable for cable tracks*	S IBS 616* *suitable for cable tracks*
Item numbers:	6126228	6176221	6186251	6166251
Dimensions:	3 x 2 x 0.22 mm² + 3 x 1.00 mm²	3 x 2 x 0.22 mm² + 3 x 1.00 mm²	3 x 2 x 0.25 mm² + 3 x 1.00 mm²	3 x 2 x 0.25 mm² + 3 x 1.00 mm²
Conductor: 3 x 2 x 0.22 mm² resp. 3 x 2 x 0.25 mm²	bare copper strands with reference to VDE 0812	bare copper strands with reference to VDE 0812	bare copper strands with reference to VDE 0812	bare copper strands with reference to VDE 0812
Conductor: 3 x 1.00 mm²:	bare copper strands acc. to IEC 60228, VDE 0295, class 5		bare copper strands acc. to IEC 60228, VDE 0295, class 6	
Insulation:	PE, 2YI1 acc. to EN 50290-2-23 + VDE 0819-103		0.25 mm²: PE, 2YI1 1.00 mm²: TPE	PE, 2YI1 acc. to EN 50290-2-23 + VDE 0819-103
Color code:	acc. to DIN 47100 (pairs), 1.0 mm²: red, blue and green/yellow ground		acc. to DIN 47100 (pairs), 1.0 mm²: red, blue and green/yellow ground	
Stranding:	twisted to pairs (≤ 24 AWG)	twisted to pairs (≤ 24 AWG)	twisted to pairs (≤ 24 AWG) pairs & conductors together	twisted to pairs (≤ 24 AWG)
Wrapping:	PETP foil	PETP foil	non-woven tape	non-woven tape
Shielding:	tinned copper braiding	tinned copper braiding	tinned copper braiding	tinned copper braiding
Jacket material:	PVC, TM2 acc. to EN 50363-4-1	PVC, TM5 acc. to EN 50363-4-1	PUR with rough surface	PUR, TMPU acc. to EN 50363-10-2 with rough surface
Jacket color:	black (RAL 9005)	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)

Technical data:	IBS 612 *for indoor & outdoor*	IBS 617	S IBS 618 *suitable for cable tracks*	S IBS 616 *suitable for cable tracks*
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V	max. 350 V
Voltage UL:	—	300 V	300 V	—
Testing voltage: conductor/conductor: conductor/shielding:	1500 V 1200 V	2000 V 2000 V	2000 V 2000 V	1500 V 1200 V
Min. bending radius:.	7.5 x O.D.	7.5 x O.D.	7.5 x O.D.	7.5 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg	8 x 10^7 cJ/kg	5 x 10^7 cJ/kg	5 x 10^7 cJ/kg
Temperature range: static: flexible:	-30/+70°C -5/+70°C	**UL:** up to +80°C -30/+70°C -5/+70°C	**UL:** up to +80°C -40/+70°C -40/+70°C	-40/+70°C -40/+70°C
Halogen-free:	—	—	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2			—
Oil resistance:	acc. to internal standard see page O/29	very good acc. to VDE 0207-5	very good acc. to EN 50363-10-2 + VDE 0207-363-10-2	very good acc. to EN 50363-10-2 + VDE 0207-363-10-2
Characteristic impedance at 0.064 MHz:	120Ω ± 20%	120Ω ± 20%	120Ω ± 20%	120Ω ± 20%
Characteristic impedance at > 1 MHz:	100Ω ± 15Ω	100Ω ± 15Ω	100Ω ± 15Ω	100Ω ± 15Ω
Flexibility:	good	good	very good	very good
Application in cable tracks:	not recommended	not recommended	recommended	recommended
Weather resistance:	medium	medium	very good	very good
Bending characteristics: # of bendings acc. to VDE 0472-603 test method H	—	—	min. 1,000,000 single bendings	min. 1,000,000 single bendings
Direct burial:	suitable	not suitable	suitable	not suitable
UL Style:	—	2464- 80°C	20235- 80°C	—
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30			

item no.	type	jacket color	no. of pairs	power conductors	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 6126228	IBS 612	black (RAL 9005)	24 (≈ 14/34)/3pr	18 (≈ 30/32)/3c	0.394	10.0	89
► 6176221	IBS 617	red lilac (RAL 4001)	24 (≈ 14/34)/3pr	18 (≈ 30/32)/3c	0.354	9.0	71
► 6186251*	S IBS 618	red lilac (RAL 4001)	24 (≈ 14/34)/3pr	18 (≈ 56/34)/3c	0.362	9.2	81
► 6166251*	S IBS 616	red lilac (RAL 4001)	24 (≈ 14/34)/3pr	18 (≈ 56/34)/3c	0.315	8.0	68

Other dimensions and colors are available on request

* Interbus-S installation remote bus cables 3 x 2 x 0.22 mm² + 3 x 1.0 mm² or 3 x 2 x 0.25 mm² + 3 x 1.0 mm² are used for the sensor/actuator level of industrial communication

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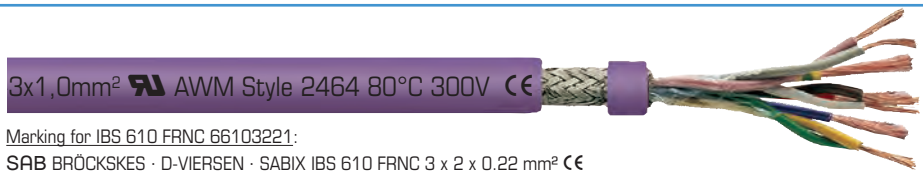
Remote Bus & Installation Remote BUS Cables

SABIX® IBS 610 — Halogen-free, Interbus-S cable

SABIX® IBS 610 FRNC — Halogen-free and flame retardant Interbus-S cable



Marking for IBS 610 FRNC 66103221:
SAB BRÖCKSKES · D-VIERSEN · SABIX IBS 610 FRNC 3 x 2 x 0.22 mm²

Construction:	SABIX® IBS 610 *remote bus cable*	SABIX® IBS 610 FRNC *remote bus cable*	SABIX® IBS 610* *installation remote bus cable*	SABIX® IBS 610 FRNC* *installation remote bus cable*
Item numbers:	56103221	66103221	56106221	66106221
Dimensions:	3 x 2 x 0.22 mm²	3 x 2 x 0.22 mm²	3 x 2 x 0.22 mm² + 3 x 2 x 1.00 mm²	
Conductor: 3 x 2 x 0.22 mm² resp. 3 x 2 x 0.25 mm²	bare copper strands with reference to VDE 0812	bare copper strands with reference to VDE 0812	bare copper strands with reference to VDE 0812	bare copper strands with reference to VDE 0812
Conductor: 3 x 1.00 mm²:	—	—	bare copper strands acc. to IEC 60228, VDE 0295, class 6	
Insulation:	SABIX®	SABIX®	SABIX®	SABIX®
Color code:	acc. to DIN 47100	acc. to DIN 47100	acc. to DIN 47100 (pairs), 1.0 mm²: red, blue and green/yellow ground	
Stranding:	twisted to pairs and pairs together		twisted to pairs (≤ 0.25 mm²) pairs and conductors together	
Wrapping:	PETP foil	PETP foil	PETP foil	PETP foil
Shielding:	tinned copper braiding	tinned copper braiding	tinned copper braiding	tinned copper braiding
Jacket material:	SABIX®	SABIX	SABIX	SABIX
Jacket color:	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)

Technical data:	SABIX® IBS 610 *remote bus cable*	SABIX® IBS 610 FRNC *remote bus cable*	SABIX® IBS 610 *installation remote bus cable*	SABIX® IBS 610 FRNC *installation remote bus cable*
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V	max. 350 V
Testing voltage: conductor/conductor: conductor/shielding:	1000 V 1000 V	1000 V 1000 V	1500 V 1500 V	1500 V 1500 V
Min. bending radius:	7.5 x O.D.	7.5 x O.D.	7.5 x O.D.	7.5 x O.D.
Radiation resistance:	5 x 10^8 cJ/kg	—	5 x 10^8 cJ/kg	—
Temperature range: static: flexible:	-50/+90°C -40/+90°C	-40/+85°C -30/+85°C	-50/+90°C -40/+90°C	-40/+85°C -30/+85°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	—	no flame propagation acc. to IEC 60332-3-24 + IEC 60332-3-25 Cat. C resp. D; Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2	—	no flame propagation acc. to IEC 60332-3-24 + IEC 60332-3-25 Cat. C resp. D; Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Oil resistance:	very good acc. to EN50363-4-1	—	very good acc. to EN50363-4-1	—
Corrosiveness of conflagration gases:	in compliance with IEC 60754-2 + VDE 0482-754-1 - no development of corrosive conflagration gases			
Smoke density	—	acc. to IEC 61034 + VDE 0482-1034		acc. to IEC 61034 + VDE 0482-1034
Characteristic impedance at 0.064 MHz:	120Ω ± 20%	120Ω ± 20%	120Ω ± 20%	120Ω ± 20%
Characteristic impedance at > 1 MHz:	100Ω ± 15Ω	100Ω ± 15Ω	100Ω ± 15Ω	100Ω ± 15Ω
Flexibility:	very good	good	very good	good
Weather resistance:	good	good	good	good
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30			

item no.	type	no.of pairs	no. of power conductors	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 56103221	SABIX® IBS 610	24 (≈ 16/32)/3pr	—	0.276	7.0	36
► 66103221	SABIX® IBS 610 FRNC	24 (≈ 16/32)/3pr	—	0.276	7.0	42
► 56106221*	SABIX® IBS 610	24 (≈ 14/34)/3pr	18 AWG (≈ 30/32)/3c	0.311	7.9	56
► 66106221*	SABIX® IBS 610 FRNC	24 (≈ 14/34)/3pr	18 AWG (≈ 30/32)/3c	0.311	7.9	63

Other dimensions and colors are available on request

* Interbus-S installation remote bus cables 3 x 2 x 0.22 mm² + 3 x 1.0 mm² or 3 x 2 x 0.25 mm² + 3 x 1.0 mm² are used for the sensor/actuator level of industrial communication

Interbus-Loop Cables

SABIX® IBL 600 FRNC Halogen-free, flame retardant Interbus-Loop cable

SABIX® IBL 600 Halogen-free Interbus-Loop cable

S IBL 605 PUR Interbus-Loop cable for cable tracks

IBL 600 PVC Interbus-Loop cable

Marking for IBL 605 6052853:
SAB BRÖCKSKES · D-VIERSEN · IBL 605 2x1.5mm² CE *and current meter marking*

Construction:	SABIX® IBL 600 FRNC	IBL 600	SABIX® IBL 600	S IBL 605
Item numbers:	66012853 / 66013853	6002853 / 6003853	56002853 / 56003853	6052853 / 6053853
Dimensions:	2 x 1.50 mm² / 3 x 1.50 mm²	2 x 1.50 mm² / 3 x 1.50 mm²	2 x 1.50 mm² / 3 x 1.50 mm²	2 x 1.50 mm² / 3 x 1.50 mm²
Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5			bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	SABIX®	PVC, TI2 acc. to EN 50363-3	SABIX®	TPE-E
Color code:	colored acc. to HD 308 (VDE 0293-308), green/yellow ground from 3 conductors			
Stranding:	in layers	in layers	in layers	specially adjusted layering with netting tape and one additional non-woven tape over the outer layer
Jacket material:	SABIX®	PVC, TM5 acc. to EN 50363-4-1	SABIX®	PUR, TMPU acc. to EN 50363-10-2 with rough surface
Jacket color:	may green (RAL 6017)	may green (RAL 6017)	may green (RAL 6017)	red lilac (RAL 4001)

Technical data:	SABIX® IBL 600 FRNC	IBL 600	SABIX® IBL 600	S IBL 605
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V	max. 350 V
Testing voltage:	conductor/conductor: 1500 V		conductor/conductor: 1500 V	
Min. bending radius:	15 x O.D.	15 x O.D.	15 x O.D.	15 x O.D.
Radiation resistance:	—	8 x 10^7 cJ/kg	5 x 10^6 cJ/kg	5 x 10^7 cJ/kg
Temperature range: static: flexible:	-40/+85°C -30/+85°C	-40/+70°C -5/+70°C	-50/+90°C -40/+90°C	-50/+90°C -40/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1	—	acc. to IEC 60754-1 + EN 0482-754-1	acc. to IEC 60754-1 + EN 0482-754-1
Burning characteristics:	no flame propagation acc.to IEC 60332-3-24 + IEC 60332-3-25 Cat C resp.D	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2	—	—
Corrosiveness of conflagration gases:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases	—	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases	—
Smoke density:	acc. to IEC 61034 + VDE 0482-1034	—	—	—
Oil resistance:	—	very good acc. to VDE 0207-5	very good acc. to EN 50363-4-1	very good acc. to EN 50363-10-2 + VDE 0207-363-10-2
Chemical resistance:	—	—	—	good against acids, alkalines, solvents, hydraulic liquids etc.
Characteristic impedance at 0.25 - 10 MHz:	for two conductor cables 75 Ω ± 15%		for two conductor cables 75 Ω ± 15%	
Flexibility:	good	—	very good	very good
Application in cable tracks:	not recommended	not recommended	not recommended	recommended
Weather resistance:	good	medium	good	very good
continuous flex applications:	—	—	—	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30			

item no.	type	jacket color	no. of conductors	dimensions AWG	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 66012853	SABIX® IBL 600 FRNC	may green (RAL 6017)	2	16 (≈ 27-29/30)	0.272	6.9	52
▶ 66013853	SABIX® IBL 600 FRNC	may green (RAL 6017)	3	16 (≈ 27-29/30)	0.295	7.5	63
▶ 6002853	IBL 600	may green (RAL 6017)	2	16 (≈ 27-29/30)	0.272	6.9	50
▶ 6003853	IBL 600	may green (RAL 6017)	3	16 (≈ 27-29/30)	0.295	7.5	63
▶ 56002853	SABIX® IBL 600	may green (RAL 6017)	2	16 (≈ 27-29/30)	0.272	6.9	40
▶ 56003853	SABIX® IBL 600	may green (RAL 6017)	3	16 (≈ 27-29/30)	0.295	7.5	50
▶ 6052853	S IBL 605	red lilac (RAL 4001)	2	16 (≈ 84/34)	0.303	7.7	50
▶ 6053853	S IBL 605	red lilac (RAL 4001)	3	16 (≈ 84/34)	0.319	8.1	60

Other dimensions and colors are available on request

SPECIAL CABLES SAB North America
www.sabcable.com
866-722-2974 ■ info@sabcable.com

CAN-Bus Cables acc. to ISO 11898

S CB 626 CAN-Bus cable for cable tracks
S CB 625 Halogen-free CAN-Bus cable for cable tracks
SABIX® CB 620 Halogen-free CAN-BUS cable
SABIX® CB 620 FRNC Halogen-free, flame retardant CAN-BUS cable

Marking for S CB 620 FRNC 66202251:
SAB BRÖCKSKES · D-VIERSEN · S CB 620 FRNC 2x0.25mm2 CE

Construction:	S CB 626	S CB 625	SABIX® CB 620	SABIX® CB 620 FRNC
Item numbers:	6262251	6252251	56202251	66202251
Dimensions:	2 x 0.25 mm²	2 x 0.25 mm²	2 x 0.25 mm²	2 x 0.25 mm²
Conductor:	bare copper strands, fine wires		bare copper strands acc. to VDE 0812	
Insulation:	FEP	TPE-E	SABIX®	SABIX®
Color code:	acc. to DIN 47100	acc. to DIN 47100	acc. to DIN 47100	acc. to DIN 47100
Wrapping:	non-woven tape	woven tape	PETP foil	PETP foil
Shielding:	tinned copper braiding	tinned copper braiding	tinned copper braiding	tinned copper braiding
Wrapping:	non-woven tape	non-woven tape	—	—
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 with rough surface		SABIX®	SABIX®
Jacket color:	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)

Technical data:	S CB 626	S CB 625	SABIX® CB 620	SABIX® CB 620 FRNC
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V	max. 350 V
Testing voltage: conductor/conductor: conductor/shielding:	 1500 V 1200 V	 1500 V 1200 V	 1500 V 1200 V	 1000 V 1000 V
Min. bending radius:	7.5 x O.D.	7.5 x O.D.	7.5 x O.D.	7.5 x O.D.
Radiation resistance:	5 x 10^6 cJ/kg	1 x 10^7 cJ/kg	—	—
Temperature range: static: flexible:	 -50/+90°C -40/+90°C	 -50/+90°C -40/+90°C	 -50/+90°C -40/+90°C	 -40/+85°C -30/+85°C
Halogen-free:	—	acc. to IEC 60754-1 + EN 0482-754-1	acc. to IEC 60754-1 + EN 0482-754-1	acc. to IEC 60754-1 + EN 0482-754-1
Burning characteristics:	—	—	—	no flame propagation acc.to IEC 60332-3-24 + IEC 60332-3-25 Cat C resp.D
Corrosiveness of conflagration gases:	—	—	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases	
Smoke density:	—	—	—	acc. to IEC 61034 + VDE 0482-1034
Oil resistance:	very good acc. to EN 50363-10-2 + VDE 0207-363-10-2		very good acc. to EN 50363-4-1	—
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids etc.		—	—
Characteristic impedance:	120 Ω ± (95 - 140 Ω)	120 Ω ± (95 - 140 Ω)	120 Ω ± (95 - 140 Ω)	120 Ω ± (95 - 140 Ω)
Flexibility:	very good	very good	very good	good
Application in cable tracks:	recommended	recommended	not recommended	not recommended
Weather resistance:	very good	very good	—	—
Bending characteristics: # of bendings acc. to VDE 0472-603 test method H	min. 250,000 single bendings	min. 500,000 single bendings	min. 60,000 single bendings	—
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30			

item no.	type	no. of conductors	dimensions AWG	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 6262251	S CB 626	2	24 (≈ 34/38)	0.244	6.2	35
▶ 6252251	S CB 625	2	24 (≈ 34/38)	0.319	8.1	46
▶ 56202251	SABIX® CB 620	2	24 (≈ 16/34)	0.228	5.8	24
▶ 66202251	SABIX® CB 620 FRNC	2	24 (≈ 16/34)	0.228	5.8	30

Other dimensions and colors are available on request

CAN-Bus Cables acc. to ISO 11898

CB 627 CAN-Bus cable with UL recognition

S CB 628 Halogen-free, CAN-Bus cable for cable tracks with UL recognition

Marking for S CB 628 6282251:
SAB BRÖCKSKES · D-VIERSEN · S CB 628 2 x 0.25 mm² AWM Style 20235 80°C 300 V

Construction:	CB 627	S CB 628
Conductors:	bare copper strands with reference to VDE 0812	bare copper strands, extra fine wires
Insulation:	PE, 2YI1 acc. to EN 50290-2-23 + VDE 0819-103	PE, 2YI1 acc. to EN 50290-2-23 + VDE 0819-103
Color code:	acc. to DIN 47100	acc. to DIN 47100
Wrapping:	PETP foil	non-woven tape
Inner jacket (nature):	—	SABIX®
Shielding:	tinned copper braiding	tinned copper braiding
Jacket material:	PVC, TM5 acc. to EN 50363-4-1	PUR, TMPU acc. to EN 50363-10-2 with rough surface
Jacket color:	red lilac (RAL 4001)	red lilac (RAL 4001)

Technical data:	CB 627	S CB 628
Peak operating voltage:	max. 350 V	max. 350 V
Voltage UL:	300 V	300 V
Testing voltage: conductor/conductor: conductor/shielding:	 2000 V 2000 V	 2000 V 2000 V
Min. bending radius:	7.5 x O.D.	7.5 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg	5 x 10^7 cJ/kg
Temperature range VDE: static: flexible:	**UL:** up to +80°C -30/+70°C -5/+70°C	**UL:** up to +80°C -40/+70°C -40/+70°C
Halogen-free:	—	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2	
Oil resistance:	very good acc. to VDE 0207-5	very good acc. to EN 50363-10-2 + VDE 0207-363-10-2
Chemical resistance:	—	good against acids, alkalines, solvents, hydraulic liquids, etc.
Characteristic impedance:	120 Ω ± (95 - 140 Ω)	120 Ω ± (95 - 140 Ω)
Flexibility:	good	very good
Application in cable tracks:	not recommended	recommended
Weather resistance:	medium	very good
UL Style:	2464	20233
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30	

item no.	type	no. of pairs/conductors	AWG	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 6272251	CB 627	2	24 (≈ 16/34)	0.240	6.1	30
▶ 6272341	CB 627	2	22 (≈ 7/30)	0.252	6.4	32
▶ 6272501	CB 627	2	20 (≈ 17/32)	0.303	7.7	45
▶ 6272751	CB 627	2	19 (≈ 23/32)	0.378	9.6	61
▶ 6282251	S CB 628	2	24 (≈ 34/38)	0.311	7.9	52
▶ 6282341	S CB 628	2	22 (≈ 42/38)	0.327	8.3	56
▶ 6282501	S CB 628	2	20 (≈ 68/38)	0.343	8.7	54
▶ 6274251	CB 627	2 x 2	24 (≈ 16/34)	0.287	7.3	41
▶ 6274341	CB 627	2 x 2	22 (≈ 7/30)	0.303	7.7	45
▶ 6274501	CB 627	2 x 2	20 (≈ 17/32)	0.386	9.8	70
▶ 6274751	CB 627	2 x 2	19 (≈ 23/32)	0.531	13.5	120
▶ 6284251	S CB 628	2 x 2	24 (≈ 34/38)	0.358	9.1	66
▶ 6284341	S CB 628	2 x 2	22 (≈ 42/38)	0.378	9.6	71
▶ 6284501	S CB 628	2 x 2	20 (≈ 68/38)	0.417	10.6	77

Other dimensions and colors are available on request

DeviceNet™ Cables

DN 651 **Flexible PVC DeviceNet™ cable with a foil shield and UL recognition**

DN 650 **Flexible PVC DeviceNet™ cable with a tinned copper shield and UL recognition**

Marking for DN 650 6502241:
SAB BRÖCKSKES · D-VIERSEN · DN 650 2x0.24mm²+2x0.38mm² 6502241 24AWG/1pr+22AWG/1pr
Low Voltage Computer Cable AWM Style 2560 60°C 30V

Construction:	DN 651 *Drop Cable*	DN 651 *Trunk Cable*	DN 650 *Drop Cable*	DN 650 *Trunk Cable*
Item numbers:	6512241	6512781	6502241	6502781
Dimensions:	2 x 0.24 mm² + 2 x 0.38 mm²	2 x 0.96 mm² + 2 x 1.53 mm²	2 x 0.24 mm² + 2 x 0.38 mm²	2 x 0.96 mm² + 2 x 1.53 mm²
Conductor: 0.25 mm² tinned copper strands 0.38 mm² tinned copper strands	 AWG 24/19 AWG 22/19	 — —	 AWG 24/19 AWG 22/19	 — —
Conductor: 0.96 mm² tinned copper strands 1.53 mm² tinned copper strands	 — —	 AWG 18/19 AWG 15/19	 — —	 AWG 18/19 AWG 15/19
Insulation:	0.24 mm²: acc. to EN 50290-2-23 (02YI1) 0.38 mm²: PVC, TI2 acc. to EN 50363-3	0.96 mm²: acc. to EN 50290-2-23 (02YI1) 1.53 mm²: PVC, TI2 acc. to EN 50363-3	0.24 mm²: acc. to EN 50290-2-23 (02YI1) 0.38 mm²: PVC, TI2 acc. to EN 50363-3	0.96 mm²: acc. to EN 50290-2-23 (02YI1) 1.53 mm²: PVC, TI2 acc. to EN 50363-3
Color code:	0.24 mm²/0.96 mm²: data pair white and light blue; 0.38 mm²/1.53 mm²: supply pair black and red		0.24 mm²/0.96 mm²: data pair white and light blue; 0.38 mm²/1.53 mm²: supply pair black and red	
Wrapping:	conductors twisted to pairs stranded with alu foil		conductors twisted to pairs stranded with alu foil	
Stranding:	pairs in specially adjusted layering, tinned copper drain wire in core		pairs in specially adjusted layering, tinned copper drain wire in core	
Shielding:	alu. foil	alu. foil	tinned copper braiding	tinned copper braiding
Wrapping:	non-woven tape	non-woven tape	non-woven tape	non-woven tape
Jacket material:	PVC, TM1 acc. to EN 50363-4-1 + VDE 0207-363-4-1		PVC, TM1 acc. to EN 50363-4-1 + VDE 0207-363-4-1	
Jacket color:	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)

Technical data:	DN 651 *Drop Cable*	DN 651 *Trunk Cable*	DN 650 *Drop Cable*	DN 650 *Trunk Cable*
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V	max. 350 V
Voltage UL:	30 V	30 V	30 V	30 V
Testing voltage: conductor/conductor: conductor/shielding:	 1500 V 1200 V	 1500 V 1200 V	 1500 V 1200 V	 1500 V 1200 V
Min. bending radius: fixed installation: free movement:	 7.5 x O.D. 15 x O.D.	 7.5 x O.D. 15 x O.D.	 7.5 x O.D. 15 x O.D.	 7.5 x O.D. 15 x O.D.
Temperature range: static: flexible:	UL: up to +60°C -30/+70°C -5/+70°C	UL: up to +60°C -30/+70°C -5/+70°C	UL: up to +60°C -30/+70°C -5/+70°C	UL: up to +60°C -30/+70°C -5/+70°C
Characteristic impedance:	120 Ω ± 10%	120 Ω ± 10%	120 Ω ± 10%	120 Ω ± 10%
UL Style:	2560	2560	2560	2560
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30			

item no.	type	no.of data conductors	no. of power conductors	outer-ø inch	outer-ø mm	cable weight ≈lbs/mft
▶ 6512241	DN 651 (Drop Cable)	24 AWG/1pr	22 AWG/1pr	0.260	6.6	38
▶ 6512781	DN 651 (Trunk Cable)	18 AWG/1pr	15 AWG/1pr	0.449	11.4	78
▶ 6502241	DN 650 (Drop Cable)	24 AWG/1pr	22 AWG/1pr	0.260	6.6	50
▶ 6502781	DN 650 (Trunk Cable)	18 AWG/1pr	15 AWG/1pr	0.449	11.4	112

Other dimensions and colors are available on request

DeviceNet™ Cables

DN 656 Halogen-free, flexible DeviceNet™ cable with a foil shield and UL recognition

DN 657 Halogen-free, flexible DeviceNet™ cable with tinned copper shield

Marking for DN 656 6562241:
SAB BRÖCKSKES · D-VIERSEN · DN 656 2x0.24mm²+2x0.38mm² 6562241 24AWG/1pr+22AWG/1pr AWM Style 21080 75°C 300V

Construction:	DN 656 *Drop Cable*	DN 656 *Trunk Cable*	DN 657 *Drop Cable*	DN 657 *Trunk Cable*
Item numbers:	6562241	6562781	6572241	6572781
Dimensions:	2 x 0.24 mm² + 2 x 0.38 mm²	2 x 0.96 mm² + 2 x 1.53 mm²	2 x 0.24 mm² + 2 x 0.38 mm²	2 x 0.96 mm² + 2 x 1.53 mm²
Conductor: 0.24mm² tinned copper strands 0.38 mm² tinned copper strands	 AWG 24/19 AWG 22/19	 — —	 AWG 24/19 AWG 22/19	 — —
Conductor: 0.96 mm² tinned copper strands 1.53 mm² tinned copper strands	 — —	 AWG 18/19 AWG 15/19	 — —	 AWG 18/19 AWG 15/19
Insulation:	0.24 mm²: acc. to EN 50290-2-23 (02YI1) 0.38 mm²: SABIX®	0.96 mm²: acc. to EN 50290-2-23 (02YI1) 1.53 mm²: SABIX®	0.24 mm²: acc. to EN 50290-2-23 (02YI1) 0.38 mm²: SABIX®	0.96 mm²: acc. to EN 50290-2-23 (02YI1) 1.53 mm²: SABIX®
Color code:	0.24 mm²/0.96 mm²: data pair white and light blue; 0.38 mm²/1.53 mm²: supply pair black and red		0.24 mm²/0.96 mm²: data pair white and light blue; 0.38 mm²/1.53 mm²: supply pair black and red	
Wrapping:	conductors twisted to pairs stranded with alu foil		conductors twisted to pairs stranded with alu foil	
Stranding:	pairs in specially adjusted layering, tinned copper drain wire in core			
Shielding:	alu. foil	alu. foil	tinned copper braiding	tinned copper braiding
Wrapping:	non-woven tape	non-woven tape	non-woven tape	non-woven tape
Jacket material:	SABIX®	SABIX®	SABIX®	SABIX®
Jacket color:	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)

Technical data:	DN 656 *Drop Cable*	DN 656 *Trunk Cable*	DN 657 *Drop Cable*	DN 657 *Trunk Cable*
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V	max. 350 V
Voltage UL:	300 V	300 V	—	—
Testing voltage: conductor/conductor: conductor/shielding:	 2000 V 2000 V	 2000 V 2000 V	 1500 V 1200 V	 1500 V 1200 V
Min. bending radius: fixed installation: free movement:	 7.5 x O.D. 15 x O.D.	 7.5 x O.D. 15 x O.D.	 7.5 x O.D. 15 x O.D.	 7.5 x O.D. 15 x O.D.
Temperature range: static: flexible:	**UL:** up to +75°C -40/+70°C -30/+70°C	**UL:** up to +75°C -40/+70°C -30/+70°C	 -40/+70°C -30/+70°C	 -40/+70°C -30/+70°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1		acc. to IEC 60754-1 + VDE 0482-754-1	
Characteristic impedance:	120 Ω ± 10%	120 Ω ± 10%	120 Ω ± 10%	120 Ω ± 10%
UL Style:	21080	21080	—	—
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30			

item no.	type	no.of data conductors	no. of power conductors	outer-ø inch	outer-ø mm	cable weight ≈lbs/mft
▶ 6562241	DN 656 (Drop Cable)	24 AWG/1pr	22 AWG/1pr	0.260	6.6	38
▶ 6562781	DN 656 (Trunk Cable)	18 AWG/1pr	15 AWG/1pr	0.449	11.4	81
▶ 6572241	DN 657 (Drop Cable)	24 AWG/1pr	22 AWG/1pr	0.260	6.6	50
▶ 6572781	DN 657 (Trunk Cable)	18 AWG/1pr	15 AWG/1pr	0.449	11.4	123

Other dimensions and colors are available on request

DeviceNet™ Cables

DN 659 Continuous flex DeviceNet™ cable with a foil shield

DN 658 Continuous flex DeviceNet™ cable with tinned copper shield

Marking for DN 658 6582241:
SAB BRÖCKSKES · D-VIERSEN · DN 658 2x0.24mm²+2x0.38mm² 6582241 24AWG/1pr+22AWG/1pr AWM Style 20417 60°C 30V

Construction:	DN 659 *Drop Cable*	DN 659 *Trunk Cable*	DN 658 *Drop Cable*	DN 658 *Trunk Cable*
Item numbers:	6592241	6592781	6582241	6582781
Dimensions:	2 x 0.24 mm² + 2 x 0.38 mm²	2 x 0.96 mm² + 2 x 1.53 mm²	2 x 0.24 mm² + 2 x 0.38 mm²	2 x 0.96 mm² + 2 x 1.53 mm²
Conductor: 0.24 mm² tinned copper strands 0.38 mm² tinned copper strands	 fine wires fine wires	 — —	 fine wires fine wires	 — —
Conductor: 0.96 mm² tinned copper strands 1.53 mm² tinned copper strands	 — —	 fine wires fine wires	 — —	 fine wires fine wires
Insulation:	0.24 mm²: acc. to EN 50290-2-23 (02YI1) 0.38 mm²: PVC, TI2 acc. to EN 50363-3	0.96 mm²: acc. to EN 50290-2-23 (02YI1) 1.53 mm²: PVC, TI2 acc. to EN 50363-3	0.24 mm²: acc. to EN 50290-2-23 (02YI1) 0.38 mm²: PVC, TI2 acc. to EN 50363-3	0.96 mm²: acc. to EN 50290-2-23 (02YI1) 1.53 mm²: PVC, TI2 acc. to EN 50363-3
Color code:	0.24 mm²/0.96 mm²: data pair white and light blue; 0.38 mm²/1.53 mm²: supply pair black and red		0.24 mm²/0.96 mm²: data pair white and light blue; 0.38 mm²/1.53 mm²: supply pair black and red	
Wrapping:	conductors twisted to pairs stranded with alu foil		conductors twisted to pairs stranded with alu foil	
Stranding:	pairs in specially adjusted layering, tinned copper drain wire in core			
Shielding:	alu. foil	alu. foil	tinned copper braiding	tinned copper braiding
Wrapping:	non-woven tape	non-woven tape	non-woven tape	non-woven tape
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2 with rough surface			
Jacket color:	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)

Technical data:	DN 659 *Drop Cable*	DN 659 *Trunk Cable*	DN 658 *Drop Cable*	DN 658 *Trunk Cable*
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V	max. 350 V
Voltage UL:	30 V	30 V	30 V	30 V
Testing voltage: conductor/conductor: conductor/shielding:	 2000 V 2000 V	 2000 V 2000 V	 2000 V 2000 V	 2000 V 2000 V
Min. bending radius: fixed installation: free movement:	 7.5 x O.D. 15 x O.D.	 7.5 x O.D. 15 x O.D.	 7.5 x O.D. 15 x O.D.	 7.5 x O.D. 15 x O.D.
Temperature range: static: flexible:	**UL:** up to +60°C -30/+70°C -5/+70°C	**UL:** up to +60°C -30/+70°C -5/+70°C	**UL:** up to +60°C -30/+70°C -5/+70°C	**UL:** up to +60°C -30/+70°C -5/+70°C
Characteristic impedance:	120 Ω ± 10%	120 Ω ± 10%	120 Ω ± 10%	120 Ω ± 10%
UL Style:	20417	20417	20417	20417
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30			

item no.	type	no.of data conductors	no. of power conductors	outer-ø inch	outer-ø mm	cable weight ≈lbs/mft
▶ 6592241	DN 659 (Drop Cable)	24 AWG/1pr	22 AWG/1pr	0.260	6.6	44
▶ 6592781	DN 659 (Trunk Cable)	18 AWG/1pr	15 AWG/1pr	0.449	11.4	77
▶ 6582241	DN 658 (Drop Cable)	24 AWG/1pr	22 AWG/1pr	0.260	6.6	51
▶ 6582781	DN 658 (Trunk Cable)	18 AWG/1pr	15 AWG/1pr	0.449	11.4	112

Other dimensions and colors are available on request

DN 658 Robot Cable/Drop

Highly flexible DeviceNet™ cable, suitable for robots with overall tinned copper shield

Marking for DN 658 6589007:
SAB BRÖCKSKES · D-VIERSEN · DN 658 robot cable/Drop 2x0.24mm²+2x0.38mm² 24AWG/1pr+22AWG/1pr AWM Style 21198 80°C 300V 6589007

Construction:

Conductor:	bare copper strands, fine wires
Insulation:	24 AWG: Foam-Skin PE 22 AWG: SABIX®
Color code:	24 AWG: white, blue 22 AWG: black, red
Wrapping:	conductors twisted to pairs stranded with alu foil
Stranding:	pairs in a specifically adjusted layering, tinned copper drain wire in the core.
Shielding:	tinned copper braiding
Wrapping:	non-woven tape
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	red lilac (RAL 4001)

Technical data:

Peak operating voltage:	max. 350V
Voltage UL:	300 V
Testing voltage:	conductor/conductor: 2000 V conductor/shielding: 2000 V
Min. bending radius: *fixed installation:* *free movement:*	 7.5 x O.D. 15 x O.D.
Torsion angle:	up to ± 180°/m
Temperature range: *static:* *flexible:*	**UL:** up to 80°C -40/+80°C -30/+80°C
Characteristic impedance:	120 Ω ± 10%
Approvals:	UL AWM Style 21198, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors	AWG	outer-ø inch	outer-ø mm	cable weight ≈lbs/mft	ohmic resistance at 20°C max.Ω/km
► 6589007	2	24/19	0.260	6.6	43	83.3
	2	22 (≈ 48/38)				52.6

Other dimensions and colors are available on request

Profibus-DP Cables acc. to IEC 61158-2

SABIX® PB 630 Halogen-free Profibus-DP cable

SABIX® PB 630 FRNC Halogen-free flame retardant Profibus-DP cable

PB 631 Halogen-free PE Profibus-DP cable for fixed installation

PB 633 Halogen-free, flexible PE Profibus-DP cable

Marking for SABIX® PB 630 FRNC 66302341:
SAB BRÖCKSKES · D-VIERSEN · SABIX® PB 630 FRNC 2x0.34mm² CE

Construction:	SABIX® PB 630 *Halogen-free*	SABIX® PB 630 FRNC *Halogen-free & flame retardant*	PB 631 *for fixed installations*	PB 633 *for flexible applications*
Item numbers:	56302341	66302341	6312331	6332341 / 6334341
Dimensions:	2 x 0.34 mm²	2 x 0.34 mm²	2 x 22 AWG	2 x 0.34 mm² 2 x 0.34 mm² + 3 x 1.00 mm²
Conductor:	bare copper strands, acc. to VDE 0812	bare copper strands, acc. to VDE 0812	bare copper wire AWG 22, single wire	0.34 mm²: bare copper strands acc. to VDE 0812 1.00 mm²: bare copper strands acc. to IEC 60228, VDE 0295, class 5
Pairwise wrapping:	—	—	—	alu foil
Insulation:	acc. to EN 50290-2-23 + VDE 0819-103 (02YI1)	acc. to EN 50290-2-23 + VDE 0819-103 (02YI1)	acc. to EN 50290-2-23 + VDE 0819-103 (02YI1)	0.34 mm²: EN 50290-2-23 + VDE 0819-103 (02YI1) 1.00 mm²: PE 2YI1 acc. to EN 50290-2-23
Color code:	red, green	red, green	red, green	red, green (0.34 mm²), brown, light blue and green/yellow ground (1.0 mm²)
Stranding:	in layers	in layers	in layers	in layers
Shielding:	alu foil + tinned copper braiding		alu foil + tinned copper braiding	tinned copper braiding
Jacket material:	SABIX®	SABIX®	PE, 2YM1 acc. to EN 50290-2-24	
Jacket color:	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)

Technical data:	SABIX® PB 630 *Halogen-free*	SABIX® PB 630 FRNC *Halogen-free & flame retardant*	PB 631 *for fixed installations*	PB 633 *for flexible applications*
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V	max. 350 V
Testing voltage: conductor/conductor: conductor/shielding:	 1500 V 1500 V	 1500 V 1500 V	 1500 V 1500 V	 1500 V 1500 V
Min. bending radius:	12 x O.D.	12 x O.D.	12 x O.D.	12 x O.D.
Radiation resistance:	—	—	7 x 10^8 cJ/kg	—
Temperature range: static: flexible:	 -40/+80°C -40/+80°C	 -40/+80°C -30/+80°C	 -40/+70°C -40/+70°C	 -40/+70°C -40/+70°C
Halogen-free:	acc. to IEC 60754-1 + EN 0482-754-1	acc. to IEC 60754-1 + EN 0482-754-1	acc. to IEC 60754-1 + EN 0482-754-1	—
Burning characteristics: no flame propagation acc. to IEC 60332-3-24 + IEC 60332-3-25 Cat. C resp. D, Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2	—	X	—	—
Corrosiveness of conflagration gases:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases			
Smoke density:	—	very low	low	—
Oil resistance:	very good acc. to EN 50363-4-1	—	—	—
Characteristic impedance 3 - 20 MHz:	150 Ω ± 10%	150 Ω ± 10%	150 Ω ± 10%	—
For fixed installation:	suitable	suitable	suitable	suitable
For flexible application:	suitable	not suitable	not suitable	suitable
Weather resistance:	good	good	good	good
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30			

item no.	type	no. of conductors	dimensions AWG	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 56302341	SABIX® PB 630	2	22 (≈ 7/30)	0.295	7.5	34
▶ 66302341	SABIX® PB 630 FRNC	2	22 (≈ 7/30)	0.295	7.5	42
▶ 6312331	PB 631	2	22	0.280	7.1	30
▶ 6332341	PB 633	2	22 (≈ 7/30)	0.295	7.5	34
▶ 6334341	PB 633	2+3	22 (≈ 7/30) +18 (≈ 30/32)	0.398	10.1	68

Other dimensions and colors are available on request

Profibus-DP and **Profibus-FMS** apply the same transmission technology and a uniform bus access log. Therefore, both types can be used simultaneously on one cable.

Profibus-DP Cables acc. IEC 61158-2

PB 630 PVC Profibus-DP cable for fixed installation

PB 639 PVC Profibus-DP cable for direct burial

PB 636 Flexible PVC Profibus-DP cable for outdoor installation

PB 635 PVC Profibus-DP cable for outdoor installation

Marking for PB 636 6362348:
SAB BRÖCKSKES · D-VIERSEN · PB 636 2x0.34mm² CE

Construction:	PB 630 *for fixed installations*	PB 639 *for direct burial*	PB 636 *for fixed installations*	PB 635 *for fixed installations*
Item numbers:	6302331	6392338	6362348	6352338
Dimensions:	2 x 22 AWG	2 x 22 AWG	2 x 0.34 mm²	2 x 22 AWG
Conductor:	bare copper wire AWG 22, single wire	bare copper wire AWG 22, single wire	bare copper strands acc. to VDE 0812	bare copper wire AWG 22, single wire
Insulation:	acc. to EN 50290-2-23 + VDE 0819-103 (02YI1)	acc. to EN 50290-2-23 + VDE 0819-103 (02YI1)	acc. to EN 50290-2-23 + VDE 0819-103 (02YI1)	acc. to EN 50290-2-23 + VDE 0819-103 (02YI1)
Color code:	red, green	red, green	red, green	red, green
Stranding:	in layers	in layers	in layers	in layers
Shielding:	alu foil + tinned copper braiding		alu foil + tinned copper braiding	
Jacket material:	PVC, TM2 acc. to EN 50363-4-1	PVC, TM2 acc. to EN 50363-4-1	PVC, TM2 acc. to EN 50363-4-1	PVC, TM2 acc. to EN 50363-4-1
Jacket color:	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)

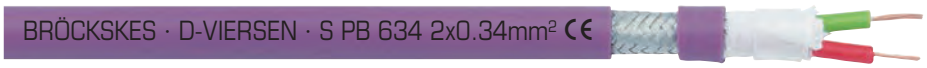
Technical data:	PB 630 *for fixed installations*	PB 639 *for direct burial*	PB 636 *for fixed installations*	PB 635 *for fixed installations*
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V	max. 350 V
Testing voltage: conductor/conductor: conductor/shielding:	 1500 V 1500 V	 1500 V 1500 V	 1500 V 1500 V	 1500 V 1500 V
Min. bending radius:	12 x O.D.	12 x O.D.	12 x O.D.	12 x O.D.
Radiation resistance:	7 x 10^6 cJ/kg	—	—	—
Temperature range: static: flexible:	 -30/+70°C -5/+70°C	 -30/+70°C -5/+70°C	 -30/+70°C -5/+70°C	 -30/+70°C -5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2			
Oil resistance:	acc. to internal standard, see page O/29		acc. to internal standard, see page O/29	
Characteristic impedance 3 - 20 MHz:	150 Ω ± 10%	150 Ω ± 10%	150 Ω ± 10%	150 Ω ± 10%
For fixed installation:	suitable	suitable	suitable	suitable
For flexible application:	not suitable	not suitable	suitable	not suitable
Weather resistance:	medium	good	good	good
Outdoor installation:	not suitable	suitable	suitable	suitable
Direct burial:	not suitable	suitable	not suitable	not suitable
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30			

item no.	type	no. of conductors	dimensions AWG	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 6302331	PB 630	2	22	0.280	7.1	36
▶ 6392338	PB 639	2	22	0.362	9.2	63
▶ 6362348	PB 636	2	22 (≈ 7/30)	0.346	8.8	54
▶ 6352338	PB 635	2	22	0.331	8.4	53

Other dimensions and colors are available on request

Profibus-DP Cables acc. to IEC 61158-2

PB 637 PVC Profibus-DP cable for fixed installations
S PB 634 Continuous flex PUR Profibus-DP cable for cable tracks
PB 632 PVC Profibus-DP Cable for flexible applications



Marking for S PB 634 6342341:
SAB BRÖCKSKES · D-VIERSEN · S PB 634 2x0.34mm² CE

Construction:	PB 637 *for fixed installations*	S PB 634 *continuous flex for cable tracks*	PB 632 *for flexible applications*
Item numbers:	6372331	6342341 / 6344341	6322341 / 6324341
Dimensions:	2 x AWG 22	2 x .034 mm² / 2 x 0.34 mm² + 3 x 1.00 mm²	2 x .034 mm² / 2 x 0.34 mm2 + 3 x 1.00 mm²
Conductor:	bare copper wire AWG 22, single wire	0.34 mm²: bare copper strands acc. to VDE 0812 1.00 mm²: bare copper strands acc. to IEC 60228, VDE 0295, class 6	0.34 mm²: bare copper strands acc. to VDE 0812 1.00 mm²: bare copper strands acc. to IEC 60228, VDE 0295, class 5
Pairwise wrapping:	—	non-woven tape/alu foil	alu foil
Pairwise jacketing:	—	TPE	—
Insulation:	acc. to EN 50290-2-23 + VDE 0819-103 (02YI1)	0.34 mm²: EN 50290-2-23 + VDE 0819-103 (02YI1) 1.00 mm²: TPE	0.34 mm²: EN 50290-2-23 + VDE 0819-103 (02YI1) 1.00 mm²: PVC TI2 acc. to EN 50363-3
Color code:	red, green	red, green (0.34 mm²), brown, light blue and green/yellow ground (1.0 mm²)	
Stranding:	in layers	in layers	in layers
Shielding:	alu foil + tinned copper braiding	pairwise: tinned copper braiding	pairwise: tinned copper braiding
Jacket material:	PVC, TM5 acc. to EN 50363-4-1	PUR, TMPU acc. to EN 50363-10-2 with rough surface	PVC, TM2 acc. to EN 50363-4-1
Jacket color:	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)

Technical data:	PB 637 *for fixed installations*	S PB 634 *continuous flex for cable tracks*	PB 632 *for flexible applications*
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V
Voltage UL:	30 V	—	—
Testing voltage: conductor/conductor: conductor/shielding:	1500 V 1500 V	1500 V 1500 V	1500 V 1500 V
Min. bending radius:	12 x O.D.	12 x O.D.	12 x O.D.
Temperature range: static: flexible:	**UL:** up to 60°C -30/+70°C -5/+70°C	-40/+80°C -40/+80°C	-30/+70°C -5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2	—	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Oil resistance:	very good acc. to VDE 0207-5	very good acc. to EN 50363-10-2 + VDE 0207-363-10-2	acc. to internal standard see page O/29
Characteristic impedance 3 - 20 MHz:	150 Ω ± 10%	—	—
For fixed installation:	suitable	suitable	suitable
For flexible application:	not suitable	suitable	suitable
Application in cable tracks:	not recommended	recommended	not recommended
Weather resistance:	very good	very good	medium
UL Style:	2560	—	—
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30		

item no.	type	no. of conductors	dimensions AWG	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 6372331	PB 637	2	22	0.295	7.5	38
▶ 6342341	S PB 634	2	22 (≈ 7/30)	0.299	7.6	39
▶ 6344341	S PB 634	2 + 3	22 (≈ 7/30) + 18 (≈ 56/34)	0.402	10.2	73
▶ 6322341	PB 632	2	22 (≈ 7/30)	0.295	7.5	38
▶ 6324341	PB 632	2+3	22 (≈ 7/30) + 18 (≈ 30/32)	0.398	10.1	82

Other dimensions and colors are available on request

Profibus-DP and **Profibus-FMS** apply the same transmission technology and a uniform bus access log. Therefore, both types can be used simultaneously on one cable.

Profibus-DP Cables

PB 640 Flexible PVC Profibus-DP cable
PB 640 UL Flexible PVC Profibus-DP cable with UL recognition
S PB 640 Continuous flex PUR Profibus-DP cable
S PB 640 UL Continuous flex PUR Profibus-DP cable with UL recognition

Marking for S PB 640 UL 6402611:
SAB BRÖCKSKES · D-VIERSEN · S PB 640 UL 24AWG/2c 6402611 AWM Style 21198 80°C 300V

Construction:	PB 640 *for flexible applications*	PB 640 UL *for flexible applications*	S PB 640 *continuous flex*	S PB 640 UL *continuous flex*
Item numbers:	6402421	6402631	6402601	6402611
Dimensions:	2 x 24 AWG	2 x 24 AWG	2 x 24 AWG	2 x 24 AWG
Conductor:	bare copper strands 24 AWG		bare copper strands 24 AWG	
Insulation:	acc. to EN 50290-2-23 + VDE 0819-103 (02YI1)	acc. to EN 50290-2-23 + VDE 0819-103 (02YI1)	acc. to EN 50290-2-23 + VDE 0819-103 (02YI1)	acc. to EN 50290-2-23 + VDE 0819-103 (02YI1)
Color code:	red, green	red, green	red, green	red, green
Stranding:	in layers	in layers	in layers	in layers
Inner jacket (nature):	PVC	PVC	SABIX®	SABIX®
Shielding:	alu foil + tinned copper braiding		alu foil + tinned copper braiding	
Jacket material:	PVC, TM2 acc. to EN 50363-4-1		PUR, TMPU acc. to EN 50363-10-2 with matte surface	
Jacket color:	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)

Technical data:	PB 640 *for flexible applications*	PB 640 UL *for flexible applications*	S PB 640 *continuous flex*	S PB 640 UL *continuous flex*
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V	max. 350 V
Voltage UL:	—	300 V	—	300 V
Voltage CSA:	—	—	—	300 V
Testing voltage: conductor/conductor: conductor/shielding:	 1500 V 1500 V	 2000 V 2000 V	 1500 V 1500 V	 2000 V 2000 V
Min. bending radius: fixed installation: flexible application: continuous flex:	12 x O.D.	12 x O.D.	 5 x O.D. 10 x O.D. 15 x O.D.	 5 x O.D. 10 x O.D. 15 x O.D.
Temperature range: static: flexible:	 -30/+70°C -5/+70°C	**UL:** up to +80°C -30/+70°C -5/+70°C	 -40/+80°C -30/+80°C	**UL/CSA:** up to +80°C -40/+80°C -30/+80°C
Halogen-free:	—	—	acc. to IEC 60754-1 + VDE 0482-754-1	
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332 + VDE 0482-332-1-2			
Oil resistance:	acc. to internal standard, see page O/29		very good EN 50363-10-2 + VDE 0207-363-10-2	
Characteristic impedance (3 - 20 MHz):	150 Ω ± 10%	150 Ω ± 10%	150 Ω ± 10%	150 Ω ± 10%
Fixed installation:	suitable	suitable	suitable	suitable
For flexible application:	suitable	suitable	suitable	suitable
Application in cable tracks:	not recommended	not recommended	recommended	recommended
UL Style:	—	2464	—	21198
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30			

item no.	type	no.of conductors	AWG	outer-ø inch	outer-ø mm	cable weight ≈lbs/mft
▶ 6402421	PB 640	2	24	0.315 ± 0.016	8.0 ± 0.4	42
▶ 6402631	PB 640 UL	2	24	0.315 ± 0.016	8.0 ± 0.4	42
▶ 6402601	S PB 640	2	24	0.315 ± 0.016	8.0 ± 0.4	38
▶ 6402611	S PB 640 UL	2	24	0.315 ± 0.016	8.0 ± 0.4	42

Other dimensions and colors are available on request

Profibus-DP and **Profibus-FMS** apply the same transmission technology and a uniform bus access log. Therefore, both types can be used simultaneously on one cable.

with "Fast Connect" Construction

SPECIAL CABLES SAB North America
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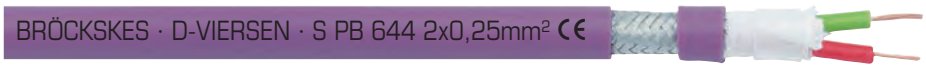
866-722-2974 ■ info@sabcable.com

Profibus-DP Cables acc. to IEC 61158-2

PB 642 PVC Profibus-cable (PA)

S PB 644 Continuous flex PUR Profibus-cable (PA) for cable tracks



Marking for S PB 644 6442251:
SAB BRÖCKSKES · D-VIERSEN · S PB 644 2x0.25mm²

Construction:	PB 642 *flexible*	S PB 644 *continuous flex*
Item numbers:	6422221, 6424221, 6422251, 6424251, 6422767, 6422768	6442251, 6444251
Dimensions:	2 x 0.22 mm², 2 x 2 x 0.22 mm², 2 x .025 mm², 2 x 2 x 0.25 mm², 2 x 0.82 mm², 2 x 0.82 mm²	2 x .025 mm², 2 x 2 x 0.25mm²
Conductors:	bare copper strands with reference to VDE 0812	bare copper strands, extra fine wires
Insulation:	PE, 2YI1 acc. to EN 50290-2-23 + VDE 0819-103	PE, 2YI1 acc. to EN 50290-2-23 + VDE 0819-103
Color code:	2c: red, green, 2pr: DIN 47100	2c: red, green, 2pr: DIN 47100
Stranding:	in layers	in layers
Wrapping:	PETP foil, non-woven tape	PETP foil, non-woven tape
Shielding:	tinned copper braiding	tinned copper braiding
Jacket material:	PVC, TM2 acc. to EN 50363-4-1	PUR, TMPU acc. to EN 50363-10-2 with rough surface
Jacket color:	see table below	red lilac (RAL 4001)

Technical data:	PB 642 *flexible*	S PB 644 *continuous flex*
Peak operating voltage:	max. 350 V	max. 350 V
Testing voltage: conductor/conductor: conductor/shielding:	 1500 V 1200 V	 1500 V 1200 V
Min. bending radius: continuously flexing:	7.5 x O.D. —	7.5 x O.D. 12 x O.D.
Temperature range: static: flexible:	 -30/+70°C -5/+70°C	 -40/+70°C -40/+70°C
Oil resistance:	acc. to internal standard, see page O/29	very good acc. to EN 50363-10-2 + VDE 0207-363-10-2
Characteristic impedance: type B: PA:	 at >100 kHz 100 Ω - 130 Ω 100 Ω - 20%	 at >100 kHz 100 Ω - 130 Ω 100 Ω - 20%
For fixed installation:	suitable	suitable
For flexible application:	suitable	suitable
Application in cable tracks:	not recommended	recommended
Weather resistance:	medium	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30	

item no.	type	jacket color	no. of conductors	AWG	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 6422221	PB 642	red lilac (RAL 4001)	2	24 (≈ 7/32)	0.173	4.4	17
▶ 6424221	PB 642	red lilac (RAL 4001)	2 x 2	24 (≈ 7/32)	0.244	6.2	30
▶ 6422251	PB 642	red lilac (RAL 4001)	2	24 (≈ 14/34)	0.193	4.9	20
▶ 6424251	PB 642	red lilac (RAL 4001)	2 x 2	24 (≈ 14/34)	0.264	6.7	35
▶ 6422767	PB 642 PA	blue (RAL 5015)	2	18 (≈ 26/32)	0.287	7.3	46
▶ 6422768	PB 642 PA	black (RAL 9005)	2	18 (≈ 26/32)	0.287	7.3	46
▶ 6442251	S PB 644	red lilac (RAL 4001)	2	24 (≈ 32/38)	0.205	5.2	22
▶ 6444251	S PB 644	red lilac (RAL 4001)	2 x 2	24 (≈ 32/38)	0.268	6.8	38

Other dimensions and colors are available on request

SafetyBus p Cables

SBP 680 — SafetyBUS p cable for fixed installation

S SBP 684 Move — SafetyBUS p cable for flexible application

CE EAC RoHS

)CKSKES · D-VIERSEN · SafetyBUS p SBP 680 3x0.75mm² CE

Marking for SBP 680 6803754:
SAB BRÖCKSKES · D-VIERSEN · SafetyBUS p SBP 680 3x0.75mm² CE *and current meter marking*

D-VIERSEN · SafetyBUS p MOVE S SBP 684 3x0.75mm² CE

Marking for S SBP 684 Move 6843754:
SAB BRÖCKSKES · D-VIERSEN · SafetyBUS p MOVE S SBP 684 3x0.75mm² CE *and current meter marking*

Construction:	**SBP 680** *for fixed installation*	**S SBP 684 Move** *for flexible applications*
Item numbers:	6803754	6843754
Dimensions:	3 x 0.75 mm²	3 x 0.75 mm²
Conductors:	bare copper strands acc. to VDE class 5	bare copper strands acc. to VDE class 6
Insulation:	acc. to EN 50290-2-23 + VDE 0819-103 (02Y11)	acc. to EN 50290-2-23 + VDE 0819-103 (02Y11)
Color code:	acc. to DIN 47100	acc. to DIN 47100
Wrapping:	non-woven tape	non-woven tape
Shielding:	tinned copper braiding	tinned copper braiding
Wrapping:	non-woven tape	non-woven tape
Jacket material:	PUR	PUR
Jacket color:	signal yellow (RAL 1003)	signal yellow (RAL 1003)

Technical data:	**SBP 680** *for fixed installation*	**S SBP 684 Move** *for fleixble applications*
Peak operating voltage:	max. 350 V	max. 350 V
Testing voltage: conductor/conductor: conductor/shielding:	 1500 V 1200 V	 1500 V 1200 V
Min. bending radius: fixed installation: free movement: continuous flex:	 5 x O.D. 10 x O.D. —	 5 x O.D. 10 x O.D. 12 x O.D.
Temperature range:	-40/+80°C	-40/+80°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Characteristic impedance at 1 MHz:	100 - 120 Ω	100 - 120 Ω
Application in cable tracks:	not recommended	recommended
Continuous flex application:	—	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30	

item no.	type	no. of conductors	AWG	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 6803754	SBP 680	3	19 (≈ 24/32)	0.307 ± 0.016	7.8 ± 0.4	50
▶ 6843754	S SBP 684 Move	3	19 (≈ 69/38)	0.307 ± 0.016	7.8 ± 0.4	50

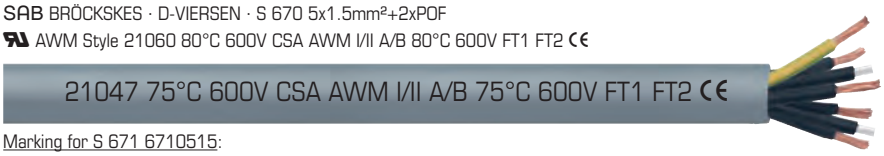
Other dimensions and colors are available on request

Hybrid Fieldbus Cables

S 670 PUR hybrid field bus control cable, suitable for cable tracks

S 671 PVC hybrid field bus control cable, suitable for cable tracks

Marking for S 670 6700515:
SAB BRÖCKSKES · D-VIERSEN · S 670 5x1.5mm²+2xPOF
AWM Style 21060 80°C 600V CSA AWM I/II A/B 80°C 600V FT1 FT2 CE



Marking for S 671 6710515:
SAB BRÖCKSKES · D-VIERSEN · S 671 5x1.5mm²+2xPOF
AWM Style 21047 75°C 600V CSA AWM I/II A/B 75°C 600V FT1 FT2 CE

optical waveguide + copper conductors

Construction:	S 670	S 671
Item numbers:	6700415, 6700515, 6700425, 6700525	6710210, 6710310, 6710215, 6710515
Dimensions:	4 x 1.50 mm², 5 x 1.50 mm² 4 x 2.50 mm², 5 x 2.50 mm²	2 x 1.00 mm², 3 x 1.00 mm² 2 x 1.50 mm², 5 x 1.50 mm²
Conductors:	bare copper strands, extra fine wires	bare copper strands, extra fine wires
Insulation:	PVC, TI2 acc. to EN 50363-3	PVC, TI2 acc. to EN 50363-3
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors	
Optical waveguide:	POF (polymeric optical fibers)	POF (polymeric optical fibers)
Color Code POF:	black	black
Stranding:	cores and POF in specially adjusted layering	cores and POF in specially adjusted layering
Wrapping:	non-woven tape	non-woven tape
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2 with matte surface	PVC, TM2 acc. to EN 50363-4-1 + VDE 0207-363-4-1, reinforced wall-thickness
Jacket color:	red lilac (RAL 4001)	silver gray (RAL 7001)

Technical data:	S 670	S 671
Nominal voltage:	Uo/U 300/500 V	Uo/U 300/500 V
Voltage UL/CSA:	600 V	600 V
Testing voltage: conductor/conductor:	3000 V	3000 V
Min. bending radius: fixed installation: free movement: continuous flex:	4 x O.D. 7.5 x O.D. 10 x O.D.	4 x O.D. 7.5 x O.D. 10 x O.D.
Temperature range: static: flexible:	**UL/CSA: up to +80°C** -40/+70°C -5/+70°C	**UL/CSA: up to +75°C** -40/+70°C -5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Oil resistance:	very good acc. to EN 50363-10-2 + VDE 0207-363-10-2	acc. to internal standard see page O/29
Attenuation POF measured at 650 nm:	max. 10 dBm / 20 m	max. 10 dBm / 20 m
Diameter:	**POF:** Center 900/1000 µm - outside 2.2 mm	**POF:** Center 900/1000 µm - outside 2.2 mm
UL Style:	21060	21047
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30	

S 670: PUR jacket

item no.	dimensions AWG	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ 6700415	16 AWG/4c	0.394	10.0	89
▶ 6700515	16 AWG/5c	0.417	10.6	105
▶ 6700425	14 AWG/4c	0.480	12.2	132
▶ 6700525	14 AWG/5c	0.516	13.1	161

each + 2 x POF (polymeric optical fibers)

Other dimensions and colors are available on request

S 671: PVC jacket

item no.	dimensions AWG	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ 6710210	18 AWG/2c	0.283	7.2	43
▶ 6710310	18 AWG/3c	0.315	8.0	54
▶ 6710215	16 AWG/2c	0.303	7.7	49
▶ 6710515	16 AWG/5c	0.421	10.7	111

each + 2 x POF (polymeric optical fibers)

Other dimensions and colors are available on request

CATLine Profinet Cable Assemblies

Suitable for cable tracks with male M12 connectors

INNOVATIVE SOLUTIONS
FOR PROFINET WIRING

Application: For the field bus wiring of Profinet field bus systems in industrial sectors. This cable type is used for example in cable track applications for automation and machine and plant construction with rough environments. The PUR outer jacket is resistant against rough environmental conditions.

Construction:

Conductor:	tinned copper strands
Insulation:	special polymer
Shielding:	alu foil and tinned copper braiding
Jacket material:	PUR
Jacket color:	green (RAL 6018)

Technical Data:

Min. bending radius *continuous flex:*	15 x O.D.
Temperature range *flexible:* *static:*	-20/+70°C -30/+70°C
Special feature:	Characteristic impedance 100Ω ± 10Ω CAT 5 with reference to EN 50173-1, oil resistant, suitable for cable tracks

J
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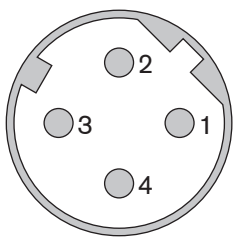
Pin configuration:

Pin1:	yellow
Pin2:	white
Pin3:	orange
Pin4:	blue
Housing:	screen



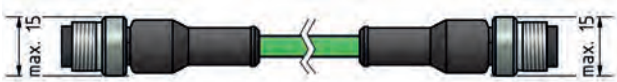
Plug types:

- M12 plug (male) 4-pole, D-coded
- M12 socket (female) 4-pole, D-coded
  straight or angled
  molded or mounted

item no.	length
▶ S0667-4003	3m/ ≈ 9.8 ft
▶ S0667-4004	5m/ ≈ 16.4 ft
▶ S0667-4005	7m/ ≈ 23.0 ft
▶ S0667-4006	10m/ ≈ 32.8 ft
▶ S0667-4007	15m/ ≈ 49.2 ft
▶ S0667-4008	20m/ ≈ 65.6 ft
▶ S0667-4009	25m/ ≈ 82.0 ft
▶ S0667-4011	28m/ ≈ 91.9 ft
▶ S0667-4010	35m/ ≈ 114.8 ft
▶ S0667-4012	50m/ ≈ 164.0 ft

Other lengths are possible on request

Cable assemblies with RJ45 connectors are also available.



S PN 667 cable information on page J/15

Profibus Cable Assemblies

Suitable for cable tracks with male M12 connectors

PROFIBUS CABLES ASSEMBLIES
FOR CABLE TRACK APPLICATIONS

Application: For the field bus wiring in automation technique. These bus cables transfer Profibus signals with different cable and plug combinations. The PUR cable for cable track applications is resistant against rough environmental conditions in industrial applications.

Construction:

Conductor:	bare copper strands
Insulation:	TPK
Shielding:	alu foil and tinned copper braiding
Jacket material:	PUR
Jacket color:	red lilac (RAL 4001)

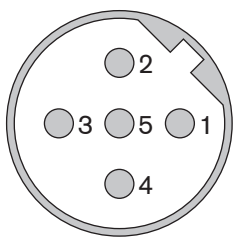
Technical Data:

Min. bending radius *continuous flex:*	12 x O.D.
Temperature range *flexible:* *static*	-40/+80 °C -40/+80 °C
Special feature:	Characteristic impedance at 3 - 20 MHz: 150Ω ± 10% with reference to IEC 61158-2, oil resistant, suitable for cable tracks

Pin configuration:

Pin1:	n.a.*
Pin2:	green
Pin3:	n.a.*
Pin4:	red
Pin5:	n.a.*
Housing:	screen

*n.o. - no allocation



Plug types:

- M12 plug (male) 5-pole, B-coded
- M12 socket (female) 5-pole, B-coded
  straight or angled
  molded or mounted

item no.	length
▶ S0634-4039	3m/ ≈ 9.8 ft
▶ S0634-4040	5m/ ≈ 16.4 ft
▶ S0634-4041	7m/ ≈ 23.0 ft
▶ S0634-4042	10m/ ≈ 32.8 ft
▶ S0634-4043	15m/ ≈ 49.2 ft
▶ S0634-4045	25m/ ≈ 82.0 ft
▶ S0634-4046	30m/ ≈ 98.4 ft

Other lengths are possible on request

We offer further plug and cable combinations for example with angular connectors or with one open cable end on request. Cable assemblies with RJ45 connectors are also available.

S PB 634 cable information on page J/46

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CABLES

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Content

Halogen-free Cables

Content

You will find halogen-free Ethernet cables especially for use in rail vehicles in chapter J

You will find Besilen® insulated strands for use in rail vehicles in chapter I

Content

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Applications

Applications of halogen-free SABIX® single conductors and wiring cables

These single conductors are installed in applications where high flex halogen-free cables are required. The various versions of these cables offer excellent characteristics such as oil resistance, low temperature flexibility, heat resistance, hot-air resistance, weather resistance, and are halogen-free.

Exemplary applications:

SABIX® A 146 FRNC **SABIX® A 156 FRNC** **SABIX® A 166 FRNC** **SABIX® A 147FRNC** **SABIX® A 157 FRNC**	Production of control cabinets, appliances and devices for communication technologies, household appliances, construction of generators and transformers, machine construction, railway technologies: furthermore, the FRNC type is particularly suitable for internal wiring of rail vehicles
SABIX® A 100 HT **SABIX® A 101 HT**	Internal wiring at high ambient temperatures in protected rooms

Application of halogen-free SABIX® control and connection cables

These cables are particularly suitable for control panels at tool working machines, assembly lines, transporting systems, production lines, rail technologies etc. Once installed these cables can be moved easily for installation and adjustment as well as inspection of machines. Note: Cables can not be mechanically overloaded during the movement. If a certain protection against electromagnetic interferences is requested, cables with an overall tinned copper shield should be used. The excellent characteristics of SABIX® cables, in various versions are oil resistance, low temperature flexibility, heat resistance, hot-air resistance, weather resistance, and are also halogen-free.

Exemplary applications:

SABIX® A 200 FRNC **SABIX® A 205 FRNC**	Automation systems, car manufacturing industry, machine construction, railway technologies
SABIX® A 238 FRNC	Transporting systems, construction of industrial plants, automation technologies
SABIX® A 260 PUR	Automation technologies, steel and iron industries, car manufacturing industry, machine construction, refrigeration and climate technologies, car wash, rising platforms for trucks
SABIX® A 130 HT	Plastics processing, packaging machine construction, smelters, steelworks and hot rolling mills, safety engineering, processing of cement, glass and ceramics, sauna construction, heat, refrigeration and climate technologies
SABIX® A 810 FRNC **SABIX® A 812 C FRNC**	Automation technologies, car manufacturing industry, machine construction, power supply cable between frequency converter and servo motor
SABIX® CC 625 FRNC M	Automation technologies, car manufacturing industry, machine construction, railway technologies
SABIX® CC 625 S FRNC M **SABIX® CC 625 SH FRNC M**	Transporting systems, construction of industrial plants, automation technologies

Applications

Application of halogen-free SABIX® data cables

Data cables are used for the transmission of signals, measuring values and control signals in electronic control appliances, data processing systems, railway technologies, weighing installations, office appliances or wherever small cross sections, bending radii, shielding or high flexibility is demanded. The excellent characteristics of these cables, in various versions are oil resistance, low temperature flexibility, heat resistance, weather resistance, flexibility and being halogen-free.

Exemplary applications:

SABIX® D 305 FRNC	Communication technologies
SABIX® D 315 FRNC	Electronic data processing systems, weighing installations, office appliances
SABIX® D 345 FRNC TP	Electronic data processing systems, weighing installations, office appliances, for increased requirements on transmission characteristics and near-end cross talk attenuation

Application of halogen-free SABIX® Rail Data and Rail Control tested acc. to EN 45545-2

In sensitive areas, such as in public buildings and facilities and rail vehicles, the requirements for the protection of the general security are very high. In addition, halogen-free cables must be flame-retardant and self extinguishing and must not contribute to fire propagation. All of these characteristics, can be found in our brand name of SABIX®. Our SABIX® Rail Cables meet the highest safety standards according to EN 45545-2, and are certified by the Fire Technology Laboratory Currenta GmbH.

Exemplary applications:

SABIX® R 600 FRNC **SABIX® R 638 FRNC** **SABIX® R 605 FRNC** **SABIX® R 615 FRNC** **SABIX® R 645 FRNC TP** **SABIX® R flex** **SAB RailLine 560** **SABIX® A 280 FRNC X** **SABIX® A 285 FRNC X** **SABIX® A 280 FRNC X (FR)**	Cables for internal wiring of rail vehicles acc. to EN 45545-2

SABIX® cables can be fully recycled and in separate components newly supplied to the resource cycle. Cables with FRNC outer sheath avoid flame propagation in case of local flaming and are flame retardant and self-extinguishing acc. to VDE, EN and IEC. They fulfil the smoke

Applications

Application of halogen-free SABIX® BL data, control and power cables for shipbuilding

The development of the BL cable series has been achieved with co-operation from our customers coming from the shipbuilding field. The new cables are available as halogen-free SABIX® BL cables. All SABIX® BL types are constructed with tinned copper strands in class 5 in order to offer advantages in corrosion resistance and flexibility. Their SABIX® characteristics fulfill the highest safety-related aspects in shipbuilding with regards to both fire performance as well as being halogen-free. Data cables, type SABIX® BL Data, are available with small cross sections beginning with 26 AWG. This results in a small outer diameter which offers an outstanding advantage particularly where there is only a little space. The types SABIX® BL Control as well as SABIX® BL Power complement the new product series with control and power supply cables for electrical components.

Exemplary applications:

SABIX® BL 405 FRNC **SABIX® BL 415 FRNC**	Installation and wiring of navigation and bridge electronics as BNWAS, power supply of electrical components
SABIX® BL 443 C FRNC TT **SABIX® BL 445 C FRNC TP** **SABIX® BL 446 C FRNC FTP**	Data cables
SABIX® BL 400 FRNC **SABIX® BL 438 C FRNC**	Control cables
SABIX® BL 402 FRNC **SABIX® BL 408 FRNC** **SABIX® BL 409 C FRNC** **SABIX® BL 410 FRNC** **SABIX® BL 412 C FRNC**	Power cables

Application of halogen-free SABIX® Ultra - continuous flex with highest fire protection

Fire protection, halogen-free, flexibility and oil resistance are the characteristics united by our new product range SABIX® Ultra. Due to the new jacket material, the cable can be used for flexible applications and shows the highest fire protection features by the standards EN 60332-1-2, EN 60332-3 Cat C or D, IEC 60754-1, IEC 60754-2, EN 61034, NF C 32-070 C1, NF X 70-100.

Exemplary applications:

SABIX® SD 705 FRNC C1 **SABIX® SD 715 FRNC C1** **SABIX® SD 745 FRNC C1 TP**	as festoon cable for polar cranes in nuclear power plants, in rail technology as sensor cable at the vehicle chassis, cable track applications with moderate mechanical stress
SABIX® S 710 FRNC C1 **SABIX® S 712 C FRNC C1**	as festoon cable for polar cranes in nuclear power plants, in rail technology as sensor cable at the vehicle chassis or as flexible control cable at the train doors, cable chain applications with moderate mechanical stress

Selection Table

	Cable Type	K/13 SABIX® A 146 FRNC	K/14 SABIX® A 156 FRNC	K/15 SABIX® A 166 FRNC	K/16 SABIX® A 147 FRNC	K/16 SABIX® A 157 FRNC	K/17 SABIX® A 100 HT	K/17 SABIX® A 101 HT	K/18 SABIX® A 200 FRNC	K/19 SABIX® A 205 FRNC	K/20 SABIX® A 238 FRNC	K/21 SABIX® A 260 PUR	K/22 SABIX® A 130 HT
Basic construction	Single conductor	●	●	●	●	●	●	●					
	Shielded										●		
	Colored conductors									●			●
	Numbered conductors								●		●	●	●
	Twisted pairs												
	Inner jacket												
Temperature range fixed installation*	+220°C												
	+105°C												
	+ 90°C												
	+ 85°C												
	+ 70°C												
	- 30°C												
	- 40°C												
	- 50°C												
Voltage	Peak operating voltage max. 350 V												
	Peak operating voltage max. 500 V												
	Nominal voltage Uo/U 300/500 V	●			●		●	●	●	●	●	●	●
	Nominal voltage Uo/U 450/750 V		●			●							
	Nominal voltage Uo/U 0.6/1 kV			●									
	Voltage UL resp. CSA 600 V				●								
	Voltage UL resp. CSA 1000 V					●							
	Testing voltage 1500 V												
	Testing voltage 2000 V	●			●		●	●					●
	Testing voltage 2500 V		●			●							
	Testing voltage 3000 V			●					●	●	●	●	
	Testing voltage 4000 V												
Standards	Halogen-free acc. to IEC 60754-1+ VDE 0482-754-1	●	●	●	●	●	●	●	●	●	●	●	●
	Fire performance: No flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 cat. C resp. D			●	●	●			●	●	●		
	Fire performance: No flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 and EN 50305 + VDE 0260-305 section 9.1.2	●	●										
	Fire performance: Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2	●	●	●	●	●	●	●	●	●	●		●
	Fire performance acc. to CSA FT1												
	Corrosiveness of conflagration gases: In compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases	●	●	●	●	●	●	●	●	●	●		●
	Smoke density acc. to IEC 61034 + EN 61034	●	●	●	●				●	●	●		
	UL resp. CSA				●	●							
Special Features	Very good oil resistance acc. to EN 50363-10-2 + DIN VDE 0207-363-10-2											●	
	Good chemical resistance											●	

from

to

*The temperature range for flexible application is mentioned on the corresponding catalog page

Selection Table

	Cable Type	K/23 SABIX® CC 625 FRNC M	K/25 SABIX® CC 625 S FRNC M	K/27 SABIX® CC 625 SH FRNC M	K/29 SABIX® A 810 FRNC	K/30 SABIX® A 812 C FRNC	K/31 SABIX® D 305 FRNC	K/33 SABIX® D 315 FRNC	K/35 SABIX® D 345 FRNC TP
Basic construction	Single conductor								
	Shielded		●	●		●		●	●
	Colored conductors						●	●	●
	Numbered conductors	●	●	●	●	●			
	Twisted pairs								●
	Inner jacket			●		●			
Temperature range fixed installation*	+220°C								
	+105°C								
	+ 90°C								
	+ 85°C								
	+ 70°C								
	- 30°C								
	- 40°C								
	- 50°C								
Voltage	Peak operating voltage max. 350 V						●	●	●
	Peak operating voltage max. 500 V						●	●	●
	Nominal voltage Uo/U 300/500 V	●	●	●					
	Nominal voltage Uo/U 450/750 V								
	Nominal voltage Uo/U 0.6/1 kV				●	●			
	Voltage UL resp. CSA 600 V	●	●	●					
	Voltage UL resp. CSA 1000 V								
	Testing voltage 1500 V						●	●	●
	Testing voltage 2000 V								
	Testing voltage 2500 V								
	Testing voltage 3000 V	●	●	●					
	Testing voltage 4000 V				●	●			
Standards	Halogen-free acc. to IEC 60754-1 + VDE 0482-754-1	●	●	●	●	●	●	●	●
	Fire performance: No flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 cat. C resp. D	●	●	●	●	●	●	●	●
	Fire performance: No flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 and EN 50305 + VDE 0260-305 section 9.1.2								
	Fire performance: Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2	●	●	●	●	●	●	●	●
	Fire performance acc. to CSA FT1	●	●	●					
	Corrosiveness of conflagration gases: In compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases	●	●	●	●	●	●	●	●
	Smoke density acc. to IEC 61034 + EN 61034	●	●	●	●	●	●	●	●
	UL resp. CSA	●	●	●					
Special Features	Very good oil resistance acc. to EN 50363-10-2 + DIN VDE 0207-363-10-2								
	Good chemical resistance								

from

to

*The temperature range for flexible application is mentioned on the corresponding catalog page

Selection Table

Cables for Railway Technology acc. to EN 45545-2

		Cable Type	SABIX® R 600 FRNC	SABIX® R 638 FRNC	SABIX® R 605 FRNC	SABIX® R 615 FRNC	SABIX® R 645 FRNC TP	SABIX® R flex	SAB RailLine 560	SABIX® A 280 FRNC X	SABIX® A 285 FRNC X	SABIX® A 280 FRNC X (FR)
			K/36	K/37	K/38	K/40	K/42	K/43	K/45	K/46	K/47	K/22
Applications		Single conductor								●		
		Multi-conductor cable	●	●	●	●	●	●	●	●	●	●
		Shielded		●		●	●	●	●		●	
		Wiring cable								●		
		Data cable			●	●	●					
		Control cable	●	●				●	●	●	●	●
		Cross linked type							●	●	●	●
Standards	Halogen-free	Tested acc. to EN 45545-2	●	●	●	●	●	●	●	●	●	●
		acc. to EN 50306-1 + EN 50264-1 are fulfilled. Development of HCl is < 0.5% acc. to IEC 60754-1. pH-value is > 4,3 acc. to IEC 60754-2. Conductivity is < 10.0 µS/mm acc. to IEC 60754-2. Fluoric content < 0.1% acc. to IEC 60684-2	●	●	●	●	●	●	●	●	●	●
	Fire Performance	No flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 and EN 50305 + VDE 0260-305 section 9.1.2. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2	●	●	●	●	●	●	●	●	●	●
		Burning test acc. to ASTM E 162-09				●	●					
		Flame retardant ISO 6722 (UN/ECE R118)			●	●	●					
		Insulation integrity in case of fire acc. to EN 50200 PH 30, VDE 0482-200, IEC 60331-21 FE 180 + VDE 0482-331-21										●
		Toxicity acc. to EN 50305 + VDE 0260-305	●	●	●	●	●	●	●	●	●	●
		Smoke density acc. to IEC 61034 + VDE 0482-1034	●	●	●	●	●	●	●	●	●	●
		Smoke density acc. to ASTM E 662-09				●	●					
		Oil and fuel resistance acc. to EN 50264-1 + VDE 0260-264-1						●	●			
Temperature range fixed installation*		+125 °C								▮	▮	▮
		+ 90 °C	▮	▮	▮	▮	▮	▮	▮			
		– 40 °C										
		– 50 °C						▮	▮			
Voltage		Peak operating voltage: < 0.25 mm² = max. 350 V ≥ 0.25 mm² = max. 500 V			●	●	●					
		Nominal voltage Uo/U 300/500 V	●	●				●	●	●	●	●
		Nominal voltage Uo/U 0.6/1 kV							●			
		Testing voltage 1500 V			●	●	●					
		Testing voltage 2000 V						●	●	●	●	●
		Testing voltage 3000 V	●	●								
		Testing voltage 4000 V							●			

▮ from to

*The temperature range for flexible application is mentioned on the corresponding catalog page

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Selection Table

SABIX® BL - Cables for Shipbuilding

	Cable Type	K/49 SABIX® BL 405	K/50 SABIX® BL 415 C FRNC	K/51 SABIX® BL 443 C FRNC TT	K/52 SABIX® BL 445 C FRNC TP	K/53 SABIX® BL 446 C FRNC TP	K/54 SABIX® BL 400 FRNC	K/55 SABIX® BL 438 C FRNC	K/56 SABIX® BL 402 FRNC	K/57 SABIX® BL 408 FRNC	K/58 SABIX® BL 409 C FRNC	K/59 SABIX® BL 410 FRNC	K/60 SABIX® BL 412 C FRNC
Construction	Data cable	●	●	●	●	●							
	Control cable						●	●					
	Power cable								●	●	●	●	●
	Shielded		●	●	●	●		●			●		●
	Twisted pairs				●	●							
	Twisted triple			●									
Temperature range fixed installation*	+ 90 °C	▮	▮	▮	▮	▮	▮	▮	▮	▮	▮	▮	▮
	– 40 °C												
Voltage Range	Peak operating voltage max. 300 V			●		●							
	Peak operating voltage max. 350 V	●	●		●								
	Nominal voltage Uo/U 300/500 V						●	●					
	Nominal voltage Uo/U 0.6/1 kV								●	●	●	●	●
	Testing voltage 1500 V	●	●	●	●	●							
	Testing voltage 2000 V						●	●					
	Testing voltage 4000 V								●	●	●	●	●
Standards	Halogen-free acc. to IEC 60754-1 + VDE 0482-754-1	●	●	●	●	●	●	●	●	●	●	●	●
	Fire performance: No flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 Cat. A	●	●	●	●	●	●	●	●	●	●	●	●
	Fire performance: Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2	●	●	●	●	●	●	●	●	●	●	●	●
	Corrosiveness of conflagration gases: In compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases	●	●	●	●	●	●	●	●	●	●	●	●
	Smoke density acc. to IEC 61034 + VDE 0482-1034	●	●	●	●	●	●	●	●	●	●	●	●
Approvals	DNV·GL	●	●	●	●	●	●	●	●	●	●	●	●
Characteristics	flexible conductor stranding	●	●	●	●	●	●	●				●	●
	extended cross section range	●	●		●								

▮ from
▮ to

*The temperature range for flexible application is mentioned on the corresponding catalog page

Selection Table

Continuously flexible with highest fire protection

	Cable Type	SABIX® SD 705 FRNC C1	SABIX® SD 710 FRNC C1	SABIX® SD 715 FRNC C1	SABIX® SD 712 FRNC C1	SABIX® SD 745 FRNC C1 TP
		K/61	K/62	K/63	K/64	K/65
Construction	Data cable	●		●		●
	Control cable		●		●	
	Shielded			●	●	●
	Twisted pairs					●
Temperature range fixed installation*	+ 90 °C	▮	▮	▮	▮	▮
	– 40 °C					
Voltage Range	Peak operating voltage < 0.25 mm² = max. 350 V ≥ 0.25 mm² = max. 500 V	●		●		●
	Nominal voltage Uo/U 0.6/1 kV		●		●	
	Testing voltage 1500 V	●		●		●
	Testing voltage 4000 V		●		●	
Standards	Halogen-free acc. to IEC 60754-1 + VDE 0482-754-1	●	●	●	●	●
	Fire performance: No flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 cat. C resp. D	●	●	●	●	●
	Flame retardant and self-extinguishing acc. to IEC 60332-1-2, VDE 0482-332-1-2 + NF C 32-070 C1	●	●	●	●	●
	Corrosiveness of conflagration gases: In compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases	●	●	●	●	●
	Smoke density acc. to IEC 61034 + VDE 0482-1034	●	●	●	●	●
	Toxicity acc. to NF X 70-100	●	●	●	●	●
	Oil and fuel resistance acc. to EN 50264-1 + VDE 0260-264-1	●	●	●	●	●

▮ from / to

*The temperature range for flexible application is mentioned on the corresponding catalog page

SABIX® A 146 FRNC

Wiring cable with improved fire performance and extended temperature range, 300/500V

Marking for SABIX® A 146 FRNC 61460150:
SAB BRÖCKSKES · D-VIERSEN · SABIX® A 146 FRNC 300/500 V 0.5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	SABIX®
Color code:	colored, see table below

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **very good stripping**
- **flexible**
- **fulfills fire protection requirements R15 (EL1A) acc. to EN 45545-2 for hazard levels HL1-3**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	2000 V
Min. bending radius: **For one single bend:**	7.5 x O.D. 5 x O.D.
Temperature range: *static* *flexible:*	 -40/+90°C -30/+90°C
Halogen-free:	acc. to EN 50306-1 + EN 50264-1 are fulfilled. Development of HCl is < 0.5% acc. to IEC 60754-1. pH-value is > 4.3 acc. to IEC 60754-2. Conductivity is < 10.0 µS/mm acc. to IEC 60754-2. Fluoric content < 0.1% acc. to IEC 60684-2
Burning characteristics:	No flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 and EN 50305 + VDE 0260-305 section 9.1.2. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 Flame retardant acc. to ISO 6722 (UN/ECE R118)
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Flexibility:	good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	mm²	AWG	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ 6146 .. 50	0.50	20 (≈ 16/32)	0.083	2.1	6
▶ 6146 .. 75	0.75	19 (≈ 23/32)	0.094	2.4	8
▶ 6146 .. 80	1.00	18 (≈ 30/32)	0.098	2.5	9

Other dimensions and colors are available on request

Color code for single conductors:

01 = black	07 = violet
02 = blue	08 = white
03 = brown	09 = orange
04 = gray	11 = red
05 = yellow	16 = gentian blue
06 = green	27 = green/yellow

On request with tinned copper strands

SPECIAL CABLES SAB North America
www.sabcable.com
866-722-2974 ■ info@sabcable.com

SABIX® A 156 FRNC

Wiring cable with improved fire performance and extended temperature range, 450/750V

EN 45545-2 · UN/ECE R118 · SAB Control

CE EAC RoHS

Marking for SABIX® A 156 FRNC 61560182:
SAB BRÖCKSKES · D-VIERSEN · SABIX® A 156 FRNC 450/750 V 1.5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	SABIX®
Color code:	colored, see table below

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **very good stripping**
- **flexible**
- **fulfills fire protection requirements R15 (EL1A) acc. to EN 45545-2 for hazard levels HL1-3**

Technical data:

Nominal voltage:	Uo/U 450/750 V
Testing voltage:	2500 V
Min. bending radius: **For one single bend:**	7.5 x O.D. 5 x O.D.
Temperature range: *static:* *flexible:*	 -40/+90°C -30/+90°C
Halogen-free:	acc. to EN 50306-1 + EN 50264-1 are fulfilled. Development of HCl is < 0.5% acc. to IEC 60754-1. pH-value is > 4.3 acc. to IEC 60754-2. Conductivity is < 10.0 µS/mm acc. to IEC 60754-2. Fluoric content < 0.1% acc. to IEC 60684-2
Burning characteristics:	No flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 and EN 50305 + VDE 0260-305 section 9.1.2. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 Flame retardant acc. to ISO 6722 (UN/ECE R118)
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Flexibility	good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	mm²	AWG MCM		nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ 6156 .. 82	1.50	16	(≈ 27-29/30)	0.118	3.0	13
▶ 6156 .. 84	2.50	14	(≈ 46/30)	0.142	3.6	22
▶ 6156 .. 86	4.00	12	(≈ 52/28)	0.165	4.2	32
▶ 6156 .. 87	6.00	10	(≈78/28)	0.185	4.7	45
▶ 6156 .. 88	10.00	8	(≈77/26)	0.248	6.3	79
▶ 6156 .. 89	16.00	6	(≈ 122/26)	0.315	8.0	122
▶ 6156 .. 90	25.00	4	(≈ 190/26)	0.390	9.9	196
▶ 6156 .. 91	35.00	2	(≈ 272/26)	0.437	11.1	265
▶ 6156 .. 92	50.00	1	(≈ 400/26)	0.496	12.6	378
▶ 6156 .. 93	70.00	2/0	(≈ 543/26)	0.583	14.8	505
▶ 6156 .. 94	95.00	3/0	(≈ 484/24)	0.717	18.2	695
▶ 6156 .. 95	120.00	4/0	(≈ 589/24)	0.776	19.7	834
▶ 6156 .. 96	150.00	250	(≈ 740/24)	0.858	21.8	1037
▶ 6156 .. 97	185.00	350	(≈ 902/24)	0.913	23.2	1254
▶ 6156 .. 98	240.00	450	(≈ 1220/24)	1.059	26.9	1684
▶ 6156 .. 99	300.00	550	(≈ 1525/24)	1.181	30.0	2100

Other dimensions and colors are available on request

Color code for single conductors:

01 = black	07 = violet
02 = blue	08 = white
03 = brown	09 = orange
04 = gray	11 = red
05 = yellow	16 = gentian blue
06 = green	27 = green/yellow

On request with tinned copper strands

SAB SPECIAL CABLES North America
www.sabcable.com
866-722-2974 ■ info@sabcable.com

SABIX® A 166 FRNC

Wiring cable with improved fire performance and extended temperature range, 0.6/1kV

Marking for SABIX® A 166 FRNC 61660182:
SAB BRÖCKSKES · D-VIERSEN · SABIX® A 166 FRNC 0.6/1 kV 1.5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	SABIX®
Color code:	colored, see table below

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **very good stripping**
- **flexible**

Technical data:

Nominal voltage:	Uo/U 0.6/1 V
Testing voltage:	3000 V
Min. bending radius: **For one single bend:**	7.5 x O.D. 5 x O.D.
Temperature range: *static:* *flexible:*	 -40/+90°C -30/+90°C
Halogen-free:	acc. to IEC 60754-1+ VDE 0482-754-1
Burning characteristics:	No flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 and EN 50305 + VDE 0260-305 section 9.1.2. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Flexibility:	good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	mm²	AWG MCM	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ 6166 .. 82*	1.50	16 (≈ 27-29/30)	0.126	3.2	15
▶ 6166 .. 84*	2.50	14 (≈ 46/30)	0.154	3.9	24
▶ 6166 .. 86*	4.00	12 (≈ 52/28)	0.177	4.5	34
▶ 6166 .. 87*	6.00	10 (≈ 78/28)	0.197	5.0	48
▶ 6166 .. 88*	10.00	8 (≈ 77/26)	0.287	7.3	88
▶ 6166 .. 89*	16.00	6 (≈ 122/26)	0.327	8.3	134
▶ 6166 .. 90*	25.00	4 (≈ 190/26)	0.402	10.2	205
▶ 6166 .. 91*	35.00	2 (≈ 272/26)	0.449	11.4	271
▶ 6166 .. 92*	50.00	1 (≈ 400/26)	0.555	14.1	387
▶ 6166 .. 93*	70.00	2/0 (≈ 543/26)	0.594	15.1	514
▶ 6166 .. 94*	95.00	3/0 (≈ 484/24)	0.728	18.5	707
▶ 6166 .. 95*	120.00	4/0 (≈ 589/24)	0.787	20.0	847
▶ 6166 .. 96*	150.00	250 (≈ 740/24)	0.870	22.1	1053
▶ 6166 .. 97*	185.00	350 (≈ 902/24)	0.925	23.5	1271
▶ 6166 .. 98*	240.00	450 (≈ 1220/24)	1.071	27.2	1705

Other dimensions and colors are available on request

Color code for single conductors:

01 = black	07 = violet
02 = blue	08 = white
03 = brown	09 = orange
04 = gray	11 = red
05 = yellow	16 = gentian blue
06 = green	27 = green/yellow

On request with tinned copper strands

SABIX® A 147 FRNC Wiring cable 600 V
SABIX® A 157 FRNC Wiring cable 1000 V

Marking for SABIX® A 147 FRNC 61470150:
SAB BRÖCKSKES · D-VIERSEN · SABIX® A 147 FRNC 300/500V 0.5 mm² 20 AWG AWM Style 10528 75°C 600V

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	SABIX®
Color code:	colored, see table below

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **UL recognition**

Technical data:

Nominal voltage:	**SABIX® A 147 FRNC:** 20 - 18 AWG Uo/U 300/500 V	**SABIX® A 157 FRNC:** 16 AWG - 550 MCM Uo/U 450/750 V
Voltage UL:	**SABIX® A 147 FRNC:** 20 - 18 AWG 600 V	**SABIX® A 157 FRNC:** 16 AWG - 550 MCM 1000 V
Testing voltage:	**SABIX® A 147 FRNC:** 2000 V	**SABIX® A 157 FRNC:** 2500 V
Min. bending radius: **For one single bend:**	7.5 x O.D. 5 x O.D.	
Temperature range: *static:* *flexible:*	**DIN/VDE:** -40/+90°C -30/+90°C	**UL:** up to +75°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1	
Burning characteristics:	No flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 and EN 50305 + VDE 0260-305 section 9.1.2. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2	
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases	
Smoke density:	acc. to IEC 61034 + VDE 0482-1034	
Flexibility:	good	
Approvals:	UR AWM, CE, EAC, RoHS	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30	

SABIX® A 147 FRNC

item no.	mm²	AWG	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ 6147 .. 50	0.50	20 (≈ 16/32)	0.098	2.5	8
▶ 6147 .. 75	0.75	19 (≈ 23/32)	0.110	2.8	9
▶ 6147 .. 80	1.00	18 (≈ 30/32)	0.114	2.9	11

Other dimensions and colors are available on request

SABIX® A 157 FRNC

item no.	mm²	AWG MCM	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ 6157 .. 82	1.50	16 (≈ 27-29/30)	0.126	3.2	15
▶ 6157 .. 84	2.50	14 (≈ 46/30)	0.142	3.6	22
▶ 6157 .. 86	4.00	12 (≈ 52/28)	0.169	4.3	31
▶ 6157 .. 87	6.00	10 (≈ 78/28)	0.217	5.5	50
▶ 6157 .. 88	10.00	8 (≈ 77/26)	0.264	6.7	79
▶ 6157 .. 89	16.00	6 (≈ 122/26)	0.346	8.8	129
▶ 6157 .. 90	25.00	4 (≈ 190/26)	0.402	10.2	189
▶ 6157 .. 91	35.00	2 (≈ 272/26)	0.500	12.7	278
▶ 6157 .. 92	50.00	1 (≈ 400/26)	0.547	13.9	385
▶ 6157 .. 93	70.00	2/0 (≈ 543/26)	0.642	16.3	521
▶ 6157 .. 94	95.00	3/0 (≈ 484/24)	0.724	18.4	678
▶ 6157 .. 95	120.00	4/0 (≈ 589/24)	0.823	20.9	839
▶ 6157 .. 96	150.00	250 (≈ 740/24)	0.882	22.4	1029
▶ 6157 .. 97	185.00	350 (≈ 902/24)	0.984	25.0	1269
▶ 6157 .. 98	240.00	450 (≈ 1220/24)	1.114	28.3	1662
▶ 6157 .. 99	300.00	550 (≈ 1525/24)	1.220	31.0	2058

Other dimensions and colors are available on request

Color code for single conductors:

01 = black	07 = violet
02 = blue	08 = white
03 = brown	09 = orange
04 = gray	11 = red
05 = yellow	16 = gentian blue
06 = green	27 = green/yellow

SABIX® A 100 HT
High temperature resistant single conductor wire with nickel-plated strands

SABIX® A 101 HT
High temperature resistant single conductor wire with silver-plated strands

Marking for SABIX® A 100 HT 71000150:
SAB BRÖCKSKES · D-VIERSEN · SABIX® A 100 HT · 220°C · CE

Construction:

Conductor:	**SABIX® A 100 HT:** nickel-plated copper strands **SABIX® A 101 HT:** silver-plated copper strands fine wires acc. to IEC 60228, VDE 0295, class 5
Insulation:	SABIX®
Color code:	colored, see table below

Outstanding features:

- **halogen-free**
- **high temperature resistant**
- **flexible**
- **SABIX® A 101 HT: good solderability**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	2000 V
Min. bending radius: **For one single bend:**	7.5 x O.D. 5 x O.D.
Temperature range: *static:* *flexible:*	 -40/+220°C -25/+220°C
Halogen-free:	acc. to IEC 60754-1+ VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

SABIX® A 100 HT

item no.	mm²	AWG MCM	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ 7100 .. 25	0.25	24 (≈ 14/34)	0.091	2.3	5
▶ 7100 .. 34	0.34	22 (≈ 7/30)	0.094	2.4	5
▶ 7100 .. 50	0.50	20 (≈ 16/32)	0.098	2.5	7
▶ 7100 .. 75	0.75	19 (≈ 23/32)	0.110	2.8	9
▶ 7100 .. 80	1.00	18 (≈ 30/32)	0.114	2.9	10
▶ 7100 .. 82	1.50	16 (≈ 27-29/30)	0.134	3.4	14
▶ 7100 .. 84	2.50	14 (≈ 46/30)	0.157	4.0	22
▶ 7100 .. 86	4.00	12 (≈ 52/28)	0.181	4.6	32
▶ 7100 .. 87	6.00	10 (≈ 78/28)	0.201	5.1	45
▶ 7100 .. 88	10.0	8 (≈ 77/26)	0.291	7.4	81
▶ 7100 .. 89	16.0	6 (≈ 122/26)	0.331	8.4	118
▶ 7100 .. 90	25.0	4 (≈ 190/26)	0.406	10.3	190
▶ 7100 .. 91	35.0	2 (≈ 272/26)	0.453	11.5	259
▶ 7100 .. 92	50.0	1 (≈ 400/26)	0.559	14.2	369
▶ 7100 .. 93	70.0	2/0 (≈ 543/26)	0.598	15.2	495
▶ 7100 .. 94	95.0	3/0 (≈ 484/24)	0.732	18.6	678
▶ 7100 .. 95	120.0	4/0 (≈ 589/24)	0.791	20.1	816
▶ 7100 .. 96	150.0	250 (≈ 740/24)	0.874	22.2	1015
▶ 7100 .. 97	185.0	350 (≈ 902/24)	0.929	23.6	1228
▶ 7100 .. 98	240.0	450 (≈ 1220/24)	1.075	27.3	1651
▶ 7100 .. 99	300.0	550 (≈ 1525/24)	1.197	30.4	2057

Other dimensions and colors are available on request

SABIX® A 101 HT

item no.	mm²	AWG MCM	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ 7101 .. 25	0.25	24 (≈ 14/34)	0.091	2.3	5
▶ 7101 .. 34	0.34	22 (≈ 7/30)	0.094	2.4	5
▶ 7101 .. 50	0.50	20 (≈ 16/32)	0.098	2.5	7
▶ 7101 .. 75	0.75	19 (≈ 23/32)	0.110	2.8	9
▶ 7101 .. 80	1.00	18 (≈ 30/32)	0.114	2.9	10
▶ 7101 .. 82	1.50	16 (≈ 27-29/30)	0.134	3.4	14
▶ 7101 .. 84	2.50	14 (≈ 46/30)	0.157	4.0	22
▶ 7101 .. 86	4.00	12 (≈ 52/28)	0.181	4.6	32
▶ 7101 .. 87	6.00	10 (≈ 78/28)	0.201	5.1	45
▶ 7101 .. 88	10.0	8 (≈ 77/26)	0.291	7.4	81
▶ 7101 .. 89	16.0	6 (≈ 122/26)	0.331	8.4	118
▶ 7101 .. 90	25.0	4 (≈ 190/26)	0.406	10.3	190
▶ 7101 .. 91	35.0	2 (≈ 272/26)	0.453	11.5	259
▶ 7101 .. 92	50.0	1 (≈ 400/26)	0.559	14.2	369
▶ 7101 .. 93	70.0	2/0 (≈ 543/26)	0.598	15.2	495
▶ 7101 .. 94	95.0	3/0 (≈ 484/24)	0.732	18.6	678
▶ 7101 .. 95	120.0	4/0 (≈ 589/24)	0.791	20.1	816
▶ 7101 .. 96	150.0	250 (≈ 740/24)	0.874	22.2	1015
▶ 7101 .. 97	185.0	350 (≈ 902/24)	0.929	23.6	1228
▶ 7101 .. 98	240.0	450 (≈ 1220/24)	1.075	27.3	1651
▶ 7101 .. 99	300.0	550 (≈ 1525/24)	1.197	30.4	2057

Other dimensions and colors are available on request

Color code for single conductors:

01 = black	07 = violet
02 = blue	08 = white
03 = brown	09 = orange
04 = gray	11 = red
05 = yellow	16 = gentian blue
06 = green	27 = green/yellow

temperature resistant up to +220°C

SABIX® A 200 FRNC

Control cable with numbered conductors with improved fire performance and extended temperature range

Marking for SABIX® A 200 FRNC 62001215:
SAB BRÖCKSKES · D-VIERSEN · SABIX® A 200 FRNC 12 x 1.5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	SABIX®
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	in layers
Jacket material:	SABIX®
Jacket color:	gray (RAL 7000)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **very flexible**
- **very good stripping**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 3000 V
Min. bending radius: *fixed installation:* *free movement:*	 4 x O.D. 6 x O.D.
Temperature range: *static:* *flexible:*	 -40/+85°C -30/+85°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	no flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 cat. C resp. D Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Flexibility:	good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► 20 AWG (≈ 16/32) • 0.50 mm²				
62000205	2	0.197	5.0	25
62000305	3	0.209	5.3	29
62000405	4	0.224	5.7	34
62000505	5	0.252	6.4	42
62000705	7	0.272	6.9	52
62001005	10	0.346	8.8	73
62001205	12	0.366	9.3	85
62001805	18	0.429	10.9	121
62002505	25	0.516	13.1	161
62003205	32	0.559	14.2	200
62004205	42	0.626	15.9	255
62006105	61	0.736	18.7	356
► 19 AWG (≈ 23/32) • 0.75 mm²				
62000207	2	0.220	5.6	32
62000307	3	0.232	5.9	38
62000407	4	0.260	6.6	47
62000507	5	0.283	7.2	56
62000707	7	0.315	8.0	71
62001007	10	0.402	10.2	101
62001207	12	0.421	10.7	117
62001807	18	0.496	12.6	167
62002507	25	0.602	15.3	228
62003207	32	0.654	16.6	282
62004207	42	0.732	18.6	359
62006107	61	0.858	21.8	504
► 18 AWG (≈ 30/32) • 1.00 mm²				
62000210	2	0.228	5.8	36
62000310	3	0.248	6.3	45
62000410	4	0.268	6.8	54

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► 18 AWG (≈ 30/32) • 1.00 mm²				
62000510	5	0.303	7.7	67
62000710	7	0.327	8.3	83
62001010	10	0.425	10.8	120
62001210	12	0.437	11.1	136
62001810	18	0.516	13.1	196
62002510	25	0.626	15.9	267
62003210	32	0.681	17.3	331
62004210	42	0.772	19.6	420
62006110	61	0.902	22.9	595
► 16 AWG (≈ 27-29/30) • 1.50 mm²				
62000215	2	0.260	6.6	48
62000315	3	0.276	7.0	58
62000415	4	0.307	7.8	73
62000515	5	0.335	8.5	87
62000715	7	0.370	9.4	112
62001015	10	0.480	12.2	161
62001215	12	0.496	12.6	183
62001815	18	0.591	15.0	267
62002515	25	0.717	18.2	369
62003215	32	0.776	19.7	458
62004215	42	0.874	22.2	593
62006115	61	1.024	26.0	833
► 14 AWG (≈ 46/30) • 2.50 mm²				
62000225	2	0.315	8.0	73
62000325	3	0.335	8.5	88
62000425	4	0.370	9.4	110
62000525	5	0.406	10.3	132
62000725	7	0.449	11.4	171
62001025	10	0.591	15.0	251
62001225	12	0.610	15.5	287
62001825	18	0.724	18.4	416
62002525	25	0.886	22.5	568

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► 12 AWG (≈ 52/28) • 4.00 mm²				
62000340	3	0.390	9.9	129
62000440	4	0.433	11.0	161
62000540	5	0.484	12.3	199
62000740	7	0.535	13.6	259
► 10 AWG (≈ 78/28) • 6.00 mm²				
62000360	3	0.457	11.6	183
62000460	4	0.508	12.9	230
62000560	5	0.567	14.4	284
62000760	7	0.606	15.4	370
► 8 AWG (≈ 77/26) • 10.00 mm²				
62000461	4	0.665	16.9	394
62000561	5	0.740	18.8	480
62000761	7	0.823	20.9	638
► 6 AWG (≈ 122/26) • 16.00 mm²				
62000462	4	0.819	20.8	601
62000562	5	0.913	23.2	751
62000762	7	1.012	25.7	974
► 4 AWG (≈ 190/26) • 25.00 mm²				
62000463	4	0.980	24.9	933
62000563	5	1.106	28.1	1176
► 2 AWG (≈ 272/26) • 35.00 mm²				
62000464	4	1.134	28.8	1295
62000564	5	1.280	32.5	1621

Other dimensions and colors are available on request

SPECIAL CABLES SAB North America
www.sabcable.com
866-722-2974 ■ info@sabcable.com

SABIX® A 205 FRNC

Control cable with colored conductors with improved fire performance and extended temperature range

Marking for SABIX® A 205 FRNC 62050415:
SAB BRÖCKSKES · D-VIERSEN · SABIX® A 205 FRNC 4 x 1.5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	SABIX®
Color code:	colored acc. to HD 308 (VDE 0293-308), see page O/26 green/yellow ground from 3 conductors
Stranding:	in layers
Jacket material:	SABIX®
Jacket color:	gray (RAL 7000)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **very flexible**
- **very good stripping**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 3000 V
Min. bending radius: *fixed installation:* *free movement:*	 4 x O.D. 6 x O.D.
Temperature range: *static:* *flexible:*	 -40/+85°C -30/+85°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	no flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 cat. C resp. D Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Flexibility:	good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **20 AWG (≈ 16/32) • 0.50 mm²**				
62050205	2	0.197	5.0	25
62050305	3	0.209	5.3	29
62050405	4	0.224	5.7	34
62050505	5	0.236	6.0	42
62050705	7	0.272	6.9	52
▶ **19 AWG (≈ 23/32) • 0.75 mm²**				
62050207	2	0.220	5.6	32
62050307	3	0.232	5.9	38
62050407	4	0.260	6.6	47
62050507	5	0.283	7.2	56
62050707	7	0.315	8.0	71
▶ **18 AWG (≈ 30/32) • 1.00 mm²**				
62050210	2	0.228	5.8	36
62050310	3	0.248	6.3	45
62050410	4	0.268	6.8	54
62050510	5	0.303	7.7	67
62050710	7	0.327	8.3	83

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **16 AWG (≈ 27-29/30) • 1.50 mm²**				
62050215	2	0.260	6.6	48
62050315	3	0.276	7.0	58
62050415	4	0.307	7.8	73
62050515	5	0.335	8.5	87
62050715	7	0.370	9.4	112
▶ **14 AWG (≈ 46/30) • 2.50 mm²**				
62050225	2	0.315	8.0	73
62050325	3	0.335	8.5	88
62050425	4	0.370	9.4	110
62050525	5	0.413	10.5	132
62050725	7	0.449	11.4	171
▶ **12 AWG (≈ 52/28) • 4.00 mm²**				
62050340	3	0.390	9.9	129
62050440	4	0.433	11.0	161
62050540	5	0.484	12.3	199

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **10 AWG (≈ 78/28) • 6.00 mm²**				
62050360	3	0.457	11.6	184
62050460	4	0.488	12.4	230
62050560	5	0.567	14.4	284
▶ **8 AWG (≈ 77/26) • 10.00 mm²**				
62050361	3	0.602	15.3	316
62050461	4	0.665	16.9	394
62050561	5	0.740	18.8	481
▶ **6 AWG (≈ 122/26) • 16.00 mm²**				
62050462	4	0.819	20.8	601
▶ **4 AWG (≈ 190/26) • 25.00 mm²**				
62050463	4	0.980	24.9	933
▶ **2 AWG (≈ 272/26) • 35.00 mm²**				
62050464	4	1.134	28.8	1295
▶ **1 AWG (≈ 400/26) • 50.00 mm²**				
62050465	4	1.311	33.3	1768

Other dimensions and colors are available on request

SABIX® A 238 FRNC

Control cable with numbered conductors, overall tinned copper shield, improved fire performance, and extended temperature range

Marking for SABIX® A 238 FRNC 62380515:
SAB BRÖCKSKES · D-VIERSEN · SABIX® A 238 FRNC 5 x 1.5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	SABIX®
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	in layers
Wrapping:	PETP foil
Shielding:	tinned copper braiding
Jacket material:	SABIX®
Jacket color:	gray (RAL 7000)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **good EMC characteristics***
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **very good stripping**

*copper braiding should be connected circularly to optimize the EMC characteristics

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 3000 V conductor/shielding: 2000 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Temperature range: *static:* *flexible:*	 -40/+85°C -30/+85°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	no flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 cat. C resp. D Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Flexibility:	good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **20 AWG (≈ 16/32) • 0.50 mm²**				
62380205	2	0.217	5.5	28
62380305	3	0.228	5.8	34
62380405	4	0.252	6.4	42
62380505	5	0.256	6.5	50
62380705	7	0.291	7.4	58
62381205	12	0.386	9.8	96
62381805	18	0.457	11.6	144
62382505	25	0.583	14.8	191
▶ **19 AWG (≈ 23/32) • 0.75 mm²**				
62380207	2	0.248	6.3	37
62380307	3	0.260	6.6	44
62380407	4	0.280	7.1	52
62380507	5	0.311	7.9	65
62380707	7	0.335	8.5	79
62381207	12	0.449	11.4	136
62381807	18	0.531	13.5	195
62382507	25	0.646	16.4	275

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **18 AWG (≈ 30/32) • 1.00 mm²**				
62380210	2	0.256	6.5	41
62380310	3	0.268	6.8	49
62380410	4	0.287	7.3	59
62380510	5	0.323	8.2	75
62380710	7	0.346	8.8	91
62381210	12	0.472	12.0	161
62381810	18	0.551	14.0	223
62382510	25	0.669	17.0	314
▶ **16 AWG (≈ 27-29/30) • 1.50 mm²**				
62380215	2	0.280	7.1	50
62380315	3	0.303	7.7	65
62380415	4	0.327	8.3	78
62380515	5	0.362	9.2	96
62380715	7	0.390	9.9	119
62381215	12	0.531	13.5	210
62381815	18	0.626	15.9	306
62382515	25	0.760	19.3	421

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **14 AWG (≈ 46/30) • 2.50 mm²**				
62380225	2	0.335	8.5	71
62380325	3	0.362	9.2	93
62380425	4	0.390	9.9	114
62380525	5	0.441	11.2	149
62380725	7	0.484	12.3	191
62381225	12	0.654	16.6	328
62381825	18	0.768	19.5	370
62382525	25	0.929	23.6	637
▶ **12 AWG (≈ 52/28) • 4.00 mm²**				
62380440	4	0.461	11.7	173
62380540	5	0.512	13.0	212
▶ **10 AWG (≈ 78/28) • 6.00 mm²**				
62380460	4	0.543	13.8	243
62380560	5	0.610	15.5	313
▶ **8 AWG (≈ 77/26) • 10.00 mm²**				
62380461	4	0.709	18.0	423
▶ **6 AWG (≈ 122/26) • 16.00 mm²**				
62380462	4	0.854	21.7	617

Other dimensions and colors are available on request

SABIX® A 260 PUR

Cold flexible, oil resistant control cable with numbered conductors

Marking for SABIX® A 260 PUR 52601215:
SAB BRÖCKSKES · D-VIERSEN · SABIX® A 260 PUR 12 x 1.5 mm²

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	SABIX®
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	in layers
Inner jacket:	SABIX® - from 12 AWG
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + DIN VDE 0207-363-10-2
Jacket color:	gray (RAL 7000)

Outstanding features:

- **halogen-free**
- **oil resistant**
- **flexible at low temperatures**
- **weather resistant**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 3000 V
Min. bending radius: *fixed installation:* *free movement:*	 4 x O.D. 6 x O.D.
Radiation resistance:	5 x 10^7 cj/kg
Temperature range: *static:* *flexible::*	 -50/+90°C -40/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Oil resistance:	very good - TMPU acc. to EN 50363-10-2 + DIN VDE 0207-363-10-2
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids, etc.
Flexibility:	very good
Weather resistance:	good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **20 AWG (≈ 16/32) • 0.50 mm²**				
52600207	2	0.220	5.6	26
52600307	3	0.232	5.9	32
52600407	4	0.252	6.4	38
52600507	5	0.276	7.0	46
52600707	7	0.299	7.6	58
52601007	10	0.378	9.6	80
52601207	12	0.406	10.3	97
52601807	18	0.472	12.0	138
52602507	25	0.579	14.7	191
▶ **18 AWG (≈ 30/32) • 1.00 mm²**				
52600210	2	0.228	5.8	30
52600310	3	0.240	6.1	36
52600410	4	0.260	6.6	44
52600510	5	0.287	7.3	54
52600710	7	0.311	7.9	69
52601010	10	0.409	10.4	96
52601210	12	0.421	10.7	116
52601810	18	0.492	12.5	166
52602510	25	0.602	15.3	229

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **16 AWG (≈ 27-29/30) • 1.50 mm²**				
52600215	2	0.252	6.4	38
52600315	3	0.268	6.8	48
52600415	4	0.291	7.4	59
52600515	5	0.319	8.1	72
52600715	7	0.346	8.8	93
52601015	10	0.457	11.6	128
52601215	12	0.472	12.0	157
52601815	18	0.551	14.0	226
52602515	25	0.669	17.0	303
▶ **14 AWG (≈ 46/30) • 2.50 mm²**				
52600225	2	0.299	7.6	58
52600325	3	0.335	8.5	77
52600425	4	0.346	8.8	91
52600525	5	0.398	10.1	116
52600725	7	0.433	11.0	151
52601025	10	0.551	14.0	209
52601225	12	0.587	14.9	251
52601825	18	0.685	17.4	362
52602525	25	0.854	21.7	507

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **12 AWG (≈ 52/28) • 4.00 mm²**				
52600340	3	0.461	11.7	133
52600440	4	0.496	12.6	163
52600540	5	0.539	13.7	197
▶ **10 AWG (≈ 78/28) • 6.00 mm²**				
52600360	3	0.551	14.0	195
52600460	4	0.594	15.1	240
52600560	5	0.646	16.4	290
▶ **8 AWG (≈ 77/26) • 10.00 mm²**				
52600461	4	0.744	18.9	391
52600561	5	0.811	20.6	476
▶ **6 AWG (≈ 122/26) • 16.00 mm²**				
52600462	4	0.874	22.2	572
52600562	5	0.961	24.4	699

Other dimensions and colors are available on request

SABIX® A 130 HT

High temperature resistant control cable with numbered or colored conductors

temperature resistant up to +220 °C

SAB Control

CE EAC RoHS

Marking for SABIX® A 130 HT 71300415:
SAB BRÖCKSKES · D-VIERSEN · SABIX® A 130 HT CE

Construction:

Conductor:	silver-plated copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	SABIX®
Color code:	**up to 5 conductors:** colored acc. to HD 308 (VDE 0293-308) see page O/26, **more than 6 conductors:** black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 green/yellow ground from 3 conductors
Stranding:	in layers
Jacket material:	SABIX®
Jacket color:	gray (RAL 7015)

Outstanding features:

- **halogen-free**
- **high temperature resistant**
- **flexible**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 2000 V
Min. bending radius: *fixed installation:* *free movement:*	 4 x O.D. 6 x O.D.
Temperature range: *static:* *flexible:*	 -40/+220°C -25/+220°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **20 AWG (≈ 16/32) • 0.50 mm²**				
71300205	2	0.197	5.0	20
71300305	3	0.209	5.3	24
71300405	4	0.224	5.7	30
71300505	5	0.248	6.3	36
71300705	7	0.268	6.8	45
71301005	10	0.346	8.8	64
71301205	12	0.358	9.1	73
71301805	18	0.425	10.8	108
▶ **19 AWG (≈ 23/32) • 0.75 mm²**				
71300207	2	0.220	5.6	26
71300307	3	0.232	5.9	32
71300407	4	0.252	6.4	39
71300507	5	0.280	7.1	49
71300707	7	0.311	7.9	62
71301007	10	0.402	10.2	89
71301207	12	0.413	10.5	102
71301807	18	0.492	12.5	151
▶ **18 AWG (≈ 30/32) • 1.00 mm²**				
71300210	2	0.228	5.8	30
71300310	3	0.240	6.1	37
71300410	4	0.264	6.7	46
71300510	5	0.287	7.3	57
71300710	7	0.323	8.2	74
71301010	10	0.417	10.6	109
71301210	12	0.429	10.9	121
71301810	18	0.512	13.0	179
71302510	25	0.618	15.7	241

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **16 AWG (≈ 27-29/30) • 1.50 mm²**				
71300215	2	0.264	6.7	41
71300315	3	0.280	7.1	51
71300415	4	0.311	7.9	65
71300515	5	0.346	8.8	83
71300715	7	0.378	9.6	104
71301015	10	0.496	12.6	150
71301215	12	0.512	13.0	173
71301815	18	0.614	15.6	259
71302515	25	0.740	18.8	351
▶ **14 AWG (≈ 46/30) • 2.50 mm²**				
71300225	2	0.323	8.2	64
71300325	3	0.343	8.7	81
71300425	4	0.374	9.5	100
71300525	5	0.425	10.8	129
71300725	7	0.465	11.8	165
71301025	10	0.606	15.4	235
71301225	12	0.626	15.9	273
71301825	18	0.740	18.8	402
▶ **12 AWG (≈ 52/28) • 4.00 mm²**				
71300340	3	0.409	10.4	122
71300440	4	0.445	11.3	151
71300540	5	0.500	12.7	191
71300740	7	0.543	13.8	245

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **10 AWG (≈ 78/28) • 6.00 mm²**				
71300360	3	0.457	11.6	167
71300460	4	0.500	12.7	210
71300560	5	0.551	14.0	261
71300760	7	0.618	15.7	346
▶ **8 AWG (≈ 77/26) • 10.00 mm²**				
71300461	4	0.740	18.8	400
71300561	5	0.819	20.8	499
71300761	7	0.913	23.2	669
▶ **6 AWG (≈ 122/26) • 16.00 mm²**				
71300462	4	0.850	21.6	607
71300562	5	0.957	24.3	770
71300762	7	1.047	26.6	998
▶ **4 AWG (≈ 190/26) • 25.00 mm²**				
71300263	2	0.882	22.4	560
71300463	4	1.047	26.6	930
71300563	5	1.161	29.5	1160
▶ **2 AWG (≈ 272/26) • 35.00 mm²**				
71300364	3	1.055	26.8	965
71300464	4	1.161	29.5	1222

Other dimensions and colors are available on request

SPECIAL CABLES SAB North America
www.sabcable.com
866-722-2974 ■ info@sabcable.com

SABIX® CC 625 FRNC M

Control cable with numbered conductors

Marking for SABIX® CC 625 FRNC M 62521215:
SAB BRÖCKSKES · D-VIERSEN · 62521215 12 x 1.5 mm² SABIX® CC 625 FRNC M 16 AWG/12c 62521612 AWM Style 21089 75°C 600V CSA AWM I/II A/B 80°C 600V FT1

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	SABIX®
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	in layers
Jacket material:	SABIX®
Jacket color:	gray (RAL 7000)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **UL recognized, CSA approved**
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **flexible**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Voltage UL/CSA:	600 V
Testing voltage:	conductor/conductor: 3000 V
Min. bending radius: *fixed installation:* *free movement:*	 4 x O.D. 6 x O.D.
Temperature range: *static* *flexible:*	**UL:** up to +75°C **CSA:** up to +80°C **DIN VDE:** -40/+90°C -30/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	no flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 cat. C resp. D acc. to RoHS directive of the European Union Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Flexibility:	good
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **20 AWG (≈ 16/32) • 0.50 mm²**				
62522002	2	0.205	5.2	27
62522003	3	0.217	5.5	32
62522004	4	0.232	5.9	38
62522005	5	0.252	6.4	44
62522007	7	0.276	7.0	56
62522008	8	0.323	8.2	70
62522009	9	0.350	8.9	79
62522010	10	0.358	9.1	81
62522012	12	0.366	9.3	91
62522014	14	0.386	9.8	103
62522016	16	0.413	10.5	119
62522018	18	0.437	11.1	132
62522025	25	0.531	13.5	181
62522030	30	0.547	13.9	208
62522034	34	0.598	15.2	239
62522040	40	0.650	16.5	283
62522041	41	0.650	16.5	288
62522061	61	0.760	19.3	409

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **19 AWG (≈ 23/32) • 0.75 mm²**				
62521902	2	0.224	5.7	32
62521903	3	0.236	6.0	38
62521904	4	0.256	6.5	46
62521905	5	0.280	7.1	54
62521907	7	0.311	7.9	71
62521908	8	0.366	9.3	89
62521909	9	0.390	9.9	97
62521910	10	0.398	10.1	100
62521912	12	0.417	10.6	118
62521914	14	0.437	11.1	132
62521916	16	0.469	11.9	152
62521918	18	0.492	12.5	168
62521925	25	0.598	15.2	231
62521930	30	0.618	15.7	267
62521934	34	0.673	17.1	304
62521940	40	0.732	18.6	359
62521941	41	0.732	18.6	366
62521961	61	0.866	22.0	528

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **18 AWG (≈ 30/32) • 1.00 mm²**				
62521802	2	0.232	5.9	36
62521803	3	0.248	6.3	44
62521804	4	0.268	6.8	54
62521805	5	0.295	7.5	65
62521807	7	0.323	8.2	83
62521808	8	0.378	9.6	102
62521809	9	0.413	10.5	116
62521810	10	0.421	10.7	120
62521812	12	0.433	11.0	137
62521814	14	0.453	11.5	155
62521818	18	0.512	13.0	198
62521825	25	0.622	15.8	271
62521830	30	0.654	16.6	320
62521834	34	0.709	18.0	365
62521840	40	0.768	19.5	429
62521841	41	0.768	19.5	454
62521861	61	0.902	22.9	626

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SABIX® CC 625 FRNC M

Control cable with numbered conductors

Marking for SABIX® CC 625 FRNC M 62521215:
SAB BRÖCKSKES · D-VIERSEN · 62521215 12 x 1.5 mm² SABIX® CC 625 FRNC M 16 AWG/12c 62521612 AWM Style 21089 75°C 600V CSA AWM I/II A/B 80°C 600V FT1

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **16 AWG (≈ 27-29/30) • 1.50 mm²**				
62521602	2	0.256	6.5	46
62521603	3	0.272	6.9	57
62521604	4	0.299	7.6	71
62521605	5	0.327	8.3	87
62521607	7	0.366	9.3	112
62521608	8	0.429	10.9	136
62521609	9	0.465	11.8	153
62521610	10	0.476	12.1	161
62521612	12	0.488	12.4	184
62521614	14	0.512	13.0	209
62521618	18	0.587	14.9	271
62521625	25	0.713	18.1	375
62521630	30	0.736	18.7	435
62521634	34	0.807	20.5	502
62521640	40	0.874	22.2	587
62521641	41	0.874	22.2	593
62521661	61	1.024	26.0	861

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **14 AWG (≈ 46/30) • 2.50 mm²**				
62521402	2	0.307	7.8	70
62521403	3	0.327	8.3	86
62521404	4	0.362	9.2	108
62521405	5	0.398	10.1	131
62521407	7	0.441	11.2	173
62521408	8	0.528	13.4	212
62521409	9	0.563	14.3	234
62521410	10	0.583	14.8	252
62521412	12	0.602	15.3	290
62521418	18	0.717	18.2	425
62521425	25	0.878	22.3	585
► **12 AWG (≈ 52/28) • 4.00 mm²**				
62521203	3	0.382	9.7	126
62521204	4	0.425	10.8	160
62521205	5	0.476	12.1	198
62521207	7	0.528	13.4	261

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **10 AWG (≈ 78/28) • 6.00 mm²**				
62521003	3	0.449	11.4	182
62521004	4	0.500	12.7	230
62521005	5	0.559	14.2	286
► **8 AWG (≈ 77/26) • 10.00 mm²**				
62520804	4	0.677	17.2	409
62520805	5	0.760	19.3	508
► **6 AWG (≈ 122/26) • 16.00 mm²**				
62520604	4	0.831	21.1	611
► **4 AWG (≈ 190/26) • 25.00 mm²**				
62520404	4	1.043	26.5	991
► **2 AWG (≈ 272/26) • 35.00 mm²**				
62520204	4	1.189	30.2	1346

Other dimensions and colors are available on request

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SABIX® CC 625 S FRNC M

Control cable with numbered conductors and overall tinned copper shield

Marking for SABIX® CC 625 S FRNC M 62341612:
SAB BRÖCKSKES · D-VIERSEN · 62341215 12 x 1.5 mm² SABIX® CC 625 S FRNC M 16 AWG/12c 62341612 AWM Style 21089 75°C 600V CSA AWM I/II A/B 80°C 600V FT1

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	SABIX®
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	in layers
Wrapping:	foil
Shielding:	tinned copper braiding
Jacket material:	SABIX®
Jacket color:	gray (RAL 7000)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **UL recognized, CSA approved**
- **no flame propagation**
- **good EMC characteristics***
- **flame retardant and self-extinguishing**
- **flexible**

*copper braiding should be connected circularly to optimize the EMC characteristics

Technical data:

Nominal voltage:	Uo/U 300/500 V
Voltage UL/CSA:	600 V
Testing voltage:	conductor/conductor: 3000 V conductor/shielding: 2000 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Temperature range: *static:* *flexible:*	**UL:** up to +75°C **CSA:** up to +80°C **DIN VDE:** -40/+90°C -30/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	no flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 cat. C resp. D acc. to RoHS directive of the European Union Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Flexibility:	good
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **20 AWG (≈ 16/32) • 0.50 mm²**				
62342002	2	0.224	5.7	30
62342003	3	0.236	6.0	36
62342004	4	0.252	6.4	43
62342005	5	0.276	7.0	51
62342007	7	0.299	7.6	65
62342008	8	0.350	8.9	81
62342009	9	0.370	9.4	88
62342010	10	0.378	9.6	91
62342012	12	0.386	9.8	102
62342014	14	0.421	10.7	126
62342016	16	0.441	11.2	138
62342018	18	0.472	12.0	157
62342025	25	0.543	13.8	206
62342030	30	0.591	15.0	243
62342034	34	0.642	16.3	288
62342040	40	0.693	17.6	338
62342041	41	0.693	17.6	345
62342061	61	0.795	20.2	466

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **19 AWG (≈ 23/32) • 0.75 mm²**				
62341902	2	0.244	6.2	35
62341903	3	0.256	6.5	43
62341904	4	0.276	7.0	52
62341905	5	0.307	7.8	63
62341907	7	0.331	8.4	79
62341908	8	0.386	9.8	97
62341909	9	0.425	10.8	122
62341910	10	0.433	11.0	122
62341912	12	0.445	11.3	139
62341914	14	0.472	12.0	158
62341916	16	0.496	12.6	174
62341918	18	0.520	13.2	192
62341925	25	0.642	16.3	280
62341930	30	0.661	16.8	314
62341934	34	0.717	18.2	359
62341940	40	0.776	19.7	420
62341941	41	0.776	19.7	427
62341961	61	0.902	22.9	591

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **18 AWG (≈ 30/32) • 1.00 mm²**				
62341802	2	0.252	6.4	39
62341803	3	0.268	6.8	49
62341804	4	0.287	7.3	58
62341805	5	0.315	8.0	72
62341807	7	0.350	8.9	93
62341808	8	0.398	10.1	111
62341809	9	0.441	11.2	134
62341810	10	0.449	11.4	141
62341812	12	0.469	11.9	162
62341814	14	0.488	12.4	180
62341818	18	0.547	13.9	228
62341825	25	0.665	16.9	325
62341830	30	0.697	17.7	374
62341834	34	0.752	19.1	423
62341840	40	0.811	20.6	490
62341841	41	0.811	20.6	499
62341861	61	0.945	24.0	700

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also available with inner jacket

SABIX® CC 625 S FRNC M

Control cable with numbered conductor and overall tinned copper shield

Marking for SABIX® CC 625 S FRNC M 62341612:
SAB BRÖCKSKES · D-VIERSEN · 62341215 12 x 1.5 mm² SABIX® CC 625 S FRNC M 16 AWG/12c 62341612 AWM Style 21089 75°C 600V CSA AWM I/II A/B 80°C 600V FT1

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **16 AWG (≈ 27-29/30) • 1.50 mm²**				
62341602	2	0.276	7.0	48
62341603	3	0.295	7.5	62
62341604	4	0.319	8.1	76
62341605	5	0.354	9.0	93
62341607	7	0.386	9.8	120
62341608	8	0.465	11.8	159
62341609	9	0.492	12.5	174
62341610	10	0.504	12.8	183
62341612	12	0.524	13.3	210
62341614	14	0.547	13.9	238
62341618	18	0.622	15.8	312
62341625	25	0.756	19.2	433
62341630	30	0.780	19.8	493
62341634	34	0.843	21.4	561
62341640	40	0.909	23.1	647
62341641	41	0.909	23.1	653
62341661	61	1.067	27.1	943

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **14 AWG (≈ 46/30) • 2.50 mm²**				
62341402	2	0.327	8.3	68
62341403	3	0.354	9.0	91
62341404	4	0.382	9.7	113
62341405	5	0.433	11.0	148
62341407	7	0.476	12.1	192
62341408	8	0.555	14.1	232
62341409	9	0.598	15.2	259
62341410	10	0.618	15.7	288
62341412	12	0.646	16.4	331
62341418	18	0.760	19.3	478
62341425	25	0.921	23.4	648
► **12 AWG (≈ 52/28) • 4.00 mm²**				
62341203	3	0.417	10.6	138
62341204	4	0.453	11.5	172
62341205	5	0.504	12.8	212
62341207	7	0.555	14.1	277

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **10 AWG (≈ 78/28) • 6.00 mm²**				
62341003	3	0.484	12.3	191
62341004	4	0.535	13.6	243
62341005	5	0.594	15.1	302
► **8 AWG (≈ 77/26) • 10.00 mm²**				
62340804	4	0.720	18.3	427
62340805	5	0.795	20.2	526
► **6 AWG (≈ 122/26) • 16.00 mm²**				
62340604	4	0.874	22.2	623
► **4 AWG (≈ 190/26) • 25.00 mm²**				
62340404	4	1.079	27.4	974
► **2 AWG (≈ 272/26) • 35.00 mm²**				
62340204	4	1.232	31.3	1316

Other dimensions and colors are available on request

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SABIX® CC 625 SH FRNC M

Control cable with numbered conductors, inner jacket, and overall tinned copper shield

Marking for SABIX® CC 625 SH FRNC M 62571612:
SAB BRÖCKSKES · D-VIERSEN · 62571215 12 x 1.5 mm² SABIX® CC 625 SH FRNC M 16 AWG/12c 62571612 AWM Style 21089 75°C 600V CSA AWM I/II A/B 80°C 600V FT1

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	SABIX®
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	in layers
Inner jacket:	SABIX®
Shielding:	tinned copper braiding
Jacket material:	SABIX®
Jacket color:	gray (RAL 7000)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **UL recognized, CSA approved**
- **no flame propagation**
- **good EMC characteristics***
- **flame retardant and self-extinguishing**
- **flexible**

*copper braiding should be connected circularly to optimize the EMC characteristics

Technical data:

Nominal voltage:	Uo/U 300/500 V
Voltage UL/CSA:	600 V
Testing voltage:	conductor/conductor: 3000 V conductor/shielding: 2000 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Temperature range: *static:* *flexible:*	**UL:** up to +75°C **CSA:** up to +80°C **DIN VDE:** -40/+90°C -30/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	no flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 cat. C resp. D Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Flexibility:	good
Approvals:	UR AWM, CSA AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **20 AWG (≈ 16/32) • 0.50 mm²**				
62572002	2	0.276	7.0	50
62572003	3	0.287	7.3	55
62572004	4	0.307	7.8	64
62572005	5	0.331	8.4	74
62572007	7	0.358	9.1	90
62572008	8	0.409	10.4	110
62572009	9	0.437	11.1	127
62572010	10	0.445	11.3	132
62572012	12	0.453	11.5	143
62572014	14	0.488	12.4	164
62572016	16	0.508	12.9	180
62572018	18	0.539	13.7	199
62572025	25	0.642	16.3	275
62572030	30	0.657	16.7	303
62572034	34	0.709	18.0	343
62572040	40	0.768	19.5	404
62572041	41	0.768	19.5	409
62572061	61	0.878	22.3	546

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **19 AWG (≈ 23/32) • 0.75 mm²**				
62571902	2	0.299	7.6	58
62571903	3	0.311	7.9	65
62571904	4	0.331	8.4	76
62571905	5	0.366	9.3	90
62571907	7	0.390	9.9	108
62571908	8	0.453	11.5	140
62571909	9	0.484	12.3	155
62571910	10	0.500	12.7	164
62571912	12	0.512	13.0	179
62571914	14	0.539	13.7	200
62571916	16	0.563	14.3	220
62571918	18	0.594	15.1	243
62571925	25	0.709	18.0	335
62571930	30	0.736	18.7	378
62571934	34	0.791	20.1	427
62571940	40	0.850	21.6	494
62571941	41	0.850	21.6	501
62571961	61	0.992	25.2	691

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **18 AWG (≈ 30/32) • 1.00 mm²**				
62571802	2	0.307	7.8	63
62571803	3	0.323	8.2	73
62571804	4	0.350	8.9	87
62571805	5	0.374	9.5	100
62571807	7	0.409	10.4	123
62571808	8	0.480	12.2	162
62571809	9	0.508	12.9	177
62571810	10	0.524	13.3	186
62571812	12	0.535	13.6	204
62571814	14	0.555	14.1	226
62571818	18	0.622	15.8	289
62571825	25	0.740	18.8	384
62571830	30	0.772	19.6	441
62571834	34	0.827	21.0	492
62571840	40	0.886	22.5	568
62571841	41	0.886	22.5	576
62571861	61	1.035	26.3	800

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SABIX® CC 625 SH FRNC M

Control cable with numbered conductors, inner jacket and overall tinned copper shield

Marking for SABIX® CC 625 SH FRNC M 62571612:
SAB BRÖCKSKES · D-VIERSEN · 62571215 12 x 1.5 mm² SABIX® CC 625 SH FRNC M 16 AWG/12c 62571612 AWM Style 21089 75°C 600V CSA AWM I/II A/B 80°C 600V FT1

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **16 AWG (≈ 27-29/30) • 1.50 mm²**				
62571602	2	0.331	8.4	75
62571603	3	0.354	9.0	91
62571604	4	0.378	9.6	106
62571605	5	0.421	10.7	134
62571607	7	0.453	11.5	163
62571608	8	0.531	13.5	202
62571609	9	0.559	14.2	222
62571610	10	0.579	14.7	234
62571612	12	0.591	15.0	259
62571614	14	0.622	15.8	300
62571618	18	0.697	17.7	374
62571625	25	0.831	21.1	503
62571630	30	0.854	21.7	570
62571634	34	0.925	23.5	644
62571640	40	1.000	25.4	751
62571641	41	1.000	25.4	757
62571661	61	1.157	29.4	1058

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **14 AWG (≈ 46/30) • 2.50 mm²**				
62571402	2	0.386	9.8	105
62571403	3	0.421	10.7	136
62571404	4	0.449	11.4	160
62571405	5	0.500	12.7	195
62571407	7	0.543	13.8	240
62571408	8	0.638	16.2	305
62571409	9	0.673	17.1	335
62571410	10	0.693	17.6	355
62571412	12	0.720	18.3	400
62571418	18	0.835	21.2	552
62571425	25	1.004	25.5	749
► **12 AWG (≈ 52/28) • 4.00 mm²**				
62571203	3	0.484	12.3	153
62571204	4	0.528	13.4	226
62571205	5	0.579	14.7	272
62571207	7	0.638	16.2	353

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **10 AWG (≈ 78/28) • 6.00 mm²**				
62571003	3	0.551	14.0	253
62571004	4	0.610	15.5	320
62571005	5	0.669	17.0	386
► **8 AWG (≈ 77/26) • 10.00 mm²**				
62570804	4	0.795	20.2	531
62570805	5	0.878	22.3	645
► **6 AWG (≈ 122/26) • 16.00 mm²**				
62570604	4	0.957	24.3	769
► **4 AWG (≈ 190/26) • 25.00 mm²**				
62570404	4	1.169	29.7	1181
► **2 AWG (≈ 272/26) • 35.00 mm²**				
62570204	4	1.331	33.8	1584

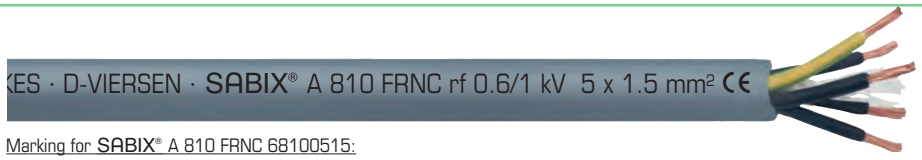
Other dimensions and colors are available on request

SABIX® A 810 FRNC

Motor connection cable with numbered conductors, improved fire performance, and extended temperature range

0.6/1 kV

SAB Servo



CE EAC RoHS

Marking for SABIX® A 810 FRNC 68100515:
SAB BRÖCKSKES · D-VIERSEN · SABIX® A 810 FRNC rf 0.6/1 kV 5 x 1.5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	SABIX®
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	in layers
Jacket material:	SABIX®
Jacket color:	gray (RAL 7000)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **no flame propagation**
- **flame retardant and self-extinguishing**

Technical data:

Nominal voltage:	Uo/U 0.6/1 kV
Testing voltage:	conductor/conductor: 4000 V
Min. bending radius: *fixed installation:* *free movement:*	 4 x O.D. 6 x O.D.
Temperature range: *static:* *flexible:*	 -40/+85°C -30/+85°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	no flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 cat. C resp. D Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Flexibility:	good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **16 AWG (≈ 27-29/30) • 1.50 mm²**				
68100315	3	0.370	9.4	85
68100415	4	0.398	10.1	100
68100515	5	0.433	11.0	118
68100715	7	0.469	11.9	144
► **14 AWG (≈ 46/30) • 2.50 mm²**				
68100325	3	0.417	10.6	116
68100425	4	0.453	11.5	138
68100525	5	0.496	12.6	165
68100725	7	0.543	13.8	208
► **12 AWG (≈ 52/28) • 4.00 mm²**				
68100340	3	0.469	11.9	157
68100440	4	0.520	13.2	192
68100540	5	0.563	14.3	226
68100740	7	0.618	15.7	292

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **10 AWG (≈ 78/28) • 6.00 mm²**				
68100360	3	0.524	13.3	207
68100460	4	0.563	14.3	251
68100560	5	0.622	15.8	301
68100760	7	0.677	17.2	389
► **8 AWG (≈ 77/26) • 10.00 mm²**				
68100370	3	0.720	18.3	392
68100470	4	0.787	20.0	476
68100570	5	0.862	21.9	568
68100770	7	0.941	23.9	727
► **6 AWG (≈ 122/26) • 16.00 mm²**				
68100380	3	0.846	21.5	553
68100480	4	0.925	23.5	677
68100580	5	1.020	25.9	828
68100780	7	1.114	28.3	1065

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **4 AWG (≈ 190/26) • 25.00 mm²**				
68100390	3	1.020	25.9	850
68100490	4	1.118	28.4	1046
68100590	5	1.236	31.4	1262
68100790	7	1.354	34.4	1643

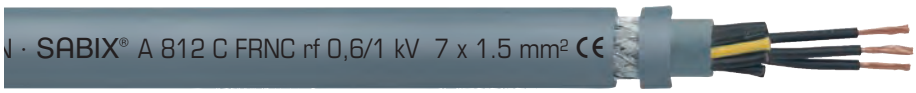
Other dimensions and colors are available on request

SABIX® A 812 C FRNC

Motor connection cable with numbered conductors, improved fire performance, inner jacket, overall tinned copper shield, and extended temperature range

0.6/1 kV

SAB Servo



CE EAC RoHS

Marking for SABIX® A 812 C FRNC 68120715:
SAB BRÖCKSKES · D-VIERSEN · SABIX® A 812 C FRNC rf 0.6/1 kV 7 x 1.5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	SABIX®
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	in layers
Inner jacket:	SABIX®
Shielding:	tinned copper braiding
Jacket material:	SABIX®
Jacket color:	gray (RAL 7000)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **good EMC characteristics***
- **no flame propagation**
- **flame retardant and self-extinguishing**

*copper braiding should be connected circularly to optimize the EMC characteristics

Technical data:

Nominal voltage:	Uo/U 0.6/1 kV
Testing voltage:	conductor/conductor: 4000 V conductor/shielding: 4000 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Temperature range: *static:* *flexible:*	 -40/+85°C -30/+85°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	no flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 cat. C resp. D Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Flexibility:	good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **16 AWG (≈ 27-29/30) • 1.50 mm²**				
68120315	3	0.445	11.3	136
68120415	4	0.472	12.0	152
68120715	7	0.543	13.8	210
▶ **14 AWG (≈ 46/30) • 2.50 mm²**				
68120325	3	0.496	12.6	173
68120425	4	0.531	13.5	200
68120525	5	0.591	15.0	251
68120725	7	0.638	16.2	294
▶ **12 AWG (≈ 52/28) • 4.00 mm²**				
68120440	4	0.642	16.3	305
68120740	7	0.709	18.0	396

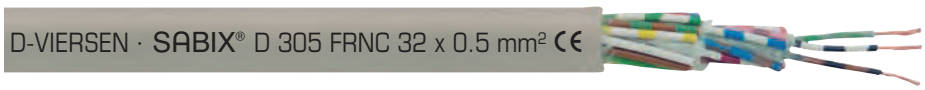
item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **10 AWG (≈ 78/28) • 6.00 mm²**				
68120360	3	0.594	15.1	286
68120460	4	0.657	16.7	347
68120760	7	0.783	19.9	522
▶ **8 AWG (≈ 77/26) • 10.00 mm²**				
68120370	3	0.764	19.4	413
68120470	4	0.827	21.0	501
68120570	5	0.898	22.8	615
68120770	7	0.988	25.1	775

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **6 AWG (≈ 122/26) • 16.00 mm²**				
68120380	3	0.882	22.4	556
68120480	4	0.972	24.7	709
68120580	5	1.063	27.0	867
68120780	7	1.169	29.7	1116
▶ **4 AWG (≈ 190/26) • 25.00 mm²**				
68120390	3	1.051	26.7	798
68120490	4	1.157	29.4	1015
68120590	5	1.272	32.3	1251

Other dimensions and colors are available on request

SABIX® D 305 FRNC

Flexible data cable with improved fire performance and extended temperature range



Marking for SABIX® D 305 FRNC 63053250:
SAB BRÖCKSKES · D-VIERSEN · SABIX® D 305 FRNC 32 x 0.5 mm² CE

Construction:

Conductor:	bare copper strands with reference to VDE 0812
Insulation:	SABIX®
Color code:	DIN 47100, see page O/26
Stranding:	in layers
Jacket material:	SABIX®
Jacket color:	grayish tan (RAL 7015)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **easy stripping**
- **low capacitance**
- **flexible**

Technical data:

Peak operating voltage:	< 24 AWG = max. 350 V ≥ 24 AWG = max. 500 V
Testing voltage:	conductor/conductor: 1500 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Temperature range: *static:* *flexible:*	 -40/+85°C -30/+85°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	no flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 cat. C resp. D Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Flexibility:	good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **26 AWG (≈ 18/38) ▪ 0.14 mm²**				
63050214	2	0.130	3.3	11
63050314	3	0.138	3.5	12
63050414	4	0.146	3.7	13
63050514	5	0.154	3.9	15
63050714	7	0.169	4.3	19
63050814	8	0.205	5.2	24
63051214	12	0.217	5.5	28
63051414	14	0.224	5.7	32
63051614	16	0.244	6.2	37
63051814	18	0.256	6.5	41
63052114	21	0.280	7.1	48
63052414	24	0.295	7.5	54
63052714	27	0.319	8.1	61
63053014	30	0.327	8.3	65
63053214	32	0.339	8.6	69
63053614	36	0.350	8.9	76
63054014	40	0.374	9.5	83
63054414	44	0.390	9.9	89
63055014	50	0.406	10.3	95
63056114	61	0.429	10.9	111

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **24 AWG (≈ 14/34) ▪ 0.25 mm²**				
63050225	2	0.142	3.6	13
63050325	3	0.150	3.8	15
63050425	4	0.161	4.1	17
63050525	5	0.173	4.4	21
63050725	7	0.189	4.8	26
63050825	8	0.213	5.4	30
63051225	12	0.248	6.3	41
63051425	14	0.260	6.6	46
63051625	16	0.272	6.9	52
63051825	18	0.287	7.3	57
63052125	21	0.327	8.3	71
63052425	24	0.331	8.4	74
63052725	27	0.339	8.6	77
63053025	30	0.350	8.9	84
63053225	32	0.362	9.2	89
63053625	36	0.394	10.0	105
63054025	40	0.417	10.6	116
63054425	44	0.437	11.1	124
63055025	50	0.457	11.6	137
63056125	61	0.484	12.3	162

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **22 AWG (≈ 7/30) ▪ 0.34 mm²**				
63050234	2	0.165	4.2	17
63050334	3	0.173	4.4	20
63050434	4	0.181	4.6	24
63050534	5	0.205	5.2	29
63050734	7	0.224	5.7	36
63050834	8	0.264	6.7	44
63051234	12	0.295	7.5	57
63051434	14	0.327	8.3	70
63051634	16	0.343	8.7	78
63051834	18	0.362	9.2	86
63052134	21	0.394	10.0	98
63052434	24	0.417	10.6	105
63052734	27	0.425	10.8	116
63053034	30	0.441	11.2	126
63053234	32	0.457	11.6	134
63053634	36	0.476	12.1	148
63054034	40	0.508	12.9	164
63054434	44	0.531	13.5	175
63055034	50	0.571	14.5	204
63056134	61	0.606	15.4	241

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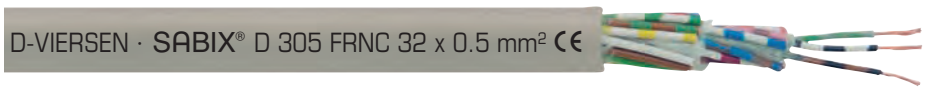
SABIX® D 305 FRNC

Flexible data cable with improved fire performance and extended temperature range



Marking for SABIX® D 305 FRNC 63053250:
SAB BRÖCKSKES · D-VIERSEN · SABIX® D 305 FRNC 32 x 0.5 mm² CE

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **20 AWG (≈ 16/32) • 0.50 mm²**				
63050250	2	0.177	4.5	21
63050350	3	0.185	4.7	24
63050450	4	0.201	5.1	29
63050550	5	0.220	5.6	34
63050750	7	0.248	6.3	45
63050850	8	0.287	7.3	55
63051250	12	0.335	8.5	76
63051450	14	0.350	8.9	85
63051650	16	0.370	9.4	95
63051850	18	0.390	9.9	105
63052150	21	0.429	10.9	121
63052450	24	0.453	11.5	131
63052750	27	0.461	11.7	143
63053050	30	0.476	12.1	156
63053250	32	0.496	12.6	167
63053650	36	0.516	13.1	184
63054450	44	0.594	15.1	229
63055050	50	0.618	15.7	276
63056150	61	0.657	16.7	301

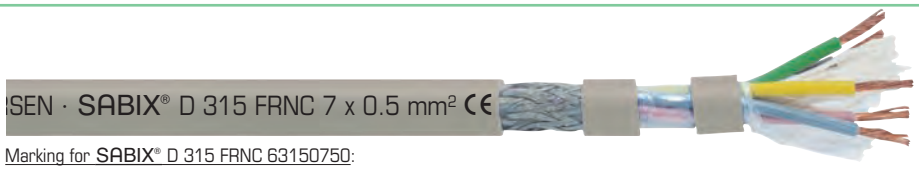
item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **19 AWG (≈ 23/32) • 0.75 mm²**				
63050275	2	0.201	5.1	28
63050375	3	0.213	5.4	33
63050475	4	0.240	6.1	42
63050575	5	0.260	6.6	49
63050775	7	0.283	7.2	61
63050875	8	0.343	8.7	80
63051275	12	0.386	9.8	103
63051475	14	0.406	10.3	114
63051675	16	0.425	10.8	129
63051875	18	0.449	11.4	143
63052175	21	0.492	12.5	167
63052475	24	0.524	13.3	181
63052775	27	0.535	13.6	200
63053075	30	0.571	14.5	228
63053275	32	0.591	15.0	242
63053675	36	0.614	15.6	268
63054075	40	0.657	16.7	298
63054475	44	0.689	17.5	319
63055075	50	0.720	18.3	356
63056175	61	0.780	19.8	435

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **18 AWG (≈ 30/32) • 1.00 mm²**				
63050280	2	0.209	5.3	32
63050380	3	0.220	5.6	38
63050480	4	0.248	6.3	48
63050580	5	0.272	6.9	58
63050680	6	0.295	7.5	67
63050780	7	0.311	7.9	78
► **16 AWG (≈ 27-29/30) • 1.50 mm²**				
63050285	2	0.240	6.1	43
63050385	3	0.252	6.4	52
63050485	4	0.276	7.0	63
63050585	5	0.319	8.1	82
63050685	6	0.346	8.8	95
63050785	7	0.346	8.8	103

Other dimensions and colors are available on request

SABIX® D 315 FRNC

Flexible data cable with improved fire performance, overall tinned copper shield, and extended temperature range



Marking for SABIX® D 315 FRNC 63150750:
SAB BRÖCKSKES · D-VIERSEN · SABIX® D 315 FRNC 7 x 0.5 mm² CE

Construction:

Conductor:	bare copper strands with reference to VDE 0812
Insulation:	SABIX®
Color code:	DIN 47100, see page O/26
Stranding:	in layers
Wrapping:	PETP foil
Shielding:	tinned copper braiding
Jacket material:	SABIX®
Jacket color:	grayish tan (RAL 7032)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **no flame propagation**
- **good EMC characteristics***
- **flame retardant and self-extinguishing**

*copper braiding should be connected circularly to optimize the EMC characteristics

Technical data:

Peak operating voltage:	< 24 AWG = max. 350 V ≥ 24 AWG = max. 500 V
Testing voltage:	conductor/conductor: 1500 V conductor/shielding: 1200 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Temperature range: *static:* *flexible:*	 -40/+85°C -30/+85°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	no flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 cat. C resp. D Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Flexibility:	good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **26 AWG (≈ 18/38) • 0.14 mm²**				
63150214	2	0.150	3.8	15
63150314	3	0.157	4.0	17
63150414	4	0.165	4.2	18
63150514	5	0.177	4.5	22
63150714	7	0.189	4.8	26
63150814	8	0.220	5.6	31
63151014	10	0.236	6.0	34
63151214	12	0.260	6.6	43
63151414	14	0.268	6.8	46
63151614	16	0.280	7.1	51
63151814	18	0.291	7.4	55
63152114	21	0.315	8.0	56
63152414	24	0.315	8.0	60
63152714	27	0.339	8.6	70
63153014	30	0.346	8.8	75
63153214	32	0.358	9.1	79
63153614	36	0.370	9.4	86
63154014	40	0.394	10.0	95
63154414	44	0.417	10.6	109
63155014	50	0.433	11.0	118
63155214	52	0.433	11.0	120
63156114	61	0.457	11.6	136

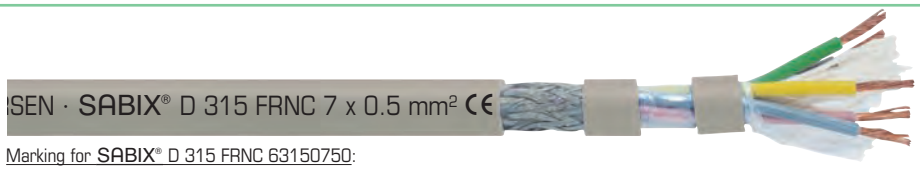
item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **24 AWG (≈ 14/34) • 0.25 mm²**				
63150225	2	0.161	4.1	17
63150325	3	0.169	4.3	19
63150425	4	0.181	4.6	22
63150525	5	0.201	5.1	29
63150725	7	0.217	5.5	34
63150825	8	0.256	6.5	44
63151025	10	0.276	7.0	50
63151225	12	0.283	7.2	54
63151425	14	0.295	7.5	60
63151625	16	0.307	7.8	66
63151825	18	0.323	8.2	73
63152125	21	0.346	8.8	82
63152425	24	0.366	9.3	87
63152725	27	0.374	9.5	95
63153025	30	0.386	9.8	102
63153225	32	0.398	10.1	108
63153625	36	0.421	10.7	127
63154025	40	0.445	11.3	140
63154425	44	0.465	11.8	148
63155025	50	0.500	12.7	171
63155225	52	0.500	12.7	175
63156125	61	0.528	13.4	198

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **22 AWG (≈ 7/30) • 0.34 mm²**				
63150234	2	0.185	4.7	23
63150334	3	0.201	5.1	28
63150434	4	0.217	5.5	32
63150534	5	0.232	5.9	37
63150734	7	0.268	6.8	49
63150834	8	0.299	7.6	58
63151034	10	0.323	8.2	65
63151234	12	0.331	8.4	72
63151434	14	0.346	8.8	79
63151634	16	0.362	9.2	87
63151834	18	0.382	9.7	97
63152134	21	0.421	10.7	119
63152434	24	0.445	11.3	130
63152734	27	0.453	11.5	139
63153034	30	0.469	11.9	149
63153234	32	0.500	12.7	166
63153634	36	0.520	13.2	183
63154034	40	0.551	14.0	202
63154434	44	0.575	14.6	214
63155034	50	0.622	15.8	259
63155234	52	0.622	15.8	265
63156134	61	0.657	16.7	246

Continued on next page

SABIX® D 315 FRNC

Flexible data cable with improved fire performance, overall tinned copper shield, and extended temperature range



Marking for SABIX® D 315 FRNC 63150750:
SAB BRÖCKSKES · D-VIERSEN · SABIX® D 315 FRNC 7 x 0.5 mm²

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **20 AWG (≈ 16/32) • 0.50 mm²**				
63150250	2	0.205	5.2	28
63150350	3	0.213	5.4	31
63150450	4	0.228	5.8	36
63150550	5	0.264	6.7	48
63150750	7	0.283	7.2	57
63150850	8	0.323	8.2	69
63151050	10	0.346	8.8	76
63151250	12	0.354	9.0	85
63151450	14	0.370	9.4	93
63151650	16	0.390	9.9	105
63151850	18	0.417	10.6	124
63152150	21	0.457	11.6	148
63152450	24	0.496	12.6	162
63152750	27	0.504	12.8	175
63153050	30	0.520	13.2	190
63153250	32	0.539	13.7	201
63153650	36	0.559	14.2	222
63154450	44	0.646	16.4	284
63155050	50	0.669	17.0	315
63156150	61	0.709	18.0	363

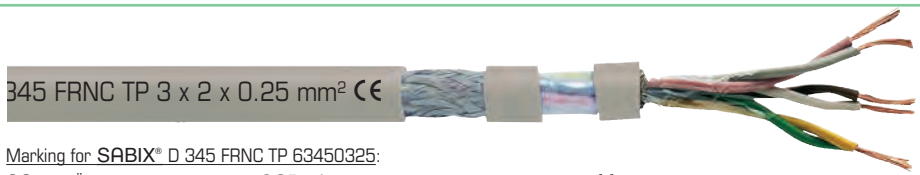
item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **19 AWG (≈ 23/32) • 0.75 mm²**				
63150275	2	0.228	5.8	34
63150375	3	0.256	6.5	44
63150475	4	0.276	7.0	52
63150575	5	0.295	7.5	60
63150775	7	0.319	8.1	75
63150875	8	0.362	9.2	89
63151275	12	0.413	10.5	120
63151475	14	0.433	11.0	133
63151675	16	0.453	11.5	151
63151875	18	0.488	12.4	173
63152175	21	0.535	13.6	200
63152475	24	0.567	14.4	218
63152775	27	0.579	14.7	237
63153075	30	0.622	15.8	280
63153275	32	0.642	16.3	296
63153675	36	0.665	16.9	322

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **18 AWG (≈ 30/32) • 1.00 mm²**				
63150280	2	0.236	6.0	37
63150380	3	0.264	6.7	49
63150480	4	0.283	7.2	58
63150580	5	0.307	7.8	69
63150680	6	0.331	8.4	80
63150780	7	0.331	8.4	85
► **16 AWG (≈ 27-29/30) • 1.50 mm²**				
63150285	2	0.276	7.0	52
63150385	3	0.287	7.3	60
63150485	4	0.311	7.9	73
63150585	5	0.339	8.6	87
63150685	6	0.366	9.3	102
63150785	7	0.366	9.3	109

Other dimensions and colors are available on request

SABIX® D 345 FRNC TP

Paired data cable with improved fire performance, overall tinned copper shield, and extended temperature range



Marking for SABIX® D 345 FRNC TP 63450325:
SAB BRÖCKSKES · D-VIERSEN · SABIX® D 345 FRNC TP 3 x 2 x 0.25 mm² CE

Construction:

Conductor:	bare copper strands with reference to VDE 0812
Insulation:	SABIX®
Color code:	DIN 47100, see page O/26
Stranding:	pairwise, pairs in layers
Wrapping:	PETP foil
Shielding:	tinned copper braiding
Jacket material:	SABIX®
Jacket color:	grayish tan (RAL 7032)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **no flame propagation**
- **good EMC characteristics***
- **flame retardant and self-extinguishing**
- **good transmission rates and crosstalk attenuation**

*copper braiding should be connected circularly to optimize the EMC characteristics

Technical data:

Peak operating voltage:	< 24 AWG = max. 350 V ≥ 24 AWG = max. 500 V
Testing voltage:	conductor/conductor: 1500 V conductor/shielding: 1200 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Temperature range: *static:* *flexible:*	 -40/+85°C -30/+85°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	no flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 cat. C resp. D Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Flexibility:	good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of pairs	nominal outer-ø inch ±10%	nominal outer-ø mm ±10%	cable weight ≈lbs/mft
▶ **26 AWG (≈ 18/38) • 0.14 mm²**				
63450214	2	0.213	5.4	27
63450314	3	0.232	5.9	32
63450414	4	0.272	6.9	42
63450514	5	0.291	7.4	47
63450614	6	0.299	7.6	50
63450814	8	0.323	8.2	55
63451014	10	0.35	8.9	69
63451214	12	0.382	9.7	75
63451614	16	0.413	10.5	89
63451814	18	0.437	11.1	105
63452414	24	0.504	12.8	137
▶ **24 AWG (≈ 14/34) • 0.25 mm²**				
63450225	2	0.232	5.9	30
63450325	3	0.268	6.8	42
63450425	4	0.283	7.2	48
63450525	5	0.319	8.1	56
63450625	6	0.327	8.3	63
63450825	8	0.354	9	70
63451025	10	0.386	9.8	91
63451225	12	0.429	10.9	104
63451625	16	0.469	11.9	130
63451825	18	0.5	12.7	148
63452425	24	0.567	14.4	192

item no.	no. of pairs	nominal outer-ø inch ±10%	nominal outer-ø mm ±10%	cable weight ≈lbs/mft
▶ **22 AWG (≈ 7/30) • 0.34 mm²**				
63450234	2	0.283	7.2	44
63450334	3	0.307	7.8	55
63450434	4	0.346	8.8	66
63450534	5	0.374	9.5	76
63450634	6	0.382	9.7	84
63450834	8	0.425	10.8	104
63451234	12	0.528	13.4	151
63451634	16	0.583	14.8	193
63451834	18	0.602	15.3	213
63452434	24	0.693	17.6	271
▶ **20 AWG (≈ 16/32) • 0.50 mm²**				
63450250	2	0.299	7.6	50
63450350	3	0.327	8.3	63
63450450	4	0.37	9.4	78
63450550	5	0.402	10.2	87
63450650	6	0.409	10.4	102
63450850	8	0.457	11.6	124
63451050	10	0.52	13.2	156
63451250	12	0.567	14.4	183
63451650	16	0.642	16.3	244
63451850	18	0.665	16.9	263
63452450	24	0.748	19	328

item no.	no. of pairs	nominal outer-ø inch ±10%	nominal outer-ø mm ±10%	cable weight ≈lbs/mft
▶ **19 AWG (≈ 23/32) • 0.75 mm²**				
63450275	2	0.335	8.5	66
63450375	3	0.37	9.4	79
63450475	4	0.429	10.9	107
63450575	5	0.461	11.7	122
63450675	6	0.492	12.5	144
63450875	8	0.594	15.1	202
63451275	12	0.673	17.1	262
63451675	16	0.732	18.6	318
63451875	18	0.76	19.3	349
63452475	24	0.858	21.8	433

Other dimensions and colors are available on request

SABIX® R 600 FRNC

SABIX® Rail - Control cable with numbered conductors

EN 45545-2 · UN / ECE R118 · SAB Rail

CE EAC RoHS

Marking for SABIX® R 600 FRNC 66001215:
SAB BRÖCKSKES · D-VIERSEN · SABIX® R 600 FRNC 12 x 1.5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	special SABIX®
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	in layers
Jacket material:	special SABIX®
Jacket color:	gray (RAL 7000)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **fulfills fire protection requirements R15 (EL1A) acc. to EN 45545-2 for hazard levels HL1-3**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 3000 V
Min. bending radius: *fixed installation:* *free movement:*	 4 x O.D. 6 x O.D.
Temperature range: *static:* *flexible:*	 -40/+90°C -30/+90°C
Halogen-free:	acc. to EN 50306-1 + EN 50264-1 are fulfilled. Development of HCl is < 0.5% acc. to IEC 60754-1. pH-value is > 4.3 acc. to IEC 60754-2. Conductivity is < 10.0 µS/mm acc. to IEC 60754-2. Fluoric content < 0.1% acc. to IEC 60684-2
Burning characteristics:	No flame propagation acc. to IEC 60332-3-24, IEC 60332-3-25 + EN 50305 section 9.1.2. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 Flame retardant acc. to ISO 6722 (UN/ECE R118)
Toxicity:	acc. to EN 50305+ VDE 0260-305
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Flexibility:	good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ 20 AWG (≈ 16/32) • 0.50 mm²				
66000205	2	0.189	4.8	22
66000305	3	0.201	5.1	26
66000405	4	0.217	5.5	31
66000505	5	0.244	6.2	38
66000705	7	0.264	6.7	46
66001005	10	0.339	8.6	65
66001205	12	0.358	9.1	74
66001805	18	0.421	10.7	114
66002505	25	0.508	12.9	148
66003205	32	0.551	14.0	193
66004205	42	0.618	15.7	245
66006105	61	0.728	18.5	343
▶ 19 AWG (≈ 23/32) • 0.75 mm²				
66000207	2	0.213	5.4	30
66000307	3	0.224	5.7	34
66000407	4	0.252	6.4	42
66000507	5	0.276	7.0	52
66000707	7	0.307	7.8	65
66001007	10	0.394	10.0	97
66001207	12	0.413	10.5	110
66001807	18	0.488	12.4	155
66002507	25	0.594	15.1	212
66003207	32	0.646	16.4	261
66004207	42	0.724	18.4	346
66006107	61	0.850	21.6	484
▶ 18 AWG (≈ 30/32) • 1.00 mm²				
66000210	2	0.220	5.6	34
66000310	3	0.240	6.1	42
66000410	4	0.260	6.6	51
66000510	5	0.295	7.5	63
66000710	7	0.319	8.1	79

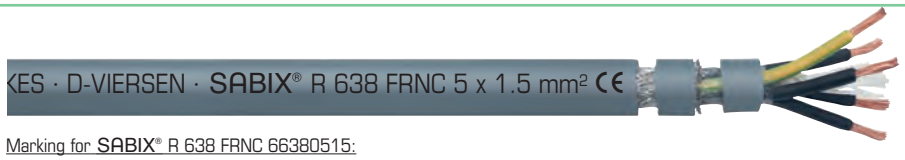
item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ 18 AWG (≈ 30/32) • 1.00 mm²				
66001010	10	0.417	10.6	116
66001210	12	0.429	10.9	132
66001810	18	0.508	12.9	188
66002510	25	0.618	15.7	256
66003210	32	0.673	17.1	327
66004210	42	0.764	19.4	414
66006110	61	0.894	22.7	587
▶ 16 AWG (≈ 27-29/30) • 1.50 mm²				
66000215	2	0.252	6.4	46
66000315	3	0.268	6.8	54
66000415	4	0.299	7.6	67
66000515	5	0.327	8.3	83
66000715	7	0.362	9.2	114
66001015	10	0.472	12.0	154
66001215	12	0.488	12.4	177
66001815	18	0.583	14.8	194
66002515	25	0.709	18.0	361
66003215	32	0.768	19.5	444
66004215	42	0.866	22.0	583
66006115	61	1.016	25.8	818
▶ 14 AWG (≈ 46/30) • 2.50 mm²				
66000225	2	0.307	7.8	71
66000325	3	0.350	8.9	85
66000425	4	0.362	9.2	104
66000525	5	0.398	10.1	134
66000725	7	0.441	11.2	169
66001025	10	0.583	14.8	243
66001225	12	0.602	15.3	280
66001825	18	0.717	18.2	413
66002525	25	0.878	22.3	562

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ 12 AWG (≈ 52/28) • 4.00 mm²				
66000340	3	0.382	9.7	124
66000440	4	0.425	10.8	157
66000540	5	0.476	12.1	195
66000740	7	0.528	13.4	252
▶ 10 AWG (≈ 78/28) • 6.00 mm²				
66000360	3	0.449	11.4	181
66000460	4	0.500	12.7	226
66000560	5	0.559	14.2	279
66000760	7	0.618	15.7	366
▶ 8 AWG (≈ 77/26) • 10.00 mm²				
66000461	4	0.657	16.7	389
66000561	5	0.732	18.6	497
66000761	7	0.815	20.7	645
▶ 6 AWG (≈ 122/26) • 16.00 mm²				
66000462	4	0.811	20.6	596
66000562	5	0.906	23.0	742
66000762	7	1.004	25.5	971
▶ 4 AWG (≈ 190/26) • 25.00 mm²				
66000463	4	0.980	24.9	933
66000563	5	1.106	28.1	1176
▶ 2 AWG (≈ 272/26) • 35.00 mm²				
66000464	4	1.134	28.8	1295
66000564	5	1.280	32.5	1621

Other dimensions and colors are available on request

SABIX® R 638 FRNC

SABIX® Rail - Control cable with numbered conductors and overall tinned copper shield



Marking for SABIX® R 638 FRNC 66380515:
SAB BRÖCKSKES · D-VIERSEN · SABIX® R 638 FRNC 5 x 1.5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	special SABIX®
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	in layers
Wrapping:	foil
Shielding:	tinned copper braiding
Jacket material:	special SABIX®
Jacket color:	gray (RAL 7000)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **good EMC characteristics***
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **fulfills fire protection requirements R15 (EL1A) acc. to EN 45545-2 for hazard levels HL1-3**

*copper braiding should be connected circularly to optimize the EMC characteristics

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 3000 V conductor/shielding: 2000 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Temperature range: *static:* *flexible:*	 -40/+90°C -30/+90°C
Halogen-free:	acc. to EN 50306-1 + EN 50264-1 are fulfilled. Development of HCl is < 0.5% acc. to IEC 60754-1. pH-value is > 4.3 acc. to IEC 60754-2. Conductivity is < 10.0 µS/mm acc. to IEC 60754-2. Fluoric content < 0.1% acc. to IEC 60684-2
Burning characteristics:	No flame propagation acc. to IEC 60332-3-24, IEC 60332-3-25 EN 50305 section 9.1.2. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 Flame retardant acc. to ISO 6722 (UN/ECE R118)
Toxicity:	acc. to EN 50305+ VDE 0260-305
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Flexibility:	good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ 20 AWG (≈ 16/32) • 0.50 mm²				
66380205	2	0.209	5.3	26
66380305	3	0.220	5.6	30
66380405	4	0.244	6.2	41
66380505	5	0.264	6.7	47
66380705	7	0.283	7.2	54
66381205	12	0.378	9.6	101
66381805	18	0.449	11.4	138
66382505	25	0.543	13.8	183
▶ 19 AWG (≈ 23/32) • 0.75 mm²				
66380207	2	0.240	6.1	34
66380307	3	0.252	6.4	41
66380407	4	0.272	6.9	49
66380507	5	0.303	7.7	65
66380707	7	0.327	8.3	81
66381207	12	0.441	11.2	130
66381807	18	0.524	13.3	188
66382507	25	0.638	16.2	265

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ 18 AWG (≈ 30/32) • 1.00 mm²				
66380210	2	0.248	6.3	38
66380310	3	0.260	6.6	46
66380410	4	0.280	7.1	63
66380510	5	0.315	8.0	74
66380710	7	0.339	8.6	93
66381210	12	0.465	11.8	152
66381810	18	0.543	13.8	212
66382510	25	0.661	16.8	305
▶ 16 AWG (≈ 27-29/30) • 1.50 mm²				
66380215	2	0.272	6.9	42
66380315	3	0.283	7.2	60
66380415	4	0.319	8.1	74
66380515	5	0.354	9.0	91
66380715	7	0.382	9.7	120
66381215	12	0.547	13.9	202
66381815	18	0.618	15.7	305
66382515	25	0.752	19.1	412

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ 14 AWG (≈ 46/30) • 2.50 mm²				
66380225	2	0.327	8.3	67
66380325	3	0.354	9.0	86
66380425	4	0.382	9.7	110
66380525	5	0.433	11.0	144
66380725	7	0.476	12.1	185
66381225	12	0.646	16.4	313
66381825	18	0.760	19.3	447
66382525	25	0.921	23.4	626
▶ 12 AWG (≈ 52/28) • 4.00 mm²				
66380440	4	0.453	11.5	168
66380540	5	0.504	12.8	208
▶ 10 AWG (≈ 78/28) • 6.00 mm²				
66380460	4	0.535	13.6	237
66380560	5	0.594	15.1	282
▶ 8 AWG (≈ 77/26) • 10.00 mm²				
66380461	4	0.701	17.8	414
66380561	5	0.862	21.9	616

Other dimensions and colors are available on request

SABIX® R 605 FRNC

SABIX® Rail - Data cable

Marking for SABIX® R 605 FRNC 66053250:
SAB BRÖCKSKES · D-VIERSEN · SABIX® R 605 FRNC 32 x 0.5 mm²

Construction:

Conductor:	bare copper strands with reference to IEC 60228, VDE 0295, class 5
Insulation:	special SABIX®
Color code:	DIN 47100, see page O/26
Stranding:	in layers
Jacket material:	special SABIX®
Jacket color:	grayish tan (RAL 7032)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **fulfills fire protection requirements R15 (EL1A) acc. to EN 45545-2 for hazard levels HL1-3**
- **fulfills fire protection requirements acc. to NFPA 130 section 8.6.7.1.1.1 and section 12.2.1 (1) ***
- **flame retardant acc. to UN/ECE R118**

Technical data:

Nominal voltage:	< 24 AWG = max. 350 V ≥ 24 AWG = max. 500 V
Testing voltage:	conductor/conductor: 1500 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Temperature range: *static:* *flexible:*	 -40/+90°C -30/+90°C
Halogen-free:	acc. to EN 50306-1 + EN 50264-1 are fulfilled. Development of HCl is < 0.5% acc. to IEC 60754-1. pH-value is > 4.3 acc. to IEC 60754-2. Conductivity is < 10.0 µS/mm acc. to IEC 60754-2. Fluoric content < 0.1% acc. to IEC 60684-2
Burning characteristics:	No flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 and EN 50305 + VDE 0260-305 section 9.1.2. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2. Flame retardant acc. to UL 1685 section 12, FT4/IEEE 1202.* Flame retardant acc. to ISO 6722 (UN/ECE R118)
Toxicity:	acc. to EN 50305 + VDE 0260-305
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Flexibility:	good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► 26 AWG (≈ 18/38) • 0.14 mm²				
66050214	2	0.122	3.1	9
66050314	3	0.130	3.3	10
66050414	4	0.138	3.5	12
66050514	5	0.150	3.8	14
66050714	7	0.161	4.1	17
66050814	8	0.197	5.0	22
66051214	12	0.209	5.3	26
66051414	14	0.217	5.5	28
66051614	16	0.236	6.0	34
66051814	18	0.248	6.3	38
66052114	21	0.272	6.9	44
66052414	24	0.287	7.3	47
66052714	27	0.303	7.7	54
66053014	30	0.311	7.9	58
66053214	32	0.323	8.2	62
66053614	36	0.335	8.5	68
66054014	40	0.358	9.1	75
66054414	44	0.374	9.5	80
66055014	50	0.406	10.3	95
66056114	61	0.429	10.9	111

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► 24 AWG (≈ 14/34) • 0.25 mm²				
66050225	2	0.134	3.4	11
66050325	3	0.142	3.6	13
66050425	4	0.154	3.9	16
66050525	5	0.165	4.2	19
66050725	7	0.181	4.6	24
66050825	8	0.205	5.2	29
66051225	12	0.240	6.1	38
66051425	14	0.252	6.4	43
66051625	16	0.264	6.7	48
66051825	18	0.280	7.1	54
66052125	21	0.311	7.9	65
66052425	24	0.331	8.4	70
66052725	27	0.339	8.6	77
66053025	30	0.350	8.9	84
66053225	32	0.362	9.2	89
66053625	36	0.394	10.0	105
66054025	40	0.417	10.6	116
66054425	44	0.437	11.1	124
66055025	50	0.457	11.6	137
66056125	61	0.484	12.3	162

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► 22 AWG (≈ 7/30) • 0.34 mm²				
66050234	2	0.157	4.0	16
66050334	3	0.165	4.2	18
66050434	4	0.181	4.6	22
66050534	5	0.197	5.0	27
66050734	7	0.217	5.5	33
66050834	8	0.256	6.5	42
66051234	12	0.287	7.3	54
66051434	14	0.311	7.9	63
66051634	16	0.327	8.3	71
66051834	18	0.346	8.8	79
66052134	21	0.394	10.0	98
66052434	24	0.417	10.6	105
66052734	27	0.425	10.8	116
66053034	30	0.441	11.2	126
66053234	32	0.457	11.6	134
66053634	36	0.476	12.1	148
66054034	40	0.508	12.9	164
66054434	44	0.531	13.5	175
66055034	50	0.571	14.5	204
66056134	61	0.606	15.4	241

* NFPA 130 / FT4 only up to outer-ø < 13 mm (0.512").

Continued on next page

SABIX® R 605 FRNC

SABIX® Rail - Data cable

Marking for SABIX® R 605 FRNC 66053250:
SAB BRÖCKSKES · D-VIERSEN · SABIX® R 605 FRNC 32 x 0.5 mm² CE

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **20 AWG (≈ 16/32) • 0.50 mm²**				
66050250	2	0.169	4.3	19
66050350	3	0.177	4.5	22
66050450	4	0.193	4.9	27
66050550	5	0.213	5.4	33
66050750	7	0.240	6.1	42
66050850	8	0.280	7.1	53
66051250	12	0.319	8.1	69
66051450	14	0.335	8.5	77
66051650	16	0.354	9.0	88
66051850	18	0.374	9.5	97
66052150	21	0.429	10.9	121
66052450	24	0.453	11.5	131
66052750	27	0.461	11.7	143
66053050	30	0.476	12.1	156
66053250	32	0.496	12.6	167
66053650	36	0.516	13.1	184
66054450	44	0.594	15.1	229
66055050	50	0.618	15.7	276
66056150	61	0.657	16.7	301

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **19 AWG (≈ 23/32) • 0.75 mm²**				
66050275	2	0.193	4.9	26
66050375	3	0.205	5.2	30
66050475	4	0.232	5.9	39
66050575	5	0.252	6.4	47
66050775	7	0.276	7.0	58
66050875	8	0.327	8.3	75
66051275	12	0.370	9.4	95
66051475	14	0.406	10.3	114
66051675	16	0.425	10.8	129
66051875	18	0.449	11.4	143
66052175	21	0.492	12.5	167
66052475	24	0.524	13.3	181
66052775	27	0.535	13.6	200
66053075	30	0.571	14.5	228
66053275	32	0.591	15.0	242
66053675	36	0.614	15.6	268
66054075	40	0.657	16.7	298
66054475	44	0.689	17.5	319
66055075	50	0.720	18.3	356
66056175	61	0.780	19.8	435

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **18 AWG (≈ 30/32) • 1.00 mm²**				
66050280	2	0.201	5.1	29
66050380	3	0.213	5.4	36
66050480	4	0.240	6.1	46
66050580	5	0.264	6.7	55
66050680	6	0.287	7.3	65
66050780	7	0.287	7.3	70
► **16 AWG (≈ 27-29/30) • 1.50 mm²**				
66050285	2	0.220	5.6	37
66050385	3	0.240	6.1	48
66050485	4	0.264	6.7	58
66050585	5	0.303	7.7	76
66050685	6	0.331	8.4	90
66050785	7	0.331	8.4	97

Other dimensions and colors are available on request

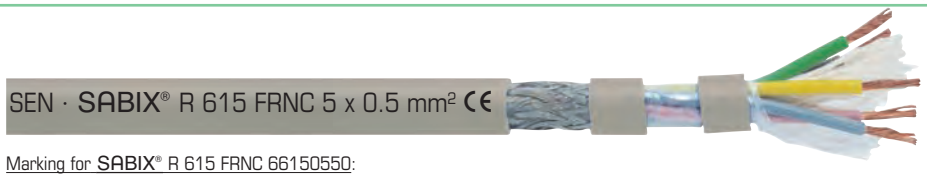
* NFPA 130 / FT4 only up to outer-ø < 13 mm (0.512").

SABIX® R 615 FRNC

SABIX® Rail - Data cable with overall tinned copper shield

EN 45545-2 · NFPA 130 · UN/ECE R118 · SAB Rail

CE EAC RoHS



Marking for SABIX® R 615 FRNC 66150550:
SAB BRÖCKSKES · D-VIERSEN · SABIX® R 615 FRNC 5 x 0.5 mm² CE

Construction:

Conductor:	bare copper strands with reference to IEC 60228, VDE 0295, class 5
Insulation:	special SABIX®
Color code:	DIN 47100, see page O/26
Stranding:	in layers
Wrapping:	foil
Shielding:	tinned copper braiding
Jacket material:	special SABIX®
Jacket color:	grayish tan (RAL 7032)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **good EMC characteristics+**
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **fulfills fire protection requirements R15 (EL1A) acc. to EN 45545-2 for hazard levels HL1-3**
- **fulfills fire protection requirements acc. to NFPA 130 section 8.6.7.1.1.1 and section 12.2.1 (1) ***
- **tested acc. to American ASTM standard**
- **flame retardant acc. to UN/ECE R118**

+copper braiding should be connected circularly to optimize the EMC characteristics

Technical data:

Nominal voltage:	< 24 AWG = max. 350 V ≥ 24 AWG = max. 500 V
Testing voltage:	conductor/conductor: 1500 V conductor/shielding: 1200 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Temperature range: *static:* *flexible:*	 -40/+90°C -30/+90°C
Halogen-free:	acc. to EN 50306-1 + EN 50264-1 are fulfilled. Development of HCl is < 0.5% acc. to IEC 60754-1. pH-value is > 4.3 acc. to IEC 60754-2. Conductivity is < 10.0 µS/mm acc. to IEC 60754-2. Fluoric content < 0.1% acc. to IEC 60684-2
Burning characteristics:	No flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 and EN 50305 + VDE 0260-305 section 9.1.2. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2. Flame retardant acc. to UL 1685 section 12, FT4/IEEE 1202. * Burning tests acc. to ASTM E 162-09. Flame retardant acc. to ISO 6722 (UN/ECE R118)
Toxicity:	acc. to EN 50305+ VDE 0260-305
Smoke density:	acc. to IEC 61034 + VDE 0482-1034 + ASTM E 662-09
Flexibility:	good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **26 AWG (≈ 18/38) • 0.14 mm²**				
66150214	2	0.142	3.6	14
66150314	3	0.150	3.8	15
66150414	4	0.157	4.0	16
66150514	5	0.169	4.3	19
66150714	7	0.181	4.6	22
66150814	8	0.213	5.4	29
66151014	10	0.228	5.8	32
66151214	12	0.244	6.2	36
66151414	14	0.252	6.4	40
66151614	16	0.264	6.7	45
66151814	18	0.276	7.0	48
66152114	21	0.299	7.6	56
66152414	24	0.315	8.0	60
66152714	27	0.339	8.6	70
66153014	30	0.346	8.8	75
66153214	32	0.358	9.1	79
66153614	36	0.370	9.4	86
66154014	40	0.394	10.0	95
66154414	44	0.417	10.6	109
66155014	50	0.433	11.0	118
66155214	52	0.433	11.0	120
66156114	61	0.457	11.6	136

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **24 AWG (≈ 14/34) • 0.25 mm²**				
66150225	2	0.154	3.9	16
66150325	3	0.161	4.1	17
66150425	4	0.173	4.4	21
66150525	5	0.193	4.9	26
66150725	7	0.209	5.3	31
66150825	8	0.240	6.1	39
66151025	10	0.260	6.6	43
66151225	12	0.268	6.8	48
66151425	14	0.280	7.1	54
66151625	16	0.291	7.4	60
66151825	18	0.307	7.8	66
66152125	21	0.346	8.8	82
66152425	24	0.366	9.3	87
66152725	27	0.374	9.5	95
66153025	30	0.386	9.8	102
66153225	32	0.398	10.1	108
66153625	36	0.421	10.7	127
66154025	40	0.445	11.3	140
66154425	44	0.465	11.8	148
66155025	50	0.500	12.7	171
66155225	52	0.500	12.7	175
66156125	61	0.528	13.4	198

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **22 AWG (≈ 7/30) • 0.34 mm²**				
66150234	2	0.177	4.5	21
66150334	3	0.193	4.9	24
66150434	4	0.209	5.3	29
66150534	5	0.224	5.7	34
66150734	7	0.252	6.4	42
66150834	8	0.283	7.2	52
66151034	10	0.307	7.8	58
66151234	12	0.315	8.0	65
66151434	14	0.346	8.8	79
66151634	16	0.362	9.2	87
66151834	18	0.382	9.7	97
66152134	21	0.421	10.7	119
66152434	24	0.445	11.3	130
66152734	27	0.453	11.5	139
66153034	30	0.469	11.9	149
66153234	32	0.500	12.7	166
66153634	36	0.520	13.2	183
66154034	40	0.551	14.0	202
66154434	44	0.575	14.6	214
66155034	50	0.622	15.8	259
66155234	52	0.622	15.8	265
66156134	61	0.657	16.7	246

Continued on next page

* NFPA 130 / FT4 only up to outer-ø < 13 mm (0.512").

SABIX® R 615 FRNC

SABIX® Rail - Data cable with overall tinned copper shield

EN 45545-2 · NFPA 130 · UN / ECE R118 · SAB Rail

CE EAC RoHS

Marking for SABIX® R 615 FRNC 66150550:
SAB BRÖCKSKES · D-VIERSEN · SABIX® R 615 FRNC 5 x 0.5 mm² CE

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **20 AWG (≈ 16/32) • 0.50 mm²**				
66150250	2	0.197	5.0	26
66150350	3	0.205	5.2	28
66150450	4	0.220	5.6	34
66150550	5	0.248	6.3	42
66150750	7	0.268	6.8	51
66150850	8	0.307	7.8	63
66151050	10	0.346	8.8	76
66151250	12	0.354	9.0	85
66151450	14	0.370	9.4	93
66151650	16	0.390	9.9	105
66151850	18	0.417	10.6	124
66152150	21	0.457	11.6	148
66152450	24	0.496	12.6	161
66152750	27	0.504	12.8	175
66153050	30	0.520	13.2	190
66153250	32	0.539	13.7	201
66153650	36	0.559	14.2	222
66154450	44	0.646	16.4	284
66155050	50	0.669	17.0	315
66156150	61	0.709	18.0	363

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **19 AWG (≈ 23/32) • 0.75 mm²**				
66150275	2	0.220	5.6	32
66150375	3	0.240	6.1	38
66150475	4	0.260	6.6	50
66150575	5	0.280	7.1	54
66150775	7	0.303	7.7	68
66150875	8	0.362	9.2	89
66151275	12	0.413	10.5	120
66151475	14	0.433	11.0	133
66151675	16	0.453	11.5	151
66151875	18	0.488	12.4	173
66152175	21	0.535	13.6	200
66152475	24	0.567	14.4	218
66152775	27	0.579	14.7	237
66153075	30	0.622	15.8	280
66153275	32	0.642	16.3	296
66153675	36	0.665	16.9	322

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **18 AWG (≈ 30/32) • 1.00 mm²**				
66150280	2	0.228	5.8	36
66150380	3	0.248	6.3	44
66150480	4	0.268	6.8	52
66150580	5	0.291	7.4	64
66150680	6	0.315	8.0	75
66150780	7	0.315	8.0	79
► **16 AWG (≈ 27-29/30) • 1.50 mm²**				
66150285	2	0.260	6.6	48
66150385	3	0.268	6.8	60
66150485	4	0.291	7.4	66
66150585	5	0.339	8.6	87
66150685	6	0.366	9.3	102
66150785	7	0.366	9.3	109

Other dimensions and colors are available on request

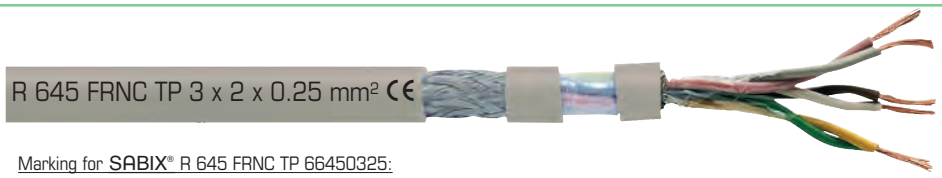
* NFPA 130 / FT4 only up to outer-ø < 13 mm (0.512").

SABIX® R 645 FRNC TP

SABIX® Rail - Data cable, paired with overall tinned copper shield

EN 45545-2 · NFPA 130 · UN/ECE R118 · SAB Rail

CE EAC RoHS



Marking for SABIX® R 645 FRNC TP 66450325:
SAB BRÖCKSKES · D-VIERSEN · SABIX® R 645 FRNC TP 3 x 2 x 0.25 mm² CE

Construction:

Conductor:	bare copper strands with reference to IEC 60228, VDE 0295, class 5
Insulation:	special SABIX®
Color code:	DIN 47100, see page O/26
Stranding:	pairwise, pairs in layers
Wrapping:	foil
Shielding:	tinned copper braiding
Jacket material:	special SABIX®
Jacket color:	grayish tan (RAL 7032)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **no flame propagation**
- **good EMC characteristics⁺**
- **flame retardant and self-extinguishing**
- **fulfills fire protection requirements R15 (EL1A) acc. to EN 45545-2 for hazard levels HL1-3**
- **fulfills fire protection requirements acc. to NFPA 130 section 8.6.7.1.1.1 and section 12.2.1 (1) ***
- **flame retardant acc. to UN/ECE R118**
- **tested acc. to American ASTM standard**
- **good transmission rates and crosstalk attenuation**

⁺copper braiding should be connected circularly to optimize the EMC characteristics

Technical data:

Nominal voltage:	< 24 AWG = max. 350 V ≥ 24 AWG = max. 500 V
Testing voltage:	conductor/conductor: 1500 V conductor/shielding: 1200 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Temperature range: *static:* *flexible:*	 -40/+90°C -30/+90°C
Halogen-free:	acc. to EN 50306-1 + EN 50264-1 are fulfilled. Development of HCl is < 0.5% acc. to IEC 60754-1. pH-value is > 4.3 acc. to IEC 60754-2. Conductivity is < 10.0 µS/mm acc. to IEC 60754-2. Fluoric content < 0.1% acc. to IEC 60684-2
Burning characteristics:	No flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 and EN 50305 + VDE 0260-305 section 9.1.2. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2. Flame retardant acc. to UL 1685 section 12, FT4/IEEE 1202. * Burning tests acc. to ASTM E 162-09. Flame retardant acc. to ISO 6722 (UN/ECE R118)
Toxicity:	acc. to EN 50305+ VDE 0260-305
Smoke density:	acc. to IEC 61034 + VDE 0482-1034 + ASTM E 662-09
Flexibility:	good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of pairs	nominal outer-ø inch ±10%	nominal outer-ø mm ±10%	cable weight ≈lbs/mft
▶ **26 AWG (≈ 18/38) • 0.14 mm²**				
66450214	2	0.205	5.2	26
66450314	3	0.224	5.7	30
66450414	4	0.256	6.5	36
66450514	5	0.276	7.0	43
66450614	6	0.283	7.2	48
66450814	8	0.307	7.8	56
66451014	10	0.350	8.9	71
66451214	12	0.382	9.7	81
66451614	16	0.413	10.5	99
66451814	18	0.437	11.1	117
66452414	24	0.504	12.8	150
▶ **24 AWG (≈ 14/34) • 0.25 mm²**				
66450225	2	0.224	5.7	31
66450325	3	0.252	6.4	41
66450425	4	0.283	7.2	48
66450525	5	0.303	7.7	56
66450625	6	0.311	7.9	62
66450825	8	0.354	9.0	80
66451025	10	0.386	9.8	93
66451225	12	0.429	10.9	116
66451625	16	0.469	11.9	143
66451825	18	0.500	12.7	165
66452425	24	0.559	14.2	199

item no.	no. of pairs	nominal outer-ø inch ±10%	nominal outer-ø mm ±10%	cable weight ≈lbs/mft
▶ **22 AWG (≈ 7/30) • 0.34 mm²**				
66450234	2	0.268	6.8	42
66450334	3	0.291	7.4	53
66450434	4	0.346	8.8	69
66450534	5	0.374	9.5	81
66450634	6	0.382	9.7	84
66450834	8	0.417	10.6	107
66451234	12	0.528	13.4	167
66451634	16	0.575	14.6	205
66451834	18	0.594	15.1	224
66452434	24	0.693	17.6	302
▶ **20 AWG (≈ 16/32) • 0.50 mm²**				
66450250	2	0.283	7.2	48
66450350	3	0.311	7.9	62
66450450	4	0.370	9.4	80
66450550	5	0.402	10.2	95
66450650	6	0.409	10.4	104
66450850	8	0.449	11.4	120
66451050	10	0.520	13.2	169
66451250	12	0.567	14.4	198
66451650	16	0.642	16.3	255
66451850	18	0.665	16.9	293
66452450	24	0.748	19.0	341

item no.	no. of pairs	nominal outer-ø inch ±10%	nominal outer-ø mm ±10%	cable weight ≈lbs/mft
▶ **19 AWG (≈ 23/32) • 0.75 mm²**				
66450275	2	0.335	8.5	69
66450375	3	0.370	9.4	86
66450475	4	0.429	10.9	112
66450575	5	0.461	11.7	135
66450675	6	0.492	12.5	161
66450875	8	0.539	13.7	187
66451275	12	0.673	17.1	282
66451675	16	0.732	18.6	351
66451875	18	0.760	19.3	390
66452475	24	0.858	21.8	480

Other dimensions and colors are available on request

* NFPA 130 / FT4 only up to outer-ø < 13 mm (0.512").

SABIX® R flex

SABIX® Rail - Continuous flex cable with numbered conductors

EN 45545-2 · UN/ECE R118 · SAB Rail

CE EAC RoHS

Marking for SABIX® R flex 66701105:
SAB BRÖCKSKES · D-VIERSEN · SABIX® R flex 5G0.75 mm² CE

Application: Suitable for flexible and protected installation in the interior for door control or in protecting tubes for outdoor laying at the bogie, railway machines or as connection cable between the waggons. Appropriate for light and medium mechanical stress.

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	special polymer
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors Twisted pairs type without green/yellow ground
Stranding:	in layers resp. pairwise
Wrapping:	foil
Shielding:	tinned copper braiding (if existing)
Jacket material:	SABIX® Ultra
Jacket color:	black (RAL 9005)

Outstanding features:

- **halogen-free**
- **continuous flex**
- **good EMC characteristics***
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **good ozone, UV and weather resistance**
- **good oil and fuel resistance**
- **good acid and alkalines resistance**
- **fulfills fire protection requirements R15 (EL1A) and R16 (EL1B) acc. to EN 45545-2 for hazard levels HL1-3**

*copper braiding should be connected circularly to optimize the EMC characteristics

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 2000 V conductor/shielding: 2000 V
Min. bending radius: *fixed installation:* *flexible application:* continuously *flex:*	**unshielded:** **shielded:** 4 x O.D. 5 x O.D. 6 x O.D. 10 x O.D. 12 x O.D. 15 x O.D.
Temperature range: *static:* *flexible:*	 -50/+90°C -40/+90°C
Halogen-free:	acc. to EN 50306-1 + EN 50264-1 are fulfilled. Development of HCl is < 0.5% acc. to IEC 60754-1. pH-value is > 4.3 acc. to IEC 60754-2. Conductivity is < 10.0 µS/mm acc. to IEC 60754-2. Fluoric content < 0.1% acc. to IEC 60684-2
Burning characteristics:	No flame propagation acc. to IEC 60332-3-24, IEC 60332-3-25 EN 50305 section 9.1.2. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 Flame retardant acc. to ISO 6722 (UN/ECE R118)
Toxicity:	acc. to EN 50305+ VDE 0260-305
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Oil and fuel resistance:	acc. to EN 50264-1 + VDE 0260-264-1
Flexibility:	very good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
multi-conductor cable unshielded				
▶ **20 AWG (≈ 28/34) • 0.50 mm²**				
66700002	2	0.181	4.6	21
66700004	4	0.213	5.4	32
66700007	7	0.272	6.9	51
66700012	12	0.331	8.4	76
66700018	18	0.390	9.9	108
66700032	32	0.504	12.8	179
▶ **19 AWG (≈ 42/34) • 0.75 mm²**				
66700103	3	0.220	5.6	34
66700105	5	0.264	6.7	50
66700125	25	0.543	13.8	204
▶ **18 AWG (≈ 56/34) • 1.00 mm²**				
66700202	2	0.224	5.7	33
66700273	73	0.906	23.0	665
▶ **16 AWG (≈ 84/34) • 1.50 mm²**				
66700303	3	0.260	6.6	54
66700307	7	0.370	9.4	112
66700318	18	0.539	13.7	253

item no.	no. of pairs	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
multi-pair cable shielded				
▶ **20 AWG (≈ 28/34) • 0.50 mm²**				
66703002	2	0.276	7.0	46
66703003	3	0.315	8.0	60
66703004	4	0.394	10.0	81
66703006	6	0.409	10.4	108
66703008	8	0.492	12.5	154
66703012	12	0.563	14.3	187
▶ **19 AWG (≈ 42/34) • 0.75 mm²**				
66703103	3	0.350	8.9	76
66703108	8	0.575	14.6	206
▶ **18 AWG (≈ 56/34) • 1.00 mm²**				
66703202	2	0.350	8.9	75
66703203	3	0.374	9.5	91
66703206	6	0.496	12.6	167
66703208	8	0.594	15.1	240
▶ **16 AWG (≈ 84/34) • 1.50 mm²**				
66703302	3	0.406	10.3	105
66703304	4	0.500	12.7	163
66703306	6	0.563	14.3	232

Continued on next page

SABIX® R flex

SABIX® Rail - Continuous flex cable with numbered conductors

EN 45545-2 · UN / ECE R118 · SAB Rail

CE EAC RoHS

Marking for SABIX® R flex 66701105:
SAB BRÖCKSKES · D-VIERSEN · SABIX® R flex 5G0.75 mm² CE

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
multi-conductor cable shielded				
► **20 AWG (≈ 28/34) • 0.50 mm²**				
66701002	2	0.209	5.3	31
66701003	3	0.217	5.5	34
66701005	5	0.256	6.5	48
66701007	7	0.291	7.4	61
66701018	18	0.425	10.8	134
66701032	32	0.539	13.7	213
► **19 AWG (≈ 42/34) • 0.75 mm²**				
66701103	3	0.240	6.1	42
66701104	4	0.264	6.7	51
66701105	5	0.283	7.2	60
66701125	25	0.571	14.5	236
► **18 AWG (≈ 56/34) • 1.00 mm²**				
66701204	4	0.272	6.9	58
66701207	7	0.343	8.7	92
66701212	12	0.433	11.0	151
► **16 AWG (≈ 84/34) • 1.50 mm²**				
66701303	3	0.280	7.1	62
66701304	4	0.299	7.6	75
66701305	5	0.335	8.5	92
66701318	18	0.567	14.4	280
► **14 AWG (≈ 140/34) • 2.50 mm²**				
66701404	4	0.382	9.7	117
66701405	5	0.433	11.0	158
66701407	7	0.520	13.2	218
66701412	12	0.618	15.7	312
► **12 AWG (≈ 224/34) • 4.00 mm²**				
66701504	4	0.449	11.4	175
► **10 AWG (≈ 183/32) • 6.00 mm²**				
66701604	4	0.547	13.9	255
► **8 AWG (≈ 320/32) • 10.00 mm²**				
66701704	4	0.661	16.8	406
► **6 AWG (≈ 504/32) • 16.00 mm²**				
66701804	4	0.795	20.2	595
► **4 AWG (≈ 760/32) • 25.00 mm²**				
66701904	4	0.949	24.1	869

Other dimensions and colors are available on request

SAB RailLine 560

SABIX® Rail - Continuous flex cable for outdoor use, cross linked

EN 45545-2 · UN/ECE R118 · SAB Rail

CE EAC RoHS

Marking for SAB RailLine 560 65601105:
SAB BRÖCKSKES · D-VIERSEN · SAB RailLine 560 5x0.75mm² C 6560-1105 CE

Application: Suitable for flexible and protected installation in the interior for door control or in protecting tubes for outdoor laying at the bogie, railway machines or as connection cable between the waggons. Appropriate for light and medium mechanical stress.

Construction:

Conductor:	tinned copper strands, extra fine wires
Insulation:	SABIX® X
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	in layers resp. pairwise
Wrapping:	foil
Shielding:	tinned copper braiding (if existing)
Jacket material:	SABIX® X
Jacket color:	black (RAL 9005)

Outstanding features:

- **weather resistant**
- **continuous flex**
- **good ozone, UV, and weather resistance**
- **good oil and fuel resistance**
- **good acid and alkalines resistance**
- **fulfills fire protection requirements R15 (EL1A) and R16 (EL1B) acc. to EN 45545-2 for hazard levels HL1-3**

Technical data:

Nominal voltage:	Uo/U 300/500 V resp. 0.6/1 kV
Testing voltage:	**300/500 V** / **0.6/1 kV** conductor/conductor: 2000 V / 4000 V conductor/shielding: 2000 V / 4000 V
Min. bending radius: *fixed installation:* *flexible application:* continuous *flex:*	 4 x O.D. 6 x O.D. 10 x O.D.
Torsion angle:	± 15°/1m
Temperature range: *static:* *flexible:*	 -50/+90°C -50/+90°C
Halogen-free:	acc. to EN 50306-1 + EN 50264-1 are fulfilled. Development of HCl is < 0.5% acc. to IEC 60754-1. pH-value is > 4.3 acc. to IEC 60754-2. Conductivity is < 10.0 µS/mm acc. to IEC 60754-2. Fluoric content < 0.1% acc. to IEC 60684-2
Burning characteristics:	No flame propagation acc. to IEC 60332-3-24, IEC 60332-3-25 + EN 50305 section 9.1.2. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 Flame retardant acc. to ISO 6722 (UN/ECE R118)
Toxicity:	acc. to EN 50305+ VDE 0260-305
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Weather resistance:	very good
Oil and fuel resistance:	acc. to EN 50264-1 + VDE 0260-264-1
Flexibility:	very good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	dimensions AWG	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft	nominal voltage
multi-conductor cable unshielded					
65600002	20 AWG/2c	0.193	4.9	25	300/500 V
65600105	19 AWG/5c	0.252	6.4	49	300/500 V
65600203	18 AWG/1c	0.209	5.3	37	300/500 V
65600205	18 AWG/5c	0.264	6.7	58	300/500 V
65600207	18 AWG/7c	0.311	7.9	85	300/500 V
65600225	18 AWG/25c	0.528	13.4	232	300/500 V
65600304	16 AWG/4c	0.272	6.9	68	300/500 V
65600307	16 AWG/7c	0.366	9.3	118	300/500 V
65609001	2 AWG/5c	1.307	33.2	1545	0.6/1 kV
multi-conductor cable shielded					
65601002	20 AWG/2c	0.193	4.9	28	300/500 V
65601003	20 AWG/3c	0.209	5.3	34	300/500 V
65601005	20 AWG/5c	0.240	6.1	45	300/500 V
65601012	20 AWG/12c	0.335	8.5	89	300/500 V
65601105	19 AWG/5c	0.268	6.8	58	300/500 V
65601204	18 AWG/4c	0.260	6.6	58	300/500 V
65601213	18 AWG/13c	0.425	10.8	158	300/500 V
65601303	16 AWG/3c	0.287	7.3	67	300/500 V
65601305	16 AWG/5c	0.327	8.3	102	300/500 V
65601307	16 AWG/7c	0.382	9.7	131	300/500 V
65609002	2 AWG/5c	1.343	34.1	1650	0.6/1 kV

item no.	dimensions AWG	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft	nominal voltage
multi-pair cable shielded					
65609004	24 AWG/6pr	0.315	8.0	66	300/500 V
65609005	22 AWG/12pr	0.469	11.9	137	300/500 V
65603002	20 AWG/2pr	0.264	6.7	46	300/500 V
65603004	20 AWG/4pr	0.335	8.5	73	300/500 V
65603006	20 AWG/6pr	0.386	9.8	103	300/500 V
65603008	20 AWG/8pr	0.484	12.3	155	300/500 V
65603103	19 AWG/3pr	0.331	8.4	83	300/500 V

Other dimensions and colors are available on request

SABIX® A 280 FRNC X

SABIX® Rail - Wiring cable / Control cable with numbered conductors, cross linked

EN 45545-2 · up to +125 °C · SAB Rail

CE EAC RoHS

Marking for SABIX® A 280 FRNC X 62800110:
SAB BRÖCKSKES · D-VIERSEN · SABIX® A 280 FRNC X 1 x 1.0 mm² CE

Marking for SABIX® A 280 FRNC X 62800505:
SAB BRÖCKSKES · D-VIERSEN · SABIX® A 280 FRNC X 5 x 0.5 mm² CE

Construction:

Conductor:	tinned copper strands fine wires acc. to IEC 60228, VDE 0295, class 5
Insulation:	special SABIX®
Single conductor Color code:	white (similar RAL 9010)
Multi-conductor Color code:	white conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334
Multi-conductor Stranding:	in layers
Multi-conductor Jacket material:	special SABIX®
Multi-conductor Jacket color:	black (RAL 9005)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **good ozone resistance**
- **good oil and chemical resistance**
- **fulfills fire protection requirements R15 (EL1A) acc. to EN 45545-2 for hazard levels HL1-3**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 2000 V
Min. bending radius:	5 x O.D.
Temperature range:	
in conduit:	-40/+125°C (single conductor)
fixed installation:	-50/+125°C (multi-conductor cable)
Halogen-free:	acc. to EN 50306-1 + EN 50264-1 are fulfilled. Development of HCl is < 0.5% acc. to IEC 60754-1. pH-value is > 4.3 acc. to IEC 60754-2. Conductivity is < 10.0 µS/mm acc. to IEC 60754-2. Fluoric content < 0.1% acc. to IEC 60684-2
Burning characteristics:	No flame propagation acc. to IEC 60332-3-24, IEC 60332-3-25 EN 50305 section 9.1.2. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Toxicity:	acc. to EN 50305+ VDE 0260-305
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft	ohmic resistance at 20°C max. Ω/km	heating value approx KWh/km
▶ **20 AWG (≈ 16/32) ▪ 0.50 mm²**						
62800105	1	0.067	1.7	5	40.1	13
62800305	3	0.185	4.7	24	40.1	115
62800505	5	0.228	5.8	34	40.1	170
62800805	8	0.287	7.3	56	40.1	246
62801005	10	0.319	8.1	65	40.1	275
62801205	12	0.331	8.4	75	40.1	306
▶ **19 AWG (≈ 23/32) ▪ 0.75 mm²**						
62800607	6	0.283	7.2	58	26.7	237
62800807	8	0.287	7.3	68	26.7	245
62801007	10	0.370	9.4	89	26.7	345

item no.	no. of conductors	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft	ohmic resistance at 20°C max. Ω/km	heating value approx KWh/km
▶ **18 AWG (≈ 30/32) ▪ 1.00 mm²**						
62800110	1	0.083	2.1	8	20.0	16
62800310	3	0.217	5.5	37	20.0	162
62800410	4	0.244	6.2	48	20.0	186
62800610	6	0.295	7.5	68	20.0	252
62800810	8	0.354	9.0	91	20.0	338
62801010	10	0.398	10.1	110	20.0	402
▶ **16 AWG (≈ 27-29/30) ▪ 1.50 mm²**						
62800115	1	0.098	2.5	11	13.7	22.5
62800315	3	0.260	6.6	46	13.7	210
▶ **14 AWG (≈ 46/30) ▪ 2.50 mm²**						
62800125	1	0.122	3.1	18	8.21	34

Other dimensions and colors are available on request

SABIX® A 285 FRNC X

SABIX® Rail - Control cable with numbered conductors, overall tinned copper shield, cross linked

EN 45545-2 · up to +125 °C · SAB Rail

CE EAC RoHS

Marking for SABIX® A 285 FRNC X 62850505:
SAB BRÖCKSKES · D-VIERSEN · SABIX® A 285 FRNC X 5 x 0.5 mm² CE

Construction:

Conductor:	tinned copper strands fine wires acc. to IEC 60228, VDE 0295, class 5
Insulation:	special SABIX®
Color code:	white conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334
Stranding:	in layers
Wrapping:	foil
Shielding:	tinned copper braiding
Jacket material:	special SABIX®
Jacket color:	black (RAL 9005)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **good EMC characteristics***
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **good ozone resistance**
- **good oil and chemical resistance**
- **fulfills fire protection requirements R15 (EL1A) acc. to EN 45545-2 for hazard levels HL1-3**

*copper braiding should be connected circularly to optimize the EMC characteristics

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 2000 V conductor/shielding: 2000 V
Min. bending radius:	10 x O.D.
Temperature range: *in conduit, fixed installation:*	-50/+125°C
Halogen-free:	acc. to EN 50306-1 + EN 50264-1 are fulfilled. Development of HCl is < 0.5% acc. to IEC 60754-1. pH-value is > 4.3 acc. to IEC 60754-2. Conductivity is < 10.0 µS/mm acc. to IEC 60754-2. Fluoric content < 0.1% acc. to IEC 60684-2
Burning characteristics:	No flame propagation acc. to IEC 60332-3-24, IEC 60332-3-25 EN 50305 section 9.1.2. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Toxicity:	acc. to EN 50305+ VDE 0260-305
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft	ohmic resistance at 20°C max. Ω/km	heating value approx. KWh/km
► **20 AWG (≈ 16/32) ▪ 0.50 mm²**						
62850305	3	0.205	5.2	30	40.1	99
62850505	5	0.248	6.3	46	40.1	154
62850805	8	0.311	7.9	65	40.1	237
62851005	10	0.339	8.6	77	40.1	258
62851205	12	0.350	8.9	85	40.1	288
► **19 AWG (≈ 23/32) ▪ 0.75 mm²**						
62850607	6	0.303	7.7	68	26.7	231
62850807	8	0.358	9.1	89	26.7	305
62851007	10	0.409	10.4	116	26.7	381

item no.	no. of conductors	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft	ohmic resistance at 20°C max. Ω/km	heating value approx KWh/km
► **18 AWG (≈ 30/32) ▪ 1.00 mm²**						
62850310	3	0.244	6.2	44	20.0	155
62850610	6	0.323	8.2	84	20.0	285
62850810	8	0.386	9.8	108	20.0	366
62851010	10	0.425	10.8	134	20.0	401

Other dimensions and colors are available on request

SABIX® A 280 FRNC X (FR)

SABIX® Rail - Fire resistant control cable, cross linked

EN 45545-2 · IEC 60331-21 · EN 50200 · SAB Rail

CE EAC RoHS

Marking for SABIX® A 280 FRNC X (FR) 62809505:
SAB BRÖCKSKES · D-VIERSEN · SABIX® A 280 FRNC X (FR) 5 x 0.5 mm² CE

Construction:

Conductor:	tinned copper strands fine wires
Wrapping:	mica tape
Insulation:	special SABIX®
Color code:	white conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334
Stranding:	in layers
Jacket material:	special SABIX®
Jacket color:	black (RAL 9005)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **no flame propagation**
- **fire resistant**
- **flame retardant and self-extinguishing**
- **good ozone resistance**
- **good oil and chemical resistance**
- **fulfills fire protection requirements R15 (EL1A) acc. to EN 45545-2 for hazard levels HL1-3**
- **EN 50200 PH 30 + VDE 0482-200, IEC 60331-21 + VDE 0482-331-21**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 2000 V
Min. bending radius:	10 x O.D.
Temperature range: *during protected fixed installation:*	-50/+125°C
Halogen-free:	acc. to EN 50306-1 + EN 50264-1 are fulfilled. Development of HCl is < 0.5% acc. to IEC 60754-1. pH-value is > 4.3 acc. to IEC 60754-2. Conductivity is < 10.0 µS/mm acc. to IEC 60754-2. Fluoric content < 0.1% acc. to IEC 60684-2
Burning characteristics:	No flame propagation acc. to IEC 60332-3-24, IEC 60332-3-25 + EN 50305 section 9.1.2. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Insulation integrity in case of fire:	EN 50200 PH 30, VDE 0482-200, IEC 60331-21 FE 180 + VDE 0482-331
Toxicity:	acc. to EN 50305+ VDE 0260-305
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **20 AWG (≈ 16/32) • 0.50 mm²**				
62809502	2	0.228	5.8	32
62809503	3	0.240	6.1	39
62809504	4	0.264	6.7	44
62809505	5	0.291	7.4	53
62809507	7	0.327	8.3	69
62809510	10	0.429	10.9	101
62809512	12	0.441	11.2	116
62809518	18	0.520	13.2	158
62809525	25	0.638	16.2	224
▶ **19 AWG (≈ 23/32) • 0.75 mm²**				
62809602	2	0.256	6.5	38
62809603	3	0.260	6.6	47
62809604	4	0.283	7.2	54
62809605	5	0.323	8.2	68
62809607	7	0.350	8.9	85
62809608	8	0.421	10.7	115
62809610	10	0.461	11.7	125
62809612	12	0.476	12.1	143
62809618	18	0.575	14.6	209
62809625	25	0.638	16.2	279

item no.	no. of conductors	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **18 AWG (≈ 30/32) • 1.00 mm²**				
62809702	2	0.252	6.4	42
62809703	3	0.268	6.8	52
62809704	4	0.291	7.4	60
62809705	5	0.331	8.4	76
62809707	7	0.362	9.2	96
62809710	10	0.476	12.1	141
62809712	12	0.492	12.5	161
62809718	18	0.594	15.1	237
62809725	25	0.713	18.1	317
▶ **16 AWG (≈ 27-29/30) • 1.50 mm²**				
62809802	2	0.283	7.2	56
62809803	3	0.303	7.7	72
62809804	4	0.339	8.6	86
62809805	5	0.386	9.8	110
62809807	7	0.421	10.7	139
62809808	8	0.492	12.5	177
62809810	10	0.539	13.7	196
62809812	12	0.575	14.6	236
62809818	18	0.673	17.1	333
62809825	25	0.827	21.0	461

item no.	no. of conductors	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **14 AWG (≈ 46/30) • 2.50 mm²**				
62809902	2	0.339	8.6	81
62809903	3	0.358	9.1	105
62809904	4	0.406	10.3	127
62809905	5	0.449	11.4	155
62809907	7	0.492	12.5	200
62809910	10	0.650	16.5	292
62809912	12	0.669	17.0	335
62809918	18	0.807	20.5	491
62809925	25	0.984	25.0	682

Other dimensions and colors are available on request

SABIX® BL 405 FRNC

SABIX® BL - Flexible data cable

Marking for SABIX® BL 405 FRNC 64051650:
SAB BRÖCKSKES · D-VIERSEN · SABIX® BL 405 FRNC 16 x 0.5mm² - IEC 60332-3-22 - 350V DNV CE *and current meter marking*

Construction:

Conductor:	tinned copper strands with reference to VDE 0812 resp. IEC 60228, VDE 0295, class 5
Insulation:	special SABIX®
Color code:	DIN 47100, see page O/26
Stranding:	in layers
Jacket material:	special SABIX® SHF 1 compound acc. to IEC 60092-360
Jacket color:	pigeon blue (RAL 5014)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **asbestos-free**
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **flexible**
- **for applications acc. to Hong Kong Convention**
  ingredients tested acc. to the requirements of the Hong Kong Convention (2009) of the IMO
- **approvals: DNV**

Technical data:

Peak operating voltage:	max. 350 V
Testing voltage:	conductor/conductor: 1500 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Temperature range: *static:* *flexible:*	 -40/+90°C -30/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 cat. A. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Flexibility:	very good
Approvals:	DNV, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **26 AWG (≈ 18/38) • 0.14 mm²**				
64050214	2	0.142	3.6	12
64050314	3	0.150	3.8	14
64050414	4	0.161	4.1	16
64050514	5	0.177	4.5	19
64050614	6	0.189	4.8	22
64050714	7	0.189	4.8	24
64050814	8	0.217	5.5	28
64051214	12	0.248	6.3	38
64051614	16	0.276	7.0	47
▶ **24 AWG (≈ 14/34) • 0.25 mm²**				
64050225	2	0.154	3.9	15
64050325	3	0.161	4.1	17
64050425	4	0.177	4.5	21
64050525	5	0.193	4.9	25
64050625	6	0.209	5.3	29
64050725	7	0.209	5.3	31
64050825	8	0.244	6.2	38
64051225	12	0.276	7.0	50
64051625	16	0.303	7.7	62

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **22 AWG (≈ 7/30) • 1.00 mm²**				
64050234	2	0.169	4.3	19
64050334	3	0.181	4.6	22
64050434	4	0.197	5.0	26
64050534	5	0.213	5.4	32
64050634	6	0.240	6.1	39
64050734	7	0.240	6.1	41
64050834	8	0.276	7.0	49
64051234	12	0.307	7.8	64
64051634	16	0.354	9.0	87
▶ **20 AWG (≈ 16/32) • 0.50 mm²**				
64050250	2	0.185	4.7	24
64050350	3	0.197	5.0	28
64050450	4	0.213	5.4	34
64050550	5	0.240	6.1	43
64050650	6	0.264	6.7	50
64050750	7	0.264	6.7	53
64050850	8	0.303	7.7	64
64051250	12	0.354	9.0	89
64051650	16	0.394	10.0	114

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **19 AWG (≈ 23/32) • 0.75 mm²**				
64050275	2	0.205	5.2	29
64050375	3	0.217	5.5	35
64050475	4	0.244	6.2	44
64050575	5	0.268	6.8	53
64050675	6	0.291	7.4	62
64050775	7	0.291	7.4	67
64050875	8	0.346	8.8	85
64051275	12	0.398	10.1	112
64051675	16	0.437	11.1	142

Other dimensions and colors are available on request

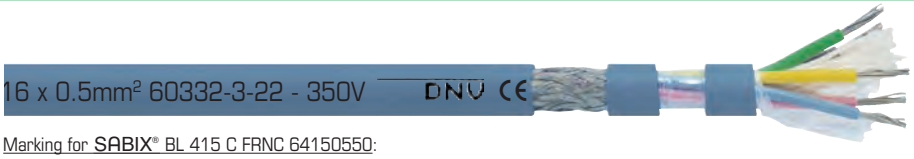
Possible on request:

- **bare copper strands**
- **alternative color code and jacket color**

SPECIAL CABLES SAB North America
www.sabcable.com
866-722-2974 ■ info@sabcable.com

SABIX® BL 415 C FRNC

SABIX® BL - Flexible data cable with overall tinned copper shield



Marking for SABIX® BL 415 C FRNC 64150550:
SAB BRÖCKSKES · D-VIERSEN · SABIX® BL 415 C FRNC 5 x 0.5mm² - IEC 60332-3-22 - 350V DNV CE *and current meter marking*

Construction:

Conductor:	tinned copper strands with reference to VDE 0812 resp. IEC 60228, VDE 0295, class 5
Insulation:	special SABIX®
Color code:	DIN 47100, see page O/26
Stranding:	in layers
Wrapping:	PETP foil
Shielding:	tinned copper braiding
Jacket material:	special SABIX® SHF 1 compound acc. to IEC 60092-360
Jacket color:	pigeon blue (RAL 5014)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **asbestos-free**
- **good EMC characteristics***
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **flexible**
- **for applications acc. to Hong Kong Convention**
  ingredients tested acc. to the requirements of the Hong Kong Convention (2009) of the IMO
- **approvals: DNV**

*copper braiding should be connected circularly to optimize the EMC characteristics

Technical data:

Peak operating voltage:	max. 350 V
Testing voltage:	conductor/conductor: 1500 V conductor/shielding: 1200 V
Min. bending radius: *fixed installation:* *flexible movement:*	 5 x O.D. 10 x O.D.
Temperature range: *static:* *flexible:*	 -40/+90°C -30/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 cat. A. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Flexibility:	very good
Approvals:	DNV, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

Possible on request:

- **bare copper strands**
- **alternative color code and jacket color**

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **26 AWG (≈ 18/38) • 0.14 mm²**				
64150214	2	0.161	4.1	17
64150314	3	0.169	4.3	19
64150414	4	0.181	4.6	24
64150514	5	0.197	5.0	27
64150614	6	0.209	5.3	29
64150714	7	0.209	5.3	30
64150814	8	0.244	6.2	38
64151214	12	0.268	6.8	47
64151614	16	0.295	7.5	57
▶ **24 AWG (≈ 14/34) • 0.25 mm²**				
64150225	2	0.173	4.4	22
64150325	3	0.181	4.6	24
64150425	4	0.197	5.0	28
64150525	5	0.213	5.4	33
64150625	6	0.228	5.8	36
64150725	7	0.228	5.8	38
64150825	8	0.264	6.7	48
64151225	12	0.295	7.5	60
64151625	16	0.339	8.6	79

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **22 AWG (≈ 7/30) • 1.00 mm²**				
64150234	2	0.189	4.8	25
64150334	3	0.201	5.1	28
64150434	4	0.217	5.5	34
64150534	5	0.240	6.1	41
64150634	6	0.260	6.6	48
64150734	7	0.260	6.6	50
64150834	8	0.295	7.5	59
64151234	12	0.343	8.7	81
64151634	16	0.374	9.5	100
▶ **20 AWG (≈ 16/32) • 0.50 mm²**				
64150250	2	0.205	5.2	29
64150350	3	0.217	5.5	35
64150450	4	0.240	6.1	43
64150550	5	0.260	6.6	52
64150650	6	0.283	7.2	57
64150750	7	0.283	7.2	60
64150850	8	0.339	8.6	78
64151250	12	0.374	9.5	102
64151650	16	0.421	10.7	135

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **19 AWG (≈ 23/32) • 0.75 mm²**				
64150275	2	0.224	5.7	35
64150375	3	0.244	6.2	44
64150475	4	0.264	6.7	52
64150575	5	0.287	7.3	62
64150675	6	0.311	7.9	71
64150775	7	0.311	7.9	77
64150875	8	0.366	9.3	95
64151275	12	0.425	10.8	130
64151675	16	0.465	11.8	166

Other dimensions and colors are available on request

SABIX® BL 443 C FRNC TT

SABIX® BL - Twisted triad flexible data cable, twisted triad with overall copper shield

TT 7 x 3 x 0.34 mm² - IEC 60332-3-22 - 300V DNV CE

DNV CE EAC RoHS

Marking for SABIX® BL 443 C FRNC TT 64430734:
SAB BRÖCKSKES · D-VIERSEN · SABIX® BL 443 C FRNC TT 7 x 3 x 0.34 mm² - IEC 60332-3-22 - 300V DNV CE *and current meter marking*

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	special SABIX®
Color code:	≤ 0.25 mm² = DIN 47100, see page O/26 ≥ 0.34 mm² = white, blue, red with printed triad number
Stranding:	conductors white, blue, red twisted to triads, triads twisted in layers
Wrapping:	foil
Shielding:	tinned copper braiding
Jacket material:	special SABIX® SHF 1 compound acc. to IEC 60092-360
Jacket color:	pigeon blue (RAL 5014)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **asbestos-free**
- **good EMC characteristics***
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **flexible**
- **for applications acc. to Hong Kong Convention**

  ingredients tested acc. to the requirements of the Hong Kong Convention (2009) of the IMO
- **approvals: DNV**

*copper braiding should be connected circularly to optimize the EMC characteristics

Technical data:

Peak operating voltage:	max. 300 V
Testing voltage:	conductor/conductor: 1500 V conductor/shielding: 1200 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Temperature range: *static:* *flexible:*	 -40/+90°C -30/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 cat. A. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Flexibility:	very good
Approvals:	DNV, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of triads	nominal outer-ø inch ±10%	nominal outer-ø mm ±10%	cable weight ≈lbs/mft
► **24 AWG (≈ 14/34) · 0.25 mm²**				
64430225	2	0.283	7.2	46
64430425	4	0.346	8.8	69
64430725	7	0.417	10.6	108
64431025	10	0.528	13.4	158
► **22 AWG (≈ 7/30) · 1.00 mm²**				
64430234	2	0.315	8.0	55
64430434	4	0.386	9.8	85
64430734	7	0.469	11.9	136
64431034	10	0.598	15.2	210

item no.	no. of triads	nominal outer-ø inch ±10%	nominal outer-ø mm ±10%	cable weight ≈lbs/mft
► **20 AWG (≈ 16/32) · 0.50 mm²**				
64430250	2	0.354	9.0	71
64430450	4	0.421	10.7	108
64430750	7	0.520	13.2	171
64431050	10	0.665	16.9	263
► **19 AWG (≈ 23/32) · 0.75 mm²**				
64430275	2	0.409	10.4	97
64430475	4	0.496	12.6	150
64430775	7	0.598	15.2	235
64431075	10	0.760	19.3	339

Other dimensions and colors are available on request

Possible on request:

- **bare copper strands**
- **alternative color code and jacket color**

SABIX® BL 445 C FRNC TP

SABIX® BL - Flexible paired data cable with overall tinned copper shield

Marking for SABIX® BL 445 C FRNC TP 64450325:
SAB BRÖCKSKES · D-VIERSEN · SABIX® BL 445 C FRNC TP 3 x 2 x 0.25 mm² - IEC 60332-3-22 - 350V DNV CE *and current meter marking*

Construction:

Conductor:	tinned copper strands with reference to VDE 0812 resp. IEC 60228, VDE 0295, class 5
Insulation:	special SABIX®
Color code:	DIN 47100, see page O/26
Stranding:	pairwise, pairs in layers
Wrapping:	PETP foil
Shielding:	tinned copper braiding
Jacket material:	special SABIX® SHF 1 compound acc. to IEC 60092-360
Jacket color:	pigeon blue (RAL 5014)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **asbestos-free**
- **good EMC characteristics***
- **good transmission rates and crosstalk attenuation**
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **flexible**
- **for applications acc. to Hong Kong Convention**
  ingredients tested acc. to the requirements of the Hong Kong Convention (2009) of the IMO
- **approvals: DNV**

*copper braiding should be connected circularly to optimize the EMC characteristics

Technical data:

Peak operating voltage:	max. 350 V
Testing voltage:	conductor/conductor: 1500 V conductor/shielding: 1200 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Temperature range: *static:* *flexible:*	 -40/+90°C -30/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 cat. A. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Flexibility:	very good
Approvals:	DNV, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

Possible on request:

- **bare copper strands**
- **alternative color code and jacket color**

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item no.	no. of pairs	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **26 AWG (≈ 18/38) • 0.14 mm²**				
64450214	2	0.209	5.3	25
64450314	3	0.228	5.8	30
64450414	4	0.268	6.8	39
64450514	5	0.291	7.4	46
64450614	6	0.299	7.6	51
64450814	8	0.343	8.7	66
64451014	10	0.374	9.5	77
64451214	12	0.417	10.6	95
64451814	18	0.488	12.4	134
▶ **24 AWG (≈ 14/34) • 0.25 mm²**				
64450225	2	0.228	5.8	30
64450325	3	0.256	6.5	38
64450425	4	0.291	7.4	48
64450525	5	0.343	8.7	65
64450625	6	0.343	8.7	70
64450825	8	0.358	9.1	81
64451025	10	0.417	10.6	105
64451225	12	0.457	11.6	121
64451825	18	0.543	13.8	183
64452625	25	0.642	16.3	247

item no.	no. of pairs	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **22 AWG (≈ 7/30) • 0.34 mm²**				
64450234	2	0.252	6.4	38
64450334	3	0.283	7.2	48
64450434	4	0.343	8.7	65
64450534	5	0.370	9.4	77
64450634	6	0.378	9.6	86
64450734	7	0.398	10.1	101
64450834	8	0.425	10.8	110
64451034	10	0.465	11.8	130
64451234	12	0.528	13.4	160
64451834	18	0.622	15.8	240
64451934	19	0.622	15.8	247
64452734	27	0.717	18.2	321
▶ **20 AWG (≈ 16/32) • 0.50 mm²**				
64450250	2	0.283	7.2	47
64450350	3	0.311	7.9	59
64450450	4	0.374	9.5	81
64450550	5	0.413	10.5	103
64450650	6	0.425	10.8	115
64450850	8	0.469	11.9	139
64451050	10	0.528	13.4	174
64451250	12	0.591	15.0	216
64451850	18	0.685	17.4	303

item no.	no. of pairs	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **19 AWG (≈ 23/32) • 0.75 mm²**				
64450275	2	0.311	7.9	58
64450375	3	0.362	9.2	77
64450475	4	0.421	10.7	105
64450575	5	0.457	11.6	125
64450675	6	0.488	12.4	148
64450875	8	0.543	13.8	191
64451075	10	0.598	15.2	227
64451275	12	0.677	17.2	276
64451875	18	0.764	19.4	372

Other dimensions and colors are available on request

SABIX® BL 446 C FRNC TP

SABIX® BL - Flexible paired data cable with aluminum pair shield and overall copper shield

Marking for SABIX® BL 446 C FRNC FTP 64462475:
SAB BRÖCKSKES · D-VIERSEN · SABIX® BL 446 C FRNC FTP 24 x (2 x 0.75 mm²)ST - IEC 60332-3-22 - 300V DNV CE *and current meter marking*

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	special SABIX®
Color code:	≤ 0.25 mm² = DIN 47100, see page O/26 ≥ 0.34 mm² = white, blue with printed pair number
Stranding:	white conductors, blue twisted to pairs
Pair screen:	alu foil
Stranding:	pairs together in layers
Wrapping:	PETP foil
Shielding:	tinned copper braiding
Wrapping:	PETP foil
Jacket material:	special SABIX® SHF 1 compound acc. to IEC 60092-360
Jacket color:	pigeon blue (RAL 5014)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **asbestos-free**
- **good EMC characteristics***
- **good transmission rates and crosstalk attenuation**
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **flexible**
- **for applications acc. to Hong Kong Convention**
  ingredients tested acc. to the requirements of the Hong Kong Convention (2009) of the IMO
- **approvals: DNV·**

*copper braiding should be connected circularly to optimize the EMC characteristics

Technical data:

Peak operating voltage:	max. 300 V
Testing voltage:	conductor/conductor: 1500 V conductor/shielding: 1200 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Temperature range: *static:* *flexible:*	 -40/+90°C -30/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 cat. A. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Flexibility:	very good
Approvals:	DNV, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

Possible on request:

- **bare copper strands**
- **alternative color code and jacket color**

item no.	no. of pairs	nominal outer-ø inch ±10%	nominal outer-ø mm ±10%	cable weight ≈lbs/mft
▶ **24 AWG (≈ 14/34) · 0.25 mm²**				
64460225	2	0.244	6.2	36
64460825	8	0.398	10.1	101
64461225	12	0.500	12.7	159
▶ **22 AWG (≈ 7/30) · 0.34 mm²**				
64460234	2	0.303	7.7	49
64460434	4	0.362	9.2	82
64460834	8	0.449	11.4	132
64461234	12	0.587	14.9	204

item no.	no. of pairs	nominal outer-ø inch ±10%	nominal outer-ø mm ±10%	cable weight ≈lbs/mft
▶ **19 AWG (≈ 23/32) · 0.75 mm²**				
64460475	4	0.445	11.3	122
64462475	24	0.933	23.7	574
▶ **16 AWG (≈ 28/30) · 1.50 mm²**				
64461980	19	0.988	25.1	693

Other dimensions and colors are available on request

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SABIX® BL 400 FRNC

SABIX® BL - Flexible control cable 300/500 V

DNV CE EAC RoHS

Marking for SABIX® BL 400 FRNC 64001215:
SAB BRÖCKSKES · D-VIERSEN · SABIX® BL 400 FRNC 12 x 1.5 mm² - IEC 60332-3-22 - 300/500V DNV CE *and current meter marking*

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	special SABIX®
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	in layers
Jacket material:	special SABIX® SHF 1 compound acc. to IEC 60092-360
Jacket color:	pigeon blue (RAL 5014)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **asbestos-free**
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **flexible**
- **for applications acc. to Hong Kong Convention**
  ingredients tested acc. to the requirements of the Hong Kong Convention (2009) of the IMO
- **approvals: DNV**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 2000 V
Min. bending radius: *fixed installation:* *free movement*	 4 x O.D. 6 x O.D.
Temperature range: *static:* *flexible:*	 -40/+90°C -30/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 cat. A. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Flexibility:	very good
Approvals:	DNV, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **20 AWG (≈ 16/32) • 0.50 mm²**				
64000205	2	0.209	5.3	28
64000305	3	0.220	5.6	33
64000405	4	0.236	6.0	40
64000505	5	0.260	6.6	48
64000705	7	0.287	7.3	60
64001205	12	0.378	9.6	99
64001805	18	0.449	11.4	142
► **19 AWG (≈ 23/32) • 0.75 mm²**				
64000207	2	0.228	5.8	34
64000307	3	0.240	6.1	40
64000407	4	0.264	6.7	50
64000507	5	0.291	7.4	61
64000707	7	0.319	8.1	76
64001207	12	0.429	10.9	126
64001807	18	0.504	12.8	181

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **18 AWG (≈ 30/32) • 1.00 mm²**				
64000210	2	0.236	6.0	38
64000310	3	0.248	6.3	46
64000410	4	0.276	7.0	56
64000510	5	0.307	7.8	71
64000710	7	0.331	8.4	88
64001210	12	0.445	11.3	145
64001810	18	0.531	13.5	214
► **16 AWG (≈ 27-29/30) • 1.50 mm²**				
64000215	2	0.264	6.7	49
64000315	3	0.276	7.0	60
64000415	4	0.311	7.9	75
64000515	5	0.339	8.6	91
64000715	7	0.374	9.5	117
64001215	12	0.500	12.7	193
64001815	18	0.602	15.3	286

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **14 AWG (≈ 46/30) • 2.50 mm²**				
64000225	2	0.319	8.1	75
64000325	3	0.339	8.6	92
64000425	4	0.374	9.5	115
64000525	5	0.417	10.6	142
64000725	7	0.461	11.7	183
64001225	12	0.618	15.7	304
64001825	18	0.744	18.9	450

Other dimensions and colors are available on request

Possible on request:

- **bare copper strands**
- **alternative color code and jacket color**

SABIX® BL 438 C FRNC

SABIX® BL - Flexible control cable with overall tinned copper shield 300/500 V

DNV CE EAC RoHS

Marking for SABIX® BL 438 C FRNC 64380515:
SAB BRÖCKSKES · D-VIERSEN · SABIX® BL 438 C FRNC 5 x 1.5 mm² - IEC 60332-3-22 - 300/500V DNV CE *and current meter marking*

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	special SABIX®
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	in layers
Wrapping:	PETP foil
Shielding:	tinned copper braiding
Jacket material:	special SABIX® SHF 1 compound acc. to IEC 60092-360
Jacket color:	pigeon blue (RAL 5014)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **asbestos-free**
- **good EMC characteristics***
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **flexible**
- **for applications acc. to Hong Kong Convention**
  ingredients tested acc. to the requirements of the Hong Kong Convention (2009) of the IMO
- **approvals: DNV**

*copper braiding should be connected circularly to optimize the EMC characteristics

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 2000 V conductor/shielding: 2000 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Temperature range: *static:* *flexible:*	 -40/+90°C -30/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 cat. A. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Flexibility:	very good
Approvals:	DNV, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **20 AWG (≈ 16/32) • 0.50 mm²**				
64380205	2	0.228	5.8	34
64380305	3	0.240	6.1	38
64380405	4	0.260	6.6	46
64380505	5	0.280	7.1	55
64380705	7	0.311	7.9	70
64381205	12	0.402	10.2	111
64381805	18	0.484	12.3	169
▶ **19 AWG (≈ 23/32) • 0.75 mm²**				
64380207	2	0.240	6.1	39
64380307	3	0.252	6.4	44
64380407	4	0.287	7.3	56
64380507	5	0.315	8.0	69
64380707	7	0.343	8.7	85
64381207	12	0.461	11.7	148
64381807	18	0.539	13.7	209

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **18 AWG (≈ 30/32) • 1.00 mm²**				
64380210	1	0.260	6.6	44
64380310	3	0.272	6.9	52
64380410	4	0.295	7.5	62
64380510	5	0.331	8.4	79
64380710	7	0.354	9.0	97
64381210	12	0.476	12.1	168
64381810	18	0.575	14.6	254
▶ **16 AWG (≈ 27-29/30) • 1.50 mm²**				
64380215	2	0.287	7.3	54
64380315	3	0.299	7.6	65
64380415	4	0.331	8.4	81
64380515	5	0.366	9.3	101
64380715	7	0.398	10.1	126
64381215	12	0.531	13.5	217
64381815	18	0.642	16.3	328

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **14 AWG (≈ 46/30) • 2.50 mm²**				
64380225	2	0.343	8.7	77
64380325	3	0.366	9.3	97
64380425	4	0.398	10.1	121
64380525	5	0.453	11.5	159
64380725	7	0.492	12.5	201
64381225	12	0.661	16.8	345
64381825	18	0.791	20.1	506

Other dimensions and colors are available on request

Possible on request:

- **bare copper strands**
- **alternative color code and jacket color**

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SABIX® BL 402 FRNC

SABIX® BL - Halogen-free flexible wiring cable 0.6/1 kV

0.6/1 kV

SAB BL-Line

DNV CE EAC RoHS

Marking for SABIX® BL 402 FRNC 64020182:
SAB BRÖCKSKES · D-VIERSEN · SABIX® BL 402 FRNC 1.5 mm² - IEC 60332-3-22 - 0.6/1kV DNV CE *and current meter marking*

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	SABIX®
Color code:	black (RAL 9005)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **asbestos-free**
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **flexible**
- **for applications acc. to Hong Kong Convention**
  ingredients tested acc. to the requirements of the Hong Kong Convention (2009) of the IMO
- **Approvals: DNV**

Technical data:

Nominal voltage:	Uo/U 0.6/1 kV
Testing voltage:	conductor/conductor: 4000 V
Min. bending radius: *fixed installation:* *free movement:*	 4 x O.D. 6 x O.D.
Temperature range: *static:* *flexible:*	 -40/+90°C -30/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 cat. A. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Flexibility	very good
Approvals:	DNV, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	mm²	AWG MCM		nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ 64020180	1.00	18	(≈ 30/32)	0.118	3.0	12
▶ 64020182	1.50	16	(≈ 28/30)	0.130	3.3	15
▶ 64020184	2.50	14	(≈ 46/30)	0.146	3.7	22
▶ 64020186	4.00	12	(≈ 52/28)	0.185	4.7	35
▶ 64020187	6.00	10	(≈ 78/28)	0.205	5.2	48
▶ 64020188	10.00	8	(≈ 77/26)	0.252	6.4	81
▶ 64020189	16.00	6	(≈ 122/26)	0.307	7.8	122
▶ 64020190	25.00	4	(≈ 190/26)	0.378	9.6	187
▶ 64020191	35.00	2	(≈ 272/26)	0.433	11.0	257
▶ 64020192	50.00	1	(≈ 400/26)	0.496	12.6	363
▶ 64020193	70.00	2/0	(≈ 543/26)	0.587	14.9	486
▶ 64020194	95.00	3/0	(≈ 484/24)	0.685	17.4	658
▶ 64020195	120.00	4/0	(≈ 589/24)	0.760	19.3	813
▶ 64020196	150.00	250	(≈ 740/24)	0.835	21.2	1014
▶ 64020197	180.00	350	(≈ 902/24)	0.917	23.3	1228
▶ 64020198	240.00	450	(≈ 1220/24)	1.063	27.0	1644

Other dimensions and colors are available on request

Possible on request:

- **bare copper strands**
- **alternative color code and jacket color**

SABIX® BL 408 FRNC

SABIX® BL - Flexible power cable 0.6/1 kV

0.6/1 kV

SAB BL-Line

DNV CE EAC RoHS

Marking for SABIX® BL 408 FRNC 64080182:
SAB BRÖCKSKES · D-VIERSEN · SABIX® BL 408 FRNC 1.5 mm² - IEC 60332-3-22 - 0.6/1kV DNV CE *and current meter marking*

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	special SABIX®
Color code:	black (RAL 9005)
Jacket material:	special SABIX® SHF 1 compound acc. to IEC 60092-360
Jacket color:	black (RAL 9005)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **asbestos-free**
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **flexible**
- **for applications acc. to Hong Kong Convention**
  ingredients tested acc. to the requirements of the Hong Kong Convention (2009) of the IMO
- **approvals: DNV**

Technical data:

Nominal voltage:	Uo/U 0.6/1 kV
Testing voltage:	conductor/conductor: 4000 V
Min. bending radius: *fixed installation:* *free movement:*	 4 x O.D. 6 x O.D.
Temperature range: *static:* *flexible:*	 -40/+90°C -30/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 cat. A. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Flexibility	very good
Approvals:	DNV, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	mm²	AWG MCM		nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ 64080180	1.00	18	(≈ 30/32)	0.213	5.4	29
▶ 64080182	1.50	16	(≈ 28/30)	0.224	5.7	34
▶ 64080184	2.50	14	(≈ 46/30)	0.240	6.1	42
▶ 64080186	4.00	12	(≈ 52/28)	0.280	7.1	59
▶ 64080187	6.00	10	(≈ 78/28)	0.299	7.6	74
▶ 64080188	10.00	8	(≈ 77/26)	0.346	8.8	113
▶ 64080189	16.00	6	(≈ 122/26)	0.402	10.2	159
▶ 64080190	25.00	4	(≈ 190/26)	0.472	12.0	232
▶ 64080191	35.00	2	(≈ 272/26)	0.539	13.7	315
▶ 64080192	50.00	1	(≈ 400/26)	0.606	15.4	431
▶ 64080193	70.00	2/0	(≈ 543/26)	0.705	17.9	571
▶ 64080194	95.00	3/0	(≈ 484/24)	0.811	20.6	764
▶ 64080195	120.00	4/0	(≈ 589/24)	0.894	22.7	937
▶ 64080196	150.00	250	(≈ 740/24)	0.972	24.7	1148
▶ 64080197	185.00	350	(≈ 902/24)	1.063	27.0	1389
▶ 64080198	240.00	450	(≈ 1220/24)	1.220	31.0	1845

Other dimensions and colors are available on request

Possible on request:

- **bare copper strands**
- **alternative color code and jacket color**

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SABIX® BL 409 C FRNC

SABIX® BL - Flexible power cable with overall copper shield 0.6/1 kV

0.6/1 kV

SAB BL-Line

DNV CE EAC RoHS

Marking for SABIX® BL 409 C FRNC 64090186:
SAB BRÖCKSKES · D-VIERSEN · SABIX® BL 409 C FRNC 4,0 mm² - IEC 60332-3-22 - 0.6/1kV DNV CE *and current meter marking*

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	special SABIX®
Color code:	black (RAL 9005)
Shielding:	tinned copper braiding
Jacket material:	special SABIX® SHF 1 compound acc. to IEC 60092-360
Jacket color:	black (RAL 9005)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **asbestos-free**
- **good EMC characteristics***
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **flexible**
- **for applications acc. to Hong Kong Convention**
  ingredients tested acc. to the requirements of the Hong Kong Convention (2009) of the IMO
- **approvals:**
  DNV

*copper braiding should be connected circularly to optimize the EMC characteristics

Technical data:

Nominal voltage:	Uo/U 0.6/1 kV
Testing voltage:	conductor/conductor: 4000 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Temperature range: *static:* *flexible:*	 -40/+90°C -30/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 cat. A. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Flexibility	very good
Approvals:	DNV, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	mm²	AWG MCM		nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ 64090180	1.00	18	(≈ 30/32)	0.228	5.8	37
▶ 64090182	1.50	16	(≈ 28/30)	0.240	6.1	42
▶ 64090184	2.50	14	(≈ 46/30)	0.256	6.5	51
▶ 64090186	4.00	12	(≈ 52/28)	0.295	7.5	70
▶ 64090187	6.00	10	(≈ 78/28)	0.315	8.0	85
▶ 64090188	10.00	8	(≈ 77/26)	0.362	9.2	123
▶ 64090189	16.00	6	(≈ 122/26)	0.417	10.6	169
▶ 64090190	25.00	4	(≈ 190/26)	0.496	12.6	259
▶ 64090191	35.00	2	(≈ 272/26)	0.575	14.6	360
▶ 64090192	50.00	1	(≈ 400/26)	0.642	16.3	481
▶ 64090193	70.00	2/0	(≈ 543/26)	0.740	18.8	628
▶ 64090194	95.00	3/0	(≈ 484/24)	0.846	21.5	834
▶ 64090195	120.00	4/0	(≈ 589/24)	0.925	23.5	1016
▶ 64090196	150.00	250	(≈ 740/24)	1.008	25.6	1233
▶ 64090197	185.00	350	(≈ 902/24)	1.098	27.9	1478
▶ 64090198	240.00	450	(≈ 1220/24)	1.256	31.9	1948

Other dimensions and colors are available on request

Possible on request:

- **bare copper strands**
- **alternative color code and jacket color**

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SABIX® BL 410 FRNC

SABIX® BL - Flexible power cable 0.6/1 kV

0.6/1 kV

SAB BL-Line

DNV CE EAC RoHS

Marking for SABIX® BL 410 FRNC 64101215:
SAB BRÖCKSKES · D-VIERSEN · SABIX® BL 410 FRNC 12 x 1.5 mm² - IEC 60332-3-22 - 300/500V DNV CE *and current meter marking*

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	special SABIX®
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	in layers
Jacket material:	special SABIX® SHF 1 compound acc. to IEC 60092-360
Jacket color:	black (RAL 9005)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **asbestos-free**
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **flexible**
- **for applications acc. to Hong Kong Convention**
  ingredients tested acc. to the requirements of the Hong Kong Convention (2009) of the IMO
- **approvals: DNV**

Technical data:

Nominal voltage:	Uo/U 0.6/1 kV
Testing voltage:	conductor/conductor: 4000 V
Min. bending radius: *fixed installation:* *free movement*	 4 x O.D. 6 x O.D.
Temperature range: *static:* *flexible:*	 -40/+90°C -30/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 cat. A. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Flexibility:	very good
Approvals:	DNV, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **16 AWG (≈ 27-29/30) • 1.50 mm²**				
64100215	2	0.350	8.9	81
64100315	3	0.370	9.4	92
64100415	4	0.402	10.2	110
64100515	5	0.449	11.4	138
64100715	7	0.488	12.4	168
64101015	10	0.626	15.9	234
64101215	12	0.654	16.6	273
64101415	14	0.685	17.4	308
64101815	18	0.768	19.5	396
▶ **14 AWG (≈ 46/30) • 2.50 mm²**				
64100225	2	0.382	9.7	101
64100325	3	0.406	10.3	118
64100425	4	0.449	11.4	147
64100525	5	0.492	12.5	179
64100725	7	0.543	13.8	226
64101025	10	0.697	17.7	316
64101225	12	0.717	18.2	363
64101425	14	0.760	19.3	418
64101825	18	0.854	21.7	536

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **12 AWG (≈ 52/28) • 4.00 mm²**				
64100240	2	0.469	11.9	155
64100340	3	0.496	12.6	181
64100440	4	0.551	14.0	224
64100540	5	0.606	15.4	275
64100740	7	0.669	17.0	349
▶ **10 AWG (≈ 78/28) • 6.00 mm²**				
64100260	2	0.508	12.9	193
64100360	3	0.547	13.9	234
64100460	4	0.598	15.2	287
64100560	5	0.669	17.0	359
64100760	7	0.728	18.5	453
▶ **8 AWG (≈ 77/26) • 10.00 mm²**				
64100361	3	0.661	16.8	359
64100461	4	0.724	18.4	443
64100561	5	0.807	20.5	554

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **6 AWG (≈ 122/26) • 16.00 mm²**				
64100362	3	0.787	20.0	523
64100462	4	0.870	22.1	654
64100562	5	0.972	24.7	818
▶ **4 AWG (≈ 190/26) • 25.00 mm²**				
64100363	3	0.949	24.1	778
64100463	4	1.051	26.7	976
64100563	5	1.177	29.9	1228
▶ **2 AWG (≈ 272/26) • 35.00 mm²**				
64100364	3	1.083	27.5	1053
64100464	4	1.197	30.4	1322
▶ **1 AWG (≈ 400/26) • 50.00 mm²**				
64100365	3	1.224	31.1	1459
64100465	4	1.350	34.3	1840

Other dimensions and colors are available on request

Possible on request:

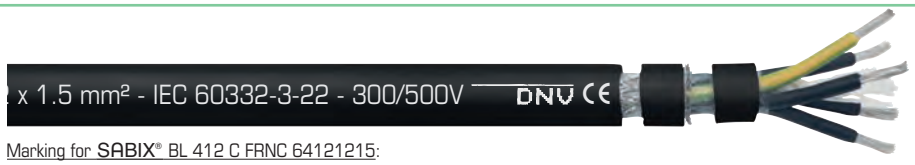
- **bare copper strands**
- **alternative color code and jacket color**

SABIX® BL 412 C FRNC

SABIX® BL - Flexible power cable with overall tinned copper shield 0.6/1 kV

0.6/1 kV

SAB BL-Line



DNV CE EAC RoHS

Marking for SABIX® BL 412 C FRNC 64121215:
SAB BRÖCKSKES · D-VIERSEN · SABIX® BL 412 C FRNC 12 x 1.5mm² - IEC 60332-3-22 - 0.6/1kV DNV CE *and current meter marking*

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	special SABIX®
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	in layers
Shielding:	tinned copper braiding
Jacket material:	special SABIX® SHF 1 compound acc. to IEC 60092-360
Jacket color:	black (RAL 9005)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **asbestos-free**
- **good EMC characteristics***
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **flexible**
- **for applications acc. to Hong Kong Convention**
  ingredients tested acc. to the requirements of the Hong Kong Convention (2009) of the IMO
- **approvals: DNV**

*copper braiding should be connected circularly to optimize the EMC characteristics

Technical data:

Nominal voltage:	Uo/U 0.6/1 kV
Testing voltage:	conductor/conductor: 4000 V conductor/shielding: 4000 V
Min. bending radius: *fixed installation:* *free movement:*	 4 x O.D. 6 x O.D.
Temperature range: *static:* *flexible:*	 -40/+90°C -30/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 cat. A. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Flexibility:	very good
Approvals:	DNV, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **16 AWG (≈ 27-29/30) • 1.50 mm²**				
64120215	2	0.370	9.4	83
64120315	3	0.390	9.9	94
64120415	4	0.429	10.9	122
64120515	5	0.476	12.1	152
64120715	7	0.516	13.1	185
64121015	10	0.669	17.0	280
64121215	12	0.689	17.5	312
64121415	14	0.720	18.3	347
64121815	18	0.803	20.4	439
▶ **14 AWG (≈ 46/30) • 2.50 mm²**				
64120225	2	0.402	10.2	104
64120325	3	0.433	11.0	128
64120425	4	0.476	12.1	159
64120525	5	0.520	13.2	192
64120725	7	0.579	14.7	253
64121025	10	0.732	18.6	353
64121225	12	0.752	19.1	403
64121425	14	0.795	20.2	459
64121825	18	0.890	22.6	581

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **12 AWG (≈ 52/28) • 4.00 mm²**				
64120240	2	0.496	12.6	160
64120340	3	0.524	13.3	186
64120440	4	0.587	14.9	243
64120540	5	0.642	16.3	298
64120740	7	0.705	17.9	380
▶ **10 AWG (≈ 78/28) • 6.00 mm²**				
64120260	2	0.543	13.8	204
64120360	3	0.583	14.8	247
64120460	4	0.634	16.1	313
64120560	5	0.705	17.9	381
64120760	7	0.772	19.6	486
▶ **8 AWG (≈ 77/26) • 10.00 mm²**				
64120361	3	0.697	17.7	364
64120461	4	0.768	19.5	492
64120561	5	0.843	21.4	573

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **6 AWG (≈ 122/26) • 16.00 mm²**				
64120362	3	0.823	20.9	516
64120462	4	0.906	23.0	667
64120562	5	1.008	25.6	827
▶ **4 AWG (≈ 190/26) • 25.00 mm²**				
64120363	3	0.992	25.2	757
64120463	4	1.094	27.8	984
64120563	5	1.213	30.8	1213
▶ **2 AWG (≈ 272/26) • 35.00 mm²**				
64120364	3	1.118	28.4	1013
64120464	4	1.232	31.3	1329
▶ **1 AWG (≈ 400/26) • 50.00 mm²**				
64120365	3	1.260	32.0	1370
64120465	4	1.386	35.2	1799

Other dimensions and colors are available on request

Possible on request:

- **bare copper strands**
- **alternative color code and jacket color**

SPECIAL CABLES SAB North America
www.sabcable.com
866-722-2974 ■ info@sabcable.com

SABIX® SD 705 FRNC C1

Continuous flex halogen-free data cable with extended temperature range and higher fire protection

Marking for SABIX® SD 705 FRNC C1 67051225:
SAB BRÖCKSKES · D-VIERSEN · SABIX® SD 705 FRNC C1 12 x 0.25 mm² CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	SABIX®
Color code:	DIN 47100, see page O/26
Stranding:	in layers
Wrapping:	non-woven tape
Jacket material:	SABIX®
Jacket color:	black (RAL 9005)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **continuous flex**
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **oil and fuel resistant**
- **good acid and alkalines resistance**
- **NF C 32-070 C1**
- **UV resistant jacket**

Technical data:

Peak operating voltage:	< 24 AWG = max. 350 V ≥ 24 AWG = max. 500 V
Testing voltage:	conductor/conductor: 1500 V
Min. bending radius: *fixed installation:* *flexible application:* *continuously flexible:*	 4 x O.D. 6 x O.D. 15 x O.D.
Radiation resistance:	1 x 10^7 cJ/kg (100 kGy)
Temperature range: *static:* *flexible:*	 -40/+90°C -30/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	no flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 cat. C resp. D Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 + NF C 32-070 C1
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Toxicity:	acc. to EN 50305
Oil and fuel resistance:	acc. to EN 50264-1 + VDE 0260-264-1
UV, ozone and weather resistance:	good
Mycological resistance:	good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **26 AWG (≈ 18/38) • 0.14 mm²**				
67050214	2	0.126	3.2	9
67050314	3	0.134	3.4	11
67050514	5	0.154	3.9	16
67050714	7	0.177	4.5	22
▶ **24 AWG (≈ 32/38) • 0.25 mm²**				
67050225	2	0.138	3.5	12
67050325	3	0.146	3.7	14
67050425	4	0.157	4.0	17
67051025	10	0.240	6.1	40
67051225	12	0.248	6.3	43
67051425	14	0.260	6.6	48
67051825	18	0.287	7.3	60
67052525	25	0.343	8.7	79
▶ **22 AWG (≈ 42/38) • 0.34 mm²**				
67050234	2	0.161	4.1	16
67050534	5	0.209	5.3	29
67050734	7	0.248	6.3	42
67051034	10	0.287	7.3	51
67052534	25	0.437	11.1	121

Other dimensions and colors are available on request

SABIX® S 710 FRNC C1

Continuous flex halogen-free control cable with extended temperature range and higher fire protection

SABIX® Ultra

CE EAC RoHS

Marking for SABIX® S 710 FRNC C1 67101215:
SAB BRÖCKSKES · D-VIERSEN · SABIX® S 710 FRNC C1 12 x 1.5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	SABIX®
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	in layers
Wrapping:	non-woven tape
Jacket material:	SABIX®
Jacket color:	black (RAL 9005)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **continuous flex**
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **oil and fuel resistant**
- **good acid and alkalines resistance**
- **NF C 32-070 C1**
- **UV resistant jacket**

Technical data:

Nominal voltage:	Uo/U 0.6/1 kV
Testing voltage:	conductor/conductor: 4000 V
Min. bending radius: *fixed installation:* *flexible application:* *continuous flex:*	 4 x O.D. 6 x O.D. 15 x O.D.
Radiation resistance:	1 x 10^7 cJ/kg (100 kGy)
Temperature range: *static:* *flexible:*	 -40/+90°C -30/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	no flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 cat. C resp. D Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 + NF C 32-070 C1
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Toxicity:	acc. to EN 50305
Oil and fuel resistance:	acc. to EN 50264-1 + VDE 0260-264-1
UV, ozone and weather resistance:	good
Mycological resistance:	good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **20 AWG (≈ 16/32) • 0.50 mm²**				
67100205	2	0.252	6.4	42
67100505	5	0.323	8.2	65
► **19 AWG (≈ 23/32) • 0.75 mm²**				
67100507	5	0.354	9.0	81
67100707	7	0.421	10.7	114
► **18 AWG (≈ 30/32) • 1.00 mm²**				
67100310	3	0.311	7.9	62
67100510	5	0.366	9.3	92
67100710	7	0.437	11.1	130
67101210	12	0.535	13.6	191
67101810	18	0.634	16.1	273

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **16 AWG (≈ 27-29/30) • 1.50 mm²**				
67100215	2	0.339	8.6	75
67100315	3	0.362	9.2	85
67100415	4	0.382	9.7	101
67100515	5	0.429	10.9	127
67100715	7	0.516	13.1	185
67101215	12	0.622	15.8	262
67101815	18	0.736	18.7	378
67102415	24	0.858	21.8	484
67102515	25	0.870	22.1	494
► **14 AWG (≈ 46/30) • 2.50 mm²**				
67100325	3	0.425	10.8	123
67100425	4	0.476	12.1	161
67100525	5	0.531	13.5	198
67100725	7	0.622	15.8	274
67101225	12	0.756	19.2	392

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
► **12 AWG (≈ 224/34) • 4.00 mm²**				
67100440	4	0.531	13.5	216
► **10 AWG (≈ 183/32) • 6.00 mm²**				
67100460	4	0.606	15.4	287
► **8 AWG (≈ 320/32) • 10.00 mm²**				
67100461	4	0.756	19.2	517
► **6 AWG (≈ 504/32) • 16.00 mm²**				
67100462	4	0.870	22.1	675
► **1 AWG (≈ 703/28) • 50.00 mm²**				
67100465	4	1.413	35.9	1846

Other dimensions and colors are available on request

SABIX® SD 715 FRNC C1

Continuous flex halogen-free shielded data cable with extended temperature range and higher fire protection

SABIX® Ultra

CE EAC RoHS

Marking for SABIX® SD 715 C FRNC C1 67150725:
SAB BRÖCKSKES · D-VIERSEN · SABIX® SD 715 C FRNC C1 7 x 0.25 mm² CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	SABIX®
Color code:	DIN 47100, see page O/26
Stranding:	in layers
Wrapping:	non-woven tape
Shielding:	tinned copper braiding, optical coverage ≥ 85%
Wrapping:	non-woven tape
Jacket material:	SABIX®
Jacket color:	black (RAL 9005)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **continuous flex**
- **good EMC characteristics***
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **oil and fuel resistant**
- **good acid and alkalines resistance**
- **NF C 32-070 C1**
- **UV resistant jacket**

*copper braiding should be connected circularly to optimize the EMC characteristics

Technical data:

Nominal voltage:	< 24 AWG = max. 350 V ≥ 24 AWG = max. 500 V
Testing voltage:	conductor/conductor: 1500 V conductor/shielding: 1200 V
Min. bending radius: *fixed installation:* *flexible application:* *continuous flex:*	 4 x O.D. 6 x O.D. 15 x O.D.
Radiation resistance:	1 x 10^7 cJ/kg (100 kGy)
Temperature range: *static:* *flexible:*	 -40/+90°C -30/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	no flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 cat. C resp. D. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 + NF C 32-070 C1
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Toxicity:	acc. to EN 50305
Oil and fuel resistance:	acc. to EN 50264-1 + VDE 0260-264-1
UV, ozone and weather resistance:	good
Mycological resistance:	good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **26 AWG (≈ 18/38) • 0.14 mm²**				
67150214	2	0.146	3.7	15
67150314	3	0.154	3.9	17
67151214	12	0.272	6.9	46
67151814	18	0.291	7.4	59
67152514	25	0.350	8.9	80
▶ **24 AWG (≈ 32/38) • 0.25 mm²**				
67150225	2	0.157	4.0	17
67150425	4	0.177	4.5	24
67150525	5	0.205	5.2	31
67150625	6	0.244	6.2	42
67150725	7	0.260	6.6	48
67150825	8	0.280	7.1	54
67151225	12	0.307	7.8	65
67151825	18	0.378	9.6	103
67152525	25	0.390	9.9	123

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **22 AWG (≈ 42/38) • 0.34 mm²**				
67150434	4	0.213	5.4	32
67150534	5	0.244	6.2	42
67150734	7	0.276	7.0	54
67151234	12	0.335	8.5	79
▶ **20 AWG (≈ 16/32) • 0.50 mm²**				
67150205	2	0.205	5.2	29
67150405	4	0.240	6.1	42
67150505	5	0.260	6.6	50

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ **19 AWG (≈ 23/32) • 0.75 mm²**				
67150475	4	0.268	6.8	53
67150575	5	0.291	7.4	63
67150775	7	0.362	9.2	95
▶ **16 AWG (≈ 27-29/30) • 1.50 mm²**				
67150715	7	0.417	10.6	146

Other dimensions and colors are available on request

SABIX® S 712 FRNC C1

Continuous flex halogen-free shielded control cable with extended temperature range and higher fire protection

SABIX® Ultra

CE EAC RoHS

Marking for SABIX® S 712 C FRNC C1 67121215:
SAB BRÖCKSKES · D-VIERSEN · SABIX® S 712 C FRNC C1 12 x 1.5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	SABIX®
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
Stranding:	in layers
Wrapping:	non-woven tape
Shielding:	tinned copper braiding optical coverage ≥ 85%
Wrapping:	non-woven tape
Jacket material:	SABIX®
Jacket color:	black (RAL 9005)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **continuous flex**
- **good EMC characteristics***
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **oil and fuel resistant**
- **good acid and alkalines resistance**
- **NF C 32-070 C1**
- **UV resistant jacket**

*copper braiding should be connected circularly to optimize the EMC characteristics

Technical data:

Nominal voltage:	Uo/U 0.6/1 kV
Testing voltage:	conductor/conductor: 4000 V conductor/shielding: 4000 V
Min. bending radius: *fixed installation:* *flexible application:* *continuous flex:*	 4 x O.D. 6 x O.D. 15 x O.D.
Radiation resistance:	1 x 10^7 cJ/kg (100 kGy)
Temperature range: *static:* *flexible:*	 -40/+90°C -30/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	no flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 cat. C resp. D Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 + NF C 32-070 C1
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Toxicity:	acc. to EN 50305
Oil and fuel resistance:	acc. to EN 50264-1 + VDE 0260-264-1
UV, ozone and weather resistance:	good
Mycological resistance:	good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ 20 AWG (≈ 16/32) • 0.50 mm²				
67120205	2	0.280	7.1	54
67120505	5	0.346	8.8	81
▶ 19 AWG (≈ 23/32) • 0.75 mm²				
67120507	5	0.378	9.6	99
67120707	7	0.449	11.4	142
▶ 18 AWG (≈ 30/32) • 1.00 mm²				
67120510	5	0.386	9.8	109
67120710	7	0.480	12.2	168
67121210	12	0.563	14.3	226
67121810	18	0.669	17.0	330

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ 16 AWG (≈ 27-29/30) • 1.50 mm²				
67120215	2	0.350	8.9	88
67120315	3	0.374	9.5	100
67120415	4	0.413	10.5	129
67120515	5	0.472	12.0	165
67121215	12	0.657	16.7	319
67121815	18	0.772	19.6	444
67122515	25	0.909	23.1	581
▶ 14 AWG (≈ 46/30) • 2.50 mm²				
67120225	2	0.429	10.9	135
67120325	3	0.453	11.5	153
67120425	4	0.504	12.8	193
67120525	5	0.559	14.2	233
67121225	12	0.795	20.2	468

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ 12 AWG (≈ 224/34) • 4.00 mm²				
67120440	4	0.559	14.2	251
67120540	5	0.634	16.1	323
67120740	7	0.744	18.9	438
▶ 10 AWG (≈ 183/32) • 6.00 mm²				
67120260	2	0.551	14.0	228
67120460	4	0.654	16.6	345
▶ 6 AWG (≈ 504/32) • 16.00 mm²				
67120462	4	0.909	23.1	760
▶ 4 AWG (≈ 760/32) • 25.00 mm²				
67120463	4	1.071	27.2	1085
▶ 2 AWG (≈ 1083/32) • 35.00 mm²				
67120464	4	1.217	30.9	1459

Other dimensions and colors are available on request

SABIX® SD 745 FRNC C1 TP

Continuous flex halogen-free shielded twisted pairs data cable with extended temperature range and higher fire protection

SABIX® Ultra

CE EAC RoHS

Marking for SABIX® SD 745 C FRNC C1 TP 67450350:
SAB BRÖCKSKES · D-VIERSEN · SABIX® SD 745 C FRNC C1 TP 3 x 2 x 0.50 mm² CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	SABIX®
Color code:	DIN 47100, see page O/26
Stranding:	pairwise, pairs in layers
Wrapping:	non-woven tape
Shielding:	tinned copper braiding, optical coverage ≥ 85%
Wrapping:	non-woven tape
Jacket material:	SABIX®
Jacket color:	black (RAL 9005)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **continuous flex**
- **good EMC characteristics***
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **oil and fuel resistant**
- **good acid and alkalines resistance**
- **NF C 32-070 C1**
- **UV resistant jacket**

*copper braiding should be connected circularly to optimize the EMC characteristics

Technical data:

Nominal voltage:	< 24 AWG = max. 350 V ≥ 24 AWG = max. 500 V
Testing voltage:	conductor/conductor: 1500 V conductor/shielding: 1200 V
Min. bending radius: *fixed installation* *flexible application:* *continuous flex:*	 4 x O.D. 6 x O.D. 15 x O.D.
Radiation resistance:	1 x 10^7 cJ/kg (100 kGy)
Temperature range: *static:* *flexible:*	 -40/+90°C -30/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	no flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 cat. C resp. D Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 + NF C 32-070 C1
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Toxicity:	acc. to EN 50305
Oil and fuel resistance:	acc. to EN 50264-1 + VDE 0260-264-1
UV, ozone and weather resistance:	good
Mycological resistance:	good
Approvals:	CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

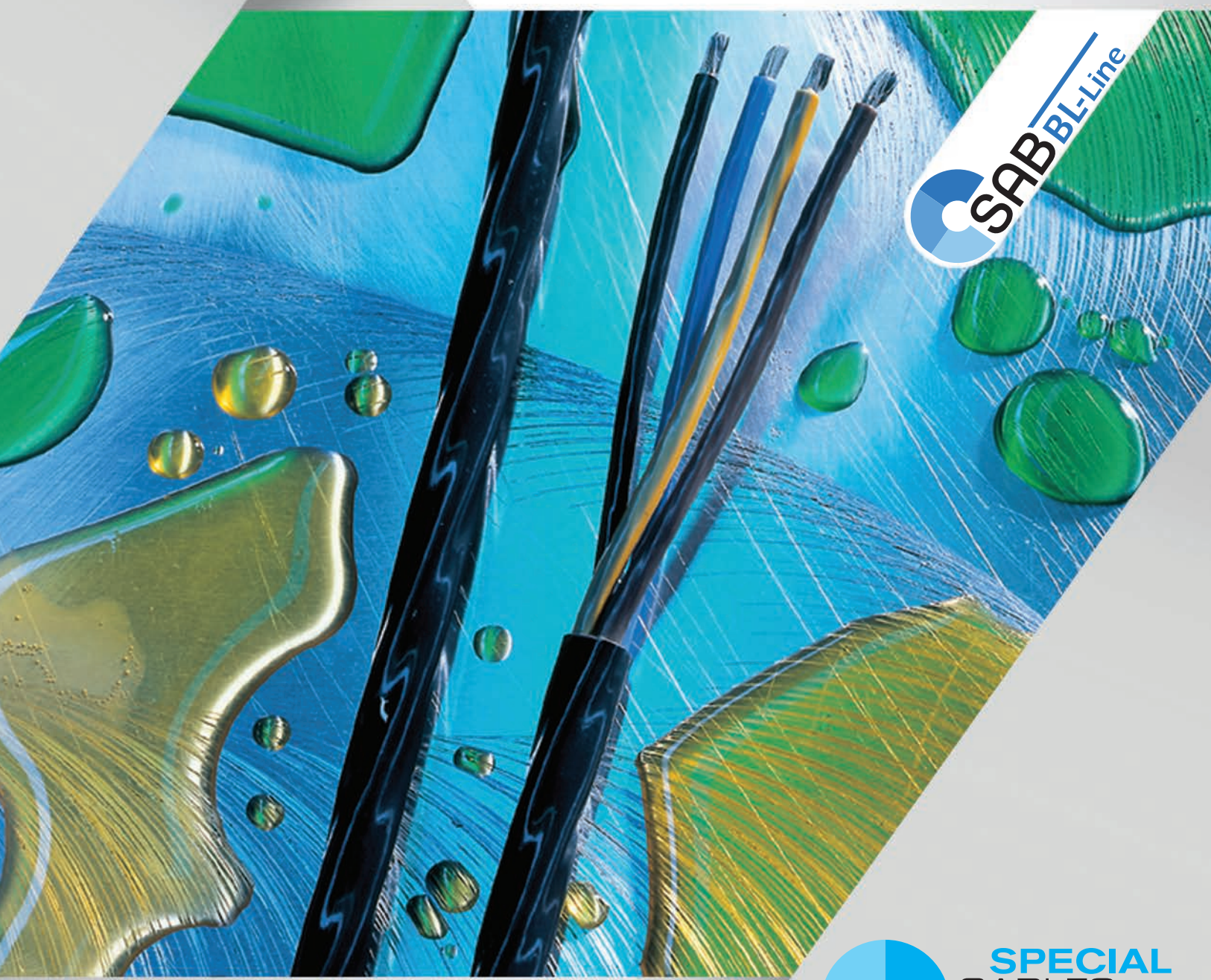
item no.	no. of pairs	nominal outer-ø inch ±10%	nominal outer-ø mm ±10%	cable weight ≈lbs/mft
► **26 AWG (≈ 18/38) • 0.14 mm²**				
67450214	2	0.193	4.9	36
67450414	4	0.244	6.2	55
67450514	5	0.264	6.7	65
67450614	6	0.272	6.9	69
67451014	10	0.343	8.7	102
67451414	14	0.402	10.2	143
► **24 AWG (≈ 32/38) • 0.25 mm²**				
67450225	2	0.213	5.4	43
67450425	4	0.272	6.9	66
67450625	6	0.299	7.6	87
67450725	7	0.362	9.2	115
67450825	8	0.378	9.6	131
67451025	10	0.386	9.8	143
67451225	12	0.421	10.7	167
67451425	14	0.445	11.3	185
67451625	16	0.461	11.7	199

item no.	no. of pairs	nominal outer-ø inch ±10%	nominal outer-ø mm ±10%	cable weight ≈lbs/mft
► **22 AWG (≈ 42/38) • 0.34 mm²**				
67450234	2	0.256	6.5	61
67450634	6	0.370	9.4	125
67450734	7	0.394	10.0	154
67451034	10	0.457	11.6	191
67451834	18	0.587	14.9	314
67451934	19	0.587	14.9	329
67452734	27	0.705	17.9	461
► **20 AWG (≈ 16/32) • 0.50 mm²**				
67450250	2	0.280	7.1	71
67450350	3	0.307	7.8	88
67450450	4	0.366	9.3	115
67451050	10	0.524	13.3	255
67451850	18	0.673	17.1	447
67452550	25	0.764	19.4	568

item no.	no. of pairs	nominal outer-ø inch ±10%	nominal outer-ø mm ±10%	cable weight ≈lbs/mft
► **19 AWG (≈ 23/32) • 0.75 mm²**				
67450275	2	0.315	8.0	92
67450475	4	0.425	10.8	166
67450875	8	0.638	16.2	352
67451075	10	0.602	15.3	352

Other dimensions and colors are available on request

ETFE, FEP, & PFA
CABLES



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SPECIAL CABLES
SAB North America

Content

Applications

Applications of FEP BL cables for Shipbuilding

The development of the new BL cable series has been advanced in co-operation with customers coming from the shipbuilding field. The new cables are available in high temperature and oil resistant types. All SAB BL types are constructed with tinned copper strands in class 5 in order to offer advantages in corrosion resistance and flexibility. Due to the approval by DNV·GL and American Bureau of Shipping, it also offers a "certain planning reliability for classification". These cables are suitable for adverse conditions in engine rooms. They are both oil and fuel resistant, have very good chemical resistances and excellent fire performance.

Exemplary applications:

BL TA 180 C	Ship engine rooms, control panels for ship diesel engines

Applications of FEP Cables

These cables are used, for example, in new technologies where high demands for resistance against chemicals and solvents must be fulfilled. Compared to ETFE, FEP has slightly better resistance. Further advantages are the excellent temperature resistance and flexibility at cold temperatures as well as the good electrical insulating characteristics with low, nearly frequency-independent dielectric characteristics.

Exemplary applications:

Li6YbI **Li6Yvz** **TD 801 F** **TD 833 CF** **TD 838 CF TP** **TA 866 F** **TA 867 CF**	Applications in high-frequency and broad-band techniques, coaxial and microwave techniques, high information velocity with exact information transmission at the same time, chemical industry, furnace construction, brick works, heating appliances

Application of ETFE Cables

These cables are used for example in new technologies if high demands for resistance against chemicals and solvents must be fulfilled. Further advantages are the low and high temperature resistance as well as the good electrical insulating characteristics with low, nearly frequency-independent dielectric characteristics.

Exemplary applications:

Li7YbI	Applications in high-frequency and broad-band techniques, coaxial and microwave techniques, high information velocity with exact information transmission at the same time, chemical industry, furnace construction, brick works, heating appliances

Application of PFA Cables

These cables are used for example in new technologies if excellent resistance against chemicals and solvents is requested. Further advantages are the excellent temperature resistance and flexibility at low temperatures as well as the good electrical insulating characteristics with low, nearly frequency-independent dielectric characteristics.

Exemplary applications:

LiPFAvn	Applications in high-frequency and broad-band techniques, coaxial and microwave techniques, high information velocity with exact information transmission at the same time, chemical industry, furnace construction, brick works, heating appliances

Selection Table

		L/5	L/6	L/7	L/8	L/9	L/10	L/11	L/11	L/11	L/12	L/12	L/12	L/12
								375 V			900 V			
	Cable Type	BL TA 180 C	TD 801 F	TD 833 CF	TD 838 CF TP	TA 866 F	TA 867 CF	Li6YbI	Li6Yvz	LiPFAvn	Li7YbI	Li6YbI	Li6Yvz	LiPFAvn
Basic construction	ETFE cable										●			
	FEP cable	●	●	●	●	●	●	●	●			●	●	
	PFA cable									●				●
	Single conductor							●	●	●	●	●	●	●
	Data cable		●	●	●									
	Connection cable	●				●	●							
	Copper strands acc. to ASTM B 286		●	●	●			●	●	●	●	●	●	●
	Copper strands acc. to IEC 60228, VDE 0295, class 5	●				●	●							
	Color code with reference to DIN 47100		●	●	●									
	Color code acc. to HD 308					●	●							
	Color code acc. to EN 50334 + VDE 0293-334	●												
	Shielded	●		●	●		●							
	Twisted pairs				●									
Temperature range fixed installation*	+260°C									●				●
	+250°C													
	+200°C		●	●	●			●	●			●	●	
	+180°C	●	●	●	●	●	●	●	●	●		●	●	●
	+150°C	●	●	●	●	●	●	●	●	●	●	●	●	●
	+135°C	●	●	●	●	●	●	●	●	●	●	●	●	●
	- 90°C	●	●	●	●	●	●	●	●	●	●	●	●	●
Voltage	Peak operating voltage max. 375 V		●	●	●			●	●	●				
	Peak operating voltage max. 900 V										●	●	●	●
	Nominal voltage Uo/U: 300/500 V	●				●	●	●	●	●		●	●	●
	Voltage UL: 600 V	●	●	●	●	●	●							
	Voltage cUL: 600 V	●	●	●	●	●	●							
	Test voltage: 2000 V	●	●	●	●	●	●	●	●	●				
	Test voltage: 2500 V										●	●	●	●
Standards & Approvals	UL recognized	●	●	●	●	●	●	●	●	●		●	●	●
	cUL recognized	●	●	●	●	●	●							
	Approvals: DNV-GL, ABS, RS	●												
	Flame retardant and self-extinguishing acc. to IEC 603332-1-2 and VDE 0482-332-1-2	●	●	●	●	●	●	●	●	●	●	●	●	●
	Fire performance: UL FT1	●	●	●	●	●	●							
	Fire performance: UL FT2	●	●	●	●	●	●	●	●	●		●	●	●
	Fire performance: no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 cat. A	●												
Charac-teristics	Chemical resistance	A	A	A	A	A	A	A	A	A	A	A	A	A
	Oil resistant acc. to UL standard 758		A	A	A	A	A	A	A	A	A	A	A	A
	Oil and fuel resistance	A												

from / to

limited time of use

A = very good

*The temperature range for flexible application is mentioned on the corresponding catalog page

BL TA 180 C

Flexible FEP connection cables with overall tinned copper shield

+180°C

SAB BL-Line

Marking for BL TA 180 C 37530715:
SAB BRÖCKSKES · D-VIERSEN · BL TA 180 C 7x1.5mm² - IEC 60332-3-22 - 300/500V DNV AWM Style 21618 150°C 600V AWM I/II A/B 150°C 600V FT1 FT2

Application: e.g. as connection cable for the control of marine diesel engines.

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	FEP
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 and a green/yellow ground
Stranding:	in layers
Inner jacket:	Besilen®
Shield:	tinned copper braiding
Jacket material:	FEP
Jacket color:	black (RAL 9005)

Outstanding features:

- **no flame propagation**
- **flame retardant and self-extinguishing**
- **good EMC characteristics***
- **oil and fuel resistant**
- **good chemical resistance**
- **high cold and heat resistance**
- **asbestos-free**
- **approvals:**
  UL/cUL recognized
  DNV

*copper braiding should be connected circularly to optimize the EMC characteristics

Technical data:

Nominal voltage:	Uo/U 300/500 V
Voltage UL/cUL:	600 V
Testing voltage:	conductor/conductor: 2000 V (AC) conductor/shielding: 2000 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Radiation resistance:	1 x 10^7 cJ/kg
Temperature range: *static:* *flexible:*	**DIN VDE** **UL/cUL:** up to +150°C -55/+180°C -55/+180°C
Burning characteristics:	no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 cat. A. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL FT1, FT2
Chemical resistance:	very good against acids, halogens, bases, chlorinated solvents as well as organic and inorganic compounds
Oil and fuel resistance:	very good
Flexibility:	good
Halogen-free:	not fulfilled
Approvals:	UR, cUR, DNV, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **19 AWG (≈ 23/32) • 0.75 mm²**				
37530207	2	0.224	5.7	42
37530307	3	0.236	6.0	46
37530407	4	0.244	6.2	54
37530507	5	0.280	7.1	67
37530607	6	0.303	7.7	78
37530707	7	0.303	7.7	81
37530807	8	0.350	8.9	102
37531207	12	0.402	10.2	136
37531607	16	0.449	11.4	175
37532007	20	0.504	12.8	224
► **18 AWG (≈ 30/32) • 1.00 mm²**				
37530210	2	0.232	5.9	43

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **16 AWG (≈ 27-29/30) • 1.50 mm²**				
37530215	2	0.260	6.6	54
37530315	3	0.272	6.9	65
37530515	5	0.323	8.2	97
37530615	6	0.354	9.0	115
37530715	7	0.354	9.0	122
37531215	12	0.472	12.0	208
► **15 AWG (≈ 38/30) • 2.00 mm²**				
37530220	2	0.295	7.5	72
37530320	3	0.319	8.1	87

Other dimensions and colors are available on request

Possible on request:

- **without overall copper shield**
- **alternative color code and jacket color**

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TD 801 F

FEP data cable with extended temperature range

+180°C

AWG 22/3c AWM Style 21618 I/II A/B 150°C 600V FT1 FT2 3801-0322

Marking for TD 801 F 38010322:
SAB BRÖCKSKES · D-VIERSEN · TD 801 F AWG 22/3c AWM Style 21618 I/II A/B 150°C 600V FT1 FT2 3801-0322

Construction:

Conductor:	tinned copper strands acc. to ASTM B 286
Insulation:	FEP, 6Y11 acc. to VDE 0207-6
Color code:	with reference to DIN 47100, see page O/26
Stranding:	in layers
Jacket material:	FEP, 6YM1 acc. to VDE 0207-6
Jacket color:	white (RAL 1013)

Outstanding features:

- **excellent resistance against chemicals and solvents**
- **excellent temperature resistance and flexibility at low temperatures**
- **excellent electrical insulating characteristics with low, nearly frequency-independent dielectric characteristics**
- **UL/cUL recognized**

Technical data:

Peak operating voltage:	max. 375 V
Voltage UL/cUL:	600 V
Testing voltage:	conductor/conductor: 2000 V
Min. bending radius:	7.5 x O.D.
Radiation resistance:	1 x 10^7 cJ/kg
Temperature range: *static:* *flexible:* *limited time of use:*	**DIN VDE** **UL/cUL:** up to +150°C -90/+180°C -55/+180°C +200°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL FT1, FT2
Oil resistance:	very good acc. to UL standard 758, at 80°C after 80 days
Chemical resistance:	very good against acids, halogens, bases, chlorinated solvents as well as organic and inorganic compounds
Approvals:	UR, cUR, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **28 AWG (7 strand) · 0.08 mm²**				
38010228	2	0.079	2.0	4
38010328	3	0.083	2.1	5
38010428	4	0.091	2.3	7
38010528	5	0.098	2.5	8
38010728	7	0.106	2.7	10
38011028	10	0.134	3.4	14
38011228	12	0.138	3.5	16
► **26 AWG (7 strand) · 0.14 mm²**				
38010226	2	0.087	2.2	5
38010326	3	0.094	2.4	7
38010426	4	0.098	2.5	9
38010526	5	0.110	2.8	10
38010726	7	0.118	3.0	13
38011026	10	0.157	4.0	18
38011226	12	0.157	4.0	22

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **24 AWG (7 strand) · 0.25 mm²**				
38010224	2	0.098	2.5	7
38010324	3	0.102	2.6	9
38010424	4	0.114	2.9	11
38010524	5	0.122	3.1	14
38010624	6	0.138	3.5	17
38010724	7	0.134	3.4	18
38011024	10	0.177	4.5	26
38011224	12	0.185	4.7	30
► **22 AWG (7 strand) · 0.34 mm²**				
38010222	2	0.110	2.8	9
38010322	3	0.114	2.9	12
38010422	4	0.126	3.2	15
38010522	5	0.138	3.5	19
38010722	7	0.161	4.1	26
38011022	10	0.201	5.1	37
38011222	12	0.209	5.3	43

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **20 AWG (7 strand) · 0.50 mm²**				
38010220	2	0.126	3.2	12
38010320	3	0.134	3.4	17
38010420	4	0.146	3.7	22
38010520	5	0.173	4.4	28
38010720	7	0.177	4.5	36
38011020	10	0.232	5.9	53
38011220	12	0.248	6.3	62

Other dimensions and colors are available on request

Possible on request:

- **ETFE or PFA insulated strands**

TD 833 CF

FEP data cable with extended temperature range and overall copper shield

+180°C

/M Style 21618 I/II A/B 150°C 600V FT1 FT2 3833-0320 CE

Marking for TD 833 CF 38330320:

SAB BRÖCKSKES · D-VIERSEN · TD 833 CF AWG 20/3c c(UL)us AWM Style 21618 I/II A/B 150°C 600V FT1 FT2 3833-0320 CE

Construction:

Conductor:	tinned copper strands acc. to ASTM B 286
Insulation:	FEP, 6Y11 acc. to VDE 0207-6
Color code:	with reference to DIN 47100, see page O/26
Stranding:	in layers
Wrapping:	PETP foil
Shielding:	tinned copper braiding
Jacket material:	FEP, 6YM1 acc. to VDE 0207-6
Jacket color:	white (RAL 1013)

Outstanding features:

- **excellent resistance against chemicals and solvents**
- **excellent temperature resistance and flexibility at low temperatures**
- **excellent electrical insulating characteristics with low, nearly frequency-independent dielectric characteristics**
- **UL/cUL recognized**

Technical data:

Peak operating voltage:	max. 375 V
Voltage UL/cUL:	600 V
Testing voltage:	conductor/conductor: 2000 V conductor/shielding: 2000 V
Min. bending radius:	7.5 x O.D.
Radiation resistance:	1 x 10^7 cJ/kg
Temperature range: *static:* *flexible:* *limited time of use:*	**DIN VDE** **UL/cUL:** up to +150°C -90/+180°C -55/+180°C +200°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL FT1, FT2
Oil resistance:	very good acc. to UL standard 758, at 80°C after 80 days
Chemical resistance:	very good against acids, halogens, bases, chlorinated solvents as well as organic and inorganic compounds
Approvals:	UR, cUR, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **28 AWG (7 strand) ▪ 0.08 mm²**				
38330228	2	0.094	2.4	8
38330328	3	0.102	2.6	9
38330428	4	0.110	2.8	12
38330528	5	0.118	3.0	13
38330728	7	0.126	3.2	16
38331028	10	0.157	4.0	22
38331228	12	0.157	4.0	24
► **26 AWG (7 strand) ▪ 0.14 mm²**				
38330226	2	0.106	2.7	11
38330326	3	0.110	2.8	12
38330426	4	0.122	3.1	14
38330526	5	0.138	3.5	16
38330726	7	0.138	3.5	19
38331026	10	0.173	4.4	28
38331226	12	0.177	4.5	30
38331426	14	0.185	4.7	34

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **24 AWG (7 strand) ▪ 0.25 mm²**				
38330224	2	0.122	3.1	13
38330324	3	0.122	3.1	15
38330424	4	0.130	3.3	17
38330524	5	0.150	3.8	22
38330724	7	0.157	4.0	25
38331024	10	0.197	5.0	36
38331224	12	0.205	5.2	40
► **22 AWG (7 strand) ▪ 0.34 mm²**				
38330222	2	0.130	3.3	15
38330322	3	0.138	3.5	18
38330422	4	0.150	3.8	22
38330522	5	0.165	4.2	27
38330622	6	0.181	4.6	32
38330722	7	0.173	4.4	33
38331022	10	0.220	5.6	47
38331222	12	0.228	5.8	54

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **20 AWG (7 strand) ▪ 0.50 mm²**				
38330220	2	0.146	3.7	20
38330320	3	0.157	4.0	25
38330420	4	0.169	4.3	30
38330520	5	0.189	4.8	37
38330620	6	0.205	5.2	43
38330720	7	0.205	5.2	46
38330820	8	0.232	5.9	56
38331020	10	0.252	6.4	64
38331220	12	0.260	6.6	73

Other dimensions and colors are available on request

Possible on request:

- **ETFE or PFA insulated strands**

TD 838 CF TP

FEP data cable, twisted pairs with extended temperature range and overall copper shield

+180°C

AWM Style 21618 I/II A/B 150°C 600V FT1 FT2 3838-0326

Marking for TD 838 CF TP 38380326:
SAB BRÖCKSKES · D-VIERSEN · TD 838 CF TP AWG 26/3pr AWM Style 21618 I/II A/B 150°C 600V FT1 FT2 3838-0326

Construction:

Conductor:	tinned copper strands acc. to ASTM B 286
Insulation:	FEP, 6Y11 acc. to VDE 0207-6
Color code:	with reference to DIN 47100, see page O/26
Stranding:	conductors twisted to pairs, pairs together in specially adjusted layering
Wrapping:	foil
Shielding:	tinned copper braiding
Jacket material:	FEP, 6YM1 acc. to VDE 0207-6
Jacket color:	white (RAL 1013)

Outstanding features:

- **excellent resistance against chemicals and solvents**
- **excellent temperature resistance and flexibility at low temperatures**
- **excellent electrical insulating characteristics with low, nearly frequency-independent dielectric characteristics**
- **UL/cUL recognized**

Technical data:

Peak operating voltage:	max. 375 V
Voltage UL/cUL:	600 V
Testing voltage:	conductor/conductor: 2000 V conductor/shielding: 2000 V
Min. bending radius:	7.5 x O.D.
Radiation resistance:	1 x 10^7 cJ/kg
Temperature range: *static:* *flexible:* *limited time of use:*	**DIN VDE** **UL/cUL:** up to +150°C -90/+180°C -55/+180°C +200°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL FT1, FT2
Oil resistance:	very good acc. to UL standard 758, at 80°C after 80 days
Chemical resistance:	very good against acids, halogens, bases, chlorinated solvents as well as organic and inorganic compounds
Approvals:	UR, cUR, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of pairs	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **28 AWG (7 strand) ▪ 0.08 mm²**				
38380228	2	0.126	3.2	13
38380328	3	0.142	3.6	17
38380428	4	0.165	4.2	20
38380528	5	0.181	4.6	25
38380628	7	0.185	4.7	27
► **26 AWG (7 strand) ▪ 0.14 mm²**				
38380226	2	0.138	3.5	15
38380326	3	0.161	4.1	21
38380426	4	0.185	4.7	24
38380526	5	0.205	5.2	29
38380626	6	0.209	5.3	35

item no.	no. of pairs	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **24 AWG (7 strand) ▪ 0.25 mm²**				
38380224	2	0.157	4.0	20
38380324	3	0.177	4.5	25
38380424	4	0.217	5.5	33
38380524	5	0.228	5.8	34
38380624	6	0.232	5.9	45
► **22 AWG (7 strand) ▪ 0.34 mm²**				
38380222	2	0.181	4.6	25
38380322	3	0.205	5.2	34
38380422	4	0.232	5.9	42
38380522	5	0.256	6.5	51
38380622	6	0.272	6.9	60

item no.	no. of pairs	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **20 AWG (7 strand) ▪ 0.50 mm²**				
38380220	2	0.201	5.1	33
38380320	3	0.232	5.9	45
38380420	4	0.268	6.8	57
38380520	5	0.295	7.5	70
38380620	6	0.307	7.8	83
► **18 AWG (7 strand) ▪ 1.00 mm²**				
38380418	4	0.319	8.1	83

Other dimensions and colors are available on request

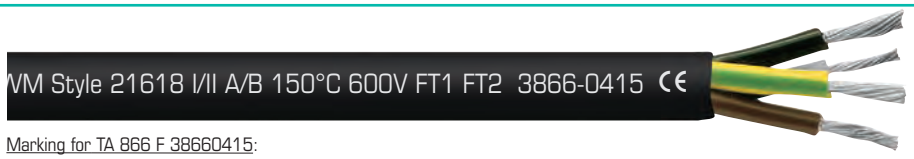
Possible on request:

- **ETFE or PFA insulated strands**

TA 866 F

FEP connection cable with extended temperature range

+180°C



Marking for TA 866 F 38660415:
SAB BRÖCKSKES · D-VIERSEN · TA 866 F AWG 16/4c AWM Style 21618 I/II A/B 150°C 600V FT1 FT2 3866-0415

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	FEP, 6Y11 acc. to VDE 0207-6
Color code:	colored acc. to HD 308 (VDE 0293-308), from 6 conductors- black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 from 3 conductors a green/yellow ground
Stranding:	in layers
Jacket material:	FEP, 6YM1 acc. to VDE 0207-6
Jacket color:	black (RAL 9005)

Outstanding features:

- **excellent resistance against chemicals and solvents**
- **excellent temperature resistance and flexibility at low temperatures**
- **excellent electrical insulating characteristics with low, nearly frequency-independent dielectric characteristics**
- **UL/cUL recognized**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Voltage UL/cUL:	600 V
Testing voltage:	conductor/conductor: 2000 V
Min. bending radius:	7.5 x O.D.
Radiation resistance:	1 x 10^7 cJ/kg
Temperature range: *static:* *flexible:*	**DIN VDE** **UL/cUL:** up to +150°C -90/+180°C -55/+180°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL FT1, FT2
Oil resistance:	very good acc. to UL standard 758, at 80°C after 80 days
Chemical resistance:	very good against acids, halogens, bases, chlorinated solvents as well as organic and inorganic compounds
Approvals:	UR AWM, cUR AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **24 AWG ▪ 0.25 mm²**				
38660202	2	0.114	2.9	9
38660302	3	0.122	3.1	12
38660402	4	0.134	3.4	15
38660502	5	0.146	3.7	18
38660702	7	0.165	4.2	24
38661002	10	0.213	5.4	35
38661202	12	0.220	5.6	42
► **20 AWG ▪ 0.50 mm²**				
38660205	2	0.138	3.5	14
38660305	3	0.146	3.7	19
38660405	4	0.165	4.2	25
38660505	5	0.181	4.6	31
38660705	7	0.205	5.2	41
38661005	10	0.260	6.6	58
38661205	12	0.268	6.8	68
► **19 AWG ▪ 0.75 mm²**				
38660207	2	0.161	4.1	18
38660307	3	0.173	4.4	25
38660407	4	0.209	5.3	32
38660507	5	0.213	5.4	41
38660707	7	0.244	6.2	53
38661007	10	0.303	7.7	76
38661207	12	0.315	8.0	90

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **18 AWG ▪ 1.00 mm²**				
38660210	2	0.169	4.3	22
38660310	3	0.189	4.8	29
38660410	4	0.217	5.5	39
38660510	5	0.228	5.8	49
38660710	7	0.244	6.2	63
38661010	10	0.319	8.1	91
38661210	12	0.331	8.4	107
► **16 AWG ▪ 1.50 mm²**				
38660215	2	0.193	4.9	29
38660315	3	0.209	5.3	41
38660415	4	0.240	6.1	52
38660515	5	0.272	6.9	66
38660715	7	0.283	7.2	87
38661015	10	0.370	9.4	131
38661215	12	0.382	9.7	147
► **14 AWG ▪ 2.50 mm²**				
38660225	2	0.228	5.8	43
38660325	3	0.244	6.2	60
38660425	4	0.295	7.5	77
38660525	5	0.303	7.7	99
38660725	7	0.331	8.4	130
38661025	10	0.433	11.0	187
38661225	12	0.453	11.5	223

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **12 AWG ▪ 4.00 mm²**				
38660240	2	0.276	7.0	63
38660340	3	0.299	7.6	91
38660440	4	0.327	8.3	118
38660540	5	0.370	9.4	152
38660740	7	0.406	10.3	201
► **10 AWG ▪ 6.00 mm²**				
38660260	2	0.343	8.7	98
38660360	3	0.370	9.4	143
38660460	4	0.409	10.4	185
38660560	5	0.457	11.6	240
38660760	7	0.504	12.8	308

Other dimensions and colors are available on request

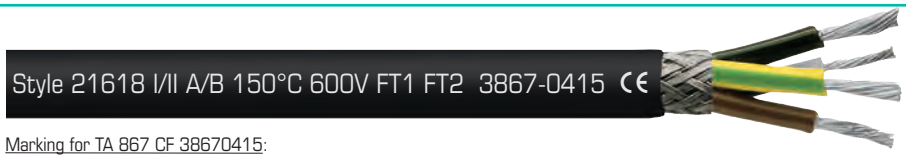
Possible on request:

- **ETFE or PFA insulated strands**

+180°C

TA 867 CF

FEP connection cable with extended temperature range and overall copper shield



Marking for TA 867 CF 38670415:
SAB BRÖCKSKES · D-VIERSEN · TA 867 CF AWG 16/4c c us AWM Style 21618 I/II A/B 150°C 600V FT1 FT2 3867-0415 CE

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Insulation:	FEP, 6Y11 acc. to VDE 0207-6
Color code:	colored acc. to HD 308 (VDE 0293-308), from 6 conductors- black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 from 3 conductors a green/yellow ground
Stranding:	in layers
Wrapping:	foil
Shielding:	tinned copper braiding
Jacket material:	FEP, 6YM1 acc. to VDE 0207-6
Jacket color:	black (RAL 9005)

Outstanding features:

- **excellent resistance against chemicals and solvents**
- **excellent temperature resistance and flexibility at low temperatures**
- **excellent electrical insulating characteristics with low, nearly frequency-independent dielectric characteristics**
- **UL/cUL recognized**

Technical data:

Peak operating voltage:	Uo/U 300/500 V
Voltage UL/cUL:	600 V
Testing voltage:	conductor/conductor: 2000 V conductor/shielding: 2000 V
Min. bending radius:	7.5 x O.D.
Radiation resistance:	1 x 10^7 cJ/kg
Temperature range: *static:* *flexible:*	**DIN VDE** **UL/cUL:** up to +150°C -90/+180°C -55/+180°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL FT1, FT2
Oil resistance:	very good acc. to UL standard 758, at 80°C after 80 days
Chemical resistance:	very good against acids, halogens, bases, chlorinated solvents as well as organic and inorganic compounds
Approvals:	UR AWM, cUR AWM, CE, EAC, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 24 AWG ▪ 0.25 mm²				
38670202	2	0.134	3.4	15
38670302	3	0.142	3.6	17
38670402	4	0.157	4.0	23
38670502	5	0.169	4.3	26
38670702	7	0.185	4.7	32
38671002	10	0.201	5.1	43
38671202	12	0.240	6.1	51
► 20 AWG ▪ 0.50 mm²				
38670205	2	0.161	4.1	22
38670305	3	0.169	4.3	27
38670405	4	0.185	4.7	32
38670505	5	0.205	5.2	40
38670705	7	0.224	5.7	51
38671005	10	0.272	6.9	69
38671205	12	0.291	7.4	82
► 19 AWG ▪ 0.75 mm²				
38670207	2	0.181	4.6	26
38670307	3	0.193	4.9	33
38670407	4	0.213	5.4	41
38670507	5	0.232	5.9	51
38670707	7	0.252	6.4	63
38671007	10	0.319	8.1	89
38671207	12	0.335	8.5	104

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 18 AWG ▪ 1.00 mm²				
38670210	2	0.189	4.8	30
38670310	3	0.205	5.2	39
38670410	4	0.220	5.6	49
38670510	5	0.244	6.2	59
38670710	7	0.264	6.7	74
38671010	10	0.339	8.6	106
38671210	12	0.350	8.9	122
► 16 AWG ▪ 1.50 mm²				
38670215	2	0.217	5.5	39
38670315	3	0.228	5.8	50
38670415	4	0.248	6.3	62
38670515	5	0.283	7.2	80
38670715	7	0.303	7.7	101
38671015	10	0.398	10.1	158
38671215	12	0.409	10.4	175
► 14 AWG ▪ 2.50 mm²				
38670225	2	0.248	6.3	53
38670325	3	0.264	6.7	70
38670425	4	0.291	7.4	91
38670525	5	0.323	8.2	112
38670725	7	0.350	8.9	145
38671025	10	0.461	11.7	220
38671225	12	0.488	12.4	254

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 12 AWG ▪ 4.00 mm²				
38670240	2	0.299	7.6	77
38670340	3	0.319	8.1	105
38670440	4	0.346	8.8	135
► 10 AWG ▪ 6.00 mm²				
38670360	3	0.398	10.1	168

Other dimensions and colors are available on request

Possible on request:

- **ETFE or PFA insulated strands**

FEP and PFA insulated stranded hook-up wire

Li6Ybl, Li6Yvz, and LiPFAvn with extended temperature range

375V

Construction:

Conductor:	bare, tinned, or nickel-plated copper strands acc. to ASTM B 286
Insulation:	FEP, 6Y11 acc. to VDE 0207-6 or PFA, 51Y11 acc. to VDE 0207-6

Outstanding features:

- **excellent resistance against chemicals and solvents**
- **excellent temperature resistance and flexibility at low temperatures**
- **excellent electrical insulating characteristics with low, nearly frequency-independent dielectric characteristics**
- **UL recognized**

Technical data:

Peak operating voltage:	max. 375 V	
Voltage UL:	600 V	
Testing voltage:	2000 V	
Installation:	for one single bend the inner bending radius must not be smaller than 0.5 x outer diameter of the insulated strands	
Radiation resistance:	**FEP:** 1 x 10^7 cJ/kg	**PFA:** 1 x 10^8 cJ/kg
Temperature range: *static:* *flexible:* *limited time of use:* **UL:**	**FEP:** -90/+180°C -55/+180°C +200°C up to +150°C	**PFA:** -90/+250°C -55/+250°C +260°C up to +250°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL FT2	
Oil resistance:	very good acc. to UL standard 758, at 80°C after 80 days	
Chemical resistance:	very good against acids, halogens, bases, chlorinated solvents as well as organic and inorganic compounds	
Approvals:	UR AWM, CE, EAC, RoHS	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30	

Li6Ybl - bare copper / FEP insulation

item no.	AWG	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 3339 .. 28	28 AWG/7	0.028	0.70	1
► 3339 .. 26	26 AWG/7	0.031	0.80	1
► 3339 .. 24	24 AWG/7	0.037	0.93	2
► 3339 .. 22	22 AWG/7	0.043	1.08	3
► 3339 .. 20	20 AWG/7	0.050	1.28	4

Li6Yvz - tinned copper / FEP insulation

item no.	AWG	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 3340 .. 28	28 AWG /7	0.028	0.70	1
► 3340 .. 26	26 AWG/7	0.031	0.80	1
► 3340 .. 24	24 AWG/7	0.037	0.93	2
► 3340 .. 22	22 AWG/7	0.043	1.08	3
► 3340 .. 20	20 AWG/7	0.050	1.28	4
► 3340 .. 16	16 AWG/7	0.070	1.79	9

LiPFAvn - nickel-plated copper / PFA insulation

item no.	AWG	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 3344 .. 28	28 AWG /7	0.028	0.71	1
► 3344 .. 26	26 AWG/7	0.031	0.80	1
► 3344 .. 24	24 AWG/7	0.037	0.93	2
► 3344 .. 22	22 AWG/7	0.043	1.08	3
► 3344 .. 20	20 AWG/7	0.050	1.28	4

Other dimensions and colors are available on request

Color code for single conductors:

01 = black	05 = yellow	09 = orange
02 = blue	06 = green	11 = red
03 = brown	07 = violet	15 = nature
04 = gray	08 = white	

Possible on request:

- **ETFE insulated strands**

ETFE, FEP, and PFA insulated stranded hook-up wire

Li7Ybl, Li6Ybl, Li6Yvz, and LiPFAvn with extended temperature range

900V

Construction:

Conductor:	bare, tinned, or nickel-plated copper strands acc. to ASTM B 286
Insulation:	ETFE, 7Y11 acc. to VDE 0207-6 or FEP, 6Y11 acc. to VDE 0207-6 or PFA, 51Y11 acc. to VDE 0207-6

Outstanding features:

- **ETFE:**
  - high resistance against chemicals and solvents
  - low and high temperature resistance
  - good electrical insulating characteristics with low, nearly frequency-independent dielectric characteristics
- **FEP + PFA:**
  - excellent resistance against chemicals and solvents
  - excellent temperature resistance and flexibility at low temperatures
  - excellent electrical insulating characteristics with low, nearly frequency-independent dielectric characteristics
- **FEP + PFA:**
  UL recognized

Technical data:

Peak operating voltage:	max. 900 V		
Voltage UL:	**FEP/PFA:** 600 V		
Testing voltage:	2500 V		
Installation:	for one single bend the inner bending radius must not be smaller than 0.5 x outer diameter of the insulated strands		
Radiation resistance:	**ETFE:** 2 x 10^8 cJ/kg	**FEP:** 1 x 10^7 cJ/kg	**PFA:** 1 x 10^6 cJ/kg
Temperature range: *static:* *flexible:* *limited time of use:* **UL:**	**ETFE:** -90/+135°C -55/+135°C +150°C	**FEP:** -90/+180°C -55/+180°C +200°C up to +150°C	**PFA:** -90/+250°C -55/+250°C +260°C up to 250°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL FT2 (FEP and PFA version)		
Oil resistance:	very good acc. to UL standard 758, at 80°C after 80 days		
Chemical resistance:	very good against acids, halogens, bases, chlorinated solvents as well as organic and inorganic compounds		
Approvals:	**FEP/PFA:** UR AWM, CE, EAC, RoHS	**ETFE:** CE, EAC, RoHS	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30		

Li7Ybl
bare copper / ETFE insulation

item no.	AWG	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 3345 .. 28	28 AWG /7	0.037	0.93	1
▶ 3345 .. 26	26 AWG/7	0.041	1.03	2
▶ 3345 .. 24	24 AWG/7	0.046	1.16	2
▶ 3345 .. 22	22 AWG/7	0.052	1.31	3
▶ 3345 .. 20	20 AWG/7	0.059	1.51	5
▶ 3345 .. 18	18 AWG/7	0.070	1.78	7
▶ 3345 .. 16	16 AWG/7	0.076	1.94	9
▶ 3345 .. 14	14 AWG/7	0.091	2.30	14
▶ 3345 .. 12	12 AWG/7	0.109	2.76	22

Li6Ybl
bare copper / FEP insulation

item no.	AWG	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 3348 .. 26	26 AWG/7	0.041	1.03	2
▶ 3348 .. 24	24 AWG/7	0.046	1.16	2
▶ 3348 .. 22	22 AWG/7	0.052	1.31	3
▶ 3348 .. 20	20 AWG/7	0.059	1.51	5
▶ 3348 .. 18	18 AWG/7	0.070	1.78	8
▶ 3348 .. 16	16 AWG/7	0.076	1.94	9
▶ 3348 .. 14	14 AWG/7	0.091	2.30	15
▶ 3348 .. 12	12 AWG/7	0.109	2.76	22

Color code for single conductors:

01 = black	05 = yellow	09 = orange
02 = blue	06 = green	11 = red
03 = brown	07 = violet	15 = nature
04 = gray	08 = white	

Li6Yvz
tinned copper / FEP insulation

item no.	AWG	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 3349 .. 28	28 AWG /7	0.037	0.93	1
▶ 3349 .. 26	26 AWG/7	0.041	1.03	2
▶ 3349 .. 24	24 AWG/7	0.046	1.16	2
▶ 3349 .. 22	22 AWG/7	0.052	1.31	3
▶ 3349 .. 20	20 AWG/7	0.059	1.51	5
▶ 3349 .. 18	18 AWG/7	0.070	1.78	8
▶ 3349 .. 16	16 AWG/7	0.076	1.94	9
▶ 3349 .. 14	14 AWG/7	0.091	2.30	15
▶ 3349 .. 12	12 AWG/7	0.109	2.76	22

LiPFAvn
nickel-plated copper / PFA insulation

item no.	AWG	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 3353 .. 28	28 AWG /7	0.038	0.96	1
▶ 3353 .. 26	26 AWG/7	0.042	1.06	2
▶ 3353 .. 24	24 AWG/7	0.046	1.17	2
▶ 3353 .. 22	22 AWG/7	0.053	1.34	3
▶ 3353 .. 20	20 AWG/7	0.061	1.54	5
▶ 3353 .. 18	18 AWG/7	0.071	1.81	7
▶ 3353 .. 16	16 AWG/7	0.078	1.97	9

Other dimensions and colors are available on request

COMPENSATING & EXTENSION
CABLES
FOR THERMOCOUPLES & RTD'S

www.sabcable.com
866-722-2974 ■ info@sabcable.com

SPECIAL CABLES
SAB North America

Compensation & Extension Cables

Content

Content

Besilen® is a specially developed Silicone rubber-based material with good electrical characteristics and it is a registered trademark of SAB BRÖCKSKES GmbH & Co. KG.

Applications

General Information

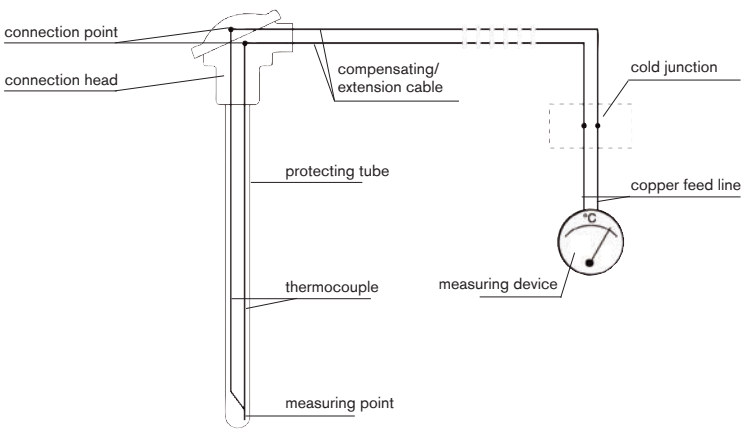
Temperature is an important factor in many areas concerning the environment, scientific research, and production. It is a thermo-dynamic variable that defines the heat content of a material. Material strength changes with alternating temperature. As a consequence, the characteristics of materials have to be examined at different temperatures. To obtain a temperature value, defined temperature parameters are used. Here the parameters can be defined, for example, as the freezing and boiling points of water.

For temperature measurement characteristics of materials have to be taken into account. These include such things as thermal expansion (expansion thermometer), the dependance of the electric resistance on metallic conductors (electrical thermometer) and electromotive force (thermocouple) etc. A temperature measuring device with a thermocouple as a data indicator tends to consist of the thermometer itself with a measuring point, an extension cable, a cold junction with a specified constant temperature and a voltmeter.

The value of the electromotive force (EMF) produced by the thermocouple is determined by the difference between the measuring temperature and the so-called free ends of the thermocouple which are mounted in the connection head. As the connection head is usually relatively close to the measuring point, it is frequently exposed to temperature fluctuations. For this reason, a connection cable with the same thermo-electric properties as the thermocouple is used between the thermocouple and the cold junction.

This link-up provides the compensating/extension cable.

Sketch



Materials

We differentiate between thermocouple cable and compensating cable. Cables made of original materials are called extension or thermocouple cables, whereas conductor materials made of substitutes are known as compensating cables.

Compensating cables

The compensating wires and strands are composed of alloys which do not have to be identical with the corresponding thermocouple. Substitute material means that the thermo-electric characteristics in the allowed temperature range (usually 0 up to +200°C) for the compensating cable must be the same as those of the corresponding thermocouple. They are identified with the letter “C” adapted to IEC 60584. The “C” appears behind the code letter identifying the thermocouple, for example “KC”.

Extension cables

Extension cables are made of conductors with identical nominal structure to the corresponding thermocouple. They are identified with the letter “X” adapted to IEC 60584, which appears behind the code letter identifying the thermocouple, for example “JX”. They are normally tested within a temperature range of 0 up to +200°C.

Thermocouple cables

Thermocouple cables consist of the same element material as the thermocouple and are tested for the same temperatures. These SAB special cables are manufactured on customer request. PVC, fiber-glass and SABtex insulated or jacketed compensating and extension cables are not suitable for outdoor use. Exception: PVC jacketed solid conductors can be used for underground laying.

Applications

Electrical characteristics

Material	Specific electric resistance at 20°C µ Ω x cm	Resistance in Ω/m mm ø 0.20	mm ø 1.38
Cu Ni	49.0	15.60	0.328
So Ni	51.0	16.26	0.341
Ni Cr	72.0	22.90	0.481
Ni	27.0	8.59	0.180
So Pt	12.0	3.82	0.0802
E-Cu	1.7	0.54	0.011
Fe	12.0	3.82	0.080
BPX	12.5	3.98	0.084
Ni Cr Si	98.0	31.20	0.655
Ni Si	34.0	10.80	0.227
So Ni Si	52.0	16.55	0.347

Because the thermal electromotive force values are decisive, the indicated specific resistance and meter resistance figures can only be considered as approximate values, tolerances have to be agreed between producer and customer. Limit deviations within the thermoelectric voltage range can only be guaranteed for positive and negative conductors bought together from SAB BRÖCKSKES GmbH & Co. KG.

SAB thermocouple code acc. to IEC 60584

for thermocouple	EMK at 100°C in mV	cable type	SAB thermocouple code strands	single wire
Type T	4.28	TX	…58	…88
Type J	5.27	JX	…52	…82
Type K	4.10	KCA	…95	…15
Type K	4.10	KCB	…99	…19
Type K	4.10	KX	…54	…84
Type E	6.32	EX	…53	…83
Type R/S	0.65	R/SCB	…97	…17
Type N	2.77	NC	…91	…11

SAB thermocouple code acc. to DIN 43710 / 4714

We continue to manufacture compensating and extension cables with colour code acc. to DIN 43714.

for thermocouple	EMK at 100°C in mV	cable type	SAB thermocouple code strands	single wire
Type L	5.37	LX	…92	…12
Type K	4.10	KCA	…94	…14
Type R/S	0.65	R/SCB	…96	…16
Type U	4.25	UX	…98	…18
Type B	0.00	BC-100	…01	…21
Type B	0.033	BC-200	…02	…22

Example

Type A 12 D for thermocouple type J acc. to IEC 60584 = item no. 044512 **82**
Type A 9-4 LSY for thermocouple type L acc. to DIN 43713 = item no. 046204 **92**

Note

In addition to our standard compensating cables featured on the following pages, we also produce special cables on customer request and according to practically every recognized foreign standard.

For special compensating cables we would request the following information:
Stranded or solid conductor, no. of conductors, cross-section, element-type, conductor insulation and jacket material, shielding or armor requirements and the temperature range. Minimum order quantity for special cables is 500 m or 1000 m.

You will find further information about the safe application of cables in chapter O

Selection Table

		M/8	M/8	M/9	M/10	M/10	M/11	M/12	M/12	M/13	M/13	M/14	M/15	M/15	M/16	M/17	M/17	M/18	M/18	M/19
	Cable Type	A 1 L twisted A 1 L single	A 16 L	A 9 L A 9-100 L A 9-075 L A 9-050 L A 9-022 L	A 12 L	A 12 D	A 5 L A 5-075 L A 5-050 L A 5-022 L	A 20 L A 20-022 L	A 20 D	A 9-L	A 9-LSY	hybrid thermocouple cable JX	A 1 LB twisted	A 16 LB	A 15 L A 15-075 L A 15-050 L A 15-022 L	A 3 Ln	A 4 Ln	A 11- Lr A 11-4 Lr	A 11 Dr	A 13 L
Basic construction	Compensating and extension cables for thermocouples	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Extension cables for thermocouples FE-CuNi and NiCr-Ni																			
	Connection cables for resistance thermometers																			
	Fiber-glass braiding																	●	●	●
	SABtex																			
	Shielded						●					●								
	Steel wire armoring										●						●	●	●	
Temperature range fixed installation*	+400°C																			
	+300°C																			
	+250°C												●	●	●	●	●	●	●	●
	+200°C																			
	+180°C																			
	+ 70°C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	- 25°C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	- 40°C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	- 50°C																			
	- 90°C																			
Standards and approvals	Halogen-free acc. to IEC 60754-1 + VDE 0482-754-1												●	●	●	●	●	●	●	●
	Fire performance: flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Fire performance: no flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 Cat. C resp. D																			
	Fire performance: acc. to DIN EN 60332-1-2 + IEC 60332-1-2																			
	Corrosiveness of conflagration gases: in compliance with IEC 60754-2 +VDE 0482-754-2 - no development of corrosive conflagration gases												●	●	●	●	●	●	●	●
	Smoke density: low (low smoke emission)																			
Characteristics	Shape: round	●		●			●	●	●	●	●	●	●		●			●	●	
	Shape: oval		●		●	●								●		●	●			●
	Conductor construction: strand	●	●	●	●		●	●		●	●	●	●	●	●	●	●	●		●
	Conductor construction: wire					●			●										●	
	Min. bending radius	7.5	7.5	7.5	7.5	12	7.5	7.5	12	7.5	12	12	7.5	7.5	7.5	10	12	10	12	10
	Insulation resistance: > 1MΩ x km	●	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●
	Very good chemical resistance																			

from / to — short-time use / max.

*The temperature range for flexible application is mentioned on the corresponding catalog page

Selection Table

		M/20	M/20	M/21	M/22	M/22	M/23	M/23	M/24	M/24	M/25	M/25	M/26	M/26	M/27	M/27	M/27	M/28
	Cable Type	A 6 L A 6-022 L	A 6 D	A 15 LC A 15-075 LC A 15-050 LC A 15-022 LC	A 15-02	A 15-G 022	A 3 L	A 4 L	A 18 L A 18-022 L	A 19 L A 19-022 L	Th LGS	Th LRS	Th LTS	Th LTV	RTD sensor cable 180 flex 180 C flex 180 highflex 180 C highflex	180 TW 180 C TWC	250 TW 250 C TW	TGV
Basic construction	Compensating and extension cables for thermocouples	●	●	●	●	●	●	●	●	●								
	Extension cables for thermocouples FE-CuNi and NiCr-Ni										●	●	●	●				
	Connection cables for resistance thermometers														●	●	●	●
	Fiber-glass braiding					●					●	●	●	●				●
	SABtex						●	●										
	Shielded			●						●								
	Steel wire armoring							●			●	●	●	●				●
Temperature range fixed installation*	+400°C											●						
	+300°C						●	●										
	+250°C	●	●	●	●	●					●		●	●			●	●
	+200°C						●	●										
	+180°C	●	●	●	●	●	●	●	●	●					●	●		
	+ 70°C	●	●	●	●	●	●	●	●	●					●			
	- 25°C	●	●	●	●	●	●	●	●	●								
	- 40°C	●	●	●	●	●	●	●	●	●								
	- 50°C						●	●	●	●								
	- 90°C						●	●	●	●						●	●	
Standards and approvals	Halogen-free acc. to IEC 60754-1 + VDE 0482-754-1	●	●	●	●	●	●	●			●	●						
	Fire performance: flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2	●	●	●	●	●	●	●	●	●	●	●	●	●				●
	Fire performance: no flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 Cat. C resp. D						●	●	●	●	●	●	●	●				●
	Fire performance: acc. to DIN EN 60332-1-2 + IEC 60332-1-2														●	●	●	
	Corrosiveness of conflagration gases: in compliance with IEC 60754-2 +VDE 0482-754-2 - no development of corrosive conflagration gases	●	●	●	●	●	●	●										
	Smoke density: low (low smoke emission)						●	●										
Characteristics	Shape: round	●	●	●	●	●			●	●	●	●	●	●	●	●	●	●
	Shape: oval						●	●										
	Conductor construction: strand	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Conductor construction: wire		●															
	Min. bending radius	7.5	12	12	7.5	7.5	10	12	12	12	12	12	12	12	10	10	10	12
	Insulation resistance: > 1MΩ x km	●	●	●					●	●								
	Very good chemical resistance								●	●								

from / to — short-time use / max.

*The temperature range for flexible application is mentioned on the corresponding catalog page

PVC insulated cables

A 1 L twisted · A 1 L single · A 16 L

A1 L twisted

A1 L single

A16 L

RoHS

Also available with cross-sections 1.0 mm², 0.75 mm², 0.5 mm² and 0.22 mm²

Construction:

Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Stranding:	**A 1 L:** 2 conductors together **A 1 L single:** 2 conductors separately **A 16 L:** 2 conductors parallel positive conductor with colored stripe
Shape:	**A 1 L:** round **A 16 L:** oval
Conductor construction:	strand

Technical data:

Min. bending radius:	7.5 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range of insulation:	*static:* -40/+70°C *flexible:* +5/+70°C
Insulation resistance:	> 1MΩ x km
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

Type:	**A 1 L twisted:**	**A 1 L single:**	**A 16 L:**
Conductor cross section:	1.5 mm²	1.5 mm²	0.75 mm²
Outer diameter:	approx. 4.8 mm	approx. 2.4 mm	approx. 1.9 x 3.8 mm
Weight/100m:	approx. 3.2 kg	approx. 3.2 kg	approx. 1.8 kg

IEC 60584

for thermocouple	EMK at 100°C in mV	cable type	**A 1 L twisted** item no.	**A 1 L single** item no.	**A 16 L** item no.
Type T	4.28	TX	4018958	4028958	4035958
Type J	5.27	JX	4018952	4028952	4035952
Type K	4.10	KCA	4018995	4028995	4035995
Type K	4.01	KCB	4018999	4028999	4035999
Type K	4.10	KX	4018954	4028954	4035954
Type E	6.32	EX	4018953	4028953	4035953
Type R/S	0.65	R/SCB	4018997	4028997	4035997
Type N	2.77	NC	4018991	4028991	4035991

DIN 43710 / 43714 (not valid for type B*)

We continue to manufacture compensating and extension cables with color code acc. to DIN 43714 and the basic values of DIN 43710.

for thermocouple	EMK at 100°C in mV	cable type	**A 1 L twisted** item no.	**A 1 L single** item no.	**A 16 L** item no.
Type L	5.37	LX	4018992	4028992	4035992
Type K	4.10	KCA	4018994	4028994	4035994
Type R/S	0.65	R/SCB	4018996	4028996	4035996
Type U	4.25	UX	4018998	4028998	4035998
Type B*	0.00	BC-100	4018901	4028901	4035901
Type B*	0.033	BC-200	4018902	4028902	4035902

* Not standardized compensating cable for thermocouples type B with application temperatures up to 100°C resp. 200°C.
C = compensating cables · X = extension cables

PVC insulated cables

A 9 L · A 9-100 L · A 9-075 L · A 9-050 L · A 9-022 L

also available as halogen-free construction

RoHS

A 9 L · A 9-100 L · A 9-075 L · A 9-050 L

A 9-022L

Construction:

Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Stranding:	2 conductors together
Jacket material:	PVC, TM2 acc. to EN 50363-4-1 + VDE 0207-363-4-1
Shape:	round
Conductor construction:	strand

Technical data:

Min. bending radius:	7.5 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range of insulation:	*static:* -40/+70°C *flexible:* +5/+70°C
Insulation resistance:	> 1MΩ x km
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

Type:	**A 9 L:**	**A 9-100 L:**	**A 9-075 L:**	**A 9-050 L:**	**A 9-022 L:**
Conductor cross section:	1.5 mm^2	1.0 mm^2	0.75 mm^2	0.50 mm^2	0.22 mm^2
Outer diameter:	approx. 6.1 mm	approx. 5.1 mm	approx. 4.9 mm	approx. 4.3 mm	approx. 3.3 mm
Weight/100m:	approx. 5.0 kg	approx. 4.4 kg	approx. 3.9 kg	approx. 2.9 kg	approx. 1.6 kg

IEC 60584

for thermocouple	EMK at 100°C in mV	cable type	**A 9 L** item no.	**A 9-100 L** item no.	**A 9-075 L** item no.	**A 9-050 L** item no.	**A 9-022 L** item no.
Type T	4.28	TX	4428958	4426958	4425958	4423958	4501958
Type J	5.27	JX	4428952	4426952	4425952	4423952	4501952
Type K	4.10	KCA	4428995	4426995	4425995	4423995	4501995
Type K	4.10	KCB	4428999	4426999	4425999	4423999	4501999
Type K	4.10	KX	4428954	4426954	4425954	4423954	4501954
Type E	6.32	EX	4428953	4426953	4425953	4423953	4501953
Type R/S	0.65	R/SCB	4428997	4426997	4425997	4423997	4501997
Type N	2.77	NC	4428991	4426991	4425991	4423991	4501991

DIN 43710 / 43714 (not valid for type B*)

We continue to manufacture compensating and extension cables with color code acc. to DIN 43714 and the basic values of DIN 43710.

for thermocouple	EMK at 100°C in mV	cable type	**A 9 L** item no.	**A 9-100 L** item no.	**A 9-075 L** item no.	**A 9-050 L** item no.	**A 9-022 L** item no.
Type L	5.37	LX	4428992	4426992	4425992	4423992	4501992
Type K	4.10	KCA	4428994	4426994	4425994	4423994	4501994
Type R/S	0.65	R/SCB	4428996	4426996	4425996	4423996	4501996
Type U	4.25	UX	4428993	4426993	4425993	4423993	4501993
Type B*	0.00	BC-100	4428901	4426901	4425901	4423901	4501901
Type B*	0.033	BC-200	4428902	4426902	4425902	4423902	4501902

* Not standardized compensating cable for thermocouples type B with application temperatures up to 100°C resp. 200°C.
C = compensating cables · X = extension cables

PVC insulated cables

A 12 L · A 12 D

A 12 L

A 12 D

A 12 L:
Also available with cross-sections 1.0 mm², 0.75 mm², 0.5 mm² and 0.22 mm²

Construction:

Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Stranding:	2 conductors parallel
Jacket material:	PVC, TM2 acc. to EN 50363-4-1 + VDE 0207-363-4-1
Shape:	oval
Conductor construction:	A 12 L: strand A 12 D: wire

Technical data:

Min. bending radius:	**A 12 L:** 7.5 x O.D. **A 12 D:** 12 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range of insulation:	*static:* -40/+70°C *flexible:* +5/+70°C
Insulation resistance:	> 1MΩ x km
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

Type:	**A 12 L:**	**A 12 D**
Conductor cross section:	1.5 mm²	1.5 mm²
Outer diameter:	approx. 3.7 x 6.1 mm	approx. 3.2 x 5.3 mm
Weight/100m:	approx. 4.2 kg	approx. 4.3 kg

IEC 60584

for thermocouple	EMK at 100°C in mV	cable type	**A 12 L** item no.	**A 12 D** item no.
Type T	4.28	TX	4448958	4458988
Type J	5.27	JX	4448952	4458982
Type K	4.10	KCA	4448995	4458915
Type K	4.10	KCB	4448999	4458919
Type K	4.10	KX	4448954	4458984
Type E	6.32	EX	4448953	4458983
Type R/S	0.65	R/SCB	4448997	4458917
Type N	2.77	NC	4448991	4458911

DIN 43710 / 43714 (not valid for type B*)

We continue to manufacture compensating and extension cables with color code acc. to DIN 43714 and the basic values of DIN 43710.

for thermocouple	EMK at 100°C in mV	cable type	**A 12 L** item no.	**A 12 D** item no.
Type L	5.37	LX	4448992	4458912
Type K	4.10	KCA	4448994	4458914
Type R/S	0.65	R/SCB	4448996	4458916
Type U	4.25	UX	4448998	4458918
Type B*	0.00	BC-100	4448901	4458921
Type B*	0.033	BC-200	4448902	4458922

* Not standardized compensating cable for thermocouples type B with application temperatures up to 100°C resp. 200°C.
C = compensating cables · X = extension cables

PVC insulated cables

A 5 L · A 5-075 L · A 5-050 L · A 5-022 L

also available as halogen-free construction

with overall copper shield

RoHS

A 5 L · A 5-075 L · A 5-050 L · A 5-022 L

4, 8, or 16 pairs on request

Construction:

Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Stranding:	2 conductors together
Wrapping	PETP foil
Shielding:	tinned copper braiding
Jacket material:	PVC, TM2 acc. to EN 50363-4-1 + VDE 0207-363-4-1
Shape:	round
Conductor construction:	strand

Technical data:

Min. bending radius:	7.5 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range of insulation:	*static:* -40/+70°C *flexible:* +5/+70°C
Insulation resistance:	> 1MΩ x km
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

Type: Conductor cross section: Outer diameter: Weight/100m:	**A 5 L:** 1.5 mm² approx. 6.6 mm approx. 6.6 kg	**A 5-075 L:** 0.75 mm² approx. 5.4 mm approx. 4.3 kg	**A 5-050 L:** 0.50 mm² approx. 4.8 mm approx. 3.5 kg	**A 5-022 L:** 0.22 mm² approx. 3.8 mm approx. 2.2 kg

IEC 60584

for thermocouple	EMK at 100°C in mV	cable type	**A 5 L** item no.	**A 5-075 L** item no.	**A 5-050 L** item no.	**A 5-022 L** item no.
Type T	4.28	TX	4568958	4565958	4563958	4561958
Type J	5.27	JX	4568952	4565952	4563952	4561952
Type K	4.10	KCA	4568995	4565995	4563995	4561995
Type K	4.10	KCB	4568999	4565999	4563999	4561999
Type K	4.10	KX	4568954	4565954	4563954	4561954
Type E	6.32	EX	4568953	4565953	4563953	4561953
Type R/S	0.65	R/SCB	4568997	4565997	4563997	4561997
Type N	2.77	NC	4568991	4565991	4563991	4561991

DIN 43710 / 43714 (not valid for type B*)

We continue to manufacture compensating and extension cables with color code acc. to DIN 43714 and the basic values of DIN 43710.

for thermocouple	EMK at 100°C in mV	cable type	**A 5 L** item no.	**A 5-075 L** item no.	**A 5-050 L** item no.	**A 5-022 L** item no.
Type L	5.37	LX	4568992	4565992	4563992	4561992
Type K	4.10	KCA	4568994	4565994	4563994	4561994
Type R/S	0.65	R/SCB	4568996	4565996	4563996	4561996
Type U	4.25	UX	4568998	4565998	4563998	4561998
Type B*	0.00	BC-100	4568901	4565901	4563901	4561901
Type B*	0.033	BC-200	4568902	4565902	4563902	4561902

* Not standardized compensating cable for thermocouples type B with application temperatures up to 100°C resp. 200°C.

C = compensating cables · X = extension cables

PVC insulated cables

A 20 L · A 20-022 L · A 20 D

with alu-foil shield

RoHS

A 20 L · A 20-022 L

A 20 D

Construction:

Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Stranding:	2 conductors together
Wrapping:	PETP foil bare copper ground wire 0.5mm ø
Shielding:	alu foil
Jacket material:	PVC, TM2 acc. to EN 50363-4-1 + VDE 0207-363-4-1
Shape:	round
Conductor construction:	A 20 L, A 20-022 L: strand A 20 D: wire

Technical data:

Min. bending radius:	**A 20 L, A 20-022 L:** 7.5 x O.D. **A 20 D:** 12 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range of insulation:	*static:* -40/+70°C *flexible:* +5/+70°C
Insulation resistance:	> 1MΩ x km
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

Type:	**A 20 L:**	**A 20-022 L**	**A 20 D:**
Conductor cross section:	1.5 mm^2	0.22 mm^2	1.5 mm^2
Outer diameter:	approx. 6.6 mm	approx. 3.9 mm	approx. 6.4 mm
Weight/100m:	approx. 5.5 kg	approx. 1.9 kg	approx. 5.5 kg

IEC 60584

for thermocouple	EMK at 100°C in mV	cable type	**A 20 L** item no.	**A 20-022 L** item no.	**A 20 D** item no.
Type T	4.28	TX	4548958	4541958	4648988
Type J	5.27	JX	4548952	4541952	4648982
Type K	4.10	KCA	4548995	4541995	4648915
Type K	4.10	KCB	4548999	4541999	4648919
Type K	4.10	KX	4548954	4541954	4648984
Type E	6.32	EX	4548953	4541953	4648983
Type R/S	0.65	R/SCB	4548997	4541997	4648917
Type N	2.77	NC	4548991	4541991	4648911

DIN 43710 / 43714 (not valid for type B*)

We continue to manufacture compensating and extension cables with color code acc. to DIN 43714 and the basic values of DIN 43710.

for thermocouple	EMK at 100°C in mV	cable type	**A 20 L** item no.	**A 20-022 L** item no.	**A 20 D** item no.
Type L	5.37	LX	4548992	4541992	4648912
Type K	4.10	KCA	4548994	4541994	4648914
Type R/S	0.65	R/SCB	4548996	4541996	4648916
Type U	4.25	UX	4548998	4541998	4648918
Type B*	0.00	BC-100	4548901	4541901	4648921
Type B*	0.033	BC-200	4548902	4541902	4648922

* Not standardized compensating cable for thermocouples type B with application temperatures up to 100°C resp. 200°C.
C = compensating cables · X = extension cables

multi-paired

PVC insulated cables

A 9 - L · A 9 - LSY with steel wire armoring

A 9 - L

A 9 - LSY

RoHS

Also available with cross-sections 1.0 mm², 0.75 mm², 0.5 mm² and 0.22 mm²

Construction:

Insulation:	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
Color code:	4 conductors pair-wise numbered
Stranding:	conductors together in layers
Jacket material:	PVC, TM2 acc. to EN 50363-4-1 + VDE 0207-363-4-1
Armoring:	**A 9- LSY:** galvanized steel wire armoring
Shape:	round
Conductor construction:	strand

Technical data:

Min. bending radius:	**A 9 - L:** 7.5 x O.D. **A 9- LSY:** 12 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range of insulation:	*static:* -40/+70°C *flexible:* +5/+70°C
Insulation resistance:	> 1MΩ x km
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

Type: Conductor cross section:	**A 9 - L:** 1.5 mm²	**A 9 - LSY** 1.5 mm²

no. of conductors	for thermocouples	outer ø approx. in mm	weight approx. kg/100 m	cable type	**A 9 - L**	outer ø approx. in mm	weight approx. kg/100 m	cable type	**A 9 - LSY**
2	1	6.1	6.4	A 9 L	44289…	8.5	11.3	A 9-2 LSY	46289…
4	2	7.1	9.8	A 9-4 L	44204…	9.5	15.0	A 9-4 LSY	46204…
6	3	8.7	14.1	A 9-6 L	44206…	11.3	21.4	A 9-6 LSY	46206…
12	6	11.9	25.8	A 9-12 L	44212…	14.7	36.0	A 9-12 LSY	46212…
16	8	13.2	33.2	A 9-16 L	44216…	16.4	46.9	A 9-16 LSY	46216…
20	10	15.0	42.2	A 9-20 L	44220…	18.0	57.2	A 9-20 LSY	46220…
24	12	16.7	49.2	A 9-24 L	44224…	19.7	64.0	A 9-24 LSY	46224…
32	16	18.8	65.4	A 9-32 L	44232…	21.4	80.5	A 9-32 LSY	46232…
36	18	19.5	72.6	A 9-36 L	44236…	22.1	88.6	A 9-36 LSY	46236…
40	20	20.9	80.6	A 9-40 L	44240…	24.1	100.1	A 9-40 LSY	46240…

In case of order, please indicate the corresponding thermocouple. (please see SAB thermocouple code page M/5)
Example: Type A 9 - 16 L for thermocouple type R/S acc. to DIN 43713 = item no. 44216**96**
The type A 9-L can also be manufactured with solid conductors 1.38 mm ø.
The type identification for solid types is: type A 9 - D (item group 0463…).
If no stock material is available, the min. order quantity is 500 m.
The types of multi-paired compensating cables can also be delivered pair-wise twisted and pairs totally twisted for additional charge.

Hybrid thermocouple cable JX

Connection cable between hot runner control and hot runner system

Marking for Hybrid thermocouple cable JX 4573652:
SAB BRÖCKSKES · D-VIERSEN · Hybrid-Thermoleitung (6 x 2 x 0.5 mm² JX) + 13 G 1.5 mm² CE

Construction:

Insulation:	thermo strands Fe-CuNi for type J bare copper strands acc. to IEC 60228 class 5
Insulation:	PVC
Color code:	black and white acc. to IEC 60584 type JX black with white numbers 1 to -4, -8, -12 ,-16 and a green/yellow ground (control conductors)
Wrapping:	foil
Shielding:	twisted JX element braided with tinned copper wires (optical coverage approx. 80%)
Wrapping:	banding
Stranding:	together
Jacket material:	PVC
Jacket color:	black

Outstanding features:

- **high flexibility**
- **wear resistant**
- **smallest bending radii**

Technical data:

Nominal voltage:	300/500 V control conductors - (1.5mm²)
Testing voltage:	2000 V - control conductors - (1.5 mm²) / 600 V (0.5 mm²)
Thermoelectric voltage:	acc. to IEC 60584 - (0.5 mm²)
Min. bending radius: *fixed installation:* *flexible:*	 5 x O.D. 12 x O.D.
Temperature range: *static:* *flexible:*	 -25/+70°C +5/+70°C
Oil resistance:	good - acc. to internal standard, see page O/29
Burning characteristics:	acc. to DIN EN 60332-1-2 and IEC 60332-1-2
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	dimensions mm²	for thermocouples	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 4573252	(2 x 2 x 0.5 JX) C + 5 G 1.5	Fe-CuNi	0.449	11.4	133
▶ 4573452	(4 x 2 x 0.5 JX) C + 9 G 1.5	Fe-CuNi	0.583	14.8	226
▶ 4573652	(6 x 2 x 0.5 JX) C + 13 G 1.5	Fe-CuNi	0.622	15.8	296
▶ 4573852	(8 x 2 x 0.5 JX) C + 17 G 1.5	Fe-CuNi	0.760	19.3	425

Other dimensions and colors are available on request

Possible on request:

- **ready-made lengths from 1 m to 15 m**
- **thermocouples type J**
- **thermo cable type KX and thermocouples type K**

Besilen® insulated cables

A 1 LB twisted · A 16 LB

A 1 LB twisted

A 16 LB

RoHS

Also available with cross-sections 1.0 mm², 0.75 mm², 0.5 mm² and 0.22 mm²

Construction:

Insulation:	Besilen® EI2 acc. to EN 50363-1 + VDE 0207-363-1
Stranding:	**A 1 LB:** 2 conductors together **A 16 LB:** 2 conductors parallel
Shape:	**A 1 LB:** round **A 16 LB:** oval
Conductor construction:	strand

Technical data:

Min. bending radius:	7.5 x O.D.
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range of insulation:	*static:* -40/+180°C *flexible:* -25/+180°C *short time use:* +250°C
Insulation resistance:	> 1MΩ x km
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

Type:	**A 1 LB twisted:**	**A 16 LB**
Conductor cross section:	1.5 mm²	1.5 mm²
Outer diameter:	approx. 5.0 mm	approx. 2.5 x 5.0 mm
Weight/100m:	approx. 3.3 kg	approx. 3.2 kg

IEC 60584

for thermocouple	EMK at 100°C in mV	cable type	**A 1 LB twisted** item no.	**A 16 LB** item no.
Type T	4.28	TX	4048958	4068958
Type J	5.27	JX	4048952	4068952
Type K	4.10	KCA	4048995	4068995
Type K	4.10	KCB	4048999	4068999
Type K	4.10	KX	4048954	4068954
Type E	6.32	EX	4048953	4068953
Type R/S	0.65	R/SCB	4048997	4068997
Type N	2.77	NC	4048991	4068911

DIN 43710 / 43714 (not valid for type B*)

We continue to manufacture compensating and extension cables with color code acc. to DIN 43714 and the basic values of DIN 43710.

for thermocouple	EMK at 100°C in mV	cable type	**A 1 LB twisted** item no.	**A 16 LB** item no.
Type L	5.37	LX	4048992	4068992
Type K	4.10	KCA	4048994	4068994
Type R/S	0.65	R/SCB	4048996	4068996
Type U	4.25	UX	4048998	4068998
Type B*	0.00	BC-100	4048901	4068901
Type B*	0.033	BC-200	4048902	4068902

* Not standardized compensating cable for thermocouples type B with application temperatures up to 100°C resp. 200°C.
C = compensating cables · X = extension cables

Besilen® insulated cables

A 15 L · A 15-075 L · A15-050 L · A15-022 L

A 15 L · A 15-075 L · A15-050 L · A15-022 L

Construction:

Insulation:	Besilen® EI2 acc. to En 50363-1 + VDE 0207-363-1
Stranding:	2 conductors together
Jacket material:	Besilen® EM9 acc. to EN 50363-2-1 + VDE 0207-363-2-1
Shape:	round
Conductor construction:	strand

Technical data:

Min. bending radius:	7.5 x O.D.
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range of insulation:	*static:* -40/+70°C *flexible:* -25/+70°C *short-time use:* +250°C
Insulation resistance:	> 1MΩ x km
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

Type: Conductor cross section: Outer diameter: Weight/100m:	**A 15 L:** 1.5 mm² approx. 6.2 mm approx. 5.8 kg	**A 15-075 L:** 0.75 mm² approx. 5.0 mm approx. 3.6 kg	**A 15-050 L:** 0.50 mm² approx. 4.4 mm approx. 2.6 kg	**A 15-022 L:** 0.22 mm² approx. 3.8 mm approx. 1.7 kg

IEC 60584

for thermocouple	EMK at 100°C in mV	cable type	**A 15 L** item no.	**A 15-075 L** item no.	**A 15-050 L** item no.	**A 15-022 L** item no.
Type T	4.28	TX	4268958	4265958	4263958	4261958
Type J	5.27	JX	4268952	4265952	4263952	4261952
Type K	4.10	KCA	4268995	4265995	4263995	4261995
Type K	4.10	KCB	4268999	4265999	4263999	4261999
Type K	4.10	KX	4268954	4265954	4263954	4261954
Type E	6.32	EX	4268953	4265953	4263953	4261953
Type R/S	0.65	R/SCB	4268997	4265997	4263997	4261997
Type N	2.77	NC	4268991	4265991	4263991	4261991

DIN 43710 / 43714 (not valid for type B*)

We continue to manufacture compensating and extension cables with color code acc. to DIN 43714 and the basic values of DIN 43710.

for thermocouple	EMK at 100°C in mV	cable type	**A 15 L** item no.	**A 15-075 L** item no.	**A 15-050 L** item no.	**A 15-022 L** item no.
Type L	5.37	LX	4268992	4265992	4263992	4261992
Type K	4.10	KCA	4268994	4265994	4263994	4261994
Type R/S	0.65	R/SCB	4268996	4265996	4263996	4261996
Type U	4.25	UX	4268993	4265993	4263993	4261993
Type B*	0.00	BC-100	4268901	4265901	4263901	4261901
Type B*	0.033	BC-200	4268902	4265902	4263902	4261902

* Not standardized compensating cable for thermocouples type B with application temperatures up to 100°C resp. 200°C.
C = compensating cables · X = extension cables

Besilen® insulated cables

A 3 Ln · A 4 Ln with steel wire armoring

A 3 Ln

A 4 Ln

RoHS

Also available with cross-sections 1.0 mm², 0.75 mm², 0.5 mm² and 0.22 mm²

Construction:

Insulation:	Besilen® EI2 acc. to EN 50363-1 + VDE 0207-363-1
Stranding:	2 conductors parallel
Jacket material:	Besilen® EM9 acc. to EN 50363-2-1 + VDE 0207-363-2-1
Armoring:	**A 4 Ln:** tinned steel wire armoring with tracer
Shape:	oval
Conductor construction:	strand

Technical data:

Min. bending radius:	**A 3 Ln:** 10 x O.D. **A 4 Ln:** 12 x O.D.
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range of insulation:	*static:* -40/+180°C *flexible:* -25/+180°C *short time use:* +250°C
Insulation resistance:	> 1MΩ x km
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

Type:	**A 3 Ln:**	**A 4 Ln**
Conductor cross section:	1.5 mm²	1.5 mm²
Outer diameter:	approx. 3.7 x 6.2 mm	approx. 4.5 x 7.0 mm
Weight/100m:	approx. 4.6 kg	approx. 7.5 kg

IEC 60584

for thermocouple	EMK at 100°C in mV	cable type	**A 3 Ln** item no.	**A 4 Ln** item no.
Type T	4.28	TX	4138958	4168958
Type J	5.27	JX	4138952	4168952
Type K	4.10	KCA	4138995	4168995
Type K	4.10	KCB	4138999	4168999
Type K	4.10	KX	4138954	4168954
Type E	6.32	EX	4138953	4168953
Type R/S	0.65	R/SCB	4138997	4168997
Type N	2.77	NC	4138991	4168991

DIN 43710 / 43714 (not valid for type B*)

We continue to manufacture compensating and extension cables with color code acc. to DIN 43714 and the basic values of DIN 43710.

for thermocouple	EMK at 100°C in mV	cable type	**A 3 Ln** item no.	**A 4 Ln** item no.
Type L	5.37	LX	4138992	4168992
Type K	4.10	KCA	4138994	4168994
Type R/S	0.65	R/SCB	4138996	4168996
Type U	4.25	UX	4138998	4168998
Type B*	0.00	BC-100	4138901	4168901
Type B*	0.033	BC-200	4138902	4168902

* Not standardized compensating cable for thermocouples type B with application temperatures up to 100°C resp. 200°C.
C = compensating cables · X = extension cables

Besilen® insulated cables

A 11 Lr · A 11-4 Lr · A 11 Dr with fiber-glass braiding and steel wire armoring

A 11 Lr · A 11-4 Lr

A 11 Dr

RoHS

Also available with cross-sections 1.0 mm², 0.75 mm², 0.5 mm² and 0.22 mm²

Construction:

Insulation:	Besilen® EI2 acc. to EN 50363-1 + VDE 0207-363-1
Stranding:	2 resp. 4 conductors together
Braiding:	fiber-glass with tracer
Armoring:	tinned steal wire armoring with tracer
Shape:	round
Conductor construction:	A 11 LR, A 11-4 Lr: strand A 11 DR: wire

Technical data:

Min. bending radius:	**A 11 Lr, A 11-4 Lr:** **A 11 Dr:**	10 x O.D. 12 x O.D.
Temperature range of insulation:	*static:* *flexible:* *short-time use:*	-40/+180°C -25/+180°C +250°C
Insulation resistance:	> 1MΩ x km	
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1	
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2	
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30	

Type:	**A 11 Lr:**	**A 11-4 Lr**	**A 11 Dr:**
Conductor cross section:	1.5 mm²	1.5 mm²	1.5 mm²
Outer diameter:	approx. 6.3 mm	approx. 7.3 mm	approx. 5.5 mm
Weight/100m:	approx. 5.9 kg	approx. 9.6 kg	approx. 6.4 kg

IEC 60584

for thermocouple	EMK at 100°C in mV	cable type	**A 11 Lr** item no.	**A 11-4 Lr** item no.	**A 11 Dr** item no.
Type T	4.28	TX	4218958	4210458	4238988
Type J	5.27	JX	4218952	4210452	4238982
Type K	4.10	KCA	4218995	4210495	4238915
Type K	4.10	KCB	4218999	4210499	4238919
Type K	4.10	KX	4218954	4210454	4238984
Type E	6.32	EX	4218953	4210453	4238983
Type R/S	0.65	R/SCB	4218997	4210497	4238917
Type N	2.77	NC	4218991	4210491	4238911

DIN 43710 / 43714 (not valid for type B*)

We continue to manufacture compensating and extension cables with color code acc. to DIN 43714 and the basic values of DIN 43710.

for thermocouple	EMK at 100°C in mV	cable type	**A 11 Lr** item no.	**A 11-4 Lr** item no.	**A 11 Dr** item no.
Type L	5.37	LX	4218992	4210492	4238912
Type K	4.10	KCA	4218994	4210494	4238914
Type R/S	0.65	R/SCB	4218996	4210496	4238916
Type U	4.25	UX	4218998	4210498	4238918
Type B*	0.00	BC-100	4218901	4210401	4238921
Type B*	0.033	BC-200	4218902	4210402	4238922

* Not standardized compensating cable for thermocouples type B with application temperatures up to 100°C resp. 200°C.
C = compensating cables · X = extension cables

Besilen® insulated cables

A 13 L with fiber-glass braiding

RoHS

A 13 L

Also available with cross-sections 1,0 mm², 0,75 mm², 0,5 mm² and 0,22 mm²

Construction:

Insulation:	Besilen® EI2 acc. to EN 50363-1 + VDE 0207-363-1
Stranding:	parallel
Braiding:	fiber-glass with tracer
Shape:	oval
Conductor construction:	strand

Technical data:

Min. bending radius:	10 x O.D.
Temperature range of insulation:	*static:* -40/+180°C *flexible:* -25/+180°C *short time use:* +250°C
Insulation resistance:	> 1MΩ x km
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

Type:	**A 13 L:**
Conductor cross section:	1.5 mm²
Outer diameter:	approx. 3.0 x 5.5 mm
Weight/100m:	approx. 3.8 kg

IEC 60584

for thermocouple	EMK at 100°C in mV	cable type	**A 13 L** item no.
Type T	4.28	TX	4248958
Type J	5.27	JX	4248952
Type K	4.10	KCA	4248995
Type K	4.10	KCB	4248999
Type K	4.10	KX	4248954
Type E	6.32	EX	4248953
Type R/S	0.65	R/SCB	4248997
Type N	2.77	NC	4248991

DIN 43710 / 43714 (not valid for type B*)

We continue to manufacture compensating and extension cables with color code acc. to DIN 43714 and the basic values of DIN 43710.

for thermocouple	EMK at 100°C in mV	cable type	**A 13 L** item no.
Type L	5.37	LX	4248992
Type K	4.10	KCA	4248994
Type R/S	0.65	R/SCB	4248996
Type U	4.25	UX	4248998
Type B*	0.00	BC-100	4248901
Type B*	0.033	BC-200	4248902

* Not standardized compensating cable for thermocouples type B with application temperatures up to 100°C resp. 200°C.
C = compensating cables · X = extension cables

Besilen® insulated cables

A 6 L · A 6-022 L · A 6 D

with alu-foil shield

RoHS

A 6 L · A 6-022 L

A 6 D

Construction:

Insulation:	Besilen® EI2 acc. to EN 50363-1 + VDE 0207-363-1
Stranding:	2 conductors together
Wrapping:	PETP foil, bare copper ground wire 0.5 mm ø
Shielding:	alu foil
Jacket material:	Besilen® EM9 acc. to EN 50363-2-1 + VDE 0207-363-2-1
Shape:	round
Conductor construction:	A 6 L:, A 6-022 L: strand A 6 D: wire

Technical data:

Min. bending radius:	**A 6 L, A 6-022 L:** **A 6 D:**	7.5 x O.D. 12 x O.D.
Radiation resistance:	2 x 10^7 cJ/kg	
Temperature range of insulation:	*static:* *flexible:* *short-time use:*	-40/+180°C -25/+180°C +250°C
Insulation resistance:	> 1MΩ x km	
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1	
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2	
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30	

Type:	**A 6 L:**	**A 6-022 L:**	**A 6 D:**
Conductor cross section:	1.5 mm^2	0.22 mm^2	1.5 mm^2
Outer diameter:	approx. 7.0 mm	approx. 4.4 mm	approx. 6.4 mm
Weight/100m:	approx. 6.1 kg	approx. 2.0 kg	approx. 5.7 kg

IEC 60584

for thermocouple	EMK at 100°C in mV	cable type	**A 6 L** item no.	**A 6-022 L** item no.	**A 6 D** item no.
Type T	4.28	TX	4288958	4281958	4288988
Type J	5.27	JX	4288952	4281952	4288982
Type K	4.10	KCA	4288995	4281995	4288915
Type K	4.10	KCB	4288999	4281999	4288919
Type K	4.10	KX	4288954	4281954	4288984
Type E	6.32	EX	4288953	4281953	4288983
Type R/S	0.65	R/SCB	4288997	4281997	4288917
Type N	2.77	NC	4288991	4281991	4288911

DIN 43710 / 43714 (not valid for type B*)

We continue to manufacture compensating and extension cables with color code acc. to DIN 43714 and the basic values of DIN 43710.

for thermocouple	EMK at 100°C in mV	cable type	**A 6 L** item no.	**A 6-022 L** item no.	**A 6 D** item no.
Type L	5.37	LX	4288992	4281992	4288912
Type K	4.10	KCA	4288994	4281994	4288914
Type R/S	0.65	R/SCB	4288996	4281996	4288916
Type U	4.25	UX	4288998	4281998	4288918
Type B*	0.00	BC-100	4288901	4281901	4288921
Type B*	0.033	BC-200	4288902	4281902	4288922

* Not standardized compensating cable for thermocouples type B with application temperatures up to 100°C resp. 200°C.

C = compensating cables · X = extension cables

Besilen® insulated cables

A 15 LC · A 15-075 LC · A 15-050 LC · A 15-022 LC

with overall copper shield

RoHS

A 15 LC · A 15-075 LC · A 15-050 LC · A 15-022 LC

Construction:

Insulation:	Besilen® EI2 acc. to EN 50363-1 + VDE 0207-363-1
Stranding:	2 conductors together
Wrapping:	PETP foil
Shielding:	tinned copper braiding
Jacket material:	Besilen® EM9 acc. to EN 50363-2-1 + VDE 0207-363-2-1
Shape:	round
Conductor construction:	strand

Technical data:

Min. bending radius:	12 x O.D.
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range of insulation:	*static:* -40/+180°C *flexible:* -25/+180°C *short time use:* +250°C
Insulation resistance:	> 1MΩ x km
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

Type:	**A 15 LC:**	**A 15-075 LC:**	**A 15-050 LC:**	**A 15-022 L:**
Conductor cross section:	1.5 mm²	0.75 mm²	0.50 mm²	0.22 mm²
Outer diameter:	approx. 6.8 mm	approx. 5.7 mm	approx. 5.2 mm	approx. 4.3 mm
Weight/100m:	approx. 7.0 kg	approx. 4.6 kg	approx. 3.9 kg	approx. 2.5 kg

IEC 60584

for thermocouple	EMK at 100°C in mV	cable type	**A 15 LC** item no.	**A 15-075 LC** item no.	**A 15-050 LC** item no.	**A 15-022 LC** item no.
Type T	4.28	TX	4308958	4305958	4303958	4301958
Type J	5.27	JX	4308952	4305952	4303952	4301952
Type K	4.10	KCA	4308995	4305995	4303995	4301995
Type K	4.10	KCB	4308999	4305999	4303999	4301999
Type K	4.10	KX	4308954	4305954	4303954	4301954
Type E	6.32	EX	4308953	4305953	4303953	4301953
Type R/S	0.65	R/SCB	4308997	4305997	4303997	4301997
Type N	2.77	NC	4308991	4305991	4303991	4301991

DIN 43710 / 43714 (not valid for type B*)

We continue to manufacture compensating and extension cables with color code acc. to DIN 43714 and the basic values of DIN 43710.

for thermocouple	EMK at 100°C in mV	cable type	**A 15 LC** item no.	**A 15-075 LC** item no.	**A 15-050 LC** item no.	**A 15-022 LC** item no.
Type L	5.37	LX	4308992	4305992	4303992	4301992
Type K	4.10	KCA	4308994	4305994	4303994	4301994
Type R/S	0.65	R/SCB	4308996	4305996	4303996	4301996
Type U	4.25	UX	4308998	4305998	4303998	4301998
Type B*	0.00	BC-100	4308901	4305901	4303901	4301901
Type B*	0.033	BC-200	4308902	4305902	4303902	4301902

* Not standardized compensating cable for thermocouples type B with application temperatures up to 100°C resp. 200°C.
C = compensating cables · X = extension cables

Fiber-glass insulated cables

A 15-022 · A 15-G 022 with outer fiber-glass braiding

A 15-022

A 15-G 022

Construction:

Insulation:	fiber-glass
Stranding:	2 conductors together
Jacket material:	Besilen® EM9 acc. to EN 50363-2-1 + VDE 0207-363-2-1
Braiding:	**A 15-G 022:** fiber glass with tracer
Shape:	round
Conductor construction:	strand

Technical data:

Min. bending radius:	7.5 x O.D.
Temperature range of insulation:	*static:* -40/+180°C *flexible:* -25/+180°C *short-time use:* +250°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

Type:	**A 15-022:**	**A 15-G 022**
Conductor cross section:	0.22 mm²	0.22 mm²
Outer diameter:	approx. 2.9 mm	approx. 3.4 mm
Weight/100m:	approx. 1.1 kg	approx. 1.7 kg

IEC 60584

for thermocouple	EMK at 100°C in mV	cable type	**A 15-022** item no.	**A 15-G 022** item no.
Type T	4.28	TX	4511958	4521958
Type J	5.27	JX	4511952	4521952
Type K	4.10	KCA	4511995	4521995
Type K	4.10	KCB	4511999	4521999
Type K	4.10	KX	4511954	4521954
Type E	6.32	EX	4511953	4521953
Type R/S	0.65	R/SCB	4511997	4521997
Type N	2.77	NC	4511991	4521991

DIN 43710 / 43714 (not valid for type B*)

We continue to manufacture compensating and extension cables with color code acc. to DIN 43714 and the basic values of DIN 43710.

for thermocouple	EMK at 100°C in mV	cable type	**A 15-022** item no.	**A 15-G 022** item no.
Type L	5.37	LX	4511992	4521992
Type K	4.10	KCA	4511994	4521994
Type R/S	0.65	R/SCB	4511996	4521996
Type U	4.25	UX	4511998	4521998
Type B*	0.00	BC-100	4511901	4521901
Type B*	0.033	BC-200	4511902	4521902

* Not standardized compensating cable for thermocouples type B with application temperatures up to 100°C resp. 200°C.
C = compensating cables · X = extension cables

Fiber-glass insulated cables

A 3 L · A 4 L with steel wire armoring

with SABtex braiding

RoHS

A 3 L

A 4 L

Construction:

Insulation:	fiber-glass
Stranding:	2 conductors parallel
Braiding:	SABtex with tracer
Armoring:	**A 4 L:** tinned steel wire armoring with tracer
Shape:	oval
Conductor construction:	strand

Technical data:

Min. bending radius:	**A 3 L:** 10 x O.D. **A 4 L:** 12 x O.D.
Temperature range of insulation:	*static:* -50/+200°C *flexible:* -50/+200°C *short-time use:* +300°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	no flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 Cat. C resp. D Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2.
Corrosivity:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
Smoke density:	low (low smoke emission)
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

Type:	**A 3 L:**	**A 4 L:**
Conductor cross section:	1.5 mm²	1.5 mm²
Outer diameter:	approx. 4.6 x 6.8 mm	approx. 4.8 x 7.0 mm
Weight/100m:	approx. 5.4 kg	approx. 7.4 kg

IEC 60584

for thermocouple	EMK at 100°C in mV	cable type	**A 3 L** item no.	**A 4 L** item no.
Type T	4.28	TX	4128958	4158958
Type J	5.27	JX	4128952	4158952
Type K	4.10	KCA	4128995	4158995
Type K	4.10	KCB	4128999	4158999
Type K	4.10	KX	4128954	4158954
Type E	6.32	EX	4128953	4158953
Type R/S	0.65	R/SCB	4128997	4158997
Type N	2.77	NC	4128991	4158991

DIN 43710 / 43714 (not valid for type B*)

We continue to manufacture compensating and extension cables with color code acc. to DIN 43714 and the basic values of DIN 43710.

for thermocouple	EMK at 100°C in mV	cable type	**A 3 L** item no.	**A 4 L** item no.
Type L	5.37	LX	4128992	4158992
Type K	4.10	KCA	4128994	4158994
Type R/S	0.65	R/SCB	4128996	4158996
Type U	4.25	UX	4128998	4158998
Type B*	0.00	BC-100	4128901	4158901
Type B*	0.033	BC-200	4128902	4158902

* Not standardized compensating cable for thermocouples type B with application temperatures up to 100°C resp. 200°C.
C = compensating cables · X = extension cables

FEP insulated cables

A 18 L · A 18-022 L · A 19 L · A 19-022 L with overall copper shield

A 18 L · A 18-022 L

A 19 L · A 19-022 L

Construction:

Insulation:	FEP
Stranding:	2 conductors together
Wrapping:	**A 18 L, A 18-22 L:** PETP foil
Shielding:	**A 19 L, A 19-022 L:** tinned copper braiding
Jacket material:	FEP
Shape:	round
Conductor construction:	strand

Technical data:

Min. bending radius:	12 x O.D.
Radiation resistance:	1 x 10^7 cJ/kg
Temperature range of insulation:	*static:* -90/+180°C *flexible:* -55/+180°C
Insulation resistance:	> 1MΩ x km
Burning characteristics:	no flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 Cat. C resp. D Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2.
Chemical resistance:	very good against fats, oils, salts and acids
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

Type:	**A 18 L:**	**A 18-022 L:**	**A 19 L:**	**A 19-022 L:**
Conductor cross section:	1.5 mm^2	0.22 mm^2	1.5 mm^2	0.22 mm^2
Outer diameter:	approx. 4.8 mm	approx. 2.5 mm	approx. 5.5 mm	approx. 3.0 mm
Weight/100m:	approx. 4.2 kg	approx. 1.0 kg	approx. 5.9 kg	approx. 1.9 kg

IEC 60584

for thermocouple	EMK at 100°C in mV	cable type	**A 18 L** item no.	**A 18-022 L** item no.	**A 19 L** item no.	**A 19-022 L** item no.
Type T	4.28	TX	4338958	4331958	4358958	4351958
Type J	5.27	JX	4338952	4331952	4358952	4351952
Type K	4.10	KCA	4338995	4331995	4358995	4351995
Type K	4.10	KCB	4338999	4331999	4358999	4351999
Type K	4.10	KX	4338954	4331954	4358954	4351954
Type E	6.32	EX	4338953	4331953	4358953	4351953
Type R/S	0.65	R/SCB	4338997	4331997	4358997	4351997
Type N	2.77	NC	4338991	4331991	4358991	4351991

DIN 43710 / 43714 (not valid for type B*)

We continue to manufacture compensating and extension cables with color code acc. to DIN 43714 and the basic values of DIN 43710.

for thermocouple	EMK at 100°C in mV	cable type	**A 18 L** item no.	**A 18-022 L** item no.	**A 19 L** item no.	**A 19-022 L** item no.
Type L	5.37	LX	4338992	4331992	4358992	4351992
Type K	4.10	KCA	4338994	4331994	4358994	4351994
Type R/S	0.65	R/SCB	4338996	4331996	4358996	4351996
Type U	4.25	UX	4338998	4331998	4358998	4351998
Type B*	0.00	BC-100	4338901	4331901	4358901	4351901
Type B*	0.033	BC-200	4338902	4331902	4358902	4351902

* Not standardized compensating cable for thermocouples type B with application temperatures up to 100°C resp. 200°C.
C = compensating cables · X = extension cables

Fiber-glass insulated extension cables for thermocouples

Th LGS with fiber-glass braiding and steel wire armoring
Th LRS with special fiber-glass braiding and steel wire armoring

RoHS

Th LGS · Th LRS

Construction:

Insulation:	**Th LGS:** fiber-glass **Th LRS:** special fiber-glass
Stranding:	conductors together
Braiding:	**Th LGS:** fiber-glass **Th LRS:** special fiber-glass
Armoring:	galvanized steel wire armoring with tracer
Shape:	round

Technical data:

Min. bending radius:	12 x O.D.
Temperature range of insulation:	**Th LGS:** max. +250°C **Th LRS:** max. +400°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	no flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 Cat. C resp. D Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2.
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

Type: Conductor construction:	**Th LGS:** 0.22 mm² = 7 x 0.20 mm ø 0.50 mm² = 16 x 0.20 mm ø 1.00 mm² = 32 x 0.20 mm ø	**Th LRS:** 0.22 mm² = 7 x 0.20 mm ø 0.50 mm² = 16 x 0.20 mm ø 1.00 mm² = 32 x 0.20 mm ø

Th LGS

item no.	type	dimensions mm²	for thermocouple	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 47110…*	Th 20 LGS	2 x 0.22	Fe-CuNi	0.122	3.1	1
▶ 47111…*	Th 50 LGS	2 x 0.50	Fe-CuNi	0.146	3.7	3
▶ 47112…*	Th 100 LGS	2 x 1.00	Fe-CuNi	0.177	4.5	3
▶ 47113…*	Th 20-4 LGS	4 x 0.22	Fe-CuNi	0.138	3.5	2
▶ 47114…*	Th 50-4 LGS	4 x 0.50	Fe-CuNi	0.165	4.2	3
▶ 47115…*	Th 100-4 LGS	4 x 1.00	Fe-CuNi	0.213	5.4	5
▶ 47110…*	Th 20 LGS	2 x 0.22	NiCr-Ni	0.122	3.1	1
▶ 47111…*	Th 50 LGS	2 x 0.50	NiCr-Ni	0.146	3.7	2
▶ 47112…*	Th 100 LGS	2 x 1.00	NiCr-Ni	0.177	4.5	3
▶ 47113…*	Th 20-4 LGS	4 x 0.22	NiCr-Ni	0.138	3.5	2
▶ 47114…*	Th 50-4 LGS	4 x 0.50	NiCr-Ni	0.165	4.2	3
▶ 47115…*	Th 100-4 LGS	4 x 1.00	NiCr-Ni	0.213	5.4	5

Th LRS

item no.	type	dimensions mm²	for thermocouple	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 47210…*	Th 20 LRS	2 x 0.22	Fe-CuNi	0.122	3.1	1
▶ 47211…*	Th 50 LRS	2 x 0.50	Fe-CuNi	0.146	3.7	3
▶ 47212…*	Th 100 LRS	2 x 1.00	Fe-CuNi	0.177	4.5	3
▶ 47213…*	Th 20 -4 LRS	4 x 0.22	Fe-CuNi	0.138	3.5	2
▶ 47214…*	Th 50 -4 LRS	4 x 0.50	Fe-CuNi	0.165	4.2	3
▶ 47215…*	Th 100-4 LRS	4 x 1.00	Fe-CuNi	0.213	5.4	5
▶ 47210…*	Th 20 LRS	2 x 0.22	NiCr-Ni	0.122	3.1	1
▶ 47211…*	Th 50 LRS	2 x 0.50	NiCr-Ni	0.146	3.7	3
▶ 47212…*	Th 100 LRS	2 x 1.00	NiCr-Ni	0.177	4.5	3
▶ 47213…*	Th 20 -4 LRS	4 x 0.22	NiCr-Ni	0.138	3.5	2
▶ 47214…*	Th 50 -4 LRS	4 x 0.50	NiCr-Ni	0.165	4.2	3
▶ 47215…*	Th 100-4 LRS	4 x 1.00	NiCr-Ni	0.213	5.4	5

*Thermocouple code see page M/5

PFA insulated extension cables for thermocouples

Th LTS with steel wire armoring · Th LTV stainless steel wire armoring

Th LTS

Th LTV

RoHS

Construction:

Insulation:	PFA
Stranding:	conductors together
Braiding:	fiber-glass
Armoring:	**Th LTS:** galvanized steel wire armoring with tracer **Th LTV:** galvanized steel wire armoring (VA) with tracer
Shape:	round

Technical data:

Min. bending radius:	12 x O.D.
Temperature range of insulation:	*static:* max. +250°C *flexible:* max. +250°C *short time use:* +260°C
Insulation resistance:	> 1MΩ x km
Burning characteristics:	no flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 Cat. C resp. D Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2.
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

Type: Conductor construction:	**Th LTS:**	**Th LTV:**
	0.22 mm² = 7 x 0.20 mm ø 0.50 mm² = 16 x 0.20 mm ø 1.00 mm² = 32 x 0.20 mm ø	0.22 mm² = 7 x 0.20 mm ø 0.50 mm² = 16 x 0.20 mm ø 1.00 mm² = 32 x 0.20 mm ø

Th LTS

item no.	type	dimensions mm²	for thermocouple	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 47310…*	Th 20 LTS	2 x 0.22	Fe-CuNi	0.130	3.3	1
▶ 47311…*	Th 50 LTS	2 x 0.50	Fe-CuNi	0.161	4.1	3
▶ 47312…*	Th 100 LTS	2 x 1.00	Fe-CuNi	0.193	4.9	3
▶ 47313…*	Th 20-4 LTS	4 x 0.22	Fe-CuNi	0.146	3.7	2
▶ 47314…*	Th 50-4 LTS	4 x 0.50	Fe-CuNi	0.185	4.7	3
▶ 47315…*	Th 100-4 LTS	4 x 1.00	Fe-CuNi	0.220	5.6	5
▶ 47310…*	Th 20 LTS	2 x 0.22	NiCr-Ni	0.130	3.3	1
▶ 47311…*	Th 50 LTS	2 x 0.50	NiCr-Ni	0.161	4.1	3
▶ 47312…*	Th 100 LTS	2 x 1.00	NiCr-Ni	0.193	4.9	3
▶ 47313…*	Th 20-4 LTS	4 x 0.22	NiCr-Ni	0.146	3.7	2
▶ 47314…*	Th 50-4 LTS	4 x 0.50	NiCr-Ni	0.185	4.7	3
▶ 47315…*	Th 100-4 LTS	4 x 1.00	NiCr-Ni	0.220	5.6	5

Th LTV

item no.	type	dimensions mm²	for thermocouple	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 47350…*	Th 20 LTV	2 x 0.22	Fe-CuNi	0.126	3.2	1
▶ 47351…*	Th 50 LTV	2 x 0.50	Fe-CuNi	0.161	4.1	3
▶ 47352…*	Th 100 LTV	2 x 1.00	Fe-CuNi	0.193	4.9	3
▶ 47353…*	Th 20 -4 LTV	4 x 0.22	Fe-CuNi	0.142	3.6	2
▶ 47354…*	Th 50 -4 LTV	4 x 0.50	Fe-CuNi	0.185	4.7	3
▶ 47355…*	Th 100-4 LTV	4 x 1.00	Fe-CuNi	0.220	5.6	5
▶ 47350…*	Th 20 LTV	2 x 0.22	NiCr-Ni	0.126	3.2	1
▶ 47351…*	Th 50 LTV	2 x 0.50	NiCr-Ni	0.161	4.1	3
▶ 47352…*	Th 100 LTV	2 x 1.00	NiCr-Ni	0.193	4.9	3
▶ 47353…*	Th 20 -4 LTV	4 x 0.22	NiCr-Ni	0.142	3.6	2
▶ 47354…*	Th 50 -4 LTV	4 x 0.50	NiCr-Ni	0.185	4.7	3
▶ 47355…*	Th 100-4 LTV	4 x 1.00	NiCr-Ni	0.220	5.6	5

*Thermocouple code see page M/5

RTD sensor cable

Connection cables for RTD

CKSKES · D-VIERSEN · RTD sensor cable 180 TW 4x26/7 AWG 38200043

Marking for RTD sensor cable 180 TW 38200043:
SAB BRÖCKSKES · D-VIERSEN · RTD sensor cable 180 TW 4x26/7 AWG 38200043

Technical data:

Peak operating voltage:	48 V		
Testing voltage:	conductor/conductor: 600 V conductor/shielding: 600 V		
Min. bending radius *fixed installation* *free movement:*	 5 x O.D. 10 x O.D.		
Temperature range	**180 flex** **180 C flex** **180 highflex** **180 C highflex**	**180 TW** **180 C TW**	**250 TW** **250 C TW**
static:	-40/+180°C	-90/+180°C	-90/+250°C
flexible:	-25/+180°C	-55/+180°C	-55/+250°C
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30		

Outstanding features:

- **high temperature resistant**
- **small diameter**

type item no.	no. of conductors x cross section	conductor	insulation	color code	shield	jacket material	jacket color	outer-ø approx. in	outer-ø approx. mm	cable weight ≈ lbs/mft
RTD sensor cable 180 TW										
38200023	2 x 26/7 AWG	tinned copper	FEP			FEP		0.075	1.9	4
38200033	3 x 26/7 AWG	tinned copper	FEP			FEP		0.079	2.0	5
38200043	4 x 26/7 AWG	tinned copper	FEP			FEP		0.087	2.2	7
RTD sensor cable 180 C TW										
38201023	2 x 26/7 AWG	tinned copper	FEP		tinned copper	FEP		0.098	2.5	9
38201033	3 x 26/7 AWG	tinned copper	FEP		tinned copper	FEP		0.102	2.6	10
38201043	4 x 26/7 AWG	tinned copper	FEP		tinned copper	FEP		0.110	2.8	13
RTD sensor cable 180 flex										
38202023	2 x 26/7 AWG	tinned copper	FEP			Besilen®		0.098	2.5	6
38202033	3 x 26/7 AWG	tinned copper	FEP			Besilen®		0.102	2.6	7
38202043	4 x 26/7 AWG	tinned copper	FEP			Besilen®		0.110	2.8	9
RTD sensor cable 180 C flex										
38203023	2 x 26/7 AWG	tinned copper	FEP		tinned copper	Besilen®		0.118	3.0	9
38203033	3 x 26/7 AWG	tinned copper	FEP		tinned copper	Besilen®		0.122	3.1	11
38203043	4 x 26/7 AWG	tinned copper	FEP		tinned copper	Besilen®		0.130	3.3	14
RTD sensor cable 250 TW										
38204023	2 x 26/7 AWG	nickel-plated copper	PFA			PFA		0.075	1.9	4
38204033	3 x 26/7 AWG	nickel-plated copper	PFA			PFA		0.079	2.0	5
38204043	4 x 26/7 AWG	nickel-plated copper	PFA			PFA		0.087	2.2	7
RTD sensor cable 250 C TW										
38205023	2 x 26/7 AWG	nickel-plated copper	PFA		nickel-plated copper	PFA		0.098	2.5	9
38205033	3 x 26/7 AWG	nickel-plated copper	PFA		nickel-plated copper	PFA		0.102	2.6	10
38205043	4 x 26/7 AWG	nickel-plated copper	PFA		nickel-plated copper	PFA		0.110	2.8	13
RTD sensor cable 180 highflex										
38206023	2 x 26/7 AWG	tinned copper	Besilen®			Besilen®		0.126	3.2	8
38206033	3 x 26/7 AWG	tinned copper	Besilen®			Besilen®		0.130	3.3	9
38206043	4 x 26/7 AWG	tinned copper	Besilen®			Besilen®		0.142	3.6	11
RTD sensor cable 180 C highflex										
38207023	2 x 26/7 AWG	tinned copper	Besilen®		tinned copper	Besilen®		0.142	3.6	13
38207033	3 x 26/7 AWG	tinned copper	Besilen®		tinned copper	Besilen®		0.150	3.8	14
38207043	4 x 26/7 AWG	tinned copper	Besilen®		tinned copper	Besilen®		0.161	4.1	18

Other dimensions and colors are possible on request.

PFA insulated extension cables for resistance thermometers

TGV with fiber-glass braiding and stainless steel wire armoring

RoHS

TGV

Construction:

Conductor:	nickel-plated copper strands
Insulation:	PFA
Braiding:	fiber-glass
Stranding:	conductors together
Armoring:	galvanized steel wire armoring (VA) with tracer
Shape:	round

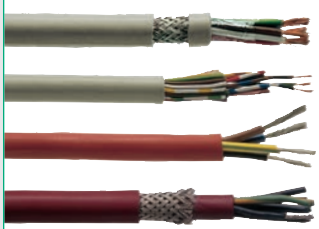
Technical data:

Min. bending radius:	12 x O.D.		
Temperature range of insulation:	*static:*	max.	+250°C
	flexible:	max.	+250°C
	short time use:		+260°C
Insulation resistance:	> 1MΩ x km		
Burning characteristics:	no flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 Cat. C resp. D Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2.		
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30		

item no.	dimensions n x mm²	construction of strands n x wires ø	color code	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 4700218	2 x 0.18	10 x 0.15	red-white	0.134	3.4	1
► 4700318	3 x 0.18	10 x 0.15	red-red-white	0.142	3.6	2
► 4700418	4 x 0.18	10 x 0.15	red-red-white-white	0.157	4.0	2
► 4700618	6 x 0.18	10 x 0.15	red-red-white-white-black-black	0.189	4.8	3

Connection cables for resistance thermometers, special and hybrid cables

UL possible

SAB identification	Picture	Insulation	Cross section	Outer diameter- mm	Temperature range of insulation
Connection cables for resistance thermometers					
TTL		PFA	0.12 - 0.18 mm²	2.3 - 2.5	fixed installation: max. +250°C limited time of use: max. +260°C
Th LTS Th LTV		fiber-glass/ fiber-glass	0.018 mm²	2.9	fixed installation: max. +250°C
LiYY LiYCY BiHF-J BiHF/Cu/Bi-J		PVC Besilen®	0.14 - 1.5 mm²	3.18 - 8.4 3.6 - 9.3 (braid) 4.3 - 18.6 6.4 - 17.0 (braid)	fixed installation: -30°C up to +70°C fixed installation: -40°C up to +180°C
TGV		PFA fiber-glass (braid)	0.18 mm²	3.4 - 4.8	fixed installation: +250°C
Special and hybrid cables					
SAB Type	**Picture**	**Insulation**	**Cross section**	**Outer diameter- mm**	**Temperature range of insulation**
Type J ***		Conductor: PVC Jacket: PUR	3 x 2 x 0.5 mm² JX + 8 x 6 mm²	18.8	fixed installation: -25°C up to +70°C
Type K Type J Type L ***	 particularly appropriate for helix cables	Conductor: TPE Jacket: PUR	0.22 mm²	3.0	flexible application: -40°C up to +90°C
Type K Type J Type L ***		PI-foil PI-foil	0.20 mm²	0.9 x 0.5	fixed installation: -40°C up to +250°C

*** Type T, E, R/S, N on request

For all cables possible on request:

- heat resistant PVC up to +105°C
- notch resistant Besilen® jacket (EWKF)

SPECIAL CABLES SAB North America
www.sabcable.com
866-722-2974 ■ info@sabcable.com

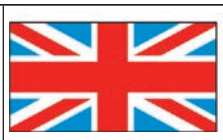
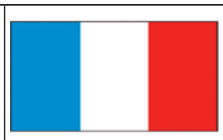
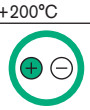
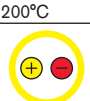
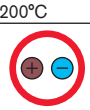
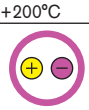
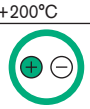
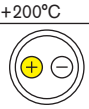
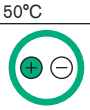
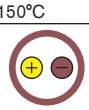
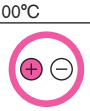
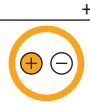
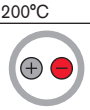
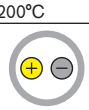
Compensating and Extension Cables for the automotive industry

SAB item no.	Picture	Cable type	T/C type	Insulation	Section	Cond.	Form	Outer-Ø	Temp.-range of insulation	thermoelectric voltage
fiber-glass insulated thermo-cables (wire)										
4899002		thermo-cable	type K	GL/GL	2 x 0.2 mm	wire	oval	approx. 0.8 x 1.3 mm	flexible application: -25°C up to +200°C fixed installation: -25°C up to +200°C	IEC 60584 class 1 tolerance ± 1,5°C
4892144		thermocouple cable	type K	GL/GL	2 x 0.5 mm	wire	oval	approx. 1.9 x 1.1 mm	flexible application: -40°C up to +250°C fixed installation: -40°C up to +250°C	IEC 60584 class 1
4899003		thermo-cable	type K	GL/GL	2 x 0.8 mm	wire	oval	approx. 2.5 x 1.4 mm	flexible application: -25°C up to +200°C fixed installation: -25°C up to +200°C	IEC 60584 class 1
4909016		thermocouple cable	type K	GL/GL	2 x 0.5 mm	wire	oval	approx. 2.0 x 1.2 mm	flexible application: max. +400°C fixed installation: max. +400°C	IEC 60584 class 1
polyimide insulated thermo-cables (wire)										
4339138		thermocouple cable	type K	KN-polyimide KP-bare/ polyimide	2 x 0.2 mm	wire	oval	approx. 0.9 x 0.5 mm	flexible application: -40°C up to +250°C fixed installation: -40°C up to +250°C	IEC 60584 class 1 tolerance ± 1.5°C
4339186		thermocouple cable	type K	KN-polyimide KP-bare/ polyimide	2 x 0.2 mm	wire	oval	approx. 0.7 x 0.5 mm	flexible application: -40°C up to +250°C fixed installation: -40°C up to +250°C	IEC 60584 class 1 tolerance ± 1.5°C
4339149		thermocouple cable	type K	polyimide + PTFE/ polyimide	2 x 0.3 mm	wire	oval	approx. 0.9 x 1.7 mm	flexible application: -40°C up to +250°C fixed installation: -40°C up to +250°C	IEC 60584 class 1 tolerance ± 1.5°C
4339168		thermocouple cable	type K	KN-polyimide KP-PTFE/ polyimide	2 x 0.2 mm	wire	oval	approx. 1.0 x 0.8 mm	flexible application: -40°C up to +250°C fixed installation: -40°C up to +250°C	IEC 60584 class 1
polyimide/PFA insulated thermo-cables (wire)										
4339196		thermocouple cable	type K	KN-polyimide KP-bare/ polyimide/ PFA	2 x 0.2 mm	wire	round	max. 1.0 mm	flexible application: -40°C up to +250°C fixed installation: -40°C up to +250°C	IEC 60584 class 1
FEP insulated thermo-cables (wire)										
4339152		thermocouple cable	type K	FEP/FEP	2 x 0.2 mm	wire	oval	approx. 1.7 x 1.1 mm	flexible application: -40°C up to +180°C fixed installation: -40°C up to +180°C	IEC 60584 class 1
TPE insulated thermo-cable (strands)										
4339177		thermocouple cable	type K	TPE/TPE	2 x 0.2 mm²	strands	round	approx. 3.0 mm	flexible application: -40°C up to +90°C fixed installation: -40°C up to +90°C	IEC 60584 class 1
FEP/Besilen® insulated thermo-cables (strands)										
4339193		thermocouple cable	type K	FEP/FEP/ Bi	2 x 0.2 mm²	strands	round	approx. 3.8 mm	flexible application: -25°C up to +180°C fixed installation: -40°C up to +180°C	IEC 60584 class 2

Compensating and Extension Cables for the automotive industry

SAB item no.	Picture	Cable type	T/C type	Insulation	Section	Cond.	Form	Outer-Ø	Temp.-range of insulation	thermoelectric voltage
FEP/Besilen® connection cables for resistance thermometers (strands)										
4709224		connection cable	tinned copper strands	FEP/Bi	2 x 0.14 mm²	strands	round	approx. 2.8 mm	flexible application: -25°C up to +180°C fixed installation: -40°C up to +180°C	
4700423		connection cable	tinned copper strands	FEP/Bi	4 x 0.22 mm²	strands	round	approx. 3.9 mm	flexible application: -25°C up to +180°C fixed installation: -40°C up to +180°C	
38339132		connection cable	tinned copper strands	FEP/C/ FEP	4 x 0.22 mm²	strands	round	approx. 3.0 mm	flexible application: -55°C up to +180°C fixed installation: -90°C up to +180°C	
FEP insulated thermo-cables (strands)										
4339157		thermo-cable	type K	FEP/FEP	2 x 0.22 mm²	strands	oval	approx. 2.5 x 1.5 mm	flexible application: -25°C up to +180°C fixed installation: -25°C up to +180°C	IEC 60584 tolerance ± 1°C
4339137		thermo-cable	type K	FEP/FEP	2 x 0.22 mm²	strands	round	approx. 2.0 mm	flexible application: -25°C up to +180°C fixed installation: -25°C up to +180°C	IEC 60584 tolerance ± 1°C
4339154		thermo-cable	type K	FEP/FEP	8 x 2 x 0.22 mm²	strands	round	approx. 6.4 mm	flexible application: -25°C up to +180°C fixed installation: -25°C up to +180°C	IEC 60584 class 2
4339135		thermo-cable	type K	FEP/FEP	16 x 2 x 0.22 mm² twisted pairs	strands	round	approx. 7.7 mm	flexible application: -25°C up to +180°C fixed installation: -25°C up to +180°C	IEC 60584 class 2
4359085		thermocouple cable	type K	FEP-F-ZF-D(B)-FEP/F-C (B)-FEP	8 x (2 x 0.5 mm)D	strands	round	approx. 11.0 mm	flexible application: -55°C up to +180°C fixed installation: -90°C up to +180°C	IEC 60584 class 1
FEP insulated thermo-cables with screening (strands)										
4359037		thermo-cable	type K	FEP/C/ FEP	2 x 0.22 mm²	strands	round	approx. 2.6 mm	flexible application: -25°C up to +180°C fixed installation: -25°C up to +180°C	IEC 60584 tolerance ± 1.5°C
Besilen® insulated thermo-cables (strands)										
4519019		thermo-cable	type K	GL/ Silicone	2 x 0.22 mm²	strands	round	approx. 3.2 mm	flexible application: -25°C up to +200°C fixed installation: -25°C up to +200°C	IEC 60584 class 1

Color code and temperature range for compensating and extension cables

THERMOCOUPLE						
Code	Material ⊕ ⊖	IEC 60584 Identification THL AGL	DIN 43710* Identification THL AGL	ANSI 96.1 Identification THL AGL	BS 4937 Identification THL AGL	NF C 42-324 Identification THL AGL
T	Cu - Cu Ni	 TX -25° to +100°C		 0° to +100°C	 0° to +100°C	 -25° to +200°C
U	Cu - Cu Ni		 UX 0° to +200°C			
J	Fe - Cu Ni	 JX -25° to +200°C		 0° to +200°C	 0° to +200°C	 -25° to +200°C
L	Fe - Cu Ni		 LX 0° to +200°C			
E	Ni Cr - Cu Ni	 EX -25° to +200°C		 0° to +200°C	 0° to +200°C	 -25° to +200°C
K	Ni Cr - Ni	 KX -25° to +200°C		 0° to +200°C	 0° to +200°C	 -25° to +200°C
K	Ni Cr - Ni	 KCA 0° to +150°C				 0° to +150°C
K	Ni Cr - Ni	 KCB 0° to +100°C			 0° to +100°C	 0° to +100°C
N	Ni Cr Si - Ni Si	 NX -25° to +200°C NC 0° to +150°C				
R S	Pt Rh 13 - Pt Pt Rh 10 - Pt	 RCB/ SCB 0° to +200°C		 0° to +200°C	 0° to +200°C	 0° to +200°C
B	Pt Rh 30 - Pt Rh 6			 0° to +100°C		 0° to +100°C

The application temperature range of the cable is limited by the highest application temperature of the insulating material or the application temperature range of the conductor material. In all cases the respective lower figure is valid. The compensating cable for the thermocouple type B can also be manufactured, deviating from the corresponding standards, for a temperature range from 0 to +200°C (SAB-Type BC-200). Variant color codes can be manufactured for a minimum order quantity.

** The standard 43710 was withdrawn in April 1994. Therefore, the element types "U" and "L" are not standardized anymore.*

THL = extension cable · AGL = compensating cable

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Content

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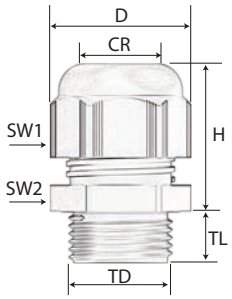


Technical data:

Material:	Polyamide 6
Seal:	Chloroprene (CR)
Color:	RAL 7001 (gray) RAL 9005 (black)
Protection type:	IP 68 - 5 Bar NEMA 4X
Temperature range: *permanent:* *intermittent:*	 -20°C to +100°C -30°C to +150°C
Flammability:	V2 (according to UL 94)
Approvals:	cURus, cULus, cCSAus, VDE, DNV-GL, CE

Part Number		Thread Type	Clamping Range Ø min-max (CR)		Outer Diameter (D)	Wrenching Flats Cap (SW1)	Wrenching Flats Body (SW2)	Thread Diameter (TD)		Thread Length (TL)	Max. Height (H)	UL
gray	black		inches	mm	inches	inches	inches	inches	mm	inches	inches	
Metric												
PMG-12*	PMB-12*	M12x1.5	0.118 - 0.256	3.0 - 6.5	0.669	0.591	0.591	0.472	12	0.315	0.996	cURus
PMG-16C*	PMB-16C*	M16x1.5	0.157 - 0.315	4.0 - 8.0	0.854	0.748	0.748	0.630	16	0.394	1.079	-
PMG-16*	PMB-16*	M16x1.5	0.197 - 0.394	5.0 - 10.0	0.984	0.866	0.866	0.630	16	0.394	1.268	cURus
PMG-20*	PMB-20*	M20x1.5	0.236 - 0.472	6.0 - 12.0	1.063	0.945	0.945	0.787	20	0.394	1.276	cULus
PMG-20C*	PMB-20C*	M20x1.5	0.394 - 0.551	10.0 - 14.0	1.217	1.063	1.063	0.787	20	0.394	1.256	cULus
PMG-25C*	PMB-25C*	M25x1.5	0.433 - 0.669	11.0 - 17.0	1.280	1.142	1.142	0.984	25	0.315	1.484	cULus
PMG-25*	PMB-25*	M25x1.5	0.512 - 0.709	13.0 - 18.0	1.465	1.299	1.299	0.984	25	0.394	1.512	cULus
PMG-32C*	PMB-32C*	M32x1.5	0.591 - 0.827	15.0 - 21.0	1.614	1.417	1.417	1.260	32	0.394	1.665	cULus
PMG-32	PMB-32	M32x1.5	0.709 - 0.984	18.0 - 25.0	1.854	1.654	1.654	1.260	32	0.591	1.705	cULus
PMG-40C†	PMB-40C†	M40x1.5	0.748 - 1.102	19.0 - 28.0	2.063	1.811	1.811	1.575	40	0.394	1.866	cULus
PMG-40	PMB-40	M40x1.5	0.866 - 1.260	22.0 - 32.0	2.346	2.087	2.087	1.575	40	0.709	2.063	cULus
PMG-50	PMB-50	M50x1.5	1.181 - 1.496	30.0 - 38.0	2.669	2.362	2.362	1.969	50	0.709	2.157	cULus
PMG-63	PMB-63	M63x1.5	1.339 - 1.732	34.0 - 44.0	2.850	2.559	2.559	2.480	63	0.709	2.161	cULus
PMG-75	PMB-75	M75x2.0	1.890 - 2.165	48.0 - 55.0	3.504	2.953	3.150	2.953	75	0.984	2.165	cULus
Metric with Reducer Bushings												
PMG-12R	PMB-12R	M12x1.5	0.079 - 0.197	2.0 - 5.0	0.669	0.591	0.591	0.472	12	0.315	0.996	cURus
PMG-16RC*	PMB-16RC*	M16x1.5	0.079 - 0.236	2.0 - 6.0	0.854	0.748	0.748	0.630	16	0.394	1.079	-
PMG-16R*	PMB-16R*	M16x1.5	0.118 - 0.276	3.0 - 7.0	0.984	0.866	0.866	0.630	16	0.394	1.268	cURus
PMG-20R*	PMB-20R*	M20x1.5	0.197 - 0.354	5.0 - 9.0	1.063	0.945	0.945	0.787	20	0.394	1.276	cULus
PMG-20RC*	PMB-20RC*	M20x1.5	0.276 - 0.472	7.0 - 12.0	1.217	1.063	1.063	0.787	20	0.394	1.256	cULus
PMG-25RC*	PMB-25RC*	M25x1.5	0.354 - 0.512	9.0 - 13.0	1.280	1.142	1.142	0.984	25	0.315	1.484	cULus
PMG-25R*	PMB-25R*	M25x1.5	0.354 - 0.630	9.0 - 16.0	1.465	1.299	1.299	0.984	25	0.394	1.512	cULus
PMG-32RC*	PMB-32RC*	M32x1.5	0.433 - 0.591	11.0 - 15.0	1.614	1.417	1.417	1.260	32	0.394	1.665	cULus
PMG-32R	PMB-32R	M32x1.5	0.472 - 0.787	12.0 - 20.0	1.854	1.654	1.654	1.260	32	0.591	1.705	cULus
PMG-40RC*	PMB-40RC*	M40x1.5	0.630 - 0.906	16.0 - 23.0	2.063	1.811	1.811	1.575	40	0.394	1.866	cULus
PMG-40R	PMB-40R	M40x1.5	0.787 - 1.024	20.0 - 26.0	2.346	2.087	2.087	1.575	40	0.709	2.063	cULus
PMG-50R	PMB-50R	M50x1.5	0.984 - 1.220	25.0 - 31.0	2.669	2.362	2.362	1.969	50	0.709	2.157	cULus
PMG-63R	PMB-63R	M63x1.5	1.142 - 1.378	29.0 - 35.0	2.850	2.559	2.559	2.480	63	0.709	2.161	cULus

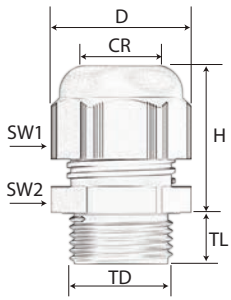
* Available with longer thread of 0.591". Add an "L" to end of the P/N.
† Available with longer thread of 0.709". Add an "L" to end of the P/N.

PG Thread

CG 100 PG

Dome cap cord grip, black or gray with locknut

Liquid tight seal, fast and easy installation, wide clamping range, multi-purpose applications, easy handling.



Technical data:

Material:	Polyamide 6
Seal:	Chloroprene (CR)
Color:	RAL 7001 (gray) RAL 9005 (black)
Protection type:	IP 68 - 5 Bar NEMA 4X
Temperature range:	
permanent:	-20°C to +100°C
intermittent:	-30°C to +150°C
Flammability:	V2 (according to UL 94)
Approvals:	cURus, cULus, cCSAus, DNV-GL, CE

Part Number		Thread Type	Clamping Range Ø min-max (CR)		Outer Diameter (D)	Wrenching Flats Cap (SW1)	Wrenching Flats Body (SW2)	Thread Diameter (TD)		Thread Length (TL)	Max. Height (H)	UL
gray	black		inches	mm	inches	inches	inches	inches	mm	inches	inches	
PG												
PPG-7	PPB-7	PG 7	0.118 - 0.256	3.0 - 6.5	0.669	0.591	0.591	0.492	12.5	0.315	0.996	cURus
PPG-9	PPB-9	PG 9	0.157 - 0.315	4.0 - 8.0	0.854	0.748	0.748	0.598	15.2	0.315	1.079	cURus
PPG-11	PPB-11	PG 11	0.197 - 0.394	5.0 - 10.0	0.984	0.866	0.866	0.732	18.6	0.315	1.268	cURus
PPG-13	PPB-13	PG 13.5	0.236 - 0.472	6.0 - 12.0	1.063	0.945	0.945	0.803	20.4	0.394	1.276	cULus
PPG-16	PPB-16	PG 16	0.394 - 0.551	10.0 - 14.0	1.217	1.063	1.063	0.886	22.5	0.394	1.256	cULus
PPG-21	PPB-21	PG 21	0.512 - 0.709	13.0 - 18.0	1.465	1.299	1.299	1.114	28.3	0.433	1.512	cULus
PPG-29	PPB-29	PG 29	0.709 - 0.984	18.0 - 25.0	1.854	1.654	1.654	1.457	37.0	0.433	1.705	cULus
PPG-36	PPB-36	PG 36	0.866 - 1.260	22.0 - 32.0	2.346	2.087	2.087	1.850	47.0	0.512	2.063	cULus
PPG-42	PPB-42	PG 42	1.181 - 1.496	30.0 - 38.0	2.669	2.362	2.362	2.126	54.0	0.512	2.157	cULus
PPG-48	PPB-48	PG 48	1.339 - 1.732	34.0 - 44.0	2.850	2.559	2.559	2.335	59.3	0.551	2.161	cULus
PG with Reducer Bushings												
PPG-7R	PPB-7R	PG 7	0.079 - 0.197	2.0 - 5.0	0.669	0.591	0.591	0.492	12.5	0.315	0.996	cURus
PPG-9R	PPB-9R	PG 9	0.079 - 0.236	2.0 - 6.0	0.854	0.748	0.748	0.598	15.2	0.315	1.079	cURus
PPG-11R	PPB-11R	PG 11	0.118 - 0.276	3.0 - 7.0	0.984	0.866	0.866	0.732	18.6	0.315	1.268	cURus
PPG-13R	PPB-13R	PG 13.5	0.197 - 0.354	5.0 - 9.0	1.063	0.945	0.945	0.803	20.4	0.394	1.276	cULus
PPG-16R	PPB-16R	PG 16	0.276 - 0.472	7.0 - 12.0	1.217	1.063	1.063	0.886	22.5	0.394	1.256	cULus
PPG-21R	PPB-21R	PG 21	0.354 - 0.630	9.0 - 16.0	1.465	1.299	1.299	1.114	28.3	0.433	1.512	cULus
PPG-29R	PPB-29R	PG 29	0.472 - 0.787	12.0 - 20.0	1.854	1.654	1.654	1.457	37.0	0.433	1.705	cULus
PPG-36R	PPB-36R	PG 36	0.787 - 1.024	20.0 - 26.0	2.346	2.087	2.087	1.850	47.0	0.512	2.063	cULus
PPG-42R	PPB-42R	PG 42	0.984 - 1.220	25.0 - 31.0	2.669	2.362	2.362	2.126	54.0	0.512	2.157	cULus
PPG-48R	PPB-48R	PG 48	1.142 - 1.378	29.0 - 35.0	2.850	2.559	2.559	2.335	59.3	0.551	2.161	cULus

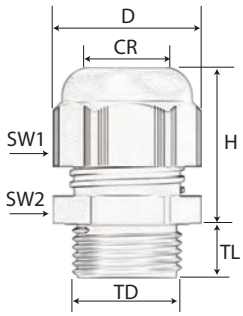
Polyamide 6 Cord Grips

CG 100 NPT

Dome cap cord grip, black or gray

NPT Thread

Liquid tight seal, fast and easy installation, wide clamping range, multi-purpose applications, easy handling.

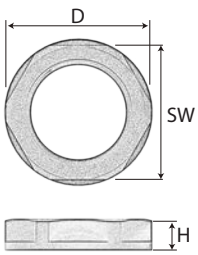


Technical data:

Material:	Polyamide 6
Seal:	Chloroprene (CR)
Color:	RAL 7001 (gray) RAL 9005 (black)
Protection type:	IP 68 - 5 Bar NEMA 4X
Temperature range: *permanent:* *intermittent:*	 -20°C to +100°C -30°C to +150°C
Flammability:	V2 (according to UL 94)
Approvals:	cURus, cULus, cCSAus, DNV-GL, CE

Part Number		Thread Type	Clamping Range Ø min-max (CR)		Outer Diameter (D)	Wrenching Flats Cap (SW1)	Wrenching Flats Body (SW2)	Thread Diameter (TD)		Thread Length (TL)	Max. Height (H)	UL
gray	black		inches	mm	inches	inches	inches	inches	mm	inches	inches	
NPT												
PNG-3/8	PNB-3/8	NPT 3/8	0.197 - 0.394	5.0 - 10.0	0.984	0.866	0.866	0.675	17.2	0.591	1.268	cURus
PNG-1/2	PNB-1/2	NPT 1/2	0.236 - 0.472	6.0 - 12.0	1.063	0.945	0.945	0.840	21.3	0.591	1.276	cULus
PNG-1/2C	PNB-1/2C	NPT 1/2	0.394 - 0.551	10.0 - 14.0	1.217	1.063	1.063	0.840	21.3	0.591	1.256	cULus
PNG-3/4	PNB-3/4	NPT 3/4	0.512 - 0.709	13.0 - 18.0	1.465	1.299	1.299	1.050	26.7	0.591	1.512	cULus
PNG-1	PNB-1	NPT 1	0.709 - 0.984	18.0 - 25.0	1.854	1.654	1.654	1.315	33.4	0.709	1.705	cULus
NPT with Reducer Bushings												
PNG-3/8R	PNB-3/8R	NPT 3/8	0.118 - 0.276	3.0 - 7.0	0.984	0.866	0.866	0.675	17.2	0.591	1.268	cURus
PNG-1/2R	PNB-1/2R	NPT 1/2	0.197 - 0.354	5.0 - 9.0	1.063	0.945	0.945	0.840	21.3	0.591	1.276	cULus
PNG-1/2RC	PNB-1/2RC	NPT 1/2	0.276 - 0.472	7.0 - 12.0	1.217	1.063	1.063	0.840	21.3	0.591	1.256	cULus
PNG-3/4R	PNB-3/4R	NPT 3/4	0.354 - 0.630	9.0 - 16.0	1.465	1.299	1.299	1.050	26.7	0.591	1.512	cULus
PNG-1R	PNB-1R	NPT 1	0.472 - 0.787	12.0 - 20.0	1.854	1.654	1.654	1.315	33.4	0.709	1.705	cULus

Locknuts need to be purchased separately, see page N/10



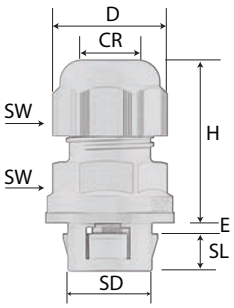
Part Number		Thread Type	Height		Diameter		Wrenching Flats	
gray	black		inches	mm	inches	mm	inches	mm
LNG-3/8	LNB-3/8	NPT 3/8	0.276	7	0.984	25	0.866	22
LNG-1/2	LNB-1/2	NPT 1/2	0.276	7	1.201	30.5	1.063	27
LNG-3/4	LNB-3/4	NPT 3/4	0.276	7	1.476	37.5	1.299	33
LNG-1	LNB-1	NPT 1	0.276	7	1.819	46.2	1.614	41

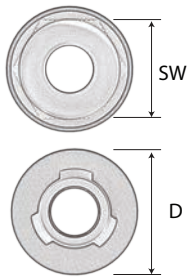
CG 150 Snap-In Glands

Dome cap cord grip, black or gray without threads

Without Threads

Liquid tight seal, fast and easy installation, wide clamping range, multi-purpose applications, easy handling.



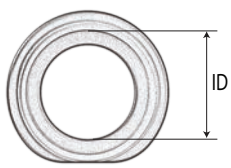


Technical data:

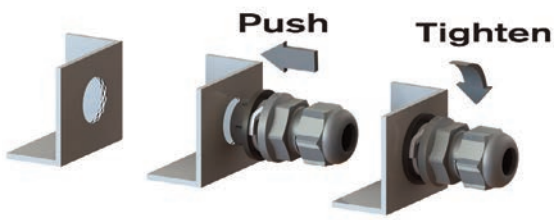
Material:	Polyamide 6
Seal & Gasket:	Chloroprene (CR)
Wall Thickness (E):	0.5 - 4.0 mm
Color:	RAL 7001 (gray) RAL 9005 (black)
Protection type:	IP 68 - 5 Bar NEMA 4X
Temperature range:	
permanent:	-20°C to +100°C
intermittent:	-30°C to +150°C
Flammability:	V2 (according to UL 94)
Approvals:	cURus, VDE, DNV-GL, CE

Part Number		Seal Type	Clamping Range Ø min-max (CR)		Snap Length (SL)	Snap Ø (SD)	Mounting Hole Ø	Wrenching Flats Cap & Body (SW)	Outer Ø (D)	Max. Height (H)	UL
gray	black		inches	mm	inches	inches	inches	inches	inches	inches	
PMSG-16	PMSB-16	Single	0.197 - 0.394	5.0 - 10.0	0.354	0.626	0.638 - 0.646	0.866	1.043	1.752	cURus
PMSG-16DS	PMSB-16DS	Double*	0.118 - 0.394	3.0 - 10.0	0.354	0.626	0.638 - 0.646	0.866	1.043	1.752	-
PMSG-20R	PMSB-20R	Single	0.236 - 0.472	6.0 - 12.0	0.354	0.783	0.795 - 0.803	0.945	1.193	1.713	cURus
PMSG-20	PMSB-20	Single	0.276 - 0.512	7.0 - 13.0	0.354	0.783	0.795 - 0.803	0.984	1.193	1.713	cURus
PMSG-20DS	PMSB-20DS	Double*	0.197 - 0.472	5.0 - 12.0	0.354	0.783	0.795 - 0.803	0.945	1.193	1.713	-
PMSG-20CDS	PMSB-20CDS	Double*	0.118 - 0.512	3.0 - 13.0	0.354	0.783	0.795 - 0.803	0.984	1.193	1.713	-
PMSG-25	MSB-25	Single	0.433 - 0.669	11.0 - 17.0	0.354	0.980	0.992 - 1.000	1.142	1.429	1.791	cURus
PMSG-25DS	PMSB-25DS	Double*	0.315 - 0.669	8.0 - 17.0	0.354	0.980	0.992 - 1.000	1.142	1.429	1.791	-
PMSG-32	PMSB-32	Single	0.591 - 0.827	15.0 - 21.0	0.354	1.256	1.268 - 1.276	1.417	1.701	2.028	cURus
PMSG-32DS	PMSB-32DS	Double*	0.433 - 0.827	11.0 - 21.0	0.354	1.256	1.268 - 1.276	1.417	1.701	2.028	-
PMSG-40[1]	PMSB-40[1]	Single	0.748 - 1.102	19.0 - 28.0	0.520	1.571	1.583 - 1.591	1.811	2.173	2.283	-
PMSG-40DS	PMSB-40DS	Double*	0.630 - 1.102	16.0 - 28.0	0.520	1.571	1.583 - 1.591	1.811	2.173	2.283	-

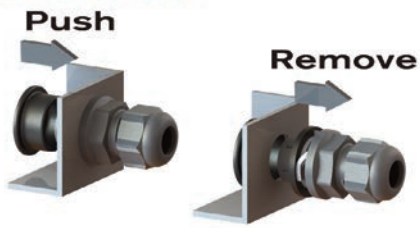
*Glands with double seals have no approval
[1]PMSG-40 & PSMB-40 are not UL approved



Assembly



Disassembling



P/N	Gland Size	Height (h) mm
DTS-16	M16	13.0
DTS-20	M20	13.0
DTS-25	M25	13.0
DTS-32	M32	13.0
DTS-40	M40	15.5

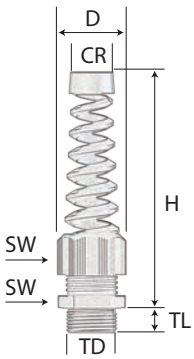
SPECIAL CABLES SAB North America
www.sabcable.com
866-722-2974 ■ info@sabcable.com

Metric Thread

CG 200 Metric

Flex cap cord grip, black or gray

Strain relief gland offers maximum protection against conductor fatigue caused by flexing cables.



Technical data:

Material:	Polyamide 6
Seal:	Chloroprene (CR)
Color:	RAL 7001 (gray) RAL 9005 (black)
Protection type:	IP 68 - 5 Bar NEMA 4X
Temperature range: *permanent:* *intermittent:*	 -20°C to +100°C -30°C to +150°C
Flammability:	V2 (according to UL 94)
Approvals:	cURus, cULus, cCSAus, VDE, DNV-GL, CE

Part Number		Thread Type	Clamping Range Ø min-max (CR)		Outer Diameter (D)	Wrenching Flats Cap & Body (SW)		Thread Diameter (TD)		Thread Length (TL)	Max. Height (H)	UL
gray	black		inches	mm	inches	inches	mm	inches	mm	inches	inches	
Metric												
FMG-12	FMB-12	M12x1.5	0.118 - 0.256	3.0 - 6.5	0.654	0.591	15	0.472	12	0.315	2.283	cURus
FMG-12L	FMB-12L	M12x1.5	0.118 - 0.256	3.0 - 6.5	0.654	0.591	15	0.472	12	0.591	2.283	—
FMG-16	FMB-16	M16x1.5	0.197 - 0.394	5.0 - 10.0	0.988	0.866	22	0.630	16	0.394	3.276	cURus
FMG-16L	FMB-16L	M16x1.5	0.197 - 0.394	5.0 - 10.0	0.988	0.866	22	0.630	16	0.591	3.276	cURus
FMG-20	FMB-20	M20x1.5	0.236 - 0.472	6.0 - 12.0	1.087	0.945	24	0.787	20	0.394	3.799	cULus
FMG-20L	FMB-20L	M20x1.5	0.236 - 0.472	6.0 - 12.0	1.087	0.945	24	0.787	20	0.591	3.799	cULus
FMG-20C	FMB-20C	M20x1.5	0.394 - 0.551	10.0 - 14.0	1.201	1.063	27	0.787	20	0.394	4.189	cULus
FMG-20CL	FMB-20CL	M20x1.5	0.394 - 0.551	10.0 - 14.0	1.201	1.063	27	0.787	20	0.591	4.189	cULus
FMG-25	FMB-25	M25x1.5	0.512 - 0.709	13.0 - 18.0	1.488	1.299	33	0.984	25	0.394	4.681	cULus
FMG-25L	FMB-25L	M25x1.5	0.512 - 0.709	13.0 - 18.0	1.488	1.299	33	0.984	25	0.591	4.681	cULus
Metric with Reducer Bushings												
FMG-12R	FMB-12R	M12x1.5	0.079 - 0.197	2.0 - 5.0	0.654	0.591	15	0.472	12	0.315	2.283	cURus
FMG-12RL	FMB-12RL	M12x1.5	0.079 - 0.197	2.0 - 5.0	0.654	0.591	15	0.472	12	0.591	2.283	—
FMG-16R	FMB-16R	M16x1.5	0.118 - 0.276	3.0 - 7.0	0.988	0.866	22	0.630	16	0.394	3.276	cURus
FMG-16RL	FMB-16RL	M16x1.5	0.118 - 0.276	3.0 - 7.0	0.988	0.866	22	0.630	16	0.591	3.276	cURus
FMG-20R	FMB-20R	M20x1.5	0.197 - 0.354	5.0 - 9.0	1.087	0.945	24	0.787	20	0.394	3.799	cULus
FMG-20RL	FMB-20RL	M20x1.5	0.197 - 0.354	5.0 - 9.0	1.087	0.945	24	0.787	20	0.591	3.799	cULus
FMG-20RC	FMB-20RC	M20x1.5	0.276 - 0.472	7.0 - 12.0	1.201	1.063	27	0.787	20	0.394	4.189	cULus
FMG-20RCL	FMB-20RCL	M20x1.5	0.276 - 0.472	7.0 - 12.0	1.201	1.063	27	0.787	20	0.591	4.189	cULus
FMG-25R	FMB-25R	M25x1.5	0.354 - 0.63	9.0 - 16.0	1.488	1.299	33	0.984	25	0.394	4.681	cULus
FMG-25RL	FMB-25RL	M25x1.5	0.354 - 0.63	9.0 - 16.0	1.488	1.299	33	0.984	25	0.591	4.681	cULus

"L" indicates longer thread

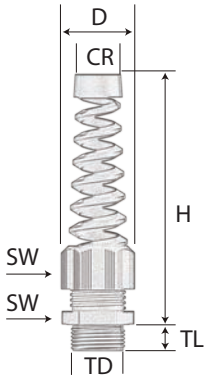
Locknuts need to be purchased separately, see page N/10

CG 200 PG / CG 200 NPT

Flex cap cord grip, black or gray

PG & NPT Thread

Strain relief gland offers maximum protection against conductor fatigue caused by flexing cables.



Technical data:

Material:	Polyamide 6
Seal:	Chloroprene (CR)
Color:	RAL 7001 (gray) RAL 9005 (black)
Protection type:	IP 68 - 5 Bar NEMA 4X
Temperature range: *permanent:* *intermittent:*	 -20°C to +100°C -30°C to +150°C
Flammability:	V2 (according to UL 94)
Approvals:	cURus, cULus, cCSAus, VDE, DNV-GL, CE

Part Number		Thread Type	Clamping Range Ø min-max (CR)		Outer Diameter (D)	Wrenching Flats Cap & Body (SW)		Thread Diameter (TD)		Thread Length (TL)	Max. Height (H)	UL
gray	black		inches	mm	inches	inches	mm	inches	mm	inches	inches	
PG												
FPG-7	FPB-7	PG 7	0.118 - 0.256	3.0 - 6.5	0.654	0.591	15	0.492	12.5	0.315	2.283	cURus
FPG-9	FPB-9	PG 9	0.157 - 0.315	4.0 - 8.0	0.846	0.748	19	0.598	15.2	0.315	2.693	cURus
FPG-11	FPB-11	PG 11	0.197 - 0.394	5.0 - 10.0	0.988	0.866	22	0.732	18.6	0.315	3.276	cURus
FPG-13	FPB-13	PG 13.5	0.236 - 0.472	6.0 - 12.0	1.087	0.945	24	0.803	20.4	0.394	3.799	cULus
FPG-16	FPB-16	PG 16	0.394 - 0.551	10.0 - 14.0	1.201	1.063	27	0.886	22.5	0.394	4.189	cULus
FPG-21	FPB-21	PG 21	0.512 - 0.709	13.0 - 18.0	1.488	1.299	33	1.114	28.3	0.433	4.681	cULus
PG with Reducer Bushings												
FPG-7R	FPB-7R	PG 7	0.079 - 0.197	2.0 - 5.0	0.654	0.591	15	0.492	12.5	0.315	2.283	cURus
FPG-9R	FPB-9R	PG 9	0.079 - 0.236	2.0 - 6.0	0.846	0.748	19	0.598	15.2	0.315	2.693	cURus
FPG-11R	FPB-11R	PG 11	0.118 - 0.276	3.0 - 7.0	0.988	0.866	22	0.732	18.6	0.315	3.276	cURus
FPG-13R	FPB-13R	PG 13.5	0.197 - 0.354	5.0 - 9.0	1.087	0.945	24	0.803	20.4	0.394	3.799	cULus
FPG-16R	FPB-16R	PG 16	0.276 - 0.472	7.0 - 12.0	1.201	1.063	27	0.886	22.5	0.394	4.189	cULus
FPG-21R	FPB-21R	PG 21	0.354 - 0.630	9.0 - 16.0	1.488	1.299	33	1.114	28.3	0.433	4.681	cULus
NPT												
FNG-3/8	FNB-3/8	NPT 3/8	0.197 - 0.394	5.0 - 10.0	0.988	0.866	22	0.675	17.15	0.591	3.276	cURus
FNG-1/2	FNB-1/2	NPT 1/2	0.236 - 0.472	6.0 - 12.0	1.087	0.945	24	0.840	21.34	0.591	3.799	cULus
FNG-1/2C	FNB-1/2C	NPT 1/2	0.394 - 0.551	10.0 - 14.0	1.201	1.063	27	0.840	21.34	0.591	4.189	cULus
FNG-3/4	FNB-3/4	NPT 3/4	0.512 - 0.709	13.0 - 18.0	1.488	1.299	33	1.050	26.67	0.591	4.681	cULus
NPT with Reducer Bushings												
FNG-3/8R	FNB-3/8R	NPT 3/8	0.118 - 0.276	3.0 - 7.0	0.988	0.866	22	0.675	17.15	0.591	3.276	cURus
FNG-1/2R	FNB-1/2R	NPT 1/2	0.197 - 0.354	5.0 - 9.0	1.087	0.945	24	0.840	21.34	0.591	3.799	cULus
FNG-1/2RC	FNB-1/2RC	NPT 1/2	0.276 - 0.472	7.0 - 12.0	1.201	1.063	27	0.840	21.34	0.591	4.189	cULus
FNG-3/4R	FNB-3/4R	NPT 3/4	0.354 - 0.630	9.0 - 16.0	1.488	1.299	33	1.050	26.67	0.591	4.681	cULus

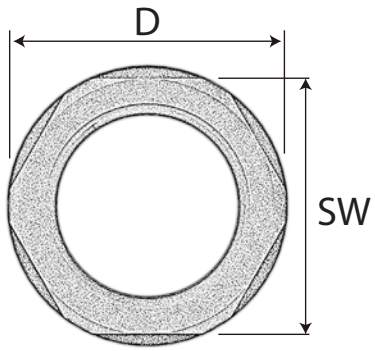
Locknuts need to be purchased separately, see page N/10

Metric, PG, & NPT Thread

Polyamide Locknuts

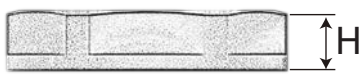
Hexagonal locknut, black or gray

Hexagonal locknuts made of polyamide, glass fiber reinforced.



Technical data:

Material:	Polyamide 6 (30% Glass Fiber reinforced)
Color:	RAL 7001 (gray) RAL 9005 (black)
Temperature range: *permanent:* *intermittent:*	 -20°C to +100°C -30°C to +150°C
Flammability:	UL 94 HB



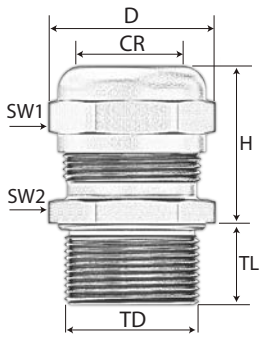
Part Number		Thread Type	Height (H)		Diameter (D)		Wrenching Flats (SW)	
gray	black		inches	mm	inches	mm	inches	mm
LMG-12	LMB-12	M12x1.5	0.197	5	0.768	19.5	0.709	18
LMG-16	LMB-16	M16x1.5	0.197	5	0.953	24.2	0.866	22
LMG-20	LMB-20	M20x1.5	0.236	6	1.126	28.6	1.024	26
LMG-25	LMB-25	M25x1.5	0.236	6	1.378	35.0	1.260	32
LMG-32	LMB-32	M32x1.5	0.276	7	1.815	46.1	1.614	41
LMG-40	LMB-40	M40x1.5	0.276	7	2.177	55.3	1.969	50
LMG-50	LMB-50	M50x1.5	0.315	8	2.587	65.7	2.362	60
LMG-63	LMB-63	M63x1.5	0.315	8	3.248	82.5	2.953	75
LMG-75	LMB-75	M75x2.0	0.591	15	3.701	94.0	3.346	85
LPG-7	LPB-7	PG 7	0.197	5	0.823	20.9	0.748	19
LPG-9	LPB-9	PG 9	0.197	5	0.941	23.9	0.866	22
LPG-11	LPB-11	PG 11	0.197	5	1.020	25.9	0.945	24
LPG-13	LPB-13	PG 13.5	0.236	6	1.138	28.9	1.063	27
LPG-16	LPB-16	PG 16	0.236	6	1.295	32.9	1.181	30
LPG-21	LPB-21	PG 21	0.276	7	1.528	38.8	1.417	36
LPG-29	LPB-29	PG 29	0.276	7	1.961	49.8	1.811	46
LPG-36	LPB-36	PG 36	0.315	8	2.587	65.7	2.362	60
LPG-42	LPB-42	PG 42	0.315	8	2.862	72.7	2.559	65
LPG-48	LPB-48	PG 48	0.315	8	3.059	77.7	2.756	70
NPT								
LNG-3/8	LNB-3/8	NPT 3/8	0.276	7	0.984	25	0.866	22
LNG-1/2	LNB-1/2	NPT 1/2	0.276	7	1.201	30.5	1.063	27
LNG-3/4	LNB-3/4	NPT 3/4	0.276	7	1.476	37.5	1.299	33
LNG-1	LNB-1	NPT 1	0.276	7	1.819	46.2	1.614	41

Metric Thread

CG 300 Metric

Nickel plated brass cord grip with standard or longer thread

Impact resistant, suitable for industrial applications, water tight, corrosion resistant.



Technical data:

Material:	Brass, Nickel Plated
Clamping Insert:	Polyamide 6
Seal:	Chloroprene (CR)
O-Ring:	Neoprene (NBR)
Protection type:	IP 68 - 5 Bar NEMA 4X
Temperature range: *permanent:* *intermittent:*	 -20°C to +100°C -40°C to +150°C
Flammability:	V2 (according to UL 94)
Approvals:	cURus, cULus, DNV-GL, CE

Part Number	Part Number with long threads	Thread Type	Clamping Range Ø min-max (CR) inches	Clamping Range Ø min-max (CR) mm	Outer Diameter (D) inches	Wrenching Flats Cap (SW1) inches	Wrenching Flats Body (SW2) inches	Thread Diameter (TD) inches	Thread Length (TL) inches	Long Thread Length (TL) inches	Max. Height (H) inches	UL
Metric												
MMS-12R[1]	MMS-12RL	M12x1.5	0.079 - 0.197	2.0 - 5.0	0.610	0.551	0.551	0.472	0.236	0.472	0.945	-
MMS-12[1]	MMS-12L	M12x1.5	0.118 - 0.256	3.0 - 6.5	0.610	0.551	0.551	0.472	0.236	0.472	0.945	cURus
MMS-16R	MMS-16RL	M16x1.5	0.079 - 0.236	2.0 - 6.0	0.787	0.669	0.709	0.630	0.276	0.472	1.004	-
MMS-16	MMS-16L	M16x1.5	0.157 - 0.315	4.0 - 8.0	0.787	0.669	0.709	0.630	0.276	0.472	1.004	cURus
MMS-16RC	MMS-16RCL	M16x1.5	0.118 - 0.276	3.0 - 7.0	0.866	0.787	0.787	0.630	0.276	0.472	1.201	-
MMS-16C	MMS-16CL	M16x1.5	0.197 - 0.394	5.0 - 10.0	0.866	0.787	0.787	0.630	0.256	0.472	1.240	cURus
MMS-20R	MMS-20RL	M20x1.5	0.197 - 0.354	5.0 - 9.0	0.965	0.866	0.866	0.787	0.315	0.472	1.102	-
MMS-20	MMS-20L	M20x1.5	0.236 - 0.472	6.0 - 12.0	0.965	0.866	0.866	0.787	0.315	0.472	1.043	cULus
MMS-20C	MMS-20CL	M20x1.5	0.394 - 0.551	10.0 - 14.0	1.043	0.945	0.945	0.787	0.315	0.472	1.181	cULus
MMS-25R	MMS-25RL	M25x1.5	0.276 - 0.472	7.0 - 12.0	1.181	0.945	1.063	0.984	0.315	0.472	1.181	-
MMS-25*	MMS-25L	M25x1.5	0.394 - 0.551	10.0 - 14.0	1.181	0.945	1.063	0.984	0.315	0.472	1.181	cULus
MMS-25RC	MMS-25RCL	M25x1.5	0.433 - 0.669	11.0 - 17.0	1.181	1.063	1.063	0.984	0.315	0.472	1.280	cULus
MMS-25C	MMS-25CL	M25x1.5	0.512 - 0.709	13.0 - 18.0	1.299	1.181	1.181	0.984	0.315	0.472	1.378	cULus
MMS-32R	MMS-32RL	M32x1.5	0.354 - 0.630	9.0 - 16.0	1.476	1.181	1.339	1.260	0.354	0.591	1.378	-
MMS-32*	MMS-32L	M32x1.5	0.512 - 0.709	13.0 - 18.0	1.476	1.181	1.339	1.260	0.354	0.591	1.378	cULus
MMS-32RC	MMS-32RCL	M32x1.5	0.591 - 0.827	15.0 - 21.0	1.476	1.339	1.339	1.260	0.315	0.591	1.496	cULus
MMS-32C	MMS-32CL	M32x1.5	0.709 - 0.984	18.0 - 25.0	1.752	1.575	1.575	1.260	0.354	0.591	1.811	cULus
MMS-40R	MMS-40RL	M40x1.5	0.472 - 0.787	12.0 - 20.0	1.909	1.575	1.693	1.575	0.354	0.591	1.594	-
MMS-40*	MMS-40L	M40x1.5	0.709 - 0.984	18.0 - 25.0	1.909	1.575	1.693	1.575	0.354	0.591	1.594	cULus
MMS-40RC	MMS-40RCL	M40x1.5	0.748 - 1.102	19.0 - 28.0	1.909	1.693	1.693	1.575	0.354	0.591	1.791	cULus
MMS-40C	MMS-40CL	M40x1.5	0.866 - 1.260	22.0 - 32.0	2.185	1.969	1.969	1.575	0.354	0.591	2.146	cULus
MMS-50R	MMS-50RL	M50x1.5	0.787 - 1.024	20.0 - 26.0	2.402	1.969	2.165	1.969	0.354	0.591	1.969	-
MMS-50	MMS-50L	M50x1.5	0.866 - 1.260	22.0 - 32.0	2.402	1.969	2.165	1.969	0.354	0.591	1.969	cULus
MMS-50RC	MMS-50RCL	M50x1.5	1.063 - 1.496	27.0 - 38.0	2.520	2.283	2.283	1.969	0.354	0.591	2.126	cULus
MMS-50C	MMS-50CL	M50x1.5	1.339 - 1.732	34.0 - 44.0	2.756	2.520	2.520	1.969	0.354	0.591	2.165	cULus
MMS-63R	MMS-63RL	M63x1.5	1.142 - 1.378	29.0 - 35.0	2.953	2.520	2.677	2.480	0.551	0.709	2.165	-
MMS-63	MMS-63L	M63x1.5	1.339 - 1.732	34.0 - 44.0	2.953	2.520	2.677	2.480	0.551	0.709	2.165	cULus
MMS-63C	MMS-63CL	M63x1.5	1.457 - 2.087	37.0 - 53.0	3.268	2.953	2.953	2.480	63	0.709	2.087	cULus

*Other clamping ranges available
[1] Not NEMA 4X rated
Larger thread sizes (M72 to M120) available upon request

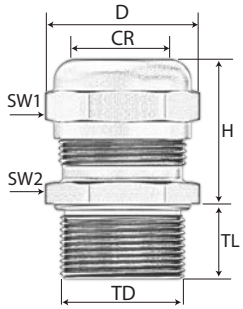
Locknuts need to be purchased separately, see page N/27

PG Thread

CG 300 PG

Nickel plated brass cord grip with standard or longer thread

Impact resistant, suitable for industrial applications, water tight, corrosion resistant.



Technical data:

Material:	Brass, Nickel Plated
Clamping Insert:	Polyamide 6
Seal:	Chloroprene (CR)
O-Ring:	Neoprene (NBR)
Protection type:	IP 68 - 5 Bar NEMA 4X
Temperature range: *permanent:* *intermittent:*	 -20°C to +100°C -40°C to +150°C
Flammability:	V2 (according to UL 94)
Approvals:	cURus, cULus, DNV-GL, CE

Part Number	Part Number with long threads	Thread Type	Clamping Range Ø min-max (CR) inches	Clamping Range Ø min-max (CR) mm	Outer Diameter (D) inches	Wrenching Flats Cap (SW1) inches	Wrenching Flats Body (SW2) inches	Thread Diameter (TD) inches	Thread Length (TL) inches	Long Thread Length (TL) inches	Max. Height (H) inches	UL
PG												
MPS-7	MPS-7L	PG 7	0.079 - 0.197	2.0 - 5.0	0.610	0.551	0.551	0.492	0.236	0.394	0.945	-
MPS-9R*	MPS-9RL	PG 9	0.118 - 0.256	3.0 - 6.5	0.610	0.551	0.551	0.492	0.236	0.394	0.945	-
MPS-9	MPS-9L	PG 9	0.079 - 0.236	2.0 - 6.0	0.744	0.669	0.669	0.598	0.236	0.394	1.004	cURus
MPS-11R*	MPS-11RL	PG 11	0.157 - 0.315	4.0 - 8.0	0.744	0.669	0.669	0.598	0.236	0.394	1.004	-
MPS-11	MPS-11L	PG 11	0.118 - 0.276	3.0 - 7.0	0.866	0.787	0.787	0.732	0.236	0.394	1.102	cURus
MPS-13R*	MPS-13RL	PG 13.5	0.197 - 0.394	5.0 - 10.0	0.866	0.787	0.787	0.732	0.236	0.394	1.102	-
MPS-13	MPS-13L	PG 13.5	0.197 - 0.354	5.0 - 9.0	0.965	0.866	0.866	0.803	0.256	0.394	1.043	cURus
MPS-16R*	MPS-16RL	PG 16	0.236 - 0.472	6.0 - 12.0	0.965	0.866	0.866	0.803	0.256	0.394	1.043	-
MPS-16	MPS-16L	PG 16	0.276 - 0.472	7.0 - 12.0	1.043	0.945	0.945	0.886	0.256	0.394	1.181	cULus
MPS-21R*	MPS-21RL	PG 21	0.394 - 0.551	10.0 - 14.0	1.043	0.945	0.945	0.886	0.256	0.394	1.181	-
MPS-21	MPS-21L	PG 21	0.354 - 0.630	9.0 - 16.0	1.299	1.181	1.181	1.114	0.283	0.472	1.378	cULus
MPS-29R*	MPS-29RL	PG 29	0.512 - 0.709	13.0 - 18.0	1.299	1.181	1.181	1.114	0.283	0.472	1.378	-
MPS-29	MPS-29L	PG 29	0.472 - 0.787	12.0 - 20.0	1.752	1.575	1.575	1.457	0.315	0.472	1.594	cULus
MPS-36R*	MPS-36RL	PG 36	0.709 - 0.984	18.0 - 25.0	1.752	1.575	1.575	1.457	0.315	0.472	1.594	-
MPS-36	MPS-36L	PG 36	0.787 - 1.024	20.0 - 26.0	2.185	1.969	1.969	1.850	0.354	0.551	1.969	cULus
MPS-42R*	MPS-42RL	PG 42	0.866 - 1.260	22.0 - 32.0	2.185	1.969	1.969	1.850	0.354	0.551	1.969	-
MPS-42	MPS-42L	PG 42	0.984 - 1.220	25.0 - 31.0	2.520	2.283	2.283	2.126	0.472	0.630	2.008	cULus
MPS-48R*	MPS-48RL	PG 48	1.181 - 1.496	30.0 - 38.0	2.520	2.283	2.283	2.126	0.472	0.630	2.008	-
MPS-48	MPS-48L	PG 48	1.142 - 1.378	29.0 - 35.0	2.756	2.520	2.520	2.335	0.551	0.709	2.146	cULus

* R versions are not NEMA 4X rated

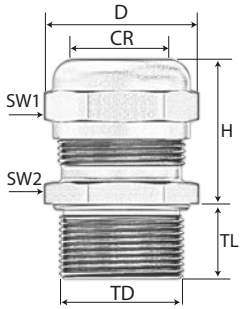
Locknuts need to be purchased separately, see page N/27

CG 300 NPT

Nickel plated brass cord grip

NPT Thread

Impact resistant, suitable for industrial applications, water tight, corrosion resistant.



Technical data:

Material:	Brass, Nickel Plated
Clamping Insert:	Polyamide 6
Seal:	Chloroprene (CR)
O-Ring:	Neoprene (NBR)
Protection type:	IP 68 - 5 Bar NEMA 4X
Temperature range: *permanent:* *intermittent:*	 -20°C to +100°C -40°C to +150°C
Flammability:	V2 (according to UL 94)
Approvals:	cURus, cULus, DNV-GL, CE

Part Number	Thread Type	Clamping Range Ø min-max		Outer Diameter (D)	Wrenching Flats		Thread Diameter (TD)	Thread Length (TL)	Max. Height (H)	UL
					Cap (SW1)	Body (SW2)				
		inches	mm	inches	inches	inches	inches	inches	inches	
NPT										
MNS-3/8R	NPT 3/8	0.079 - 0.236	2.0 - 6.0	0.827	0.669	0.748	0.675	0.453	1.004	-
MNS-3/8RC	NPT 3/8	0.118 - 0.276	3.0 - 7.0	0.866	0.787	0.787	0.675	0.453	1.240	-
MNS-3/8*	NPT 3/8	0.157 - 0.315	4.0 - 8.0	0.827	0.669	0.748	0.675	0.453	1.004	cURus
MNS-3/8C*	NPT 3/8	0.197 - 0.394	5.0 - 10.0	0.866	0.787	0.787	0.675	0.453	1.240	cURus
MNS-1/2R	NPT 1/2	0.197 - 0.354	5.0 - 9.0	0.965	0.866	0.866	0.840	0.512	1.083	-
MNS-1/2*	NPT 1/2	0.236 - 0.472	6.0 - 12.0	0.965	0.866	0.866	0.840	0.512	1.083	cULus
MNS-1/2RC	NPT 1/2	0.276 - 0.472	7.0 - 12.0	1.055	0.945	0.945	0.840	0.512	1.181	-
MNS-1/2C*	NPT 1/2	0.394 - 0.551	10.0 - 14.0	1.055	0.945	0.945	0.840	0.512	1.181	cULus
MNS-3/4R	NPT 3/4	0.354 - 0.630	9.0 - 16.0	1.299	1.181	1.181	1.050	0.512	1.496	-
MNS-3/4*	NPT 3/4	0.512 - 0.709	13.0 - 18.0	1.299	1.181	1.181	1.050	0.512	1.496	cULus
MNS-1R	NPT 1	0.472 - 0.787	12.0 - 20.0	1.909	1.575	1.693	1.315	0.512	1.791	-
MNS-1*	NPT 1	0.709 - 0.984	18.0 - 25.0	1.909	1.575	1.693	1.315	0.512	1.791	cULus
MNS-1 1/4	NPT 1 1/4	0.866 - 1.260	22.0 - 32.0	2.185	1.969	1.969	1.660	1.008	1.969	cULus
MNS-1 1/2	NPT 1 1/2	1.181 - 1.496	30.0 - 38.0	2.520	2.283	2.283	1.902	1.024	2.008	cULus
MNS-2	NPT-2	1.339 - 1.732	34.0 - 44.0	2.756	2.520	2.520	2.375	1.063	2.165	-

* NEMA 4X rated

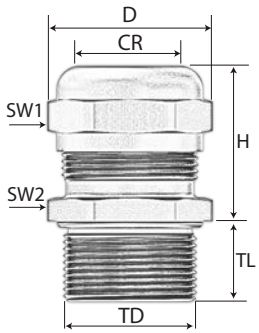
Locknuts need to be purchased separately, see page N/27

Metric Thread

CG 350 Metric

Stainless steel cord grip, SS303 or SS316

Impact resistant, suitable for industrial and food and beverage applications, water tight, corrosion resistant.



Technical data:

Material:	Stainless steel (AISI 303) or AISI (316L)
Clamping Insert:	Polyamide 6
Seal:	Chloroprene (CR)
O-Ring:	Neoprene (NBR)
Protection type:	IP 68 - 5 Bar NEMA 4X
Temperature range: *permanent:* *intermittent:*	 -20°C to +100°C -40°C to +150°C
Flammability:	V2 (according to UL 94)
Approvals:	cURus, cULus, VDE, DNV-GL, CE

Part Number		Thread Type	Clamping Range Ø min-max (CR)		Outer Diameter (D)	Wrenching Flats Cap (SW1)	Wrenching Flats Body (SW2)	Thread Diameter (TD)	Thread Length (TL)	Long Thread Length (TL)	Max. Height (H)	UL
Standard	Long Threads		inches	mm	inches	inches	inches	inches	inches	inches	inches	
Metric												
SM3-12R	SM3-12RL	M12x1.5	0.079 - 0.197	2.0 - 5.0	0.610	0.551	0.551	0.472	0.236	0.472	0.945	-
SM3-12	SM3-12L	M12x1.5	0.118 - 0.256	3.0 - 6.5	0.610	0.551	0.551	0.472	0.236	0.472	0.945	cURus
SM3-16R	SM3-16RL	M16x1.5	0.118 - 0.276	3.0 - 7.0	0.965	0.866	0.866	0.630	0.276	0.472	1.201	-
SM3-16	SM3-16L	M16x1.5	0.157 - 0.315	4.0 - 8.0	0.827	0.669	0.748	0.630	0.276	0.472	1.004	cURus
SM3-16C	SM3-16CL	M16x1.5	0.197 - 0.394	5.0 - 10.0	0.965	0.866	0.866	0.630	0.276	0.472	1.201	cURus
SM3-20R	SM3-20RL	M20x1.5	0.197 - 0.354	5.0 - 9.0	0.965	0.866	0.866	0.787	0.315	0.472	1.043	-
SM3-20	SM3-20L	M20x1.5	0.236 - 0.472	6.0 - 12.0	0.965	0.866	0.866	0.787	0.315	0.472	1.043	cULus
SM3-20C	SM3-20CL	M20x1.5	0.394 - 0.551	10.0 - 14.0	1.043	0.945	0.945	0.787	0.315	0.472	1.181	cULus
SM3-25R	SM3-25RL	M25x1.5	0.276 - 0.472	7.0 - 12.0	1.181	0.945	1.063	0.984	0.315	0.472	1.181	-
SM3-25	SM3-25L	M25x1.5	0.394 - 0.551	10.0 - 14.0	1.181	0.945	1.063	0.984	0.315	0.472	1.181	cULus
SM3-25C	SM3-25CL	M25x1.5	0.512 - 0.709	13.0 - 18.0	1.299	1.181	1.181	0.984	0.315	0.472	1.378	cULus
SM3-32R	SM3-32RL	M32x1.5	0.354 - 0.63	9.0 - 16.0	1.567	1.181	1.417	1.260	0.354	0.591	1.378	-
SM3-32	SM3-32L	M32x1.5	0.512 - 0.709	13.0 - 18.0	1.567	1.181	1.417	1.260	0.354	0.591	1.378	cULus
SM3-32C	SM3-32CL	M32x1.5	0.709 - 0.984	18.0 - 25.0	1.791	1.614	1.614	1.260	0.354	0.591	1.555	cULus
SM3-40R-2	SM3-40RL-2	M40x1.5	0.472 - 0.787	12.0 - 20.0	2.024	1.614	1.811	1.575	0.354	0.591	1.594	-
SM3-40R	SM3-40RL	M40x1.5	0.63 - 0.906	16.0 - 23.0	2.024	1.811	1.811	1.575	0.354	0.591	1.791	-
SM3-40	SM3-40L	M40x1.5	0.709 - 0.984	18.0 - 25.0	2.024	1.614	1.811	1.575	0.354	0.591	1.594	cULus
SM3-40C	SM3-40CL	M40x1.5	0.866 - 1.260	22.0 - 32.0	2.185	1.969	1.969	1.575	0.354	0.591	2.008	cULus
SM3-50R	SM3-50RL	M50x1.5	0.787 - 1.024	20.0 - 26.0	2.402	1.969	2.165	1.969	0.354	0.591	1.969	-
SM3-50	SM3-50L	M50x1.5	0.866 - 1.260	22.0 - 32.0	2.402	1.969	2.165	1.969	0.354	0.591	1.969	cULus
SM3-50C	SM3-50CL	M50x1.5	1.063 - 1.496	27.0 - 38.0	2.618	2.362	2.362	1.969	0.354	0.591	2.126	cULus
SM3-50C-2	SM3-50CL-2	M50x1.5	1.339 - 1.732	34.0 - 44.0	2.795	2.559	2.559	1.969	0.354	0.591	2.165	cULus
SM3-63R	SM3-63RL	M63x1.5	1.142 - 1.378	29.0 - 35.0	3.031	2.559	2.756	2.480	0.551	0.709	2.165	-
SM3-63	SM3-63L	M63x1.5	1.339 - 1.732	34.0 - 44.0	3.031	2.559	2.756	2.480	0.551	0.709	2.165	cULus
SM3-63C	SM3-63CL	M63x1.5	1.457 - 2.087	37.0 - 53.0	3.268	2.953	2.953	2.480	0.394	0.709	2.087	cULus

Stainless steel locknut available upon request
* for SS316, change PN from SM3-XX to SM6-XX

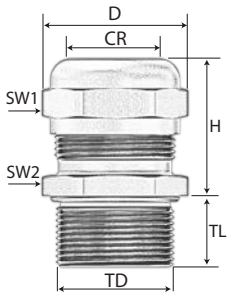
Locknuts need to be purchased separately, see page N/27

PG Thread

CG 350 PG

Stainless steel cord grip, SS303 or SS316

Impact resistant, suitable for industrial and food and beverage applications, water tight, corrosion resistant.



Technical data:

Material:	Stainless steel (AISI 303) or AISI 316L)
Clamping Insert:	Polyamide 6
Seal:	Chloroprene (CR)
O-Ring:	Neoprene (NBR)
Protection type:	IP 68 - 5 Bar; NEMA 4X
Temperature range:	
permanent:	-20°C to +100°C
intermittent:	-40°C to +150°C
Flammability:	V2 (according to UL 94)
Approvals:	cURus, cULus, DNV-GL, CE

Part Number		Thread Type	Clamping Range Ø min-max (CR)		Outer Diameter (D)	Wrenching Flats Cap (SW1)	Wrenching Flats Body (SW2)	Thread Diameter (TD)	Thread Length (TL)	Max. Height (H)	UL
SS 303	SS 316		inches	mm	inches	inches	inches	inches	inches	inches	
SP3-7R	SP6-7R	PG 7	0.079 - 0.197	2.0 - 5.0	0.610	0.551	0.551	0.492	0.236	0.945	-
SP3-7RL	SP6-7RL	PG 7	0.079 - 0.197	2.0 - 5.0	0.610	0.551	0.551	0.492	0.394	0.945	-
SP3-7	SP6-7	PG 7	0.118 - 0.256	3.0 - 6.5	0.610	0.551	0.551	0.492	0.236	0.945	cURus
SP3-7L	SP6-7L	PG 7	0.118 - 0.256	3.0 - 6.5	0.610	0.551	0.551	0.492	0.394	0.945	-
SP3-9R	SP6-9R	PG 9	0.079 - 0.236	2.0 - 6.0	0.827	0.669	0.748	0.598	0.236	1.004	-
SP3-9RL	SP6-9RL	PG 9	0.079 - 0.236	2.0 - 6.0	0.827	0.669	0.748	0.598	0.394	1.004	-
SP3-9	SP6-9	PG 9	0.157 - 0.315	4.0 - 8.0	0.827	0.669	0.748	0.598	0.236	1.004	cURus
SP3-9L	SP6-9L	PG 9	0.157 - 0.315	4.0 - 8.0	0.827	0.669	0.748	0.598	0.394	1.004	-
SP3-11R	SP6-11R	PG 11	0.118 - 0.276	3.0 - 7.0	0.945	0.866	0.866	0.732	0.236	1.083	-
SP3-11RL	SP6-11RL	PG 11	0.118 - 0.276	3.0 - 7.0	0.945	0.866	0.866	0.732	0.394	1.083	-
SP3-11	SP6-11	PG 11	0.197 - 0.394	5.0 - 10.0	0.945	0.866	0.866	0.732	0.236	1.083	cURus
SP3-11L	SP6-11L	PG 11	0.197 - 0.394	5.0 - 10.0	0.945	0.866	0.866	0.732	0.394	1.083	-
SP3-13R	SP6-13R	PG 13.5	0.197 - 0.354	5.0 - 9.0	0.945	0.866	0.866	0.803	0.256	1.024	-
SP3-13RL	SP6-13RL	PG 13.5	0.197 - 0.354	5.0 - 9.0	0.945	0.866	0.866	0.803	0.394	1.024	-
SP3-13	SP6-13	PG 13.5	0.236 - 0.472	6.0 - 12.0	0.945	0.866	0.866	0.803	0.256	1.024	cULus
SP3-13L	SP6-13L	PG 13.5	0.236 - 0.472	6.0 - 12.0	0.945	0.866	0.866	0.803	0.394	1.024	-
SP3-16R	SP6-16R	PG 16	0.276 - 0.472	7.0 - 12.0	1.043	0.945	0.945	0.886	0.256	1.181	-
SP3-16RL	SP6-16RL	PG 16	0.276 - 0.472	7.0 - 12.0	1.043	0.945	0.945	0.886	0.394	1.181	-
SP3-16	SP6-16	PG 16	0.394 - 0.551	10.0 - 14.0	1.043	0.945	0.945	0.886	0.256	1.181	cULus
SP3-16L	SP6-16L	PG 16	0.394 - 0.551	10.0 - 14.0	1.043	0.945	0.945	0.886	0.394	1.181	-
SP3-21R	SP6-21R	PG 21	0.354 - 0.630	9.0 - 16.0	1.299	1.181	1.181	1.114	0.283	1.378	-
SP3-21RL	SP6-21RL	PG 21	0.354 - 0.630	9.0 - 16.0	1.299	1.181	1.181	1.114	0.472	1.378	-
SP3-21	SP6-21	PG 21	0.512 - 0.709	13.0 - 18.0	1.299	1.181	1.181	1.114	0.283	1.378	cULus
SP3-21L	SP6-21L	PG 21	0.512 - 0.709	13.0 - 18.0	1.299	1.181	1.181	1.114	0.472	1.378	-
SP3-29R	SP6-29R	PG 29	0.472 - 0.787	12.0 - 20.0	1.791	1.614	1.614	1.457	0.315	1.594	-
SP3-29RL	SP6-29RL	PG 29	0.472 - 0.787	12.0 - 20.0	1.791	1.614	1.614	1.457	0.472	1.594	-
SP3-29	SP6-29	PG 29	0.709 - 0.984	18.0 - 25.0	1.791	1.614	1.614	1.457	0.315	1.594	cULus
SP3-29L	SP6-29L	PG 29	0.709 - 0.984	18.0 - 25.0	1.791	1.614	1.614	1.457	0.472	1.594	-
SP3-36R	SP6-36R	PG 36	0.787 - 1.024	20.0 - 26.0	2.185	1.969	1.969	1.850	0.354	1.969	-
SP3-36RL	SP6-36RL	PG 36	0.787 - 1.024	20.0 - 26.0	2.185	1.969	1.969	1.850	0.551	1.969	-
SP3-36	SP6-36	PG 36	0.866 - 1.260	22.0 - 32.0	2.185	1.969	1.969	1.850	0.354	1.969	cULus
SP3-36L	SP6-36L	PG 36	0.866 - 1.260	22.0 - 32.0	2.185	1.969	1.969	1.850	0.551	1.969	-
SP3-42R	SP6-42R	PG 42	0.984 - 1.220	25.0 - 31.0	2.618	2.362	2.362	2.126	0.472	2.008	-
SP3-42RL	SP6-42RL	PG 42	0.984 - 1.220	25.0 - 31.0	2.618	2.362	2.362	2.126	0.630	2.008	-
SP3-42	SP6-42	PG 42	1.181 - 1.496	30.0 - 38.0	2.618	2.362	2.362	2.126	0.472	2.008	cULus
SP3-42L	SP6-42L	PG 42	1.181 - 1.496	30.0 - 38.0	2.618	2.362	2.362	2.126	0.630	2.008	-
SP3-48R	SP6-48R	PG 48	1.142 - 1.378	29.0 - 35.0	2.835	2.559	2.559	2.335	0.551	2.146	-
SP3-48RL	SP6-48RL	PG 48	1.142 - 1.378	29.0 - 35.0	2.835	2.559	2.559	2.335	0.709	2.146	-
SP3-48	SP6-48	PG 48	1.339 - 1.732	34.0 - 44.0	2.835	2.559	2.559	2.335	0.551	2.146	-
SP3-48L	SP6-48L	PG 48	1.339 - 1.732	34.0 - 44.0	2.835	2.559	2.559	2.335	0.709	2.146	-

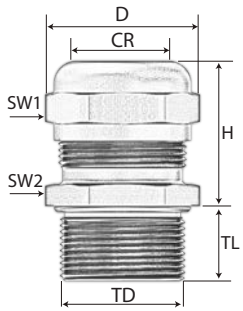
Stainless steel locknut available upon request

NPT Thread

CG 350 NPT

Stainless steel cord grip, SS303 or SS316

Impact resistant, suitable for industrial and food and beverage applications, water tight, corrosion resistant.



Technical data:

Material:	Stainless steel (AISI 303) or AISI 316L)
Clamping Insert:	Polyamide 6
Seal:	Chloroprene (CR)
O-Ring:	Neoprene (NBR)
Protection type:	IP 68 - 5 Bar
Temperature range: *permanent:* *intermittent:*	 -20°C to +100°C -40°C to +150°C
Flammability:	V2 (according to UL 94)
Approvals:	cURus, cULus, DNV-GL, CE

Part Number SS 303	Part Number SS 316	Thread Type	Clamping Range Ø min-max (CR) inches	Clamping Range Ø min-max (CR) mm	Outer Diameter (D) inches	Wrenching Flats Cap (SW1) inches	Wrenching Flats Body (SW2) inches	Thread Diameter (TD) inches	Thread Length (TL) inches	Max. Height (H) inches	UL
NPT											
SN3-3/8R	SN6-3/8R	NPT 3/8	0.079 - 0.236	2.0 - 6.0	0.827	0.669	0.748	0.675	0.453	1.004	-
SN3-3/8	SN6-3/8	NPT 3/8	0.157 - 0.315	4.0 - 8.0	0.827	0.669	0.748	0.675	0.453	1.004	cURus
SN3-3/8RC	SN6-3/8RC	NPT 3/8	0.118 - 0.276	3.0 - 7.0	0.945	0.866	0.787	0.675	0.453	1.240	-
SN3-3/8C	SN6-3/8C	NPT 3/8	0.197 - 0.394	5.0 - 10.0	0.945	0.866	0.787	0.675	0.453	1.240	cURus
SN3-1/2R	SN6-1/2R	NPT 1/2	0.197 - 0.354	5.0 - 9.0	1.181	0.866	1.063	0.840	0.512	1.220	-
SN3-1/2	SN6-1/2	NPT 1/2	0.236 - 0.472	6.0 - 12.0	1.181	0.866	1.063	0.840	0.512	1.220	cULus
SN3-1/2RC	SN6-1/2RC	NPT 1/2	0.276 - 0.472	7.0 - 12.0	1.043	0.945	0.945	0.840	0.512	1.181	-
SN3-1/2C	SN6-1/2C	NPT 1/2	0.394 - 0.551	10.0 - 14.0	1.043	0.945	0.945	0.840	0.512	1.181	cULus
SN3-3/4R	SN6-3/4R	NPT 3/4	0.354 - 0.630	9.0 - 16.0	1.299	1.181	1.181	1.050	0.512	1.496	-
SN3-3/4	SN6-3/4	NPT 3/4	0.512 - 0.709	13.0 - 18.0	1.299	1.181	1.181	1.050	0.512	1.496	cULus
SN3-1R	SN6-1R	NPT 1	0.472 - 0.787	12.0 - 20.0	1.791	1.614	1.614	1.315	0.512	1.791	-
SN3-1	SN6-1	NPT 1	0.709 - 0.984	18.0 - 25.0	1.791	1.614	1.614	1.315	0.512	1.791	cULus
SN3-1 1/4	SN6-1 1/4	NPT 1 1/4	0.866 - 1.260	22.0 - 32.0	2.185	1.969	1.969	1.660	1.008	2.008	-
SN3-1 1/2	SN6-1 1/2	NPT 1 1/2	1.181 - 1.496	30.0 - 38.0	2.618	2.362	2.362	1.900	1.024	1.969	-
SN3-2	SN6-2	NPT 2	1.339 - 1.732	34.0 - 44.0	2.835	2.559	2.559	2.375	1.063	2.165	-

Stainless steel locknut available upon request

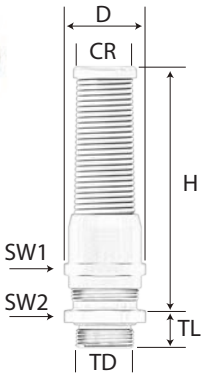
Locknuts need to be purchased separately, see page N/27

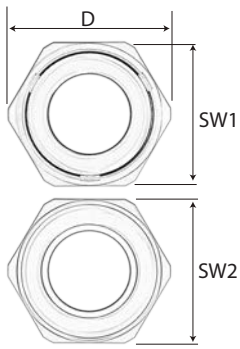
Metric & PG Thread

CG 325 Metric & PG Metal Flex Glands

Metal gland with spiral top for bending support

Strain relief gland offers maximum protection against conductor fatigue caused by flexing





Technical data:

Material:	Brass, Nickel Plated
Clamping Insert:	Polyamide 6
Seal:	Chloroprene (CR)
Bending Spiral:	Stainless steel (AISI 301)
O-ring	Neoprene (NBR)
Protection type:	IP 68 - 5 Bar
Temperature range:	
permanent:	-20°C to +100°C
intermittent:	-40°C to +150°C
Flammability:	V2 (according to UL 94)

Part Number	Thread Type	Clamping Range Ø min-max (CR)		Outer Ø (D)	Wrenching Flats Cap (SW1)	Wrenching Flats Body (SW2)	Thread Diameter (TD)		Thread Length (TL)		Max. Height (H)
		inches	mm	inches	inches	inches	inches	mm	inches	mm	inches
Metric											
MMF-12	M12x1.5	0.118 - 0.256	3.0 - 6.5	0.610	0.472	0.551	0.472	12	0.236	6.0	2.362
MMF-16R	M16x1.5	0.118 - 0.276	3.0 - 7.0	0.866	0.630	0.787	0.630	16	0.256	6.5	3.031
MMF-16	M16x1.5	0.197 - 0.394	5.0 - 10.0	0.866	0.630	0.787	0.630	16	0.256	6.5	3.031
MMF-20R	M20x1.5	0.197 - 0.354	5.0 - 9.0	0.965	0.787	0.866	0.787	20	0.315	8.0	3.425
MMF-20	M20x1.5	0.236 - 0.472	6.0 - 12.0	0.965	0.787	0.866	0.787	20	0.315	8.0	3.425
MMF-20C	M20x1.5	0.394 - 0.551	10.0 - 14.0	1.043	0.787	0.945	0.787	20	0.315	8.0	3.602
MMF-25R	M25x1.5	0.276 - 0.472	7.0 - 12.0	1.181	0.984	0.945	0.984	25	0.315	8.0	3.602
MMF-25	M25x1.5	0.394 - 0.551	10.0 - 14.0	1.181	0.984	0.945	0.984	25	0.315	8.0	3.602
MMF-32R	M32x1.5	0.354 - 0.63	9.0 - 16.0	1.476	1.260	1.181	1.260	32	0.354	9.0	3.780
MMF-32	M32x1.5	0.512 - 0.709	13.0 - 18.0	1.476	1.260	1.181	1.260	32	0.354	9.0	3.780
PG											
MPF-11R	PG 11	0.118 - 0.276	3.0 - 7.0	0.866	0.787	0.787	0.732	19	0.236	6.0	2.894
MPF-11	PG 11	0.197 - 0.394	5.0 - 10.0	0.866	0.787	0.787	0.732	19	0.236	6.0	2.894
MPF-13R	PG 13	0.197 - 0.354	5.0 - 9.0	0.965	0.866	0.866	0.803	20	0.256	6.5	3.386
MPF-13	PG 13	0.236 - 0.472	6.0 - 12.0	0.965	0.866	0.866	0.803	20	0.256	6.5	3.386
MFP-16R	PG 16	0.276 - 0.472	7.0 - 12.0	1.043	0.945	0.945	0.886	23	0.256	6.5	3.602
MFP-16	PG 16	0.394 - 0.551	10.0 - 14.0	1.043	0.945	0.945	0.886	23	0.256	6.5	3.602
MFP-21R	PG 21	0.354 - 0.630	9.0 - 16.0	1.299	1.181	1.181	1.114	28	0.283	7.2	3.799
MFP-21	PG 21	0.512 - 0.709	13.0 - 18.0	1.299	1.181	1.181	1.114	28	0.283	7.2	3.799

CG EMC-2 & CG EMC-4

Overview

The EMC cable glands combine several advantages into one product. With the EMC gland, you get the same clamping range as a normal brass gland with a protection class of IP 68 and the added feature of EMC grounding springs to quickly ground a shielded cable to a metal enclosure or motor. To create the ground path, remove 5-10 mm of the jacket to expose the braid and position the gland on the cable. The large surface of the fingers come in contact with the braid to provide a completed grounding connection. Furthermore, the EMC design will give you a low impedance electrical contact between the body and the cable braid without having to open the gland. The shielding for electromagnetic purposes will be perfect by just tightening the gland delivered in a ready to use assembly.

CG EMC-2

- Optimal grounding of shielded cable
- One direction installation
- Impact resistant
- Suitable for the highest demands of today's technology
- Easy installation
- Easy handling
- High corrosion resistance
- Water tight
- Strain relief

CG EMC-4

- Optimal grounding of shielded cable
- Bi-directional installation
- Impact resistant
- Free radial and axial movement of the cable without any damage to the braid
- Easy installation
- Large contact surface of the fingers allowing low contact resistance
- High contact performance under vibrating conditions
- Water tight
- Strain relief

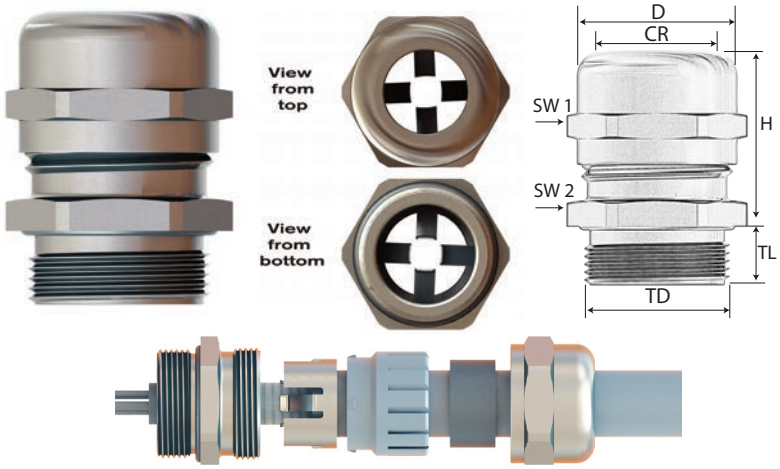
Installation instructions available see page O/50

Metric Thread

CG EMC-2 Metric

Nickel plated brass EMC cable gland, standard & longer thread

Optimal grounding of shielded cable, easy installation, water tight, impact resistant.



Technical data:

Material:	Brass, Nickel Plated
Contact spring:	Special Copper Alloy
Clamping Insert:	Polyamide 6
Seal:	Chloroprene (CR)
O-Ring:	Neoprene (NBR)
Protection type:	IP 68 - 5 Bar NEMA 4X
Temperature range:	
permanent:	-20°C to +100°C
intermittent:	-40°C to +150°C
Flammability:	V2 (according to UL 94)
Approvals:	cURus, cULus, VDE, DNV-GL, CE

Part Number	Thread Type	Clamping Range Ø min-max (CR)		Outer Ø (D)	Shield Diameter (Ø min)		Wrenching Flats		Thread Diameter (TD)	Thread Length (TL)	Max. Height (H)	UL
		inches	mm	inches	inches	mm	Cap (SW1) inches	Body (SW2) inches	inches	inches	inches	
Metric												
EM2-12	M12x1.5	0.118 - 0.256	3.0 - 6.5	0.610	0.098	2.5	0.551	0.551	0.472	0.236	0.945	cURus
EM2-16	M16x1.5	0.157 - 0.315	4.0 - 8.0	0.787	0.138	3.5	0.669	0.709	0.630	0.276	1.004	cURus
EM2-16C	M16x1.5	0.197 - 0.394	5.0 - 10.0	0.866	0.157	4.0	0.787	0.787	0.630	0.256	1.240	cURus
EM2-20	M20x1.5	0.236 - 0.472	6.0 - 12.0	0.965	0.197	5.0	0.866	0.866	0.787	0.315	1.043	cURus
EM2-25	M25x1.5	0.394 - 0.551	10.0 - 14.0	1.181	0.335	8.5	0.945	1.063	0.984	0.315	1.181	cULus
EM2-25C	M25x1.5	0.512 - 0.709	13.0 - 18.0	1.299	0.433	11	1.181	1.181	0.984	0.315	1.575	cULus
EM2-32	M32x1.5	0.512 - 0.709	13.0 - 18.0	1.476	0.433	11	1.181	1.339	1.260	0.354	1.378	cULus
EM2-32C	M32x1.5	0.709 - 0.984	18.0 - 25.0	1.752	0.630	16	1.575	1.575	1.260	0.354	1.811	cULus
EM2-40	M40x1.5	0.709 - 0.984	18.0 - 25.0	1.909	0.630	16	1.575	1.693	1.575	0.354	1.594	cULus
EM2-40C	M40x1.5	0.866 - 1.260	22.0 - 32.0	2.185	0.787	20	1.969	1.969	1.575	0.354	2.146	cULus
EM2-50	M50x1.5	0.866 - 1.260	22.0 - 32.0	2.402	0.787	20	1.969	2.165	1.969	0.354	1.969	cULus
EM2-50C	M50x1.5	1.063 - 1.732	27.0 - 44.0	2.165	1.024	26	1.969	2.165	1.969	0.354	1.969	-
EM2-63	M63x1.5	1.339 - 1.732	34.0 - 44.0	2.953	1.220	31	2.520	2.677	2.480	0.551	2.165	cULus
Metric with Long Thread *												
EM2-12L	M12x1.5	0.118 - 0.256	3.0 - 6.5	0.610	0.098	2.5	0.551	0.551	0.472	0.472	0.945	-
EM2-16L	M16x1.5	0.157 - 0.315	4.0 - 8.0	0.787	0.138	3.5	0.669	0.709	0.630	0.472	1.004	-
EM2-20L	M20x1.5	0.236 - 0.472	6.0 - 12.0	0.965	0.197	5.0	0.866	0.866	0.787	0.472	1.043	-
EM2-25L	M25x1.5	0.394 - 0.551	10.0 - 14.0	1.181	0.335	8.5	0.945	1.063	0.984	0.472	1.181	-
EM2-32L	M32x1.5	0.512 - 0.709	13.0 - 18.0	1.476	0.433	11	1.181	1.339	1.260	0.591	1.378	-
EM2-40L	M40x1.5	0.709 - 0.984	18.0 - 25.0	1.909	0.630	16	1.575	1.693	1.575	0.591	1.594	-
EM2-50L	M50x1.5	0.866 - 1.260	22.0 - 32.0	2.402	0.787	20	1.969	2.165	1.969	0.591	1.969	-
EM2-63L	M63x1.5	1.339 - 1.732	34.0 - 44.0	2.953	1.220	31	2.520	2.677	2.480	0.709	2.165	-

* Long thread version is not NEMA 4X rated

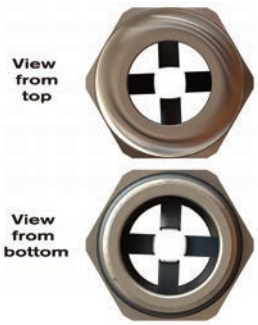
Locknuts need to be purchased separately, see page N/27

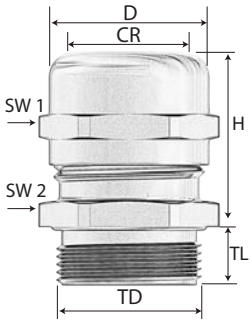
CG EMC-2 PG / CG EMC-2 NPT

Nickel plated brass EMC cable gland, standard & longer thread

PG & NPT Thread

Optimal grounding of shielded cable, easy installation, water tight, impact resistant.





Technical data:

Material:	Brass, Nickel Plated
Contact spring:	Special Copper Alloy
Clamping Insert:	Polyamide 6
Seal:	Chloroprene (CR)
O-Ring:	Neoprene (NBR)
Protection type:	IP 68 - 5 Bar NEMA 4X
Temperature range:	
permanent:	-20°C to +100°C
intermittent:	-40°C to +150°C
Flammability:	V2 (according to UL 94)
Approvals:	cURus, cULus, DNV-GL, CE

Part Number	Thread Type	Clamping Range Ø min-max (CR)		Outer Ø (D)	Shield Diameter (Ø min)		Wrenching Flats Cap (SW1)	Wrenching Flats Body (SW2)	Thread Diameter (TD)	Thread Length (TL)	Max. Height (H)	UL
		inches	mm	inches	inches	mm	inches	inches	inches	inches	inches	
PG												
EP2-7	PG 7	0.118 - 0.256	3.0 - 6.5	0.610	0.098	2.5	0.551	0.551	0.492	0.236	0.945	-
EP2-9	PG 9	0.157 - 0.315	4.0 - 8.0	0.744	0.138	3.5	0.669	0.669	0.598	0.236	1.004	cURus
EP2-11	PG 11	0.197 - 0.394	5.0 - 10.0	0.866	0.157	4.0	0.787	0.787	0.732	0.236	1.102	cURus
EP2-13	PG 13.5	0.236 - 0.472	6.0 - 12.0	0.965	0.197	5.0	0.866	0.866	0.803	0.256	1.043	cURus
EP2-16	PG 16	0.394 - 0.551	10.0 - 14.0	1.043	0.335	8.5	0.945	0.945	0.886	0.256	1.181	cULus
EP2-21	PG 21	0.512 - 0.709	13.0 - 18.0	1.299	0.433	11	1.181	1.181	1.114	0.283	1.378	cULus
EP2-29	PG 29	0.709 - 0.984	18.0 - 25.0	1.752	0.630	16	1.575	1.575	1.457	0.315	1.594	cULus
EP2-36	PG 36	0.866 - 1.26	22.0 - 32.0	2.185	0.787	20	1.969	1.969	1.850	0.354	1.969	cULus
EP2-42	PG 42	1.181 - 1.496	30.0 - 38.0	2.520	1.102	28	2.283	2.283	2.126	0.472	2.008	cULus
EP2-48	PG 48	1.339 - 1.732	34.0 - 44.0	2.756	1.220	31	2.520	2.520	2.335	0.551	2.165	cULus
PG with Long Thread*												
EP2-7L	PG 7	0.118 - 0.256	3.0 - 6.5	0.610	0.098	2.5	0.551	0.551	0.492	0.394	0.945	-
EP2-9L	PG 9	0.157 - 0.315	4.0 - 8.0	0.744	0.138	3.5	0.669	0.669	0.598	0.394	1.004	-
EP2-11L	PG 11	0.197 - 0.394	5.0 - 10.0	0.866	0.157	4.0	0.787	0.787	0.732	0.394	1.102	-
EP2-13L	PG 13.5	0.236 - 0.472	6.0 - 12.0	0.965	0.197	5.0	0.866	0.866	0.803	0.394	1.043	-
EP2-16L	PG 16	0.394 - 0.551	10.0 - 14.0	1.043	0.335	8.5	0.945	0.945	0.886	0.394	1.181	-
EP2-21L	PG 21	0.512 - 0.709	13.0 - 18.0	1.299	0.433	11	1.181	1.181	1.114	0.472	1.378	-
EP2-29L	PG 29	0.709 - 0.984	18.0 - 25.0	1.752	0.630	16	1.575	1.575	1.457	0.472	1.594	-
EP2-36L	PG 36	0.866 - 1.26	22.0 - 32.0	2.185	0.787	20	1.969	1.969	1.850	0.551	1.969	-
EP2-42L	PG 42	1.181 - 1.496	30.0 - 38.0	2.520	1.102	28	2.283	2.283	2.126	0.630	2.008	-
EP2-48L	PG 48	1.339 - 1.732	34.0 - 44.0	2.756	1.220	31	2.520	02.52	2.335	0.709	2.165	-
NPT												
EN2-3/8	NPT 3/8	0.197 - 0.394	5.0 - 10.0	0.866	0.157	4.0	0.787	0.787	0.675	0.453	1.240	cURus
EN2-1/2	NPT 1/2	0.236 - 0.472	6.0 - 12.0	0.965	0.197	5.0	0.866	0.866	0.840	0.512	1.083	cULus
EN2-3/4R*	NPT 3/4	0.354 - 0.630	9.0 - 16.0	1.299	0.335	8.5	1.181	1.181	1.050	0.512	1.496	cULus
EN2-3/4	NPT 3/4	0.512 - 0.709	13.0 - 18.0	1.299	0.433	11	1.181	1.181	1.050	0.512	1.496	cULus
EN2-1	NPT 1	0.709 - 0.984	18.0 - 25.0	1.909	0.630	16	1.575	1.693	1.315	0.512	1.791	cURus

* PG version and EN2-3/4R are not NEMA 4X rated

Locknuts need to be purchased separately, see page N/27

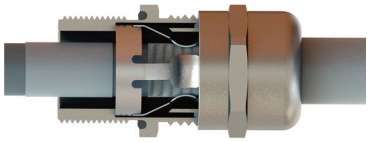
SPECIAL CABLES SAB North America
www.sabcable.com
866-722-2974 ■ info@sabcable.com

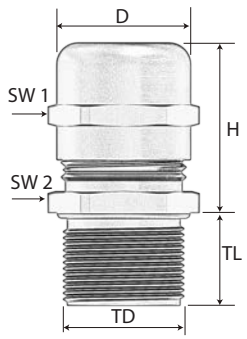
CG EMC-4 Metric / CG EMC-4 PG / CG EMC-4 NPT

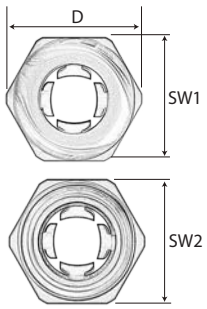
Nickel plated brass EMC cable gland, vibration proof

Metric, PG, & NPT Thread

Optimal grounding of shielded cable, bi-directional cable installation, impact resistant.







Technical data:

Material:	Brass, Nickel Plated
Contact spring:	Special Copper Alloy
Clamping Insert:	Polyamide 6
Seal:	Chloroprene (CR)
O-Ring:	Neoprene (NBR)
Protection type:	IP 68 - 5 Bar NEMA 4X
Temperature range: *permanent:* *intermittent:*	 -20°C to +100°C -40°C to +150°C
Flammability:	V2 (according to UL 94)
Approvals:	cURus, cULus, VDE, DNV-GL, CE

Part Number	Thread Type	Clamping Range Ø min-max (CR)		Outer Ø (D)	Shield Diameter (Ø min)		Wrenching Flats Cap (SW1)	Wrenching Flats Body (SW2)	Thread Diameter (TD)	Thread Length (TL)	Max. Height (H)	UL
		inches	mm	inches	inches	mm	inches	inches	inches	inches	inches	
Metric												
EM4-12	M12x1.5	0.118 - 0.256	3.0 - 6.5	0.610	0.079	2.0	0.551	0.551	0.472	0.236	1.181	cURus
EM4-16	M16x1.5	0.197 - 0.394	5.0 - 10.0	0.866	0.138	3.5	0.787	0.787	0.630	0.236	1.378	cURus
EM4-20	M20x1.5	0.236 - 0.472	6.0 - 12.0	0.965	0.177	4.5	0.866	0.866	0.787	0.236	1.319	cULus
EM4-20C	M20x1.5	0.295 - 0.551	7.5 - 14.0	1.055	0.217	5.5	0.945	0.945	0.787	0.315	1.634	cULus
EM4-25	M25x1.5	0.394 - 0.709	10.0 - 18.0	1.299	0.276	7.0	1.181	1.181	0.984	0.315	1.752	cULus
EM4-32	M32x1.5	0.630 - 0.984	16.0 - 25.0	1.752	0.472	12	1.575	1.575	1.260	0.354	2.165	cULus
EM4-40	M40x1.5	0.866 - 1.260	22.0 - 32.0	2.185	0.709	18	1.969	1.969	1.575	0.354	2.461	cULus
EM4-50	M50x1.5	1.181 - 1.496	30.0 - 38.0	2.520	1.024	26	2.283	2.283	1.969	0.354	2.913	cULus
EM4-63	M63x1.5	1.339 - 1.732	34.0 - 44.0	2.953	1.181	30	2.520	2.677	2.480	0.551	2.362	cULus
EM4-63C	M63x1.5	1.457 - 2.087	37.0 - 53.0	3.268	1.299	33	2.953	2.953	2.480	0.394	2.953	cULus
PG[1]*												
EP4-7	PG 7	0.118 - 0.256	3.0 - 6.5	0.650	0.079	2.0	0.551	0.591	0.492	0.236	1.181	-
EP4-11	PG 11	0.197 - 0.394	5.0 - 10.0	0.906	0.138	3.5	0.787	0.827	0.732	0.236	1.378	-
EP4-13	PG 13.5	0.236 - 0.472	6.0 - 12.0	0.965	0.177	4.5	0.866	0.866	0.803	0.256	1.319	-
EP4-16	PG 16	0.295 - 0.551	7.5 - 14.0	1.083	0.217	5.5	0.945	0.984	0.886	0.256	1.634	-
EP4-21	PG 21	0.394 - 0.709	10.0 - 18.0	1.398	0.276	7.0	1.181	1.260	1.114	0.276	1.752	-
EP4-29	PG 29	0.630 - 0.984	16.0 - 25.0	1.752	0.472	12	1.575	1.575	1.457	0.354	2.165	-
EP4-36	PG 36	0.866 - 1.26	22.0 - 32.0	2.185	0.709	18	1.969	1.969	1.850	0.354	2.441	-
EP4-42	PG 42	1.181 - 1.496	30.0 - 38.0	2.618	1.024	26	2.283	2.362	2.126	0.472	2.933	-
EP4-48	PG 48	1.339 - 1.732	34.0 - 44.0	2.953	1.181	30	2.520	2.677	2.335	0.551	2.382	-
NPT[+]*												
EN4-1/4	NPT 1/4	0.118 - 0.256	3.0 - 6.5	0.650	0.079	2.0	0.551	0.591	0.540	0.453	1.181	-
EN4-3/8	NPT 3/8	0.197 - 0.394	5.0 - 10.0	0.866	0.138	3.5	0.787	0.787	0.675	0.453	1.378	-
EN4-1/2	NPT 1/2	0.236 - 0.472	6.0 - 12.0	0.965	0.177	4.5	0.866	0.866	0.840	0.591	1.555	cULus
EN4-1/2C	NPT 1/2	0.295 - 0.551	7.5 - 14.0	1.055	0.217	5.5	0.945	0.945	0.840	0.591	1.634	cULus
EN4-1/2C-2	NPT 1/2	0.295 - 0.551	7.5 - 14.0	1.055	0.217	5.5	0.945	0.945	0.840	0.314	1.634	cULus
EN4-3/4	NPT 3/4	0.394 - 0.709	10.0 - 18.0	1.299	0.276	7.0	1.181	1.181	1.050	0.591	1.713	cULus
EN4-1	NPT 1	0.630 - 0.984	16.0 - 25.0	1.752	0.472	12	1.575	1.575	1.315	0.787	2.126	cULus
EN4-1 1/4	NPT 1 1/4	0.866 - 1.260	22.0 - 32.0	2.185	0.709	18	1.969	1.969	1.660	0.787	2.480	cULus
EN4-1 1/2	NPT 1 1/2	1.181 - 1.496	30.0 - 38.0	2.520	1.024	26	2.283	2.283	1.900	0.866	2.874	cULus
EN4-2	NPT 2	1.339 - 1.732	34.0 - 44.0	2.953	1.181	30	2.520	2.677	2.375	0.866	0.866	cULus

[1] PG - DNV-GL & CE only
[+] NPT - cULus, DNV-GL & CE only
* PG & NPT are not NEMA 4X rated

Locknuts need to be purchased separately, see page N/27

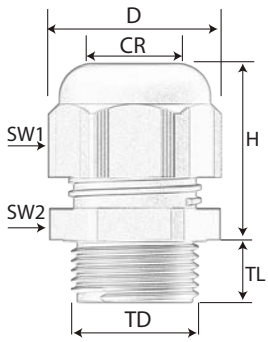
Metric & NPT Thread

EX 100 Metric & NPT

Polyamide 6 EX e and EX i dome cap glands

EX e

EX i



RoHS

Technical data:

Material:	Polyamide 6		
Seal	Chloroprene (CR)		
Color:	Black (RAL 9005)		
Protection type:	IP 68 5 bar (30 min)		
Temperature range: *Ex e/tb / Ex tb:* *Ex i[1]:*	 -40°C to +80°C -40°C to +70°C		
Suitable for use in:	Group II Group III	Gas Group IIC Dust Group IIIC	ZONE 1/ZONE 2 ZONE 21/ZONE22
Equipment marking:	Ex II 2GD Ex eb IIC Gb Ex tb IIIC Db		
Marking example	BMD BM-X... CE 0722 Ex 2GD Ex eb IIC Gb Ex tb IIIC Db IP66/68 Ta-40°C +80°C IMQ 13 ATEX 010X IECEx IMQ 13.0003X		
Impact test result:	4J		

Approval		Certificate Number	Standards
Ex	ATEX	IMQ 13 ATEX 010X	EN 60079-0:2012+A11:2013; EN 60079-1:2014; EN 60079-7:2015; EN 60079-31:2014
IECEx	IECEx	IECEx IMQ 13.0003X	IEC 60079-0:2011; IEC 60079-7:2016-07; IEC 60079-31:2013
EAC	TR RU	No TC RU C-TR. AA87.B.00941	ГОСТ 31610.0-2014; ГОСТ IEC 60079-1:2013; ГОСТ IEC 60079-31:2013
IN METRO	IN METRO	DNV 18.0150 X	ABNT NBR IEC 60079-0:2013; ABNT NBR IEC 60079-7:2008; ABNT NBR IEC 60079-31:2011
DNV	MARINE	TAE00003WV	IEC/EN60079-0; IEC/EN60079-7; IEC/EN60079-31; IEC/EN 62444

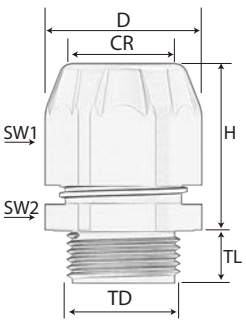
Part Number	Thread Type	Clamping Range Ø min-max (CR)		Outer Diameter (D)	Wrenching Flats Cap (SW1)	Wrenching Flats Body (SW2)	Thread Diameter (TD)		Thread Length (TL)		Max. Height (H)	
		inches	mm	inches	inches	inches	inches	mm	inches	mm	inches	mm
Metric												
EXMP-20R	M20x1.5	0.197 - 0.394	5.0 - 10.0	1.063	0.866	0.945	0.787	20	0.394	10	1.268	32.2
EXMP-20	M20x1.5	0.236 - 0.472	6.0 - 12.0	1.063	0.945	0.945	0.787	20	0.394	10	1.276	32.4
EXMP-20L	M20x1.5	0.236 - 0.472	6.0 - 12.0	1.063	0.945	0.945	0.787	20	0.591	15	1.276	32.4
EXMP-20C	M20x1.5	0.394 - 0.551	10.0 - 14.0	1.217	1.063	1.063	0.787	20	0.394	10	1.256	31.9
EXMP-20CL	M20x1.5	0.394 - 0.551	10.0 - 14.0	1.217	1.063	1.063	0.787	20	0.591	15	1.256	31.9
EXMP-25R	M25x1.5	0.394 - 0.551	10.0 - 14.0	1.217	1.063	1.063	0.984	25	0.394	10	1.256	31.9
EXMP-25RL	M25x1.5	0.394 - 0.551	10.0 - 14.0	1.217	1.063	1.063	0.984	25	0.591	15	1.256	31.9
EXMP-25	M25x1.5	0.433 - 0.669	11.0 - 17.0	1.280	1.142	1.142	0.984	25	0.394	10	1.484	37.7
EXMP-25CL	M25x1.5	0.512 - 0.709	13.0 - 18.0	1.465	1.299	1.299	0.984	25	0.591	15	1.512	38.4
EXMP-25C	M25x1.5	0.512 - 0.709	13.0 - 18.0	1.465	1.299	1.299	0.984	25	0.394	10	1.512	38.4
EXMP-32R	M32x1.5	0.512 - 0.709	13.0 - 18.0	1.614	1.299	1.417	1.260	32	0.394	10	1.512	38.4
EXMP-32	M32x1.5	0.591 - 0.827	15.0 - 21.0	1.614	1.417	1.417	1.260	32	0.394	10	1.665	42.3
EXMP-32C	M32x1.5	0.709 - 0.984	18.0 - 25.0	1.854	1.654	1.654	1.260	32	0.591	15	1.705	43.3
EXMP-40	M40x1.5	0.748 - 1.102	19.0 - 28.0	2.063	1.811	1.811	1.575	40	0.394	10	1.866	47.4
EXMP-40C	M40x1.5	0.866 - 1.260	22.0 - 32.0	2.346	2.087	2.087	1.575	40	0.709	18	2.063	52.4
EXMP-50	M50x1.5	1.181 - 1.496	30.0 - 38.0	2.669	2.362	2.362	1.969	50	0.709	18	2.157	54.8
EXMP-63	M63x1.5	1.339 - 1.732	34.0 - 44.0	2.850	2.559	2.559	2.480	63	0.709	18	2.161	54.9
NPT												
EXNP-1/2R	NPT 1/2	0.197 - 0.394	5.0 - 10.0	1.063	0.866	0.945	0.840	21	0.591	15	1.268	32.2
EXNP-1/2	NPT 1/2	0.236 - 0.472	6.0 - 12.0	1.063	0.945	0.945	0.840	21	0.591	15	1.276	32.4
EXNP-1/2C	NPT 1/2	0.394 - 0.551	10.0 - 14.0	1.217	1.063	1.063	0.840	21	0.591	15	1.256	31.9
EXNP-3/4	NPT 3/4	0.512 - 0.709	13.0 - 18.0	1.465	1.299	1.299	1.050	27	0.591	15	1.512	38.4
EXNP-1	NPT 1	0.709 - 0.984	18.0 - 25.0	1.854	1.654	1.654	1.315	33	0.709	18	1.705	43.3

[1] for Ex i, replace the P with an I, ex. EXMP-20R> EXMI-20R

Metric Thread

EX 150 Metric

High Impact Polyamide 6 EX e dome cap glands



RoHS

Technical data:

Material:	Polyamide 6		
Seal	Chloroprene (CR)		
Color:	Black (RAL 9005)		
Protection type:	IP 68 5 bar (30 min)		
Temperature range: *Ex e/tb / Ex tb / Ex i:*	-40°C to +70°C		
Suitable for use in:	Group II Group III	Gas Group IIC Dust Group IIIC	ZONE 1/ZONE 2 ZONE 21/ZONE22
Equipment marking:	Ex II 2GD; Ex eb IIC Gb Ex tb IIIC Db		
Marking example	BMD EHIBM-X... CE 0722 Ex 2GD Ex eb IIC Gb Ex tb IIIC Db Ta-40°C +70°C IP66/68 IECEx IMQ 13.0003X IMQ 13 ATEX 010		
Impact test result:	7		

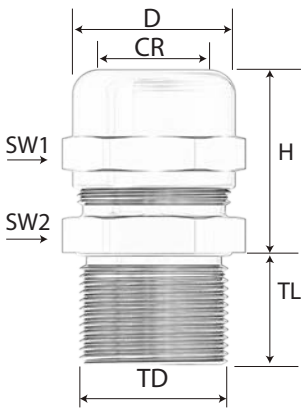
Approval		Certificate Number	Standards
Ex	ATEX	IMQ 13 ATEX 010X	EN 60079-0:2012+A11:2013; EN 60079-1:2014; EN 60079-7:2015; EN 60079-31:2014
IECEx	IECEx	IECEx IMQ 13.0003X	IEC 60079-0:2011; IEC 60079-7:2016-07; IEC 60079-31:2013
EAC	TR RU	No TC RU C-TR. AA87.B.00941	ГОСТ 31610.0-2014; ГОСТ IEC 60079-1:2013; ГОСТ IEC 60079-31:2013
INMETRO	IN METRO	DNV 18.0150 X	ABNT NBR IEC 60079-0:2013; ABNT NBR IEC 60079-7:2008; ABNT NBR IEC 60079-31:2011
DNV	MARINE	TAE00003WV	IEC/EN60079-0; IEC/EN60079-7; IEC/EN60079-31; IEC/EN 62444

Part Number	Thread Type	Seal Type	Clamping Range Ø min-max (CR)		Outer Diameter (D)	Wrenching Flats		Thread Diameter (TD)		Thread Length (TL)	Max. Height (H)
			inches	mm	inches	Cap (SW1) inches	Body (SW2) inches	inches	mm	inches	inches
Metric											
EXMH-12R	M12x1.5	Double	0.118 - 0.256	3.0 - 6.5	0.669	0.591	0.591	0.472	12	0.394	1.193
EXMH-12	M12x1.5	Single	0.157 - 0.256	4.0 - 6.5	0.669	0.591	0.591	0.472	12	0.394	1.193
EXMH-16R	M16x1.5	Double	0.157 - 0.315	4.0 - 8.0	0.839	0.748	0.748	0.630	16	0.394	1.323
EXMH-16C	M16x1.5	Double	0.157 - 0.394	4.0 - 10.0	0.984	0.866	0.866	0.630	16	0.394	1.465
EXMH-16	M16x1.5	Single	0.197 - 0.315	5.0 - 8.0	0.839	0.748	0.748	0.630	16	0.394	1.323
EXMH-16CL	M16x1.5	Single	0.236 - 0.394	6.0 - 10.0	0.984	0.866	0.866	0.630	16	0.591	1.465
EXMH-20R	M20x1.5	Double	0.157 - 0.512	4.0 - 13.0	1.083	0.984	0.984	0.787	20	0.394	1.512
EXMH-20	M20x1.5	Single	0.236 - 0.394	6.0 - 10.0	1.083	0.866	0.945	0.787	20	0.394	1.465
EXMH-20L	M20x1.5	Single	0.236 - 0.472	6.0 - 12.0	1.083	0.945	0.945	0.787	20	0.591	1.488
EXMH-20CL	M20x1.5	Single	0.276 - 0.472	7.0 - 12.0	1.083	0.945	0.945	0.787	20	0.591	1.488
EXMH-20CL-2	M20x1.5	Double	0.315 - 0.551	8.0 - 14.0	1.220	1.063	1.063	0.787	20	0.591	1.457
EXMH-20CL-3	M20x1.5	Single	0.433 - 0.551	11.0 - 14.0	1.220	1.063	1.063	0.787	20	0.591	1.457
EXMH-25R	M25x1.5	Double	0.354 - 0.669	9.0 - 17.0	1.280	1.142	1.142	0.984	25	0.591	1.661
EXMH-25	M25x1.5	Double	0.394 - 0.709	10.0 - 18.0	1.457	1.299	1.299	0.984	25	0.591	1.717
EXMH-25C	M25x1.5	Single	0.472 - 0.669	12.0 - 17.0	1.280	1.142	1.142	0.984	25	0.591	1.661
EXMH-25C-2	M25x1.5	Single	0.551 - 0.709	14.0 - 18.0	1.457	1.299	1.299	0.984	25	0.591	1.717
EXMH-32R	M32x1.5	Double	0.472 - 0.827	12.0 - 21.0	1.614	1.417	1.417	1.260	32	0.591	1.862
EXMH-32	M32x1.5	Single	0.551 - 0.709	14.0 - 18.0	1.614	1.299	1.417	1.260	32	0.394	1.717
EXMH-32C	M32x1.5	Double	0.551 - 0.984	14.0 - 25.0	1.870	1.654	1.654	1.260	32	0.591	1.917
EXMH-32C-2	M32x1.5	Single	0.630 - 0.827	16.0 - 21.0	1.614	1.417	1.417	1.260	32	0.591	1.862
EXMH-32C-3	M32x1.5	Single	0.748 - 0.984	19.0 - 25.0	1.870	1.654	1.654	1.260	32	0.591	1.917
EXMH-40R	M40x1.5	Double	0.669 - 1.102	17.0 - 28.0	2.047	1.811	1.811	1.575	40	0.591	2.063
EXMH-40	M40x1.5	Single	0.787 - 1.102	20.0 - 28.0	2.047	1.811	1.811	1.575	40	0.591	2.063
EXMH-40C	M40x1.5	Double	0.827 - 1.260	21.0 - 32.0	2.362	2.087	2.087	1.575	40	0.709	2.280
EXMH-40C-2	M40x1.5	Single	0.906 - 1.260	23.0 - 32.0	2.362	2.087	2.087	1.575	40	0.709	2.280
EXMH-50R	M50x1.5	Double	0.866 - 1.496	22.0 - 38.0	2.657	2.362	2.362	1.969	50	0.709	2.366
EXMH-50	M50x1.5	Single	1.220 - 1.496	31.0 - 38.0	2.657	2.362	2.362	1.969	50	0.709	2.366
EXMH-63R	M63x1.5	Double	1.102 - 1.732	28.0 - 44.0	2.835	2.559	2.559	2.480	63	0.709	2.378
EXMH-63	M63x1.5	Single	1.378 - 1.732	35.0 - 44.0	2.835	2.559	2.559	2.480	63	0.709	2.378

Metric Thread

EX 300 Metric

Nickel Plated Brass EX e & EX d dome cap glands for Non-armored cables



Triple Seal:

RoHS

Technical data:

Material:	Nickel Plated Brass
Seal:	Chloroprene (CR)
Seal type:	Triple
O-ring:	Chloroprene (CR)
Protection type:	IP 68 5 bar (30 min)
Temperature range: *Ex d/tb:* *Ex e/tb:*	 -40°C to +80°C -40°C to +80°C
Suitable for use in:	Group II — Gas Group IIC — ZONE 1/ZONE 2 Group III — Dust Group IIIC — ZONE 21/ZONE22
Equipment marking:	Ex II 2GD Ex db IIC Gb Ex eb IIC Gb Ex tb IIIC Db
Marking example	BMD EBU.. CE 0722 Ex II 2GD Ex db IIC Gb Ex eb IIC Gb Ex tb IIIC Db Ta -40°C to +80°C IP66/68 IECEx CES 13.0006X CESI 13 ATEX 018X

Approval		Certificate Number	Standards
Ex	ATEX	IMQ 13 ATEX 018X	EN 60079-0:2018; EN 60079-1:2014; EN 60079-7:2015; EN 60079-31:2014
IECEx	IECEx	IECEx IMQ 13.0006X	IEC 60079-0:2017 Ed. 7; IEC 60079-7:2015 Ed. 5; IEC 60079-31:2013 Ed. 2; IEC 60079-1:2014 Ed. 7
UL	UL	E474828_VOL.1_SEC.1 E199260_VOL.3_SEC.1	UL 2225 UL 514B; UL50E
EAC	TR RU	No TC RU C-TR. AA87.B.00941	ГОСТ 31610.0-2014; ГОСТ IEC 60079-1:2013; ГОСТ IEC 60079-31:2013
INMETRO	IN METRO	DNV 21.0183 X	ABNT NBR IEC 60079-0:2013; ABNT NBR IEC 60079-7:2008; ABNT NBR IEC 60079-31:2011; ABNT NBR IEC 60079-1:2009
DNV	MARINE	TAE00003WU	IEC/EN60079-0; IEC/EN60079-7; IEC/EN60079-31; IEC/EN60079-1

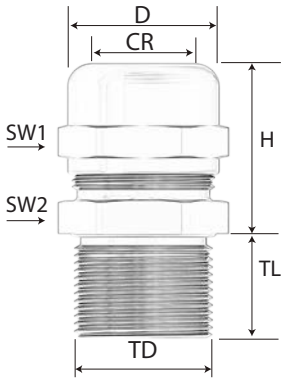
Part Number	Thread Type	Clamping Range Ø min-max (CR) inches	Clamping Range Ø min-max (CR) mm	Outer Diameter (D) inches	Wrenching Flats Cap (SW1) inches	Wrenching Flats Body (SW2) inches	Thread Diameter (TD) inches	Thread Diameter (TD) mm	Thread Length EX e min.[1] (TL) inches	Thread Length EX d/e min. (TL) inches	Max. Height (H) inches
Metric											
EXMM-12	M12x1.5	0.157 - 0.315	4.0 - 8.0	0.965	0.866	0.866	0.472	12	0.354	0.630	1.299
EXMM-16	M16x1.5	0.157 - 0.472	4.0 - 12.0	0.965	0.866	0.866	0.630	16	0.354	0.630	1.299
EXMM-20	M20x1.5	0.157 - 0.472	4.0 - 12.0	0.965	0.866	0.866	0.787	20	0.354	0.630	1.142
EXMM-20C	M20x1.5	0.394 - 0.630	10.0 - 16.0	1.220	1.102	1.102	0.787	20	0.354	0.630	1.260
EXMM-25R	M25x1.5	0.157 - 0.472	4.0 - 12.0	1.220	0.866	1.102	0.984	25	0.354	0.630	1.142
EXMM-25	M25x1.5	0.394 - 0.709	10.0 - 18.0	1.220	1.102	1.102	0.984	25	0.354	0.630	1.280
EXMM-25C	M25x1.5	0.551 - 0.787	14.0 - 20.0	1.535	1.378	1.378	0.984	25	0.354	0.630	1.417
EXMM-32R	M32x1.5	0.394 - 0.709	10.0 - 18.0	1.535	1.102	1.378	1.260	32	0.354	0.630	1.280
EXMM-32	M32x1.5	0.551 - 0.945	14.0 - 24.0	1.535	1.378	1.378	1.260	32	0.354	0.630	1.378
EXMM-32C	M32x1.5	0.866 - 1.102	22.0 - 28.0	1.949	1.772	1.772	1.260	32	0.354	0.630	1.673
EXMM-40R	M40x1.5	0.551 - 0.945	14.0 - 24.0	1.949	1.378	1.772	1.575	40	0.354	0.709	1.378
EXMM-40	M40x1.5	0.866 - 1.260	22.0 - 32.0	1.949	1.772	1.772	1.575	40	0.354	0.709	1.673
EXMM-40C	M40x1.5	1.024 - 1.339	26.0 - 34.0	2.205	1.969	1.969	1.575	40	0.354	0.709	1.791
EXMM-50R	M50x1.5	0.866 - 1.260	22.0 - 32.0	2.402	1.772	2.165	1.969	50	0.354	0.709	1.673
EXMM-50	M50x1.5	1.024 - 1.378	26.0 - 35.0	2.402	1.969	2.165	1.969	50	0.354	0.709	1.791
EXMM-50C	M50x1.5	1.378 - 1.732	35.0 - 44.0	2.756	2.520	2.520	1.969	50	0.354	0.709	1.772
EXMM-63R	M63x1.5	1.024 - 1.378	26.0 - 35.0	2.953	1.969	2.677	2.480	63	0.354	0.709	1.791
EXMM-63	M63x1.5	1.378 - 1.772	35.0 - 45.0	2.953	2.520	2.677	2.480	63	0.354	0.709	1.772
EXMM-63C	M63x1.5	1.811 - 2.205	46.0 - 56.0	3.504	3.150	2.953	2.480	63	0.354	0.709	2.126

[1]For 0.354 in / 9mm thread for metric glands, add -TL9 to end of P/N

NPT Thread

EX 300 NPT

Nickel Plated Brass EX d dome cap glands for Non-armored cables



Technical data:

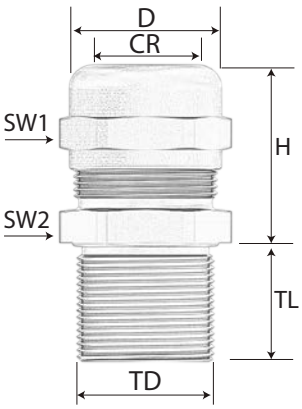
Material:	Nickel Plated Brass
Seal:	Chloroprene (CR)
Seal type:	Triple
O-ring:	Chloroprene (CR)
Protection type:	IP 68 5 bar (30 min)
Temperature range:	
Ex d/tb:	-40°C to +80°C
Ex e/tb:	-40°C to +80°C
Suitable for use in:	Group II / Group III — Gas Group IIC / Dust Group IIIC — ZONE 1/ZONE 2 / ZONE 21/ZONE22
Equipment marking:	Ex II 2GD Ex db IIC Gb Ex eb IIC Gb Ex tb IIIC Db
Marking example	BMD EBU.. CE 0722 Ex II 2GD Ex db IIC Gb Ex eb IIC Gb Ex tb IIIC Db Ta -40°C to +80°C IP66/68 IECEx CES 13.0006X CESI 13 ATEX 018X

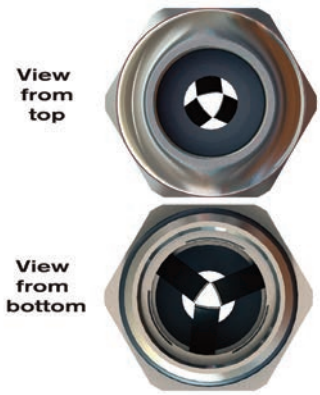
Part Number	Thread Type	Clamping Range Ø min-max (CR) inches	Clamping Range Ø min-max (CR) mm	Outer Diameter (D) inches	Wrenching Flats Cap (SW1) inches	Wrenching Flats Body (SW2) inches	Thread Diameter (TD) inches	Thread Diameter (TD) mm	Thread Length EX d/e min. (TL) inches	Max. Height (H) inches
NPT										
EXNM-3/8	NPT 3/8	0.157 - 0.472	4.0 - 12.0	0.965	0.866	0.866	0.675	17	0.630	1.299
EXNM-1/2	NPT 1/2	0.157 - 0.472	4.0 - 12.0	0.965	0.866	0.866	0.840	21	0.630	1.142
EXNM-1/2C	NPT 1/2	0.394 - 0.630	10.0 - 16.0	1.220	1.102	1.102	0.840	21	0.630	1.260
EXNM-3/4R	NPT 3/4	0.157 - 0.472	4.0 - 12.0	1.220	0.866	1.102	1.050	27	0.630	1.142
EXNM-3/4	NPT 3/4	0.394 - 0.709	10.0 - 18.0	1.220	1.102	1.102	1.050	27	0.630	1.260
EXNM-3/4C	NPT 3/4	0.551 - 0.787	14.0 - 20.0	1.535	1.378	1.378	1.050	27	0.630	1.378
EXNM-1R	NPT 1	0.394 - 0.709	10.0 - 18.0	1.535	1.102	1.378	1.315	33	0.787	1.280
EXNM-1	NPT 1	0.551 - 0.945	14.0 - 24.0	1.535	1.378	1.378	1.315	33	0.787	1.378
EXNM-1C	NPT 1	0.866 - 1.024	22.0 - 26.0	1.949	1.772	1.772	1.315	33	0.787	1.654
EXNM-1 1/4R	NPT 1 1/4	0.551 - 0.945	14.0 - 24.0	1.949	1.378	1.772	1.660	42	0.787	1.378
EXNM-1 1/4	NPT 1 1/4	0.866 - 1.260	22.0 - 32.0	1.949	1.772	1.772	1.660	42	0.787	1.673
EXNM-1 1/4C	NPT 1 1/4	1.024 - 1.339	26.0 - 34.0	2.185	1.969	1.969	1.660	42	0.787	1.791
EXNM-1 1/2R	NPT 1 1/2	0.866 - 1.260	22.0 - 32.0	2.402	1.772	2.165	1.900	48	0.787	1.673
EXNM-1 1/2	NPT 1 1/2	1.024 - 1.378	26.0 - 35.0	2.402	1.969	2.165	1.900	48	0.787	1.791
EXNM-1 1/2C	NPT 1 1/2	1.378 - 1.614	35.0 - 41.0	2.756	2.520	2.520	1.900	48	0.787	1.732
EXNM-2R	NPT 2	1.024 - 1.378	26.0 - 35.0	2.953	1.969	2.677	2.375	60	0.787	1.791
EXNM-2	NPT 2	1.378 - 1.772	35.0 - 45.0	2.953	2.520	2.677	2.375	60	0.787	1.772
EXNM-2C	NPT 2	1.811 - 2.047	46.0 - 52.0	3.504	3.150	2.953	2.375	60	0.787	2.126
EXNM-2 1/2R	NPT 2 1/2	1.378 - 1.772	35.0 - 45.0	3.504	2.520	3.150	2.875	73	0.827	1.772
EXNM-2 1/2	NPT 2 1/2	1.811 - 2.441	46.0 - 62.0	3.504	3.150	3.150	2.875	73	0.827	2.106
EXNM-2 1/2C	NPT 2 1/2	2.362 - 2.520	60.0 - 64.0	4.134	3.740	3.740	2.875	73	0.827	2.244
EXNM-3R	NPT 3	1.811 - 2.441	46.0 - 62.0	4.134	3.150	3.740	3.500	89	0.827	2.106
EXNM-3	NPT 3	2.362 - 2.953	60.0 - 75.0	4.134	3.740	3.740	3.500	89	0.827	2.244
EXNM-3C	NPT 3	2.953 - 3.130	75.0 - 79.5	4.606	4.134	4.134	3.500	89	0.827	2.205
EXNM-4	NPT 4	2.953 - 3.346	75.0 - 85.0	5.039	4.134	4.528	4.500	114	0.827	2.205
EXNM-4C	NPT 4	3.346 - 3.740	85.0 - 95.0	5.039	4.528	4.528	4.500	114	0.827	2.283

Metric & NPT Thread

EX EMC-2 Metric & NPT

Nickel Plated Brass EX e & EX d dome cap glands for shielded cables





Technical data:

Material:	Nickel Plated Brass
Seal	Chloroprene (CR)
Seal type:	Double or triple
O-Ring:	Chloroprene (CR)
Spring	Special copper alloy
Protection type:	IP 68 5 bar (30 min)
Temperature range: *Ex d/tb:* *Ex e/tb:*	 -40°C to +80°C -60°C to +80°C
Suitable for use in:	Group II / Group III — Gas Group IIC / Dust Group IIIC — ZONE 1/ZONE 2 / ZONE 21/ZONE22
Equipment marking:	Ex II 2GD Ex db IIC Gb Ex eb IIC Gb Ex tb IIIC Db
Marking example	BMD EBS.. CE 0722 Ex 2GD Ex db IIC Gb Ex eb IIC Gb Ex tb IIIC Db Ta -40°C to +80°C IP66/68 CESI 13 ATEX 018X IECEx CES 13.0006X

Approval	Certificate Number	Standards
ATEX	IMQ 13 ATEX 018X	EN 60079-0:2018; EN 60079-1:2014; EN 60079-7:2015; EN 60079-31:2014
IECEx	IECEx IMQ 13.0006X	IEC 60079-0:2017 Ed. 7; IEC 60079-7:2015 Ed. 5; IEC 60079-31:2013 Ed. 2; IEC 60079-1:2014 Ed. 7
UL	E474828_VOL.1_SEC.1	UL 2225
TR RU	No TC RU C-TR. AA87.B.00941	ГОСТ 31610.0-2014; ГОСТ IEC 60079-1:2013; ГОСТ IEC 60079-31:2013
IN METRO	DNV 21.0183 X	ABNT NBR IEC 60079-0:2013; ABNT NBR IEC 60079-7:2008; ABNT NBR IEC 60079-31:2011; ABNT NBR IEC 60079-1:2009
MARINE	TAE00003WU	IEC/EN60079-0; IEC/EN60079-7; IEC/EN60079-31; IEC/EN60079-1

Part Number	Thread Type	Seal Type	Clamping Range Ø min-max (CR) inches	Clamping Range Ø min-max (CR) mm	Shield Diameter Ø min-max inches	Outer Diameter (D) inches	Wrenching Flats Cap (SW1) inches	Wrenching Flats Body (SW2) inches	Thread Dia. (TD) inches	Thread Length EX e min.[1] (TL) inches	Thread Length EX d/e min. (TL) inches	Max. Height (H) inches
Metric												
EXM2-16	M16x1.5	Double	0.157 - 0.315	4.0 - 8.0	0.098 - 0.197	0.965	0.866	0.866	0.630	0.354	0.630	1.201
EXM2-20	M20x1.5	Triple	0.157 - 0.472	4.0 - 12.0	0.098 - 0.394	0.965	0.866	0.866	0.787	0.354	0.709	1.122
EXM2-25	M25x1.5	Triple	0.394 - 0.709	10.0 - 18.0	0.315 - 0.551	1.220	1.102	1.102	0.984	0.354	0.630	1.260
EXM2-32	M32x1.5	Triple	0.551 - 0.945	14.0 - 24.0	0.472 - 0.787	1.535	1.378	1.378	1.260	0.354	0.748	1.378
EXM2-40	M40x1.5	Triple	0.866 - 1.26	22.0 - 32.0	0.709 - 1.102	1.949	1.772	1.772	1.575	0.354	0.787	1.673
EXM2-50	M50x1.5	Triple	1.024 - 1.378	26.0 - 35.0	0.866 - 1.220	2.402	1.969	2.165	1.969	0.354	0.787	1.909
EXM2-63	M63x1.5	Triple	1.378 - 1.772	35.0 - 45.0	1.220 - 1.614	2.953	2.520	2.677	2.480	0.354	0.787	1.772
NPT												
EXN2-3/8	NPT 3/8	Double	0.157 - 0.315	4.0 - 8.0	0.098 - 0.197	0.965	0.866	0.866	0.675	-	0.630	1.201
EXN2-1/2	NPT 1/2	Triple	0.157 - 0.472	4.0 - 12.0	0.098 - 0.394	0.965	0.866	0.866	0.840	-	0.709	1.122
EXN2-3/4	NPT 3/4	Triple	0.394 - 0.709	10.0 - 18.0	0.315 - 0.551	1.220	1.102	1.102	1.050	-	0.630	1.280
EXN2-1	NPT 1	Triple	0.551 - 0.945	14.0 - 24.0	0.472 - 0.787	1.535	1.378	1.378	1.315	-	0.787	1.378
EXN2-1 1/4	NPT 1-1/4	Triple	0.866 - 1.260	22.0 - 32.0	0.709 - 1.102	1.949	1.772	1.772	1.660	-	0.787	1.673
EXN2-1 1/2	NPT 1-1/2	Triple	1.024 - 1.378	26.0 - 35.0	0.866 - 1.220	2.402	1.969	2.165	1.900	-	0.787	1.772
EXN2-2	NPT 2	Triple	1.378 - 1.772	35.0 - 45.0	1.220 - 1.614	2.953	2.520	2.677	2.375	-	0.787	1.772
EXN2-2 1/2	NPT 2-1/2	Triple	1.811 - 2.441	46.0 - 62.0	1.654 - 2.283	3.504	3.150	3.150	2.875	-	0.827	2.224
EXN2-3	NPT 3	Triple	2.362 - 2.953	60.0 - 75.0	2.205 - 2.795	4.134	3.740	3.740	3.500	-	0.827	2.559

[1] For 9mm thread for EX e metric glands, add -TL9 to end of P/N

Larger sizes are available upon request

Metric, PG, & NPT Thread

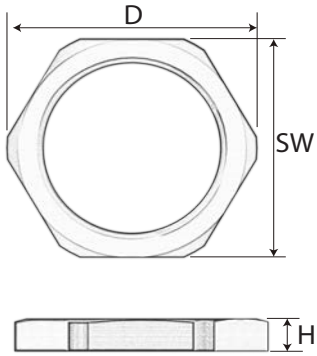
Metal Locknuts / Metal EMC Locknuts

Nickel plated brass locknuts / Nickel plated brass locknuts with grounding teeth

EMC locknut has grounding teeth to make connection to metal panels or control boxes.

Technical data:

Material:	Brass, Nickel Plated



Part Number	Thread Type	Height (H) inches	Diameter (D) inches	Wrenching Flats (SW) inches
Metric-Standard				
LMM-12	M12x1.5	0.110	0.654	0.591
LMM-16	M16x1.5	0.118	0.827	0.748
LMM-20	M20x1.5	0.138	1.043	0.945
LMM-25	M25x1.5	0.157	1.299	1.181
LMM-32	M32x1.5	0.197	1.555	1.417
LMM-40	M40x1.5	0.197	2.008	1.811
LMM-50	M50x1.5	0.197	2.598	2.362
LMM-63	M63x1.5	0.236	3.031	2.756
LMM-75	M75x2.0	0.276	3.528	3.150
LMM-80	M80x2.0	0.315	3.937	3.543
LMM-85	M85x2.0	0.315	4.181	3.740
LMM-90	M90x2.0	0.315	4.409	3.937
PG-Standard				
LPM-7	PG 7	0.110	0.654	0.591
LPM-9	PG 9	0.110	0.787	0.709
LPM-11	PG 11	0.118	0.925	0.827
LPM-13	PG 13.5	0.118	1.004	0.906
LPM-16	PG 16	0.118	1.142	1.024
LPM-21	PG 21	0.138	1.398	1.260
LPM-29	PG 29	0.157	1.772	1.614
LPM-36	PG 36	0.197	2.205	2.008
LPM-42	PG 42	0.197	2.598	2.362
LPM-48	PG 48	0.217	2.776	2.520
NPT-Standard				
LNM-3/8	NPT 3/8	0.197	0.965	0.866
LNM-1/2	NPT 1/2	0.197	1.181	1.063
LNM-3/4	NPT 3/4	0.197	1.437	1.299
LNM-1	NPT 1	0.197	1.831	1.693
LNM-1 1/4	NPT 1 1/4"	0.197	2.087	1.890
LNM-1 1/2	NPT 1 1/2"	0.197	2.402	2.165
LNM-2	NPT 2"	0.217	2.776	2.520

Stainless steel locknuts are available upon request

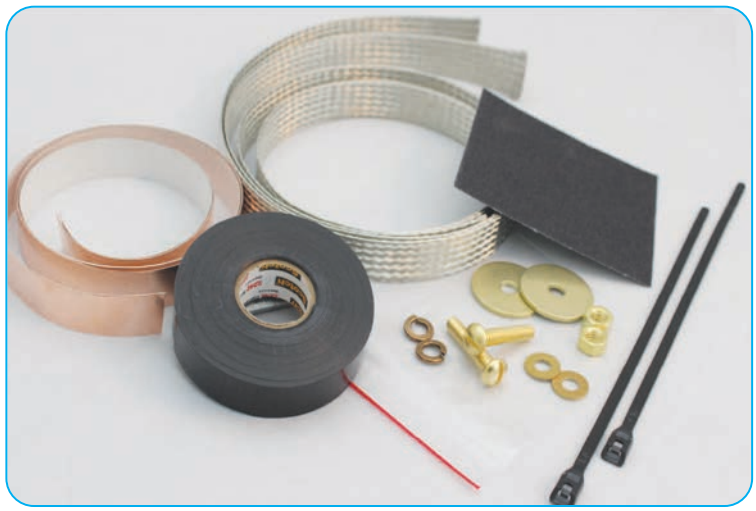
Part Number	Thread Type	Height (H) inches	Diameter (D) inches	Wrenching Flats (SW) inches
Metric-EMC				
LME-12	M12x1.5	0.130	0.650	0.591
LME-16	M16x1.5	0.138	0.827	0.748
LME-20	M20x1.5	0.146	1.043	0.945
LME-25	M25x1.5	0.146	1.299	1.181
LME-32	M32x1.5	0.157	1.555	1.417
LME-40	M40x1.5	0.181	2.008	1.811
LME-50	M50x1.5	0.220	2.598	2.362
LME-63	M63x1.5	0.264	3.031	2.756
PG-EMC				
LPE-7	PG 7	0.130	0.650	0.591
LPE-9	PG 9	0.130	0.787	0.709
LPE-11	PG 11	0.138	0.925	0.827
LPE-13	PG 13.5	0.138	1.004	0.906
LPE-16	PG 16	0.138	1.142	1.024
LPE-21	PG 21	0.157	1.398	1.260
LPE-29	PG 29	0.181	1.772	1.614
LPE-36	PG 36	0.220	2.205	2.008
LPE-42	PG 42	0.220	2.598	2.362
LPE-48	PG 48	0.240	2.776	2.520
NPT-EMC				
LNE-1/4	NPT 1/4"	0.217	0.740	0.669
LNE-3/8	NPT 3/8"	0.224	0.945	0.866
LNE-1/2	NPT 1/2"	0.264	1.043	0.945
LNE-3/4	NPT 3/4"	0.256	1.299	1.181
LNE-1	NPT 1"	0.299	1.752	1.575
LNE-1 1/4	NPT 1 1/4"	0.299	2.185	1.969
LNE-1 1/2	NPT 1 1/2"	0.343	2.520	2.283
LNE-2	NPT 2"	0.425	3.071	2.756

14 AWG to 500 KCMIL

VFD Termination Kit

Grounding kits for larger AWG cables

VFD Termination Kits are used to ground the shield of VFD cables to a metal enclosure. It is an effective way to remove noise associated with VFD motors and drives. Improve the effectiveness by also using a SAB EMC grounding gland where the cable enters the enclosure.



Kit P/N	Kit Components	Quantity
VFD GRD KIT 14-1	1/4" flat tinned copper braid	2 x 3ft
	3/4" Copper tape	2 x 1ft
	Bolt assembly (see parts below)	1 bag
	Rubber splicing tape	1 roll
	Low profile tie wrap 7"	2 pcs
	Metal sand paper 3" x 3"	1 pc
	Alcohol wipes	2 pcs
VFD GRD KIT 1-4/0	3/4" flat tinned copper braid	2 x 3ft
	3/4" Copper tape	2 x 2ft
	Bolt assembly (see parts below)	1 bag
	Rubber splicing tape	1 roll
	Low profile tie wrap 7"	2 pcs
	Metal sand paper 3" x 3"	1 pc
	Alcohol wipes	2 pcs
VFD GRD KIT 250-500	1/4" flat tinned copper braid	2 x 3ft
	3/4" Copper tape	2 x 1ft
	Bolt assembly (see parts below)	1 bag
	Rubber splicing tape	1 roll
	Low profile tie wrap 7"	2 pcs
	Metal sand paper 3" x 3"	1 pc
	Alcohol wipes	2 pcs

Bolt assembly	
brass bolt 1/4"-20 x 1-1/4"	2 pcs
brass nut 1/4"-20	2 pcs
bronze locking washer 1/4"-20	2 pcs
brass washer 1/4"-20 x 9/16" OD	2 pcs
brass washer 1/4"-20 x 1 1/4" OD	2 pcs

Installation Prep

Attach to Enclosure

Installation instructions available see page O/51

Metal Enlargers

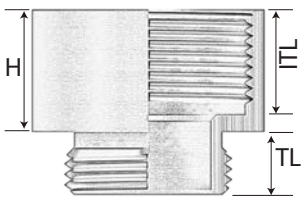
Nickel plated brass fittings, PG to PG, PG to metric, metric to PG

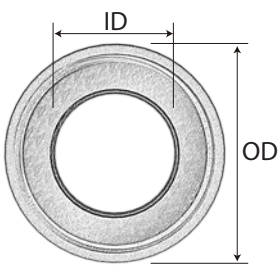
Metric & PG Thread

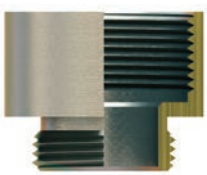
Enlargers are ideal when a threaded hole exists and you need to secure a larger thread or different style of thread. Made of nickel plated brass, SAB's enlargers are very durable.

Technical data:

Material:	Brass, Nickel Plated
Attachment thread:	EN 60423 (Metric); DIN 40430 (PG)







Part Number	Thread Type OT (male)	Thread Type IT (female)	Inner Thread Length ITL inches	Outer Thread Length OTL inches	Outer Diameter OD inches	Inner Diameter ID inches	Height (H) inches
PG-PG							
ENL-01	PG 7	PG 9	0.197	0.197	0.669	0.315	0.394
ENL-02	PG 9	PG 11	0.276	0.236	0.787	0.453	0.413
ENL-03	PG 9	PG 13.5	0.354	0.236	0.866	0.453	0.453
ENL-04	PG 11	PG 13.5	0.335	0.709	0.866	0.543	0.453
ENL-05	PG 11	PG 16	0.335	0.866	0.945	0.543	0.413
ENL-06	PG 11	PG 21	0.394	1.063	1.181	0.543	0.571
ENL-07	PG 13.5	PG 16	0.335	1.339	0.945	0.650	0.413
ENL-08	PG 13.5	PG 21	0.394	1.654	1.181	0.650	0.571
ENL-09	PG 16	PG 21	0.394	1.102	1.169	0.689	0.472
ENL-10	PG 16	PG 29	0.472	2.047	1.575	0.689	0.630
ENL-11	PG 21	PG 29	0.551	2.559	1.535	0.945	0.630
ENL-12	PG 29	PG 36	0.689	0.315	1.969	1.260	0.768
ENL-13	PG 36	PG 42	0.748	0.354	2.244	1.496	0.866
ENL-14	PG 42	PG 48	0.768	0.394	2.520	1.937	0.906
PG-Metric							
ENL-47	PG 7	M12x1.5	0.276	0.197	0.551	0.315	0.394
ENL-48	PG 9	M16x1.5	0.315	0.236	0.709	0.453	0.433
ENL-49	PG 11	M20x1.5	0.335	0.236	0.866	0.571	0.453
ENL-50	PG 13.5	M20x1.5	0.335	0.256	0.866	0.650	0.453
ENL-51	PG 16	M25x1.5	0.335	0.256	1.063	0.689	0.492
ENL-52	PG 21	M32x1.5	0.472	0.276	1.339	0.945	0.630
ENL-53	PG 29	M40x1.5	0.591	0.315	1.654	1.260	0.768
ENL-54	PG 29	M50x1.5	0.630	0.315	2.126	1.260	0.768
Metric-PG							
ENL-15	M12x1.5	PG 9	0.276	0.236	0.669	0.315	0.354
ENL-16	M16x1.5	PG 11	0.295	0.236	0.787	0.472	0.354
ENL-17	M20x1.5	PG 16	0.335	0.315	0.945	0.630	0.413
ENL-45	M25x1.5	PG 16	0.531	0.315	2.126	1.024	0.669
ENL-18	M25x1.5	PG 21	0.394	0.354	1.181	0.787	0.492
ENL-19	M32x1.5	PG 29	0.512	0.315	1.575	1.083	0.630
ENL-20	M40x1.5	PG 36	0.551	0.354	1.969	1.398	0.728
ENL-21	M50x1.5	PG 42	0.709	0.354	2.244	1.791	0.866
ENL-22	M63x1.5	PG 48	0.709	0.354	2.520	2.205	0.906

Metric & NPT Thread

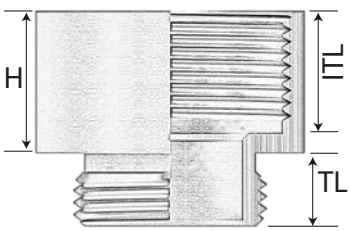
Metal Enlargers

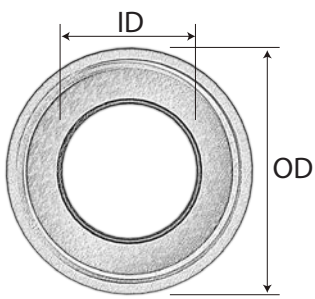
Nickel plated brass fittings, metric to metric, metric to NPT

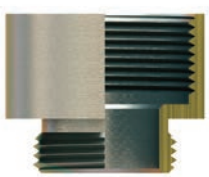
Enlargers are ideal when a threaded hole exists and you need to secure a larger thread or different style of thread. Made of nickel plated brass, SAB's enlargers are very durable.

Technical data:

Material:	Brass, Nickel Plated
Attachment thread:	EN 60423 (Metric); DIN 40430 (PG)







Part Number	Thread Type OT (male)	Thread Type IT (female)	Inner Thread Length ITL inches	Outer Thread Length OTL inches	Outer Diameter OD inches	Inner Diameter ID inches	Height (H) inches
Metric-Metric							
ENL-23	M12x1.5	M16x1.5	0.276	0.236	0.709	0.315	0.354
ENL-24	M16x1.5	M20x1.5	0.394	0.236	0.866	0.472	0.457
ENL-25	M20x1.5	M25x1.5	0.335	0.276	1.063	0.63	0.413
ENL-26	M25x1.5	M32x1.5	0.374	0.315	1.339	0.807	0.453
ENL-27	M32x1.5	M40x1.5	0.335	0.315	1.654	1.024	0.571
ENL-46	M32x1.5	M50x1.5	0.354	0.394	1.102	0.787	0.453
ENL-28	M40x1.5	M50x1.5	0.591	0.315	2.047	1.398	0.768
ENL-29	M50x1.5	M63x1.5	0.374	0.354	2.559	1.772	0.886
Metric-NPT							
ENL-30	M16x1.5	NPT 3/8	0.256	0.256	0.866	0.433	0.65
ENL-31	M16x1.5	NPT 1/2	0.256	0.256	0.945	0.433	0.709
ENL-32	M20x1.5	NPT 1/2	0.315	0.315	0.945	0.591	0.709
ENL-33	M20x1.5	NPT 3/4	0.315	0.315	1.181	0.591	0.709
ENL-34	M25x1.5	NPT 1/2	0.315	0.315	1.181	0.591	0.709
ENL-35	M25x1.5	NPT 3/4	0.315	0.315	1.181	0.709	0.709
ENL-36	M32x1.5	NPT 1/2	0.315	0.315	1.378	0.669	0.709
ENL-37	M32x1.5	NPT 3/4	0.315	0.315	1.378	0.906	0.709
ENL-38	M32x1.5	NPT 1	0.315	0.315	1.457	1.063	0.827
ENL-39	M40x1.5	NPT 1	0.315	0.315	1.693	1.063	0.827
ENL-40	M40x1.5	NPT 1 1/4	0.315	0.315	1.811	1.339	0.866
ENL-41	M50x1.5	NPT 1 1/4	0.315	0.315	2.165	1.417	0.906
ENL-42	M50x1.5	NPT 1 1/2	0.315	0.315	2.165	1.614	0.787
ENL-43	M63x1.5	NPT 1 1/2	0.354	0.354	2.677	1.654	0.906
ENL-44	M63x1.5	NPT 2	0.354	0.354	2.677	2.087	0.945

Metal Reducers

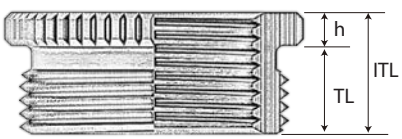
Nickel plated brass fittings, PG to PG, metric to PG, metric to metric

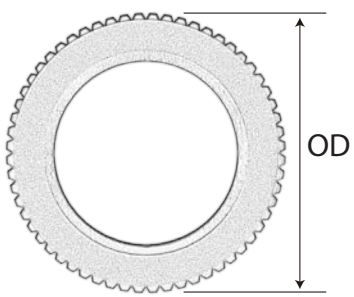
Metric & PG Thread

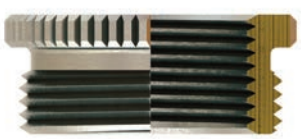
Reducers are ideal when a threaded hole exists and you need to secure a smaller thread or different style of thread. Made of nickel plated brass, SAB's reducers are very durable.

Technical data:

Material:	Brass, Nickel Plated
Attachment thread:	EN 60423 (Metric) DIN 40430 (PG)







Part Number	Thread Type OT (male)	Thread Type IT (female)	Inner Thread Length ITL inches	Outer Thread Length OTL inches	Outer Diameter OD inches	Height (h) inches
PG-PG						
RED-01	PG 9	PG 7	0.905	0.236	0.669	0.098
RED-02	PG 11	PG 7	1.023	0.236	0.787	0.118
RED-03	PG 11	PG 9	1.023	0.236	0.787	0.118
RED-04	PG 13.5	PG 7	1.122	0.256	0.866	0.098
RED-05	PG 13.5	PG 9	1.122	0.256	0.866	0.098
RED-06	PG 13.5	PG 11	1.122	0.256	0.866	0.098
RED-07	PG 16	PG 7	1.201	0.256	0.945	0.118
RED-08	PG 16	PG 9	1.201	0.256	0.945	0.118
RED-09	PG 16	PG 11	1.181	0.236	0.945	0.118
RED-10	PG 16	PG 13.5	1.181	0.236	0.945	0.118
RED-11	PG 21	PG 11	1.457	0.276	1.181	0.118
RED-12	PG 21	PG 13.5	1.457	0.276	1.181	0.118
RED-13	PG 21	PG 16	1.457	0.276	1.181	0.118
RED-14	PG 29	PG 13.5	1.850	0.315	1.535	0.138
RED-15	PG 29	PG 16	1.850	0.315	1.535	0.138
RED-16	PG 29	PG 21	1.850	0.315	1.535	0.138
RED-17	PG 36	PG 21	2.323	0.354	1.969	0.138
RED-18	PG 36	PG 29	2.323	0.354	1.969	0.138
RED-19	PG 42	PG 29	2.638	0.394	2.244	0.157
RED-20	PG 42	PG 36	2.638	0.394	2.244	0.157
RED-21	PG 48	PG 36	2.914	0.394	2.520	0.157
RED-22	PG 48	PG 42	2.914	0.394	2.520	0.157
PG-Metric						
RED-40	PG 11	M16x1.5	1.023	0.236	0.787	0.118
RED-23	PG 16	M20x1.5	1.181	0.236	0.945	0.118
RED-24	PG 21	M20x1.5	1.457	0.276	1.181	0.118
RED-25	PG 21	M25x1.5	1.457	0.276	1.181	0.118
RED-26	PG 29	M25x1.5	1.850	0.315	1.535	0.138
RED-41	PG 29	M32x1.5	1.850	0.315	1.535	0.138
RED-42	PG 36	M40x1.5	2.323	0.354	1.969	0.138
Metric-Metric						
RED-27	M16x1.5	M12x1.5	0.965	0.256	0.709	0.118
RED-28	M20x1.5	M12x1.5	1.122	0.256	0.866	0.118
RED-29	M20x1.5	M16x1.5	1.122	0.256	0.866	0.098
RED-30	M25x1.5	M16x1.5	1.358	0.256	1.102	0.098
RED-31	M25x1.5	M20x1.5	1.496	0.315	1.181	0.138
RED-32	M32x1.5	M20x1.5	1.850	0.315	1.535	0.138
RED-33	M32x1.5	M25x1.5	1.850	0.315	1.535	0.138
RED-34	M40x1.5	M25x1.5	2.323	0.354	1.969	0.138
RED-35	M40x1.5	M32x1.5	2.323	0.354	1.969	0.138
RED-36	M50x1.5	M32x1.5	2.914	0.394	2.520	0.157
RED-37	M50x1.5	M40x1.5	2.914	0.394	2.520	0.157
RED-38	M63x1.5	M40x1.5	3.209	0.394	2.815	0.315
RED-39	M63x1.5	M50x1.5	3.209	0.394	2.815	0.315

Multi-Hole Bushings

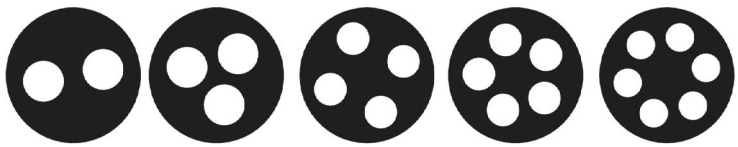
Chloroprene multi-hole bushing

Fits SAB Metric, PG, or NPT cord grips

Multi-hole bushings are ideal for when there is limited space on a control cabinet or when you have multiple smaller cables that need to be secured. They are made of black chloroprene and, when used with a SAB cord grip, will provide an excellent seal.

Technical data:

Material:	Chloroprene (CR)
Color:	Black



Part Number	Clamping Range		CG 100 Plastic Cord Grip			CG 300 Metal Cord Grip			Hole Quantity	Hole Diameter Ø inches	Outer Dia. D inches	Height h inches
	inches	mm	PG	Metric	NPT	PG	Metric	NPT				
MHB-02	0.157 - 0.315	4 -8	PG 9	M16C	-	PG 9	M16	NPT 3/8"	2	0.118	0.429	0.276
MHB-01	0.157 - 0.315	4 -8	PG 9	M16C	-	PG 9	M16	NPT 3/8"	2	0.157	0.429	0.276
MHB-03	0.157 - 0.315	4 -8	PG 9	M16C	-	PG 9	M16	NPT 3/8"	4	0.118	0.429	0.276
MHB-07	0.197 - 0.394	5 - 10	PG 11	M16	NPT 3/8"	PG 11	M16C	NPT 3/8"C	2	0.118	0.539	0.409
MHB-04	0.197 - 0.394	5 - 10	PG 11	M16	NPT 3/8"	PG 11	M16C	NPT 3/8"C	2	0.157	0.539	0.409
MHB-05	0.197 - 0.394	5 - 10	PG 11	M16	NPT 3/8"	PG 11	M16C	NPT 3/8"C	2	0.177	0.539	0.409
MHB-08	0.197 - 0.394	5 - 10	PG 11	M16	NPT 3/8"	PG 11	M16C	NPT 3/8"C	2	0.197	0.539	0.409
MHB-09	0.197 - 0.394	5 - 10	PG 11	M16	NPT 3/8"	PG 11	M16C	NPT 3/8"C	3	0.157	0.539	0.409
MHB-14	0.236 - 0.472	6 - 12	PG 13.5	M20	NPT 1/2"	PG 13.5	M20	NPT 1/2"	2	0.197	0.630	0.331
MHB-10	0.236 - 0.472	6 - 12	PG 13.5	M20	NPT 1/2"	PG 13.5	M20	NPT 1/2"	2	0.236	0.630	0.331
MHB-11	0.236 - 0.472	6 - 12	PG 13.5	M20	NPT 1/2"	PG 13.5	M20	NPT 1/2"	3	0.157	0.630	0.331
MHB-12	0.236 - 0.472	6 - 12	PG 13.5	M20	NPT 1/2"	PG 13.5	M20	NPT 1/2"	3	0.197	0.630	0.331
MHB-13	0.236 - 0.472	6 - 12	PG 13.5	M20	NPT 1/2"	PG 13.5	M20	NPT 1/2"	4	0.118	0.630	0.331
MHB-15	0.236 - 0.472	6 - 12	PG 13.5	M20	NPT 1/2"	PG 13.5	M20	NPT 1/2"	4	0.157	0.630	0.331
MHB-19	0.394 - 0.551	10 - 14	PG 16	M20C	NPT 1/2"C	PG 16	M20C	NPT 1/2"C	2	0.157	0.709	0.366
MHB-16	0.394 - 0.551	10 - 14	PG 16	M20C	NPT 1/2"C	PG 16	M20C	NPT 1/2"C	2	0.236	0.709	0.366
MHB-76	0.394 - 0.551	10 - 14	PG 16	M20C	NPT 1/2"C	PG 16	M20C	NPT 1/2"C	2	0.256	0.709	0.366
MHB-17	0.394 - 0.551	10 - 14	PG 16	M20C	NPT 1/2"C	PG 16	M20C	NPT 1/2"C	2	0.276	0.709	0.366
MHB-18	0.394 - 0.551	10 - 14	PG 16	M20C	NPT 1/2"C	PG 16	M20C	NPT 1/2"C	3	0.157	0.709	0.366
MHB-77	0.394 - 0.551	10 - 14	PG 16	M20C	NPT 1/2"C	PG 16	M20C	NPT 1/2"C	3	0.220	0.709	0.366
MHB-78	0.394 - 0.551	10 - 14	PG 16	M20C	NPT 1/2"C	PG 16	M20C	NPT 1/2"C	3	0.236	0.709	0.366
MHB-20	0.394 - 0.551	10 - 14	PG 16	M20C	NPT 1/2"C	PG 16	M20C	NPT 1/2"C	4	0.197	0.709	0.366
MHB-79	0.394 - 0.551	10 - 14	PG 16	M20C	NPT 1/2"C	PG 16	M20C	NPT 1/2"C	4	0.236	0.709	0.366
MHB-23	0.394 - 0.551	10 - 14	PG 16	M20C	NPT 1/2"C	PG 16	M20C	NPT 1/2"C	5	0.157	0.709	0.366
MHB-80	0.394 - 0.551	10 - 14	PG 16	M20C	NPT 1/2"C	PG 16	M20C	NPT 1/2"C	6	0.157	0.709	0.366
MHB-35	0.433 - 0.669	11 - 17	-	M25C	-	-	M25RC	-	2	0.236	0.803	0.421
MHB-37	0.433 - 0.669	11 - 17	-	M25C	-	-	M25RC	-	3	0.197	0.803	0.421
MHB-36	0.433 - 0.669	11 - 17	-	M25C	-	-	M25RC	-	3	0.236	0.803	0.421
MHB-38	0.433 - 0.669	11 - 17	-	M25C	-	-	M25RC	-	3	0.276	0.803	0.421
MHB-39	0.433 - 0.669	11 - 17	-	M25C	-	-	M25RC	-	4	0.197	0.803	0.421
MHB-40	0.433 - 0.669	11 - 17	-	M25C	-	-	M25RC	-	5	0.157	0.803	0.421
MHB-41	0.433 - 0.669	11 - 17	-	M25C	-	-	M25RC	-	6	0.157	0.803	0.421
MHB-42	0.433 - 0.669	11 - 17	-	M25C	-	-	M25RC	-	7	0.118	0.803	0.421
MHB-25	0.512 - 0.709	13 - 18	PG 21	M25	NPT 3/4"	PG 21	M25C, M32	NPT 3/4"	2	0.260	0.902	0.480
MHB-26	0.512 - 0.709	13 - 18	PG 21	M25	NPT 3/4"	PG 21	M25C, M32	NPT 3/4"	2	0.276	0.902	0.480
MHB-27	0.512 - 0.709	13 - 18	PG 21	M25	NPT 3/4"	PG 21	M25C, M32	NPT 3/4"	2	0.315	0.902	0.480
MHB-28	0.512 - 0.709	13 - 18	PG 21	M25	NPT 3/4"	PG 21	M25C, M32	NPT 3/4"	2	0.354	0.902	0.480
MHB-29	0.512 - 0.709	13 - 18	PG 21	M25	NPT 3/4"	PG 21	M25C, M32	NPT 3/4"	3	0.260	0.902	0.480
MHB-81	0.512 - 0.709	13 - 18	PG 21	M25	NPT 3/4"	PG 21	M25C, M32	NPT 3/4"	3	0.276	0.902	0.480

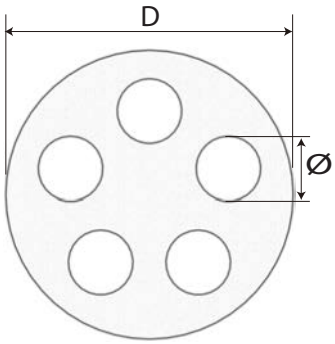
Contact SAB, if you have a different SAB gland then above.

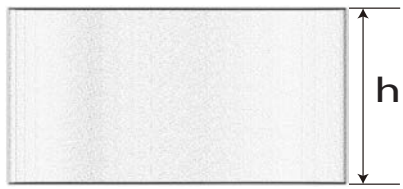
SPECIAL CABLES SAB North America
www.sabcable.com
866-722-2974 ■ info@sabcable.com

Multi-Hole Bushings

Chloroprene multi-hole bushing

Fits SAB Metric, PG, or NPT cord grips





Part Number	Clamping Range		CG 100			CG 300			Hole Quantity	Hole Diameter Ø mm	Outer Dia. D inches	Height h inches
	inches	mm	PG	Metric	NPT	PG	Metric	NPT				
MHB-30	0.512 - 0.709	13 - 18	PG 21	M25	NPT 3/4"	PG 21	M25C, M32	NPT 3/4"	3	0.315	0.902	0.480
MHB-32	0.512 - 0.709	13 - 18	PG 21	M25	NPT 3/4"	PG 21	M25C, M32	NPT 3/4"	4	0.260	0.902	0.480
MHB-33	0.512 - 0.709	13 - 18	PG 21	M25	NPT 3/4"	PG 21	M25C, M32	NPT 3/4"	4	0.276	0.902	0.480
MHB-54	0.591 - 0.826	15 - 21	-	M32C	-	-	M32RC	-	2	0.276	1.000	0.559
MHB-52	0.591 - 0.826	15 - 21	-	M32C	-	-	M32RC	-	2	0.315	1.000	0.559
MHB-55	0.591 - 0.826	15 - 21	-	M32C	-	-	M32RC	-	2	0.354	1.000	0.559
MHB-53	0.591 - 0.826	15 - 21	-	M32C	-	-	M32RC	-	3	0.315	1.000	0.559
MHB-58	0.591 - 0.826	15 - 21	-	M32C	-	-	M32RC	-	4	0.236	1.000	0.559
MHB-59	0.591 - 0.826	15 - 21	-	M32C	-	-	M32RC	-	4	0.276	1.000	0.559
MHB-56	0.591 - 0.826	15 - 21	-	M32C	-	-	M32RC	-	4	0.315	1.000	0.559
MHB-57	0.591 - 0.826	15 - 21	-	M32C	-	-	M32RC	-	5	0.236	1.000	0.559
MHB-60	0.591 - 0.826	15 - 21	-	M32C	-	-	M32RC	-	6	0.197	1.000	0.559
MHB-61	0.591 - 0.826	15 - 21	-	M32C	-	-	M32RC	-	6	0.236	1.000	0.559
MHB-63	0.591 - 0.826	15 - 21	-	M32C	-	-	M32RC	-	8	0.157	1.000	0.559
MHB-64	0.591 - 0.826	15 - 21	-	M32C	-	-	M32RC	-	8	0.197	1.000	0.559
MHB-62	0.591 - 0.826	15 - 21	-	M32C	-	-	M32RC	-	9	0.118	1.000	0.559
MHB-65	0.591 - 0.826	15 - 21	-	M32C	-	-	M32RC	-	9	0.157	1.000	0.559
MHB-43	0.709 - 0.984	18 - 25	PG 29	M32	NPT 1"	PG 29	M32C, M40	NPT 1"	2	0.315	1.197	0.551
MHB-44	0.709 - 0.984	18 - 25	PG 29	M32	NPT 1"	PG 29	M32C, M40	NPT 1"	2	0.354	1.197	0.551
MHB-45	0.709 - 0.984	18 - 25	PG 29	M32	NPT 1"	PG 29	M32C, M40	NPT 1"	3	0.295	1.197	0.551
MHB-47	0.709 - 0.984	18 - 25	PG 29	M32	NPT 1"	PG 29	M32C, M40	NPT 1"	4	0.315	1.197	0.551
MHB-48	0.709 - 0.984	18 - 25	PG 29	M32	NPT 1"	PG 29	M32C, M40	NPT 1"	5	0.335	1.197	0.551
MHB-49	0.709 - 0.984	18 - 25	PG 29	M32	NPT 1"	PG 29	M32C, M40	NPT 1"	6	0.236	1.197	0.551
MHB-50	0.709 - 0.984	18 - 25	PG 29	M32	NPT 1"	PG 29	M32C, M40	NPT 1"	6	0.295	1.197	0.551
MHB-51	0.709 - 0.984	18 - 25	PG 29	M32	NPT 1"	PG 29	M32C, M40	NPT 1"	6	0.197	1.197	0.551
MHB-66	0.748 - 1.102	19 - 28	-	M40C	-	-	M40RC	-	2	0.394	1.315	0.669
MHB-67	0.748 - 1.102	19 - 28	-	M40C	-	-	M40RC	-	3	0.394	1.315	0.669
MHB-68	0.748 - 1.102	19 - 28	-	M40C	-	-	M40RC	-	4	0.315	1.315	0.669
MHB-69	0.748 - 1.102	19 - 28	-	M40C	-	-	M40RC	-	5	0.315	1.315	0.669
MHB-70	0.748 - 1.102	19 - 28	-	M40C	-	-	M40RC	-	5	0.354	1.315	0.669
MHB-71	0.748 - 1.102	19 - 28	-	M40C	-	-	M40RC	-	6	0.276	1.315	0.669
MHB-72	0.748 - 1.102	19 - 28	-	M40C	-	-	M40RC	-	8	0.236	1.315	0.669
MHB-73	0.748 - 1.102	19 - 28	-	M40C	-	-	M40RC	-	9	0.276	1.315	0.669
MHB-74	0.748 - 1.102	19 - 28	-	M40C	-	-	M40RC	-	10	0.236	1.315	0.669
MHB-75	0.748 - 1.102	19 - 28	-	M40C	-	-	M40RC	-	12	0.209	1.315	0.669
MHB-82	0.866 - 1.260	22 - 32	PG 36	M40	-	PG 36	M40C, M50	NPT 1 1/4"	5	0.354	1.575	0.661
MHB-83	0.866 - 1.260	22 - 32	PG 36	M40	-	PG 36	M40C, M50	NPT 1 1/4"	8	0.315	1.575	0.661

Contact SAB, if you have a different SAB gland then above.

Metric & PG Thread

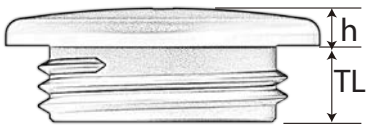
Hole Plug

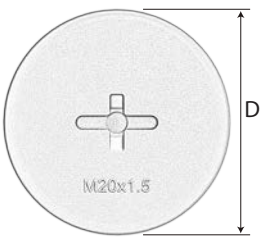
Round or hex polyamide hole plugs, black or gray

Hole plugs are used where a pre-existing threaded hole exists with no cable that needs to be closed and protected. SAB offers a round and hex top Polyamide 6 product in gray or black & PG and metric thread.

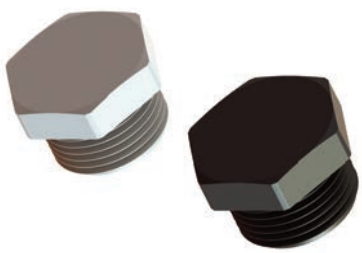
Technical data:

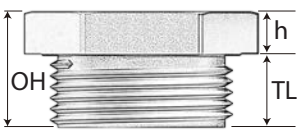
Material:	Polyamide 6
Temperature range:	
permanent:	-20°C to +100°C
intermittent:	-40°C to +150°C
Flammability:	V2 (according to UL 94)

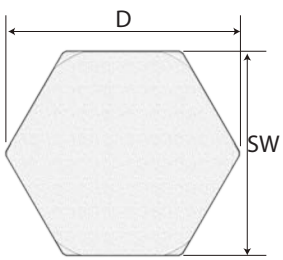




Part Number		Thread	Plug Diameter (D)		Thread Length (TL)		Height (h)	
Gray	Black	Type	inches	mm	inches	mm	inches	mm
Metric: Round								
HPR-17	HPR-24	M12x1.5	0.591	15.0	0.236	6	0.118	3.0
HPR-18	HPR-25	M16x1.5	0.768	19.5	0.236	6	0.134	3.4
HPR-19	HPR-26	M20x1.5	1.004	25.5	0.236	6	0.118	3.0
HPR-20	HPR-27	M25x1.5	1.181	30.0	0.394	10	0.157	4.0
HPR-21	HPR-28	M32x1.5	1.457	37.0	0.315	8	0.157	4.0
HPR-22	HPR-29	M40x1.5	1.811	46.0	0.315	8	0.177	4.5
HPR-23	HPR-30	M50x1.5	2.165	55.0	0.394	10	0.146	3.7
PG: Round								
HPR-01	HPR-09	PG 7	0.591	15.0	0.236	6	0.118	3.0
HPR-02	HPR-10	PG 9	0.768	19.5	0.236	6	0.118	3.0
HPR-03	HPR-11	PG 11	0.866	22.0	0.236	6	0.118	3.0
HPR-04	HPR-12	PG 13.5	0.984	25.0	0.236	6	0.118	3.0
HPR-05	HPR-13	PG 16	1.063	27.0	0.236	6	0.134	3.4
HPR-06	HPR-14	PG 21	1.299	33.0	0.315	8	0.157	4.0
HPR-07	HPR-15	PG 29	1.732	44.0	0.315	8	0.126	3.2
HPR-08	HPR-16	PG 36	2.165	55.0	0.394	10	0.146	3.7







Part Number		Thread Type	Plug Diameter (D)		Thread Length (TL)		Wrenching Flat (SW)		Height (h)	Overall Height (OH)
Gray	Black		inches	mm	inches	mm	inches	mm	inches	mm
Metric: Hex										
HPH-01	HPH-13	M12x1.5	0.669	17.0	0.394	10.0	0.591	15	0.197	0.591
HPH-02	HPH-14	M16x1.5	0.866	22.0	0.433	11.0	0.748	19	0.169	0.602
HPH-03	HPH-15	M16x1.5	0.866	22.0	0.591	15.0	0.748	19	0.169	0.76
HPH-04	HPH-16	M20x1.5	1.024	26.0	0.433	11.0	0.906	23	0.236	0.669
HPH-06	HPH-18	M20x1.5	1.024	26.0	0.591	15.0	0.906	23	0.236	0.827
HPH-07	HPH-19	M25x1.5	1.260	32.0	0.394	10.0	1.102	28	0.228	0.622
HPH-08	HPH-20	M25x1.5	1.260	32.0	0.591	15.0	1.102	28	0.228	0.819
HPH-09	HPH-21	M32x1.5	1.634	41.5	0.591	15.0	1.417	36	0.307	0.898
HPH-10	HPH-22	M40x1.5	2.087	53.0	0.709	18.0	1.811	46	0.335	1.044
HPH-11	HPH-23	M50x1.5	2.500	63.5	0.709	18.0	2.165	55	0.374	1.083
HPH-12	HPH-24	M63x1.5	3.130	79.5	0.709	18.0	2.717	69	0.374	1.083

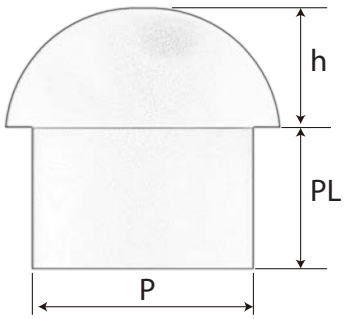
Dome Plugs

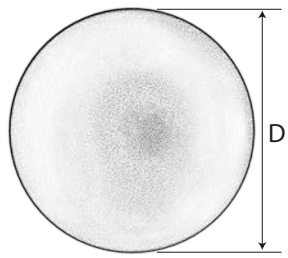
Sealing plug for cable glands based on clamping range

Dome Plugs are used for sealing cable glands when no cable is being used.

Technical data:

Material:	Polyamide 6
Temperature range:	
permanent:	-20°C to +100°C
intermittent:	-30°C to +150°C
Flammability:	V2 (according to UL 94)





Part Number		Dome Plug Fit into Clamping Range Ø min - max		Plug (ØP)		Length (PL)		Outer (ØD)		Height (h)	
Gray	Black	Standard Seal inches	Reducing Seal inches	inches	mm	inches	mm	inches	mm	inches	mm
DPG-01	DPB-01	-	0.079 - 0.197	0.157	4.0	0.472	12.0	0.362	9.2	0.157	4.0
DPG-02	DPB-02	0.118 - 0.256	-	0.252	6.4	0.472	12.0	0.362	9.2	0.157	4.0
DPG-03	DPB-03	-	0.079 - 0.236	0.197	5.0	0.551	14.0	0.413	10.5	0.197	5.0
DPG-04	DPB-04	0.157 - 0.315	-	0.315	8.0	0.539	13.7	0.413	10.5	0.185	4.7
DPG-05	DPB-05	-	0.118 - 0.276	0.276	7.0	0.591	15.0	0.524	13.3	0.224	5.7
DPG-06	DPB-06	0.197 - 0.394	-	0.382	9.7	0.354	9.0	0.524	13.3	0.209	5.3
DPG-07	DPB-07	-	0.197 - 0.354	0.335	8.5	0.512	13.0	0.622	15.8	0.303	7.7
DPG-08	DPB-08	0.236 - 0.472	-	0.472	12.0	0.512	13.0	0.622	15.8	0.315	8.0
DPG-09	DPB-09	0.276 - 0.512	-	0.512	13.0	0.551	14.0	0.622	15.8	0.295	7.5
DPG-10	DPB-10	-	0.276 - 0.472	0.433	11.0	0.531	13.5	0.709	18.0	0.335	8.5
DPG-11	DPB-11	0.394 - 0.551	-	0.535	13.6	0.531	13.5	0.709	18.0	0.343	8.7
DPG-12	DPB-12	-	0.354 - 0.512	0.512	13.0	0.571	14.5	0.787	20.0	0.276	7.0
DPG-13	DPB-13	0.433 - 0.669	-	0.646	16.4	0.571	14.5	0.783	19.9	0.287	7.3
DPG-14	DPB-14	-	0.354 - 0.63	0.551	14.0	0.551	14.0	0.866	22.0	0.374	9.5
DPG-15	DPB-15	0.512 - 0.709	-	0.701	17.8	0.551	14.0	0.866	22.0	0.394	10.0
DPG-16	DPB-16	-	0.433 - 0.591	0.634	16.1	0.610	15.5	0.945	24.0	0.354	9.0
DPG-17	DPB-17	0.591 - 0.827	-	0.803	20.4	0.610	15.5	0.949	24.1	0.362	9.2
DPG-18	DPB-18	-	0.472 - 0.787	0.776	19.7	0.591	15.0	1.122	28.5	0.382	9.7
DPG-19	DPB-19	0.709 - 0.984	-	0.984	25.0	0.591	15.0	1.122	28.5	0.382	9.7
DPG-20	DPB-20	-	0.63 - 0.906	0.807	20.5	0.622	15.8	1.240	31.5	0.362	9.2
DPG-21	DPB-21	0.748 - 1.102	-	1.075	27.3	0.622	15.8	1.240	31.5	0.362	9.2
DPG-22	DPB-22	-	0.787 - 1.024	1.012	25.7	0.669	17.0	1.449	36.8	0.421	10.7
DPG-23	DPB-23	0.866 - 1.26	-	1.252	31.8	0.669	17.0	1.449	36.8	0.421	10.7
DPG-24	DPB-24	-	0.984 - 1.22	1.205	30.6	0.795	20.2	1.705	43.3	0.469	11.9
DPG-25	DPB-25	1.181 - 1.496	-	1.496	38.0	0.795	20.2	1.705	43.3	0.469	11.9
DPG-26	DPB-26	-	1.142 - 1.378	1.362	34.6	0.886	22.5	2.008	51.0	0.630	16.0
DPG-27	DPB-27	1.339 - 1.732	-	1.740	44.2	0.886	22.5	2.008	51.0	0.630	16.0

Metal Round Hole Plugs

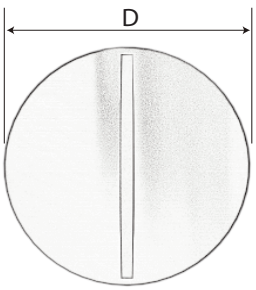
Hole plug for sealing threaded holes

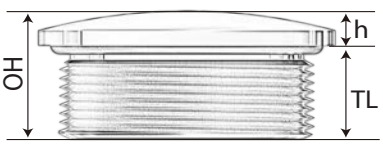
Metric & PG Thread

Hole plugs are used where a pre-existing threaded hole exists with no cable that needs to be closed and protected. SAB offers a round nickel plated brass hole plug with PG and metric thread.

Technical data:

Material:	Brass, Nickel Plated
Protection:	IP 65, 5 Bar
Temperature range:	-30°C to +100°C





Part Number	Thread Type	Plug Diameter (D)		Thread Length (TL)		Height (H)		Overall Height (OH)	
		inches	mm	inches	mm	inches	mm	inches	mm
Metric:									
HPM-01	M12X1.5	0.591	15	0.236	6.0	0.098	2.5	0.334	8.5
HPM-02	M16X1.5	0.748	19	0.276	7.0	0.118	3.0	0.394	10
HPM-03	M20X1.5	0.906	23	0.315	8.0	0.118	3.0	0.433	11
HPM-04	M25X1.5	1.142	29	0.315	8.0	0.157	4.0	0.472	12
HPM-05	M32X1.5	1.417	36	0.354	9.0	0.157	4.0	0.511	13
HPM-06	M40X1.5	1.732	44	0.354	9.0	0.157	4.0	0.511	13
HPM-07	M50X1.5	2.126	54	0.354	9.0	0.197	5.0	0.551	14
HPM-08	M63X1.5	2.717	69	0.394	10.0	0.236	6.0	0.630	16
PG:									
HPM-09	PG 7	0.630	16	0.236	6.0	0.118	3.0	0.354	9
HPM-10	PG 9	0.748	19	0.236	6.0	0.118	3.0	0.354	9
HPM-11	PG 11	0.866	22	0.236	6.0	0.118	3.0	0.354	9
HPM-12	PG 13.5	0.945	24	0.256	6.5	0.118	3.0	0.374	9.5
HPM-13	PG 16	1.024	26	0.256	6.5	0.118	3.0	0.374	9.5
HPM-14	PG 21	1.299	33	0.276	7.0	0.157	4.0	0.433	11
HPM-15	PG 29	1.654	42	0.315	8.0	0.157	4.0	0.472	12
HPM-16	PG 36	2.047	52	0.354	9.0	0.236	6.0	0.590	15

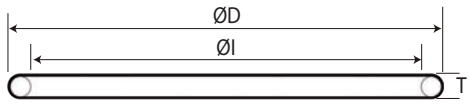
* Available with O-Ring
\+ Available in stainless steel

O-Rings

Fits Metric, PG, & NPT thread

Technical data:

Material:	Butadiene-Nitrile 70 (NBR)



Part Number	metric	PG	NPT	O.D. (D) inches	I.D. (I) inches	thickness (T) inches
OR-12	M12 x 1.5	—	—	0.504	0.364	0.070
OR-07	—	PG 7	—	0.566	0.426	0.070
OR-38	M16 x 1.5	PG 9	NPT 3/8	0.629	0.489	0.070
OR-11	—	PG 11	—	0.754	0.614	0.070
OR-20	M20 x 1.5	—	—	0.816	0.676	0.070
OR-13	—	PG 13.5	NPT 1/2	0.879	0.739	0.070
OR-16	—	PG 16	—	0.941	0.801	0.070
OR-25	M25 x 1.5	—	—	1.004	0.864	0.070
OR-21	—	PG 21	NPT 3/4	1.129	0.989	0.070
OR-32	M32 x 1.5	—	—	1.181	1.024	0.079
OR-01	—	—	NPT 1	1.380	1.174	0.103
OR-40	M40 x 1.5	PG 29	NPT 1 1/4	1.569	1.362	0.103
OR-36	M50 x 1.5	PG 36	NPT 1 1/2	1.943	1.737	0.103
OR-42	—	PG 42	NPT 1 3/4	2.193	1.987	0.103
OR-48	M63 x 1.5	PG 48	NPT 2	2.443	2.237	0.103

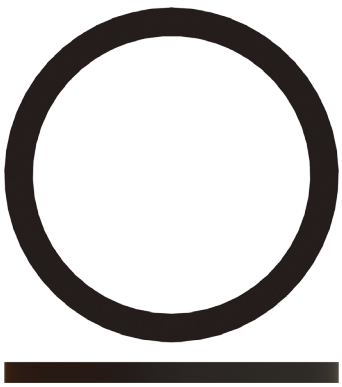
Flat Washer

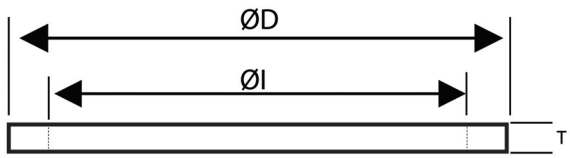
Fits Metric, PG, & NPT thread

Fits Metric, PG, & NPT Thread

Technical data:

Material:	Neoprene® 80



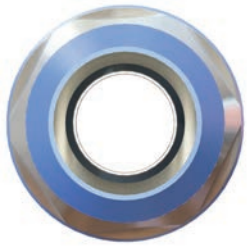
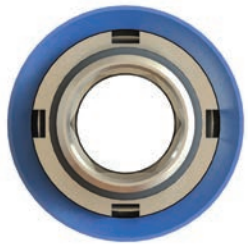


Part Number	metric	PG	NPT	O.D. (D)		I.D. (I)		thickness (T)	
				inches	mm	inches	mm	inches	mm
FWN-12	M12 1 X 1.5			0.610	15.50	0.406	10.30	0.059	1.5
FWN-7		PG 7		0.669	17.00	0.453	11.50	0.059	1.5
FWN-16M	M16 1 X 1.5			0.846	21.50	0.563	14.30	0.059	1.5
FWN-9		PG 9		0.858	21.80	0.571	14.50	0.059	1.5
FWN-3/8			NPT 3/8"	0.945	24.00	0.646	16.40	0.079	2.0
FWN-11		PG 11		1.016	25.80	0.689	17.50	0.059	1.5
FWN-20	M20 1 X 1.5			1.024	26.00	0.728	18.50	0.059	1.5
FWN-13		PG 13.5		1.094	27.80	0.780	19.80	0.059	1.5
FWN-1/2			NPT 1/2"	1.142	29.00	0.803	20.40	0.079	2.0
FWN-16		PG 16		1.173	29.80	0.858	21.80	0.059	1.5
FWN-25	M25 1 X 1.5			1.240	31.50	0.917	23.30	0.059	1.5
FWN-21		PG 21	NPT 3/4"	1.409	35.80	1.063	27.00	0.059	1.5
FWN-32	M32 1 X 1.5			1.516	38.50	1.201	30.50	0.059	1.5
FWN-29		PG 29	NPT 1"	1.843	46.80	1.398	35.50	0.059	1.5
FWN-40	M40 1 X 1.5			1.909	48.50	1.516	38.50	0.059	1.5
FWN-36		PG 36		2.323	59.00	1.791	45.50	0.059	1.5

Hygienic Glands & Fittings

Stainless steel cable glands and conduit fittings



These fittings are made especially for areas of public health, safety, and protection of the environment. Applications range from the food and beverage industry to the chemical processing industry to cleanrooms because the stainless steel cable fittings and gland boast a smooth surface, with all of the threads beneath the cap nut, preventing the depositing of harmful microorganisms.

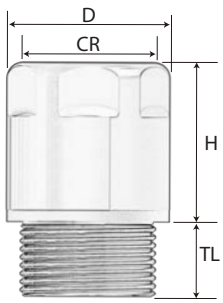
The benefits of this range include:

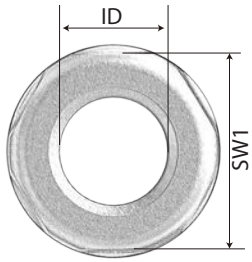
- Much easier, faster, and less expensive to clean
- Reduced energy and use of chemicals compared to conventional stainless steel conduit fittings
- Resistant to high-pressure water jet cleaning (IP 69K)
- Greater durability because of superior product quality
- Reliable strain relief due to duplicate cable attachment
- Chemical resistant
- Sustains disinfectant, cleaners, and acids or alkalies
- Suitable for high pressure steam cleaning

CG Clean

Stainless steel hygienic cable gland, standard and EMC

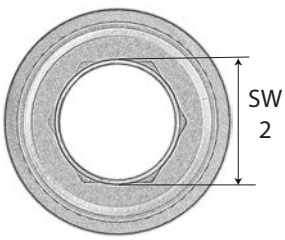
Metric & NPT Thread



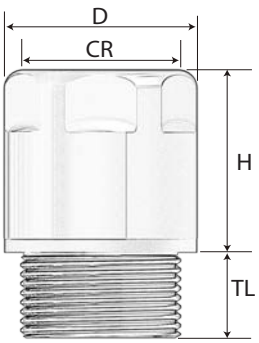


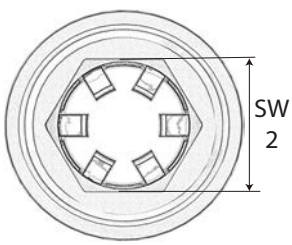
Technical data:

Material:	Stainless steel 1.4305 (AISI 303)
Seals:	EPDM according to FDA Guideline 21 CFR 177.2600
Clamping Insert:	POM
Protection type:	IP 68 (5 Bar, 30 min.) acc. to EN 60529 IP 69; IP 66
Temperature range:	
permanent:	-20°C to +100°C
intermittent:	-40°C to +150°C
Locknut:	Stainless steel
Approvals:	UL, VDE, DNV-GL, NSF, CE



EMC Version

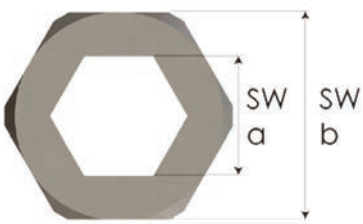




Part Number	Thread Type	Clamping Range Ø min-max (CR)		Wrenching Flats		Inner Diameter (ID)	Outer Diameter (OD)	Thread Length (TL)	Height (H)	Installation Tool
		inches	mm	Cap (SW1) inches	Bottom (SW2) inches	inches	inches	inches	inches	
Metric										
HCGM-12	M12x1.5	0.118 - 0.256	3.0 - 6.5	0.551	0.276	0.264	0.614	0.236	0.925	HCGT-01
HCGM-16	M16x1.5	0.197 - 0.394	5.0 - 10.0	0.709	0.394	0.406	0.795	0.276	1.043	HCGT-02
HCGM-20	M20x1.5	0.236 - 0.472	6.0 - 12.0	0.866	0.512	0.484	0.949	0.315	1.161	HCGT-03
HCGM-25	M25x1.5	0.472 - 0.669	12.0 - 17.0	1.102	0.669	0.681	1.185	0.394	1.280	HCGT-04
Metric: EMC										
HCGE-16	M16x1.5	0.197 - 0.394	5.0 - 10.0	0.709	0.394	0.406	0.795	0.276	1.28	HCGT-02
HCGE-20	M20x1.5	0.236 - 0.472	6.0 - 12.0	0.866	0.512	0.484	0.949	0.315	1.398	HCGT-03
HCGE-25	M25x1.5	0.472 - 0.669	12.0 - 17.0	1.102	0.669	0.681	1.185	0.394	1.614	HCGT-04
NPT										
HCGN-1/4	NPT 1/4"	0.118 - 0.256	3.0 - 6.5	0.709	0.276	0.264	0.795	0.394	0.925	HCGT-01
HCGN-3/8	NPT 3/8"	0.197 - 0.394	5.0 - 10.0	0.866	0.394	0.406	0.949	0.394	1.083	HCGT-02
HCGN-1/2	NPT 1/2"	0.236 - 0.472	6.0 - 12.0	1.102	0.512	0.484	1.185	0.433	1.201	HCGT-03
HCGN-3/4	NPT 3/4"	0.472 - 0.669	12.0 - 17.0	1.378	0.669	0.681	1.496	0.472	1.319	HCGT-04
NPT: EMC										
HCGE-3/8	NPT 3/8"	0.197 - 0.394	5.0 - 10.0	0.866	0.394	0.406	0.949	0.394	1.299	HCGT-02
HCGE-1/2	NPT 1/2"	0.236 - 0.472	6.0 - 12.0	1.102	0.512	0.484	1.185	0.433	1.417	HCGT-03
HCGE-3/4	NPT 3/4"	0.472 - 0.669	12.0 - 17.0	1.378	0.669	0.681	1.496	0.472	1.634	HCGT-04

Locknut included, dimensions are on page N27

TOOLS FOR INSTALLATION

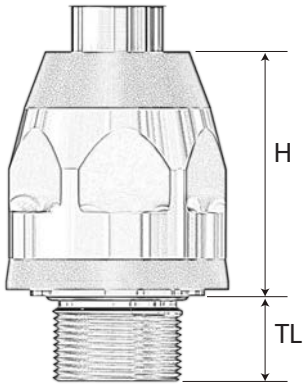


Part Number	Thread Type	Allen Screw SW a inches	Spanner Width SW b inches	Height h inches
HCGT-01	M12, NPT 1/4"	0.197	0.276	0.197
HCGT-02	M16, NPT 3/8"	0.236	0.394	0.197
HCGT-03	M20, NPT 1/2"	0.315	0.512	0.315
HCGT-04	M25, NPT 3/4"	0.394	0.669	0.315

Metric & NPT Thread

CF Clean

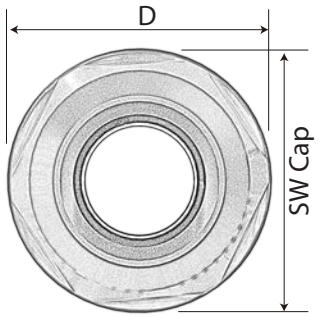
Stainless steel conduit fittings

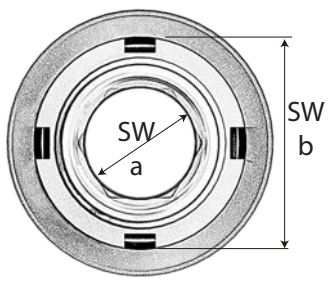


Technical data:

Material:	Stainless steel 1.4305 (AISI 303)
Seals:	TPE according to FDA Guideline 21 CFR 177.2600
Pressure ring:	PA 6 (Polyamide)
O-ring:	NBFR
Ferrule:	Brass
Protection type:	IP 65 IP 66
Temperature range: *permanent:* *intermittent:*	 -20°C to +100°C -40°C to +150°C
Locknut:	Stainless steel 1.4305 (AISI 303L)
Approvals:	UL, NSF, CE

Part Number	Thread Type	Spanner Width (SW Cap) inches	Allen Screw (SW a) inches	Crescent Wrench (SW b) inches	Outer Diameter (OD) inches	Thread Length (TL) inches	Height (H) inches	Installation Tool
Metric								
HCFM-16	M16x1.5	1.063	0.433	0.945	1.224	11.5	1.535	HCFT-01
HCFM-20	M20x1.5	1.181	0.551	1.063	1.339	13.0	1.555	HCFT-02
HCFM-25	M25x1.5	1.417	0.748	1.299	1.614	15.0	1.752	HCFT-03
HCFM-32	M32x1.5	1.811	0.984	1.654	2.075	15.0	2.106	HCFT-04
HCFM-40	M40x1.5	2.126	1.26	1.969	2.441	16.0	2.402	HCFT-10
HCFM-50	M50x1.5	2.48	1.417	2.283	2.756	18.0	2.579	HCFT-11
HCFM-63	M63x1.5	3.031	1.89	2.835	3.331	20.0	2.776	HCFT-07
NPT								
HCFN-3/8	NPT 3/8”	1.063	0.433	0.945	1.224	15.3	1.535	HCFT-01
HCFN-1/2	NPT 1/2”	1.181	0.551	1.063	1.339	19.9	1.555	HCFT-02
HCFN-3/4	NPT 3/4”	1.417	0.748	1.299	1.614	20.2	1.752	HCFT-03
HCFN-1	NPT 1”	1.811	0.945	1.654	2.075	25.0	2.106	HCFT-08
HCFN-1-1/4	NPT 1 1/4”	2.126	1.22	1.969	2.441	25.6	2.421	HCFT-09
HCFN-1-1/2	NPT 1 1/2”	2.48	1.417	2.283	2.756	26.0	2.579	HCFT-10
HCFN-2	NPT 2”	3.031	1.811	2.835	3.331	26.9	2.776	HCFT-11





Locknut included, dimensions are on page N27

TOOLS FOR INSTALLATION

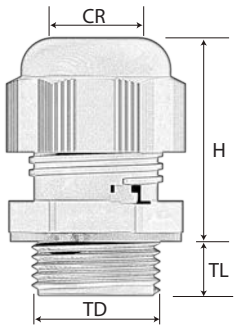
Part Number	Thread Type	Allen Screw SW a inches	Crescent Wrench SW b inches
HCFT-01	M16, NPT 3/8”	0.433	0.945
HCFT-02	M20, NPT 1/2”	0.551	1.063
HCFT-03	M25, NPT 3/4”	0.748	1.299
HCFT-08	NPT 1”	0.945	1.654
HCFT-04	M32	0.984	1.654
HCFT-09	NPT 1 1/4”	1.220	1.969
HCFT-10	M40	1.260	1.969
HCFT-06	M50	1.417	2.283
HCFT-11	NPT 2”	1.811	2.835
HCFT-07	M63	1.890	2.835

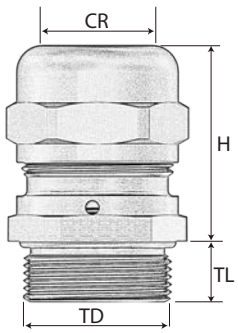
VG Vent PA6 / NPB

Polyamide vent gland, black or gray / Nickel plated brass vent gland

Metric & PG Thread

Vent glands are used to secure a cable and balance the pressure in an enclosure to protect electronic connections from condensation. They are UL approved and chemical resistant. The vent plugs come in black or gray polyamide or nickel plated brass with different air flow ratings.

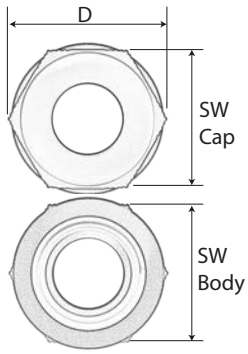




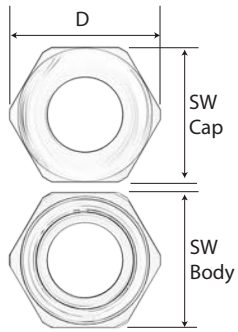
Technical data:

Material:	Brass, Nickel Plated or Polyamide 6
Cap:	Brass, Nickel Plated or Polyamide 6
Vent element:	PTFE
Seal:	Chloroprene (CR)
Washer:	Neoprene (NBR)
Protection type:	IP 66/67
Temperature range:	
permanent:	-20°C to +100°C
intermittent:	-30°C to +150°C
Approvals:	cURus, cCSAus, VDE, DNV-GL, CE

Plastic



Metal



Part Number Gray	Part Number Black	Average Air Flow l/h	Water Intrusion Pressure bar	Thread Size	Clamping Range Ø min - max (CR) inches	Clamping Range Ø min - max (CR) mm	Thread Length (TL) inches	Thread Diameter (TD) inches	Wrenching Flats Cap & Body (SW) inches	Outer Diameter (D) inches	max. Height (H) inches
Plastic Vent Glands											
VGMG-12	VGMB-12	25	0.1	M12x1.5	0.157 - 0.276	4.0 - 7.0	0.315	0.472	0.748	0.854	1.114
VGPG-9	VGPB-9	25	0.1	PG 9	0.157 - 0.276	4.0 - 7.0	0.315	0.598	0.748	0.854	1.114
VGMG-16	VGMB-16	25	0.1	M16x1.5	0.157 - 0.276	4.0 - 7.0	0.394	0.630	0.748	0.854	1.114
VGPG-11	VGPB-11	25	0.1	PG 11	0.157 - 0.276	4.0 - 7.0	0.315	0.732	0.748	0.980	1.114
VGMG-20	VGMB-20	40	0.1	M20x1.5	0.236 - 0.433	6.0 - 11.0	0.394	0.787	0.945	1.063	1.311
VGPG-13	VGPB-13	40	0.1	PG 13.5	0.236 - 0.433	6.0 - 11.0	0.354	0.803	0.945	1.063	1.311
Metal Vent Glands											
VGMM-12		25	0.1	M12x1.5	0.157 - 0.276	4.0 - 7.0	0.315	0.472	0.669	0.744	1.280
VGPM-7		25	0.1	PG 7	0.157 - 0.276	4.0 - 7.0	0.315	0.492	0.669	0.744	1.280
VGPM-9		25	0.1	PG 9	0.157 - 0.276	4.0 - 7.0	0.315	0.598	0.669	0.744	1.142
VGMM-16		25	0.1	M16x1.5	0.157 - 0.276	4.0 - 7.0	0.315	0.630	0.669	0.744	1.142
VGMM-16L		35	0.1	M16x1.5	0.197 - 0.354	5.0 - 9.0	0.315	0.630	0.787	0.866	1.417
VGPM-11		35	0.1	PG 11	0.197 - 0.354	5.0 - 9.0	0.315	0.732	0.787	0.866	1.417
VGMM-20		50	0.1	M20x1.5	0.236 - 0.433	6.0 - 11.0	0.315	0.787	0.866	0.965	1.280
VGPM-13		50	0.1	PG 13.5	0.236 - 0.433	6.0 - 11.0	0.354	0.803	0.866	0.965	1.280

cCSAus approval for plastic glands only.
VDE approved for metric threads only

Metric Thread and Quick Fit

VP Vent PA6

Polyamide vent plug, black or gray

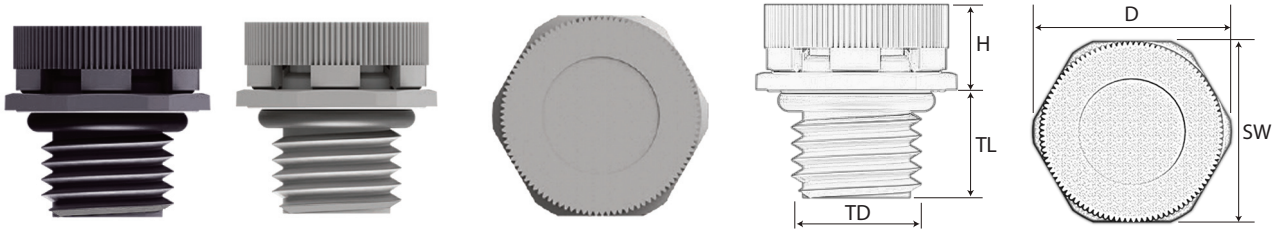
Vent plugs are used to balance the pressure in an enclosure to protect electronic connections from condensation. They are UL approved and chemical resistant. The vent plugs come in black or gray polyamide with different air flow ratings.

- Balances pressure difference between inner housing and the outside environment.
- Prevents damage according to pressure differences.
- Prevents the formation of water condensation in tightly-sealed standard housing.
- Membrane properties: hydrophobic, oleophobic.

Technical data:

Body:	Polyamide 6
Cap:	Polyamide 6
Vent element:	Acrylic Co-Polymer on Nylon Support
Seal:	Chloroprene (CR)
Washer:	Neoprene (NBR)
Protection type:	IP 67/68 (for water intrusion pressure oil bar)
Temperature range: *permanent:* *intermittent:*	 -40°C to +100°C -45°C to +150°C
Approvals:	cURus, CE

Style A



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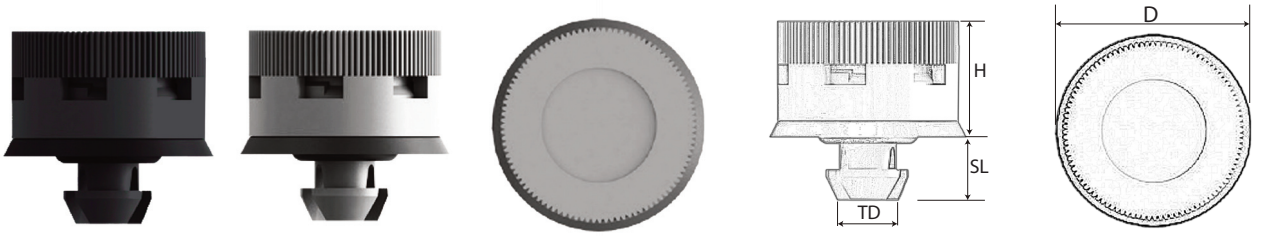

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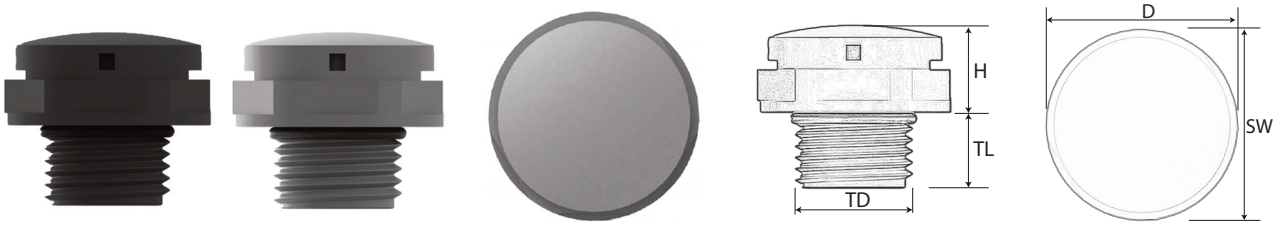

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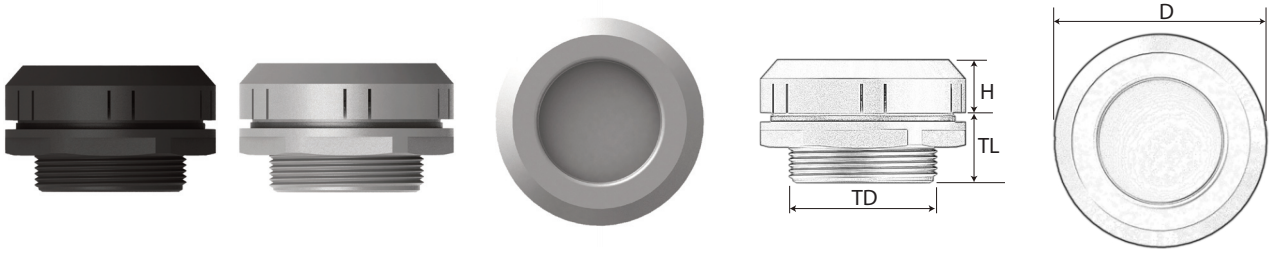


VP Vent PA6

Polyamide vent plug, black or gray

Metric Thread and Quick Fit

Vent plugs are used to balance the pressure in an enclosure to protect electronic connections from condensation. They are UL approved and chemical resistant. The vent plugs come in black or gray polyamide with different air flow ratings.

- Balances pressure difference between inner housing and the outside environment.
- Prevents damage according to pressure differences.
- Prevents the formation of water condensation in tightly-sealed standard housing.
- Membrane properties: hydrophobic, oleophobic.

Technical data:

Body:	Polyamide 6
Cap:	Polyamide 6
Vent element:	Acrylic Co-Polymer on Nylon Support
Seal:	Chloroprene (CR)
Washer:	Neoprene (NBR)
Protection type:	IP 67/68 (for water intrusion pressure oil bar)
Temperature range: *permanent:* *intermittent:*	 -40°C to +100°C -45°C to +150°C
Approvals:	cURus, CE

Part Number		Style	Average Air Flow	Water Intrusion	Thread Size	Thread Length (TL)	Thread Diameter (TD)	Wrenching Flats (SW)	Outer Diameter (D)	max. Height (H)	UL
Gray	Black		l/h	Pressure bar		inches	inches	inches	inches	inches	
VPG-01	VPB-01	B	16	0.9	QUICK FIT	0.295	0.217	-	0.728	0.429	-
VPG-02	VPB-02	A	16	0.9	M12x1.5	0.236	0.472	0.669	0.728	0.299	cURus
VPG-02L	VPB-02L	A	16	0.9	M12x1.5	0.394	0.472	0.669	0.728	0.299	cURus
VPG-03	VPB-03	B	25	0.5	QUICK FIT	0.295	0.217	-	0.728	0.429	-
VPG-04	VPB-04	A	25	0.5	M12x1.5	0.236	0.472	0.669	0.728	0.299	cURus
VPG-04L	VPB-04L	A	25	0.5	M12x1.5	0.394	0.472	0.669	0.728	0.299	cURus
VPG-04H	VPB-04H	E	42	0.9	M12x1.5	0.394	0.472	0.945	1.024	0.461	-
VPG-05	VPB-05	E	42	0.9	M16x1.5	0.394	0.630	0.945	1.024	0.461	-
VPG-06	VPB-06	E	42	0.9	M20x1.5	0.394	0.787	0.945	1.024	0.461	-
VPG-07	VPB-07	B	120	0.2	QUICK FIT	0.295	0.217	-	0.728	0.429	-
VPG-08H	VPB-08H	E	120	0.5	M12x1.5	0.394	0.472	0.945	1.024	0.461	-
VPG-08	VPB-08	A	120	0.2	M12x1.5	0.236	0.472	0.669	0.728	0.299	cURus
VPG-08L	VPB-08L	A	120	0.2	M12x1.5	0.394	0.472	0.669	0.728	0.299	cURus
VPG-09	VPB-09	E	120	0.5	M16x1.5	0.394	0.630	0.945	1.024	0.461	-
VPG-10	VPB-10	E	120	0.5	M20x1.5	0.394	0.787	0.945	1.024	0.461	-
VPG-11	VPB-11	F	120	0.9	M40x1.5	0.709	1.575	-	2.177	0.610	-
VPG-12	VPB-12	B	300	0.1	QUICK FIT	0.295	0.217	-	0.728	0.429	-
VPG-13	VPB-13	A	300	0.1	M12x1.5	0.236	0.472	0.669	0.728	0.299	cURus
VPG-13L	VPB-13L	A	300	0.1	M12x1.5	0.394	0.472	0.669	0.728	0.299	cURus
VPG-14	VPB-14	F	375	0.5	M40x1.5	0.709	1.575	-	2.185	0.610	-
VPG-15	VPB-15	E	450	0.2	M12x1.5	0.394	0.472	0.945	1.024	0.461	-
VPG-16	VPB-16	E	450	0.2	M16x1.5	0.394	0.630	0.945	1.024	0.461	-
VPG-17	VPB-17	E	450	0.2	M20x1.5	0.394	0.787	0.945	1.024	0.461	-
VPG-18	VPB-18	E	750	0.1	M12x1.5	0.394	0.472	0.945	1.024	0.461	-
VPG-19	VPB-19	E	750	0.1	M16x1.5	0.394	0.630	0.945	1.024	0.461	-
VPG-20	VPB-20	E	750	0.1	M20x1.5	0.394	0.787	0.945	1.024	0.461	-
VPG-21	VPB-21	F	1350	0.2	M40x1.5	0.709	1.575	-	2.177	0.610	-
VPG-22	VPB-22	F	2200	0.1	M40x1.5	0.709	1.575	-	2.177	0.610	-

VP Vent Plug Metal

Stainless steel vent plug

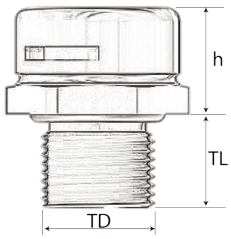
Metric & PG Thread

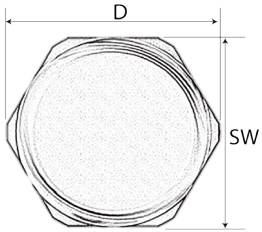
Vent plugs are used to balance the pressure in an enclosure to protect electronic connections from condensation. They are UL approved and chemical resistant. The vent plugs are stainless steel AISI 303 and come with different air flow ratings.

Technical data:

Body:	Stainless steel AISI 303
Cap:	Stainless steel AISI 303
Vent element:	Acrylic Co-Polymer on Nylon Support
Seal:	Chloroprene (CR)
Washer:	Neoprene (NBR)
Protection type:	IP 67/68 (for water intrusion pressure oil bar)
Temperature range: *permanent:* *intermittent:*	 -40°C to +100°C -45°C to +150°C
Approvals:	cURus

Style C





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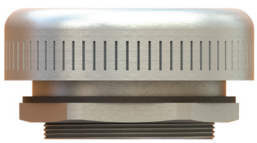

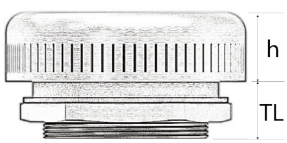

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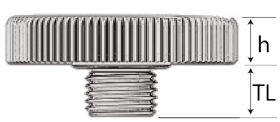

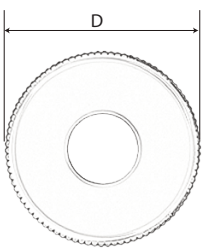

Part Number	Style	Average Air Flow l/h	Water Intrusion Pressure bar	Thread Size	Thread Length (TL) inches	Thread Diameter (TD) inches	Wrenching Flats (SW) inches	Outer Diameter (D) inches	max. Height (H) inches	UL
VPM-01	G	4	0.9	M4x0.7	0.118	0.157	-	0.484	0.106	-
VPM-02	G	7	0.5	M4x0.7	0.118	0.157	-	0.484	0.106	-
VPM-03	C	16	0.9	M12x1.5	0.236	0.472	0.669	0.740	0.433	cURus
VPM-03L	C	16	0.9	M12x1.5	0.394	0.472	0.669	0.740	0.433	cURus
VPM-04	C	16	0.9	PG 7	0.413	0.492	0.669	0.740	0.433	cURus
VPM-05	C	16	0.9	M16x1.5	0.236	0.630	0.709	0.787	0.472	-
VPM-05H	C	16	0.9	M16x1.5	0.236	0.630	0.709	0.787	0.630	-
VPM-06	C	16	0.9	M20x1.5	0.236	0.787	0.866	0.965	0.512	-
VPM-06H	C	16	0.9	M20x1.5	0.236	0.787	0.866	0.965	0.669	-
VPM-07	C	25	0.5	M12x1.5	0.236	0.472	0.669	0.740	0.433	cURus
VPM-07L	C	25	0.5	M12x1.5	0.394	0.472	0.669	0.740	0.433	cURus
VPM-08	C	25	0.5	PG 7	0.413	0.492	0.669	0.740	0.433	cURus
VPM-09	C	25	0.5	M16x1.5	0.236	0.630	0.709	0.787	0.472	-
VPM-09L	C	25	0.5	M16x1.5	0.236	0.630	0.709	0.787	0.630	-
VPM-10	C	25	0.5	M20x1.5	0.236	0.787	0.866	0.965	0.512	-
VPM-10H	C	25	0.5	M20x1.5	0.236	0.787	0.866	0.965	0.669	-
VPM-11	G	35	0.2	M4x0.7	0.118	0.157	-	0.484	0.106	-
VPM-12	G	100	0.1	M4x0.7	0.118	0.157	-	0.484	0.106	-
VPM-13	C	120	0.2	M12x1.5	0.236	0.472	0.669	0.740	0.433	cURus
VPM-13L	C	120	0.2	M12x1.5	0.394	0.472	0.669	0.740	0.433	cURus
VPM-14	C	120	0.2	PG 7	0.413	0.492	0.669	0.740	0.433	cURus
VPM-15	C	120	0.2	M16x1.5	0.236	0.630	0.709	0.787	0.472	-
VPM-15H	C	120	0.2	M16x1.5	0.236	0.630	0.709	0.787	0.630	-
VPM-16	C	120	0.2	M20x1.5	0.236	0.787	0.866	0.965	0.512	-
VPM-16H	C	120	0.2	M20x1.5	0.236	0.787	0.866	0.965	0.669	-
VPM-17	D	120	0.9	M40x1.5	0.394	1.575	-	2.283	0.807	cURus
VPM-18	C	300	0.1	M12x1.5	0.236	0.472	0.669	0.740	0.433	cURus
VPM-18L	C	300	0.1	M12x1.5	0.394	0.472	0.669	0.740	0.433	cURus
VPM-19	C	300	0.1	PG 7	0.413	0.492	0.669	0.740	0.433	cURus
VPM-20	C	300	0.1	M16x1.5	0.236	0.630	0.709	0.787	0.472	-
VPM-20H	C	300	0.1	M16x1.5	0.236	0.630	0.709	0.787	0.630	-
VPM-21	C	300	0.1	M20x1.5	0.236	0.787	0.866	0.965	0.512	-
VPM-22	D	375	0.5	M40x1.5	0.394	1.575	-	2.283	0.807	cURus
VPM-23	D	1350	0.2	M40x1.5	0.394	1.575	-	2.283	0.807	cURus
VPM-24	D	2200	0.1	M40x1.5	0.394	1.575	-	2.283	0.807	cURus

TECHNICAL DATA

www.sabcable.com
866-722-2974 ■ info@sabcable.com

SPECIAL CABLES
SAB North America

Content

- Please note that all technical data are not binding and can be modified due to new developments.

SPECIAL CABLES SAB North America
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866-722-2974 ■ info@sabcable.com

SABIX®
General Information

SABIX® - thermoplastic material on a Polyolefin base

This material has several outstanding characteristics. As registered trademark of SAB Bröckskes GmbH & Co. KG, SABIX® combines progressive cable technology with highest security for the user. When used properly, there is no health risk associated with SABIX®. SABIX® products are completely recyclable and can be reused after decomposition.

Standard halogen-free cables offer a large degree of safety to humans, nature, buildings and machinery, but do have a large disadvantage - they are often too unflexible to compete with PVC in all applications. This is not the case with SABIX®. SABIX® possesses several technical advantages compared with PVC.

The outstanding characteristics of the SABIX®-material types depending on the modifications are:

- excellent oil resistance acc. to VDE + EN
- flexible at cold temperatures up to -40°C
- heat resistant up to +125°C
- suitable for outdoor applications
- extremely flexible
- very good capacitance
- increased abrasion resistance
- fully recyclable
- low smoke density acc. to VDE, IEC, BS + EN
- flame retardant and self-extinguishing acc. to VDE, IEC + EN
- halogen-free acc. to VDE + IEC
- UL / CSA

Exemplary application fields

SABIX® single conductors, wiring and multi-conductor cables:
switchboard construction, devices of communication technique, household appliances, generators, transformers and machine construction, rail technique, ...

SABIX® control and connection cables:
automation technique, automobile industry, machine construction, rail technique, conveyor technique, industrial plant construction, steel and iron industry, refrigeration and air conditioning technology, car washes, truck hoists, supply cable between frequency converter and servo motor, ...

SABIX® data cables:
telecommunication technique, electronics for data processing systems, weighing devices, office machines, for increased requirements on transmission characteristics and crosstalk attenuation, ...

SABIX® Rail:
single conductors, control and data cables for the internal wiring of rail vehicles acc. to DIN 45545-2, ...

SABIX® BL - cables for ship building:
BL Data - data cables, BL Control - control cables, BL Power - supply cable for flexible application lower deck as well as for the protected installation on deck of ships without permanent contact with oil and fuel.

SABIX® Ultra - continuous flex with highest fire protection:
as festoon cables for polar cranes in nuclear power plants, in rail technique, as sensor cable at the vehicle chassis, as cable in tray with medium mechanical stress, as flexible control cable at entry doors, ...

Polyurethane (PUR) Thermoplastic Elastomer General Information

Polyurethane (PUR) - Thermoplastic Elastomer

Polyurethane has become increasingly important in the cable industry over the past years. This material shows at certain temperatures, mechanical characteristics similar to rubber. The combination of thermoplastic and elastic characteristics has led to the description TPE thermoplastic elastomer. Here at SAB Bröckskes GmbH & Co. KG, we use PUR on a Polyether base as jacket material. In addition to standard Polyurethane, thanks to constant development between SAB Bröckskes and the plastic industry, the following types of PUR are also available:

- Polyurethane semi-matte (low adhesion)
- Polyurethane matte (rough surface, low adhesion)
- Polyurethane flame protected
- Polyurethane halogen-free and flame protected

Mechanical characteristics

The insulation materials of the cables are usually not subject to high mechanical stress. Jackets, on the other hand are heavily used. This is especially true for flexible control and connection cables which are often pulled over sharp corners and rough surfaces. This can lead to cuts which are magnified when the cable is stretched during flexible use. Compressive stress caused by crushing and impacting from tools and machines can also occur. The most important mechanical characteristics of PUR are:

- high tensile strength
- high tear resistance
- notch resistance
- abrasion resistance
- alternate bending resistance
- impact resistance
- flexibility at low temperatures

Chemical characteristics

The chemical resistance depends upon many factors such as chemical type, reaction time, temperature, volume, concentration and of course the type of Polyurethane used. In comparison with many other materials, such as rubber or PVC, PUR has a better resistance against chemical reaction. The outstanding chemical characteristics are:

- very good resistance against mineral oils
- good resistance against alcohol-free benzine
- good resistance during storage in water
- good resistance against many solvents

The danger of decomposition through microbes exists with Polyurethane on a Polyester base after prolonged exposure to dampness and warmth. The Polyurethane on a Polyether base used by SAB is resistant to microbic decomposition. Etherpolyurethane and Esterpolyurethane can be differentiated by the saponification value (VZ).

- Etherpolyurethane (resistant) - VZ ≤ 200
- Esterpolyurethane (non-resistant) - VZ ≥ 350

After prolonged exposure to warm water or tropical climates, Polyurethane on a Polyester base will undergo a chemical reaction. The result is a weakening of mechanical strength. SAB Polyurethane on a Polyether base is relatively more resistant to hydrological break-down.

Etherpolyurethane is weather and ozone resistant in all climates. Discoloration by sunlight is possible, but this will not affect performance.

Exemplary application fields of PUR insulated cables

For control devices, for example machine tools, assembly lines, conveyor systems and production lines, machine and plant construction, conveyor technique (among others hoisting platforms and transport systems), automobile industry, handling and automation technique, iron, steel and chemical industry, electric tool construction (for example lawn mowers, edge cutters, hedge trimmers), in brick and cement works, electric hand-held equipment (for example drilling machines, angle grinders and other electric tools), industrial painter´s shops, water treatment systems, automobile and coal, iron and steel industry, ...

Polyvinylchloride (PVC) Thermoplastic Material
General Information

Polyvinylchloride (PVC) - Thermoplastic material

The application areas for this thermoplast in the plastics industry are diverse. There are various types of PVC used in the wire and cable industry. National (VDE) and International (IEC) Standards Authorities have specified PVC parameters for the different PVC mixtures. The characteristics of standardized PVC mixtures for the cable industry are defined under the following VDE standards, for example:

- PVC - insulation mixture EN 50363-3, VDE 0207-363-3
- PVC - jacket mixture EN 50363-4-1, VDE 0207-363-4-1

PVC that hardens after polymerization is not suitable for insulating and protecting wires and cables. The necessary mechanical, thermal and electrical levels can only be reached with the addition of complements.

The main additives are:

- softeners
- stabilizers
- filler materials
- slip additives

Materials

SAB special PVC (Y):

Our special PVC (YA and YM) are used for insulation and jacketing purposes. PVC type YA is used for conductor insulation and is particularly flexible and has very good electrical characteristics. PVC type YM jacket material has good mechanical characteristics and high flexibility.

The temperature range is as follows	Static:	-40° up to +70°C
	Flexible:	+5° up to +70°C

SAB cold resistant PVC (YK):

Cold resistant PVC shows good flexibility and mechanical strength even at sub-zero temperatures. It can also be exposed to various weather influences.

The temperature range is as follows	Static:	-40° up to +70°C
	Flexible:	-20° up to +70°C

SAB heat resistant PVC (YW):

Heat resistant PVC can resist temperatures up to +105°C. The insulation and jacket materials possess good electrical and mechanical values and have very good heat resistance. The highest valid operational temperature on the conductor itself according to VDE 0207 is +90°C. Any application above this temperature reduces the usable life.

The temperature range is as follows	Static:	-40° up to +90°C
	Flexible:	+5° up to +90°C
	short time use:	+105°C

SAB PVC oil resistant PVC (YOE):

Our YOE PVC mixtures are oil resistant according to EN 50363-4-1 + VDE 0207-363-4-1, mixture TM5. Usually used as a jacket material, it can also be used as insulation.

The temperature range is as follows	Static:	-40° up to +70°C
	Flexible:	+5° up to +70°C

PVC can be classified as inflammable due to its chemical composition. SAB PVC compounds fulfill the criteria regarding burning characteristics according to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW1, CSA FT1 and FT2. Halogen is however released during a fire, which is a danger to humans, nature, buildings and machines. In addition, PVC control and data cables are not designed for outdoor use.

Exemplary application fields of PVC insulated cables

For control devices, for example, machine tools, conveyor belts, assembly and production lines and in plant and switchboard construction, devices and equipment of communication technique, household appliances, generators, transformers and machine construction. They are equally used for control units, electric, installation and packing technique, textile and wood processing as well as machine tool construction. Further application fields are electric and data processing, in cleaning devices, automobile industry, automation technique, press and tool construction. Other fields of use are machine construction for paper and printing industry, surface treatment, iron and steel industry, bottling plants, chemical industry, for intrinsically safe circuits, at control devices in hazardous areas, CNC centers, lamps and lightning technique, ...

Besilen® - Silicone (Elastomer on a Silicone Rubber Base) General Information

Besilen® - Elastomer on a silicone base

Besilen® is a registered trademark of SAB Bröckskes GmbH & Co. KG. It is a specially developed Silicone rubber-based material with good electrical characteristics and heat resistance. In addition to our standard Besilen® product range, we also produce specialized products that meet requirements such as:

- notch resistance for better mechanical strength
- higher temperature resistance +250°C
- Besilen® mixture compatible for the food industry
- conductive Besilen® for antistatic conductance
- non-blooming

Mechanical characteristics

Vulcanized Besilen® (Silicone), produced with a 50-60 A shore hardness is particularly elastic with excellent mechanical strength. A further interesting characteristic of Besilen® is that it does not stick to adhesive surfaces. They are:

- non-adhesive
- hydrophobic (water repellent)

If Besilen® cables are used in tube systems it is important that these are ventilated and open, otherwise the mechanical strength of Besilen® will be reduced.

Chemical characteristics

The chemical composition of Besilen® (Silicone), which deviates from standard rubber types, gives our product several outstanding characteristics including for example:

- outstanding hot air resistance
- extreme flexibility at cold temperatures (down to -40°C)
- resistant to decomposition from substances such as alcohol and high molecular oils, plant and animal fats, diluted acids, softeners, chlophen, alkalis and salt solutions
- oxygen resistant
- ozone-proof
- halogen-free
- weather resistant

Electrical characteristics

The electrical characteristics of Besilen® (Silicone) even at room temperature match the best known elastic insulation materials. Because of its heat resistance, Besilen® insulated cables and wires can withstand approx. 50% more electric pressure under continuous use than regular rubber insulation. This allows weight and room-saving cable construction. An outstanding safety feature of Besilen® insulation is the insulating layer of silicic acid (SiO_2) during fire.

- Dielectric constant: approx. 3.2 (at 800 Hz)
- Specific volume resistance: min. 10^{12} Ω x cm
- Breakdown voltage: 20 kV/mm

Current-carrying capacity (Iz) of cables with increased heat resistance in ambient temperatures above 150°C

Ambient temperature up to °C	150°	155°	160°	165°	170°	175°
Current-carrying capacity (Iz) of the values in below-shown table	100%	91%	82%	71%	58%	41%

In ambient temperatures up to 150°C Besilen® insulated cables can be charged acc. to VDE 0298 T4 06/13 table 11, column 2 and 5. See table current-carrying capacity page O/20.

Exemplary application fields of Besilen® cables

For rail technique, temperature measurement technique, smelteries, steel and power plants as well as rolling mills. They are equally used in lightning industry, cement, glass and ceramic treatment, refrigeration and air conditioning technique, sauna construction, foundries, plastic processing industries as well as plastic processing machine construction. Further applications are in heating devices, cookeries, thermo and process technique, engine construction, dust removal systems, ventilator construction, system heating technique, wood and paper processing, electronic industries, drive technology, switchboards and distributors, textile machine construction, ...

ETFE, FEP, FPA
General Information

ETFE - ethylene tetrafluorethylene

ETFE has excellent mechanical characteristics, an elevated hardness and tensile strength are combined with chemical resistance and electric and thermal characteristics of other fluoro-plastics with especially high demands as for example on:

- high chemical and solvent resistance
- cold and heat resistance
- elevated tensile strength and pressure resistance
- good electric insulation characteristics
  with low dielectric values almost independent on frequency
- operating temperature from approx. -90°C up to +135°C

FEP - fluorinated ethylene-propylene copolymer

This material belongs to the fusible fluoroplastics and can be extruded. It has a bigger friction coefficient and a lower permanent operating temperature than PTFE. FEP offers the following characteristics:

- excellent temperature resistance
- deep temperature flexibility
- very good resistance against oils and chemicals
- good electric insulation characteristics
  with low dielectric values almost independent on frequency
- operating temperature from approx. -90°C up to +180°C

PFA - perfluoroalkoxy copolymer

This fluoroplastic material has got a good chemical resistance, a broad application temperature range as well as a very good resistance against aging and weather conditions. Furthermore, it shows a low friction resistance and a good electrical insulation with especially high demands as for example on:

- high demands on chemical and solvent resistance
- high degree of resistance
- excellent temperature resistance and deep temperature flexibility
- good electric insulation characteristics
  with low dielectric values almost independent on frequency
- operating temperature from approx. -90°C up to +250°C (short time use +260°C)

Exemplary application fields of ETFE, FEP and PFA cables

ETFE: For high frequency, broadband and telecommunication technique, coaxial and micro wave technology. High data speed together with exact information transmission, chemical industry, furnace construction, brick works, heating devices, ...

FEP: For ship building for example in machine rooms on ships or as connection cable for engine control, high frequency and broadband technique as well as telecommunication technique, coaxial and micro wave technology. High data speed together with exact information transmission, chemical industry, furnace construction, brick works, heating devices, ...

PFA: For high frequency, broadband and telecommunication technique, coaxial and micro wave technology. High data speed together with exact information transmission, chemical industry, furnace construction, brick works, heating devices, ...

Abbreviations

Abbreviation keys for harmonized/international cables

Fundamental type:

H	=	harmonized type
A	=	nationally recognized type

Nominal voltage:

01	=	100 volts
03	=	300/300 volts
05	=	300/500 volts
07	=	450/750 volts

Materials:

B	=	ethylene propylene rubber
E	=	PE Polyethylene
J	=	fiber-glass braiding
N	=	chloroprene rubber
Q	=	polyurethane
R	=	rubber
S	=	silicone rubber
T	=	textile braiding
V	=	PVC
V2	=	PVC +90 °C
V3	=	PVC flexible at low temperatures
V5	=	PVC increased oil resistant
X	=	XPE, cross linked PE

Additions:

C4	=	copper wire braiding
H	=	divisible flat cable
H2	=	non-divisible flat cable
H6	=	non-divisible flat cable for elevators
H8	=	helix cable

Types of conductor:

U	=	single wire
R	=	multi wire
K	=	fine strands (fixed installation)
F	=	fine strands (flexible use)
H	=	extra fine strands (flexible use)
D	=	fine strands for welding cable
E	=	extra fine strands for welding cable

Ground wire:

X	=	without green/yellow ground wire
G	=	with green/yellow ground wire

Abbreviation keys acc. to DIN VDE and with reference to DIN VDE (SAB Bröckskes standard)

Fundamental type:

N	=	national standard
Bi	=	Besilen® (silicone)
Ö	=	PVC control cable
S	=	Cable track cable
SL	=	Servo cable
SABIX®	=	halogen-free material on a polyolefin base
Li	=	strands (Data cable)
AGL	=	Compensating cable
ThL	=	Extension cable

Insulation:

Y	=	PVC
YK	=	cold resistant PVC
2G (Bi)	=	Besilen® (silicone)
12Y	=	mod. TPE
G	=	rubber
2Y	=	PE (polyethylene)
GL	=	fiber-glass
SABIX®	=	halogen-free material

Screening/Armoring:

P	=	steel wire protection
S	=	steel wire braiding
C	=	copper braiding
V	=	stainless steel braiding
D	=	copper wrapping
ST	=	static screen

Specials:

Z	=	numbered control cable
A	=	single conductor
F	=	flexible
(E)	=	intrinsically safe (blue)
(TR)	=	transparent outer jacket
(B)	=	drain wire
PU	=	polyurethane

Jacket materials:

YOE	=	oil resistant PVC
YW	=	heat resistant PVC
11Y	=	PUR (polyurethane)
HM4	=	halogen-free thermoplast
SABIX®	=	halogen-free material
FRNC	=	flame protected material

Other materials as mentioned under insulation

Ground wire:

J	=	with green/yellow ground wire
0	=	without green/yellow ground wire

Insulation and Jacket Material Characteristics

Material	Abbreviation	Temperature range/ flexible	Flame retardance	Tensile strength N/mm²	Elongation at break %	Abrasion resistance	Dielectric constant at 800 Hz approx.	Specific resistance Ω x cm	Break-down voltage kV/mm	Radiation resistance cJ/kg
PVC special	Y	+5/+70°C	very good	15	250	medium	4.0	10^{13}	12	8 x 10^{7}
PVC cold resistant	YK	-20/+70°C	very good	15	250	medium	4.0	10^{13}	12	8 x 10^{7}
PVC heat resistant	YW	+5/+105°C	very good	18	200	medium	3.5	10^{13}	18	8 x 10^{7}
PVC oil reistant	YOE	+5/+70°C	very good	15	250	medium	4.0	10^{13}	12	8 x 10^{7}
PUR halogen-free	11Y	-40/+90°C	moderate	30	400	very good	6.0	10^{12}	20	5 x 10^{7}
PE	2Y	-40/+70°C	moderate	20	500	good	2.4	10^{17}	100	7 x 10^{6}
TPE	12Y/13Y	-40/+90°C (up to +135°C)	moderate	30	500	good	3.3	10^{14}	30	1 x 10^{7}
Besilen®	2G	+180°C	good	7	200	moderate	3.2	10^{15}	20	2 x 10^{7}
FEP	6Y	+ 180°C	very good	20	250	good	2.1	10^{18}	20	5 x 10^{6}
PFA	–	+ 250°C	very good	20	250	good	2.1	10^{18}	20	2 x 10^{6}
ETFE	7Y	+150°C	very good	45	250	good	2.6	10^{16}	30	5 x 10^{7}
SABIX® * on basis of PP	–	-40/+90°C	–	30	500	good	2.3	10^{16}	30	–
SABIX FRNC* on basis of PO	–	-40/+90°C	very good	9	125	moderate	4.7	10^{14}	–	5 x 10^{7}
SABIX** reticulated	–	-40/+125°C	very good	12	125	moderate	5.0	–	–	–

The values in this table are approximates and are not complete
(Technical modification subject to alteration)

* depending on type
** electron beam crosslinked types

Data Cables
Electrical characteristics

Data cables - electrical characteristics

Conductor size	0.14 mm² 26 AWG	0.25 mm² 24AWG	0.34 mm² 22 AWG	0.50 mm² 20 AWG	0.75 mm² 19 AWG	1.00 mm² 18 AWG	1.50 mm² 16 AWG
max. conductor resistance at 20 °C in Ω/km acc. to VDE 0812	148.0	79.9	58.0	38.9	26.0	19.5	13.3
capacitance conductor/conductor approx. nF/km for …							
… PVC	120	120	130	140	150	170	190
… TPE-E	100	100	120	120	150	150	170
… PE	60	60	80	90	90	100	110
… SABIX® 336	70	70	70	80	90	100	110

screened data cables - electrical characteristics

Conductor size	0.14 mm² 26 AWG	0.25 mm² 24AWG	0.34 mm² 22 AWG	0.50 mm² 20 AWG	0.75 mm² 19 AWG	1.00 mm² 18 AWG	1.50 mm² 16 AWG
max. conductor resistance at 20 °C in Ω/km acc. to VDE 0812	148	79.9	58	38.9	26	19.5	13.3
capacitance conductor/conductor approx. nF/km for …							
… PVC	50	50	55	55	60	60	60
… TPE-E	40	50	50	50	60	70	70
… PE	20	20	20	20	20	20	20
… SABIX® 336	30	30	30	30	30	30	35

The mentioned values are approximate values. Capacitance is dependent on cable constructions, screenings and wall thickness of the insulation and, therefore, can be different from above mentioned data.

Chemical Resistance

Substance	Concentr. %	Temp. °C	PVC	SABIX® on basis of PP	SABIX® FRNC on basis of PO	PUR	PE	Besilen®	FEP	PFA	ETFE
Acetone	–	20	–	+	–	–	+	o	+	+	+
Alum	–	20	+	+	n.e.	+	+	–	+	+	+
Ammonia	25	20	+	+	n.e.	o	+	+	+	+	+
Aniline	–	50	–	+	–	–	+	+	+	+	+
Benzine	–	20	–	–	o	+	–	o	+	+	+
Benzol	100	50	–	+	–	–	–	–	+	+	+
Boric acid	sat.	20	+	+	n.e.	+	+	+	+	+	+
Break fluid	–	100	o	o	–	–	n.e.	+	+	+	+
Butter	–	50	+	o	o	o	+	+	+	+	+
Carbon tetrachloride	100	20	+	–	–	–	–	–	+	+	+
Caustic soda	50	50	+	+	o	+	+	–	+	+	+
Chlorobenzine	–	30	–	n.e.	–	–	o	–	+	+	+
Citric acid	–	20	+	+	+	o	+	+	+	+	+
Copper salt	–	20	+	+	+	+	+	+	+	+	+
Distilled water	–	100	o	+	o	o	+	–	+	+	+
Distilled water	–	20	+	+	+	+	+	+	+	+	+
Detergent lye	2	100	–	+	o	–	n.e.	–	+	+	+
Dichlormethane	100	20	–	n.e.	–	–	+	–	+	+	+
Dichlorodifluoromethane	–	20	–	n.e.	o	+	o	–	+	+	+
Diethyl ether	–	20	o	+	o	+	+	–	+	+	+
Diethylene glycol	–	50	+	+	o	+	+	+	+	+	+
Ethylene chloride	–	50	–	n.e.	–	–	+	o	+	+	+
Ethylene glycol	–	100	o	+	–	–	n.e.	+	+	+	+
Gear oil	–	100	+	o	–	o	–	o	+	+	+
Glycerine	all	50	+	+	o	+	+	+	+	+	+
Hydraulic oil	–	20	+	+	+	+	–	–	+	+	+
Hydrochloric acid	concentr.	20	–	+	+	–	+	–	+	+	+
Machine oil	–	20	–	o	+	+	–	+	+	+	+
Mercury salt	–	20	–	+	+	–	+	+	+	+	+
Methanol	–	50	+	+	o	–	+	+	+	+	+
Motor oil	–	120	–	o	–	–	–	+	+	+	+
Nitrobenzene	100	50	–	+	–	–	+	+	+	+	+
Nitric acid	–	20	–	+	+	–	+	–	+	+	+
Olive oil	–	50	+	+	–	+	+	+	+	+	+
Phenol from tar (Tectal)	–	20	+	+	o	–	n.e.	–	+	+	+
Potassium chloride	sat.	20	+	+	+	n.e.	+	+	+	n.e.	n.e.
Potassium nitrate	–	20	+	+	+	o	+	+	+	+	+
Pure acetic acid	concentr.	50	–	+	–	–	+	+	n.e.	n.e.	n.e.
Silver salts	–	20	+	+	+	+	+	+	+	+	+
Sodium chloride	50	20	+	+	+	+	+	+	+	+	+
Sulphuric acid	50	50	+	+	–	–	+	–	+	+	+
Tartaric acid	sat.	20	+	+	+	n.e.	+	+	+	+	+
Trichlorethylene	100	50	–	–	–	–	–	+	+	+	+

Reference:

This information is the result of our many years of experience and has been compiled to the best of our knowledge. However, we would like to point out that they are not binding and a final assessment can only be made under normal working conditions.

– = poor resistance
o = average resistance
+ = good resistance
n.e. = not existing

Guidelines for installing cable in cable track

The laying of cables in cable tracks has to be done carefully.
In general the following points have to be considered:

1. It is recommended to lay the cables separately side by side. In case that cables with different diameters are laid on top of each other or side by side, we recommend the use of separators. For big and heavy cables (for example 4 x 35 mm²) multi-conductor cables are not suitable for many applications and single conductors are recommended.

2. The cables should be movable in the track. There must be at least 10% - 20% of the cable diameter as free space between the cables and the internal dimensions of the cable track for safety reasons.

3. Please observe that the cables pass the bend radius without being forced. In case of several cable layers, the cables need a corresponding clearance among each other in the bend so that relative movements of the cables among each other and in the track are possible. In principle, the cables must be able to move freely lengthwise at any time and there shall be no tensile force on the cable in the radius. After a short operating time it is recommended to control in regular intervals the position of the cable - particular with long travel paths (control must be executed in push and pull direction). Furthermore, it has to be paid attention to an efficient installation and aspects of wear.

4. A torsion-free laying of the cables in the cable track has to be observed (non-rotational). Therefore, the cables have to be unwound from reels before being installed. (Do not lift off the cables in loops). The ideal case is to take the cable directly from the drum. The cable imprint can't be used for a torsion free adjustment of the cable, as the imprint runs slightly helical around the cable due to production reasons.

5. The weight arrangement in the cable track or in the links has to be done symmetrically. Heavy cables have to be laid towards the outside of the cable track and the smaller ones in the middle. After the rupture of the track, all cables have to be exchanged due to excessive elongation.

6. All cables have to be strain-relieved at the fixed point and at the driver, at least at the movable end of the track. For use in long tracks (sliding application), please contact our staff as there are no general regulations. It has to be observed with clamping that there is only large-surface pressure on the outer jacket. Careful clamping avoids any squeezing of the conductors and at the same time any displacement of the cable. It has to be avoided to move the cable up to the fixing point. The distance between the final point of the flexion to the fixing point should be as large as possible (10 - 20 x cable diameter are taken as relaxation zone).

7. In general only cable track cables should be used. The allowed bending radius of SAB Bröckskes cables has to be strictly observed. The information on the minimum bending radius for the cables are based on the application at normal temperatures (approx. 20 °C). Under circumstances other bending radii can be recommended. The choice of a bigger radius as the minimum radius will have a positive effect on the service life.

Guidelines for installing reeling cables

The trouble-free and long service life of reeling cables requires the adherence to certain installation guidelines

The cable shall be wound directly from the supplied drum to the reeling drum. The complete unwinding of the cable isn't necessary. A straight torsion-free guiding has to be observed. Equally the cable has to be fixed and connected torsion-free. The indicated min. bending radius has to be adhered to.

In case of complete extension of the cable at least 2 windings shall remain on the reeling drum. For fixing the other cable end Kellem grips or large surface clamp connections can be used.

The installation of reeling cables has to be done carefully. They have to be protected against external damage during installation and operation.

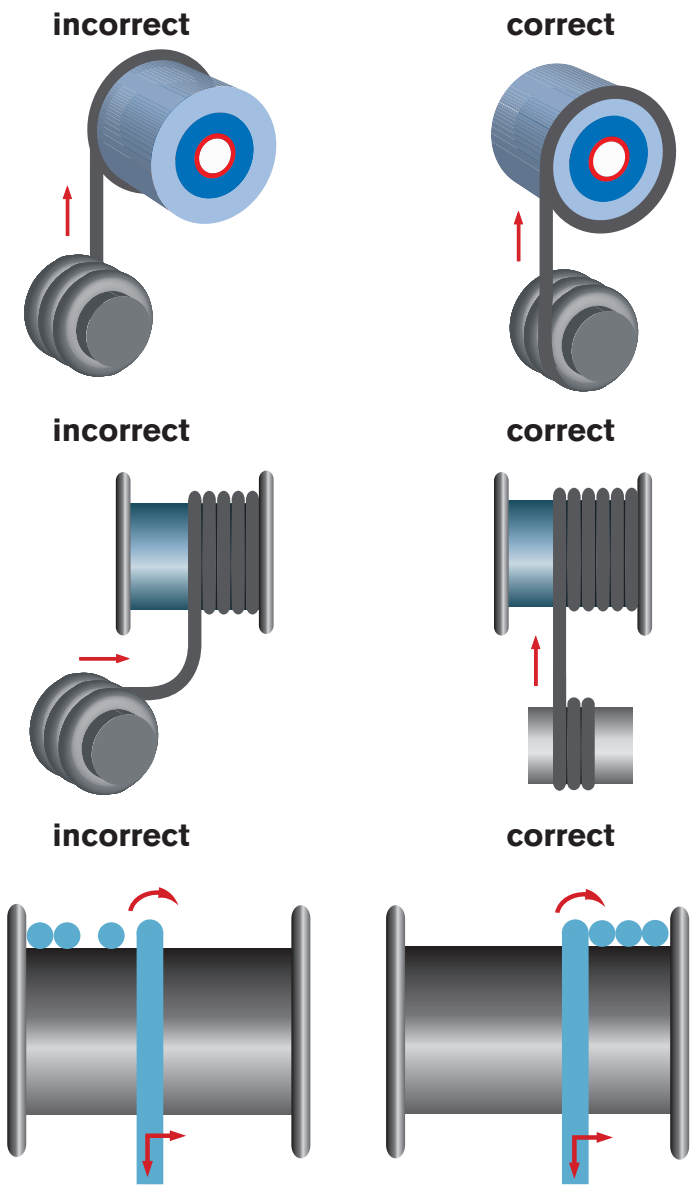
The start of winding of reeling cables on cylinder drums shall be made in stranding direction. Cables with right stranding direction (Z-lay) shall be operated to the right side and vice versa. If the stranding direction isn't known, please contact our technical support for any information.

Without special notice in our catalog, the tensile stress of the copper conductors shall not exceed 15 N/mm² (DIN VDE 0298 part 3). In case of higher tensile stress, we recommend to contact our technical support to align the cable construction to the requirements. The max. allowed limit deviations of the tensile stress are to be understood as the sum of the static and dynamic stress.

Reeling cables are generally not appropriate for torsion stress. During operation, however, torsion stress can't be avoided. As a consequence the exceeding of the limit values (generally >± 25°/m) lead to a considerable reduction of service life.

In case of undercutting the smallest allowed min. bending radius, the service life of the cable is reduced.

You will find further information to this subject under "Guidelines for the laying of cables in cable tracks" (page O/12) as well as "Installation instructions of lift control cables" (page O/14.



Guidelines for installing lift control cables

Installation instructions of lift control cables SABIX® Lift and SABIX® Lift ST

Application and use in buildings

1. In case that the cables are placed in shafts, two different methods are recommended:
   - *Placement of cables from machine room*:
     The placement of the cables from the machine room has to be executed in a way that the cable is led into the shaft in winding direction. In order to avoid upsetting deformation, it is advisable that a second person is in the pit and enables a perfect installation with the help of a cord.
   - *Placement of the cables from the shank pit or the first stop:*
     Herewith, the winding direction for unwinding has to be observed.
     Note: With both methods the pulling-in of the cables has to be done with a minimum of bend. In order to avoid torsion or buckling, the placement of the cable has to be done carefully.
2. In order to guarantee a torsion-free installation, the cable has to be suspended freely for 12 h in the shaft before being finally fixed. The lower cable end is not allowed to lie on or to be in contact with the pit sole. If the cable is longer, the lower cable end (min. 0.3 m above the sole) must be looped or put up with a weight. Any material can be used as weight but it should not come to more than 15% of the cable weight. After having been suspended the cables shall be marked parallel towards the shaft wall and on the same side. Thus a twist-free fixing of the cable is afterwards possible.

Hanging up of the cable

1. If the cables are pulled into the shaft, they have to be unwound tangentially from the drum. An axial unwinding from the drum causes torsions of the cable and finally can lead to operational disturbances.
2. The free space between lift cabin and shaft bottom shall be big enough and has to be fully used for the loop height of the cable. The cables have to be suspended at the lift cabin in the course of the natural bow.
3. A natural hanging diameter of the loop has to be guaranteed.

Fixing of the cables

1. At any rate large-surface clamps have to be used for the fixing of the cable. The jacket shall not be squeezed, the clamp must be seated firmly on a large surface. There should be at least one suspension at the shaft head and at the lift cabin. Additionally the carrying element has to be supported separately (at both cable ends). In case that the suspended cable length is more than 40 m, an additional suspension should be in the middle of the shaft.
2. The fixing point at the shaft wall has to be at least 2 m above the middle of the travel. At the same time the fixing points of the cables at the lift or at the shaft wall have to be arranged rectangular towards the runoff plane of the cable and with the same distance parallel to the rail axis.
3. With unsteady running behavior that means the cable moves out of the fall line during operation, the control cable has to be slightly twisted at one of the fixing points until a perfect run of the cable is given.
   Note: Additionally the run of the cable has to be controlled again after the initial operation of the lift.
4. If the lift installation requires the installation of several control cables, it is recommended due to operational reasons that the individual cables have to be hanged up in a way that the different loops have a level difference of approx. 15 cm (hang up step-by-step).
5. The cables are not allowed to be tied up over their suspended length, as otherwise their free run is impeded.

General notes

1. The cables are only allowed to be applied with temperature ranges mentioned in their specifications.
2. The inner bending radius is not allowed to be lower than the cable diameter mentioned in the specification. Furthermore, the given bending radius of the cable (equally mentioned in the cable specification) has to be kept.
3. The max. hang up length is dependant on the corresponding carrying element in the cable (mentioned in the cable specification) and is not allowed to be exceeded.
4. In order to reach a perfect and long service life of the lift control cables, they have to be treated and installed with the utmost care.

Instructions for the safe application of cables

The cables manufactured by SAB Bröckskes are only appropriate for the transmission of electric energy for supply and signalling purposes.

First of all the valid construction and installation prescriptions for the corresponding machine or equipment has to be observed. The valid VDE prescription 0100 can be regarded as base. Furthermore, the following security advice has to be observed for the use of cables.

For each cable type you can find under ”technical data” information on fields that can also be found under the following standards. Among others these are

Nominal voltage, Peak operating voltage:	HD 516
Test voltage:	VDE 0250 T1, EN 50525-1, as well as relevant cable standards
Minimum bending radius:	HD 516
Temperature range:	HD 516
Fire performance :	standards of series IEC 60332 as well as relevant cable standards
Resistances:	IEC 60811-404 as well as relevant cable standards
Further special technical data	

The safe application is described under ”security requirements” and ”boundary conditions”.

Under ”security requirements” you will find information on fields that can also be found under the following standards. Among others these are

Basic requirements:	HD 516 pos. 4.1
General requirements:	HD 516 pos. 4.2
Current-carrying capacity for undisturbed service:	VDE 0298-4 pos. 5
Operating conditions:	VDE 0298-4 pos. 5.3.1
Ambient conditions:	VDE 0298-4 pos. 5.3.3
Requirements for fixed installation:	HD 516 pos. 4.3
Requirements for flexible cables:	HD 516 pos. 4.4

Instructions for the safe application of cables

Under "boundary conditions" you will find information on fields that can also be found under the following standards. Among others these are:

- Operating conditions: HD 516 pos. 5
- Voltage: HD 516 pos. 5.1
- Current-carrying capacity: HD 516 pos. 5.2
- Current-carrying capacity:
  - Capacity, cables with a nominal voltage up to 1000 V and heat resistant cables — VDE 0298-4 table 11
  - Conversion factors for deviating ambient temperatures — VDE 0298-4 table 17+18
  - Conversion factors for the accumulation on walls, in tubes and conduits, on the floor and at the ceiling — VDE 0298-4 table 21
  - Conversion factors for multi-core cables with conductor cross sections up to 10 mm² — VDE 0298-4 table 26
- Thermal influences: HD 516 pos. 5.3
- Mechanical stress: HD 516 pos. 5.4
- Tensile load: HD 516 pos. 5.4.1
- Bending load: HD 516 pos. 5.4.2
- Compression stress: HD 516 pos. 5.4.3
- Torsional stress: HD 516 pos. 5.4.4
- Compatibility: HD 516 pos. 5.5
- Application in rooms and in the open air: HD 516 Anhang A
- Stress classification: HD 516 Anhang B
- Construction of strands: IEC 60228 + VDE 295

Besides the generally known technical rules, please consider especially the following prescriptions for the application of our products

VDE...
0100, 0105, 0106, 0108, 0110, 0113, 0116,
0165, 0166, 0170, 0171, 0271, 0298, 0700,
0720, 0727, 0730, 0737, 0740, 0745, 0750,
0800, 0804, 0805, 0839, 0860, 0891, 1000, etc.

- You will find under the individual item groups further instructions and the description of the special application possibilities of our cables.

Instructions for the safe application of cables

Security requirements

Basic requirements

Cables can be regarded to be safe in case that they are used for their intended purpose and don't mean any unacceptable risk for life and real values. If not otherwise specified, insulated cables shall only be used for the transmission and division of electric energy.

General requirements

Cables have to be chosen in a way that they meet the existing voltages and currents occurring in the machines, equipment of appliances or in their parts for which they are applied under any expected operating condition. Cables should be constructed, installed, protected and maintained to avoid any risks and harms.

Carrying capacity for undisturbed service (general info)

The cable section has to be chosen in a way that the given current-carrying capacity never leads to a heating of the conductor over the allowed service temperature. The heating resp. carrying-capacity of a cable depends on the construction, material characteristics and the operating conditions. Additional heating due to a cable accumulation, heating flues, solar radiation, etc. have to considered resp. avoided. The use of covers requires an undisturbed air circulation.

Operating conditions

The temporary flow of current describes the operating conditions. Continuous operation means a constant current which is at least sufficient to reach the thermal equilibrium of the electrical equipment without any other time limit. The capacity values of cables are based on continuous service reaching the allowed operating temperature of the conductor.

Environmental conditions

Environmental conditions are among others characterized by the ambient temperature, heat loss and heat radiation. The ambient temperature is the temperature of the surrounding air, without any load on the respective cable. The reference point is a temperature of +30°C. The operating conditions of cables can change by heat loss for example in closed rooms, cable ducts or similar, as well as by heat radiation (e. g. solar radiation).

Instructions for the safe application of cables

Conditions and requirements for fixed installation

The fixed installation of cables requires among others

- The cable shall not be installed in direct or close contact with hot surfaces if they are not suitable for this application.
- Cables are not suitable for direct underground laying.
- Cables have to be fixed properly. The weight of the cable is important for the choice of the fixing distance.
- The used mechanical fixing devices shall not damage the cable.
- Cables that have been used for a long time may be damaged in case of removal. This can be a natural effect due to the aging of the physical characteristics of insulation and jacket material - they become brittle.

Requirements for flexible cables

- Flexible cables should be used for mobile electrical equipment.
- The length of the connection cable has to be chosen in a way that the reaction of short-circuit protective equipment is ensured.
- For mobile electrical equipment the cable should be as short as possible.
- Elevated stress due to tension, pressure, abrasion, torsion or knicking has to be avoided.
- The cables shall not be damaged by strain relief or connection devices.
- The cables shall not be layed under carpets or other devices. There is a risk due to elevated thermal covering and mechanical damage due to walking, furniture or operating material.
- The cables shall not be in direct or close contact with hot surfaces.

- For further requirements please see HD 516 S2 pos. 4.4.

Instructions for the safe application of cables

Boundary conditions

Operating conditions

The used cables have to be appropriate for the corresponding operating conditions as well as for the device protection class.

Operating conditions are among others:

- Voltage
- Current
- Safety apparatus
- Cable accumulation
- Type of laying
- Accessibility

The used cables have to be appropriate for all possible external impacts.

External impacts are among others:

- Ambient temperature
- Rain
- Steam or water
- Presence of corrosive, polluting or other chemical bodies
- Mechanical stress (e.g. sharp edges of metal constructions)
- Animals (e.g. rodents)
- Plants (e.g. mold fungus)
- Radiation (e.g. solar radiation)

Note: In this connection it has to be considered that the color is of greatest importance. The color black offers much more protection at radiation than all other colors.

Voltages

The nominal voltage of a cable means the voltage for which the cable has been constructed and defines the electrical tests. The nominal voltage is expressed in Volt by the relation of two values Uo/U; Uo is the r.m.s. value of the voltage between external conductor and earth (metal jacketing of the cable or surrounding medium). U is the r.m.s. value between two external conductors of a multi-conductor cable or of a system of mono-conductor cables. In a system of alternating current (a.c.), the nominal voltage of a cable has to be at least equal to the values Uo and U of the system. In a system of direct-current (d.c.) the nominal voltage of the system shall not be higher than 1.5 times of the nominal voltage of the cable.

Note: The operating voltage of a system is allowed to be continuously 10% higher than the nominal voltage of the system.

Instructions for the safe application of cables

Operating condictions

The nominal cross section of each conductor has to be chosen that the current-carrying capacity is not smaller than the max. constant current, passing the conductor under normal conditions. The limit temperatures to which the current-carrying capacity refers to, shall not be exceeded for the insulation and jacket of the corresponding cable types. A defined condition is also the type of laying of the used cable. This has to be considered for the determination of the allowed load currents. Conditions that have to be considered are among others

- Ambient temperature
- Cable accumulation
- Type of excess-current protection
- Heat insulation
- Wound up cables
- Current frequency (deviating from 50 Hz)
- Effects of harmonic waves

The current-carrying capacity is not the only criteria for choosing the cable section, furthermore, the requirements for the protection against harmful body currents, overload, short-circuit currents and voltage drop have to be considered. In case that cables are used for a longer period with temperatures exceeding the allowed values, they can be damaged considerably leading to an early failure and an important deterioration of its characteristics.

Current-carrying capacity: Tables

Extract from VDE 0298-4 06/13 table: 11, 17, 18, 21, 26 and 27

Current-carrying capacity, cables with a nominal voltage up to 1000 V and heat resistant cables VDE 0298-4 06/13 table 11, column 2 and 5			
		column 2	column 5
way of laying		in air	on or at surfaces
		mono conductors - rubber insulated - PVC insulated - heat resistant	multi-conductor cables (except for house or handheld units) - rubber insulated - PVC insulated - heat resistant
number of charged conductors		1	2 or 3
nominal section		capacity	
AWG/kcmil	mm²		
19	0.75 mm²	15 A	12 A
18	1.00 mm²	19 A	15 A
16	1.50 mm²	24 A	18 A
14	2.50 mm²	32 A	26 A
12	4.00 mm²	42 A	34 A
10	6.00 mm²	54 A	44 A
8	10.00 mm²	73 A	61 A
6	16.00 mm²	98 A	82 A
4	25.00 mm²	129 A	108 A
2	35.00 mm²	158 A	135 A
1	50.00 mm²	198 A	168 A
2/0	70.00 mm²	245 A	207 A
3/0	95.00 mm²	292 A	250 A
4/0	120.00 mm²	344 A	292 A
250	150.00 mm²	391 A	335 A
350	185.00 mm²	448 A	382 A
450	240.00 mm²	528 A	453 A
550	300.00 mm²	608 A	523 A

Instructions for the safe application of cables

Conversion factors for deviating ambient temperatures VDE 0298-4 06/13 table 17, column 4 [1]	
ambient temperature	factor
10°C	1.22
15°C	1.17
20°C	1.12
25°C	1.06
30°C	1.00
35°C	0.94
40°C	0.87
45°C	0.79
50°C	0.71
55°C	0.61
60°C	0.50
65°C	0.35

[1] for cables with a service temperature of max. 70 °C at the conductor

Conversion factors for multi-conductor cables with a nominal section up to 10 mm² VDE 0298-4 06/13 table 26. With installation in the open air.	
no. of the loaded conductors	factor
5	0.75
7	0.65
10	0.55
14	0.50
19	0.45
24	0.40
40	0.35
61	0.30

Please call your SAB sales specialist regarding 4 conductor amperage

Conversion factors for deviating ambient temperatures for heat resistant cables VDE 0298-4 06/13 table 18, column 3 - 6				
	column 3	column 4	column 5	column 6
	allowed operating temperature			
	90°C	110°C	135°C	180°C
ambient temperature	conversion factors, to apply to the capacity of heat resistant cables in table 11, column 2 and 5			
up to 50°C	1.00	1.00	1.00	1.00
55°C	0.94	1.00	1.00	1.00
60°C	0.87	1.00	1.00	1.00
65°C	0.79	1.00	1.00	1.00
70°C	0.71	1.00	1.00	1.00
75°C	0.61	1.00	1.00	1.00
80°C	0.50	1.00	1.00	1.00
85°C	0.35	0.91	1.00	1.00
90°C	—	0.82	1.00	1.00
95°C	—	0.71	1.00	1.00
100°C	—	0.58	0.94	1.00
105°C	—	0.41	0.87	1.00
110°C	—	—	0.79	1.00
115°C	—	—	0.71	1.00
120°C	—	—	0.61	1.00
125°C	—	—	0.50	1.00
130°C	—	—	0.35	1.00
135°C	—	—	—	1.00
140°C	—	—	—	1.00
145°C	—	—	—	1.00
150°C	—	—	—	1.00
155°C	—	—	—	0.91
160°C	—	—	—	0.82
165°C	—	—	—	0.71
170°C	—	—	—	0.58
175°C	—	—	—	0.41

Instructions for the safe application of cables

Conversion factors for the accumulation on walls, in tubes and conduits, on the floor and at the ceiling VDE 0298-4 06/13 table 21	
no. of multi-conductor cables (2 or 3 current-carrying conductors)	**factor**
1	1.00
2	0.80
3	0.70
4	0.65
5	0.60
6	0.57
7	0.54
8	0.52
9	0.50
10	0.48
12	0.45
14	0.43
16	0.41
18	0.39
20	0.38

The maximum current-carrying capacity acc. to DIN VDE 0891 part 1, point 7 has to be considered for the application of insulated cables in telecommunications systems and data processing units.

Conversion factors for wound up cables VDE 0298-4 06/13 table 27					
1	**2**	**3**	**4**	**5**	**6**
no. of layers on one drum	1	2	3	4	5
conversion factors	0.80	0.61	0.49	0.42	0.38
Note: For spiral winding the conversion factor of 0.80 is valid					

Thermal influences

Cables have to be chosen, layed or installed in a way that the expected current heat emission is not impeded and thus does not create any fire risk for adjacent materials. The limit temperatures of the individual cable types are shown in the catalog. The indicated values shall not be exceeded by the combined effects of internal current heat and environmental conditions.

Mechanical stress

Any possible mechanical stress which could lead to a mechanical damage of the layed cable has to be considered before installation.

Tensile load

The following values for the tensile load of each conductor shall not be exceeded. This is valid for a max. value of 1000 N for the tensile load of each conductor, as far as no other deviating values have been accepted by SAB Bröckskes. 50 N/mm² for the installation of cables for fixed installation. 15 N/mm² static tensile load for flexible cables and for fixed installation in case that the cables are used for fixed installed electric circuits. Wherever those values are exceeded, it is recommended to use separate strain relief elements or similar. The connection of such a strain relief element with the cable has to be executed without damaging the cable. In case that flexible cables are exposed to dynamic tensile load (including tensile load due to mass reactance, for example on unwinding spools), the allowed tensile load or the duration of wear of the cable have to be agreed upon by the user and SAB Bröckskes. Instructions for the vertical laying of cables without any intermediate fixing are shown under EN 50656-1 pos. 5.6.2.

Instructions for the safe application of cables

Bending load

The inner bending radius of a cable has to be chosen in a way that any damage of the cable is avoided. The inner bending radii for the different cable constructions are indicated in table 6 of HD 516. The choice of smaller bending radii than indicated in the cable catalog has to be agreed upon with SAB Bröckskes.

The stripping of the cable jacket shall not cause any damage to the conductor as otherwise there will be a considerable deterioration of the bending characteristics.

The indicated bending radii are valid for ambient temperatures of (20 ± 10)°C. For other ambient temperatures please contact SAB Bröckskes.

Bendings directly beside external of internal fixing points have to be avoided.

Pressure stress

Any pressure causing a cable damage has to be avoided.

Torsional stress

Flexible cables are generally not appropriate for torsional stress. In cases where torsional stress cannot be avoided, the construction of the cable and the way of laying have to be agreed upon between the user and SAB Bröckskes.

Compatibility

For the choice and laying of cables the following points have to be considered

- Mechanical and electrical impacts between adjacent electric circuits have to be avoided.
- Heat loss of cables or chemical/physical influences of the cable materials on adjacent materials, for example construction or decoration materials, insulating tubes and fixing device.
- The influence of the current heat on the conductor material and connections has to be considered.

For further indications please see tables 3A, 3B, 4A and 4B of HD 516.

Room types

- Electric shops of the factory are rooms which are generally used for the operation of electric equipment and the access is only allowed to instructed staff members, for example switch rooms.
- Closed electric shops are rooms which are only used for the operation of electric equipment and are generally locked up. The access is only allowed for instructed staff members, for example closed switch and distribution systems.
- Dry rooms are rooms without any condensation water in which the air is not saturated with humidity, for example living rooms and hotel rooms.
- Damp rooms are rooms in which the safety of the operational devices is affected by humidity, condensation water, chemical or similar influences, for example in large kitchens.

General notes:

Rooms can only be classified in one of the above mentioned types by a careful inspection of the rooms and operational conditions. If there is only much humidity in a certain area of a room but the room is nevertheless dry due to good ventilation, there is no need to classify the room as a damp one.

Instructions for the safe application of cables

Application in rooms and in the open air

General
These terms have to be understood in connection with the boundary conditions (for example min. and max. operating temperatures, influence of ambient temperatures) defined by the construction and the intended application.

Terms for application types:

Application in rooms
The cable is installed or connected to a device which is normally located in a building within “a planned surrounding”. The building can be used for business, industrial or living purposes.

Limited application in the open air
The cable is appropriate for a short-time use in the open air, ”planned surrounding” for example lawn mower.

Permanent application in the open air
The cable has been constructed for different conditions which can occur in the open air ”planned surrounding” (including different weather conditions).

Stress classification

The term “stress” describes the use of cables in certain areas, connected to or installed in devices and for certain combinations of external influences which can occur in those areas. On the base of mechanical influences and general expressions the term “stress” has been divided into four categories.

1. **Very light stress**
   Application areas, in which the risk of mechanical damage and stress is very small, for example electric razor.
2. **Light stress**
   Application areas, in which the risk of mechanical damage and stress is small, for example hair dryer.
3. **Normal stress**
   Application areas, in which the cables are exposed to small mechanical stress and the risk for mechanical damage is small, for example small stoves.
4. **Heavy stress**
   Application areas, in which the risk of mechanical damage or mechanical stress is of medium impact, for example machines on construction sites.

4a. Heavy stress (only multi-conductor cables)
Application as before, however in connection with parts of production systems including machine tools and manual mechanical devices, for example in connection with switch boards of a production machine.

Transport and storage

Cable and cords that are not intended for outdoor use must be stored in dry indoor rooms and must also be protected from exposure to direct sunlight there. With outdoor storage, the ends of cables and cords must be closed off to prevent the entry of moisture. The ambient temperature during transport and storage is to be in the range from -25°C to +55°C (max. +70°C for not longer than 24 hours). Furthermore, the temperatures indicated in the tables of HD 516 have be considered for storage. Especially in the range of low temperatures, mechanical loading by vibration, shock, bending and twisting is to be avoided.

Instructions for the safe application of cables

Construction of strands acc. to EN 60228, IEC 60228

- Fine copper strands for single or multi-conductor cables (class 5)
- Extra fine copper strands for single or multi-conductor cables (class 6)

table 3
Fine copper strands for single- or multi-conductor cables (class 5)

1		2	3	4
Nominal cross section		largest diameter of single wires	Conductor resistance at 20°C max. value	
			bare single wires	metal jacketed single wires
AWG	mm²	mm	Ω/km	Ω/km
20	0.50	0.21	39.0000	40.1000
19	0.75	0.21	26.0000	26.7000
18	1.0	0.21	19.5000	20.0000
16	1.5	0.26	13.3000	13.7000
14	2.5	0.26	7.9800	8.2100
12	4	0.31	4.9500	5.0900
10	6	0.31	3.3000	3.3900
8	10	0.41	1.9100	1.9500
6	16	0.41	1.2100	1.2400
4	25	0.41	0.7800	0.7950
2	35	0.41	0.5540	0.5650
1	50	0.41	0.3860	0.3930
2/0	70	0.51	0.2720	0.2770
3/0	95	0.51	0.2060	0.2100
4/0	120	0.51	0.1610	0.1640
250 MCM	150	0.51	0.1290	0.1320
350 MCM	185	0.51	0.1060	0.1080
450 MCM	240	0.51	0.0801	0.0817
550 MCM	300	0.51	0.0641	0.0654
750 MCM	400	0.51	0.0486	0.0495

table 4
Extra fine copper strands for single- or multi-conductor cables (class 6)

1		2	3	4
Nominal cross section		largest diameter of single wires	Conductor resistance at 20°C max. value	
			bare single wires	metal jacketed single wires
AWG	mm²	mm	Ω/km	Ω/km
20	0.50	0.16	39.0000	40.1000
19	0.75	0.16	26.0000	26.7000
18	1.0	0.16	19.5000	20.0000
16	1.5	0.16	13.3000	13.7000
14	2.5	0.16	7.9800	8.2100
12	4	0.16	4.9500	5.0900
10	6	0.21	3.3000	3.3900
8	10	0.21	1.9100	1.9500
6	16	0.21	1.2100	1.2400
4	25	0.21	0.7800	0.7950
2	35	0.21	0.5540	0.5650
1	50	0.21	0.3860	0.3930
2/0	70	0.31	0.2720	0.2770
3/0	95	0.31	0.2060	0.2100
4/0	120	0.31	0.1610	0.1640
250 MCM	150	0.31	0.1290	0.1320
350 MCM	185	0.41	0.1060	0.1080
450 MCM	240	0.41	0.0801	0.0817
550 MCM	300	0.41	0.0641	0.0654

Notes:
The above mentioned information and tables for the “safe application of cables” are extracts from the indicated standards and can’t be judged to be complete.The responsible user has to be careful in the laying and installing of cables.

Color Coding / Conductor Identification
DIN 47100 / HD 308 / EN 50334 / RTD

Color code acc. to DIN 47100

conductor no.	base color	1st ring	2nd ring
1	white	—	—
2	brown	—	—
3	green	—	—
4	yellow	—	—
5	gray	—	—
6	pink	—	—
7	blue	—	—
8	red	—	—
9	black	—	—
10	violet	—	—
11	gray	pink	—
12	red	blue	—
13	white	green	—
14	brown	green	—
15	white	yellow	—
16	yellow	brown	—
17	white	gray	—
18	gray	brown	—
19	white	pink	—
20	pink	brown	—
21	white	blue	—
22	brown	blue	—
23	white	red	—
24	brown	red	—
25	white	black	—
26	brown	black	—
27	gray	green	—
28	yellow	gray	—
29	pink	green	—
30	yellow	pink	—
31	green	blue	—

conductor no.	base color	1st ring	2nd ring
32	yellow	blue	—
33	green	red	—
34	yellow	red	—
35	green	black	—
36	yellow	black	—
37	gray	blue	—
38	pink	blue	—
39	gray	red	—
40	pink	red	—
41	gray	black	—
42	pink	black	—
43	blue	black	—
44	red	black	—
45	white	brown	black
46	yellow	green	black
47	gray	pink	black
48	red	blue	black
49	white	green	black
50	brown	green	black
51	white	yellow	black
52	yellow	brown	black
53	white	gray	black
54	gray	brown	black
55	white	pink	black
56	pink	brown	black
57	white	blue	black
58	brown	blue	black
59	white	red	black
60	brown	red	black
61	black	white	—

Conductor identification acc. to HD 308

Identification of conductors in cables and flexible cords by colors

no. of conductors	cables with green/yellow ground	cables without green/yellow ground
1-conductor	–	nature
2-conductors	–	blue - brown
3-conductors	green/yellow - blue - brown	brown - black - gray
4-conductors	green/yellow - brown - black - gray	blue - brown - black - gray
5-conductors	green/yellow - blue - brown - black - gray	blue - brown - black - gray - black
6-conductors	green/yellow - black conductors numbered	black conductors numbered

Conductor identification with numbers acc. to EN 50334

Marking inscription for identification of conductors of electric cables (number printing).
Other conductor colors are allowed except green and yellow.

SAB color code for RTD connection cables

no. of conductors	color code	
2-conductors	red - white	up to 4 conductors acc. to IEC 60751, 6 conductors deviating from standard
3-conductors	red - red - white	
4-conductors	red - red - white - white	
6-conductors	red - red - white - white - black - black	

Color-coding to customer specification is also possible.

Color Coding / Conductor Identification US 1 / US 2 / US 3

Color code US 1

conductor no.	color
1	black
2	white
3	red
4	green
5	brown
6	blue

conductor no.	color
7	orange
8	yellow
9	violet
10	gray
11	pink
12	beige

Color code US 2

conductor no.	base color	1st ring	2nd ring
1	black	—	—
2	white	—	—
3	red	—	—
4	green	—	—
5	orange	—	—
6	blue	—	—
7	white	black	—
8	red	black	—
9	green	black	—
10	orange	black	—
11	blue	black	—
12	black	white	—
13	red	white	—
14	green	white	—
15	blue	white	—
16	black	red	—
17	white	red	—
18	orange	red	—
19	blue	red	—
20	red	green	—
21	orange	green	—
22	black	white	red
23	white	black	red
24	red	black	white
25	green	black	white

conductor no.	base color	1st ring	2nd ring
26	orange	black	white
27	blue	black	white
28	black	red	green
29	white	red	green
30	red	black	green
31	green	black	orange
32	orange	black	green
33	blue	white	orange
34	black	white	orange
35	white	red	orange
36	orange	white	blue
37	white	red	blue
38	black	white	green
39	white	black	green
40	red	white	green
41	green	white	blue
42	orange	red	green
43	blue	red	green
44	black	white	blue
45	white	black	blue
46	red	white	blue
47	green	orange	red
48	orange	red	blue
49	blue	red	orange
50	black	orange	red

Color code US 3

pair no.	color combination		
1	black	paired with	red
2	black	paired with	white
3	black	paired with	green
4	black	paired with	blue
5	black	paired with	yellow
6	black	paired with	brown
7	black	paired with	orange
8	red	paired with	white
9	red	paired with	green
10	red	paired with	blue
11	red	paired with	yellow
12	red	paired with	brown
13	red	paired with	orange
14	green	paired with	white
15	green	paired with	blue
16	green	paired with	yellow
17	green	paired with	brown
18	green	paired with	orange

pair no.	color combination		
20	white	paired with	yellow
21	white	paired with	brown
22	white	paired with	orange
23	blue	paired with	yellow
24	blue	paired with	brown
25	blue	paired with	orange
26	brown	paired with	yellow
27	brown	paired with	orange
28	orange	paired with	yellow
29	violet	paired with	orange
30	violet	paired with	red
31	violet	paired with	white
32	violet	paired with	green
33	violet	paired with	blue
34	violet	paired with	yellow
35	violet	paired with	brown
36	violet	paired with	black
37	gray	paired with	white

Color Coding / Conductor Identification
US 4 / US 5 / US 6

Color code US 4

conductor no.	base color	1st ring
1	black	—
2	brown	—
3	red	—
4	orange	—
5	yellow	—
6	green	—
7	blue	—
8	violet	—
9	gray	—
10	white	—
11	white	black
12	white	brown
13	white	red
14	white	orange
15	white	yellow
16	white	green
17	white	blue
18	white	violet
19	white	gray

conductor no.	base color	1st ring	2nd ring
20	white	black	brown
21	white	black	red
22	white	black	orange
23	white	black	yellow
24	white	black	green
25	white	black	blue
26	white	black	violet
27	white	black	gray
27	white	black	gray
28	white	brown	red
29	white	brown	orange
30	white	brown	yellow
31	white	brown	green
32	white	brown	blue
33	white	brown	violet
34	white	brown	gray
35	white	red	orange
36	white	red	yellow
37	white	red	green

conductor no.	base color	1st ring	2nd ring
38	white	red	blue
39	white	red	violet
40	white	red	gray
41	white	orange	yellow
42	white	orange	green
43	white	orange	blue
44	white	orange	violet
45	white	orange	gray
46	white	yellow	green
47	white	yellow	blue
48	white	yellow	violet
49	white	yellow	gray
50	white	green	blue
51	white	green	violet
52	white	green	gray
53	white	blue	violet
54	white	blue	gray
55	white	violet	gray

Color code US 5

pair no.	color combination		
1	black	paired with	red
2	black	paired with	white
3	black	paired with	green
4	black	paired with	blue
5	black	paired with	brown
6	black	paired with	yellow
7	black	paired with	orange
8	red	paired with	green
9	red	paired with	white
10	red	paired with	blue
11	red	paired with	yellow
12	red	paired with	brown
13	red	paired with	orange
14	green	paired with	blue
15	green	paired with	white
16	green	paired with	brown
17	green	paired with	orange
18	green	paired with	yellow
19	white	paired with	blue
20	white	paired with	brown
21	white	paired with	orange
22	white	paired with	yellow
23	blue	paired with	brown
24	blue	paired with	orange
25	blue	paired with	yellow
26	brown	paired with	orange

pair no.	color combination		
27	brown	paired with	yellow
28	violet	paired with	red
29	violet	paired with	white
30	violet	paired with	green
31	violet	paired with	blue
32	violet	paired with	brown
33	violet	paired with	yellow
34	violet	paired with	orange
35	violet	paired with	gray
36	violet	paired with	black
37	gray	paired with	red
38	gray	paired with	white
39	gray	paired with	green
40	gray	paired with	blue
41	gray	paired with	brown
42	gray	paired with	yellow
43	gray	paired with	orange
44	gray	paired with	black
45	white/black	paired with	red
46	white/black	paired with	green
47	white/black	paired with	blue
48	white/black	paired with	brown
49	white/black	paired with	yellow
50	white/black	paired with	orange
51	white/black	paired with	violet

Color code US 6

conductor no.	base color	1st ring	2nd ring
1	black	—	—
2	red	—	—
3	white	—	—
4	green	—	—
5	orange	—	—
6	blue	—	—
7	brown	—	—
8	yellow	—	—
9	violet	—	—

conductor no.	base color	1st ring	2nd ring
10	gray	—	—
11	pink	—	—
12	tan	—	—
13	red	green	—
14	red	yellow	—
15	red	black	—
16	white	black	—
17	white	red	—
18	white	green	—

conductor no.	base color	1st ring	2nd ring
19	white	yellow	—
20	white	blue	—
21	white	brown	—
22	white	orange	—
23	white	gray	—
24	white	violet	—
25	white	black	red

Oil resistance acc. to SAB internal standards

Test method

- acc. to VDE 0473 Part 811-404
- corresponds to EN 60811-404
- corresponds to IEC 60811-404

Requirements

	TMPU acc. to EN 50363-10-2 VDE 0207 part 363-10-2	acc. to SAB internal standard	TM5 acc. to VDE 0207 part 363-4 EN 50363-4
Characteristics after storage in mineral oil IRM 902 (ASTM Nr. 2)			
Test temperature	100°C	70°C	90°C
Period of storage in oil	7 days	7 days	7 days
Mechanical values after storage in oil			
max. deviation of tensile strength	± 40%	± 40%	± 30%
max. deviation of elongation at tear	± 30% (min. 300% effective)	± 40%	± 30%

MUD resistance

The following test parameters are valid for the different reference liquids

Drilling fluid	Test Fluid	Temperature	Storing Period
Water based mud	Calcium Bromide Brine	70°C	56 d
Oil based mud	Carbo Sea	70°C	56 d
Ester based mud	Accolade Base	70°C	56 d
Mineral oil type	IRM 902	100°C	7 d
Mineral oil type	IRM 903	100°C	7 d

Selected types of our PUR materials accomplish the tests acc. to MUD resistance acc. to IEC 60092-350, IEC 61892-4 and NEK TS 606.

Absence of harmful substances
RoHS ▪ REACH ▪ GADSL ▪ conflict metals

Information about RoHS
Absence of harmful substances acc. to RoHS II - directive 2011/65/EU and commission delegated directive (EU) 2015/863 amending annex II to directive 2011/65/EU as well as GefStoffV annex IV - no. 24

The components of the indicated items are free of harmful substances according to directive 2011/65/EU and 2015/863/EU (so-called RoHS III) as well as acc. to the hazardous material regulation (GefStoffV) appendix IV no. 24 medium of flame protection. This means that for the following substances based on the guidelines as well as on the requirements of SAB BRÖCKSKES GmbH & Co.KG, the following quantity and content limits were specified, below which a declaration can be dropped:

lead	< 0.1 %
mercury	< 0.1 %
cadmium	< 0.01 %
hexavalent chromium	< 0.1 %
polybrominated biphenyl (PBB)	< 0.1 %
polybrominated diphenyl ether (PBDE)	< 0.1 %
decabromo diphenyl ether (DecaBDE)	< 0.1 %
di(2-ethylhexyl)phthalate (DEHP)	< 0.1 %
benzyl butyl phthalate (BBP)	< 0.1 %
dibutyl phthalate (DBP)	< 0.1 %
diisobutyl phthalate (DIBP)	< 0.1 %
pentabrominated diphenyl ether	< 0.1 %
octabrominated diphenyl ether	< 0.1 %

Information about REACH
European regulation for the registration, assesment, admission and limitation of chemical substances (regulation (EG) no. 1907/2006)

With the help of this regulation for chemicals REACH, it controls how and why manufacturers, importing companies, final users and retailers have to examine, assess, declare and register chemical substances. The European Chemicals Agency (ECHA - European Chemicals Agency) published a list of especially harmful substances that is subject to a current updating.

The REACH regulation affects mainly manufacturers of raw materials and retailers of chemicals. The company SAB Bröckskes GmbH & Co. KG is as manufacturer of cables and temperature measuring sensors except from a registration acc. to REACH.

After intensive discussions with our raw material suppliers, we can assume acc. to our present state of knowledge that there are no chemicals in our products that are listed as harmful substances (Substances of Very High Concern) in a concentration of more than 0.1% acc. to the current EC list (ECHA-list).

Furthermore, we dispose of safety data sheets for all raw materials and additives that are contained in our products and from which dangers could arise. Those safety data sheets are continously updated and controlled regarding the adherence to the REACH regulation.

If a substance acc. to REACH is identified that gives reason for concern, we will immediately initiate appropriate measures in order to substitute the material in question.

Information about GADSL
Global Automotive Declarable Substance List

The Global Automotive Declarable Substance List (GADSL) is a list containing possible harmful substances and defining those by limit values. Thus the GADSL is more extensive than the regulation on forbidden chemicals or the REACH regulation, describing substances that have to be declared or have already been forbidden.

The GADSL is the result of worldwide efforts of industry to harmonize the communication and exchange of information regarding the application of harmful substances with regard to the coming decades. The GADSL aims at simplifying the recycling of the products after its service life.

The Global Automotive Declarable Substance List (GADSL) is a list including substances used in automotive parts. It is the result of the worldwide and long lasting efforts of representatives in automobile industry to simplify communication and information exchange regarding the use of certain chemical pure substances in automotive parts. The GADSL contains forbidden substances as well as those that have to be declared and is a medium to realize further measurements for example the later material recycling of old cars in the EC including the guideline 2000/53/EG.

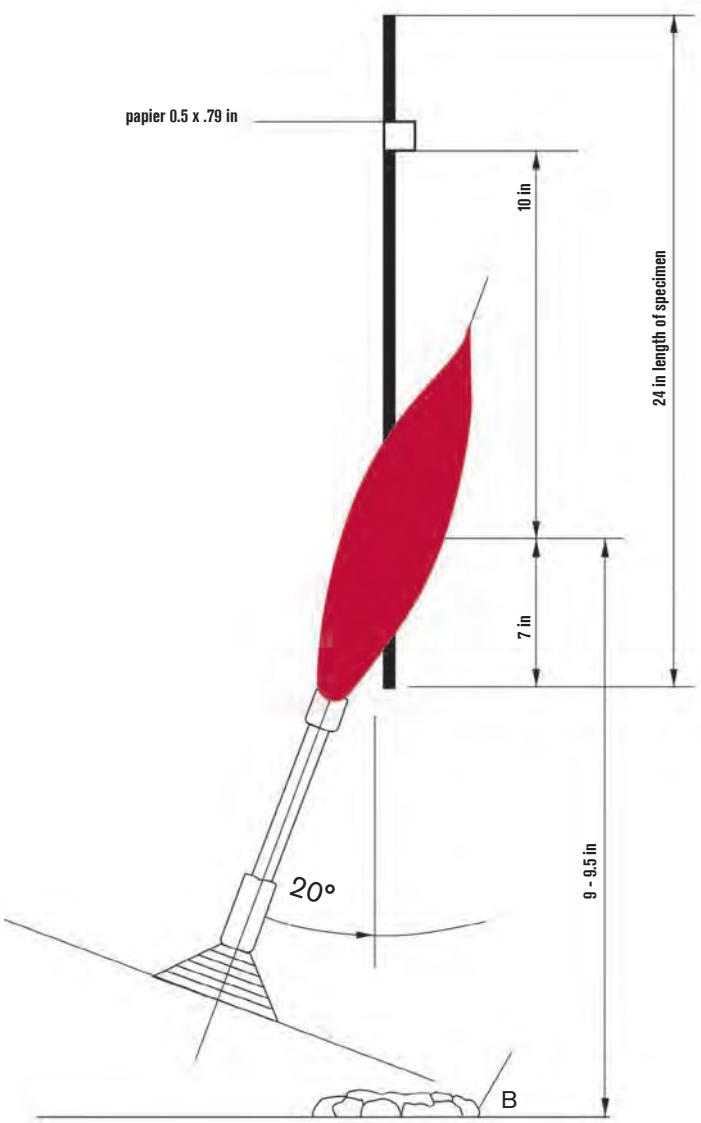
Declaration for the application of so-called conflict materials

We dispose of written declarations of our sub-suppliers that the products delivered do not contain so-called conflict metals (especially no tin) which were dug in the Democratic Republic of the Congo or its neighboring countries.

The above mentioned indications are based on the information of our wire and strand suppliers.

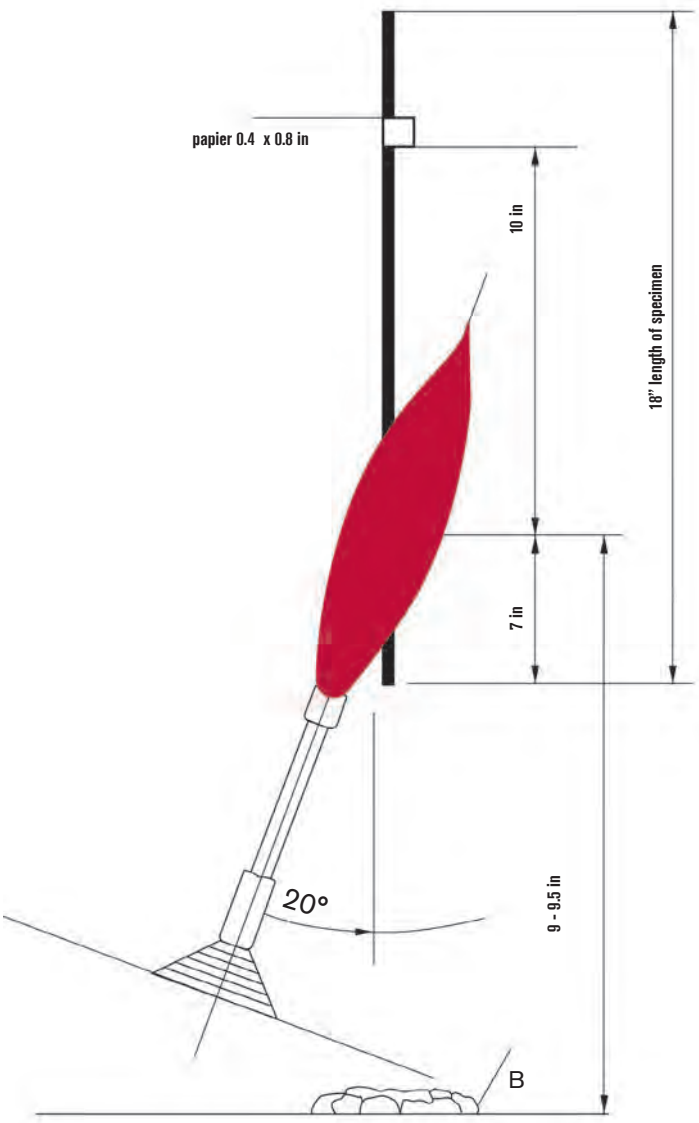
Flammability Tests for Electrical Cables
UL 1581 section 1080

Description:	**UL 1581 section 1080 - reference to standard UL 2556, section 9.4 (VW-1 Flame Test)**
Length of specimen:	610 mm
Burner:	Bunsen burner with additional air supply (Tirril gas burner) ø 9.5 mm
Test temperature:	500 W flame
Position of specimen:	vertical
Position of flame:	20° to vertical specimen
Duration of flaming:	5 x 15 seconds with at least 15 seconds flaming break
Conditions:	Paper max. 25% carbonized. The specimen may keep on burning for max. 1 minute after any application. Material dropping must not ignite the cotton (B) lying under the specimen.



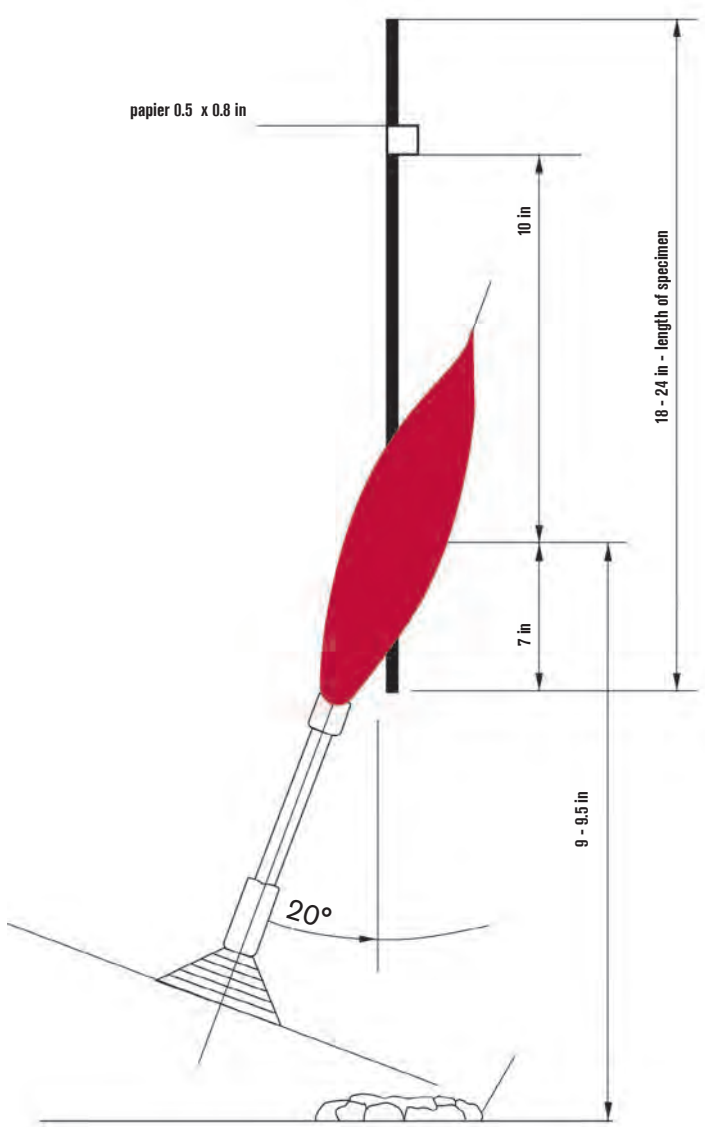
Flammability Tests for Electrical Cables
UL 1581 section 1061

Description:	UL 1581 section 1061 (Cable Flame Test)
Length of specimen:	455 mm
Burner:	Bunsen burner with additional air supply (Tirril gas burner) ø 9.5 mm / 0.37 inches
Test temperature:	500 W flame
Position of specimen:	vertical
Position of flame:	20° to vertical specimen
Duration of flaming:	3 x 60 seconds with 30 seconds between each flaming
Conditions:	Paper max. 25% carbonized. The specimen may keep on burning for max. 1 minute after the last application. Material dropping must not ignite the cotton (B) lying under the specimen.



Flammability Tests for Electrical Cables
UL 1581 section 1060

Description:	**UL 1581 section 1060 (Vertical Flame and FT1 Test)**
Length of specimen:	457 - 610 mm / 18 - 24 inches
Burner:	Bunsen burner with additional air supply (Tirril gas burner) ø 9.5 mm / 0.37 inches
Test temperature:	500 W flame
Position of specimen:	vertical
Position of flame:	20° to vertical specimen
Duration of flaming:	5 x 15 seconds with each 15 seconds flaming break
Conditions:	Paper max. 25% carbonized. The specimen may keep on burning for max. 1 minute after the last application.



Flammability Tests for Electrical Cables EN 60332-1-2 / EN 60332-2-2

Tests on electric and optical fiber cables under fire conditions

Description:	IEC 60332-1-2 corresponds to VDE 0482-332-1-2	IEC 60332-2-2 corresponds to VDE 0482-332-2-2
	Tests for vertical flame propagation for a single insulated wire or cable - procedure for 1-kW pre-mixed flame	Tests for vertical flame propagation for a single small insulated wire or cable - procedure for diffusion flame
Length of specimen:	600 mm / 23.62 inches	600 mm / 23.62 inches
Burner:	acc. to IEC 60332-1-1	acc. to IEC 60332-2-1
Test temperature:	1 kW flame	defined by the stipulated setting of the flame length
Position of specimen:	vertical	vertical
Position of flame:	45° to vertical specimen	45° to vertical specimen
Duration of flame:	see table 1 (below)	20 seconds
Conditions:	Cable must be self-extinguishing. The damage or carbonization may only reach max. 50 mm under the upper fixing clamp.	Cable must be self-extinguishing. The damage or carbonization may only reach max. 50 mm under the upper fixing clamp.

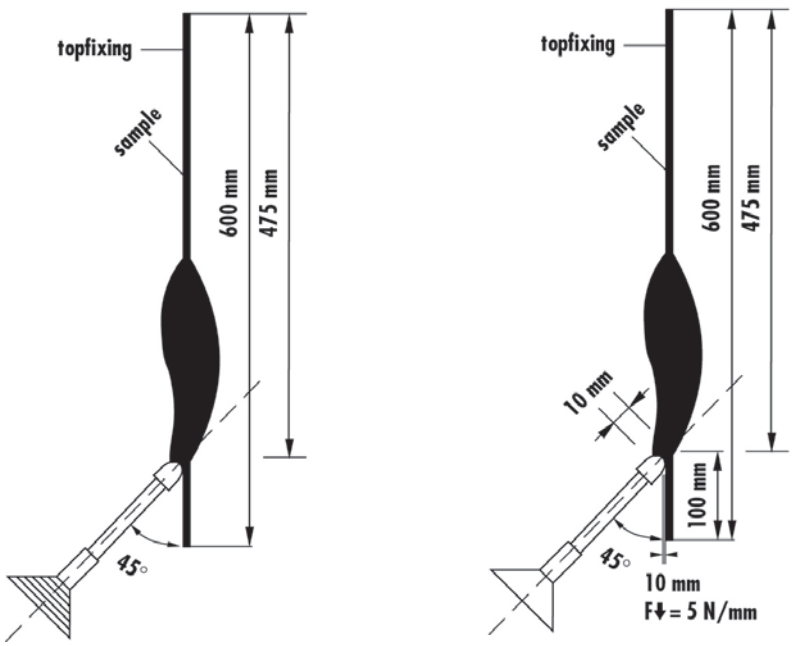


Table 1

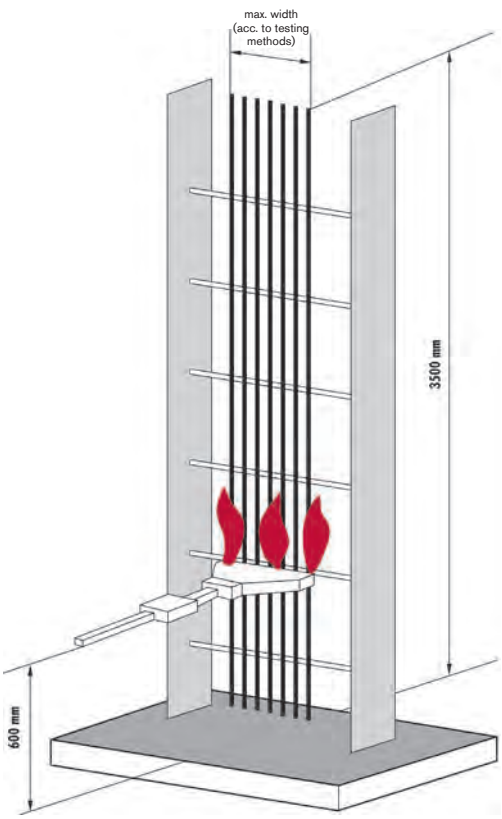
outer diameter of specimen in mm	Duration of flaming in seconds
D ≤ 25	60
25 mm < D ≤ 50	120
50 mm < D ≤ 75	240
D > 75	480

If cables or insulated cables are tested that are not round (e.g. flat twin cables) their dimensions is to be measured and an equivalent diameter must be calculated from this.

Flammability Tests for Electrical Cables IEC 60332-3 / IEC 60332-3

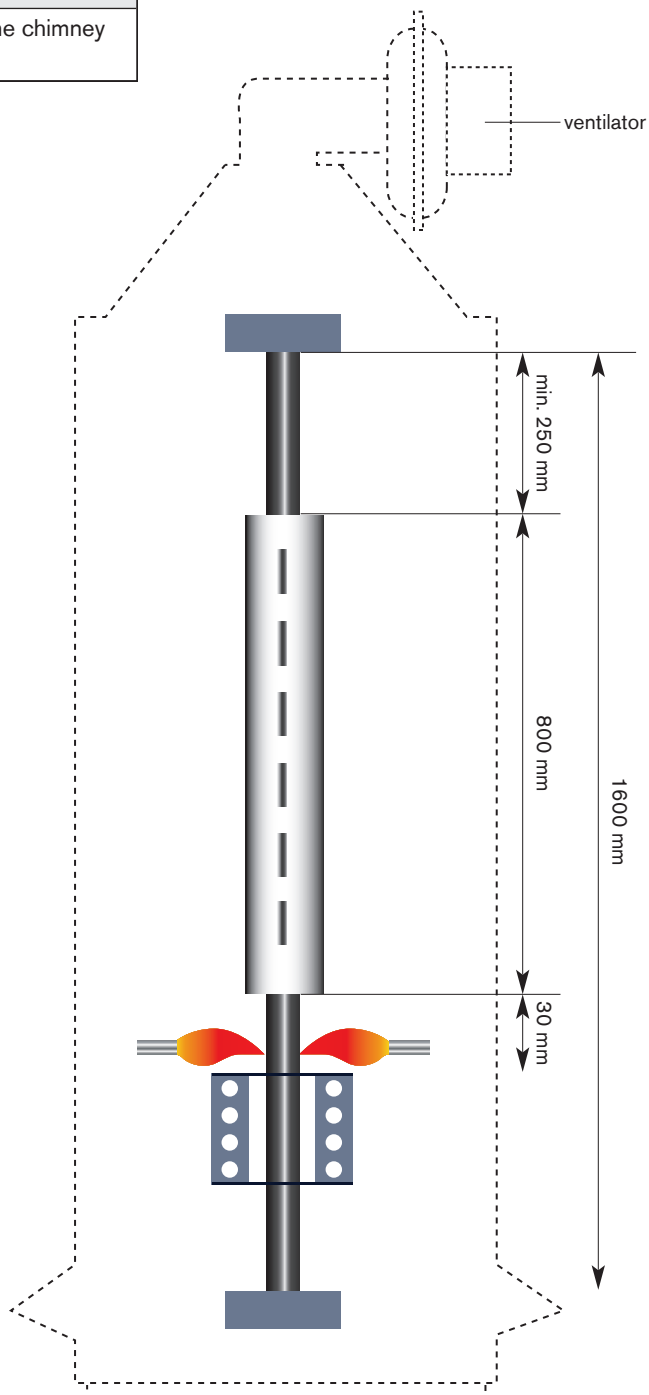
Examination of the vertical flame length of vertical extended bundle of wires and insulated cables

Description:	**IEC 60332-3-..., EN 60332-3-.**		
Length of specimen:	3500 mm / 137.8 inches		
Burner:	Flat burner (Ribbon gas burner of American Gas Furnace Co.)		
Test temperature:	defined by stipulated flow of gas and air		
Position of specimen:	vertical		
Position of flame:	horizontal		
Duration of flame:	Category A, B: 40 minutes Category C, D: 20 minutes		
Conditions:	The burned portion of the sample must not be longer than 2.5 m measured from the bottom edge of the burner, as far as not otherwise specified in the relevant standards.		
		EN 60332-	IEC 60332-
	Category A – 7.0 l/m	3 - 22	3 - 22
	Category B – 3.5 l/m	3 - 23	3 - 23
	Category C – 1.5 l/m > 12 mm cable-ø	3 - 24	3 - 24
	Category D – 0.5 l/m ≤ 12 mm cable-ø	3 - 25	3 - 25
	Volume percent of non metallic material per meter.		



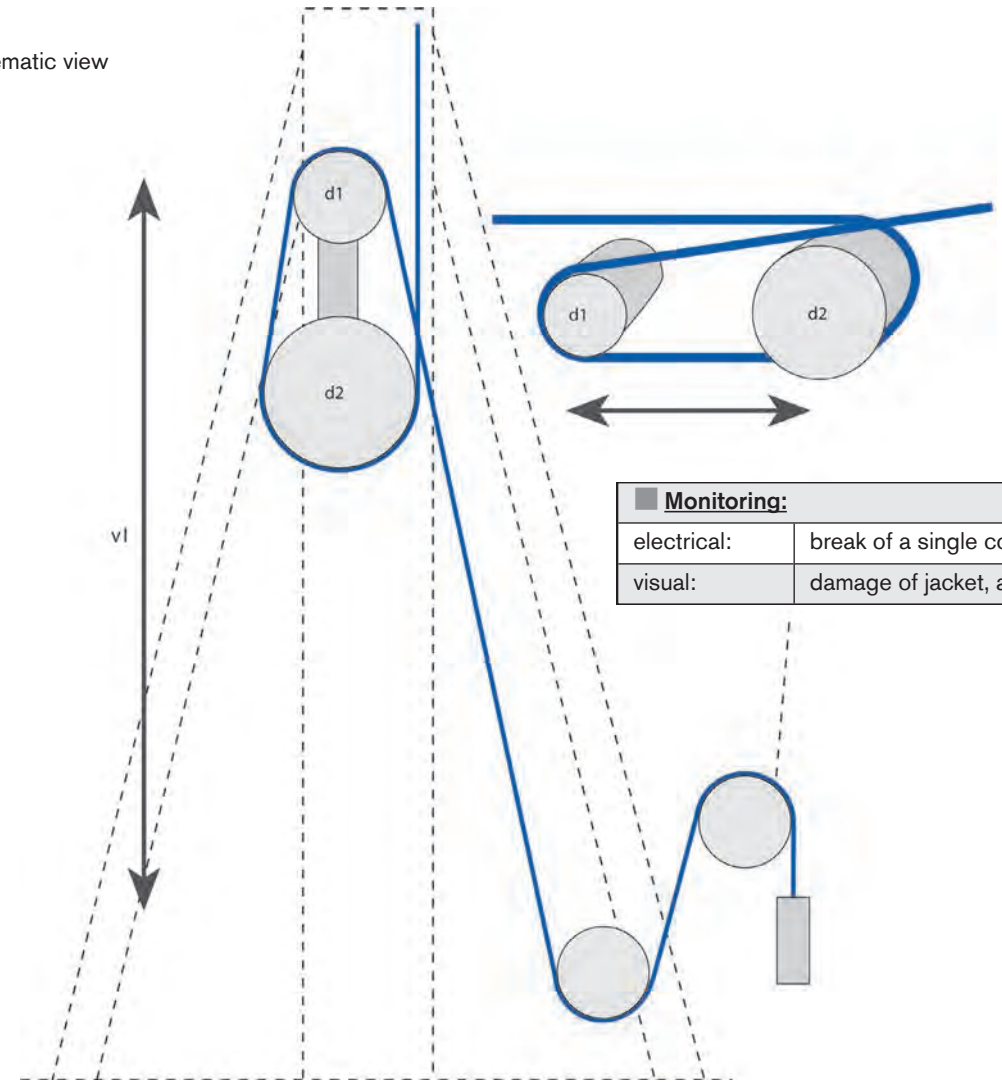
Flammability Tests for Electrical Cables
NF C 32-070 “C1”

Description:	NF C 32-070 “C1”
Length of specimen:	1600 mm / 93 inches
Test temperature:	+830 °C ±50°C
Position of specimen:	vertical in the chimney
Duration of test:	30 minutes
Conditions:	The outstanding cable above the chimney may not be damaged.



Directional Cycle Life Test for Continuous Flex Cables

schematic view



Monitoring:	
electrical:	break of a single conductor short-circuit
visual:	damage of jacket, appearance of kinks

Test parameters:

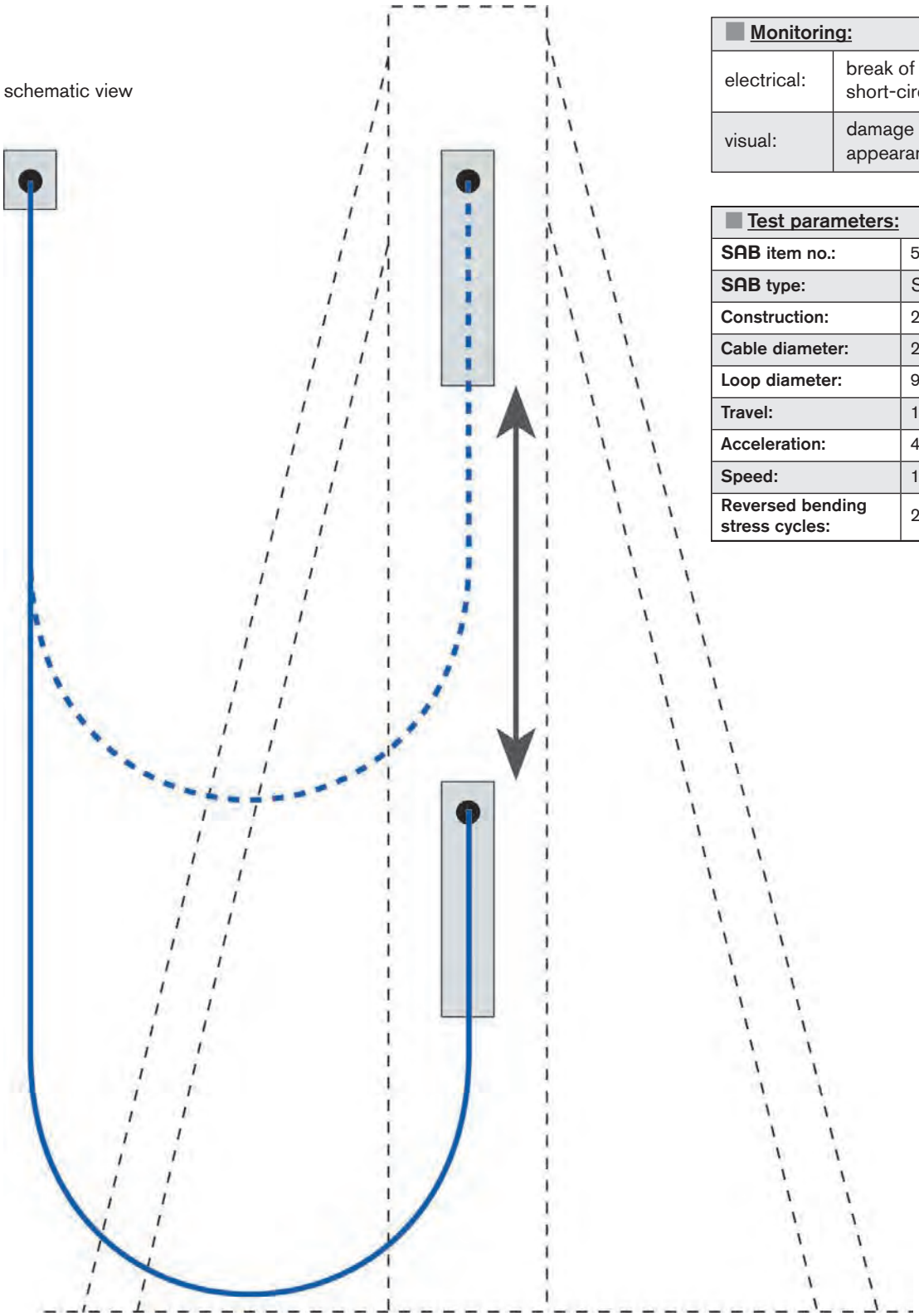
Acceleration:	40 m/s² · 131.23 feet/s²	Bending radius:	variable
Travel vl:	1900 mm/39.37 inches	Load:	variable
Cable length in motion:	2700 mm/106.30 inches	Roll diameter d1:	variable
Speed:	1.4 m/s · 4.59 feet/s	Roll diameter d2:	variable
No. of bendings:	18 per min		

Test findings	S 200 (18 AWG/12c - 12 x 1.0 mm²)	S 90 (18 AWG/12c - 12 x 1.0 mm²)	S 86 (18 AWG/12c - 12 x 1.0 mm²)
bending radius during test:	4.3 x O.D.	3.6 x O.D.	3.5 x O.D.
Travel:	1.9 m · 6.23 feet	1.9 m · 6.23 feet	1.9 m · 6.23 feet
Acceleration:	40 m/s2 · 131.23 feet/s²	40 m/s2 · 131.23 feet/s²	40 m/s2 · 131.23 feet/s²
Temperature during test:	+10°C up to +22°C	+10°C up to +22°C	+10°C up to +22°C
Speed:	1.4 m/s · 4.59 feet/s	1.4 m/s · 4.59 feet/s	1.4 m/s · 4.59 feet/s
Dimension:	10.4 mm · 0.41 inches	12.5 mm · 0.49 inches	12.9 mm · 0.51 inches
Roll diameter d1:	90 mm · 0.295 feet	90 mm · 0.295 feet	90 mm · 0.295 feet
Roll diameter d2:	125 mm · 0.41 feet	125 mm · 0.41 feet	125 mm · 0.41 feet
No. of bendings:	**17,438,485**	**2,929,730**	**2,508,904**

Directional Cycle Life Test for Lift Control Cables

Life cycle test SABIX® Lift

schematic view

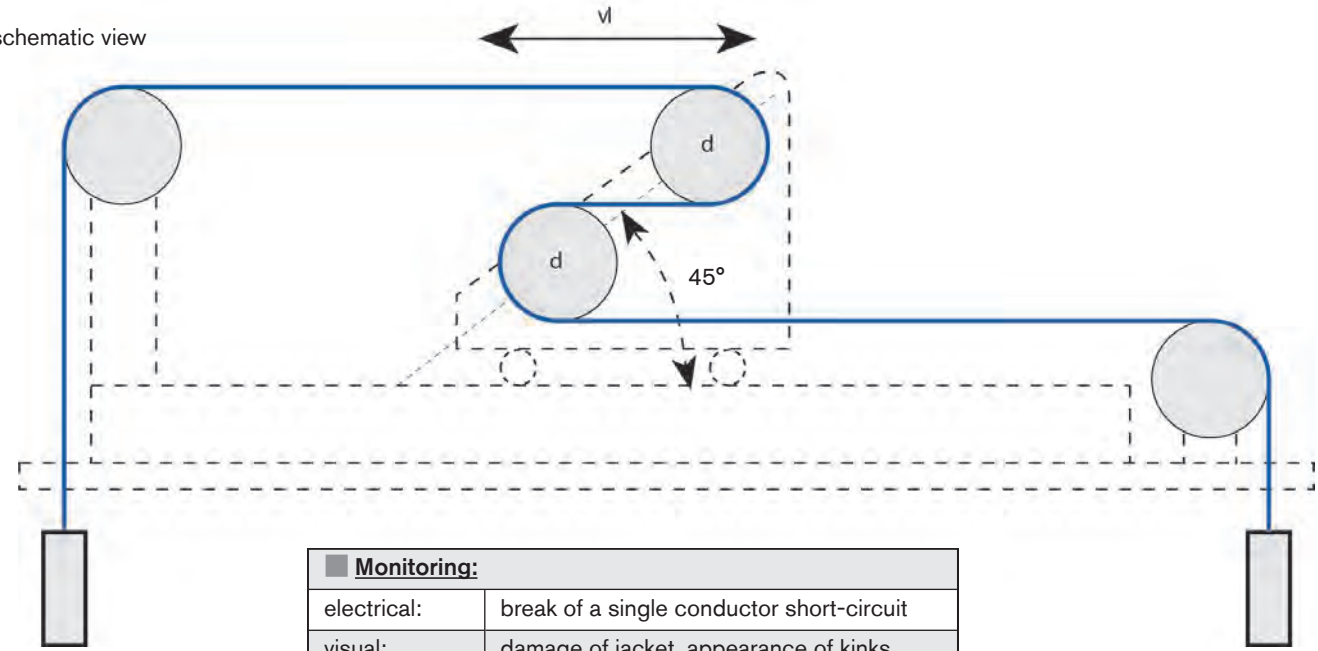


Monitoring:	
electrical:	break of a single conductor short-circuit
visual:	damage of jacket, appearance of kinks

Test parameters:	
SAB item no.:	5390-2410
SAB type:	SABIX® Lift
Construction:	24 x 1.0 mm² · 18 AWG/24c
Cable diameter:	22.0 mm · 0.868 inch
Loop diameter:	90 cm · 2.95 feet
Travel:	1.9 m · 6.23 feet
Acceleration:	40 m/s2 · 131.23 feet/s²
Speed:	1.4 m/s · 4.59 feet/s
Reversed bending stress cycles:	2,000,000

Directional Flexing Life Test

schematic view



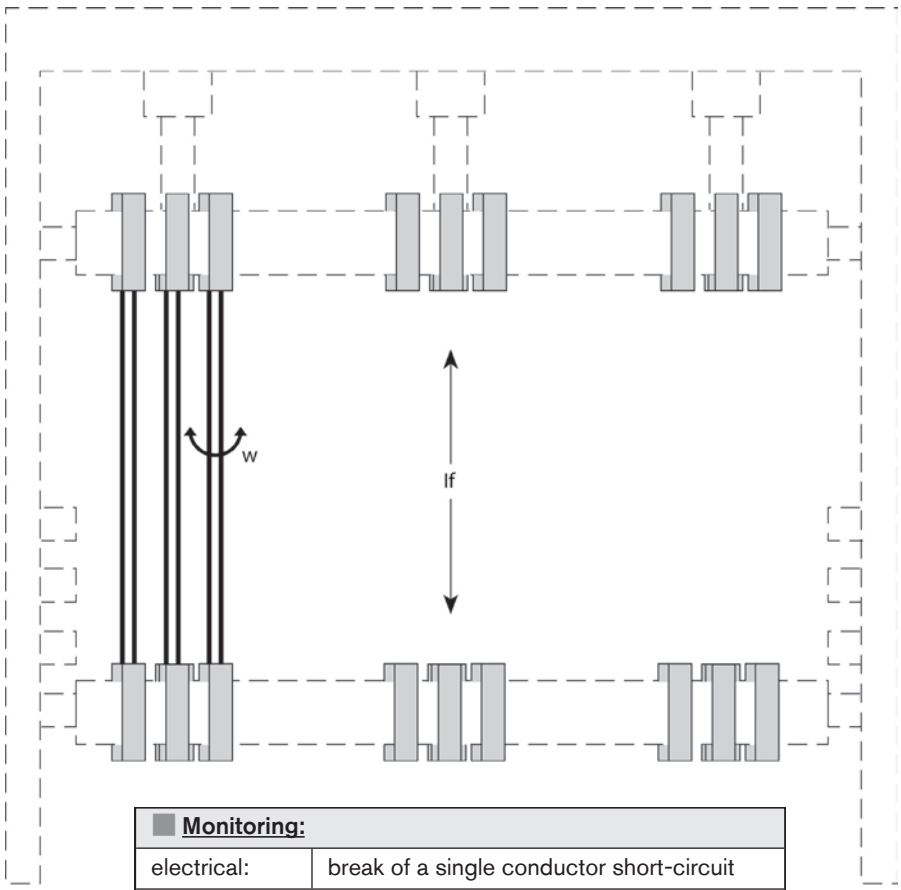
Monitoring:	
electrical:	break of a single conductor short-circuit
visual:	damage of jacket, appearance of kinks

Test construction acc. to DIN VDE 0281 part 2 (HD 21.2 S3), for PVC insulated cables

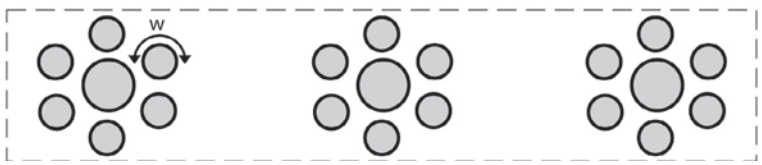
Test parameters:	
Acceleration:	10 m/s² · 32.8 feet/s
Travel vl:	1000 mm · 39.37 inches
Speed:	0.4 m/s · 1.31 feet/s
No. of bendings:	12 per min

Torsion Twisting Test

schematic view



Monitoring:	
electrical:	break of a single conductor short-circuit
visual:	damage of jacket, appearance of kinks



Test parameters:

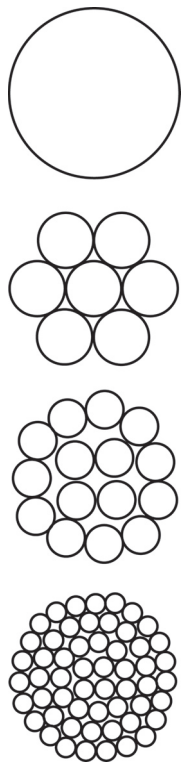
No. of twists:	28 per min	Torsion angle w:	variable
Fixing possibility: (cable diameter)	up to 25 mm	Free insertion cable length in motion of lf:	variable
		Load weight:	variable

Status - Results - Torsional Stress RT 123			
Item no.	7950610	7951810	7952502
Construction	18 AWG (56/34) 6c	18 AWG (56/34) 18c	24 AWG (32/38) 25c
Installation length = if	19.685 inches / 0.5 m	19.685 inches / 0.5 m	19.685 inches / 0.5 m
Torsion angle = w	± 540°	± 540°	± 540°
Current status	4,000,000 torsions	3,000,000 torsions	6,000,000 torsions

European Cable Stranding

European conductor stranding acc. to IEC 60228, VDE 0295

cross section mm²	IEC 60228 class 5/DIN VDE 0295		IEC 60228 class 6/DIN VDE 0295	
	No. of wires	max wire-ø mm	No. of wires	max wire-ø mm
0.14*			≈ 18 x 0.11	
0.25*	≈ 14 x 0.16		≈ 32 x 0.11	
0.34*	≈ 19 x 0.16		≈ 42 x 0.11	
0.50	≈ 15/17 x 0.21		≈ 28 x 0.16	
0.75	≈ 23 x 0.21		≈ 42 x 0.16	
1.00	≈ 30 x 0.21		≈ 56 x 0.16	
1.50	≈ 27-29 x 0.26		≈ 84 x 0.16	
2.50	≈ 46 x 0.26		≈ 140 x 0.16	
4.00	≈ 52 x 0.31		≈ 224 x 0.16	
6.00	≈ 78 x 0.31		≈ 186 x 0.21	
10.00	≈ 77 x 0.41		≈ 320 x 0.21	
16.00	≈ 122 x 0.41		≈ 504 x 0.21	
25.00	≈ 190 x 0.41		≈ 760 x 0.21	
35.00	≈ 272 x 0.41		≈ 1083 x 0.21	
50.00	≈ 400 x 0.41		≈ 703 x 0.31	
70.00	≈ 543 x 0.41		≈ 988 x 0.31	
95.00	≈ 484 x 0.51		≈ 1340 x 0.31	
120.00	≈ 589 x 0.51		≈ 1680 x 0.31	
150.00	≈ 740 x 0.51		≈ 2122 x 0.31	
185.00	≈ 902 x 0.51		≈ 1472 x 0.41	
240.00	≈ 1220 x 0.51		≈ 1910 x 0.41	
300.00	≈ 1525 x 0.51			



* with reference to IEC 60228

Comparison of European and American conductor sizes

Nominal cross section of copper conductors											
mm²	AWG/ MCM	mm²	AWG/ MCM	mm²	AWG/ MCM	mm²	AWG/ MCM	mm²	AWG/ MCM	mm²	AWG/ MCM
0.08	28	0.50	20	2.50	14	16.00	6	70.00	2/0	185.00	350
0.14	26	0.75	19	4.00	12	25.00	4	95.00	3/0	240.00	450
0.25	24	1.00	18	6.00	10	35.00	2	120.00	4/0	300.00	550
0.34	22	1.50	16	10.00	8	50.00	1	150.00	250		

American Cable Stranding

AWG = actual cross section in mm² and conductor resistance

AWG is shown below with its exact equivalent value in mm² and diameter (mm).
The table on the previous page shows commercially used equivalent values, which are approximations.

AWG number	cross section mm²	Ø mm	conductor resistance Ω/km
1000 MCM	507	29.3	0.036
900	456	27.8	0.040
750	380	25.4	0.048
600	304	22.7	0.061
550	279	21.7	0.066
500	253	20.7	0.070
450	228	19.6	0.080
400	203	18.5	0.090
350	177	17.3	0.100
300	152	16.3	0.120
250	127	14.5	0.140
4/0	107.2	11.68	0.180
3/0	85.0	10.40	0.230
2/0	67.4	9.27	0.290
0	53.4	8.25	0.370
1	42.4	7.35	0.470
2	33.6	6.54	0.570
3	26.7	5.83	0.710
4	21.2	5.19	0.910
5	16.8	4.62	1.120
6	13.3	4.11	1.440
7	10.6	3.67	1.780
8	8.34	3.26	2.360
9	6.62	2.91	2.770
10	5.26	2.59	3.640
11	4.15	2.30	4.440
12	3.31	2.05	5.410
13	2.63	1.83	7.020

4/0 is also known as 0000, 1 mil = inch = 0.0254 mm
Shown in MCM (circular mills) for bigger cross sections

AWG number	cross section mm²	Ø mm	conductor resistance Ω/km
14	2.08	1.63	8.79
15	1.65	1.45	11.2
16	1.31	1.29	14.7
17	1.04	1.15	17.8
18	0.8230	1.0240	23.0
19	0.6530	0.9120	28.3
20	0.5190	0.8120	34.5
21	0.4120	0.7230	44.0
22	0.3240	0.6440	54.8
23	0.2590	0.5730	70.1
24	0.2050	0.5110	89.2
25	0.1630	0.4550	111.0
26	0.1280	0.4050	146.0
27	0.1020	0.3610	176.0
28	0.0804	0.3210	232.0
29	0.0646	0.2860	282.0
30	0.0503	0.2550	350.0
31	0.0400	0.2270	446.0
32	0.0320	0.2020	578.0
33	0.0252	0.1800	710.0
34	0.0200	0.1600	899.0
35	0.0161	0.1430	1125.0
36	0.0123	0.1270	1426.0
37	0.0100	0.1130	1800.0
38	0.00795	0.1010	2255.0
39	0.00632	0.0897	2860.0

1 CM = 1 Circ. mil = 0.0005067 mm²
1 MCM = 1000 Circ. mils = 0.5067 mm²

NEC Ampacity Tables

Allowable Conductor Ampacity

Table 310.15(B)(16)

Allowable ampacities of insulated conductors rated 0 - 2000 Volts, 60° to 90°C (140° to 194°F) not more than three current carrying conductors in raceway or cable or earth (directly buried), based on ambient temperature of 30°C (86°F).

Size	Temperature Rating						
	60°C (140°F) Types		75°C (167°F) Types		90°C (194°F) Types		
	TW	UF	RHW THW XHHW ZW	THHW THWN USE	SIS MI THHN THWN-2 XHHW XHHW-2	TBS FEP RHH THHW USE-2 ZW-2	SA FEPB RHW-2 THW-2 XHH
18 AWG*	-		-		14		
16 AWG*	-		-		18		
14 AWG*	15		20		25		
12 AWG*	20		25		30		
10 AWG*	30		35		40		
8 AWG	40		50		55		
6 AWG	55		65		75		
4 AWG	70		85		95		
3 AWG	85		100		115		
2 AWG	95		115		130		
1 AWG	110		130		145		
1/0 AWG	125		150		170		
2/0 AWG	145		175		195		
3/0 AWG	165		200		225		
4/0 AWG	195		230		260		
250 kcmil	215		255		290		
300 kcmil	240		285		320		
350 kcmil	260		310		350		
400 kcmil	280		335		380		
500 kcmil	320		380		430		
600 kcmil	350		420		475		
700 kcmil	385		460		520		
750 kcmil	400		475		535		
800 kcmil	410		490		555		
900 kcmil	435		520		585		
1000 kcmil	455		545		615		
1250 kcmil	495		590		665		
1500 kcmil	525		625		705		
1750 kcmil	545		650		735		
2000 kcmil	555		665		750		

*Refer to 240.4(D) in 2014 NEC codebook for conductor overcurrent protection limitations

Table 310.15(B)(17)

Allowable ampacities of single insulated conductors Rated 0 - 2000 Volts, in free air, based on ambient air temperature of 30°C (86°F).

Size	Temperature Rating						
	60°C (140°F) Types		75°C (167°F) Types		90°C (194°F) Types		
	TW	UF	RHW THW XHHW	THHW THWN ZW	SIS MI THHN THWN-2 XHHW XHHW-2	TBS FEP RHH THHW USE-2 ZW-2	SA FEPB RHW-2 THW-2 XHH
18 AWG	-		-		18		
16 AWG	-		-		24		
14 AWG*	25		30		35		
12 AWG*	30		35		40		
10 AWG*	40		50		55		
8 AWG	60		70		80		
6 AWG	80		95		105		
4 AWG	105		125		140		
3 AWG	120		145		165		
2 AWG	140		170		190		
1 AWG	165		195		220		
1/0 AWG	195		230		260		
2/0 AWG	225		265		300		
3/0 AWG	260		310		350		
4/0 AWG	300		360		405		
250 kcmil	340		405		455		
300 kcmil	375		445		500		
350 kcmil	420		505		570		
400 kcmil	455		545		615		
500 kcmil	515		620		700		
600 kcmil	575		690		780		
700 kcmil	630		755		850		
750 kcmil	655		785		885		
800 kcmil	680		815		920		
900 kcmil	730		870		980		
1000 kcmil	780		935		1055		
1250 kcmil	890		1065		1200		
1500 kcmil	980		1175		1325		
1750 kcmil	1070		1280		1445		
2000 kcmil	1155		1385		1560		

Table 310.15(B)(3)(a)

Adjustment Factors for More than Three Current-Carrying Conductors in a Raceway Cable.

Where the number of current-carrying conductors in a raceway or cable exceeds three, the allowable ampacities shall be reduced as shown.

Number of Current- Carrying Conductors*	Percent of Values in Table as Adjusted for Ambient Temperature
4 - 6	80
7 - 9	70
10 - 20	50
21 - 30	45
31 - 40	40
more than 40	35

Table 310.15(B)(2)(a)

Temperature Correction Factors

For ambient temperature other than 30°C (86°F), multiply the allowable ampacities specified above by the appropriate correction factor shown below.

Ambient Temperature	60°C	75°C	90°C
20°C	1.15	1.11	1.08
30°C	1.00	1.00	1.00
40°C	0.82	0.88	0.91
50°C	0.58	0.75	0.82
60°C	-	0.58	0.71
70°C	-	0.33	0.58

VFD Cable Selection Guide

VFD Motor Properties Selection Chart for VFD Cables per NEC

Small motor properties AWG size selection chart for VFD cables: VFD XLPE TR, VFD Combo XLPE, VFD Symmetrical XLPE, and VFD XLPE Auto

Drive HP	230 V 3Ø AWG	460 V 3Ø AWG	575 V 3Ø AWG
1/4 - 3	14	16	18
5	14	14	16
7 1/2	12	14	14
10	10	14	14
15	8	12	14
20	6	10	12
25	4	8	10
30	3	8	10
40	2	6	8
50	1/0	4	6

Drive HP	230 V 3Ø AWG	460 V 3Ø AWG	575 V 3Ø AWG
60	2/0	3	4
75	3/0	2	3
100	300 MCM	1/0	2
125	500 MCM	2/0	1/0
150	-	3/0	2/0
200	-	300 MCM	4/0
250	-	400 MCM	300 MCM
300	-	-	400 MCM
350	-	-	500 MCM
400 - 500	-	-	-

Note: The above table references the suggested wire AWG to use based on Horse Power (HP) and the Full Load Current (FLC) times 125% per NEC Art. 430-22 (G) (1) and (2) for small motors. For special motor types NEC Art. 430-22 (A) - (G) may give additional restrictions for conductor sizes. Amperes (FLC) were determined from NEC Art. 430-250.

Drive HP	230 V 1pr AWG	460 V 1pr AWG	575 V 1pr AWG
1/4 - 3	14	16*	16*
5	14	14	14
7 1/2	10	14	14
10	8	14	14
15	6	10	12
20	-	8	10
25	-	8	8
30	-	6	8
40	-	-	6
50	-	-	-

Drive HP	230 V 2pr AWG	460 V 2pr AWG	575 V 2pr AWG
1/4 - 3	14	14	16*
5	12	14	14
7 1/2	10	14	14
10	8	12	14
15	4	10	10
20	-	8	10
25	-	6	8
30	-	6	6
40	-	-	6
50	-	-	-

* If the circuit is protected according NEC 43022 (G) (1) (1) or (G) (1) (2). Otherwise AWG 14.

General Conversion Table

■ Length		
from	*to*	*formula*
inch(in)	millimeter(mm)	in x 25.4 = mm
millimeter(mm)	inch(in)	mm x 0.03937 = in
foot(ft)	meter(m)	ft x 0.3048 = m
meter(m)	foot(ft)	m x 3.281 = ft
mile(mi)	kilometer(km)	mi x 1.609 = km
kilometer(km)	mile(mi)	km x 0.621 = mi

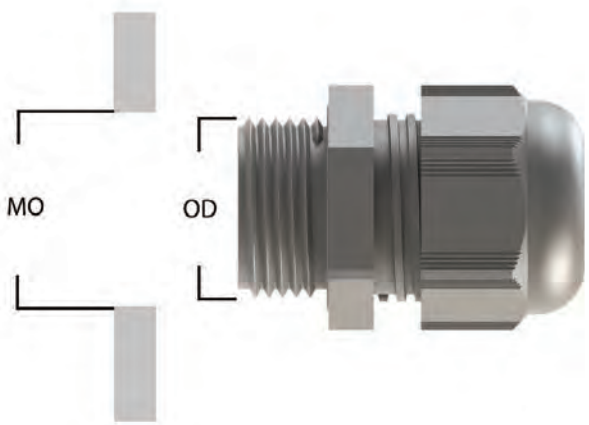
■ Temperature		
from	*to*	*formula*
Fahrenheit(F)	Celsius(C)	(F-32) x 0.56 = C
Celsius(C)	Fahrenheit(F)	C x 1.8 + 32 = F

■ Weights		
from	*to*	*formula*
pound(lb)	kilogram(kg)	lb x 0.454 = kg
kilogram(kg)	pound (lb)	kg : 2.205 = lb
kg/km	lbs/mft	kg/km x 0.6719
lbs/mft	kg/km	lbs/mft x 1.488

Thread Dimensions & Hole Sizes

Thread Standards
Metric acc. to EN 60423

Size	Outer Diameter max. (OD)		Mounting Hole Diameter max. (MO)	
	mm	inch	mm	inch
M12	12	0.47	12.2	0.48
M16	16	0.63	16.2	0.64
M20	20	0.79	20.2	0.80
M25	25	0.98	25.2	0.99
M32	32	1.26	32.2	1.27
M40	40	1.57	40.2	1.66
M50	50	1.97	50.3	1.98
M63	63	2.48	63.3	2.49
M72	72	2.83	72.3	2.85
M75	75	2.95	75.3	2.96
M80	80	3.15	80.3	3.16
M85	85	3.35	85.3	3.36
M90	90	3.54	90.3	3.56
M100	100	3.94	100.3	3.95
M110	110	4.33	110.3	4.34



Thread Standard
PG acc. to DIN 40430

Size	Outer Diameter max. (OD)		Mounting Hole Diameter max. (MO)	
	mm	inch	mm	inch
PG 7	12.5	0.49	12.7	0.50
PG 9	15.2	0.60	15.4	0.61
PG 11	18.6	0.73	18.8	0.74
PG 13.5	20.4	0.80	20.7	0.81
PG 16	22.5	0.89	22.7	0.89
PG 21	28.3	1.11	28.5	1.12
PG 29	37.0	1.46	37.2	1.46
PG 36	47.0	1.85	47.3	1.86
PG 42	54.0	2.13	54.3	2.14
PG 48	59.3	2.33	59.6	2.35

Thread Standard
NPT acc. to ANSI B1.20.1

Size	Outer Diameter max. (OD)		Mounting Hole Diameter max. (MO)	
	mm	inch	mm	inch
NPT 1/4"	13.72	0.54	14.0	0.55
NPT 3/8"	17.15	0.68	17.5	0.69
NPT 1/2"	21.34	0.84	21.5	0.85
NPT 3/4"	26.67	1.05	27.0	1.06
NPT 1"	33.40	1.31	34.0	1.34
NPT 1 1/4"	42.16	1.66	42.5	1.67
NPT 1 1/2"	48.26	1.90	48.5	1.91
NPT 2"	60.33	2.38	60.5	2.38

Torque Values for Polyamide 6 Cable Glands

Cable Gland Plastic (NPT)	CAP BODY LOCK NUT			Body to Enclosure or locknut to body* (Min Torque Value to Ensure Declared IP rate)		Locknut thickness
	Cable Range (mm)	Recommended tightening torque		Recommended tightening torque		Height (mm)
		Nm	Tolerance	Nm	Tolerance	
NPT 3/8"	5 - 10	2.5	± 0.5	1.0	± 0.5	7.0
NPT 1/2"	6 - 12	5.0	± 0.5	2.0	± 0.5	7.0
NPT 1/2"	10 - 14	5.5	± 0.5	2.0	± 0.5	7.0
NPT 3/4"	13 - 18	9.0	± 0.5	3.0	± 0.5	7.0
NPT 1"	18 - 25	9.5	± 0.5	4.0	± 1.0	7.0

Cable Gland Plastic (Metric)	CAP BODY LOCK NUT			Body to Enclosure or locknut to body* (Min Torque Value to Ensure Declared IP rate)		Locknut thickness
	Cable Range (mm)	Recommended tightening torque		Recommended tightening torque		Height (mm)
		Nm	Tolerance	Nm	Tolerance	
M12 X 1.5	3 - 6.5	2.0	± 0.5	2.0	± 0.5	5.0
M16 x 1.5	4 - 10	2.5	± 0.5	2.5	± 0.5	5.0
M16 x 1.5	5 - 10	2.5	± 0.5	2.5	± 0.5	5.0
M20 x 1.5	6 - 12	4.0	± 0.5	3.5	± 1.0	6.0
M20 x 1.5	10 - 14	5.5	± 0.5	3.5	± 1.0	6.0
M25 x 1.5	13 - 18	9.0	± 1.0	3.5	± 1.0	6.0
M32 x 1.5	18 - 25	10.0	± 1.0	5.0	± 1.5	7.0
M40 x 1.5	22 - 32	20.0	± 1.5	5.0	± 1.5	7.0
M50 x 1.5	30 - 38	20.0	± 2.0	8.0	± 1.5	8.0
M63 x 1.5	34 - 44	20.0	± 2.5	12.0	± 1.5	8.0

Cable Gland Plastic (PG)	CAP BODY LOCK NUT			Body to Enclosure or locknut to body* (Min Torque Value to Ensure Declared IP rate)		Locknut thickness
	Cable Range (mm)	Recommended tightening torque		Recommended tightening torque		Height (mm)
		Nm	Tolerance	Nm	Tolerance	
PG 7	3 - 6.5	2.0	± 0.5	1.5	± 0.3	5.0
PG 9	4 - 8	2.0	± 0.5	1.5	± 0.3	5.0
PG 11	5 - 10	2.5	± 0.5	2.0	± 0.5	5.0
PG 13.5	6 - 12	4.0	± 0.5	3.0	± 0.5	6.0
PG 16	10 - 14	5.5	± 0.5	3.5	± 1.0	6.0
PG 21	13 - 18	9.0	± 0.5	4.0	± 1.0	7.0
PG 29	18 - 25	7.7	± 0.5	9.0	± 1.5	7.0
PG 36	22 - 32	16.0	± 0.5	11.0	± 1.5	8.0
PG 42	30 - 38	20.0	± 1.0	14.0	± 2.0	8.0
PG 48	34 - 44	20.0	± 1.0	14.0	± 2.0	8.0

* When locknut is used, the screwing length must be at 1.5 times the locknut thickness.
**When a threaded enclosure is used, the wall thickness must be at least equal to the locknut thickness

Torque Values for Metal Cable Glands

Cable Gland Nickel Plated Brass (NPT)	CAP BODY LOCK NUT			Body to Enclosure or locknut to body* (Min Torque Value to Ensure Declared IP rate)		Locknut thickness
	Cable Range (mm)	Recommended tightening torque		Recommended tightening torque		Height (mm)
		Nm	Tolerance	Nm	Tolerance	
NPT 1/4"	3 - 6.5	5.0	± 0.5	3.0	± 0.5	7.0
NPT 3/8"	5 - 10	6.5	± 0.5	3.0	± 0.5	7.0
NPT 1/2"	6 - 12	17.5	± 0.5	3.0	± 0.5	7.0
NPT 1/2"	10 - 14	15.0	± 0.5	4.0	± 0.5	7.0
NPT 3/4"	13 - 18	17.0	± 0.5	5.5	± 0.5	7.0
NPT 1"	18 - 25	40.0	± 1.0	8.0	± 0.5	7.0
NPT 1 1/4"	22 - 32	40.0	± 1.0	10.0	± 0.5	7.0
NPT 1 1/2"	30 - 38	45.0	± 1.0	16.0	± 0.5	7.0

Cable Gland Nickel Plated Brass (Metric)	CAP BODY LOCK NUT			Body to Enclosure or locknut to body* (Min Torque Value to Ensure Declared IP rate)		Locknut thickness
	Cable Range (mm)	Recommended tightening torque		Recommended tightening torque		Height (mm)
		Nm	Tolerance	Nm	Tolerance	
M12 X 1.5	3 - 6.5	5.0	± 0.5	3.0	± 0.5	2.8
M16 x 1.5	4 - 8.0	6.5	± 0.5	4.0	± 0.5	3.0
M16 x 1.5	5 - 10	6.0	± 0.5	4.0	± 0.5	3.0
M20 x 1.5	6 - 12	8.0	± 0.5	5.5	± 0.5	3.5
M20 x 1.5	10 - 14	11.0	± 0.5	6.0	± 0.5	3.5
M20 x 1.5	7 - 13	15.0	± 0.5	7.5	± 0.5	3.5
M25 x 1.5	10 - 14	11.0	± 0.5	6.0	± 0.5	4.0
M25 x 1.5	13 - 18	17.0	± 0.5	6.0	± 0.5	4.0
M32 x 1.5	13 - 18	17.0	± 0.5	6.0	± 0.5	5.0
M32 x 1.5	18 - 25	28.0	± 1.0	6.0	± 0.5	5.0
M40 x 1.5	18 - 25	30.0	± 1.0	12.0	± 0.5	5.0
M40 x 1.5	22 - 32	41.0	± 1.0	12.0	± 0.5	5.0
M50 x 1.5	22 - 32	42.0	± 1.0	18.0	± 0.5	5.0
M50 x 1.5	34 - 44	50.0	± 1.0	18.0	± 0.5	6.0
M63 x 1.5	34 - 44	55.0	± 2.0	25.0	± 1.0	6.0
M63 x 1.5	37 - 53	100.0	± 2.0	25.0	± 1.0	6.0

Cable Gland Nickel Plated Brass (PG)	CAP BODY LOCK NUT			Body to Enclosure or locknut to body* (Min Torque Value to Ensure Declared IP rate)		Locknut thickness
	Cable Range (mm)	Recommended tightening torque		Recommended tightening torque		Height (mm)
		Nm	Tolerance	Nm	Tolerance	
PG 7	3 - 6.5	5.0	± 0.5	3.0	± 0.5	2.8
PG 9	4 - 8.0	6.0	± 0.5	4.0	± 0.5	2.8
PG 11	5 - 10	7.0	± 0.5	5.0	± 0.5	3.0
PG 13.5	6 - 12	8.0	± 0.5	5.5	± 0.5	3.0
PG 16	10 - 14	11.0	± 0.5	7.0	± 0.5	3.0
PG 21	13 - 18	17.0	± 0.5	10.0	± 0.5	3.5
PG 29	18 - 25	30.0	± 0.5	15.0	± 0.5	4.0
PG 36	22 - 32	42.0	± 0.5	20.0	± 0.5	5.0
PG 42	30 - 38	45.0	± 0.5	27.0	± 0.5	5.0
PG 48	34 - 44	50.0	± 1.0	35.0	± 0.5	5.5

* When locknut is used, the screwing length must be at 1.5 times the locknut thickness.
** When a threaded enclosure is used, the wall thickness must be at least equal to the locknut thickness

Torque Values for CG EMC-2 Nickel Plated Brass Glands

Cable Gland Nickel Plated Brass (NPT)	CAP BODY LOCK NUT			Body to Enclosure or locknut to body* (Min Torque Value to Ensure Declared IP rate)		Locknut thickness
	Cable Range (mm)	Recommended tightening torque		Recommended tightening torque		Height (mm)
		Nm	Tolerance	Nm	Tolerance	
NPT 3/8"	5 - 10	7.0	± 0.5	7.0	± 0.5	7.0
NPT 1/2"	6 - 12	8.0	± 1.0	8.0	± 1.0	7.0
NPT 1/2"	10 - 14	11.0	± 1.0	11.0	± 1.0	7.0
NPT 3/4"	13 - 18	17.0	± 1.0	17.0	± 1.0	7.0
NPT 1"	18 - 25	22.5	± 1.0	22.5	± 1.0	7.0

Cable Gland Nickel Plated Brass (Metric)	CAP BODY LOCK NUT			Body to Enclosure or locknut to body* (Min Torque Value to Ensure Declared IP rate)		Locknut thickness
	Cable Range (mm)	Recommended tightening torque		Recommended tightening torque		Height (mm)
		Nm	Tolerance	Nm	Tolerance	
M12 X 1.5	3 - 6.5	5.0	± 0.5	5.0	± 0.5	2.8
M16 x 1.5	4 - 8.0	6.0	± 0.5	6.0	± 0.5	3.0
M16 x 1.5	4.5 - 10	7.0	± 0.5	7.0	± 0.5	3.0
M20 x 1.5	6 - 12	8.0	± 1.0	8.0	± 1.0	3.5
M25 x 1.5	10 - 14	11.0	± 1.0	11.0	± 1.0	4.0
M25 x 1.5	13 - 18	17.0	± 1.0	17.0	± 1.0	4.0
M32 x 1.5	13 - 18	17.0	± 1.0	17.0	± 1.0	5.0
M32 x 1.5	18 - 25	22.5	± 1.0	22.5	± 1.0	5.0
M40 x 1.5	18 - 25	22.5	± 1.0	22.5	± 1.0	5.0
M40 x 1.5	22 - 32	41.0	± 1.0	41.0	± 1.5	5.0
M50 x 1.5	22 - 32	41.0	± 1.5	41.0	± 1.5	5.0
M63 x 1.5	34 - 44	45.0	± 2.0	45.0	± 2.0	6.0
M63 x 1.5	37 - 53	50.0	± 2.0	50.0	± 2.0	6.0

Cable Gland Nickel Plated Brass (PG)	CAP BODY LOCK NUT			Body to Enclosure or locknut to body* (Min Torque Value to Ensure Declared IP rate)		Locknut thickness
	Cable Range (mm)	Recommended tightening torque		Recommended tightening torque		Height (mm)
		Nm	Tolerance	Nm	Tolerance	
PG 7	3 - 6.5	5.0	± 0.5	5.0	± 0.5	2.8
PG 9	4 - 8.0	6.0	± 0.5	6.0	± 0.5	2.8
PG 11	5 - 10	7.0	± 0.5	7.0	± 0.5	3.0
PG 13.5	6 - 12	8.0	± 1.0	8.0	± 1.0	3.0
PG 16	10 - 14	11.0	± 1.0	11.0	± 1.0	3.0
PG 21	13 - 18	17.0	± 1.0	17.0	± 1.0	3.5
PG 29	18 - 25	22.5	± 1.0	22.5	± 1.0	4.0
PG 36	22 - 32	41.0	± 1.0	41.0	± 1.5	5.0
PG 42	30 - 38	45.0	± 2.0	45.0	± 2.0	5.0
PG 48	34 - 44	50.0	± 2.0	50.0	± 2.0	5.5

* When locknut is used, the screwing length must be at 1.5 times the locknut thickness.
**When a threaded enclosure is used, the wall thickness must be at least equal to the locknut thickness

Torque Values for CG EMC-4 Nickel Plated Brass Glands

Cable Gland Nickel Plated Brass (NPT)	CAP BODY LOCK NUT			Body to Enclosure or locknut to body* (Min Torque Value to Ensure Declared IP rate)		Locknut thickness
	Cable Range (mm)	Recommended tightening torque		Recommended tightening torque		Height (mm)
		Nm	Tolerance	Nm	Tolerance	
NPT 3/8"	5 - 10	6.0	± 0.5	6.0	± 0.5	7.0
NPT 1/2"	6 - 12	8.0	± 1.0	8.0	± 1.0	7.0
NPT 1/2"	7.5 - 14	10.0	± 1.0	10.0	± 1.0	7.0
NPT 3/4"	10 - 18	15.0	± 1.0	15.0	± 1.0	7.0
NPT 1"	16 - 25	22.0	± 1.0	22.0	± 1.0	7.0
NPT 1 1/4"	22 - 32	42.0	± 1.0	42.0	± 1.0	7.0
NPT 1 1/2"	30 - 38	42.0	± 1.5	42.0	± 1.5	7.0
NPT 2"	34 - 44	43.0	± 1.5	43.0	± 1.5	7.0

Cable Gland Nickel Plated Brass (Metric)	CAP BODY LOCK NUT			Body to Enclosure or locknut to body* (Min Torque Value to Ensure Declared IP rate)		Locknut thickness
	Cable Range (mm)	Recommended tightening torque		Recommended tightening torque		Height (mm)
		Nm	Tolerance	Nm	Tolerance	
M12 X 1.5	3 - 6.5	7.0	± 0.5	7.0	± 0.5	2.8
M16 x 1.5	5 - 10	6.0	± 0.5	6.0	± 0.5	3.0
M20 x 1.5	6 - 12	8.0	± 1.0	8.0	± 1.0	3.5
M20 x 1.5	7.5 - 14	10.0	± 1.0	10.0	± 1.0	3.5
M25 x 1.5	10 - 18	15.0	± 1.0	15.0	± 1.0	4.0
M32 x 1.5	16 - 25	22.0	± 1.0	22.0	± 1.0	5.0
M40 x 1.5	22 - 32	42.0	± 1.0	42.0	± 1.0	5.0
M50 x 1.5	30 - 38	42.0	± 1.5	42.0	± 1.5	5.0
M63 x 1.5	34 - 44	43.0	± 1.5	43.0	± 1.5	6.0

Cable Gland Nickel Plated Brass (PG)	CAP BODY LOCK NUT			Body to Enclosure or locknut to body* (Min Torque Value to Ensure Declared IP rate)		Locknut thickness
	Cable Range (mm)	Recommended tightening torque		Recommended tightening torque		Height (mm)
		Nm	Tolerance	Nm	Tolerance	
PG 7	3 - 6.5	7.0	± 0.5	7.0	± 0.5	2.8
PG 11	5 - 10	6.0	± 0.5	6.0	± 0.5	3.0
PG 13.5	6 - 12	8.0	± 1.0	8.0	± 1.0	3.0
PG 16	7.5 - 14	10.0	± 1.0	10.0	± 1.0	3.0
PG 21	10 - 18	15.0	± 1.0	15.0	± 1.0	3.5
PG 29	16 - 25	22.0	± 1.0	22.0	± 1.0	4.0
PG 36	22 - 32	42.0	± 1.0	42.0	± 1.0	5.0
PG 42	30 - 38	42.0	± 1.5	42.0	± 1.5	5.0
PG 48	34 - 44	43.0	± 1.5	43.0	± 1.5	5.5

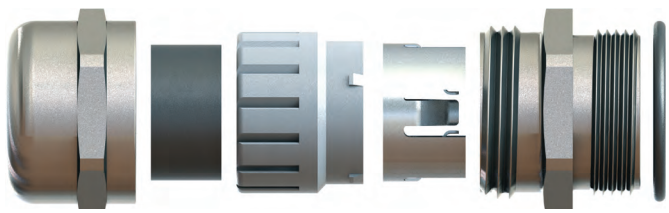
* When locknut is used, the screwing length must be at 1.5 times the locknut thickness.
**When a threaded enclosure is used, the wall thickness must be at least equal to the locknut thickness

EMC Grounding Gland Installation Guide

SAB's EMC grounding glands are designed to create a path to ground and remove EMI from the cable shield at the enclosure and eventually to earth ground. We offer two designs, CG EMC-2 and CG EMC-4. SAB's EMC glands work perfectly with VFD cables. CG EMC-2 is a more cost-effective solution for permanent installation. CG EMC-4 is designed to withstand high vibration applications and multiple reinstallations of the cable. The cable can be installed in either direction when using the EMC-4 style but must be installed from the dome end for the CG EMC-2 style.

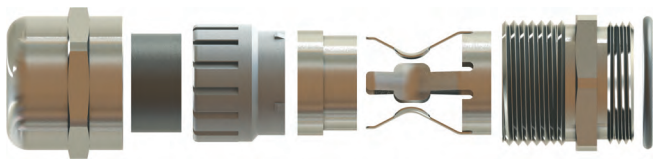
EMC-2





EMC-4

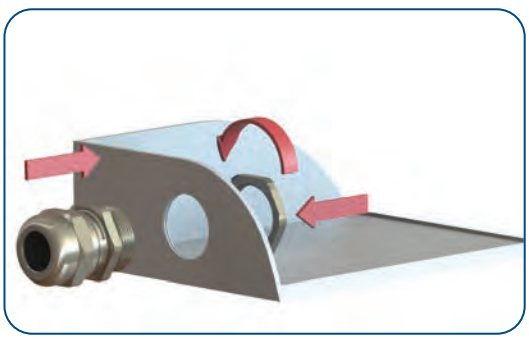




Steps Fora Installation

Step 1:

Install the EMC cable gland on the enclosure. Use our EMC locknut for optimal contact with the enclosure. If enclosure hole is threaded, refer to the Torque Value Tables for recommended tightening torques for cap, body, and locknut.

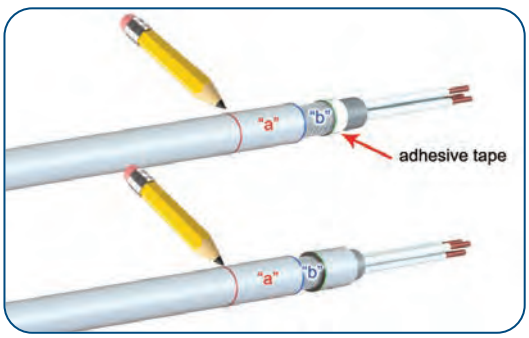


Step 2:

Prepare the cable shield for connection. Determine the spot where the cable will enter the enclosure and mark the jacket. From that first mark, measure out from the direction leaving the enclosure with "b" then "a" using the sizing chart on the next page.

Option 1: Remove the complete jacket and trim the braid beyond the connection to the gland. Use adhesive tape to secure the end of the shield to avoid fraying.

Option 2: Leave the jacket on the cable exposing only section "b", so contact is made with the shield. If the jacket moves during installation, gently move it back into position.

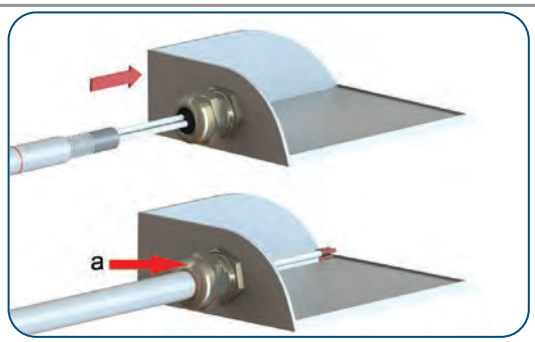


EMC Grounding Gland Installation Guide

Step 3:

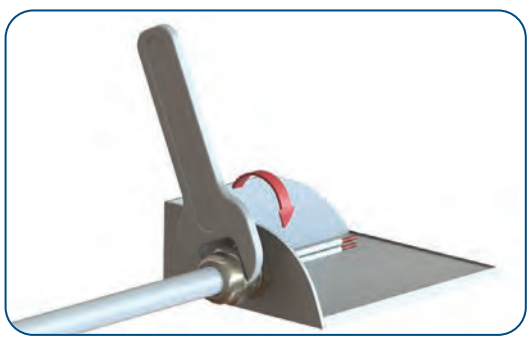
Insert cable through gland aligning mark “a” with top of gland. Make sure the gland’s grounding springs are in contact with the shield of the cable.

- For CG-EMC-2, do not try to rotate or pull out the cable.
- For CG-EMC-4, the cable can be moved to ensure best position



Step 4:

Tighten the cap. Refer to Torque Values Tables for proper tightening. Once the gland is secured, do not pull or rotate the cable because this could damage the cable.



CG EMC-2

Metric	PG	NPT	Marking “a”		Exposed Shield “b”	
			inch	mm	inch	mm
EM2-12	EP2-7	-	0.591	15.0	0.492	12.5
EM2-16	EP2-9	-	0.709	18.0	0.433	11.0
EM2-16C	EP2-11	EN2-3/8	0.748	19.0	0.512	13.0
EM2-20	EP2-13	EN2-1/2	0.728	18.5	0.492	12.5
EM2-25	EP2-16	-	0.807	20.5	0.531	13.5
EM2-25C, EM2-32	EP2-21	EN2-3/4	0.945	24.0	0.591	15.0
EM2-32C, EM2-40	EP2-29	EN2-1	1.142	29.0	0.650	16.5
EM2-40C, EM2-50	EM2-50	-	1.378	35.0	0.827	21.0
EM2-50C	EP2-42	-	1.260	32.0	0.906	23.0
EM2-63	EP2-48	-	1.339	34.0	1.280	32.5

CG EMC-4

Metric	PG	NPT	Marking “a”		Exposed Shield “b”	
			inch	mm	inch	mm
EM4-12	EP4-7	EN4-1/4	0.413	10.5	0.551	14.0
EM4-16	EP4-11	EN4-3/8	0.591	15.0	0.551	14.0
EM4-20	EP4-13	EN4-1/2	0.551	14.0	0.748	19.0
EM4-20C	EP4-16	EN4-1/2C	0.591	15.0	0.748	19.0
EM4-25	EP4-21	EN4-3/4	0.748	19.0	0.787	20.0
EM4-32	EP4-29	EN4-1	0.827	21.0	1.024	26.0
EM4-40	EP4-36	EN4-1 1/4	1.024	26.0	1.102	28.0
EM4-50	EP4-42	EN4-1 1/2	1.024	26.0	1.575	40.0
EM4-63	EP4-48	EN4-2	1.083	27.5	1.378	35.0
EM4-63C	-	-	1.220	31.0	1.378	35.0

VFD Termination Kit Instructions

1. Expose shield, minimally 1", at the enclosure entrance to secure EMC grounding gland

2. Secure EMC grounding gland with 360° connection to the cable shield

3. Strip jacket back minimally 6" for connection to the drive backplane

Enclosure Entrance

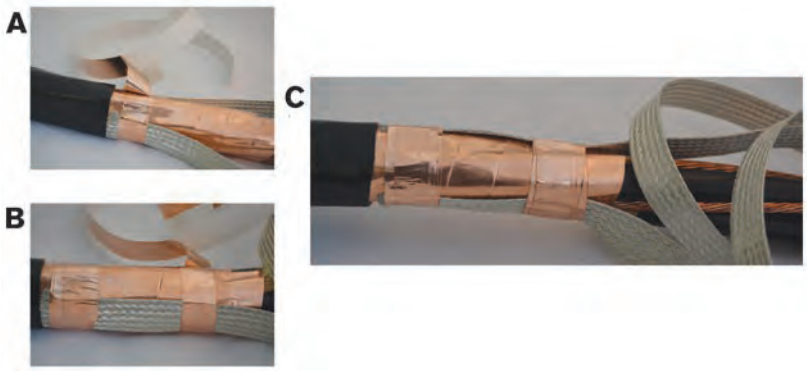
At the Drive Backplane

4. Prep the shield for grounding at the drive with minimally 3" exposed of the tinned copper tape shield for best performance and use the alcohol wipes to remove any excess residue on exposed shield

5. Fan both tinned copper braids provided at both ends of the braid

VFD Termination Kit Instructions

6. Using conductive copper tape, secure tinned copper braid along a minimum of 3" of copper shield on two sides of the cable

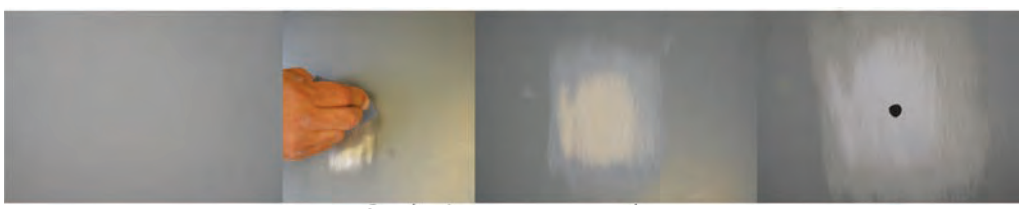


7. Using rubber slice tape, secure tinned copper braid for the full 3" along the copper tape shield

Enclosure Entrance

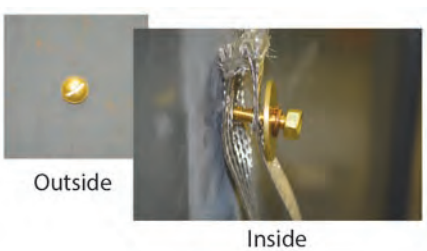
At the Drive Backplane

8. If panel is painted, prepare drive backplane using sand paper to expose the conductive metal surface

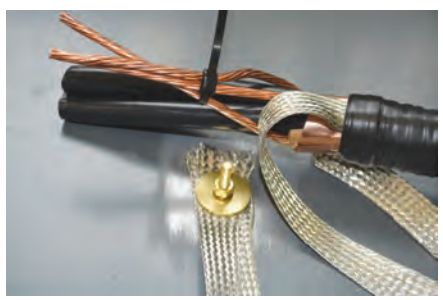


Painted backplane | Sand paint to expose metal | Drill hole

9. Using brass bolt, washers, locking washer, and nut, secure the other end of the tinned copper braid to the backplane. (Bolts are 1/4" - 20)



Tie wraps are included to use as needed; additional securement of the tinned copper braids or to bundle the 3 grounds together.



10. Repeat as needed on the motor end

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