CABLES & TEMPERATURE MEASUREMENT

FOR STEEL INDUSTRY

75 Years

SPECIAL CABLES

SAB North America

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

About Us

SAB North America is a focused supplier for the automation, aerospace, medical, high temperature, and robotics industries, providing cable solutions that meet, exceed, and set new standards in the flexible cable market. In addition to flexible cable products, we offer an extensive inventory of high-quality cable accessories including cord grips, grounding glands and other accessories that complement our flexible control and automation cables.

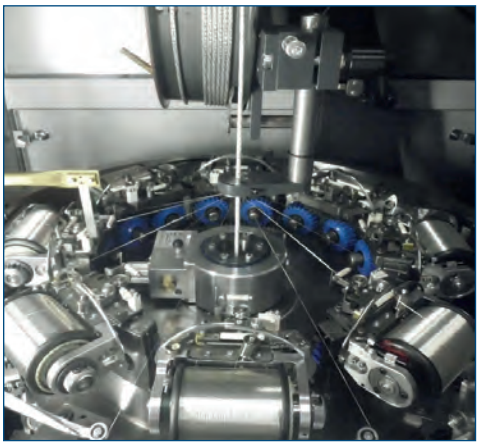
Whatever the need may be, look to SAB North America for Special Cables that can, for example, help minimize maintenance costs and increase productivity, reduce downtime, and solve specific problems. Here is a small sample of some of the challenges that Special Cables from SAB North America can help address:

- Hybrid designs for multiple functions
- Harsh environments
- Difficult applications
- Industry-specific requirements.

For application areas with very high temperatures, SAB has developed different heat-resistant cables and fire-resistant cables that can be optimized for use depending on the application. Temperature-resistant cables from SAB are often used in the steel industry, plastics processing, refrigeration, heating, and air conditioning technology, in the lamp and lighting industry or in sauna construction.

Depending on the application, you will find fire-resistant cables from SAB for fixed installation or for highly flexible, moving applications. By using heat-resistant materials such as glass silk, FEP, PFA, ETFE, Besilen® (silicone) and our halogen-free insulation and jacket material SABIX®, our cables can be used up to +400°C max.

Whether you're a valued distribution partner, an automation house, an integrator, or a contractor to the manufacturer, rest assured that our cables are reliable to maximize production efficiencies. SAB brings world class performance & 75 years of ingenuity to the table.



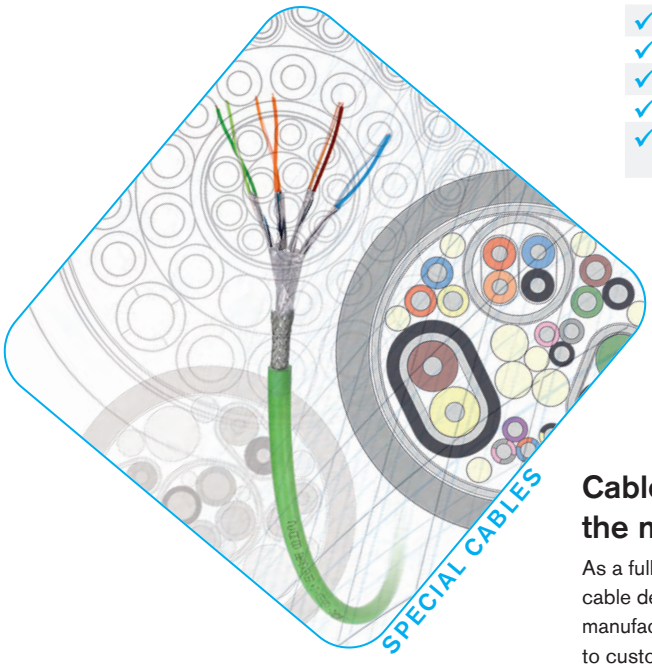
SAB Service Advantage...We make it Easy

- Engineering & technical assistance
- Cut to length with no cut charges
- Prepaid freight within US for orders over $2,500
- Specialty cable designs (1500 ft minimum)
- No minimum on orders from stock
- Free drop shipments (no surcharges)
- 24-hour shipments from stock
- Cord Grips for securing and grounding cables

Production possibilities

Flexible cables and wires “Made in Germany”

As a leading manufacturer we develop and produce cables for industrial purposes.
Our wide range of materials offer a lot of possibilities for your individual product requirement.
The following survey shows an extract of our production possibilities:



Conductor Materials:

- ✓ bare copper
- ✓ tinned copper
- ✓ silver plated copper
- ✓ nickel plated copper
- ✓ nickel
- ✓ nickel pure
- ✓ compensating cable alloys

Insulation and Jacketing Materials:

- ✓ PVC
- ✓ Polyethylene
- ✓ Polypropylene
- ✓ Polyurethane
- ✓ TPE
- ✓ SABIX® (zero halogen)
- ✓ Besilen® - Silicone
- ✓ FEP, ETFE, PFA, PTFE
- ✓ PI foil
- ✓ Fiberglass

Conductors:

- ✓ cross sections 0.055 - 300 mm²
- ✓ unshielded and shielded over 100 conductors

Temperature Ranges:

Thermoplastic Elastomers
- ✓ -50°C up to +145°C

SABIX®
- ✓ -50°C up to +220°C

Besilen® - Silicone
- ✓ -40°C up to +220°C

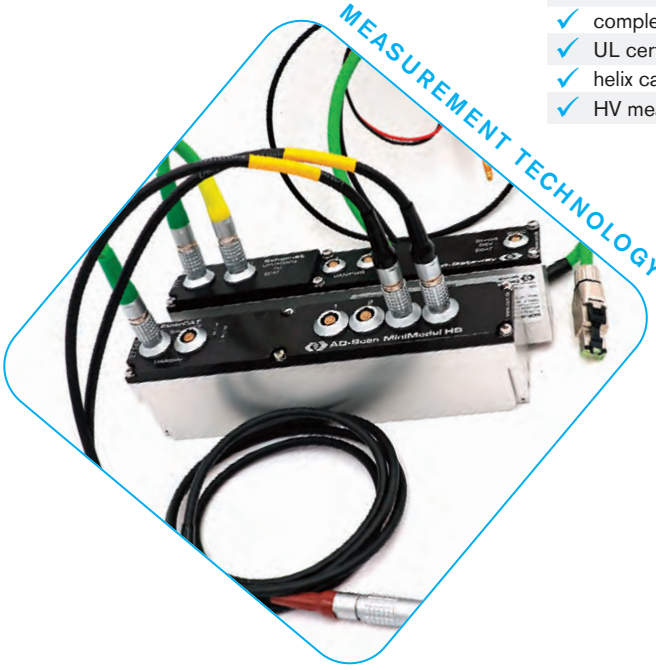
FEP, ETFE, PFA
- ✓ -90°C up to +260°C

Fiberglass
- ✓ up to +600°C

Cable assemblies directly from the manufacturer SAB:

As a full service partner, we are able to offer cable design and production as well as the manufacturing of cable assemblies according to customer´s request. Please trust on our experience for decades in the treatment of cables and connectors.

- ✓ cable assemblies according to customer´s demands
- ✓ complete cable assemblies
- ✓ UL certified assemblies
- ✓ helix cables
- ✓ HV measuring assemblies



Measuring technology for industrial applications

Manufacturer of temperature sensors for industrial applications with 75 years of experience!

- ✓ mineral insulated thermocouples
- ✓ mineral insulated resistance thermometers
- ✓ temperature sensors
- ✓ mobile high voltage measuring technology
- ✓ temperature sensors for vehicle testing

Content

Content

Applications for the Steel Industry

The manufacturing processes of the steel production have to be controlled optimally. For the different production steps in smelting works and rolling mills special cables for optimum energy supply and data transmission are used. Cable track cables drive conveyor belts for iron ore, carbon or waste products. At the furnaces and between the different rollers special temperature resistant cables are of greatest importance.

An exact and reliable temperature measurement during the complete production process is of equal importance. The thermocouples installed at the different points of the casting implements transmit the measuring data via especially harnessed cables to a center from which the complete production process is controlled.

Coke Oven
- Reeling Cables
- ETFE, FEP, PFA Cables

Blast Furnace
- Besilen® (Silicone) Cables
- ETFE, FEP, PFA Cables
- Compensating and Extension Cables
- Cable Track Cables
- Festoon Cables

Direct Reduction
- Cable Track Cables

Electric Arc Furnace
- Besilen® (Silicone) Cables
- Control and Connection Cables

Basic Oxygen Furnace
- Reeling Cables
- Besilen® (Silicone) Cables
- Control and Connection Cables

Steel Refining Facility
- Control and Connection Cables
- Cable Track Cables

Pig Iron Casting
- Cable Track Cables

Continuous Casting
- Control and Connection Cables
- Harnessed cables
- Mineral insulated thermocouples
- Festoon Cables

Hot Rolling Mill
- Cable Track Cables
- Besilen® (Silicone) Cables
- Reeling Cables

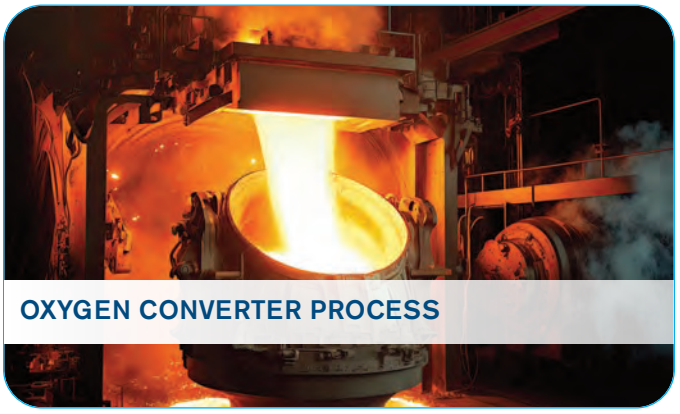
Cold Rolling Mill
- Compensating and Extension Cables
- Besilen® (Silicone) Cables
- Reeling Cables

Transport and Crane Systems / Conveyor Belts
- Control and Connection Cables
- Cable Track Cables
- Festoon Cables
- Smeltery Cables

COKE FURNACE

BLAST FURNACE

ARC FURNACE



OXYGEN CONVERTER PROCESS

DUMPING STEEL SLAG

BUCKET TRANSPORTATION OVERHEAD CRANE

PRODUCTION PROCESS IN ROLLING MILL

STEEL ROLLING PRESS

HOT STEEL ON CONVEYOR

HOT STEEL ROLL

WASHING PROCESS FOR STEEL WIRE RODS

GALVANIZED STEEL SHEET ON CONVEYOR

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
Corrosiveness of conflagration gases:	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

CE RoHS

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
Corrosiveness of conflagration gases:	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

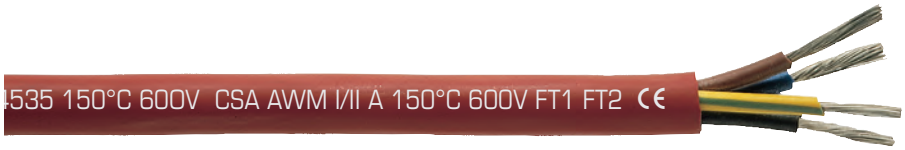
item no.	mm²	AWG		nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
▶ 1230050	0.5	20	(≈ 16/32)	0.094	2.4	7
▶ 1230070	0.75	19	(≈ 23/32)	0.106	2.7	11
▶ 1230100	1.00	18	(≈ 30/32)	0.110	2.8	12
▶ 1230150	1.50	16	(≈ 27-29/30)	0.126	3.2	15
▶ 1230250	2.50	14	(≈ 46/30)	0.154	3.9	24
▶ 1230400	4.00	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

SC 600 HDTR

Besilen® (silicone) insulated conductors with silicone outer jacket

also possible with extremely notch resistant 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, see below 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:	4 x O.D.	
free movement:	6 x O.D.	
Radiation resistance:	2 x 10^7 cJ/kg	
Temperature range:	**DIN VDE**	**UL/CSA:**
static:	-40/+180°C +200°C (2000h)	up to +150°C Style 4535
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, CSA FT1, FT2	
Corrosiveness of conflagration gases:	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

HD 308 color code:
2c: blue - brown
3c: green/yellow - blue - brown
4c: green/yellow - brown - black - gray
5c: green/yellow - blue - brown - black - gray

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

also possible with extremely notch resistant jacket

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, see below 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	
Corrosiveness of conflagration gases:	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

HD 308 color code:
2c: blue - brown; 3c: green/yellow - blue - brown; 4c: green/yellow - brown - black - gray; 5c: green/yellow - blue - brown - black - gray

Temperature range up to +200°C Style 4511 with nickel or silver plated copper strands.

BiHF/Cu/Bi-J

Shielded Besilen® (silicone) insulated conductors with silicone outer jacket

also possible with extremely notch resistant jacket

+180°C

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, see below 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/shield: 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
Corrosiveness of conflagration gases:	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

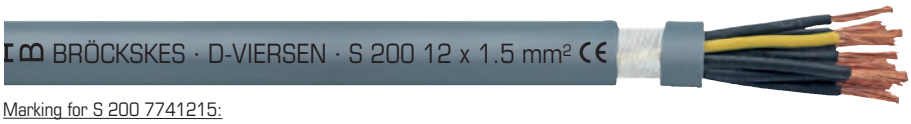
Other dimensions and colors are available on request

HD 308 color code:

2c: blue - brown; 3c: green/yellow - blue - brown; 4c: green/yellow - brown - black - gray; 5c: green/yellow - blue - brown - black - gray

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 flexible:*	 7.5 x O.D.
Radiation resistance:	1 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 + 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

continued on next page

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**

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 flexible:*	7.5 x O.D.
Radiation resistance:	1 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 + 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

continued on next page

S 200 C

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

CE EAC RoHS

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

S 180 HT

Continuous flex control cable with Besilen® (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:* *flexible :* *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 shielding control cable with Besilen® (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
Shield:	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/shield: 4000 V
Min. bending radius: *continuously flexible:*	15 x O.D.
Temperature range: *static:* *flexible :* *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	29.0	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

DR 721 P

Reeling cable for higher mechanical stress, 0.6/1 kV

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 below 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 shield:	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.

HD 308 color code:
2c: blue - brown, 3c: green/yellow - blue - brown, 4c: green/yellow - brown - black - gray , 5c: green/yellow - blue - brown - black - gray

DR 720 P Highflex

PUR reeling cable, 0.6/1 kV

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 below 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 shield:	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.

HD 308 color code:
2c: blue - brown, 3c: green/yellow - blue - brown, 4c: green/yellow - brown - black - gray , 5c: green/yellow - blue - brown - black - gray

Profibus-DP Cables acc. to IEC 61158-2

S PB 634 HT
S PB 634 HT Hybrid

High temperature, Profibus-DP continuous flex cable
High temperature Profibus-DP continuous flex cable with supply conductors

+180°C

SAB Bus

CE EAC RoHS

Marking for S PB 634 HT 36341000:
SAB BRÖCKSKES · D-VIERSEN · S PB 634 HT 2x0.34mm² CE

Application: For use in cable tracks with extreme ambient temperatures.

Construction:	S PB 634 HT	S PB 634 HT Hybrid
Dimension:	2 x 0.34 mm²	2 x 0.34 mm² + supply conductors
Conductor:	tinned copper strands, extra fine wires	tinned copper strands, extra fine wires
Conductor insulation:	PFA	PFA
Color code:	red, green	0.34 mm² red, green supply conductors acc. to HD 308 (see below)
Stranding:	0.34 mm² twisted to pairs	0.34 mm² twisted to pairs
Wrapping:	PTFE foil	PTFE foil
Inner jacket:	FEP	special Besilen®
Shielding 0.34 mm²:	tinned copper braiding	tinned copper braiding
Inner jacket:	---	FEP
Stranding:	---	element 0.34 mm² together with supply conductors
Wrapping:	---	PTFE foil
Outer jacket:	special Besilen®	special Besilen®
Jacket color:	blue lilac (similar RAL 4005)	blue lilac (similar RAL 4005)

Technical data:	S PB 634 HT	S PB 634 HT Hybrid
Item number:	36341000	see table below
Nominal voltage:	---	Uo/U 300/500 V (supply conductors)
Peak operating voltage:	max. 350 V (0.34 mm²)	max. 350 V (0.34 mm²)
Testing voltage conductor/conductor: conductor/shielding:	 1500 V 1200 V	0.34 mm² / supply conductors 1500 V / 2000 V 1200 V / 2000 V
Temperature range static: flexible: short-term use:	 5 x O.D. 10 x O.D. 15 x O.D.	 5 x O.D. 10 x O.D. 15 x O.D.
Min. bending radius fixed installation: free movement: continuously flexible:	 - 40°C / + 180°C - 25°C / + 180°C + 250°C	 - 40°C / + 180°C - 25°C / + 180°C + 250°C
Characteristic impedance PB element (3-20 MHz):	150 Ω ± 10%	150 Ω ± 10%
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2	
Flexibility:	very good	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union	acc. to RoHS directive of the European Union

item no.	type	AWG	outer-ø inch	outer-ø mm	cable weight ≈lbs/mft
▶ 36341000	S PB 634 HT	22 AWG/2c	0.370	9.4	81
▶ 36341307	S PB 634 HT Hybrid	22 AWG/2c + 19 AWG/3c	0.472	12.0	128
▶ 36341407	S PB 634 HT Hybrid	22 AWG/2c + 19 AWG/4c	0.472	12.0	128
▶ 36341510	S PB 634 HT Hybrid	22 AWG/2c + 18 AWG/5c	0.480	12.2	154
▶ 36341315	S PB 634 HT Hybrid	22 AWG/2c + 16 AWG/3c	0.496	12.6	144
▶ 36341415	S PB 634 HT Hybrid	22 AWG/2c + 16 AWG/4c	0.496	12.6	158

Outstanding features:

- **extreme temperature resistance**
- **high notch resistance**
- **very good flexibility**

HD 308 color code:
2c: blue - brown; 3c: green/yellow - blue - brown; 4c: green/yellow - brown - black - gray; 5c: green/yellow - blue - brown - black - gray

CATLine CAT 6A HT

Gigabit Ethernet cable – high temperature resistant

+180°C

SAB CATLine

Marking for CATLine CAT 6A HT 16314631:
SAB BRÖCKSKES · D-VIERSEN · CATLine Cat.6A HT 4x2x26AWG 16314631 AWM Style 21618 150°C 600V

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/shield: 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
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	type	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

SPECIAL CABLES SAB North America

FEP and PFA insulated stranded hook-up wire

Li6Ybl, Li6Yvz, and LiPFAvn with extended temperature range

375 V

max. +250°C

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:* *short-term 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

900 V

max. +250°C

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:* *short-term 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

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

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 38010322

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 38010322

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 below
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:* *short-term 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

DIN 47100 color code:
#2- brown, #3- green, #4- yellow, #5- gray, #6- pink, #7- blue, #8- red, #9- black, #10- violet, #11- gray-pink, #12- red-blue

Possible on request:

- **ETFE or PFA insulated strands**

TD 833 CF

FEP data cable with extended temperature range and overall copper shielding

+180°C

Marking for TD 833 CF 38330320:
SAB BRÖCKSKES · D-VIERSEN · TD 833 CF AWG 20/3c AWM Style 21618 I/II A/B 150°C 600V FT1 FT2 38330320

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 below
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/shield: 2000 V
Min. bending radius:	7.5 x O.D.
Radiation resistance:	1 x 10^7 cJ/kg
Temperature range: *static:* *flexible:* *short-term 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

DIN 47100 color code:
#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,

Possible on request:

- **ETFE or PFA insulated strands**

TD 838 CF TP

FEP data cable, twisted pairs with extended temperature range and overall copper shielding

+180°C

)pr c UL us AWM Style 21618 I/II A/B 150°C 600V FT1 FT2 38380326 CE

Marking for TD 838 CF TP 38380326:
SAB BRÖCKSKES · D-VIERSEN · TD 838 CF TP AWG 26/3pr c UL us AWM Style 21618 I/II A/B 150°C 600V FT1 FT2 38380326 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 below
Stranding:	conductors twisted to pairs, pairs together in specially adjusted layering
Wrapping:	foil
Shield:	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/shield: 2000 V
Min. bending radius:	7.5 x O.D.
Radiation resistance:	1 x 10^7 cJ/kg
Temperature range: *static:* *flexible:* *short-term 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

DIN 47100 color code:
#2- green/yellow, #3- gray/pink, #4- blue/red, #5- black/purple, #6- gray-pink/red-blue, #7- white-green/brown-green

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 38660415

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, see below 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

HD 308 color code:
2c: blue - brown
3c: green/yellow - blue - brown
4c: green/yellow - brown - black - gray
5c: green/yellow - blue - brown - black - gray

Possible on request:

- **ETFE or PFA insulated strands**

TA 867 CF

FEP connection cable with extended temperature range and overall copper shielding

+180°C

Marking for TA 867 CF 38670415:
SAB BRÖCKSKES · D-VIERSEN · TA 867 CF AWG 16/4c AWM Style 21618 I/II A/B 150°C 600V FT1 FT2 38670415

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, see below 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
Shield:	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/shield: 2000 V
Min. bending radius:	7.5 x O.D.
Radiation resistance:	1 x 10^7 cJ/kg
Temperature range:	**DIN VDE** **UL/cUL:** up to +150°C *static:* -90/+180°C *flexible:* -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

HD 308 color code:
2c: blue - brown
3c: green/yellow - blue - brown
4c: green/yellow - brown - black - gray
5c: green/yellow - blue - brown - black - gray

Possible on request:

- **ETFE or PFA insulated strands**

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

FEP insulated cables

A 18 L · A 18-022 L · A 19 L · A 19-022 L with overall copper shield

RoHS

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

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
Corrosiveness of conflagration gases:	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	
Corrosiveness of conflagration gases:	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

Special single conductor

Glass fiber insulated strands with excellent temperature resistance

excellent temperature resistance

+400°C

Application: e.g. in metallurgy and rolling mill technology.

Construction:

Conductor:	nickel-plated copper strands
Wrapping:	multiple wrapping with mica tape
Braiding:	glass fiber
Impregnation:	PTFE impregnating lacquer
Identification:	red tracer thread in external shielding

Outstanding features:

- **excellent heat resistance**
- **flame resistant**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	2200 V
Min. bending radius:	5 x O.D.
Temperature range	
static:	max. +400°C
flexible:	max. +400°C
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

item no.	AWG	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 32869035	350 MCM/1c	0.933	23.7	1246

Other dimensions and colors are possible on request.

Single conductor in other dimensions on request

Special connection conductor

Connection cable with excellent temperature resistance

excellent temperature resistance

+400°C

CE EAC RoHS

Application: e.g. in metallurgy and rolling mill technology.

Construction:

Conductor:	nickel-plated copper strands
Insulation:	glass fiber
Impregnation:	PU-lacquer
Color code:	brown, black, gray, green-yellow tracer in glass fiber braiding
Stranding:	conductors together
Braiding:	glass fiber
Armoring:	stainless steel wire armoring (VA)

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	2500 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Temperature range *static:* *flexible:*	 max. +400°C max. +400°C
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

Outstanding features:

- **halogen-free**
- **excellent heat resistance**
- **flame resistant**

item no.	no. of conductors incl. ground	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► **14 AWG ▪ 2.50 mm²**				
32869066	3	0.374	9.5	128
32869039	4	0.409	10.4	161
► **12 AWG ▪ 4.00 mm²**				
32869040	4	0.504	12.8	234

Other dimensions and colors are possible on request.

Other dimensions on request

Special connection cable

Silicone cable with fiber-glass braiding

+180°C

RoHS

Application: For the wiring of motors /generators / transformers. Suitable for the potting with impregnating materials for example with epoxy resin. Residues can be easily removed from the silicone impregnated surfaces.

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
Wrapping:	non-woven tape
Insulation:	special silicone
Color code *450/750 V:* *3.8/6.6 kV:* *8.0/13.8 kV:*	 white gray black
Braiding:	fiber-glass
Impregnation:	special silicone

Outstanding features:

- **halogen-free**
- **flexible at low temperatures**
- **heat resistant**
- **good mechanical characteristics**
- **fiber-glass braiding up to +400°C**

Technical data:

Nominal voltage:	Uo/U 450/750 V Uo/U 3.8/6.6 V Uo/U 8.0/13.8 V
Testing voltage:	450/750 V = 2500 V 3.8/6.6 kV = 15000 V 8.0/13.8 kV = 30000 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 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
Corrosiveness of conflagration gases:	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

450/750 V

item no.	AWG	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 0123....	10AWG/1c	0.209	5.3	48
► 0123....	8AWG/1c	0.272	6.9	84
► 0123.....	6AWG/1c	0.311	7.9	120
► 0123....	4AWG/1c	0.398	10.1	187
► 0123....	2AWG/1c	0.453	11.5	256
► 0123....	1AWG/1c	0.516	13.1	368
► 0123....	2/0AWG/1c	0.606	15.4	485
► 0123....	3/0AWG/1c	0.720	18.3	675
► 0123....	4/0AWG/1c	0.795	20.2	820

Other dimensions and colors are possible on request.

3.8/6.6 kV

item no.	AWG	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 0123....	6AWG/1c	0.406	10.3	151
► 0123....	4AWG/1c	0.476	12.1	218
► 0123.....	2AWG/1c	0.531	13.5	292
► 0123....	1AWG/1c	0.594	15.1	400
► 0123....	2/0AWG/1c	0.685	17.4	536
► 0123....	3/0AWG/1c	0.768	19.5	693
► 0123....	4/0AWG/1c	0.843	21.4	840

Other dimensions and colors are possible on request.

8.0/13.8 kV

item no.	AWG	nominal outer-ø inch	nominal outer-ø mm	cable weight ≈lbs/mft
► 0123....	8AWG/1c	0.469	11.9	151
► 0123....	6AWG/1c	0.508	12.9	192
► 0123.....	4AWG/1c	0.579	14.7	259
► 0123....	1AWG/1c	0.681	17.3	445
► 0123....	2/0AWG/1c	0.772	19.6	585
► 0123....	3/0AWG/1c	0.854	21.7	745

Other dimensions and colors are possible on request.

Part #
on request

Festoon Cable

Besilen® (silicone) insulated connection cable with glass fiber braiding, inner jacket and overall copper shielding

+180°C

Application: For festoon suspension e.g. in crane systems with very high ambient temperatures.

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, see below from 6 conductors black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, from 3 conductors a green-yellow earth wire
Wrapping:	conductors together with mica tape
Braiding:	conductors together with glass fiber
Stranding:	in layers
Braiding:	glass fiber
Wrapping:	mica tape
Braiding:	glass fiber
Inner jacket:	Besilen® EI2 acc. to EN 50363-1 + VDE 0207-363-1
Jacket color:	reddish brown (similar RAL 3016)
Shielding:	tinned copper braiding

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 2000 V conductor/shielding: 2000 V
Min. bending radius:	15 x O.D.
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range *static:* *flexible:*	 -40/+180°C -25/+180°C
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

Outstanding features:

- **halogen-free**
- **flexible at low temperatures**
- **heat resistant**
- **good EMC characteristic**

HD 308 color code:
2c: blue - brown
3c: green/yellow - blue - brown
4c: green/yellow - brown - black - gray
5c: green/yellow - blue - brown - black - gray

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**				
7479011	4	0.520	13.2	171
7479017	5	0.579	14.7	191
7479018	8	0.669	17.0	277
► **16 AWG (≈ 27-29/30) ▪ 1.50 mm²**				
7479002	3	0.512	13.0	163
7479012	4	0.567	14.4	191
7479010	5	0.622	15.8	226
7479005	8	0.772	19.6	366
7479006	12	0.858	21.8	437
7479008	24	1.181	30.0	804
7479016	25	1.181	30.0	760
► **14 AWG ▪ 2.50 mm²**				
7479003	3	0.579	14.7	203
7479004	4	0.622	15.8	245
7479015	5	0.677	17.2	290
► **12 AWG ▪ 4.00 mm²**				
7479007	4	0.681	17.3	298
► **10 AWG ▪ 6.00 mm²**				
7479014	4	0.594	15.1	247

Other dimensions and colors are possible on request.

Smeltery Cable

Besilen® (silicone) insulated connection cable with glass fiber braiding and overall copper shielding

+180°C

Application: Connecting cable in steel processing industry.

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, see below from 6 conductors black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, from 3 conductors a green-yellow earth wire
Wrapping:	conductors together with mica tape
Braiding:	glass fiber
Stranding:	in layers
Braiding:	glass fiber
Wrapping:	mica tape
Braiding:	glass fiber
Shielding:	tinned copper braiding

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	conductor/conductor: 2000 V conductor/shielding: 2000 V
Min. bending radius:	15 x O.D.
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range *static:* *flexible:*	 -40/+180°C -25/+180°C
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

Outstanding features:

- **halogen-free**
- **flexible at low temperatures**
- **heat resistant**
- **good EMC characteristic**

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ 18 AWG ▪ 1.00 mm²				
7470210	2	0.362	9.2	73
7470310	3	0.382	9.7	97
7470410	4	0.417	10.6	116
7470510	5	0.461	11.7	141
7470710	7	0.500	12.7	172
7470810	8	0.583	14.8	225
7471210	12	0.657	16.7	264
▶ 16 AWG ▪ 1.50 mm²				
7470315	3	0.425	10.8	116
7470415	4	0.465	11.8	140
7470515	5	0.512	13.0	176
7470815	8	0.654	16.6	279
7471215	12	0.740	18.8	335
7471915	19	0.874	22.2	476
7472415	24	1.031	26.2	594

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
▶ 14 AWG ▪ 2.50 mm²				
7470325	3	0.476	12.1	143
7470425	4	0.520	13.2	179
7470525	5	0.575	14.6	216
▶ 12 AWG ▪ 4.00 mm²				
7470440	4	0.579	14.7	235
▶ 8 AWG ▪ 10 mm²				
7470461	4	0.776	19.7	462
▶ 6 AWG ▪ 16 mm²				
7470462	4	0.894	22.7	641
▶ 4 AWG ▪ 25 mm²				
7470463	4	1.071	27.2	895
▶ 2 AWG ▪ 35 mm²				
7470464	4	1.201	30.5	1219

HD 308 color code:
2c: blue - brown; 3c: green/yellow - blue - brown; 4c: green/yellow - brown - black - gray; 5c: green/yellow - blue - brown - black - gray

In Universal Use

Mineral insulated thermocouple with plug / plunge-in mineral insulated thermocouple with plug

mineral insulated thermocouple with plug

SAB Heat 50W/m

This temperature probe is versatile due to its design and high temperature resistance. With its slim design and flexible jacket material, the probe can even be installed in hardly reachable positions. Easy installation is ensured in conjunction with a clamping screw connection.

plunge-in mineral insulated thermocouple with plug

Especially appropriate to collect temperatures in test vehicles in the vehicle interior. By slight pressure, the plunge-in thermocouple can be placed in the seats or neck-rests to collect the temperature.

Thermocouple:

- ❑ 1 x type J
- ❑ 1 x type K
- ❑ 2 x type J } from Ø 1.5 mm
- ❑ 2 x type K
- ❑ other thermocouples _____

Jacket-Ø:

- ❑ 0.25 mm
- ❑ 0.50 mm
- ❑ 0.64 mm
- ❑ 0.75 mm
- ❑ 1.00 mm
- ❑ 1.50 mm
- ❑ 2.00 mm
- ❑ 3.00 mm
- ❑ 4.50 mm
- ❑ 6.00 mm
- ❑ other jacket-Ø _____

Jacket material:

- ❑ 1.4541 (+800°C)
- ❑ 2.4816 (+1100°C)
- ❑ other jacket materials _____

Connection ends:

- ❑ miniature thermoplug ❑ miniature socket
- ❑ standard plug ❑ standard socket
- ❑ free ends _____ mm
- ❑ other connection ends

Type of measuring tip:

- ❑ class 1, form A, insulated measuring tip
- ❑ class 1, form B, welded measuring tip

Nominal length: _____ mm

- ❑ with batch certificate and identification
- ❑ Dakks calibration on request
- ❑ accessories (fix): _____

CONFIGURATION EXAMPLES

item no.	type	ø mm	nominal length mm	material	connection ends	feature
T302-051-218	K	0.50	100	2.4816	miniature thermoplug	without tip
T302-046-275	K	1.00	100	2.4816	miniature thermoplug	without tip
T302-043-185	K	1.50	100	1.4541	miniature thermoplug	with tip

In Universal Use

Mineral insulated resistance thermometer with Lemo connection end

This temperature probe is versatile due to its design and high temperature resistance. With its slim design and flexible jacket material, the probe can even be installed in hard to reach positions. Easy installation is ensured in conjunction with a clamping screw connection.

RTD:

- ❑ 1 x PT100 class B
- ❑ 1 x PT100 class A
- ❑ 2 x PT100 class B
- ❑ 2 x PT100 class A

Connection types of inner wire:

- ❑ 2-wire circuit
- ❑ 3-wire circuit
- ❑ 4-wire circuit

Jacket-Ø:

- ❑ 1.5 mm ❑ 3.0 mm ❑ 4.5 mm
- ❑ other jacket-Ø _____

Connection element:

- ❑ socket size 0 ❑ plug size 0
- ❑ socket size 1 ❑ plug size 1
- ❑ socket size 2 ❑ plug size 2
- ❑ other connection elements _____

Accessories (fix):

- ❑ without socket/plug housing
- ❑ with socket/plug housing
- ❑ other accessories _____

Measuring ranges:

- ❑ -50 up to +400°
- ❑ -50 up to +600°
- ❑ other measuring ranges

Nominal length: _____ mm

- ❑ with batch certificate and identification
- ❑ Dakks calibration on request
- ❑ accessories (fix): _____

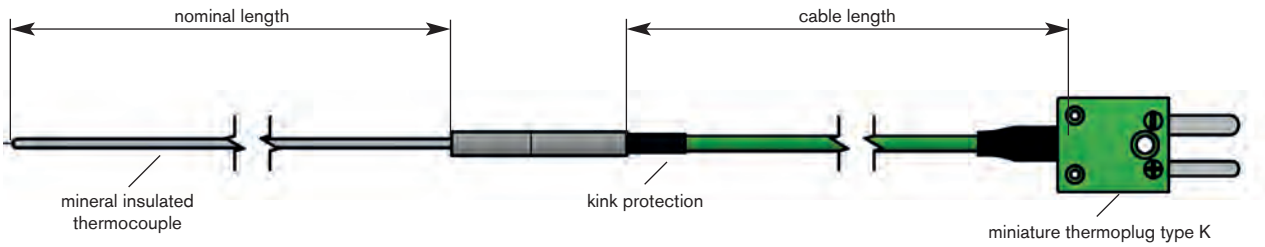
RTD:	PT100 acc. to DIN EN 60751
jacket material:	mat. no. 1.4541
measuring range:	-50 up to +400°C and -50 up to +600°C
plug/ socket size:	size 0 with jacket-Ø 1.5 mm size 1 with jacket-Ø 1.5 mm – 4.5 mm size 2 with jacket-Ø 6.00 mm

CONFIGURATION EXAMPLES

item no.	RTD	Ø mm	nominal length mm	connection types	connection ends
T603-046-327	1 x PT100 class A	1.5	100	4-wire circuit	Lemo plug size 0, 4 pole
T603-040-028	1 x PT100 class A	3.0	100	4-wire circuit	Lemo plug size 1, 4 pole

In Universal Use

Mineral insulated thermocouple with cable



This temperature probe is versatile due to its design and high temperature resistance. With its slim design and flexible jacket material, the probe can even be installed in hard to reach positions. Easy installation is ensured in conjunction with a clamping screw connection.

Thermocouple:

- ❑ 1 x type J
- ❑ 1 x type K
- ❑ 2 x type J } from Ø 1.5 mm
- ❑ 2 x type K
- ❑ other thermocouples _____

Jacket-Ø:

- ❑ 0.25 mm
- ❑ 0.50 mm
- ❑ 1.00 mm
- ❑ 1.50 mm
- ❑ 2.00 mm
- ❑ 3.00 mm
- ❑ 4.50 mm
- ❑ 6.00 mm
- ❑ other jacket-Ø _____

Jacket material:

- ❑ 1.4541 (+800°C)
- ❑ 2.4816 (+1100°C)
- ❑ other jacket materials _____

Type of measuring tip:

- ❑ class 1, form A, insulated measuring tip
- ❑ class 1, form B, welded measuring tip

Nominal length: _____ mm

- ❑ with batch certificate and identification
- ❑ Dakks calibration on request
- ❑ accessories (fix): _____

Type:

- ❑ with kink protection
- ❑ without kink protection

Connection cable:

- ❑ Thermocouple extension cable 2 x 0.22 mm² (FEP / C / FEP)
- ❑ Thermocouple extension cable 2 x 0.22 mm² (FEP / FEP)
- ❑ other connection cables (see page 39)

Connection cable length:

- ❑ 0.50 m
- ❑ 1.00 m
- ❑ 1.50 m
- ❑ 2.00 m
- ❑ 3.00 m
- ❑ 5.00 m
- ❑ 10.0 m
- ❑ other length _____ m

Connection ends:

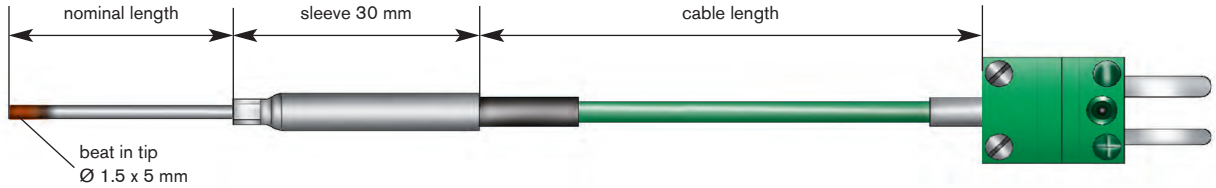
- ❑ miniature thermoplug
- ❑ miniature socket
- ❑ standard plug
- ❑ standard socket
- ❑ free ends _____ mm
- ❑ other connection ends

CONFIGURATION EXAMPLES

item no.	type	ø mm	nominal length mm	material	cable	cable length mm	connection ends
T207-058-738	K	0.25	100	1.4541	2 x 0.22 mm² FEP/C/FEP	1000	miniature thermoplug
T207-058-674	K	0.50	300	1.4541	2 x 0.22 mm² FEP/C/FEP	3000	miniature thermoplug
T207-053-625	K	0.50	150	2.4816	2 x 0.22 mm² FEP/C/FEP	1000	miniature thermoplug
T207-059-165	K	0.64	200	2.4816	2 x 0.22 mm² FEP/C/FEP	3000	miniature thermoplug
T207-035-153	K	1.00	100	2.4816	2 x 0.22 mm² FEP/C/FEP	2000	miniature thermoplug
T207-055-557	K	1.00	500	2.4816	2 x 0.22 mm² FEP/C/FEP	1000	miniature thermoplug
T207-058-740	K	1.50 (double wall thickness)	150	2.4816	2 x 0.22 mm² FEP/C/FEP	3000	Lemo plug size 0, 2 pole
T207-037-493	K	1.50	150	2.4816	2 x 0.22 mm² FEP/C/FEP	1000	miniature thermoplug
T207-056-787	K	3.00	150	2.4816	2 x 0.22 mm² FEP/C/FEP	2000	miniature thermoplug
T207-056-830	K	3.00 (double wall thickness)	150	2.4816	2 x 0.22 mm² FEP/C/FEP	250	miniature thermoplug

In Universal Use

Beat in mineral insulated thermocouple with cable



■ **This item is used, for example in automobile industry and is particularly appropriate for surface temperature measurement. With the help of an appropriate groove, the element can be fixed by tapping into place. The measuring point is situated behind the copper tip and can easily be identified by the color difference.**

Thermocouple:

- ❑ **1 x type J**
- ❑ **1 x type K**
- ❑ **other thermocouples** _____

Nominal length: _____ mm

Type:

- ❑ **with kink protection** (shrinkable sleeve)
- ❑ **without kink protection** (shrinkable sleeve)

Connection cable:

- ❑ **Thermocouple extension cable 2 x 0.22 mm² (FEP / C / FEP)**
- ❑ **Thermocouple extension cable 2 x 0.22 mm² (FEP / FEP)**
- ❑ **other connection cables** (see page 38)

Connection cable length:

- ❑ **0.50 m**
- ❑ **1.00 m**
- ❑ **1.50 m**
- ❑ **2.00 m**
- ❑ **3.00 m**
- ❑ **5.00 m**
- ❑ **10.00 m**
- ❑ **other length** _____ **m**

Connection ends:

- ❑ **miniature thermoplug** ❑ **miniature socket**
- ❑ **standard plug** ❑ **standard socket**
- ❑ **free ends** _____ **mm**
- ❑ **other connection ends**

❑ **with batch certificate and identification**

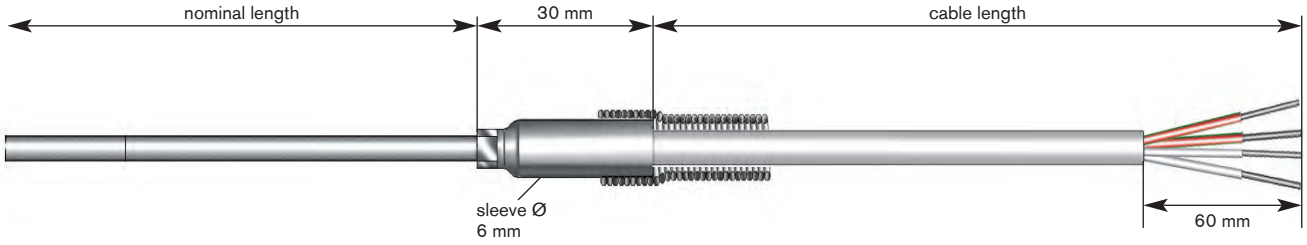
general information

type J	**class 1** -40°C / +750°C
type K	**class 1** -40°C / +1000°C
limit deviation	class 1
material	**1.4541** +800°C
material	**2.4816** +1100°C

Please note:
the temperature stability of the sensor is determined by the weakest parameters

In Universal Use

Mineral insulated thermocouple with cable



This temperature probe is versatile due to its design and high temperature resistance. With its slim design and flexible jacket material, the probe can even be installed in hard to reach positions. Easy installation is ensured in conjunction with a clamping screw connection.

general information

With a 2-wire circuit only one class accuracy class B accuracy can be confirmed.

material 1.4541: +800°C

Please note:
that the temperature stability of the sensor is determined by the weakest parameters.

RTD:
- ❑ 1 x PT100
- ❑ 2 x PT100

Limiting deviation:
- ❑ class A ❑ -30°C/+300°C ❑ -100°C/+450°C
- ❑ class B ❑ -50°C/+500°C ❑ -196°C/+600°C

Connection types of inner wire:
- ❑ 2-wire circuit
- ❑ 3-wire circuit
- ❑ 4-wire circuit

Jacket-Ø:
- ❑ 1.5 mm ❑ 3.0 mm ❑ 4.5 mm
- ❑ other jacket-Ø _____

Nominal length: _____ mm

available on request:
- ▸ class AA
- ▸ class DIN 1/10

Type:
- ❑ with kink protection
- ❑ without kink protection

Connection cable:
- ❑ RTD cable (FEP / FEP)
- ❑ other connection cables (see page 40)

Connection cable length:
- ❑ 0.50 m ❑ 1.00 m
- ❑ 1.50 m ❑ 2.00 m
- ❑ 3.00 m ❑ 5.00 m
- ❑ 10.0 m ❑ other length _____ m

Connection ends:
- ❑ bare ends
- ❑ end sleeves
- ❑ cable lugs M4
- ❑ tinned
- ❑ other cable ends _____

- ❑ with batch certificate and identification
- ❑ Dakks calibration on request
- ❑ accessories (fix): _____

CONFIGURATION EXAMPLES

item no.	RTD	ø mm	nominal length mm	connection types	cable	cable length mm	connection ends
T507-059-257	1 x PT100	1.5	100	4-wire circuit	FEP/FEP	1000	Lemo FGA.0B.306
T505-053-490	1 x PT100	1.5	100	4-wire circuit	FEP/FEP	1000	bare ends

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July 2023