

Cables for Building and Utility Vehicles



www.sab-worldwide.com



The Company



DIN EN ISO 9001

More than 60 years of experience in temperature measurement and control technique as well as in cable production have made a one man business a company with nearly 500 staff members. Our strength is not only the production of standard products but also the development and manufacturing of special products acc. to customers' specifications. Every year we manufacture more than 1500 special products on our customer's request. Every single product is a challenge for our technical team.

We at SAB Bröckskes see ourselves as manufacturer and service provider - in the sense of real partnership and customer oriented work. The quality of our products is known in more than 40 countries of the world. Our customers have tested our products intensively and confirm that they have a longer service life than others. In all product ranges we are certified acc. to ISO 9001:2008. Besides we established an environmental management system for our company acc. to ISO 14001:2004, an occupational health and safety management acc. to NLF/ILO-OSH 2001 and OHSAS 18001:2007 as well as an energy management system acc. to DIN EN 16001:2009. And our future slogan is: **We go forward!**

founded:

- 1947 by Peter Bröckskes sen.
- an independent, middle sized company

CEO:

- Peter Bröckskes

plant/location:

- in Viersen (lower Rhine) 110.000 m² company site
- manufacturing from copper conductor to outer sheath,
- own VDE proofed burnchamber and laboratory

employees/workers:

- approx. 420 at the plant in Viersen, 500 worldwide

yearly sales:

- approx. 95 Mio. € worldwide

products:

- Special Cables
- Temperature Measurement
- Cable Harnessing

certificates and approvals:

- quality management system acc. to ISO 9001:2008 for every manufacturing field
- environmental management system acc. to ISO 14001:2004
- occupational health and safety management acc. to NLF/ILO-OSH 2001 and OHSAS 18001:2007
- energy management system acc. to DIN EN 16001:2009



**MIL, VDE, HAR, IEC, GL, DNV, BV, KR,
ABS, NK, RINA, LR, CE**

MR 460 Control cable with numbered cores and fibre-reinforced PUR sheath



D-VIERSEN · MR 460 12 x 0,75 mm² 34601207 CE

Marking for MR 460 34601207:

SAB BRÖCKSKES · D-VIERSEN · MR 460 12 x 0,75 mm² 34601207 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 6
Insulation:	TPE
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	specially adjusted layering
Wrapping:	non-woven tape
Supporting screen:	high-tech yarn
Sheath material:	PUR, TMPU acc. to DIN VDE 0282 part 10 + HD 22.10
Sheath colour:	black (similar RAL 9005)

Outstanding features:

- halogenfree
- reinforced outer sheath for high mechanical stress
- notch resistant abrasion resistant
- good flexibility also at low temperatures
- weather resistant
- oil resistant
- good chemical resistance
- Sunlight resistant

Technical data:

Nominal voltage:	U ₀ /U 300/500 V
Testing voltage:	2000 V
Min. bending radius	
<i>fixed laying:</i>	5 x d
<i>flexible application:</i>	10 x d
Temperature range	
<i>fixed laying:</i>	-50/+90 °C
<i>flexible application:</i>	-40/+90 °C
Halogen-free:	acc. to DIN VDE 0472 part 815 and IEC 60754-1
Oil resistance:	very good - TMPU acc. to DIN VDE 0282 part 10 + HD 22.10
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids, etc.
UV-resistance:	very good - enhanced due to black sheath colour
Mechanical characteristics:	the main mechanical characteristics accomplished by the PUR outer sheath are: - high tensile strength - high tear strength - high abrasion resistance - high notch resistance - high transverse strength
Absence of harmful substances:	acc. to RoHS directive of the European Union

item no.	no. of cores x cross section n x mm ²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
34600305	3 x 0,50	0,16	6,4	14,4	50
34600405	4 x 0,50	0,16	6,7	19,2	57
34600505	5 x 0,50	0,16	7,3	24,0	66
34600705	7 x 0,50	0,16	8,2	33,6	88
34601205	12 x 0,50	0,16	9,8	57,6	128
34601805	18 x 0,50	0,16	11,2	86,4	175
34602505	25 x 0,50	0,16	13,2	120,0	233
34600307	3 x 0,75	0,16	7,0	21,6	62
34600407	4 x 0,75	0,16	7,4	28,8	72
34600507	5 x 0,75	0,16	8,0	36,0	88
34600707	7 x 0,75	0,16	9,0	50,4	110
34601207	12 x 0,75	0,16	10,9	86,4	158
34601807	18 x 0,75	0,16	12,9	129,6	237
34602507	25 x 0,75	0,16	15,2	180,0	323
34600310	3 x 1,00	0,16	7,4	28,8	72
34600410	4 x 1,00	0,16	7,9	38,4	89
34600510	5 x 1,00	0,16	8,5	48,0	104
34600710	7 x 1,00	0,16	9,9	67,2	137

item no.	no. of cores x cross section n x mm ²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
34601210	12 x 1,00	0,16	11,9	115,2	210
34601810	18 x 1,00	0,16	13,6	172,8	283
34602510	25 x 1,00	0,16	16,6	240,0	407
34600315	3 x 1,50	0,16	8,0	43,2	96
34600415	4 x 1,50	0,16	8,6	57,6	113
34600515	5 x 1,50	0,16	9,3	72,0	133
34600715	7 x 1,50	0,16	10,9	100,8	206
34601215	12 x 1,50	0,16	13,1	172,8	277
34601815	18 x 1,50	0,16	15,5	259,2	403
34602515	25 x 1,50	0,16	18,4	360,0	541
34600325	3 x 2,50	0,16	9,8	72,0	140
34600425	4 x 2,50	0,16	10,5	96,0	170
34600525	5 x 2,50	0,16	11,5	120,0	205
34600725	7 x 2,50	0,16	13,5	168,0	274
34601225	12 x 2,50	0,16	16,7	288,0	447
34601825	18 x 2,50	0,16	19,4	432,0	660
34602525	25 x 2,50	0,16	23,4	600,0	868

Other dimensions and colours are possible on request.



**For unprotected usage
with high mechanical stress
e.g. in
construction machines!**

CC 550 P PUR control cable with numbered cores, halogen-free and oil resistant

BRÖCKSKES · D-VIERSEN · CC 550 P 5 x 1,5 mm² CE



Marking for CC 550 P:

SAB BRÖCKSKES · D-VIERSEN · CC 550 P 5 x 1,5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	SABIX®
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	in layers
Sheath material:	PUR
Sheath colour:	black (RAL 9005)

Outstanding features:

- halogenfree
- very good mechanical strength
- abrasion resistant
- notch resistant
- good chemical resistance
- oil resistant
- flame retardant
- Sunlight resistant
- weather resistant

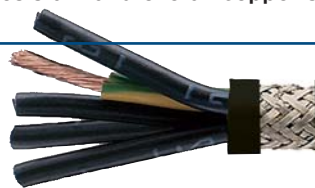
Technical data:

Nominal voltage:	U ₀ /U 300/500 V
Testing voltage U:	2000 V acc. to DIN VDE 0281 part 2 + HD 21.2
Min. bending radius	
<i>fixed laying:</i>	4 x d
<i>flexible application:</i>	6 x d
Temperature range	
<i>fixed laying:</i>	-40/+90 °C
<i>flexible application:</i>	-30/+90 °C
Halogen-free:	acc. to DIN VDE 0472 part 815 and IEC 60754-1
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Oil resistance:	very good - TMPU acc. to DIN VDE 0282 part 10 + HD 22.10
Chem. resistance:	good against acids, alkalines, solvents, hydraulic liquids etc.
Flexibility:	very good
Weather resistance:	good
Absence of harmful substances:	acc. to RoHS directive of the European Union

item no.	no. of cores x cross section n x mm ²	largest single wire ø mm	outer-ø mm	copper figure kg/km	cable weight ≈ kg/km
52790210	2 x 1,00	0,21	6,2	19,2	52
52790310	3 x 1,00	0,21	6,5	28,8	63
52790510	5 x 1,00	0,21	7,7	48,0	93
52790710	7 x 1,00	0,21	8,3	67,2	118
52791210	12 x 1,00	0,21	11,1	115,2	196
52791810	18 x 1,00	0,21	12,9	172,8	262
52792410	24 x 1,00	0,21	15,4	230,0	369
52793610	36 x 1,00	0,21	17,5	345,6	526
52795010	50 x 1,00	0,21	20,8	480,0	722
52797210	72 x 1,00	0,21	25,3	691,2	1045
52790215	2 x 1,50	0,26	6,8	28,8	66
52790315	3 x 1,50	0,26	7,2	43,2	81
52790515	5 x 1,50	0,26	8,5	72,0	121
52790715	7 x 1,50	0,26	9,2	100,8	150
52791215	12 x 1,50	0,26	12,4	172,8	257
52791815	18 x 1,50	0,26	14,4	259,2	369
52792415	24 x 1,50	0,26	17,2	345,6	495
52790325	3 x 2,50	0,26	8,5	72,0	121
52790425	4 x 2,50	0,26	9,2	96,0	150
52790540	5 x 4,00	0,31	12,1	192,0	275
52790460	4 x 6,00	0,31	12,7	230,4	320

Other dimensions and colours are possible on request.

CC 550 CP PUR-control cable with numbered cores, halogen-free, oil resistant and overall copper screen



BRÖCKSKES · D-VIERSEN · CC 550 CP 5 x 1

Marking for CC 550 CP 52950515:
SAB BRÖCKSKES · D-VIERSEN · CC 550 CP 5 x 1,5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	SABIX®
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	in layers
Wrapping:	PETP foil
Screen:	tinned copper braiding
Sheath material:	PUR
Sheath colour:	black (RAL 9005)

Outstanding features:

- halogenfree
- very good mechanical strength
- abrasion resistant
- notch resistant
- good chemical resistance
- good EMC characteristics
- oil resistant
- flame retardant
- Sunlight resistant
- weather resistant

Technical data:

Nominal voltage:	U ₀ /U 300/500 V
Testing voltage U:	2000 V acc. to DIN VDE 0281 part 2 + HD 21.2 core/screen 2000 V
Min. bending radius	
<i>fixed laying:</i>	5 x d
<i>flexible application:</i>	10 x d
Temperature range	
<i>fixed laying:</i>	-40/+90 °C
<i>flexible application:</i>	-30/+90 °C
Halogen-free:	acc. to DIN VDE 0472 part 815 and IEC 60754-1
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Oil resistance:	very good - TMPU acc. to DIN VDE 0282 part 10 + HD 22.10
Chem. resistance:	good against acids, alkalines, solvents, hydraulic liquids etc.
Flexibility:	very good
Weather resistance:	good
Absence of harmful substances:	acc. to RoHS directive of the European Union

item no.	no. of cores x cross section n x mm ²	largest single wire ø mm	outer-ø mm	copper figure kg/km	cable weight ≈ kg/km
52950705	7 x 0,50	0,21	7,7	53,4	93
52951805	18 x 0,50	0,21	11,7	140,4	217
52953605	36 x 0,50	0,21	15,7	270,3	400
52951210	12 x 1,00	0,21	11,9	169,3	234
52954210	42 x 1,00	0,21	20,2	528,3	723
52950315	3 x 1,50	0,26	7,8	64,5	96
52950515	5 x 1,50	0,26	9,1	98,2	141
52951815	18 x 1,50	0,26	15,6	330,1	454
52950725	7 x 2,50	0,26	12,2	222,3	282

Other dimensions and colours are possible on request.

SAB Truck 111 Thickwall (FLY)



Marking for SAB Truck 111 Thickwall (FLY):

SAB BRÖCKSKES · D-VIERSEN · SAB Truck 111 Thickwall gemäß ADR/GGVS 94/55/EG TÜV HESSEN

Construction:

Conductor:	bare copper strands with reference to ISO 6722 table A.1
Insulation:	PVC acc. to ISO 6722 edition 2002-12-15
Colour code:	acc. to 4141-3 (priority colour code)

Technical data:

Operating voltage:	60 V or 600 V
Min. bending radius:	6 x d
Temperature range:	-40/+85 °C class A
Absence of harmful substances:	acc. to RoHS directive of the European Union

item group 3111

nominal cross-section of the conductor mm ²	average outer-ø mm	copper figure kg/km
0,50	2,1	4,8
1,00	2,5	9,6
2,50	3,5	24,0
4,00	4,2	38,4
6,00	4,7	57,6
10,0	6,3	96,0

Other dimensions and colours are possible on request.

Dimension range 0,50 mm² - 120,0 mm²

SAB Truck 112 Thinwall (FLRY)



Marking for SAB Truck 112 Thinwall (FLRY):
SAB BRÖCKSKES · D-VIERSEN · SAB Truck 112 Thinwall gemäß ADR/GGVS 94/55/EG TÜV HESSEN

Construction:

Conductor:	bare copper strands, fine wires with reference to ISO 6722 table A.1
Insulation:	PVC acc. to ISO 6722 edition 2002-12-15
Colour code:	acc. to 4141-3 (priority colour code)

Technical data:

Operating voltage:	60 V or 600 V
Min. bending radius:	6 x d
Temperature range:	-40/+85 °C class A
Absence of harmful substances:	acc. to RoHS directive of the European Union

item group 3112

nominal cross-section of the conductor mm ²	average outer-ø mm	copper figure kg/km
0,5	1,5	4,8
1,0	1,9	9,6
2,5	2,8	24,0
4,0	3,4	38,4
6,0	3,9	57,6
10,0	5,5	96,0

Other dimensions and colours are possible on request.

Dimension range 0,13 mm² - 25,0 mm²

SAB Truck 113 Ultra Thinwall (FLRY)

BRÖCKSKES · D-VIERSEN · SAB Truck 113 Ultra Thinwall gemäß ADR/GGVS 94/55/EG TÜV HESSEN

Marking for SAB Truck 113 Ultra Thinwall (FLRY):

SAB BRÖCKSKES · D-VIERSEN · SAB Truck 113 Ultra Thinwall gemäß ADR/GGVS 94/55/EG TÜV HESSEN

Construction:

Conductor:	bare copper strands, fine wires with reference to ISO 6722 table A.1
Insulation:	PVC acc. to ISO 6722 edition 2002-12-15
Colour code:	acc. to 4141-3 (priority colour code)

Technical data:

Operating voltage:	60 V
Min. bending radius:	6 x d
Temperature range:	-40/+85 °C class A
Absence of harmful substances:	acc. to RoHS directive of the European Union

item group 3113

nominal cross-section of the conductor mm ²	average outer-ø mm	copper figure kg/km
0,13	0,85	1,2
0,22	1,0	2,1
0,35	1,2	3,4
0,50	1,35	4,8
0,75	1,6	7,2
1,00	1,7	9,6
1,50	2,0	14,4
2,00	2,4	19,2
2,50	2,6	24,0

Other dimensions and colours are possible on request.

Dimension range 0,13 mm² - 2,50 mm²

SAB Truck 114 P (FLRYY11Y)



VIERSEN · SAB Truck 114 P gemäß ADR/GGVS 94/55/EG TÜV H

Marking for SAB Truck 114 P (FLRYY11Y):

SAB BRÖCKSKES · D-VIERSEN · SAB Truck 114 P gemäß ADR/GGVS 94/55/EG TÜV HESSEN

Construction:

Conductor:	bare copper strands, fine wires with reference to ISO 6722 table A.1
Insulation:	PVC acc. to ISO 6722 edition 2002-12-15 SABIX® 151 (data pair optionally)
Colour code:	acc. to 4141-3 (priority colour code)
Stranding:	in layers
Inner sheath:	PVC acc. to ISO 4141-1 edition 1998-02-01
Sheath material:	PUR acc. to 4141-1 edition 1998-02-01
Sheath colour:	black (RAL 9005)

Technical data:

Operating voltage:	60 V
Min. bending radius:	12 x d
Temperature range:	-40/+85 °C class A
Absence of harmful substances:	acc. to RoHS directive of the European Union

item group 3114

nominal cross-section of the conductor mm ²	No. of cores	outer-ø mm	copper figure kg/km	cable weight ≈ kg/km
0,5	2	5,0	9,6	35
0,5	3	5,1	14,4	40
0,5	4	5,5	19,2	48
0,5	5	5,9	24,0	57
0,5	7	6,4	33,6	71
0,5	13	8,4	62,4	120
0,75	2	5,6	14,4	46
0,75	3	5,9	21,6	54
0,75	4	6,3	28,8	65
0,75	5	6,9	36,0	79
0,75	7	7,4	50,4	97
0,75	13	9,9	93,6	169
1,0	2	5,8	19,2	52
1,0	3	6,1	28,8	63
1,0	4	6,6	38,4	77
1,0	5	7,1	48,0	93
1,0	7	7,7	67,2	116
1,0	13	10,4	124,8	203
1,5	2	6,4	28,8	64
1,5	3	6,7	43,2	80
1,5	4	7,3	57,6	99
1,5	5	7,9	72,0	120
1,5	7	8,6	100,8	152
1,5	13	11,7	187,2	267
2,5	2	7,6	48,0	99
2,5	3	8,0	72,0	124
2,5	4	8,7	96,0	153
2,5	5	9,6	120,0	188
2,5	7	10,4	168,0	240
2,5	13	14,9	312,0	446

Other dimensions and colours are possible on request.

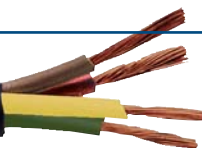
Cross-section range 0,13 mm² - 6,00 mm²
 0,13 mm² - 2,50 mm² 2 - 25 cores
 4,00 mm² 2 - 16 cores
 6,00 mm² 2 - 7 cores



Optional with
additional
data pair
2 x 1,50 mm²

SAB Truck 115 (FLYY)

BRÖCKSKES · SAB Truck 115 gemäß ADR/GGVS 94/55/EG TÜV HESSEN



Marking for SAB Truck 115 (FLYY):

SAB BRÖCKSKES · D-VIERSEN · SAB Truck 115 gemäß ADR/GGVS 94/55/EG TÜV HESSEN

Construction:

Conductor:	bare copper strands, fine wires with reference to ISO 6722 table A.1
Insulation:	PVC acc. to ISO 6722 edition 2002-12-15
Colour code:	acc. to 4141-3 (priority colour code)
Sheath material:	PVC acc. to ISO 4141-1 edition 1998-02-01
Sheath colour:	black (RAL 9005)

Technical data:

Operating voltage:	60 V
Min. bending radius:	12 x d
Temperature range:	-40/+85 °C class A
Absence of harmful substances:	acc. to RoHS directive of the European Union

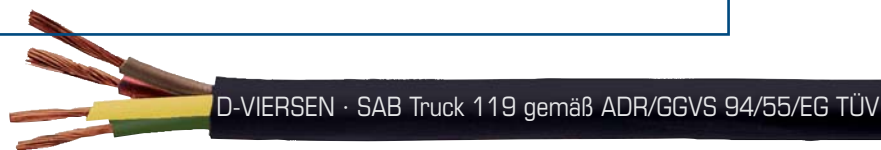
item group 3115

nominal cross-section of the conductor mm ²	No. of cores	outer-ø mm	copper figure kg/km	cable weight ≈ kg/km
0,5	2	6,2	9,6	54
0,5	3	6,5	14,4	62
0,5	4	7,0	19,2	70
0,5	5	7,7	24,0	83
0,5	7	8,3	33,6	103
0,5	13	11,2	62,4	175
0,75	2	6,8	14,4	66
0,75	3	7,2	21,6	77
0,75	4	7,8	28,8	81
0,75	5	8,5	36,0	108
0,75	7	9,2	50,4	132
0,75	13	12,6	93,6	234
1,0	2	7,0	19,2	68
1,0	3	7,4	28,8	82
1,0	4	8,0	38,4	105
1,0	5	8,8	48,0	126
1,0	7	9,5	67,2	152
1,0	13	13,0	124,8	264
1,5	2	7,6	28,8	80
1,5	3	8,0	43,2	107
1,5	4	8,7	57,6	129
1,5	5	9,6	72,0	157
1,5	7	10,4	100,8	197
1,5	13	14,4	187,2	338
2,5	2	9,0	48,0	131
2,5	3	9,5	72,0	152
2,5	4	10,4	96,0	187
2,5	5	11,5	120,0	238
2,5	7	12,5	168,0	294
2,5	13	17,5	312,0	525

Other dimensions and colours are possible on request.

Cross-section range 0,50 mm² - 6,00 mm²
 0,50 mm² - 1,00 mm² 25 cores
 1,50 mm² - 2,50 mm² 16 cores
 3,00 mm² - 6,00 mm² 7 cores

SAB Truck 119 Thinwall (FLRYY)



Marking for SAB Truck 119 (FLRYY):

SAB BRÖCKSKES · D-VIERSEN · SAB Truck 119 gemäß ADR/GGVS 94/55/EG TÜV HESSEN

Construction:

Conductor:	bare copper strands, fine wires with reference to ISO 6722 table A.1
Insulation:	PVC acc. to ISO 6722 edition 2002-12-15 SABIX® 151 (data pair optionally)
Colour code:	acc. to 4141-3 (priority colour code)
Stranding:	in layers
Sheath material:	PVC acc. to ISO 4141-1 edition 1998-02-01
Sheath colour:	black (RAL 9005)

Technical data:

Operating voltage:	60 V
Min. bending radius:	12 x d
Temperature range:	-40/+85 °C class A
Absence of harmful substances:	acc. to RoHS directive of the European Union

item group 3119

nominal cross-section of the conductor mm ²	No. of cores	outer-ø mm	copper figure kg/km	cable weight ≈ kg/km
0,5	2	5,0	9,6	36
0,5	3	5,1	14,4	41
0,5	4	5,5	19,2	49
0,5	5	5,9	24,0	58
0,5	7	6,4	33,6	72
0,5	13	8,4	62,4	122
0,75	2	5,6	14,4	47
0,75	3	5,9	21,6	55
0,75	4	6,3	28,8	66
0,75	5	6,9	36,0	81
0,75	7	7,4	50,4	99
0,75	13	9,9	93,6	172
1,0	2	5,8	19,2	53
1,0	3	6,1	28,8	64
1,0	4	6,6	38,4	79
1,0	5	7,1	48,0	95
1,0	7	7,7	67,2	118
1,0	13	10,4	124,8	206
1,5	2	6,4	28,8	65
1,5	3	6,7	43,2	82
1,5	4	7,3	57,6	101
1,5	5	7,9	72,0	122
1,5	7	8,6	100,8	155
1,5	13	11,7	187,2	272
2,5	2	7,6	48,0	101
2,5	3	8,0	72,0	126
2,5	4	8,7	96,0	156
2,5	5	9,6	120,0	192
2,5	7	10,4	168,0	245
2,5	13	14,4	312,0	455

Other dimensions and colours are possible on request.

Cross-section range	0,13 mm ² - 6,00 mm ²	
	0,13 mm ² - 2,50 mm ²	2 - 25 cores
	4,00 mm ²	2 - 16 cores
	6,00 mm ²	2 - 7 cores



Optional with
additional
data pair
2 x 1,50 mm²



FLEXIBLE CABLES

- Halogen-free cables ■ Cable track cables
- Servo motor cables ■ ETFE, FEP, PFA cables
 - Bus cables ■ Torsion cables
- Hybrid and special cables ■ Control and connection cables
 - Data cables ■ Besilen® (Silicone) cables
- Compensating and extension cables ■ Tray cables

TEMPERATURE MEASUREMENT

- Protecting armatures and gauge slides
- Mineral insulated thermocouples and Mineral insulated resistance thermometers
- Temperature measurement in plastic processing industry/Hot runner technique
 - Diesel thermocouples ■ Probe with stainless steel sleeve
 - Temperature measurement in test vehicles
 - Measurement techniques

CABLE HARNESSING

- Harnessed cables acc. to customer's specification
 - Harnessed cable track cables
 - Helix cables ■ Cable harnesses
- Harnessed motor and transmission cables for Siemens and Indramat drives