Cables for robots

www.sab-worldwide.com

SAB
BRÖCKSKES

CONTENT

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 m^2 company site
- manufacturing from copper conductor to outer sheath,
- own VDE proofed burnchamber and laboratory

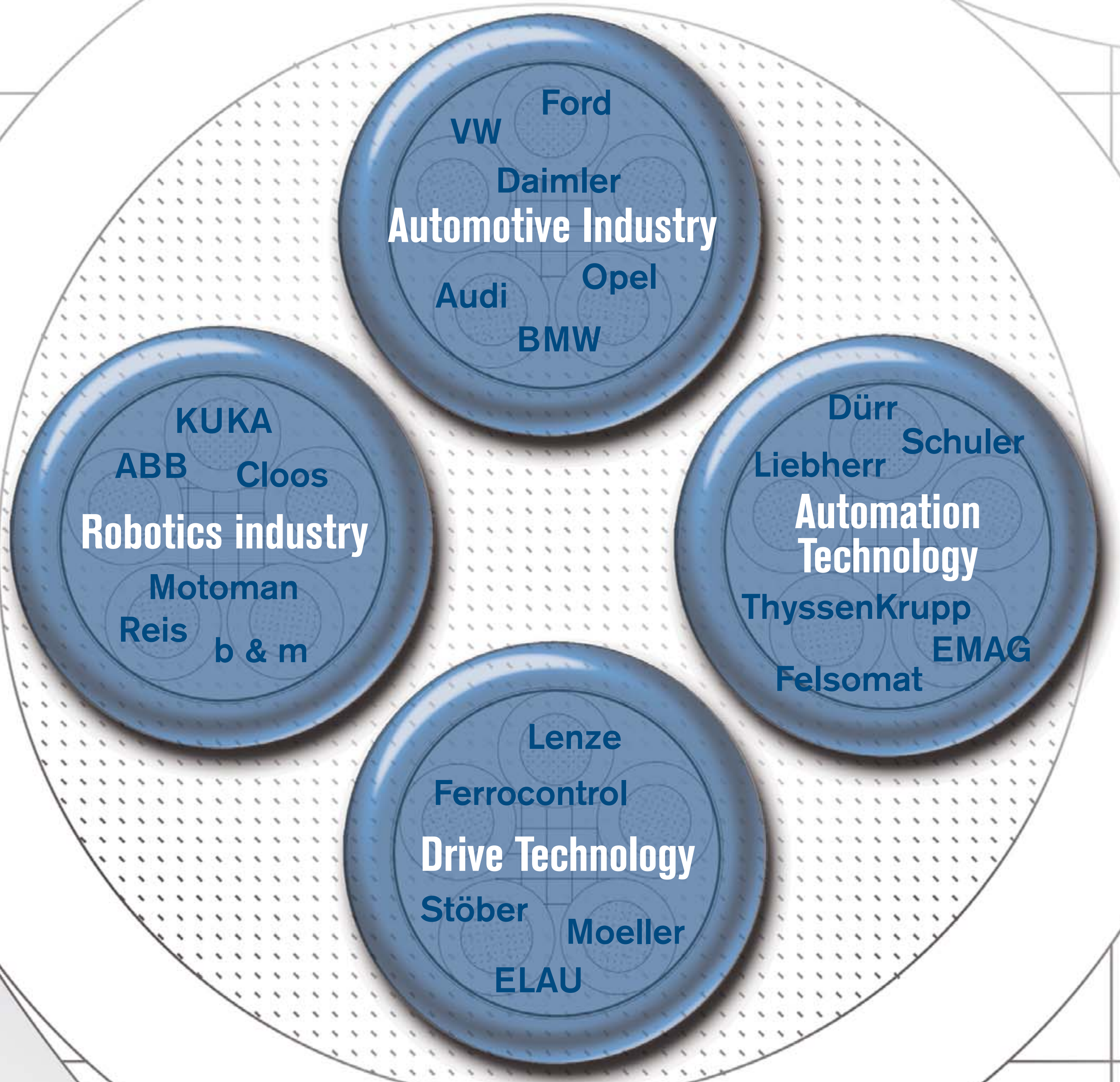
employees/workers:
- approx. 420 at the plant in Viersen, 500 worldwide

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

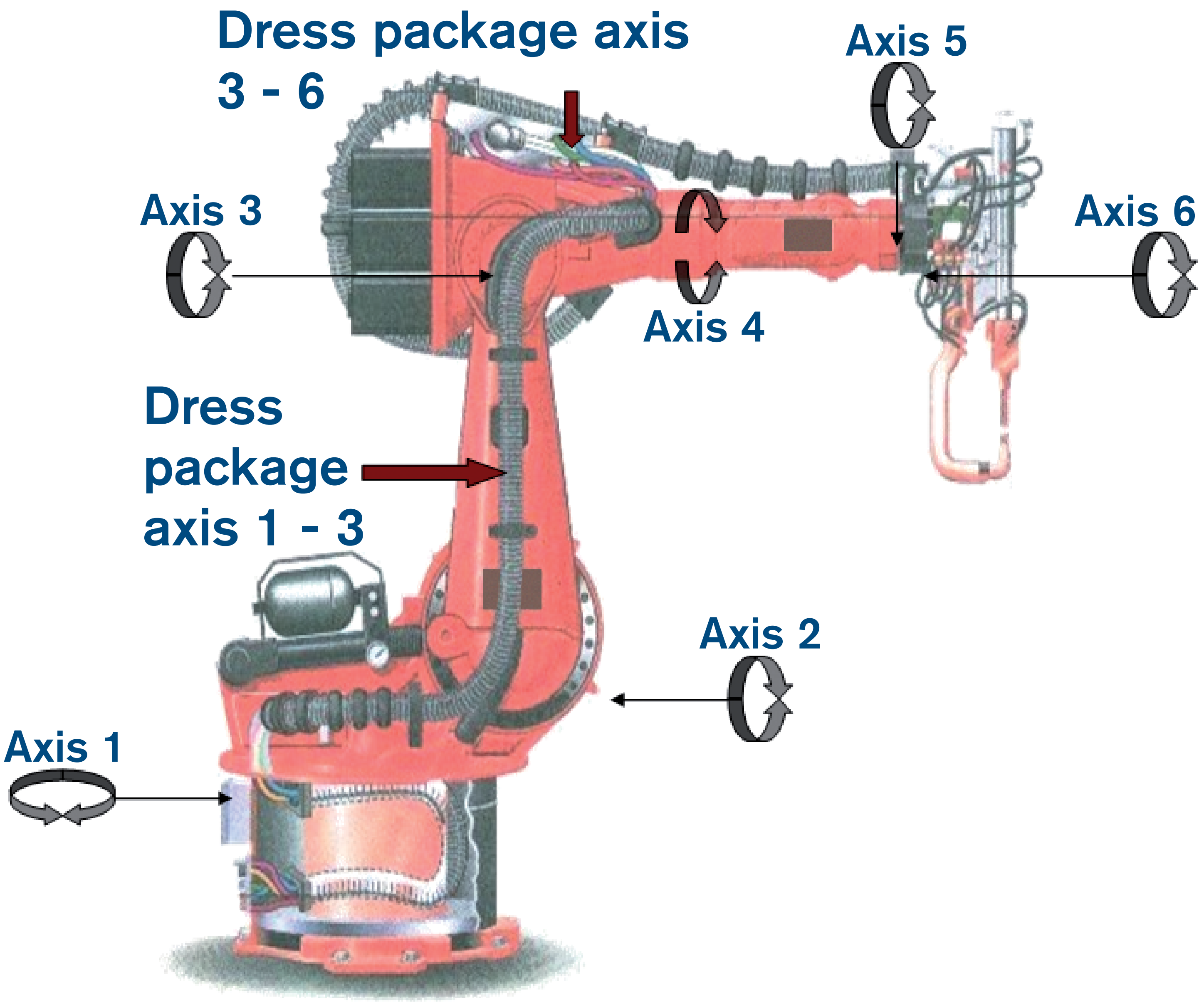
MIL, VDE, HAR, IEC, GL, DNV, BV, KR, ABS, NK, RINA, LR, CE



Supplier Numbers

AUDI	1917/0
BMW	609 213-10
Daimler	102 218 10
Ford	DJM5A
Opel	1 950 428
Porsche	11 901
VW	1917-0
VW Mexico	600 200 57 70

D-U-N-S® number
315 499 111
worldwide



Cables for dress package

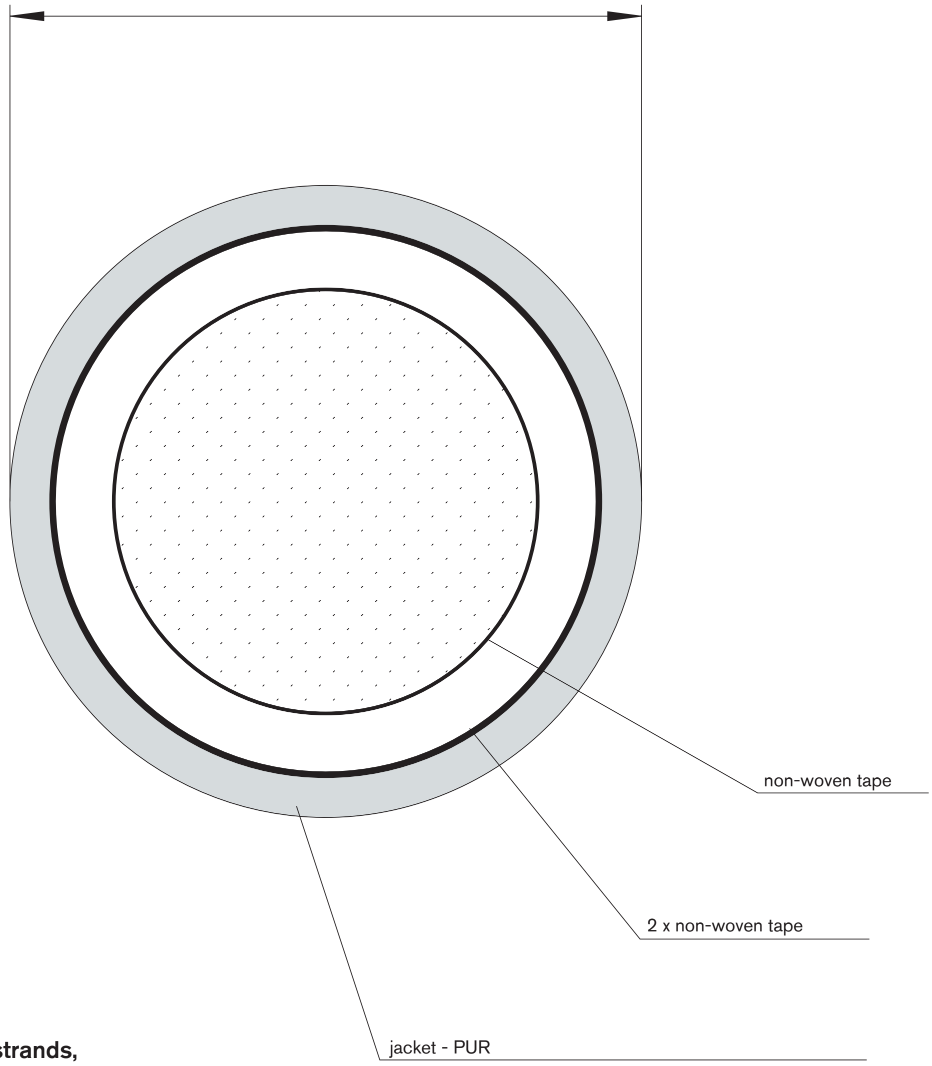
SAB Item no.: 0774-9084	3 x 25,0 mm^2
SAB Item no.: 0737-9005 + 0664-9001	5 x 1,5 mm^2 + 2 x POF
SAB Item no.: 0764-9086	7 x 1,0 mm^2 + (2 x 0,5 mm^2)
SAB Item no.: 0764-9065	23 x 1,0 mm^2 + (2 x 1,0 mm^2) D

Item no.: 0761-9052 1 x 25,0 mm² black = approx. Ø 11.1 mm

Item no.: 0761-9050 1 x 25,0 mm² green/yellow = approx. Ø 11.1 mm

Item no.: 0761-9048 1 x 35,0 mm² black = approx. Ø 13.3 mm

Item no.: 0761-9054 1 x 50,0 mm² black = approx. Ø 15.8 mm



strand; bare copper strands, insulation PUR in black or green/yellow

Technical Data

Operating voltage:	750 V (DC)
Testing voltage:	2000 V (AC)
Temperature range: flexible application: fixed laying:	 -40°C up to +90°C -50°C up to +90°C
Min. bending radius:	7,5 x outer diameter
Halogen-free:	acc. to DIN VDE 0472 part 815 and IEC 60754-1
Absence of harmful substances:	acc. to RoHS directive of the European Union

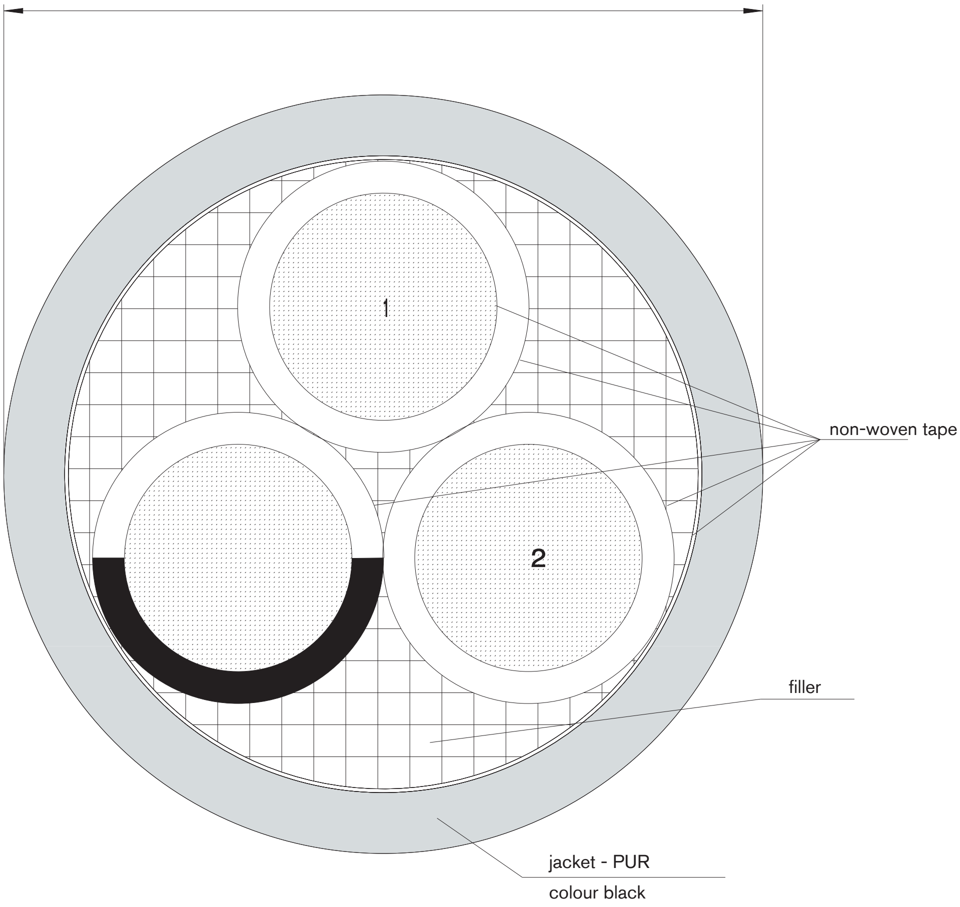
Further technical information on request

Item no: 0774-9111   3 x 16,0 mm² = approx. Ø 19.3 mm

Item no: 0774-9084   3 x 25,0 mm² = approx. Ø 23.3 mm

Item no: 0774-9085   3 x 35,0 mm² = approx. Ø 26.6 mm

Item no: 0774-9088   3 x 50,0 mm² = approx. Ø 30.8 mm



conductors; bare copper strands, insulation PUR in black with numbers 1 - 2 + green/yellow

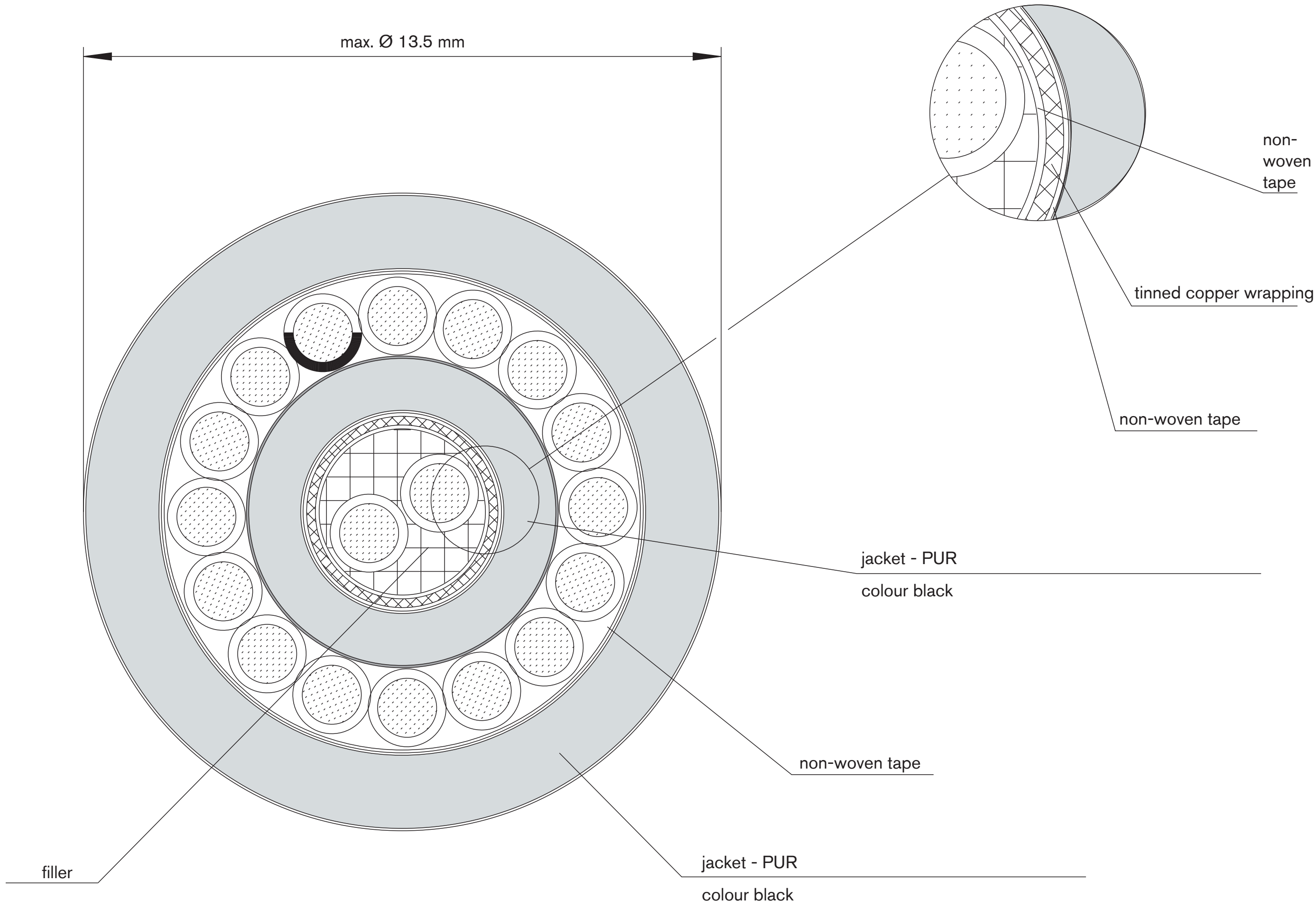
Technical Data

Operating voltage: **3 x 16 mm²** **3 x 25 mm², 3 x 35 mm² + 3 x 50 mm²**	500 V (DC) 750 V (DC)
Testing voltage: **3 x 16 mm²** **3 x 25 mm², 3 x 35 mm² + 3 x 50 mm²**	1500 V (AC) 2000 V (AC)
Temperature range: flexible application: fixed laying:	-40°C up to +90°C -50°C up to +90°C
Min. bending radius: static: continuously flexing:	5 x outer diameter 7,5 x outer diameter
Halogen-free:	acc. to DIN VDE 0472 part 815 and IEC 60754-1
Absence of harmful substances:	acc. to RoHS directive of the European Union

Further technical information on request

Sheath also possible in orange or yellow!

Item no.: 0764-9079
16 x 1,0 mm² + (2 x 1,0 mm²) D



conductors 1,0 mm²; tinned copper strands,
insulation TPE in black with numbers 1 - 17 + green/yellow

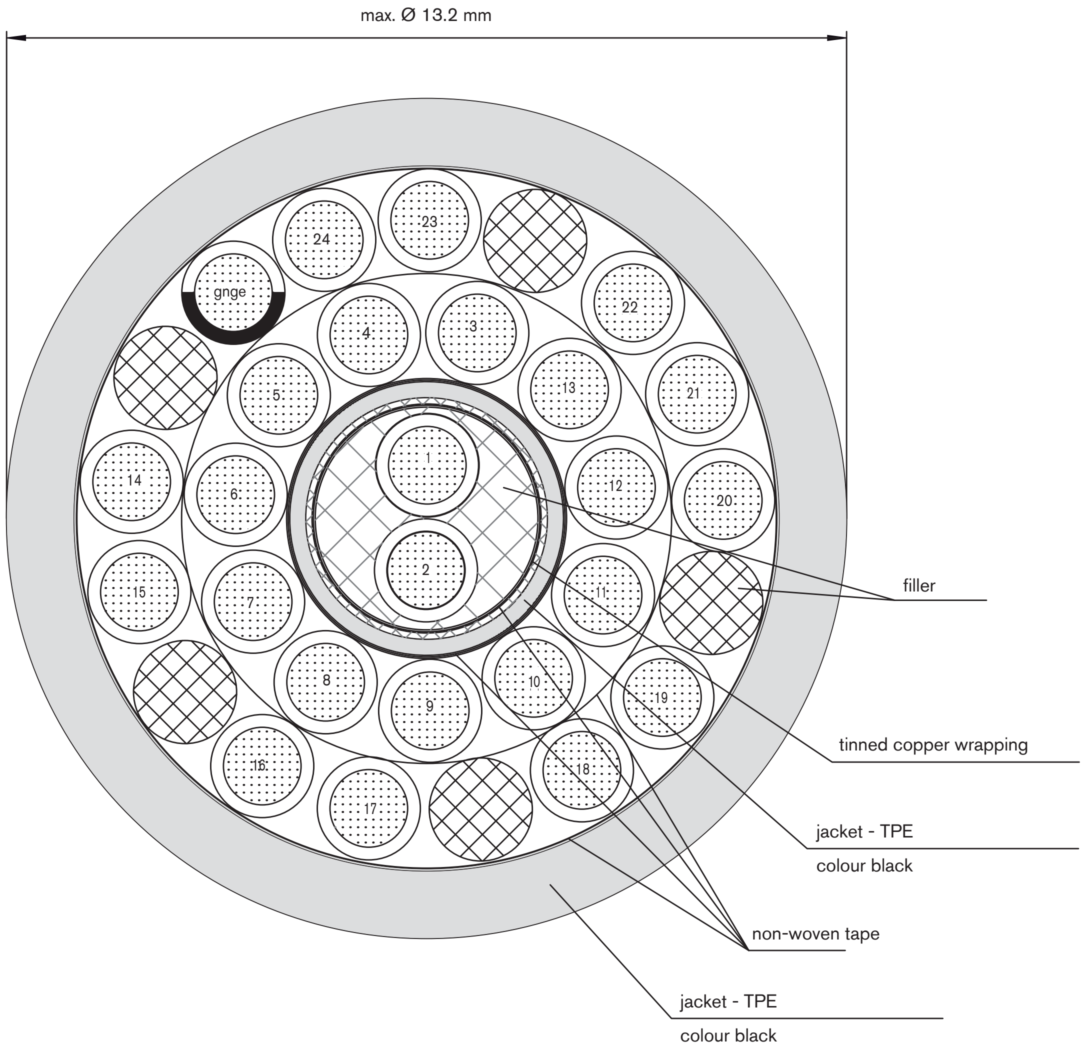
Technical Data

Peak operating voltage:	max. 350 V
Testing voltage:	cond./cond. 1500 V cond./screen 1000 V
Temperature range: flexible application: fixed laying:	-40°C up to +90°C -50°C up to +90°C
Min. bending radius: flexing:	10 x outer diameter
Absence of harmful substances:	acc. to RoHS directive of the European Union

Further technical information on request

Item no.: 0764-9065

23 x 1,0 mm² + (2 x 1,0 mm²) D



conductors 1,0 mm²; tinned copper strands,
insulation TPE in white with numbers 1 - 24 + green/yellow

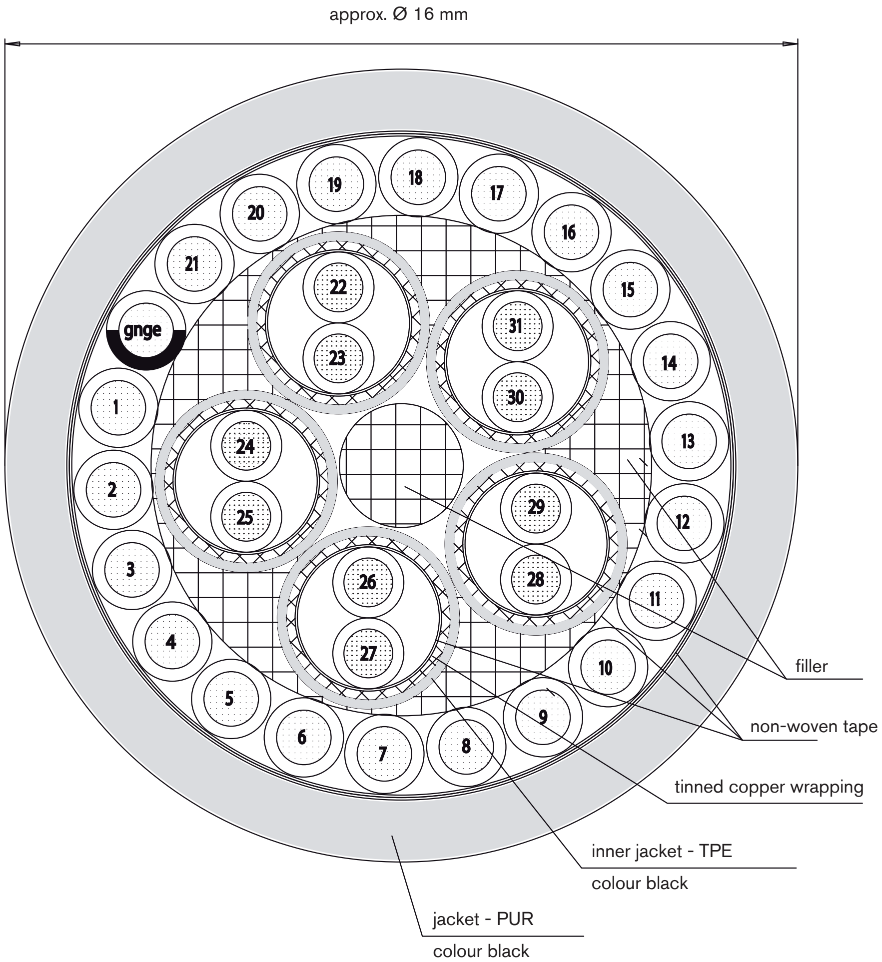
Technical Data

Peak operating voltage:	max. 350 V
Testing voltage:	cond./cond. 1500 V cond./screen 1000 V
Temperature range: flexible application: fixed laying:	-40°C up to +90°C -50°C up to +90°C
Min. bending radius: flexing:	10 x outer diameter
Absence of harmful substances:	acc. to RoHS directive of the European Union

Further technical information on request

RoHS

Item no.: 0796-9081
5 x (2 x 0,75 mm²)D + 22 x 0,75 mm²



conductors 0,75 mm²;
insulation TPE in white with numbers 1 - 31 + green/yellow

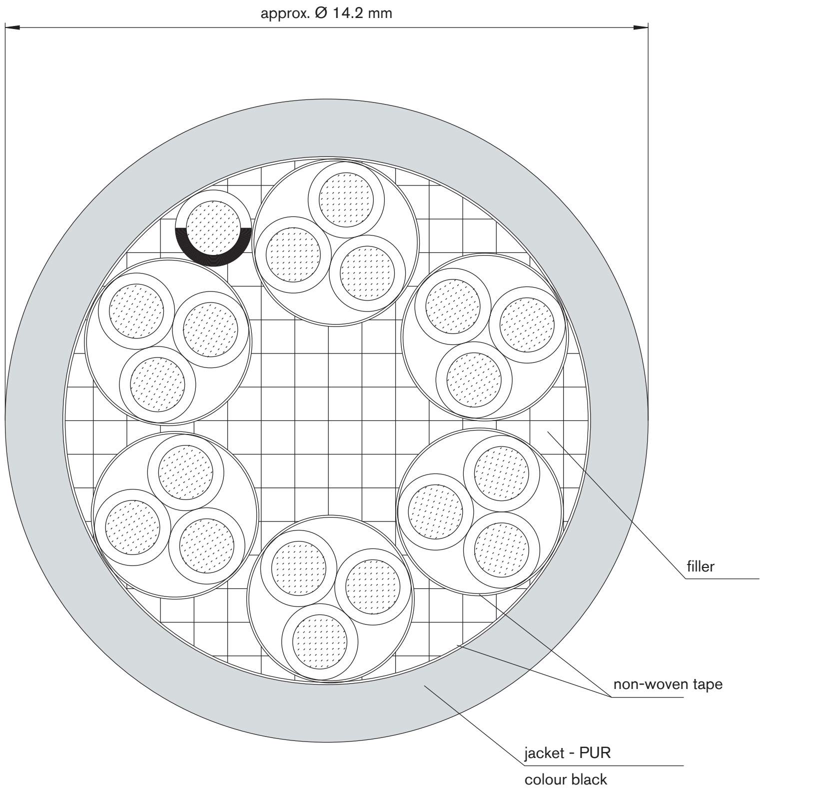
Technical Data

Nominal voltage:	VDE Uo/U 300/500 V
Testing voltage:	cond./cond. 2000 V (AC) cond./screen 2000 V (AC)
Temperature range: flexible application: fixed laying:	 -40°C up to +80°C -40°C up to +80°C
Min. bending radius: flexing:	 10 x outer diameter
Absence of harmful substances:	acc. to RoHS directive of the European Union

Further technical information on request

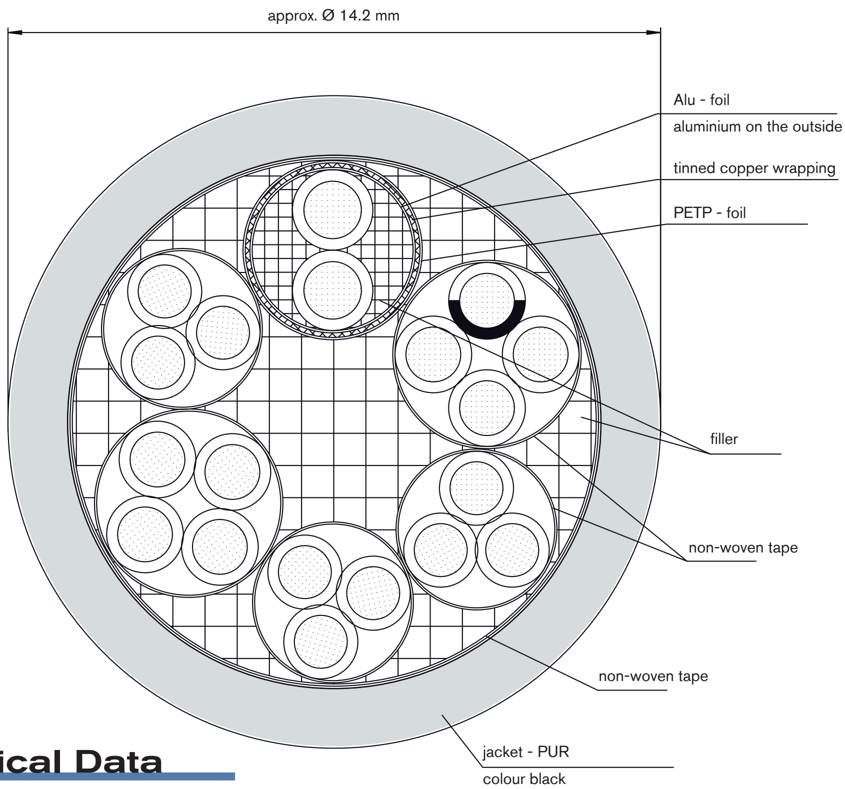
Item no.: 0760-9056

19 x 1,0 mm^2



Item no.: 0760-9061

19 x 1,0 mm^2



Technical Data

Peak operating voltage:	max. 350 V
Testing voltage:	cond./cond. 1500 V
Temperature range: flexible application: fixed laying:	 -40°C up to +90°C -50°C up to +90°C
Min. bending radius: flexing: static:	 6 x outer diameter 4 x outer diameter
Absence of harmful substances:	acc. to RoHS directive of the European Union

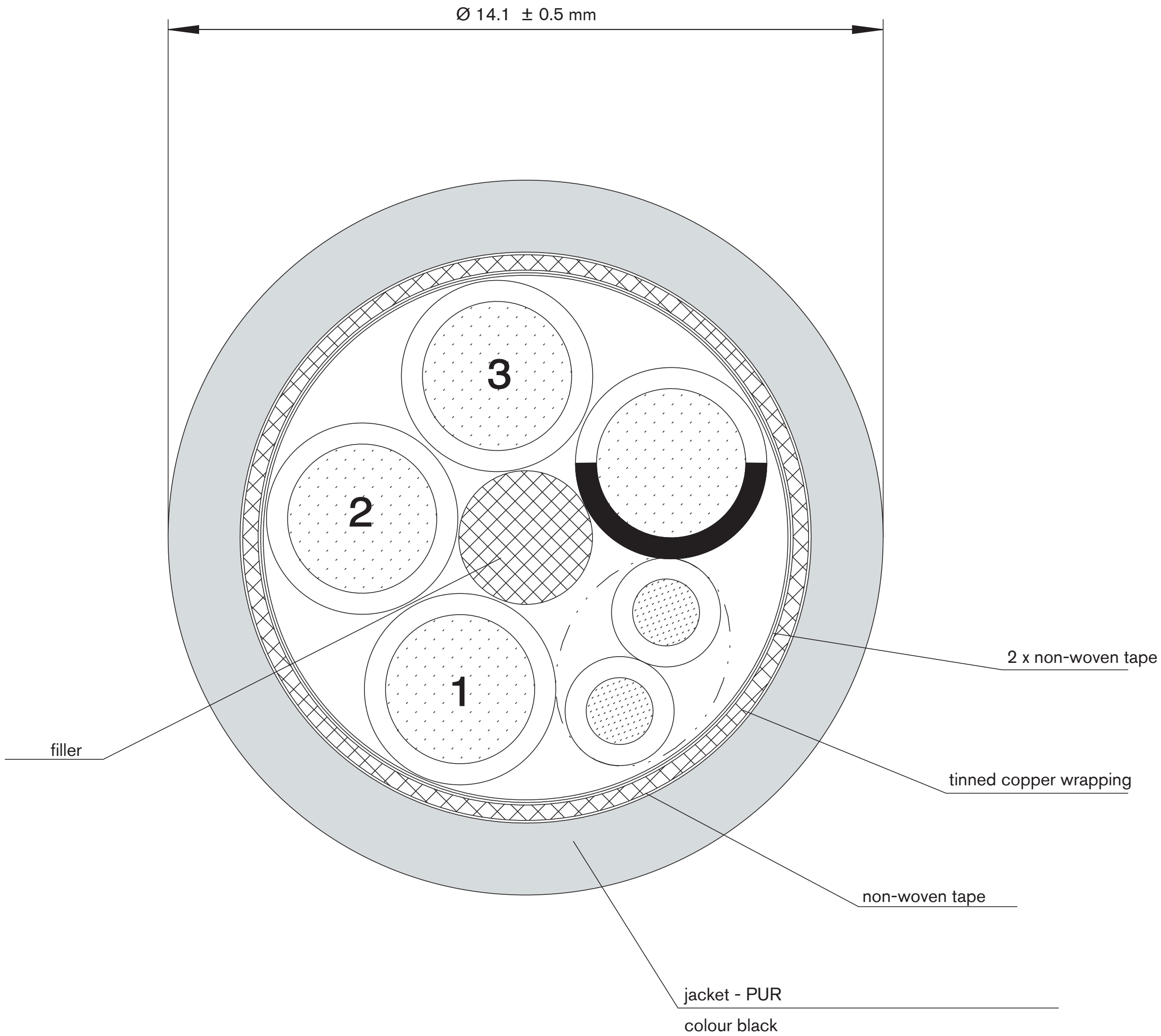
Further technical information on request

Item no.: 0760-9056:
conductors 1,0 mm^2; bare copper strands,
insulation TPE in black, numbers 1 - 18 + green/yellow

Item no.: 0760-9061:
conductors 1,0 mm^2; bare copper strands,
insulation TPE in black, numbers 1 - 18 + green/yellow

Item no.: 0779-xxxx

2 x 1,0 mm² + 4 x 4,0 mm²



conductors 1,0 mm²; bare copper strands, insulation TPE in red, blue

conductors 4,0 mm²; bare copper strands, insulation TPE in white with black numbers (s/w) 1 - 3 + green/yellow

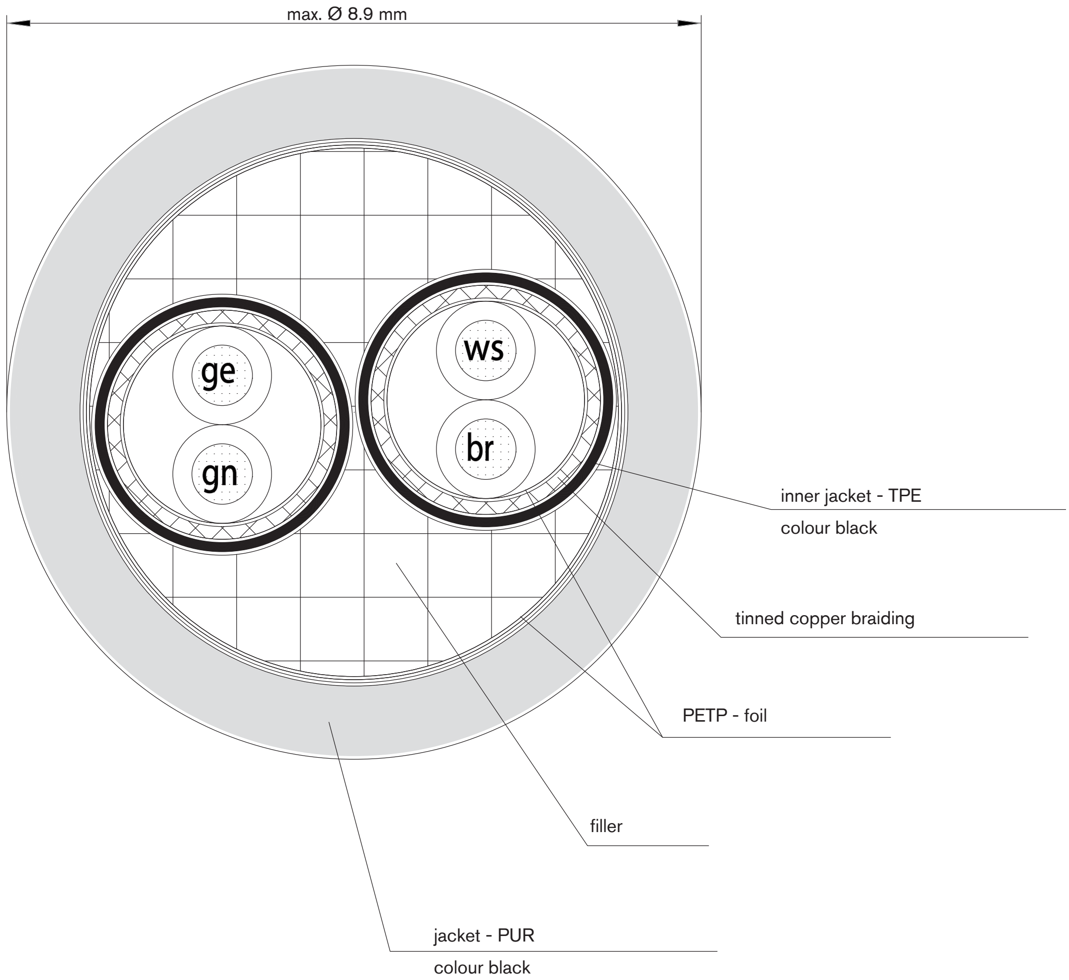
Technical Data

Nominal voltage:	VDE Uo/U 450/750 V
Voltage:	acc. to UL & CSA 600 V
Testing voltage:	cond./cond. 3000 V cond./screen 2000 V
Temperature range: flexible application: fixed laying: acc. to UL: acc. to CSA:	 -40°C up to +90°C -50°C up to +90°C up to +80°C up to +75°C
Min. bending radius:	7,5 x outer diameter
Absence of harmful substances:	acc. to RoHS directive of the European Union

Further technical information on request

Item no.: L 0795-9035

(2 x 0,50 mm²) D + (2 x 0,50 mm²) D



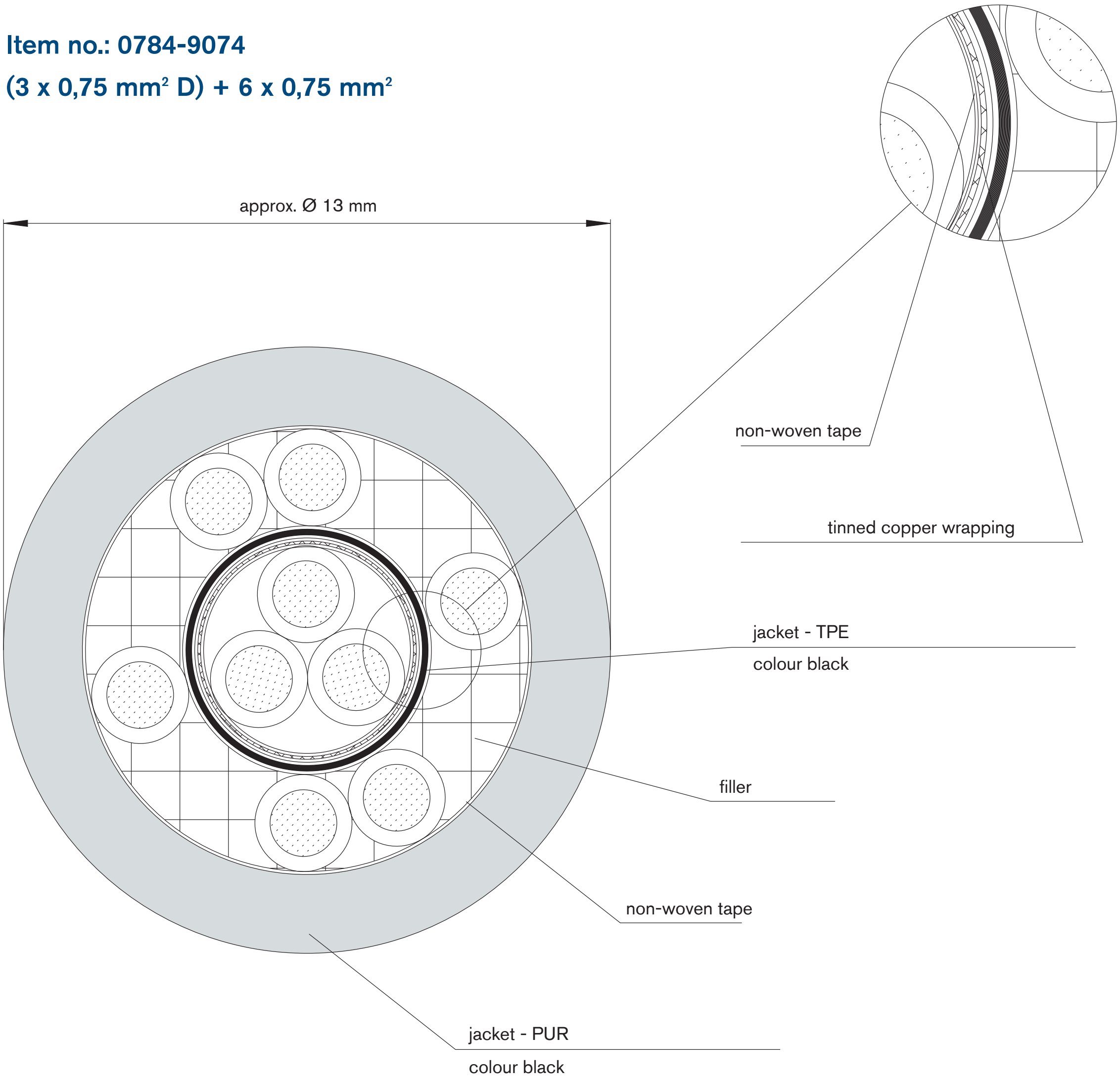
conductors 0,50 mm²; bare copper strands, wires Ø 0,15 mm, insulation TPE, colour code DIN 47100

Technical Data

Operating voltage $U_{b\,max}$:	600 V DC (conductor-conductor)
AC testing voltage:	core/core 2500 V DC core/screen 1250 V DC
Temperature range: flexible application: fixed laying:	 -40°C up to +90°C -50°C up to +90°C
Min. bending radius: flexing: static:	 5 x outer diameter 10 x outer diameter
Absence of harmful substances:	acc. to RoHS directive of the European Union

Further technical information on request

Item no.: 0784-9074
(3 x 0,75 mm² D) + 6 x 0,75 mm²



conductors 0,75 mm²; tinned copper strands,
insulation TPE in white with numbers 1 - 9

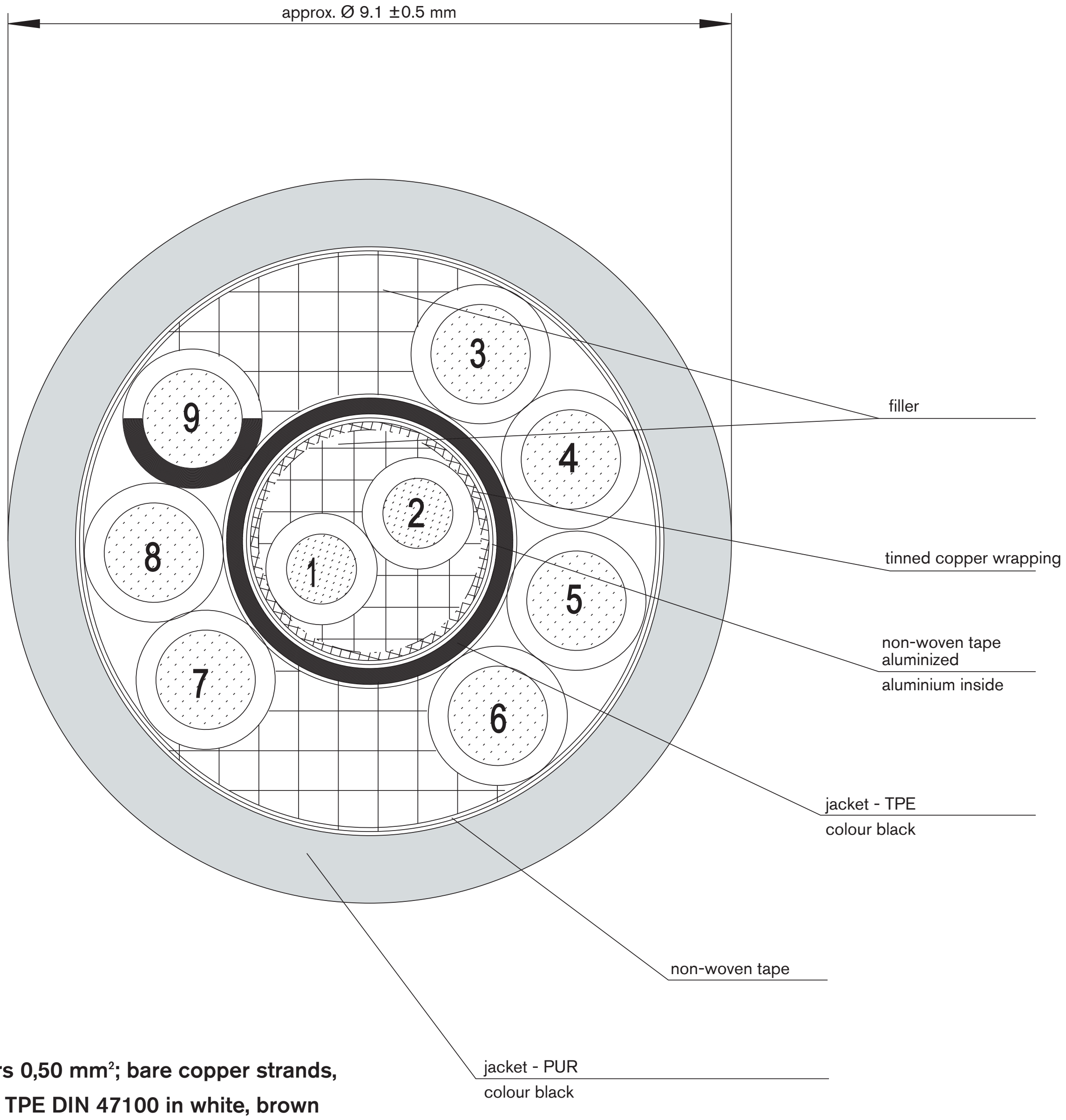
Technical Data

Peak operating voltage:	max. 350 V
Testing voltage:	cond./cond. 1500 V cond./screen 1000 V
Temperature range: flexible application: fixed laying:	 -40°C up to +90°C -50°C up to +90°C
Min. bending radius: continuously flexing: flexing: static:	 12 x outer diameter 7,5 x outer diameter 5 x outer diameter
Absence of harmful substances:	acc. to RoHS directive of the European Union

Further technical information on request

Item no.: 0764-9086

(2 x 0,50 mm²) D + 7 x 1,0 mm²



conductors 0,50 mm²; bare copper strands, insulation TPE DIN 47100 in white, brown

conductors 1,0 mm²; bare copper strands, insulation TPE in black with numbers 1 - 6 + green/yellow

Technical Data

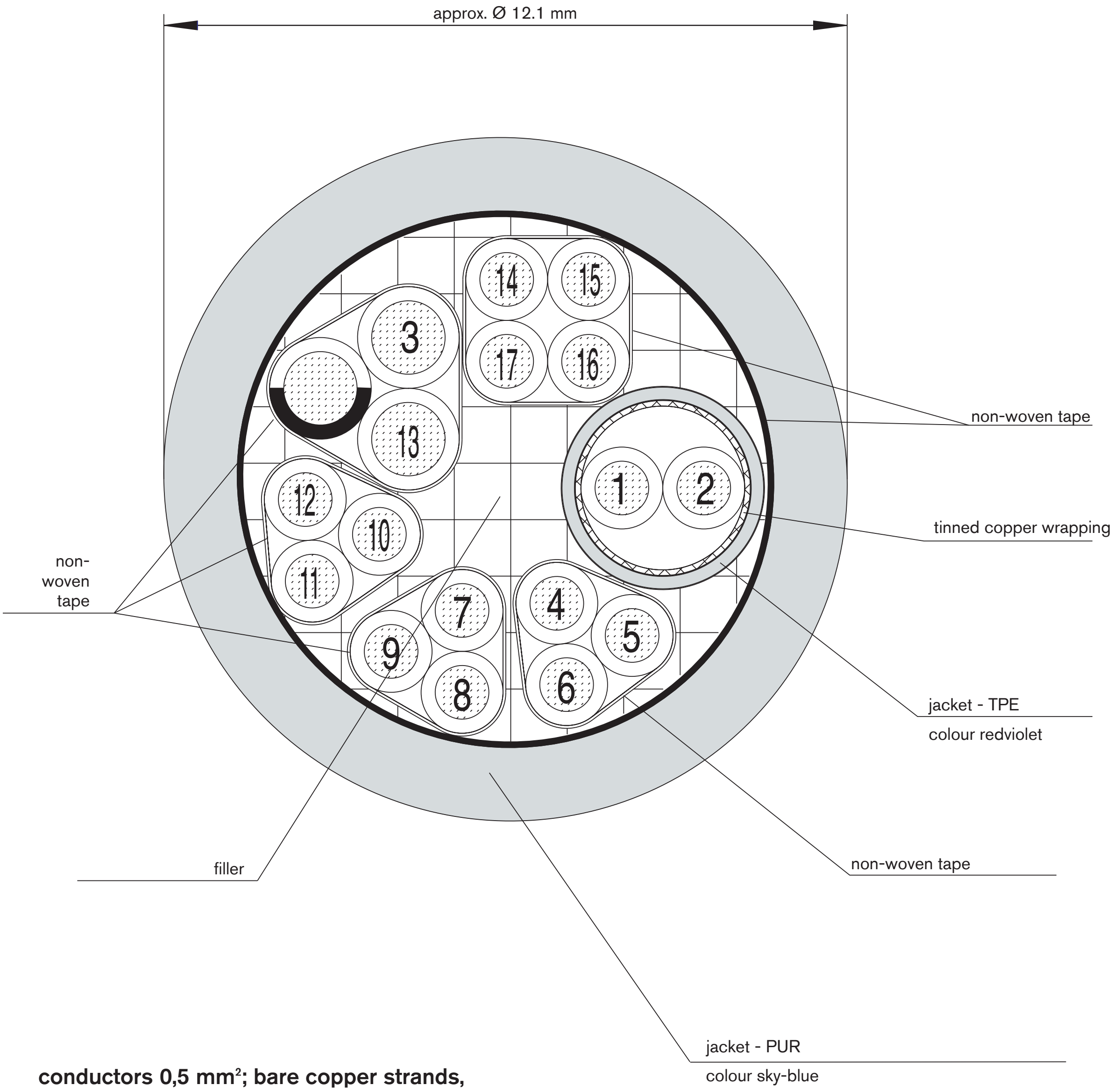
Peak operating voltage:	max. 600 V
Testing voltage:	cond./cond. 3000 V cond./screen 2000 V
Temperature range: flexible application: fixed laying: short-time use:	-40°C up to +90°C -50°C up to +90°C +125°C
Min. bending radius:	7,5 x outer diameter
Absence of harmful substances:	acc. to RoHS directive of the European Union

Further technical information on request

RoHS

Item no.: 0399-0157

13 x 0,5 mm² + 3 x 1,0 mm² + (2 x 0,5 mm²) D



conductors 0,5 mm²; bare copper strands,
insulation TPE in white with numbers 1 - 2, 4 - 12, 14 - 17

conductors 1,0 mm²; bare copper strands,
insulation TPE in white with numbers 3, 13 + green/yellow

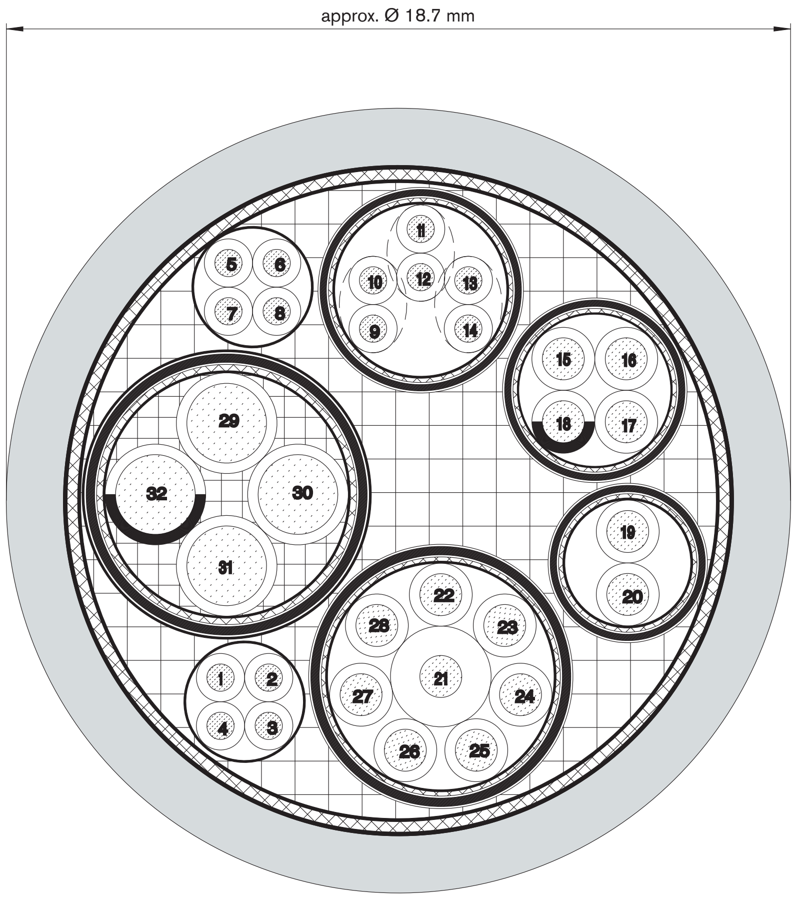
Technical Data

Peak operating voltage:	max. 500 V
Testing voltage:	cond./cond. 1500 V cond./screen 1000 V
Temperature range: flexible application: fixed laying:	 -40°C up to +90°C -50°C up to +90°C
Min. bending radius:	10 x outer diameter
Absence of harmful substances:	acc. to RoHS directive of the European Union

Further technical information on request

32 conductors

Item no.: 0803-9081 (3 x 2 x 0,25 mm²) D +2 x 4 x 0,25 mm² + (4 x 0,5 mm²) D + (2 x 0,5 mm²) D + (4 x 1,5 mm²) D + (8 x 0,5 mm²) D



Pos. 1 - 14	conductors 0,25 mm²; bare copper strands, DIN 47100 1-8, DIN 47100 1-6
Pos. 15 - 28	conductors 0,5 mm²; bare copper strands, in black conductors with numbres 1-3, 7-8, 10-16 and green/yellow
Pos. 29 - 32	conductors 1,5 mm²; bare copper strands, in black conductors with numbres 4-6 and green/yellow

Technical Data

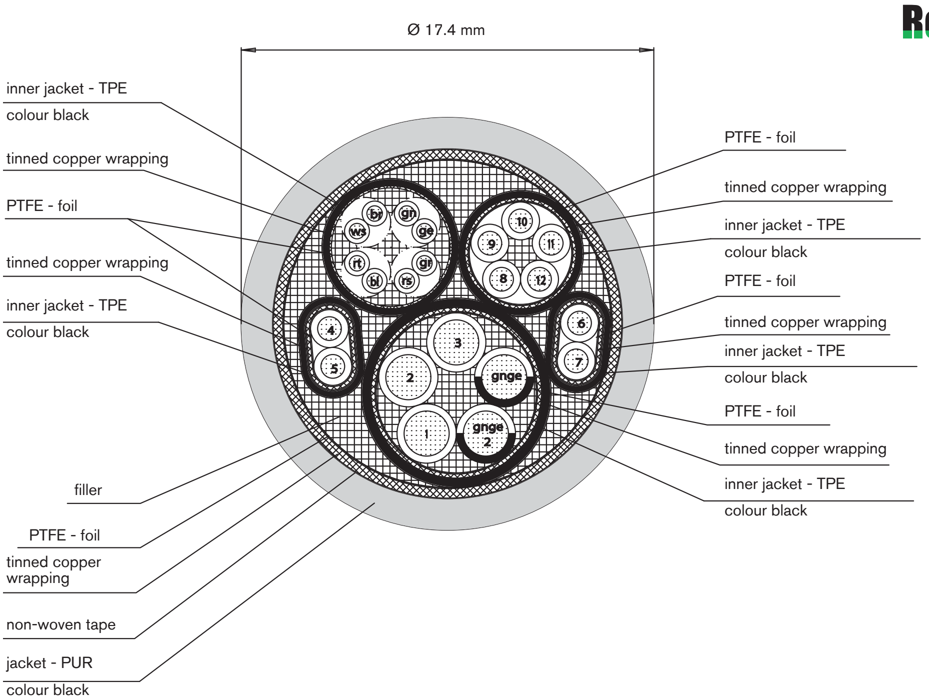
Nominal voltage Uo/U:	300/500 V
Testing voltage:	cond./cond. 3000 V (DC) cond./screen 1500 V (DC) screen/screen 2000 V (DC)
Temperature range: flexible application: fixed laying:	 -40°C up to +90°C -50°C up to +90°C
Min. bending radius for continuously flexible application:	10 x outer diameter
Absence of harmful substances:	acc. to RoHS directive of the European Union

Further technical information on request

Also available as version with 31 conductors!
Item no. 0803-9123
Dimension:
(3x2x0,25mm²)D + 2x4x0,25mm² + (4x0,5mm²)D + 2x(2x0,5mm²)D + (4x1,5mm²)D + (5x0,5mm²)D

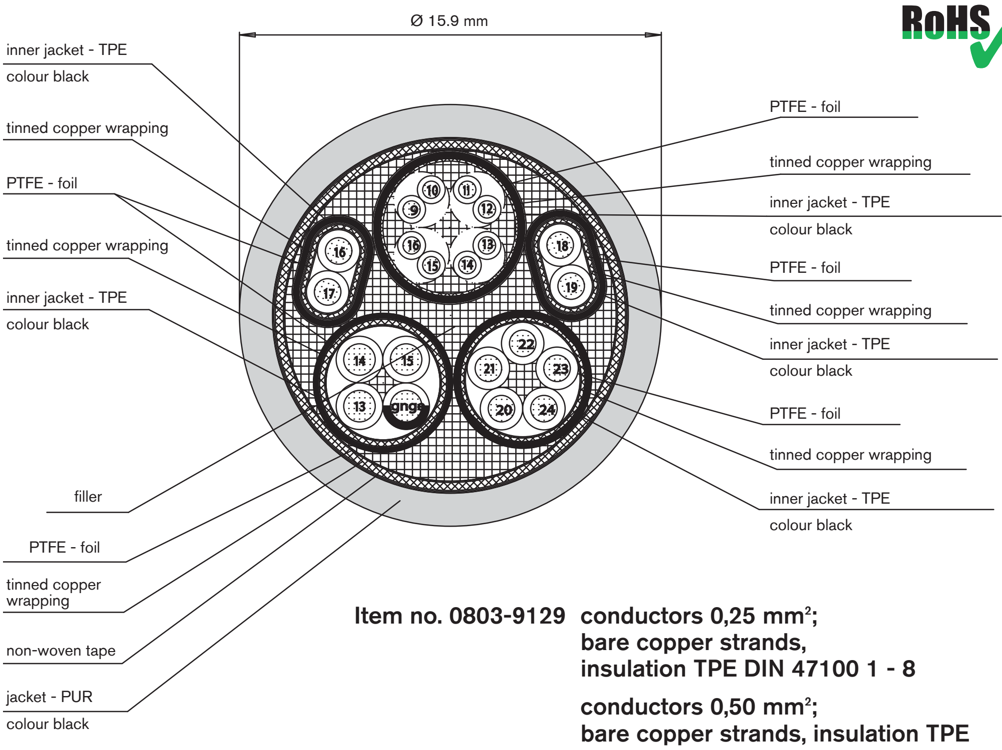
RoHS

Item no.: 0803-9129
(4 x 2 x 0,25 mm²)D +
2 x (2 x 0,50 mm²D) +
(5 x 0,50 mm²)D +
(5 x 1,50 mm²)D



RoHS

Item no.: 0803-9130
(4 x 2 x 0,25 mm²)D +
2 x (2 x 0,50 mm²D) +
(5 x 0,50 mm²)D +
(5 x 0,75 mm²)D



Technical Data

Peak operating voltage:	max. 450 V (0,25 mm²) max. 600 V (0,50 mm² + 1,50 mm²)
AC testing voltage:	cond./cond. 2500 V (0,25 mm²) 3000 V (0,50 mm² + 1,50 mm²) cond./screen 1500 V (0,25 mm²) 2000 V (0,50 mm² + 1,50 mm²) screen/screen 2000 V
Temperature range: flexible application: fixed laying:	 -40°C up to +80°C -50°C up to +80°C
Min. bending radius: flexing: static:	 10 x outer diameter 5 x outer diameter
Absence of harmful substances:	acc. to RoHS directive of the European Union

Further technical information on request

Item no. 0803-9129 conductors 0,25 mm²; bare copper strands, insulation TPE DIN 47100 1 - 8

conductors 0,50 mm²; bare copper strands, insulation TPE in white with numbers 4 - 12

conductors 1,50 mm²; bare copper strands, insulation TPE in white with numbers 1 - 3 + green/yellow + green/yellow

Item no. 0803-9130 conductors 0,25 mm²; bare copper strands, insulation TPE DIN 47100 9 - 16

conductors 0,50 mm²; bare copper strands, insulation TPE in white with numbers 16 - 24

conductors 1,50 mm²; bare copper strands, insulation TPE in white with numbers 13 - 35 + green/yellow

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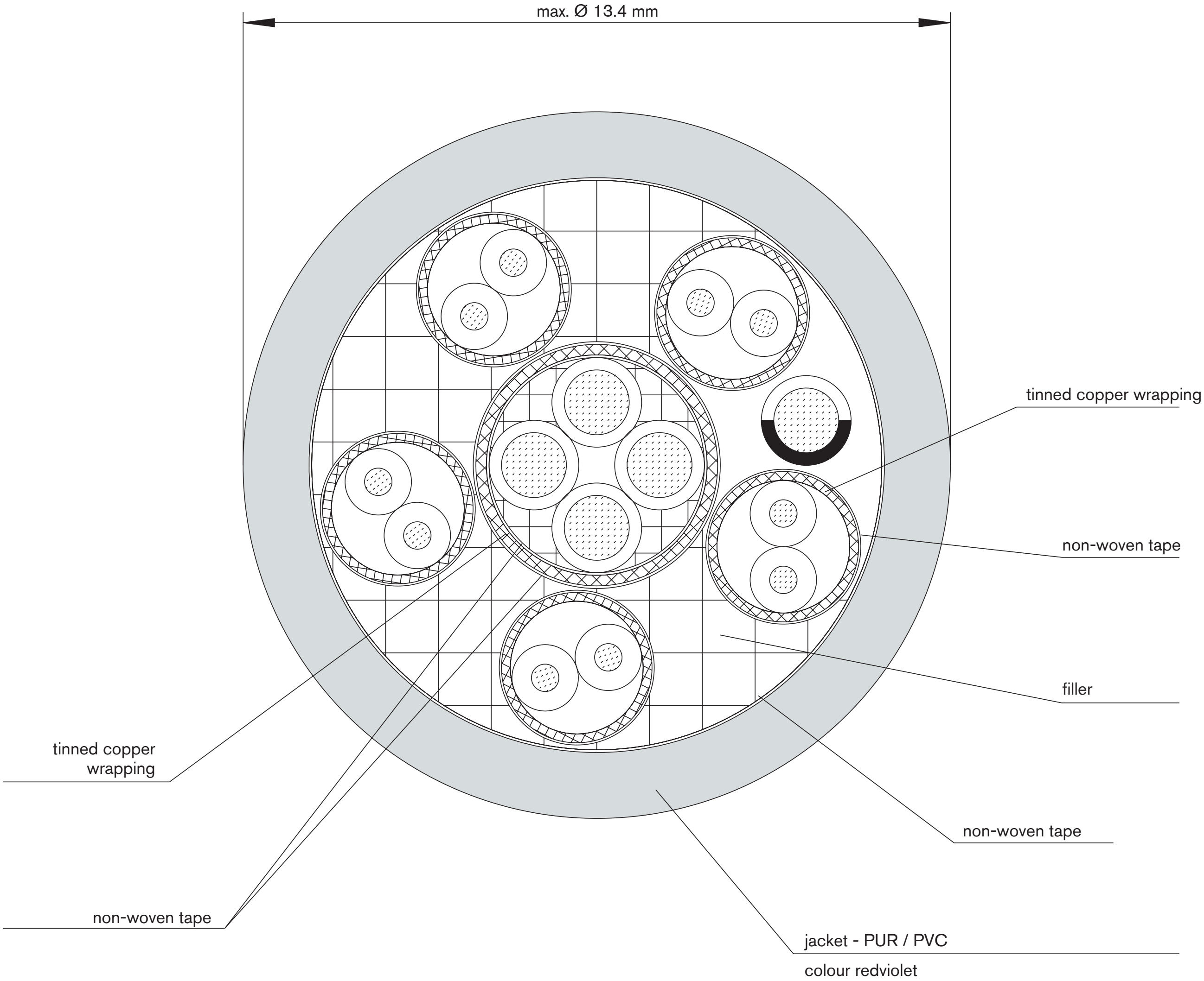
Item no.: 0367-9048

4 x 1,0 mm² + 5 x 2 x 0,25 mm² + 1 x 1,0 mm²



conductors 0,25 mm²; bare copper strands,
insulation special Polymer colour code DIN 47100 1 - 10

conductors 1,00 mm²; bare copper strands,
insulation TPE in black, blue, red, brown, green/yellow

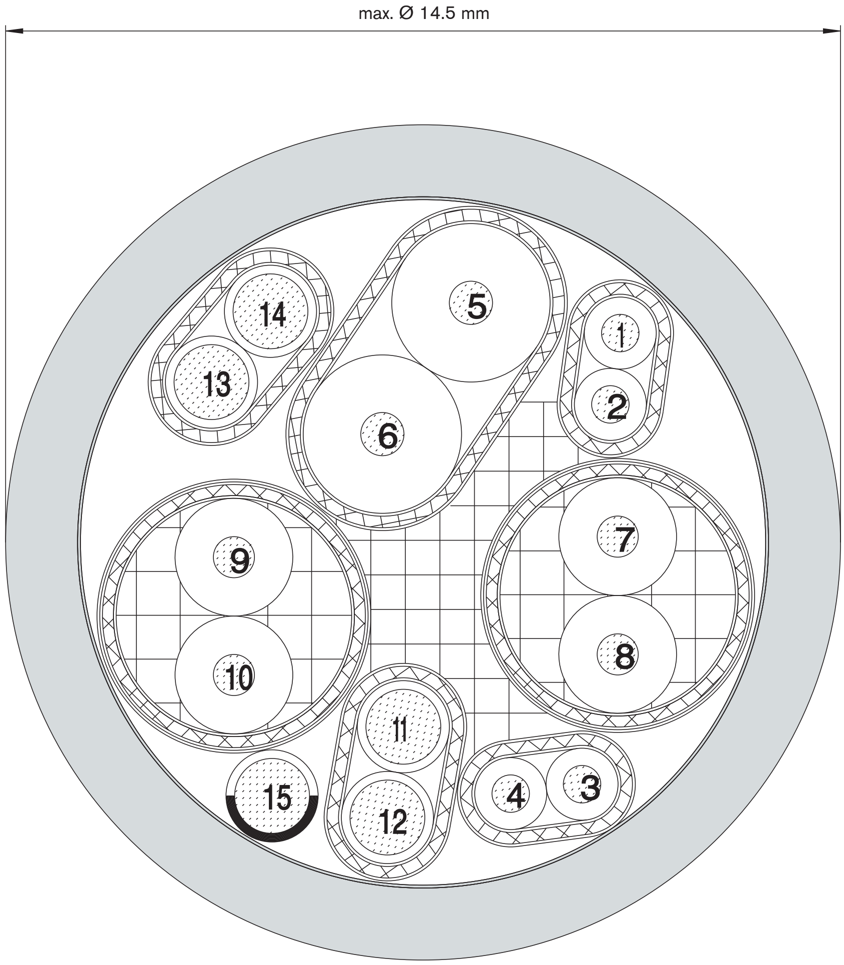
Technical Data

Peak operating voltage:	max. 350 V
Testing voltage:	screen/screen 1700 V (AC) cond./screen 1000 V (AC) cond./cond. 2500 V (DC) cond./screen 1500 V (DC)
Temperature range: flexible application: fixed laying:	 -40°C up to +70°C -40°C up to +70°C
Min. bending radius:	7,5 x outer diameter
Absence of harmful substances:	acc. to RoHS directive of the European Union

Further technical information on request

RoHS

Item no.: 0616-9028 2 x (2 x 0,25 mm²) D + 2 x (2 x 0,34 mm²) D + 1,0 mm² + (2 x 0,34 mm²) D + 2 x (2 x 1,0 mm²) D



Interbus-S	Pos. 1 - 4	conductors 0,25 mm²; bare copper strands, in green, yellow, grey, pink
Profibus-DP	Pos. 5 - 6	conductors 0,34 mm²; bare copper strands, in red, green
DeviceNet	Pos. 7 - 10	conductors 0,34 mm²; bare copper strands, in blue + white, blue + red
	Pos. 11 - 15	conductors 1,0 mm²; bar copper strands, in red + black, brown + blue, green/yellow

Technical Data

Voltage:	UL 30 V
Temperature range: flexible application: fixed laying:	 -40°C up to +80°C -40°C up to +80°C
Min. bending radius:	12 x outer diameter
Absence of harmful substances:	acc. to RoHS directive of the European Union

Further technical information on request

Also available for fixed installation!

Item no. 0616-9032

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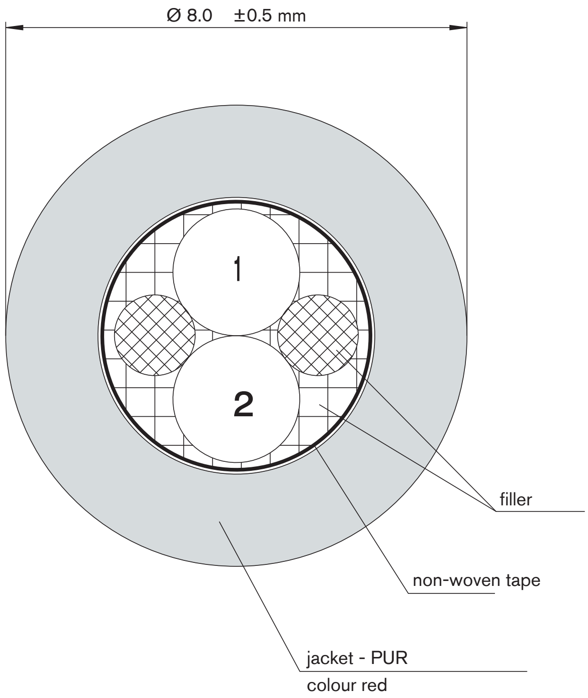
RoHS

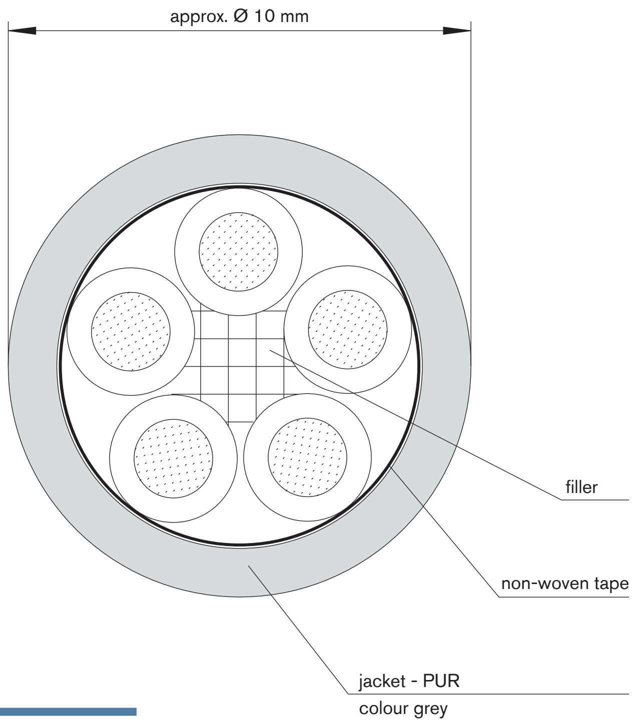
Item no.: 0664-9001 and 0737-9005
2 x POF and 5 x 1,5 mm²



Pos. 1 - 2 POF polymeric optical fibers in black and orange

conductors 1,5 mm²; bare copper strands, insulation special Polymer in black, with numbers 1 to 4 and one yellow with numbers 5 in black

RoHS



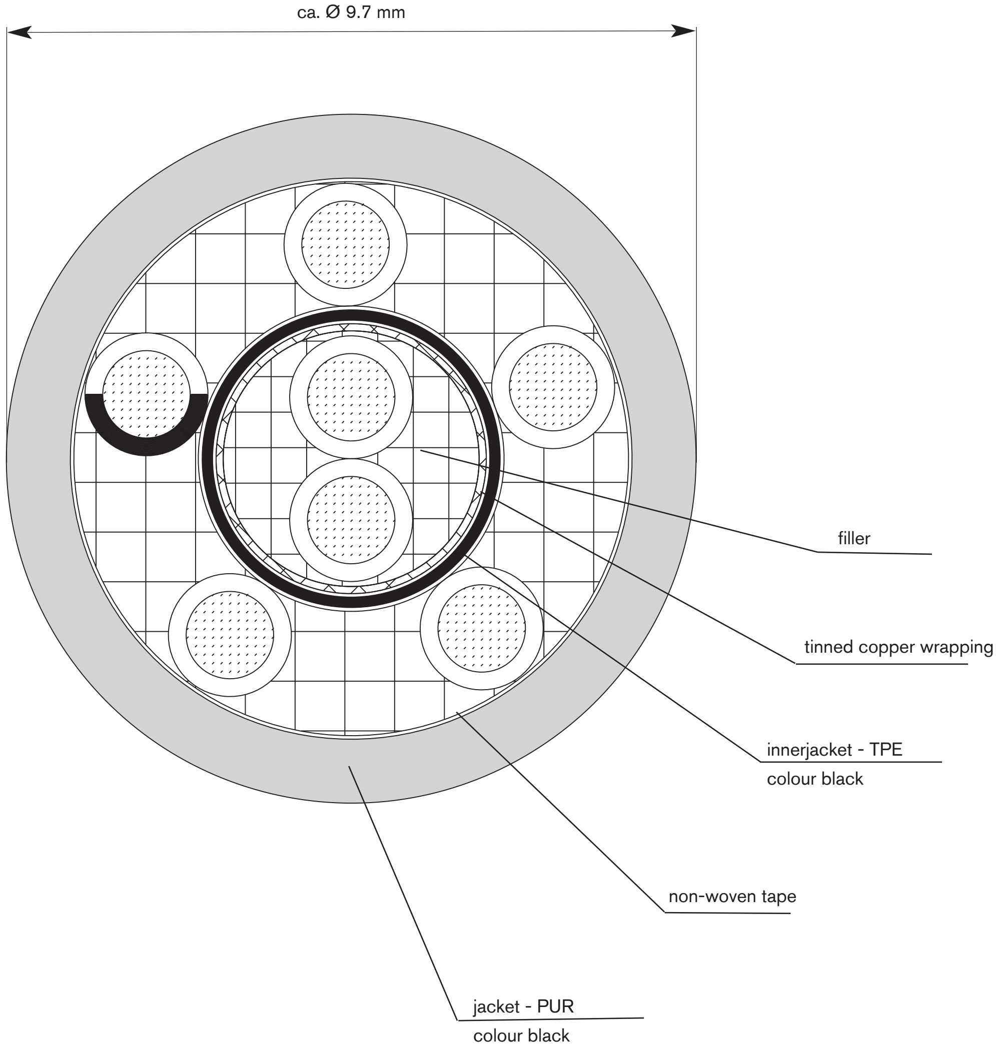
Technical Data

	item no. 0664-9001	item no. 0737-9005
Nominal voltage:		DIN VDE Uo/U 300/500 V
Testing voltage:		2000 V
Temperature range: flexible application: fixed laying:	+ 5°C up to +50°C -20°C up to +70°C	-30°C up to +70°C -30°C up to +70°C
Min. bending radius: **Overall cable:**	POF min. 30 mm 10 x outer diameter	7,5 x outer diameter
Absence of harmful substances:	acc. to RoHS directive of the European Union	

Further technical information on request

RoHS

Item no.: 0760-9057
(2 x 1,0 mm²) D + 5 x 1,0 mm²



conductors 1.0 mm²; bare copper,
insulation TPE in black with numbers 1 - 6 + green/yellow

Technical Data

Peak operating voltage:	max. 350 V
Testing voltage:	conductor/conductor 1500 V conductor/conductor 1200 V
Temperature range : flexingt: static:	 -40°C up to +90°C -50°C up to +90°C
Min. bending radius: flexing: static:	 10 x outer diamter 5 x outer diamter
Absence of harmful substances:	acc. to RoHS directive of the European Union

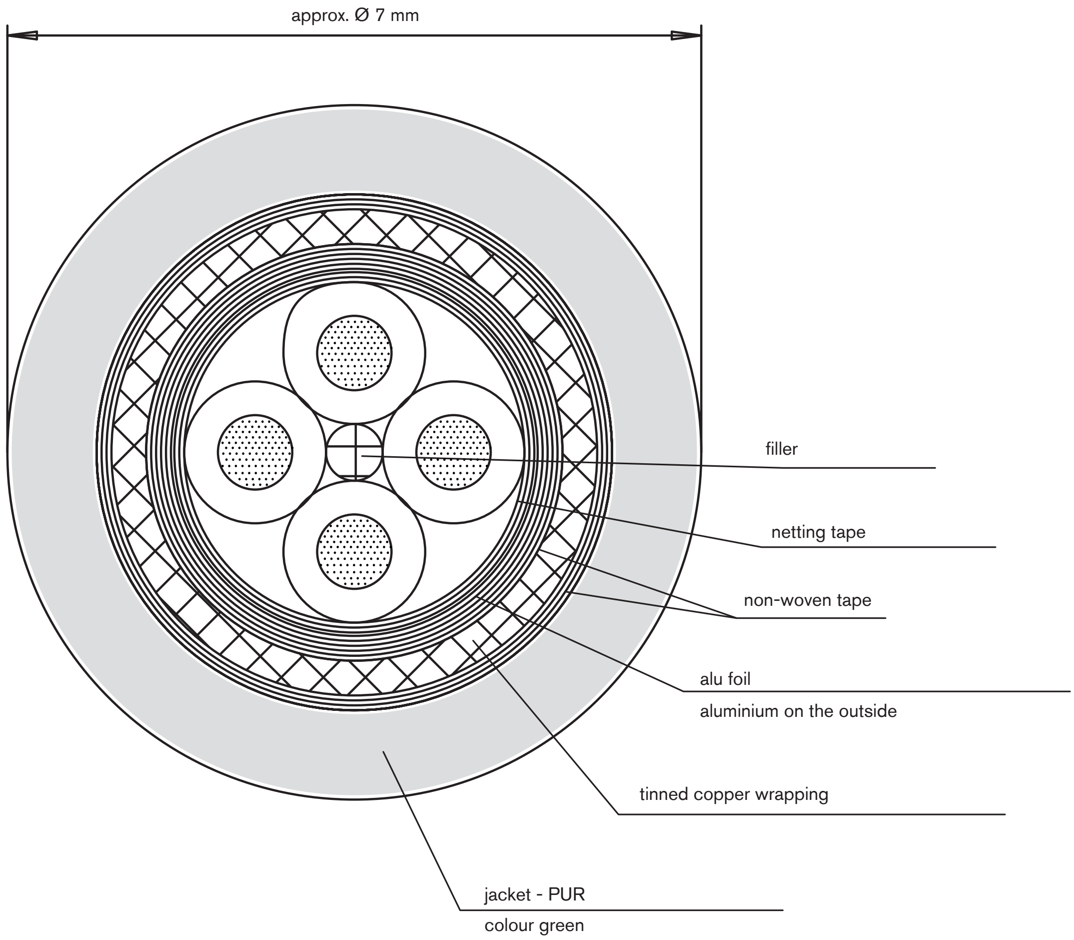
Further technical information on request

SAB BRÖCKSKES

RoHS

Item no.: 0668-9001

2 x 2 x AWG 22



conductors AWG 22; tinned copper strands,
insulation PE in white, blue, orange, yellow

Technical Data

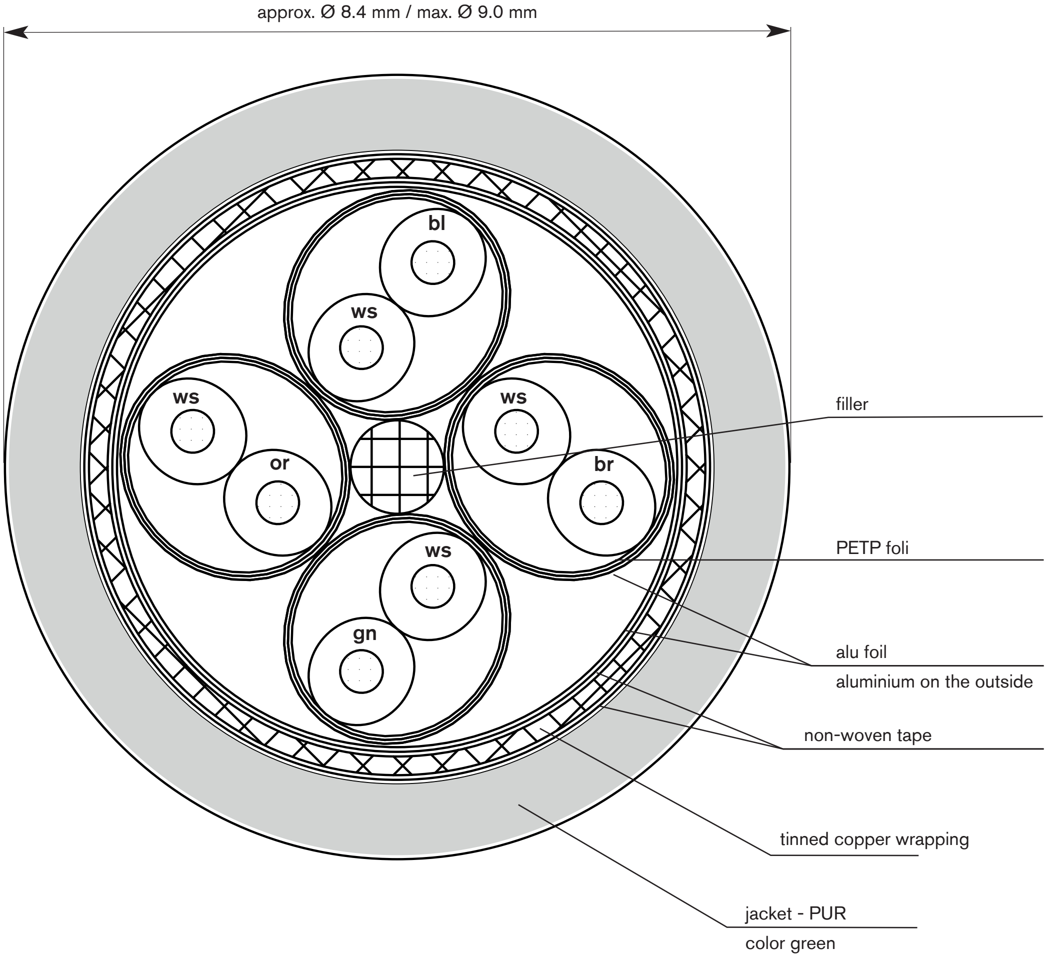
Peak operating voltage:	max. 350 V
Testing voltage:	cond./cond. 1500 V cond./screen 1200 V
Temperature range: flexible application: fixed laying:	-30°C up to +90°C -40°C up to +90°C
Min. bending radius: flexing: static:	10 x outer diamter 5 x outer diamter
Absence of harmful substances:	acc. to RoHS directive of the European Union

Further technical information on request

RoHS

Item no.: 0694-2604

4 x 2 x AWG 26



conductors 4 x 2 x AWG 26 tinned copper strands
insulation PEP in white with numbers 1 - 4, bl, or, gr, br

Technical Data

Peak operating voltage:	max. 350 V
Voltage UL/CSA:	300 V
Testing voltage:	cond./cond. 1500 V cond./screen 1200 V
Temperature range: flexible application: fixed laying:	 -30°C up to +70°C -40°C up to +70°C
Min. bending radius: flexing: static:	 10 x outer diamter 5 x outer diamter
Absence of harmful substances:	acc. to RoHS directive of the European Union

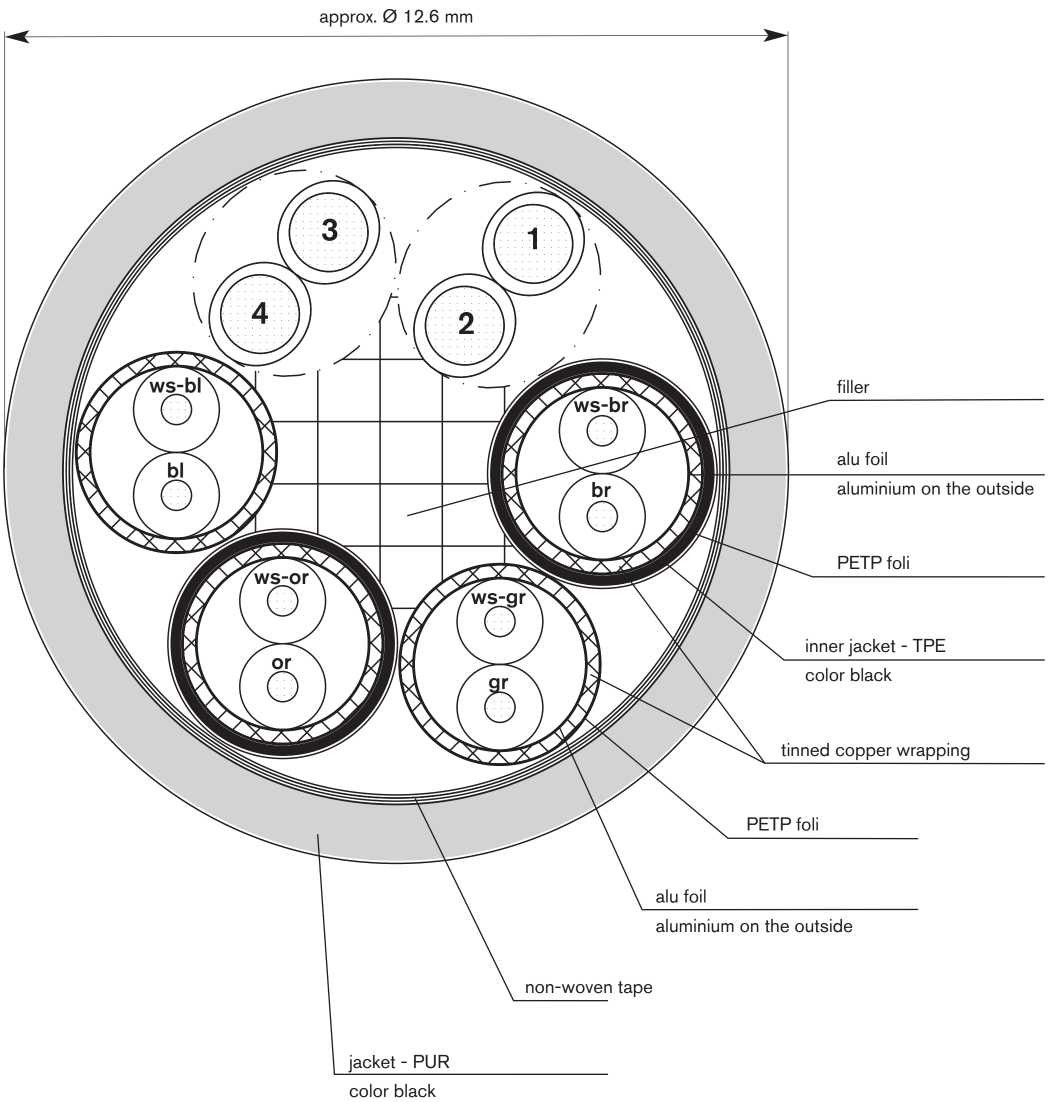
Further technical information on request

SAB BRÖCKSKES

RoHS

Item no.: 0694-9001

4 x 2 x AWG 26 + 4 x 1,0 mm²



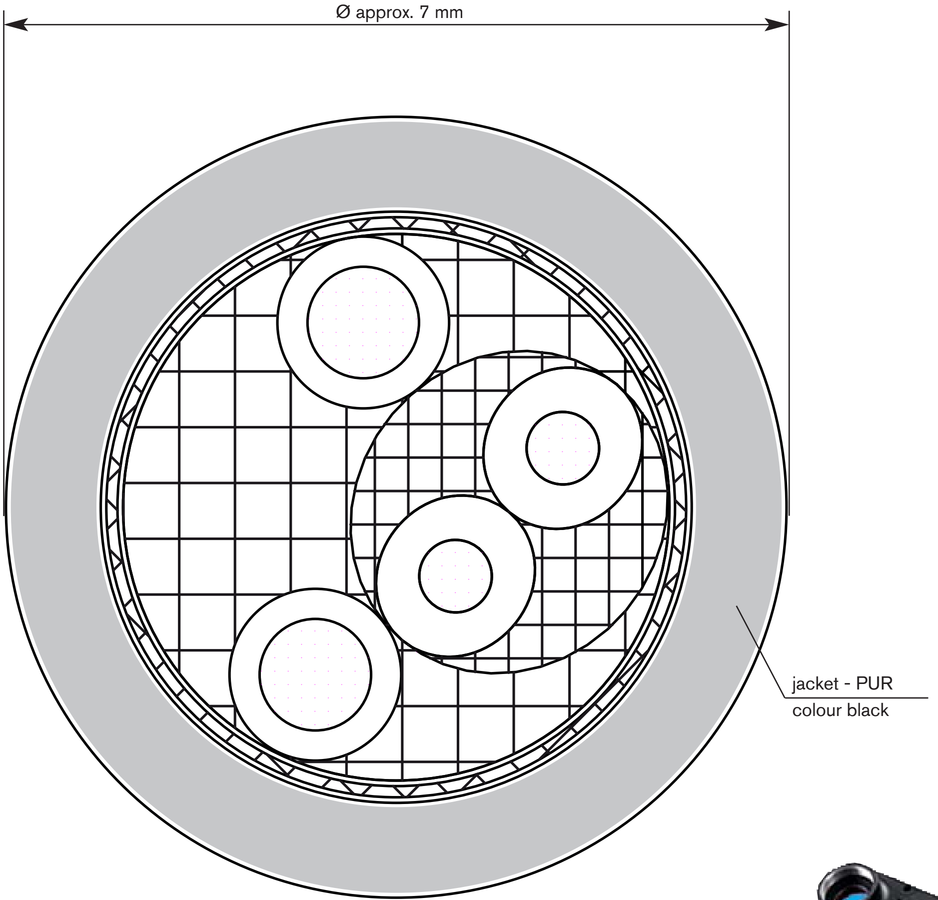
conductors 4 x 2 x AWG 26 + 4 x 1,0 mm²: tinned copper strands
insulation 4 x 1,0 mm²: TPE in black with numbers 1 - 4
insulation conductors 4 x 2 x AWG 26: FEP, ws-bl/bl, ws-or/or, ws-gr/gr, ws-br/br

Technical Data

Peak operating voltage:	AWG 26: max. 350 V
Nominal voltage:	1,0 mm²: 300/500 V
Testing voltage:	cond./cond. 1500 V (AWG 26) 2000 V (1,0 mm²) cond./screen 1200 V (AWG 26)
Temperature range: flexible application: fixed laying:	 -40°C up to +90°C -50°C up to +90°C
Min. bending radius: flexing: static:	 10 x outer diamter 5 x outer diamter
Absence of harmful substances:	acc. to RoHS directive of the European Union

Further technical information on request

Item no.: 0601-2022
(2 x 0,22 mm²) ST + 2 x 0,50 mm²



conductors (2 x 0,22 mm²) ST: silver-plated strands, insulation SABIX®, ws, gr
conductors 2 x 0,50 mm²: bare copper strands, insulation SABIX®, sw, rt

Technical Data

Peak operating voltage:	max. 350 V
Voltage UL:	300 V
Testing voltage:	cond./cond. 2000 V cond./screen 2000 V
Temperature range: flexible application: fixed laying:	**UL:** up to +80°C -40°C up to +90°C -50°C up to +90°C
Min. bending radius: flexing: static: continuously flexible:	 7,5 x outer diamter 5 x outer diamter 10 x outer diamter
Torsion angle:	up to ± 180°/m
Absence of harmful substances:	acc. to RoHS directive of the European Union

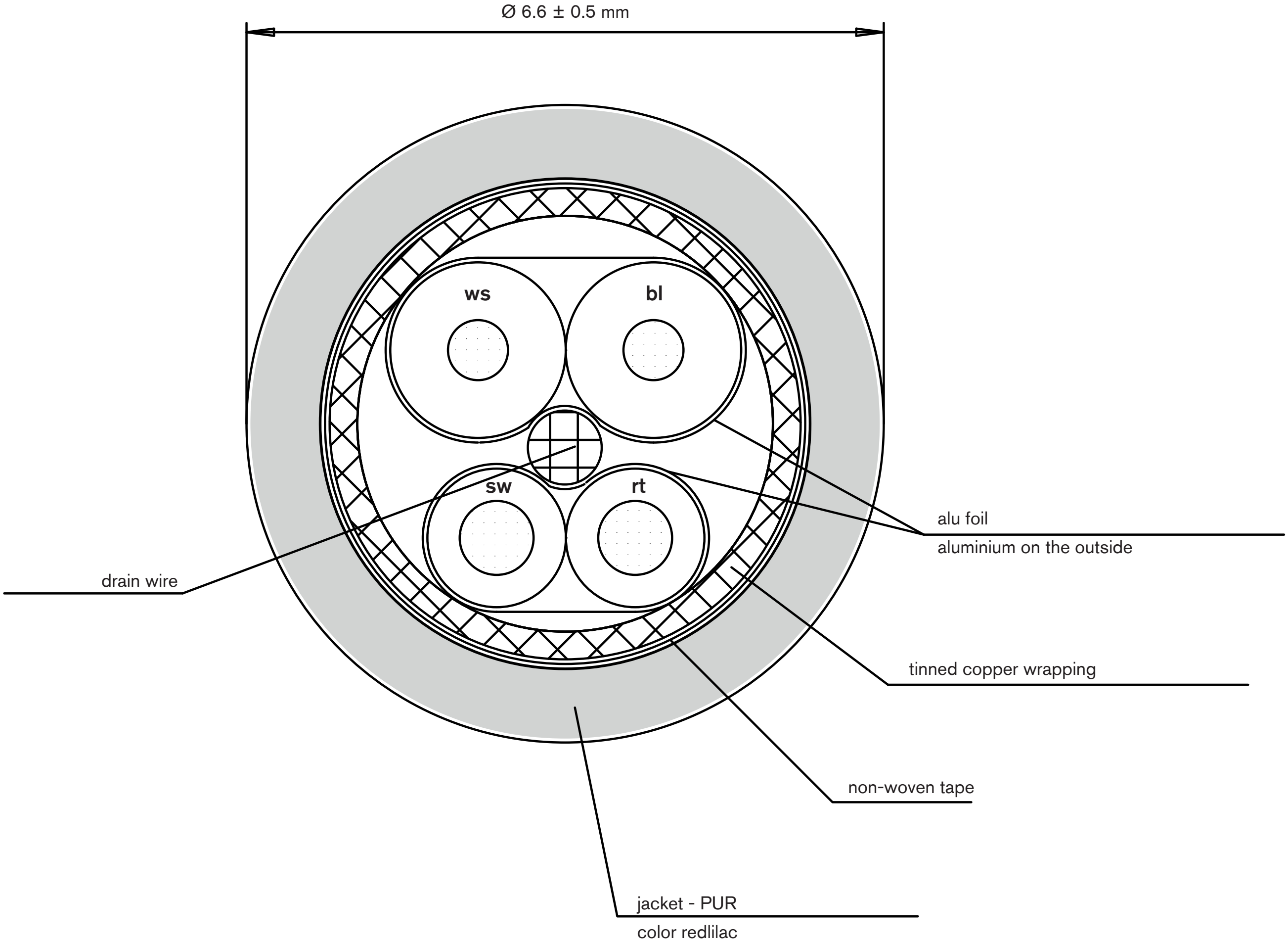
Further technical information on request

transmission length up to 10m!

RoHS

Item no.: 0658-9007

2 x 0,24 mm² + 2 x 0,38 mm²



conductors 2 x 0,24 mm²: tinned copper strands, insulation Foam-Skin, ws, bl

conductors 2 x 0,50 mm²: tinned copper strands, insulation SABIX®, sw, rt

Technical Data

Peak operating voltage:	max. 350 V
Voltage UL:	300 V
Testing voltage:	cond./cond. 2000 V cond./screen 1200 V
Temperature range: flexible application: fixed laying:	**UL:** up to +80°C -30°C up to +80°C -40°C up to +80°C
Min. bending radius: flexing: static:	 15 x outer diamter 7,5 x outer diamter
Torsion angle:	up to ± 180°/m
Characteristic impedance at 1 MHz:	120 Ω ± 10%
Absence of harmful substances:	acc. to RoHS directive of the European Union

Further technical information on request

highly flexible DeviceNet™ cable, suitable for robots with overall copper screen and UL recognition

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

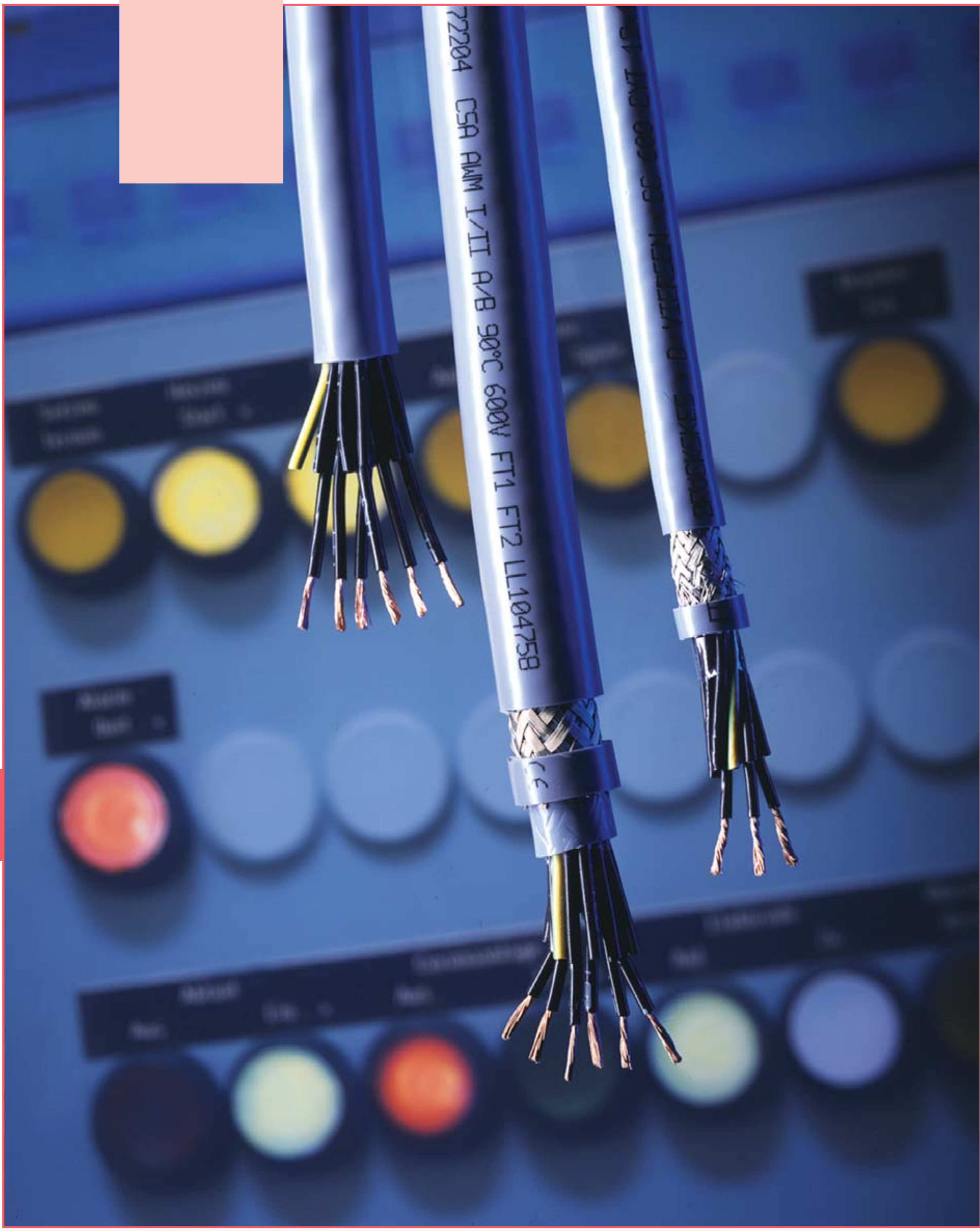
TEMPERATURE MEASUREMENT

- 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

Control and Connection Cables



Content

Content

Control and connection cables acc. to national and international standards

TPE control cable with extra chemical resistance and UL

You will find more halogen-free control and connection cables on pages A/15-32 and A/45-47

Applications

■ Applications of PVC control and connection cables

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

Exemplary applications:

H05V-K/MTW/TEW **H07V-K/MTW/TEW** **MEGA 147** **H05V2-K** **H05V-K** **MEGA 157** **H07V2-K** **H07V-K**	Construction of control cabinets, appliances and devices for communication technologies, household appliances, generator, transformer and machine construction
CC 500 **CC 510** **CC 600 black, blue** **CC 600 MTW**	Construction of service cabinets and control devices, electrical technology, installation and packaging techniques, construction of textile machines, wood working machines and machine tools
CC 500 B	Construction of service cabinets, control devices and machine tools, data processing, packaging machine, textile and wood working machine construction and in cleansing appliances
ÖCYZ-J	Car manufacturing industry, automation technologies, press and form engineering, machine tools, textile, printing and paper machine construction, surface techniques
CC 500 CY **CC 500 CY (TR)** **CC 510 CY** **CC 600 CY Lean** **CC 600 CY** **CC 600 MTW CY**	Car manufacturing industry, automation technologies, press and form engineering, machine tools, textile, printing and paper machine construction, iron and steel industries
CC 500 SY **CC 500 SY (TR)**	Packaging and wood working machine construction, press engineering, energy techniques, plastics processing and textile machine construction, electrical technology, beverage racks
ÖZ-0 (E) **ÖZCuY-0 (E)**	Chemical industry, for intrinsically safe circuits, on control panels in hazardous locations. Marking meets the requirements acc. to DIN VDE 0165 section 6.1.3.3.1
CC 600 World **CC 600 M CY** **CC 600 T** **CC 600 DS T** **CC 600 CY T** **H05VV5-F** (HD 21.13 S1) **H05VVC4V5-K** (HD 21.13 S1)	Machine tool and packaging machine construction, material handling and automation technologies, car manufacturing industry, CNC-machines

Applications

Applications of PUR control cables

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

Exemplary applications:

CC 500 P **CC 500 CP** **CC 540 P** **CC 540 CP** **CC 550 P** **CC 550 CP** **CC 600 P black, blue, red** **CC 600 CP** **CC 640 P** **CC 640 CP**	Due to the PUR outer sheath very well suitable for: machine and industrial plant construction, material handling techniques (e.g. working platforms and transportation systems), car manufacturing industry, handling and automation technologies, iron, steel and chemical industries

Applications of PUR connection cables

These cables are suitable for the use with high mechanical loads in dry, damp and wet rooms, e.g. as connection cable for electrical appliances and electric tools, particularly at low temperatures.

Exemplary applications:

YK11Y-J	Electric appliance construction (e.g. hand screw driver, drilling machines), electric tool construction (e.g. grass mowing machines, edge cutters, hedge clippers), in brick and cement works, for partial outdoor use
NYMH11YÖ-J	Electric hand appliances (e.g. drilling machines, portable grinders and other electric tools) with high mechanical loads, steel, car manufacturing, mining and chemical industry, wherever the cables get in contact with oil or sharp edges, rough floors or metal scobs, application in dry rooms

Application of control cables with extra chemical resistance

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

Exemplary applications:

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

You will find further information about the safe application of cables on pages N/28-38

Selection table

	Cable type	CC 500	CC 500 B	ÖCYZ-J	CC 500 CY	CC 500 CY (TR)	CC 510	CC 510 CY	YK11Y-J	CC 500 P	CC 500 CP	CC 540 P	CC 540 CP	CC 550 P	CC 550 CP	CC 500 SY	CC 500 SY (TR)	ÖZ-0 (E)	ÖZCuY-0 (E)	H05VV5-F	H05VVC4V5-K
Basic construction	Numbered cores	x		x	x	x	x	x		x	x			x	x	x	x	x	x	x	x
	Coloured cores		x						x			x	x								
	Copper screen			x	x	x		x			x		x		x				x		x
	Steel wire protection															x	x				
	With inner sheath				x	x		x		from 4.0 mm^2						x	x		x		x
	Transparent outer sheath					x											x				
Temperature range fixed laying*	+ 105 °C																				
	+ 90 °C																				
	+ 80 °C																				
	+ 70 °C																				
	+ 60 °C																				
	– 25 °C																				
	– 30 °C																				
	– 40 °C																				
Voltage	Voltage UL-AWM 600 V / CSA 1000 V																				
	Voltage UL 600 V cUL 1000 V																				
	Nominal voltage 600 V (UL/CSA)																				
	Nominal voltage Uo/U 300/500 V	x	x^1	x	x	x			x	x	x	x^3	x^3	x	x	x	x	x	x	x	x
	Nominal voltage Uo/U 450/750 V		x^2									x^4	x^4								
	Nominal voltage Uo/U 0,6/1 kV						x	x													
	Testing voltage core/core 2000 V													x	x						
	Testing voltage core/core 2500 V																				
	Testing voltage core/core 3000 V	x	x	x	x	x			x	x	x	x	x			x	x	x	x	x	x
	Testing voltage core/core 4000 V						x	x													
	Testing voltage core/screen 1000 V			x	x	x					x		x						x		
	Testing voltage core/screen 2000 V														x						x
Standards and approvals	Fire performance acc. to IEC 60332-1-2 and EN 60332-1-2	x	x	x	x	x	x	x				x	x	x	x	x	x	x	x	x	x
	Fire performance acc. to UL VW-1 and acc. to CSA FT1 and FT2																			x	
	Fire performance acc. to UL VW-1 and acc. to CSA FT1																				
	Fire performance acc. to UL VW-1 and acc. to cUL FT1 and FT2																				
	Fire performance acc. to CSA FT1 and FT2																				
	VDE-Reg. no.	x			x	x										x	x	x	x		
	DIN VDE standardized																				
	<HAR> standardized																			x	x
	UL recognition																				
	cUL recognition																				
	(UL) listed																				
	CSA approved																				
Characteristics	Oil resistance acc. to internal standard	x	x	x	x	x	x	x								x	x	x	x		
	Oil resistance acc. to DIN VDE								x	x	x	x	x	x	x					x	x
	Oil 60 °C																				
	Good chemical resistance see page N/9						x	x	x	x	x	x	x	x	x						
	High mechanical loading capacity								x	x	x	x	x	x	x	x	x				
	Intrinsically safe																	x	x		
	Weather resistance								x			x	x	x	x						
	Partial outdoor use								x												

from

to

x^1 from 0,50 mm^2 to 1,50 mm^2
x^2 from 2,50 mm^2 to 50,0 mm^2

x^3 from 0,75 mm^2 to 1,00 mm^2
x^4 from 1,00 mm^2 to 16,0 mm^2

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

Selection table

	Cable type	CC 600 black, blue	CC 600 CY Lean	CC 600 CY	CC 600 T	CC 600 CY T	CC 600 DS T	CC 600 MTW	CC 600 MTW CY	CC 600 World	CC 600 M CY	CC 600 P black, blue, red	CC 600 CP	CC 640 P	CC 640 CP	NYMH11YÖ-J	H05V-K/MTW/TEW H07V-K/MTW/TEW	MEGA 147/H05V2-K/ H05V-K/MEGA 157/ H07V2-K/H07V-K	CRX 600	CRX 600 C
Basic construction	Numbered cores	x	x	x	x	x	x	x	x	x	x	x	x						x	x
	Coloured cores													x	x	x	x	x		
	Copper screen		x	x		x	x		x		x		x		x					x
	Steel wire protection																			
	With inner sheath										x	from 4.0 mm²								
	Transparent outer sheath																			
Temperature range fixed laying*	+ 105 °C / + 90 °C / + 80 °C / + 70 °C / + 60 °C / – 25 °C / – 30 °C / – 40 °C	+ 90 °C to – 40 °C	+ 70 °C to – 40 °C	+ 90 °C to – 40 °C	+ 105 °C to – 40 °C	+ 105 °C to – 40 °C	+ 90 °C to – 40 °C	+ 90 °C to – 25 °C	+ 90 °C to – 25 °C	+ 90 °C to – 40 °C	+ 90 °C to – 40 °C	+ 80 °C to – 40 °C	+ 80 °C to – 40 °C	+ 90 °C to – 40 °C	+ 90 °C to – 40 °C	+ 70 °C to – 40 °C	+ 105 °C to – 40 °C	+ 105 °C to – 40 °C	+ 105 °C to – 30 °C	+ 105 °C to – 30 °C
Voltage	Voltage UL-AWM 600 V / CSA 1000 V							x	x											
	Voltage UL 600 V cUL 1000 V																		x	x
	Nominal voltage 600 V (UL/CSA)	x	x	x	x	x	x			x	x	x	x	x	x		x	x		
	Nominal voltage Uo/U 300/500 V	x	x	x	x	x	x			x	x	x	x	x	x	x	x	x	x	x
	Nominal voltage Uo/U 450/750 V																x	x		
	Nominal voltage Uo/U 0,6/1 kV																			
	Testing voltage core/core 2000 V																x	x	x	x
	Testing voltage core/core 2500 V																x	x		
	Testing voltage core/core 3000 V	x	x	x	x	x	x			x	x	x	x	x	x	x				
	Testing voltage core/core 4000 V							x	x											
	Testing voltage core/screen 1000 V		x			x	x				x		x		x					x
	Testing voltage core/screen 2000 V			x					x											
Standards and approvals	Fire performance acc. to IEC 60332-1-2 and EN 60332-1-2	x	x	x	x	x	x			x	x	x	x	x	x		x	x	x	x
	Fire performance acc. to UL VW-1 and acc. to CSA FT1 and FT2	x	x	x	x	x	x			x	x	x	x	x	x					
	Fire performance acc. to UL VW-1 and acc. to CSA FT1																x	x		
	Fire performance acc. to UL VW-1 and acc. to cUL FT1 and FT2																		x	x
	Fire performance acc. to CSA FT1 and FT2							x	x											
	VDE-Reg. no.	x	x	x																
	DIN VDE standardized															x	x	x		
	<HAR> standardized																x	x		
	UL recognition	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x
	cUL recognition																		x	x
	(UL) listed							x	x								x			
	CSA approved	x	x	x			x			x	x									
Characteristics	Oil resistance acc. to internal standard				x	x	x													
	Oil resistance acc. to DIN VDE	x	x	x				x	x	x	x			x	x	x				
	Oil 60 °C					x	x			x	x						x	x		
	Good chemical resistance see page N/9	x		x						x	x		x	x	x				x	x
	High mechanical loading capacity		x		x	x						x	x	x	x					
	Intrinsically safe																			
	Weather resistance													x	x					
	Partial outdoor use																			

from
to

x^1 from 0,50 mm² to 1,50 mm²
x^2 from 2,50 mm² to 50,0 mm²

x^3 from 0,75 mm² to 1,00 mm²
x^4 from 1,00 mm² to 16,0 mm²

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

CC 500 PVC control cable with numbered cores

Marking for CC 500 (ÖZ-J) 02005005:
SAB BRÖCKSKES · D-VIERSEN · ÖZ-J VDE-Reg.-Nr. 7000 CC 500 50 x 0,5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	in layers
Sheath material:	PVC, TM2 acc. to DIN VDE 0281 part 1 + HD 21.1
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **flexible**
- **numbered cores**
- **small bending radius**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2
Min. bending radius *fixed laying:* *flexible application:*	 4 x d 6 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	 -40/+70 °C +5/+70 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Oil resistance:	acc. to internal standard, see page N/13
Chem. resistance:	see page N/9
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

Also available as hybrid cable without reg. no. for example:

3G1,0 + 16 x 0,34 mm²
3G1,0 + 8 x 0,34 mm²
1G0,5 + 4 x 0,34 mm²

Peak operating voltage of data conductors: max. 500 V

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02000205	2 x 0,50	0,21	5,1	9,6	37
02000305	3 x 0,50	0,21	5,4	14,4	43
02000405	4 x 0,50	0,21	5,8	19,2	52
02000505	5 x 0,50	0,21	6,5	24,0	64
02000705	7 x 0,50	0,21	7,1	33,6	80
02000805	8 x 0,50	0,21	8,3	38,4	99
02000905	9 x 0,50	0,21	8,8	43,2	110
02001005	10 x 0,50	0,21	9,2	48,0	117
02001205	12 x 0,50	0,21	9,5	57,6	132
02001405	14 x 0,50	0,21	9,9	67,2	148
02001605	16 x 0,50	0,21	10,6	76,8	171
02001805	18 x 0,50	0,21	11,2	86,4	189
02002105	21 x 0,50	0,21	12,4	100,8	225
02002505	25 x 0,50	0,21	13,6	120,0	260
02003005	30 x 0,50	0,21	14,0	144,0	298
02003405	34 x 0,50	0,21	15,3	163,2	341
02004005	40 x 0,50	0,21	16,5	192,0	399
02004205	42 x 0,50	0,21	16,5	201,6	414
02005005	50 x 0,50	0,21	18,1	240,0	485
02006105	61 x 0,50	0,21	19,4	292,8	529
02006505	65 x 0,50	0,21	20,4	312,0	619
02008005	80 x 0,50	0,21	22,2	384,0	752
02000207	2 x 0,75	0,21	5,7	14,4	47
02000307	3 x 0,75	0,21	6,2	21,6	59
02000407	4 x 0,75	0,21	6,7	28,8	71
02000507	5 x 0,75	0,21	7,3	36,0	84
02000707	7 x 0,75	0,21	8,2	50,4	110
02000807	8 x 0,75	0,21	9,6	57,6	136
02000907	9 x 0,75	0,21	10,2	64,8	152
02001007	10 x 0,75	0,21	10,6	72,0	159
02001207	12 x 0,75	0,21	10,9	86,4	181
02001407	14 x 0,75	0,21	11,4	100,8	203
02001607	16 x 0,75	0,21	12,2	115,2	234
02001807	18 x 0,75	0,21	12,9	129,6	258
02002107	21 x 0,75	0,21	14,3	151,2	305
02002507	25 x 0,75	0,21	15,6	180,0	354
02003007	30 x 0,75	0,21	16,3	216,0	417
02003407	34 x 0,75	0,21	17,8	244,8	473
02004007	40 x 0,75	0,21	19,0	288,0	546
02004207	42 x 0,75	0,21	19,0	302,4	565
02005007	50 x 0,75	0,21	21,0	360,0	672
02006107	61 x 0,75	0,21	22,5	439,2	803
02006507	65 x 0,75	0,21	23,9	468,0	869
02008007	80 x 0,75	0,21	25,7	576,0	1040
02000210	2 x 1,00	0,21	5,9	19,2	53
02000310	3 x 1,00	0,21	6,4	28,8	67
02000410	4 x 1,00	0,21	7,0	38,4	82
02000510	5 x 1,00	0,21	7,8	48,0	101
02000710	7 x 1,00	0,21	8,5	67,2	128
02000810	8 x 1,00	0,21	9,9	76,8	157
02000910	9 x 1,00	0,21	10,8	86,4	181
02001010	10 x 1,00	0,21	11,0	96,0	189
02001210	12 x 1,00	0,21	11,3	115,2	211
02001410	14 x 1,00	0,21	12,1	134,4	244
02001610	16 x 1,00	0,21	12,7	153,6	273
02001810	18 x 1,00	0,21	13,6	172,8	309
02002110	21 x 1,00	0,21	15,0	201,6	363
02002510	25 x 1,00	0,21	16,4	240,0	422
02003010	30 x 1,00	0,21	17,0	288,0	488
02003410	34 x 1,00	0,21	18,5	326,4	556
02004010	40 x 1,00	0,21	19,9	384,0	651
02004210	42 x 1,00	0,21	19,9	403,2	677
02005010	50 x 1,00	0,21	21,9	480,0	792
02006110	61 x 1,00	0,21	23,6	585,6	959
02006510	65 x 1,00	0,21	24,8	624,0	1024
02008010	80 x 1,00	0,21	27,0	768,0	1243

Continued on next page

CC 500 PVC control cable with numbered cores

RoHS

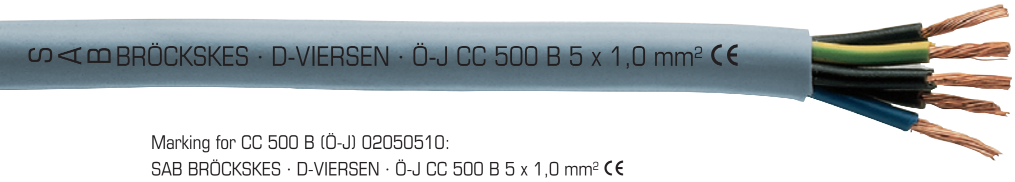
Marking for CC 500 02005005:
SAB BRÖCKSKES · D-VIERSEN · ÖZ-J VDE-Reg.-Nr. 7000 CC 500 50 x 0,5 mm² CE

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02000215	2 x 1,50	0,26	6,7	28,8	71
02000315	3 x 1,50	0,26	7,1	43,2	87
02000415	4 x 1,50	0,26	7,9	57,6	109
02000515	5 x 1,50	0,26	8,6	72,0	130
02000715	7 x 1,50	0,26	9,6	100,8	172
02000815	8 x 1,50	0,26	11,2	115,2	210
02000915	9 x 1,50	0,26	12,2	129,6	234
02001015	10 x 1,50	0,26	12,4	144,0	246
02001215	12 x 1,50	0,26	12,8	172,8	282
02001415	14 x 1,50	0,26	13,6	201,6	325
02001615	16 x 1,50	0,26	14,3	230,4	365
02001815	18 x 1,50	0,26	15,3	259,2	413
02002115	21 x 1,50	0,26	16,9	302,4	486
02002515	25 x 1,50	0,26	18,5	360,0	570
02003015	30 x 1,50	0,26	19,3	432,0	669
02003415	34 x 1,50	0,26	21,0	489,6	760
02004015	40 x 1,50	0,26	22,6	576,0	891
02004215	42 x 1,50	0,26	22,6	604,8	926
02005015	50 x 1,50	0,26	24,8	720,0	1089
02006115	61 x 1,50	0,26	26,7	878,4	1315
02006515	65 x 1,50	0,26	28,3	936,0	1419
02008015	80 x 1,50	0,26	30,5	1152,0	1709
02000225	2 x 2,50	0,26	8,1	48,0	107
02000325	3 x 2,50	0,26	8,6	72,0	133
02000425	4 x 2,50	0,26	9,5	96,0	166
02000525	5 x 2,50	0,26	10,6	120,0	205
02000725	7 x 2,50	0,26	11,6	168,0	264
02000825	8 x 2,50	0,26	13,8	192,0	327
02000925	9 x 2,50	0,26	14,9	216,0	368
02001025	10 x 2,50	0,26	15,2	240,0	384
02001225	12 x 2,50	0,26	15,7	288,0	441
02001425	14 x 2,50	0,26	16,6	336,0	508
02001625	16 x 2,50	0,26	17,5	384,0	572
02001825	18 x 2,50	0,26	18,7	432,0	641
02002125	21 x 2,50	0,26	20,9	504,0	766
02002525	25 x 2,50	0,26	22,8	600,0	888
02000340	3 x 4,00	0,31	10,2	115,2	196
02000440	4 x 4,00	0,31	11,3	153,6	247
02000540	5 x 4,00	0,31	12,6	192,0	305
02000740	7 x 4,00	0,31	13,9	268,8	400
02000360	3 x 6,00	0,31	12,1	172,8	286
02000460	4 x 6,00	0,31	13,2	230,4	353
02000560	5 x 6,00	0,31	14,9	288,0	443
02000760	7 x 6,00	0,31	16,4	403,2	580
02000461	4 x 10,0	0,41	17,1	384,0	600
02000561	5 x 10,0	0,41	19,3	480,0	750
02000761	7 x 10,0	0,41	21,2	672,0	981
02000462	4 x 16,0	0,41	21,1	614,4	918
02000562	5 x 16,0	0,41	23,6	768,0	1138
02000762	7 x 16,0	0,41	26,0	1075,2	1494
02000463	4 x 25,0	0,41	25,5	960,0	1438
02000563	5 x 25,0	0,41	28,6	1200,0	1803
02000763	7 x 25,0	0,41	31,6	1680,0	2362
02000464	4 x 35,0	0,41	29,5	1344,0	1985
02000564	5 x 35,0	0,41	32,9	1680,0	2483
02000764	7 x 35,0	0,41	36,4	2352,0	3259
02000465	4 x 50,0	0,41	33,9	1920,0	2714

Other dimensions and colours are possible on request.

even more than 100 cores are possible

CC 500 B PVC connection cable with coloured cores



Marking for CC 500 B (Ö-J) 02050510:
SAB BRÖCKSKES · D-VIERSEN · Ö-J CC 500 B 5 x 1,0 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	coloured acc. to HD 308 (VDE 0293 part 308); green-yellow earth wire from 3 cores
Stranding:	in layers
Sheath material:	PVC, TM2 acc. to DIN VDE 0281 part 1+ HD 21.1
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **flexible**
- **coloured cores**
- **small bending radius**

Technical data:

Nominal voltage:	0,50 mm² - 1,50 mm²: Uo/U 300/500 V 2,50 mm² - 50,0 mm²: Uo/U 450/750 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2
Min. bending radius *fixed laying:* *flexible application:*	 4 x d 6 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	 -40/+70 °C +5/+70 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Oil resistance:	acc. to internal standard, see page N/13
Chem. resistance:	see page N/9
Colour code:	see page N/10-12
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02050205	2 x 0,50	0,21	4,8	9,6	33
02050305	3 x 0,50	0,21	5,1	14,4	40
02050405	4 x 0,50	0,21	5,5	19,2	47
02050505	5 x 0,50	0,21	6,2	24,0	61
02050705	7 x 0,50	0,21	6,7	33,6	74
02050207	2 x 0,75	0,21	5,6	14,4	46
02050307	3 x 0,75	0,21	5,7	21,6	52
02050407	4 x 0,75	0,21	6,2	28,8	64
02050507	5 x 0,75	0,21	6,7	36,0	78
02050707	7 x 0,75	0,21	7,5	50,4	100
02050210	2 x 1,00	0,21	5,5	19,2	48
02050310	3 x 1,00	0,21	6,1	28,8	63
02050410	4 x 1,00	0,21	6,5	38,4	75
02050510	5 x 1,00	0,21	7,1	48,0	92
02050710	7 x 1,00	0,21	8,0	67,2	120
02050215	2 x 1,50	0,26	6,2	28,8	64
02050315	3 x 1,50	0,26	6,5	43,2	79
02050415	4 x 1,50	0,26	7,6	57,6	103
02050515	5 x 1,50	0,26	8,0	72,0	121
02050715	7 x 1,50	0,26	8,9	100,8	160

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02050225	2 x 2,50	0,26	8,8	48,0	121
02050325	3 x 2,50	0,26	9,5	72,0	151
02050425	4 x 2,50	0,26	10,6	96,0	190
02050525	5 x 2,50	0,26	11,6	120,0	232
02050725	7 x 2,50	0,26	12,8	168,0	297
02050340	3 x 4,00	0,31	10,8	115,2	213
02050440	4 x 4,00	0,31	12,0	153,6	267
02050540	5 x 4,00	0,31	13,1	192,0	327
02050360	3 x 6,00	0,31	12,7	172,8	303
02050460	4 x 6,00	0,31	14,1	230,4	381
02050560	5 x 6,00	0,31	15,7	288,0	466
02050760	7 x 6,00	0,31	17,3	403,2	613
02050361	3 x 10,0	0,41	15,8	288,0	492
02050461	4 x 10,0	0,41	17,8	384,0	627
02050561	5 x 10,0	0,41	19,7	480,0	783
02050462	4 x 16,0	0,41	21,1	614,4	935
02050463	4 x 25,0	0,41	25,5	960,0	1456
02050464	4 x 35,0	0,41	28,8	1344,0	1978
02050465	4 x 50,0	0,41	34,6	1920,0	2769

Other dimensions and colours are possible on request.

miniaturized version

ÖCYZ-J PVC control cable with numbered cores and overall copper screen

RoHS

Marking for ÖCYZ-J 02383425:
SAB BRÖCKSKES · D-VIERSEN · ÖCYZ-J CC 238 34 x 2,50 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
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:	PVC, TM2 acc. to DIN VDE 0281 part 1 + HD 21.1
Sheath colour:	grey (RAL 7000)

Outstanding features:

- ➤ **good EMC characteristics**
- ➤ **flexible**
- ➤ **small outer diameter**
- ➤ **small bending radius**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2; core/screen 1000 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	 -40/+70 °C +5/+70 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Oil resistance:	acc. to internal standard, see page N/13
Chem. resistance:	see page N/9
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

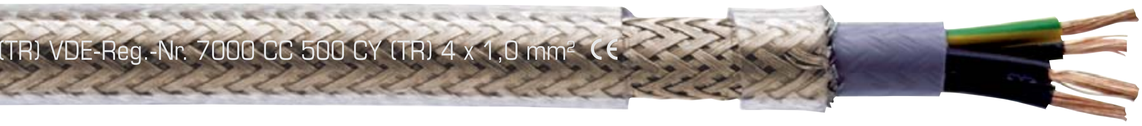
item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02380305	3 x 0,50	0,21	5,6	30,7	47
02380405	4 x 0,50	0,21	6,2	48,0	59
02380505	5 x 0,50	0,21	6,7	55,9	71
02380705	7 x 0,50	0,21	7,2	71,1	84
02381005	10 x 0,50	0,21	9,3	98,1	124
02381205	12 x 0,50	0,21	9,6	108,1	140
02381805	18 x 0,50	0,21	11,4	143,3	214
02382505	25 x 0,50	0,21	13,8	189,7	284
02384005	40 x 0,50	0,21	16,8	299,4	452
02386105	61 x 0,50	0,21	19,6	428,7	636
02380207	2 x 0,75	0,21	6,1	31,1	46
02380307	3 x 0,75	0,21	6,4	50,6	62
02380407	4 x 0,75	0,21	6,7	61,1	73
02380507	5 x 0,75	0,21	7,2	73,7	87
02380707	7 x 0,75	0,21	8,0	89,0	112
02381007	10 x 0,75	0,21	10,1	127,4	157
02381207	12 x 0,75	0,21	10,8	142,4	195
02381807	18 x 0,75	0,21	12,6	197,9	275
02382507	25 x 0,75	0,21	15,2	284,6	371
02383207	32 x 0,75	0,21	16,7	358,2	477
02384007	40 x 0,75	0,21	18,5	422,5	589
02386107	61 x 0,75	0,21	21,6	609,7	835
02380310	3 x 1,00	0,21	6,6	58,2	69
02380410	4 x 1,00	0,21	7,1	75,7	86
02380510	5 x 1,00	0,21	7,8	86,1	103
02380710	7 x 1,00	0,21	8,5	108,2	130
02381010	10 x 1,00	0,21	11,1	152,2	201
02381210	12 x 1,00	0,21	11,8	172,1	237
02381810	18 x 1,00	0,21	13,6	242,1	331
02382510	25 x 1,00	0,21	16,5	346,5	465
02383210	32 x 1,00	0,21	17,8	437,3	574
02384010	40 x 1,00	0,21	19,9	521,3	710
02386110	61 x 1,00	0,21	23,4	760,0	1010

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02380215	2 x 1,50	0,26	7,1	60,7	72
02380315	3 x 1,50	0,26	7,5	80,5	91
02380415	4 x 1,50	0,26	8,0	95,6	111
02380515	5 x 1,50	0,26	8,5	113,2	132
02380715	7 x 1,50	0,26	9,7	151,2	175
02381015	10 x 1,50	0,26	12,3	202,8	261
02381215	12 x 1,50	0,26	13,3	240,8	309
02381815	18 x 1,50	0,26	15,0	362,3	432
02382515	25 x 1,50	0,26	18,2	492,1	611
02383215	32 x 1,50	0,26	19,7	597,7	756
02384215	42 x 1,50	0,26	22,2	775,3	980
02386115	61 x 1,50	0,26	25,8	1064,7	1348
02380325	3 x 2,50	0,26	9,0	113,0	135
02380425	4 x 2,50	0,26	9,7	146,2	167
02380525	5 x 2,50	0,26	11,0	175,0	217
02380725	7 x 2,50	0,26	12,1	225,1	284
02381025	10 x 2,50	0,26	15,7	342,7	434
02381225	12 x 2,50	0,26	16,4	392,0	490
02381825	18 x 2,50	0,26	19,3	564,1	712
02382525	25 x 2,50	0,26	23,4	770,1	959
02383425	34 x 2,50	0,26	26,3	997,8	1299
02380440	4 x 4,00	0,31	11,3	210,7	252
02380540	5 x 4,00	0,31	12,6	260,0	313
02380460	4 x 6,00	0,31	13,6	298,4	359
02380560	5 x 6,00	0,31	15,1	358,7	444
02380461	4 x 10,0	0,41	17,2	517,1	615
02380561	5 x 10,0	0,41	19,3	620,5	776
02380462	4 x 16,0	0,41	20,8	756,0	917
02380562	5 x 16,0	0,41	23,1	944,0	1135
02380463	4 x 25,0	0,41	25,3	1145,7	1419
02380563	5 x 25,0	0,41	28,2	1399,2	1779

Other dimensions and colours are possible on request.

CC 500 CY (item 0240….)
CC 500 CY (TR) (item 0244….)

PVC control cable with numbered cores, inner sheath and overall copper screen



Marking for CC 500 CY (TR) 02440410:
SAB BRÖCKSKES · D-VIERSEN · ÖZCuY-J (TR) VDE-Reg.-Nr. 7000 CC 500 CY (TR) 4 x 1,0 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 HD + 21.1
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	in layers
Inner sheath:	PVC, TM2 acc. to DIN VDE 0281 part 1 HD + 21.1
Screen:	tinned copper braiding
Sheath material:	PVC, TM2 acc. to DIN VDE 0281 part 1 HD + 21.1
Sheath colour:	**CC 500 CY:** grey (RAL 7000) **CC 500 CY (TR):** transparent

Outstanding features:

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

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2; core/screen 1000 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	 -40/+70 °C +5/+70 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Oil resistance:	acc. to internal standard, see page N/13
Chem. resistance:	see page N/9
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no. 0240…./ 0244….	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
….0205	2 x 0,50	0,21	7,3	55,3	72
….0305	3 x 0,50	0,21	7,8	60,6	84
….0405	4 x 0,50	0,21	8,1	66,4	92
….0505	5 x 0,50	0,21	8,7	81,3	107
….0705	7 x 0,50	0,21	9,5	92,0	130
….1205	12 x 0,50	0,21	12,1	133,4	210
….1805	18 x 0,50	0,21	14,0	180,8	283
….2505	25 x 0,50	0,21	16,6	244,4	388
….3405	34 x 0,50	0,21	18,3	272,9	485
….4205	42 x 0,50	0,21	19,7	336,3	578
….5005	50 x 0,50	0,21	21,3	366,1	655
….6105	61 x 0,50	0,21	22,6	430,3	764
….0207	2 x 0,75	0,21	8,1	61,2	99
….0307	3 x 0,75	0,21	8,4	69,0	112
….0407	4 x 0,75	0,21	9,1	86,5	126
….0507	5 x 0,75	0,21	9,7	94,8	150
….0707	7 x 0,75	0,21	10,6	110,7	179
….1207	12 x 0,75	0,21	13,7	180,0	265
….1807	18 x 0,75	0,21	15,9	227,4	361
….2507	25 x 0,75	0,21	18,8	311,4	511
….3407	34 x 0,75	0,21	21,0	384,2	648
….4207	42 x 0,75	0,21	22,2	446,5	762
….5007	50 x 0,75	0,21	24,2	536,5	874
….6107	61 x 0,75	0,21	25,7	623,2	1023
….0210	2 x 1,00	0,21	8,3	66,4	109
….0310	3 x 1,00	0,21	8,6	76,5	121
….0410	4 x 1,00	0,21	9,4	96,4	144
….0510	5 x 1,00	0,21	10,0	107,4	165
….0710	7 x 1,00	0,21	11,1	128,1	203
….1210	12 x 1,00	0,21	14,3	209,6	303
….1810	18 x 1,00	0,21	16,5	271,8	423
….2510	25 x 1,00	0,21	19,6	373,4	584
….3410	34 x 1,00	0,21	21,7	468,3	754
….4210	42 x 1,00	0,21	23,1	550,3	888
….5010	50 x 1,00	0,21	25,2	661,7	1019
….6110	61 x 1,00	0,21	27,0	775,4	1187
….0215	2 x 1,50	0,26	9,1	86,1	124
….0315	3 x 1,50	0,26	9,5	101,2	146
….0415	4 x 1,50	0,26	10,1	116,8	168
….0515	5 x 1,50	0,26	11,2	145,4	209
….0715	7 x 1,50	0,26	12,2	176,3	249
….1215	12 x 1,50	0,26	15,8	270,2	395
….1815	18 x 1,50	0,26	18,5	389,0	559
….2515	25 x 1,50	0,26	21,7	501,6	764
….3415	34 x 1,50	0,26	24,2	666,5	967
….4215	42 x 1,50	0,26	25,8	788,8	1156
….5015	50 x 1,50	0,26	28,4	914,9	1360
….6115	61 x 1,50	0,26	30,1	1080,8	1588
….0325	3 x 2,50	0,26	11,2	132,9	208
….0425	4 x 2,50	0,26	12,1	171,2	244
….0525	5 x 2,50	0,26	13,2	212,5	293
….0725	7 x 2,50	0,26	14,6	262,7	370
….1225	12 x 2,50	0,26	18,9	418,8	607
….1825	18 x 2,50	0,26	21,9	573,6	846

Other dimensions and colours are possible on request.

CC 510 PVC control cable with numbered cores 0,6/1 kV

RoHS

Marking for CC 510 32010415:
SAB BRÖCKSKES · D-VIERSEN · CC 510 0,6/1 kV 4 x 1,5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	in layers
Sheath material:	PVC, TM2 acc. to DIN VDE 0281 part 1 + HD 21.1
Sheath colour:	black (RAL 9005)

Outstanding features:

- ➤ **flexible**
- ➤ **numbered cores**
- ➤ **small bending radius**
- ➤ **sunlight resistant**

Technical data:

Nominal voltage:	Uo/U 0,6/1 kV
Testing voltage U:	4000 V
Min. bending radius *fixed laying:* *flexible application:*	 4 x d 6 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	 -40/+70 °C +5/+70 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Oil resistance:	acc. to internal standard, see page N/13
Chem. resistance:	see page N/9
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
32010210	2 x 1,00	0,21	7,4	19,2	78
32010310	3 x 1,00	0,21	7,8	28,8	92
32010410	4 x 1,00	0,21	8,4	38,4	109
32010510	5 x 1,00	0,21	9,2	48,0	130
32010710	7 x 1,00	0,21	9,9	67,2	161
32010810	8 x 1,00	0,21	11,8	76,8	202
32010910	9 x 1,00	0,21	12,6	86,4	224
32011010	10 x 1,00	0,21	12,8	96,0	232
32011210	12 x 1,00	0,21	13,2	115,2	263
32011410	14 x 1,00	0,21	13,8	134,4	296
32011610	16 x 1,00	0,21	14,6	153,6	332
32011810	18 x 1,00	0,21	15,7	172,8	382
32012110	21 x 1,00	0,21	17,2	201,6	439
32010215	2 x 1,50	0,26	8,4	28,8	103
32010315	3 x 1,50	0,26	8,9	43,2	122
32010415	4 x 1,50	0,26	9,6	57,6	146
32010515	5 x 1,50	0,26	10,5	72,0	172
32010715	7 x 1,50	0,26	11,8	100,8	230
32010815	8 x 1,50	0,26	13,6	115,2	271
32010915	9 x 1,50	0,26	14,5	129,6	299
32011015	10 x 1,50	0,26	14,8	144,0	313
32011215	12 x 1,50	0,26	15,7	172,8	373
32011415	14 x 1,50	0,26	16,4	201,6	420
32011615	16 x 1,50	0,26	17,3	230,4	471
32011815	18 x 1,50	0,26	18,2	259,2	521

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
32012115	21 x 1,50	0,26	20,4	302,4	620
32010225	2 x 2,50	0,26	9,6	48,0	140
32010325	3 x 2,50	0,26	10,1	72,0	169
32010425	4 x 2,50	0,26	11,4	96,0	215
32010525	5 x 2,50	0,26	12,5	120,0	258
32010725	7 x 2,50	0,26	13,6	168,0	326
32010825	8 x 2,50	0,26	16,2	192,0	403
32010925	9 x 2,50	0,26	17,2	216,0	507
32011025	10 x 2,50	0,26	17,6	240,0	464
32011225	12 x 2,50	0,26	18,1	288,0	532
32010340	3 x 4,00	0,31	12,2	115,2	252
32010440	4 x 4,00	0,31	12,9	153,6	294
32010540	5 x 4,00	0,31	14,1	192,0	349
32010740	7 x 4,00	0,31	15,8	268,8	468
32010360	3 x 6,00	0,31	12,9	172,8	311
32010460	4 x 6,00	0,31	14,1	230,4	383
32010560	5 x 6,00	0,31	15,9	288,0	478
32010760	7 x 6,00	0,31	19,1	403,2	660
32010461	4 x 10,0	0,41	18,7	384,0	596
32010561	5 x 10,0	0,41	20,6	480,0	732
32010462	4 x 16,0	0,41	22,5	614,4	876
32010562	5 x 16,0	0,41	25,2	768,0	1100
32010463	4 x 25,0	0,41	29,2	960,0	1448
32010563	5 x 25,0	0,41	32,1	1200,0	1964
32010464	4 x 35,0	0,41	32,6	1344,0	2104

Other dimensions and colours are possible on request.

SAB BRÖCKSKES

CC 510 CY

PVC control cable with numbered cores, inner sheath and overall copper screen 0,6/1 kV

RoHS

Marking for CC 510 CY 32020415:
SAB BRÖCKSKES · D-VIERSEN · CC 510 CY 0,6/1 kV 4 x 1,5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	in layers
Inner sheath:	PVC,TM2 acc. to DIN VDE 0281 part 1 HD + 21.1
Screen:	tinned copper braiding
Sheath material:	PVC, TM2 acc. to DIN VDE 0281 part 1 HD + 21.1
Sheath colour:	black (RAL 9005)

Outstanding features:

- **flexible**
- **good EMC characteristics**
- **numbered cores**
- **small bending radius**
- **sunlight resistant**

Technical data:

Nominal voltage:	Uo/U 0,6/1 kV
Testing voltage U:	4000 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	 -40/+70 °C +5/+70 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Oil resistance:	acc. to internal standard, see page N/13
Chem. resistance:	see page N/9
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
32020210	2 x 1,00	0,21	9,4	45,4	130
32020310	3 x 1,00	0,21	9,8	55,1	145
32020410	4 x 1,00	0,21	10,4	67,6	167
32020510	5 x 1,00	0,21	11,6	95,9	211
32020710	7 x 1,00	0,21	12,7	121,6	260
32021210	12 x 1,00	0,21	16,2	212,9	412
32021910	19 x 1,00	0,21	18,9	293,9	574
32020315	3 x 1,50	0,26	11,3	90,9	200
32020415	4 x 1,50	0,26	12,2	111,7	238
32020515	5 x 1,50	0,26	13,3	131,6	282
32020715	7 x 1,50	0,26	14,6	186,4	355
32020815	8 x 1,50	0,26	16,8	213,8	427
32021215	12 x 1,50	0,26	18,9	284,3	554
32021915	19 x 1,50	0,26	21,8	411,7	772
32020325	3 x 2,50	0,26	12,9	126,6	269
32020825	8 x 2,50	0,26	19,6	315,4	596

Other dimensions and colours are possible on request.

YK11Y-J PUR connection cable with coloured cores, flexible at low temperatures

RoHS

Marking for YK11Y-J 02660425:
SAB BRÖCKSKES · D-VIERSEN · YK11Y-J 4 x 2,5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	PVC, TI5 acc. to DIN VDE 0281 part 1, additional stabilized for low temperatures
Colour code:	coloured acc. to HD 308 (VDE 0293 part 308); green-yellow earth wire from 3 cores
Stranding:	in layers
Sheath material:	PUR, TMPU acc. to DIN VDE 0282 part 10 + HD 22.10
Sheath colour:	orange (RAL 2003)

Outstanding features:

- **oil resistant**
- **abrasion resistant**
- **notch resistant**
- **good chemical resistance**
- **flexible at low temperatures**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2
Min. bending radius *fixed laying:* *flexible application:*	 4 x d 6 x d
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	 -40/+70 °C -20/+70 °C
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.
Weather resistance:	very good
Colour code:	see page N/10-12
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02660207	2 x 0,75	0,21	6,5	14,4	48
02660307	3 x 0,75	0,21	6,8	21,6	59
02660407	4 x 0,75	0,21	7,4	28,8	72
02660507	5 x 0,75	0,21	8,3	36,0	89
02660210	2 x 1,00	0,21	6,7	19,2	54
02660310	3 x 1,00	0,21	7,0	28,8	67
02660410	4 x 1,00	0,21	7,8	38,4	85
02660510	5 x 1,00	0,21	8,6	48,0	103
02660215	2 x 1,50	0,26	7,7	28,8	75
02660315	3 x 1,50	0,26	8,3	43,2	95
02660415	4 x 1,50	0,26	9,2	57,6	119
02660515	5 x 1,50	0,26	10,3	72,0	148
02660225	2 x 2,50	0,26	9,3	48,0	113
02660325	3 x 2,50	0,26	10,2	72,0	146
02660425	4 x 2,50	0,26	10,8	96,0	177
02660525	5 x 2,50	0,26	12,1	120,0	219
02660440	4 x 4,00	0,31	14,5	153,6	310
02660540	5 x 4,00	0,31	15,7	192,0	371
02660460	4 x 6,00	0,31	15,7	230,4	403
02660560	5 x 6,00	0,31	17,1	288,0	484

Other dimensions and colours are possible on request.

SAB BRÖCKSKES

CC 500 P PUR control cable with numbered cores

Marking for CC 500 P 02600510:
SAB BRÖCKSKES · D-VIERSEN · SAB 260 P CC 500 P 5 x 1,0 mm^2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	in layers
Inner sheath:	PVC (from 4,0 mm^2) TM2 acc. to DIN VDE 0281 part 1 + HD 21.1
Sheath material:	PUR, TMPU acc. to DIN VDE 0282 part 10 + HD 21.10 with rough surface
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **oil resistant**
- **abrasion resistant**
- **notch resistant**
- **good chemical resistance**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2
Min. bending radius *fixed laying:* *flexible application:*	 4 x d 6 x d
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	 -40/+70 °C +5/+70 °C
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.
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

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
02600207	2 x 0,75	0,21	5,7	14,4	39
02600307	3 x 0,75	0,21	5,9	21,6	51
02600407	4 x 0,75	0,21	6,4	28,8	62
02600507	5 x 0,75	0,21	7,0	36,0	75
02600707	7 x 0,75	0,21	7,6	50,4	95
02601207	12 x 0,75	0,21	10,4	86,4	158
02601807	18 x 0,75	0,21	12,1	129,6	225
02602007	20 x 0,75	0,21	12,7	144,0	248
02602507	25 x 0,75	0,21	14,8	180,0	312
02600210	2 x 1,00	0,21	5,9	19,2	44
02600310	3 x 1,00	0,21	6,1	28,8	59
02600410	4 x 1,00	0,21	6,6	38,4	72
02600510	5 x 1,00	0,21	7,3	48,0	87
02600710	7 x 1,00	0,21	7,9	67,2	112
02601210	12 x 1,00	0,21	10,8	115,2	185
02601810	18 x 1,00	0,21	12,6	172,8	267
02602010	20 x 1,00	0,21	13,2	192,0	294
02602510	25 x 1,00	0,21	15,4	240,0	369
02600215	2 x 1,50	0,26	6,5	28,8	56
02600315	3 x 1,50	0,26	6,8	43,2	76
02600415	4 x 1,50	0,26	7,4	57,6	94
02600515	5 x 1,50	0,26	8,1	72,0	115
02600715	7 x 1,50	0,26	8,8	100,8	148
02601215	12 x 1,50	0,26	12,1	172,8	245
02601815	18 x 1,50	0,26	14,5	259,2	367
02602015	20 x 1,50	0,26	15,2	288,0	404
02602515	25 x 1,50	0,26	17,3	360,0	497
02600225	2 x 2,50	0,26	7,7	48,0	83
02600325	3 x 2,50	0,26	8,1	72,0	115
02600425	4 x 2,50	0,26	8,8	96,0	144
02600525	5 x 2,50	0,26	10,1	120,0	184
02600725	7 x 2,50	0,26	11,0	168,0	238
02601225	12 x 2,50	0,26	14,9	288,0	391
02601825	18 x 2,50	0,26	17,9	432,0	582
02602025	20 x 2,50	0,26	18,8	480,0	636
02602525	25 x 2,50	0,26	21,8	600,0	800
02600340	3 x 4,00	0,31	11,7	115,2	227
02600440	4 x 4,00	0,31	12,6	153,6	275
02600540	5 x 4,00	0,31	13,7	192,0	330
02600360	3 x 6,00	0,31	14,0	172,8	333
02600460	4 x 6,00	0,31	15,1	230,4	404
02600560	5 x 6,00	0,31	16,4	288,0	482
02600461	4 x 10,0	0,41	18,9	384,0	656

Other dimensions and colours are possible on request.

CC 500 CP PUR control cable with numbered cores and overall copper screen

RoHS

Marking for CC 500 CP 02801210:
SAB BRÖCKSKES · D-VIERSEN · SAB 260 CP CC 500 CP 12 x 1,0 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
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, TMPU acc. to DIN VDE 0282 part 10 + HD 22.10 with rough surface
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **good EMC characteristics**
- **oil resistant**
- **good chemical resistance**
- **abrasion resistant**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 Teil 2 + HD 21.2; core/screen 1000 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	 -40/+70 °C +5/+70 °C
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.
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

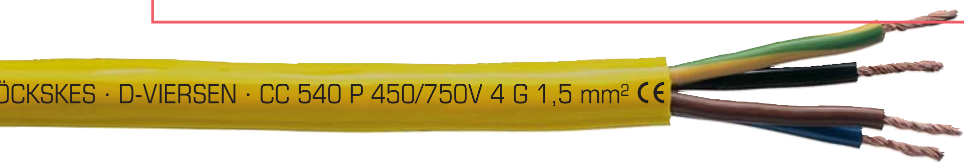
item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02800205	2 x 0,50	0,21	5,3	23,6	35
02800305	3 x 0,50	0,21	5,6	30,3	43
02800405	4 x 0,50	0,21	6,0	36,7	53
02800505	5 x 0,50	0,21	6,5	43,5	64
02800705	7 x 0,50	0,21	7,0	53,3	77
02801205	12 x 0,50	0,21	9,0	86,5	122
02801805	18 x 0,50	0,21	11,1	140,2	196
02802505	25 x 0,50	0,21	13,0	179,8	250
02800207	2 x 0,75	0,21	5,9	30,4	44
02800307	3 x 0,75	0,21	6,2	39,2	55
02800407	4 x 0,75	0,21	6,7	48,3	67
02800507	5 x 0,75	0,21	7,3	57,6	83
02800707	7 x 0,75	0,21	7,9	74,1	102
02801207	12 x 0,75	0,21	10,8	134,1	181
02801807	18 x 0,75	0,21	12,5	189,1	257
02802507	25 x 0,75	0,21	15,4	277,5	366
02800210	2 x 1,00	0,21	6,1	36,8	50
02800310	3 x 1,00	0,21	6,4	46,5	62
02800410	4 x 1,00	0,21	6,9	58,0	77
02800510	5 x 1,00	0,21	7,6	71,6	96
02800710	7 x 1,00	0,21	8,2	93,3	120
02801210	12 x 1,00	0,21	11,2	169,1	213
02801810	18 x 1,00	0,21	13,2	232,2	298
02802510	25 x 1,00	0,21	16,2	378,1	424

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02800215	2 x 1,50	0,26	6,7	48,3	62
02800315	3 x 1,50	0,26	7,1	64,7	80
02800415	4 x 1,50	0,26	7,7	81,2	100
02800515	5 x 1,50	0,26	8,4	98,1	121
02800715	7 x 1,50	0,26	9,1	129,8	157
02801215	12 x 1,50	0,26	12,5	232,3	276
02801815	18 x 1,50	0,26	15,1	356,4	427
02802515	25 x 1,50	0,26	18,3	471,5	575
02800225	2 x 2,50	0,26	7,9	71,7	91
02800325	3 x 2,50	0,26	8,4	98,1	118
02800425	4 x 2,50	0,26	9,1	125,0	148
02800525	5 x 2,50	0,26	10,5	167,5	202
02800725	7 x 2,50	0,26	11,5	222,1	259
02801225	12 x 2,50	0,26	15,6	385,7	446
02801825	18 x 2,50	0,26	18,5	554,9	657
02802525	25 x 2,50	0,26	22,4	740,3	877
02800340	3 x 4,00	0,31	10,0	144,4	177
02800440	4 x 4,00	0,31	11,1	207,4	235
02800540	5 x 4,00	0,31	12,2	251,3	292
02800460	4 x 6,00	0,31	12,8	290,1	331
02800560	5 x 6,00	0,31	14,5	354,5	417
02800461	4 x 10,0	0,41	16,8	494,0	577

Other dimensions and colours are possible on request.

SAB BRÖCKSKES

CC 540 P PUR-control cable with coloured cores, halogen-free and oil resistant



RoHS

Marking for CC 540 P 52690415:
SAB BRÖCKSKES · D-VIERSEN · CC 540 P 450/750V 4 G 1,5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	SABIX® 231
Colour code:	coloured acc. to HD 308 (VDE 0293 part 308); green-yellow earth wire from 3 cores
Stranding:	in layers
Sheath material:	PUR, TMPU acc. to DIN VDE 0282 part 10 + HD 21.1
Sheath colour:	yellow (RAL 1021)

Outstanding features:

- **oil resistant**
- **abrasion resistant**
- **notch resistant**
- **good chemical resistance**

Technical data:

Nominal voltage:	Uo/U 300/500 V from 0,75 mm² to 1,0 mm² Uo/U 450/750 V from 1,0 mm² to 16,0 mm²
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2
Min. bending radius *fixed laying:* *flexible application:*	 4 x d 6 x d
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	 -40/+90 °C -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
Corrosiveness of conflagration gases:	in compliance with IEC 60754-2 and EN 50267-2-2 + VDE 0472 part 267-2-2 - no development of corrosive conflagration gases
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 see page N/14

300/500 V

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
52690207	2 x 0,75	0,21	6,2	14,4	48
52690307	3 x 0,75	0,21	6,7	21,6	61
52690407	4 x 0,75	0,21	7,3	28,8	75
52690507	5 x 0,75	0,21	8,2	36,0	95
52690211	2 x 1,00	0,21	6,7	19,2	58
52690311	3 x 1,00	0,21	7,1	28,8	71
52690411	4 x 1,00	0,21	7,7	38,4	87
52690511	5 x 1,00	0,21	8,6	48,0	110

Sheath also possible in black or orange

450/750 V

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
52690210	2 x 1,00	0,21	7,5	19,2	69
52690310	3 x 1,00	0,21	7,9	28,8	84
52690410	4 x 1,00	0,21	8,8	38,4	106
52690510	5 x 1,00	0,21	9,9	48,0	135
52690215	2 x 1,50	0,26	8,3	28,8	87
52690315	3 x 1,50	0,26	8,8	43,2	106
52690415	4 x 1,50	0,26	9,8	57,6	134
52690515	5 x 1,50	0,26	10,7	72,0	167
52690225	2 x 2,50	0,26	9,8	48,0	127
52690325	3 x 2,50	0,26	10,4	72,0	158
52690425	4 x 2,50	0,26	11,5	96,0	198
52690525	5 x 2,50	0,26	12,9	120,0	252
52690240	2 x 4,00	0,31	11,4	76,8	182
52690340	3 x 4,00	0,31	12,1	115,2	229
52690440	4 x 4,00	0,31	13,4	153,6	289
52690540	5 x 4,00	0,31	15,0	192,0	365
52690260	2 x 6,00	0,31	12,8	115,2	242
52690360	3 x 6,00	0,31	13,8	172,8	312
52690460	4 x 6,00	0,31	15,2	230,4	393
52690560	5 x 6,00	0,31	17,0	288,0	496
52690261	2 x 10,00	0,41	17,1	192,0	428
52690361	3 x 10,00	0,41	18,3	288,0	546
52690461	4 x 10,00	0,41	20,1	384,0	684
52690561	5 x 10,00	0,41	22,3	480,0	856
52690262	2 x 16,00	0,41	19,8	307,2	608
52690362	3 x 16,00	0,41	21,4	460,8	792
52690462	4 x 16,00	0,41	23,3	614,4	988
52690562	5 x 16,00	0,41	26,1	768,0	1248

Other dimensions and colours are possible on request.

CC 540 CP

PUR-control cable with coloured cores, halogen-free, oil resistant and overall copper screen

RoHS

Marking for CC 540 CP 52850415:
SAB BRÖCKSKES · D-VIERSEN · CC 540 CP 450/750V 4 G 1,5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	SABIX® 231
Colour code:	coloured acc. to HD 308 (VDE 0293 part 308); green-yellow earth wire from 3 cores
Stranding:	in layers
Inner sheath:	SABIX® 231
Screen:	tinned copper braiding
Wrapping:	non-woven tape
Sheath material:	PUR, TMPU acc. to DIN VDE 0282 part 10 + HD 21.1
Sheath colour:	yellow (RAL 1021)

Outstanding features:

- **oil resistant**
- **abrasion resistant**
- **notch resistant**
- **good chemical resistance**
- **good EMC characteristics**

Technical data:

Nominal voltage:	Uo/U 300/500 V from 0,75 mm² to 1,0 mm² Uo/U 450/750 V from 1,0 mm² to 16,0 mm²
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2 core/screen 1000 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	 -40/+90 °C -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
Corrosiveness of conflagration gases:	in compliance with IEC 60754-2 and EN 50267-2-2 + VDE 0472 part 267-2-2 - no development of corrosive conflagration gases
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 see page N/14

300/500 V

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
52850207	2 x 0,75	0,21	8,5	31,0	103
52850307	3 x 0,75	0,21	9,0	38,4	115
52850407	4 x 0,75	0,21	9,6	45,9	130
52850507	5 x 0,75	0,21	10,5	56,8	157
52850211	2 x 1,00	0,21	9,0	36,0	116
52850311	3 x 1,00	0,21	9,4	45,8	128
52850411	4 x 1,00	0,21	10,0	59,1	148
52850511	5 x 1,00	0,21	10,9	69,0	175

Sheath also possible in black or orange

450/750 V

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
52850210	2 x 1,00	0,21	9,8	36,4	135
52850310	3 x 1,00	0,21	10,4	49,6	154
52850410	4 x 1,00	0,21	11,1	59,5	174
52850510	5 x 1,00	0,21	12,4	73,0	216
52850215	2 x 1,50	0,26	10,6	49,7	164
52850315	3 x 1,50	0,26	11,1	64,3	179
52850415	4 x 1,50	0,26	12,3	82,6	218
52850515	5 x 1,50	0,26	13,6	109,7	273
52850225	2 x 2,50	0,26	12,3	73,0	229
52850325	3 x 2,50	0,26	12,9	97,3	254
52850425	4 x 2,50	0,26	14,2	134,2	310
52850525	5 x 2,50	0,26	15,6	159,2	369
52850240	2 x 4,00	0,31	14,1	114,9	317
52850340	3 x 4,00	0,31	15,0	153,9	360
52850440	4 x 4,00	0,31	16,3	198,3	428
52850540	5 x 4,00	0,31	17,9	237,7	512
52850260	2 x 6,00	0,31	15,5	154,3	396
52850360	3 x 6,00	0,31	16,5	217,7	460
52850460	4 x 6,00	0,31	17,9	276,1	543
52850560	5 x 6,00	0,31	19,9	340,5	668
52850261	2 x 10,00	0,41	19,2	244,0	628
52850361	3 x 10,00	0,41	20,2	340,7	719
52850461	4 x 10,00	0,41	22,2	444,2	870
52850561	5 x 10,00	0,41	24,6	548,8	1066
52850262	2 x 16,00	0,41	22,1	367,3	871
52850362	3 x 16,00	0,41	23,5	521,8	1018
52850462	4 x 16,00	0,41	25,8	684,0	1237
52850562	5 x 16,00	0,41	28,6	846,6	1514

Other dimensions and colours are possible on request.

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

RoHS

Marking for CC 550 P 52790515:
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:	Uo/U 300/500 V
Testing voltage U:	2000 V acc. to DIN VDE 0281 part 2 + HD 21.2
Min. bending radius *fixed laying:* *flexible application:*	 4 x d 6 x d
Temperature range *fixed laying:* *flexible application:*	 -40/+90 °C -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 see page N/14

item no.	no. of cores x cross section n x mm²	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
52790325	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.

Application:

e.g. for the flexible laying in building and utility vehicles

CC 550 CP

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

RoHS

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:	Uo/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 *fixed laying:* *flexible application:*	 5 x d 10 x d
Temperature range *fixed laying:* *flexible application:*	 -40/+90 °C -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 see page N/14

item no.	no. of cores x cross section n x mm²	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.

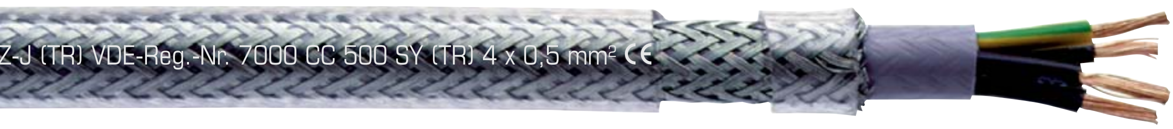
Application:

e.g. for the flexible laying in building and utility vehicles

SAB BRÖCKSKES

CC 500 SY (item 0220….)
CC 500 SY (TR) (item 0218….)

PVC control cable with numbered cores, inner sheath and steel wire armouring



Marking for CC 500 SY (TR) 02180405:
SAB BRÖCKSKES · D-VIERSEN · ÖSYZ-J (TR) VDE-Reg.-Nr. 7000 CC 500 SY (TR) 4 x 0,5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Inner sheath:	PVC, TM2 acc. to DIN VDE 0281 part 1 + HD 21.1
Screen:	galvanized steel wire braiding
Stranding:	in layers
Sheath material:	PVC, TM2 acc. to DIN VDE 0281 part 1 + HD 21.1
Sheath colour:	**CC 500 SY:** grey (RAL 7000) **CC 500 SY (TR):** transparent

Outstanding features:

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

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	 -40/+70 °C +5/+70 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Oil resistance:	acc. to internal standard, see page N/13
Chem. resistance:	see page N/9
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

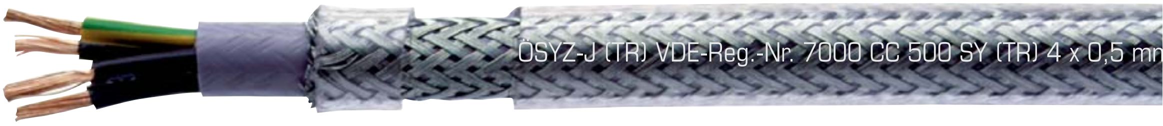
item no. 0220…./ 0218….	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
….0205	2 x 0,50	0,21	7,7	9,6	75
….0305	3 x 0,50	0,21	8,0	14,4	83
….0405	4 x 0,50	0,21	8,4	19,2	95
….0505	5 x 0,50	0,21	9,1	24,0	111
….0705	7 x 0,50	0,21	9,7	33,6	129
….1005	10 x 0,50	0,21	11,6	48,0	172
….1205	12 x 0,50	0,21	12,1	57,6	193
….1405	14 x 0,50	0,21	12,7	67,2	219
….1805	18 x 0,50	0,21	14,2	86,4	279
….2105	21 x 0,50	0,21	15,4	100,8	322
….2505	25 x 0,50	0,21	16,6	120,0	362
….3005	30 x 0,50	0,21	17,0	144,0	402
….3405	34 x 0,50	0,21	18,3	163,2	453
….4005	40 x 0,50	0,21	19,7	192,0	532
….5005	50 x 0,50	0,21	21,3	240,0	619
….6105	61 x 0,50	0,21	22,6	292,8	724
….8005	80 x 0,50	0,21	25,6	384,0	925

item no. 0220…./ 0218….	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
….0207	2 x 0,75	0,21	8,3	14,4	90
….0307	3 x 0,75	0,21	8,6	21,6	101
….0407	4 x 0,75	0,21	9,3	28,8	117
….0507	5 x 0,75	0,21	9,9	36,0	134
….0707	7 x 0,75	0,21	10,4	50,4	158
….0907	9 x 0,75	0,21	13,1	64,8	235
….1007	10 x 0,75	0,21	13,2	72,0	227
….1207	12 x 0,75	0,21	13,9	86,4	271
….1407	14 x 0,75	0,21	14,4	100,8	292
….1807	18 x 0,75	0,21	15,8	129,6	356
….2107	21 x 0,75	0,21	17,3	151,2	418
….2507	25 x 0,75	0,21	18,8	180,0	478
….3007	30 x 0,75	0,21	19,5	216,0	541
….3407	34 x 0,75	0,21	20,9	244,8	608
….4007	40 x 0,75	0,21	22,4	288,0	706
….5007	50 x 0,75	0,21	24,2	360,0	824
….6107	61 x 0,75	0,21	25,9	439,2	978
….8007	80 x 0,75	0,21	29,1	576,0	1235

Continued on next page

CC 500 SY (item 0220….)
CC 500 SY (TR) (item 0218….)

PVC control cable with numbered cores, inner sheath and steel wire armouring



Marking for CC 500 SY (TR) 02180405:
SAB BRÖCKSKES · D-VIERSEN · ÖSYZ-J (TR) VDE-Reg.-Nr. 7000 CC 500 SY (TR) 4 x 0,5 mm^2 CE

item no.. 0220…./ 0218….	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
….0210	2 x 1,00	0,21	8,5	19,2	97
….0310	3 x 1,00	0,21	8,8	28,8	109
….0410	4 x 1,00	0,21	9,6	38,4	130
….0510	5 x 1,00	0,21	10,3	48,0	155
….0710	7 x 1,00	0,21	11,1	67,2	186
….0810	8 x 1,00	0,21	12,8	76,8	237
….0910	9 x 1,00	0,21	13,7	86,4	275
….1010	10 x 1,00	0,21	14,0	96,0	272
….1210	12 x 1,00	0,21	14,3	115,2	299
….1410	14 x 1,00	0,21	15,1	134,4	335
….1810	18 x 1,00	0,21	16,5	172,8	414
….2010	20 x 1,00	0,21	17,2	192,0	450
….2510	25 x 1,00	0,21	19,6	240,0	549
….3010	30 x 1,00	0,21	20,2	288,0	618
….3410	34 x 1,00	0,21	21,5	326,4	698
….4110	41 x 1,00	0,21	23,2	393,6	821
….5010	50 x 1,00	0,21	25,5	480,0	975
….6110	61 x 1,00	0,21	27,0	585,6	1138
….8010	80 x 1,00	0,21	30,4	768,0	1443
….0215	2 x 1,50	0,26	9,3	28,8	118
….0315	3 x 1,50	0,26	9,7	43,2	135
….0415	4 x 1,50	0,26	10,3	57,6	156
….0515	5 x 1,50	0,26	11,2	72,0	188
….0615	6 x 1,50	0,26	12,2	86,4	226
….0715	7 x 1,50	0,26	12,2	100,8	237
….0815	8 x 1,50	0,26	14,3	115,2	309
….0915	9 x 1,50	0,26	15,0	129,6	341
….1015	10 x 1,50	0,26	15,4	144,0	339
….1215	12 x 1,50	0,26	15,8	172,8	377
….1415	14 x 1,50	0,26	16,6	201,6	428
….1815	18 x 1,50	0,26	18,3	259,2	527
….2115	21 x 1,50	0,26	20,2	302,4	627
….2515	25 x 1,50	0,26	21,7	360,0	712
….3015	30 x 1,50	0,26	22,5	432,0	814
….3415	34 x 1,50	0,26	24,2	489,6	917
….4215	42 x 1,50	0,26	26,1	604,8	1113
….5015	50 x 1,50	0,26	28,4	720,0	1219
….6115	61 x 1,50	0,26	30,1	878,4	1514
….8015	80 x 1,50	0,26	34,5	1152,0	1984
….0225	2 x 2,50	0,26	10,7	48,0	163
….0325	3 x 2,50	0,26	11,2	72,0	190
….0425	4 x 2,50	0,26	12,1	96,0	227
….0525	5 x 2,50	0,26	13,2	120,0	273
….0625	6 x 2,50	0,26	14,5	144,0	336
….0725	7 x 2,50	0,26	14,6	168,0	354
….1225	12 x 2,50	0,26	18,9	288,0	566
….1425	14 x 2,50	0,26	19,8	336,0	636
….1825	18 x 2,50	0,26	21,8	432,0	792
….2125	21 x 2,50	0,26	24,2	504,0	935
….2525	25 x 2,50	0,26	26,2	600,0	1064
….3025	30 x 2,50	0,26	27,1	720,0	1221
….3425	34 x 2,50	0,26	29,1	816,0	1384
….4025	40 x 2,50	0,26	31,9	960,0	1665
….5025	50 x 2,50	0,26	34,6	1200,0	1974
….6125	61 x 2,50	0,26	36,9	1464,0	2335
….0340	3 x 4,00	0,31	13,0	115,2	268
….0440	4 x 4,00	0,31	14,3	153,6	336
….0540	5 x 4,00	0,31	15,5	192,0	402
….0740	7 x 4,00	0,31	16,9	268,8	504
….0460	4 x 6,00	0,31	16,4	230,4	461
….0560	5 x 6,00	0,31	17,8	288,0	554
….0760	7 x 6,00	0,31	19,6	403,2	707
….0461	4 x 10,0	0,41	20,3	384,0	730
….0561	5 x 10,0	0,41	22,4	480,0	900
….0761	7 x 10,0	0,41	24,4	672,0	1133
….0462	4 x 16,0	0,41	24,3	614,4	1070
….0562	5 x 16,0	0,41	27,0	768,0	1332
….0762	7 x 16,0	0,41	29,6	1075,2	1702
….0463	4 x 25,0	0,41	28,9	960,0	1632
….0563	5 x 25,0	0,41	32,4	1200,0	2062
….0464	4 x 35,0	0,41	33,3	1344,0	2241
….0564	5 x 35,0	0,41	36,8	1680,0	2766

Other dimensions and colours are possible on request.

ÖZ-0 (E) PVC control cable with numbered cores and blue outer sheath

Marking for ÖZ-0 (E) 02030307:
SAB BRÖCKSKES · D-VIERSEN · ÖZ-0 (E) VDE-Reg.-Nr. 7000 CC 203 3 x 0,75 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	black cores with consecutive numbers acc. to EN 50334
Stranding:	in layers
Sheath material:	PVC, TM2 acc. to DIN VDE 0281 part 1 + HD 21.1
Sheath colour:	blue (RAL 5015)

Outstanding features:

- **flexible**
- **for intrinsically safe circuits**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2
Min. bending radius *fixed laying:* *flexible application:*	 4 x d 6 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	 -40/+70 °C +5/+70 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Oil resistance:	acc. to internal standard, see page N/13
Chem. resistance:	see page N/9
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02030207	2 x 0,75	0,21	5,7	14,4	47
02030307	3 x 0,75	0,21	6,1	21,6	58
02030407	4 x 0,75	0,21	6,7	28,8	71
02030507	5 x 0,75	0,21	7,3	36,0	86
02030707	7 x 0,75	0,21	8,1	50,4	108
02030210	2 x 1,00	0,21	6,0	19,2	55
02030310	3 x 1,00	0,21	6,4	28,8	67
02030410	4 x 1,00	0,21	7,0	38,4	82

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02030510	5 x 1,00	0,21	7,7	48,0	101
02030710	7 x 1,00	0,21	8,6	67,2	130
02030215	2 x 1,50	0,26	6,6	28,8	69
02030315	3 x 1,50	0,26	7,0	43,2	84
02030415	4 x 1,50	0,26	7,7	57,6	104
02030515	5 x 1,50	0,26	8,7	72,0	135
02030715	7 x 1,50	0,26	9,6	100,8	172

Other dimensions and colours are possible on request.

ÖZCuY-0 (E)

PVC control cable with numbered cores, overall copper screen and blue outer sheath

RoHS

Marking for ÖZCuY-0 (E) 02430307:
SAB BRÖCKSKES · D-VIERSEN · ÖZCuY-0 (E) VDE-Reg.-Nr. 7000 CC 243 3 x 0,75 mm^2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	black cores with consecutive numbers acc. to EN 50334
Stranding:	in layers
Inner sheath:	PVC, TM2 acc. to DIN VDE 0281 part 1 + HD 21.1
Screen:	tinned copper braiding
Sheath material:	PVC, TM2 acc. to DIN VDE 0281 part 1 + HD 21.1
Sheath colour:	blue (RAL 5015)

Outstanding features:

- **good EMC characteristics**
- **flexible**
- **for intrinsically safe circuits**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2; core/screen 1000 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	 -40/+70 °C +5/+70 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Oil resistance:	acc. to internal standard, see page N/13
Chem. resistance:	see page N/9
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

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
02430207	2 x 0,75	0,21	8,1	61,2	94
02430307	3 x 0,75	0,21	8,4	69,0	105
02430407	4 x 0,75	0,21	9,1	86,5	125
02430507	5 x 0,75	0,21	9,7	94,8	145
02430707	7 x 0,75	0,21	10,6	110,7	173
02430210	2 x 1,00	0,21	8,3	66,4	102
02430310	3 x 1,00	0,21	8,6	76,5	114
02430410	4 x 1,00	0,21	9,4	96,4	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
02430510	5 x 1,00	0,21	10,0	107,4	158
02430710	7 x 1,00	0,21	11,1	128,1	206
02430215	2 x 1,50	0,26	9,1	86,1	125
02430315	3 x 1,50	0,26	9,5	101,2	143
02430415	4 x 1,50	0,26	10,1	116,8	166
02430515	5 x 1,50	0,26	11,1	145,4	210
02430715	7 x 1,50	0,26	12,2	176,3	259

Other dimensions and colours are possible on request.

SAB BRÖCKSKES

acc. to HD 21.13 S1

H05VV5-F PVC control cable with numbered cores

RoHS

Marking for H05VV5-F 02500315:
SAB BRÖCKSKES · D-VIERSEN · H05VV5-F 3 G 1,50 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	in layers
Sheath material:	PVC, TM5 acc. to DIN VDE 0281 part 1 + HD 21.1
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **flexible**
- **oil resistant**
- **DIN VDE resp. HAR standardized**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage U:	3000 V to DIN VDE 0281 part 2 + HD 21.2
Min. bending radius *fixed laying:* *flexible application:*	 4 x d 6 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	 -40/+70 °C +5/+70 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Oil resistance:	very good - TM5 acc. to DIN VDE 0281 part 1 + HD 21.1
Chem. resistance:	see page N/9
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02500305	3 x 0,50	0,21	6,2	14,4	54
02500405	4 x 0,50	0,21	6,8	19,2	67
02500505	5 x 0,50	0,21	7,6	24,0	82
02500705	7 x 0,50	0,21	9,1	33,6	116
02501205	12 x 0,50	0,21	11,3	57,6	170
02501805	18 x 0,50	0,21	13,4	86,4	245
02502505	25 x 0,50	0,21	16,7	120,0	340
02503205	32 x 0,50	0,21	17,8	153,6	418
02503405	34 x 0,50	0,21	18,5	163,2	444
02504205	42 x 0,50	0,21	19,9	201,6	540
02505005	50 x 0,50	0,21	21,9	240,0	622
02506005	60 x 0,50	0,21	23,2	288,0	727
02500307	3 x 0,75	0,21	7,1	21,6	72
02500407	4 x 0,75	0,21	7,7	28,8	86
02500507	5 x 0,75	0,21	8,6	36,0	109
02500707	7 x 0,75	0,21	10,3	50,4	153
02501207	12 x 0,75	0,21	12,6	86,4	218
02501807	18 x 0,75	0,21	15,1	129,6	323
02502507	25 x 0,75	0,21	18,5	180,0	442
02503207	32 x 0,75	0,21	20,0	230,4	549
02503407	34 x 0,75	0,21	21,0	244,8	592
02504207	42 x 0,75	0,21	22,6	302,4	722
02505007	50 x 0,75	0,21	24,8	360,0	829
02506007	60 x 0,75	0,21	26,3	432,0	970
02500310	3 x 1,00	0,21	7,4	28,8	81
02500410	4 x 1,00	0,21	7,9	38,4	97
02500510	5 x 1,00	0,21	8,9	48,0	123
02500710	7 x 1,00	0,21	10,6	67,2	173
02501210	12 x 1,00	0,21	13,2	115,2	255
02501810	18 x 1,00	0,21	15,6	172,8	369
02502510	25 x 1,00	0,21	19,3	240,0	514
02503210	32 x 1,00	0,21	20,9	307,2	640
02503410	34 x 1,00	0,21	21,7	326,4	678
02504210	42 x 1,00	0,21	23,6	403,2	839
02505010	50 x 1,00	0,21	25,8	480,0	965
02506010	60 x 1,00	0,21	27,4	576,0	1132
02500315	3 x 1,50	0,26	8,6	43,2	113
02500415	4 x 1,50	0,26	9,3	57,6	136
02500515	5 x 1,50	0,26	10,4	72,0	167
02500715	7 x 1,50	0,26	12,7	100,8	237
02501215	12 x 1,50	0,26	15,5	172,8	355
02501815	18 x 1,50	0,26	18,5	259,2	523
02502515	25 x 1,50	0,26	22,8	360,0	729
02503215	32 x 1,50	0,26	24,6	460,8	904
02503415	34 x 1,50	0,26	25,8	489,6	973
02504215	42 x 1,50	0,26	28,0	604,8	1201
02505015	50 x 1,50	0,26	30,6	720,0	1384
02506015	60 x 1,50	0,26	32,5	864,0	1605
02500325	3 x 2,50	0,26	10,0	72,0	163
02500425	4 x 2,50	0,26	11,2	96,0	204
02500525	5 x 2,50	0,26	12,3	120,0	250
02500725	7 x 2,50	0,26	14,8	168,0	357
02501225	12 x 2,50	0,26	18,3	288,0	528
02501825	18 x 2,50	0,26	22,1	432,0	786
02502525	25 x 2,50	0,26	27,0	600,0	1078
02503225	32 x 2,50	0,26	29,5	768,0	1357
02503425	34 x 2,50	0,26	30,6	816,0	1439
02504225	42 x 2,50	0,26	32,9	1008,0	1743
02505025	50 x 2,50	0,26	35,7	1200,0	1991
02506025	60 x 2,50	0,26	37,9	1440,0	2347

Other dimensions and colours are possible on request.

acc. to HD 21.13 S1

H05VVC4V5-K

PVC control cable with numbered cores, inner sheath and overall copper screen

RoHS

Marking for H05VVC4V5-K 02550315:
SAB BRÖCKSKES · D-VIERSEN · H05VVC4V5-K 3 G 1,50 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	in layers
Inner sheath:	PVC, TM2 acc. to DIN VDE 0281 part 1 + HD 21.1
Screen:	tinned copper braiding
Sheath material:	PVC, TM5 acc. to DIN VDE 0281 part 1 + HD 21.1
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **good EMC characteristics**
- **flexible**
- **oil resistant**
- **DIN VDE resp. HAR standardized**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2; core/screen 2000 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	 -40/+70 °C +5/+70 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Oil resistance:	very good - TM5 acc. to DIN VDE 0281 part 1 + HD 21.1
Chem. resistance:	see page N/9
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02550305	3 x 0,50	0,21	8,8	47,3	115
02550405	4 x 0,50	0,21	9,4	54,4	130
02550505	5 x 0,50	0,21	10,2	67,2	157
02550705	7 x 0,50	0,21	11,7	78,1	199
02551205	12 x 0,50	0,21	14,1	116,2	280
02551805	18 x 0,50	0,21	16,4	148,2	376
02552505	25 x 0,50	0,21	19,6	220,7	516
02553205	32 x 0,50	0,21	21,0	269,0	617
02553405	34 x 0,50	0,21	21,7	280,6	648
02554205	42 x 0,50	0,21	23,1	322,7	756
02555005	50 x 0,50	0,21	25,5	376,8	882
02556005	60 x 0,50	0,21	26,8	429,2	999
02550307	3 x 0,75	0,21	9,5	57,0	134
02550407	4 x 0,75	0,21	10,5	72,0	163
02550507	5 x 0,75	0,21	11,0	80,0	184
02550707	7 x 0,75	0,21	12,9	99,9	246
02551207	12 x 0,75	0,21	15,6	147,1	344
02551807	18 x 0,75	0,21	18,3	221,6	488
02552507	25 x 0,75	0,21	22,5	299,3	669
02553207	32 x 0,75	0,21	23,2	351,8	765
02553407	34 x 0,75	0,21	24,2	368,8	816
02554207	42 x 0,75	0,21	26,0	440,9	977
02555007	50 x 0,75	0,21	28,4	518,7	1125
02556007	60 x 0,75	0,21	30,1	596,5	1295
02550310	3 x 1,00	0,21	9,9	64,5	149
02550410	4 x 1,00	0,21	10,5	81,8	174
02550510	5 x 1,00	0,21	11,5	92,3	202
02550710	7 x 1,00	0,21	13,4	117,6	265
02551210	12 x 1,00	0,21	16,0	176,6	377

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02551810	18 x 1,00	0,21	19,0	272,5	551
02552510	25 x 1,00	0,21	22,5	359,3	725
02553210	32 x 1,00	0,21	24,1	430,8	862
02553410	34 x 1,00	0,21	25,3	462,5	938
02554210	42 x 1,00	0,21	27,0	544,4	1104
02555010	50 x 1,00	0,21	29,4	641,8	1271
02556010	60 x 1,00	0,21	31,2	744,9	1468
02550315	3 x 1,50	0,26	11,0	87,2	188
02550415	4 x 1,50	0,26	11,9	102,3	220
02550515	5 x 1,50	0,26	13,2	122,0	270
02550715	7 x 1,50	0,26	15,3	161,4	357
02551215	12 x 1,50	0,26	18,9	272,3	536
02551815	18 x 1,50	0,26	21,9	377,2	736
02552515	25 x 1,50	0,26	26,2	499,2	985
02553215	32 x 1,50	0,26	28,2	618,7	1199
02553415	34 x 1,50	0,26	29,4	651,4	1278
02554215	42 x 1,50	0,26	31,4	774,5	1513
02555015	50 x 1,50	0,26	33,8	899,6	1704
02556015	60 x 1,50	0,26	35,7	1067,3	1973
02550325	3 x 2,50	0,26	12,6	180,9	249
02550425	4 x 2,50	0,26	13,8	154,4	308
02550525	5 x 2,50	0,26	15,1	180,2	367
02550725	7 x 2,50	0,26	17,8	259,2	509
02551225	12 x 2,50	0,26	21,7	405,4	741
02551825	18 x 2,50	0,26	25,7	569,5	1049
02552525	25 x 2,50	0,26	30,4	765,7	1381
02553225	32 x 2,50	0,26	32,7	943,0	1667
02553425	34 x 2,50	0,26	33,8	995,6	1759
02554225	42 x 2,50	0,26	36,1	1213,1	2112

Other dimensions and colours are possible on request.

SAB BRÖCKSKES

CC 600 PVC control cable with numbered black cores, AWG 20 - AWG 10

RoHS

Marking for CC 600 02041840:
SAB BRÖCKSKES · D-VIERSEN · 40 x 1,0 mm² CC 600 18 AWG/40c 02041840
UL AWM Style 21216 90°C Oil 60°C 600V CSA AWM I/II A/B 90°C F 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	special PVC acc. to DIN VDE and UL/CSA
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	in layers
Sheath material:	special oil resistant PVC acc. to DIN VDE and UL/CSA
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **UL recognized, CSA approved**
- **high mechanical loading capacity**
- **oil resistant**

Technical data:

Nominal voltage:	**DIN VDE** Uo/U 300/500 V	**UL/CSA** 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2	
Min. bending radius *fixed laying:* *flexible application:*	 4 x d 6 x d	
Radiation resistance:	8 x 10^7 cJ/kg	
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** -40/+70 °C +5/+70 °C	**UL/CSA** up to +90°C up to +90°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1, CSA FT1 and FT2	
Oil resistance:	very good - TM5 acc. to DIN VDE 0281 part 1 + HD 21.1, Oil 60 °C acc. to UL 758, Fuel Oil acc. to CSA-C 22.2 No. 210-05	
Chem. resistance:	see page N/9	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02042002	2 x 20	0,21	5,3	9,6	41
02042003	3 x 20	0,21	5,6	14,4	48
02042004	4 x 20	0,21	6,0	19,2	57
02042005	5 x 20	0,21	6,7	24,0	70
02042007	7 x 20	0,21	7,2	33,6	86
02042008	8 x 20	0,21	8,5	38,4	108
02042010	10 x 20	0,21	9,4	48,0	126
02042012	12 x 20	0,21	9,7	57,6	143
02042014	14 x 20	0,21	10,1	67,2	161
02042016	16 x 20	0,21	10,9	76,8	186
02042018	18 x 20	0,21	11,4	86,4	205
02042025	25 x 20	0,21	13,9	120,0	282
02042030	30 x 20	0,21	14,3	144,0	232
02042034	34 x 20	0,21	15,6	163,2	370
02042040	40 x 20	0,21	16,9	192,0	435
02042061	61 x 20	0,21	19,8	292,8	628
02041903	3 x 19	0,21	6,2	21,6	60
02041904	4 x 19	0,21	6,7	28,8	71
02041905	5 x 19	0,21	7,5	36,0	89
02041907	7 x 19	0,21	8,2	50,4	111
02041908	8 x 19	0,21	9,6	57,6	136
02041910	10 x 19	0,21	10,6	72,0	161
02041912	12 x 19	0,21	10,9	86,4	182
02041914	14 x 19	0,21	11,4	100,8	205
02041916	16 x 19	0,21	12,0	115,2	228
02041918	18 x 19	0,21	12,9	129,6	261
02041925	25 x 19	0,21	15,6	180,0	357
02041930	30 x 19	0,21	16,1	216,0	410
02041934	34 x 19	0,21	17,8	244,8	478
02041940	40 x 19	0,21	19,0	288,0	549
02041961	61 x 19	0,21	22,8	439,2	824
02041802	2 x 18	0,21	6,0	19,2	55
02041803	3 x 18	0,21	6,4	28,8	68
02041804	4 x 18	0,21	7,0	38,4	82
02041805	5 x 18	0,21	7,8	48,0	102
02041807	7 x 18	0,21	8,5	67,2	128
02041808	8 x 18	0,21	9,9	76,8	157
02041812	12 x 18	0,21	11,3	115,2	211
02041814	14 x 18	0,21	12,1	134,4	245

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02041818	18 x 18	0,21	13,6	172,8	311
02041825	25 x 18	0,21	16,4	240,0	424
02041830	30 x 18	0,21	17,0	288,0	489
02041834	34 x 18	0,21	18,5	326,4	559
02041840	40 x 18	0,21	19,9	384,0	650
02041861	61 x 18	0,21	23,7	585,6	966
02041602	2 x 16	0,26	6,7	28,8	71
02041603	3 x 16	0,26	7,1	43,2	87
02041604	4 x 16	0,26	7,9	57,6	109
02041605	5 x 16	0,26	8,6	72,0	131
02041607	7 x 16	0,26	9,6	100,8	171
02041608	8 x 16	0,26	11,2	115,2	208
02041610	10 x 16	0,26	12,4	144,0	245
02041612	12 x 16	0,26	12,8	172,8	281
02041614	14 x 16	0,26	13,6	201,6	325
02041616	16 x 16	0,26	14,3	230,4	365
02041618	18 x 16	0,26	15,3	259,2	413
02041625	25 x 16	0,26	18,5	360,0	569
02041630	30 x 16	0,26	19,3	432,0	667
02041634	34 x 16	0,26	21,0	489,6	760
02041640	40 x 16	0,26	22,9	576,0	916
02041661	61 x 16	0,26	26,7	878,4	1309
02041402	2 x 14	0,26	8,1	48,0	108
02041403	3 x 14	0,26	8,6	72,0	132
02041404	4 x 14	0,26	9,5	96,0	166
02041405	5 x 14	0,26	10,6	120,0	208
02041407	7 x 14	0,26	11,6	168,0	263
02041408	8 x 14	0,26	13,8	192,0	322
02041410	10 x 14	0,26	15,2	240,0	383
02041412	12 x 14	0,26	15,7	288,0	440
02041418	18 x 14	0,26	18,7	432,0	643
02041425	25 x 14	0,26	23,1	600,0	904
02041203	3 x 12	0,31	10,2	115,2	196
02041204	4 x 12	0,31	11,3	153,6	246
02041205	5 x 12	0,31	12,6	192,0	304
02041207	7 x 12	0,31	13,9	268,8	397
02041003	3 x 10	0,31	12,1	172,8	284
02041004	4 x 10	0,31	13,2	230,4	351
02041005	5 x 10	0,31	14,9	288,0	440

Continued on next page

CC 600 PVC control cable with numbered black cores, AWG 8 - AWG 2

RoHS

Marking for CC 600 02040805:
SAB BRÖCKSKES · D-VIERSEN · CC 600 8 AWG/5c 02040805 AWM Style 21216 90°C Oil 60°C 600V CSA AWM I/II A/B 90°C F 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to UL/CSA
Insulation:	special PVC acc. to DIN VDE and UL/CSA
Colour code:	black cores with consecutive numbers; green-yellow earth wire from 3 cores
Stranding:	in layers
Sheath material:	special oil resistant PVC acc. to DIN VDE and UL/CSA
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **UL recognized, CSA approved**
- **high mechanical loading capacity**
- **oil resistant**
- **on request construction with metric conductor stranding and VDE-Reg. no.**

Technical data:

Nominal voltage:	**DIN VDE** Uo/U 300/500 V	**UL/CSA** 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2	
Min. bending radius *fixed laying:* *flexible application:*	 4 x d 6 x d	
Radiation resistance:	8 x 10^7 cJ/kg	
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** -40/+70 °C +5/+70 °C	**UL/CSA** up to +90°C up to +90°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1, CSA FT1 and FT2	
Oil resistance:	very good - TM5 acc. to DIN VDE 0281 part 1 + HD 21.1, Oil 60 °C acc. to UL 758, Fuel Oil acc. to CSA-C 22.2 No. 210-05	
Chem. resistance:	see page N/9	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02040804	4 x 8	0,41	17,0	337,9	567
02040805	5 x 8	0,41	18,9	422,4	696
02040604	4 x 6	0,41	20,9	541,4	768
02040605	5 x 6	0,41	23,6	676,8	969
02040404	4 x 4	0,41	25,6	844,8	1355
02040204	4 x 2	0,41	30,4	1344,0	1998

Other dimensions and colours are possible on request.

CC 600 blue PVC control cable with numbered blue cores, AWG 20 - AWG 10

RoHS

Marking for CC 600 blue 02081840:
SAB BRÖCKSKES · D-VIERSEN · 40 x 1,0 mm² CC 600 blue 18 AWG/40c 02081840
UL AWM Style 21216 90°C Oil 60°C 600V CSA AWM I/II A/B 90°C F 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	special PVC acc. to DIN VDE and UL/CSA
Colour code:	blue cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	in layers
Sheath material:	special oil resistant PVC acc. to DIN VDE and UL/CSA
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **UL recognized, CSA approved**
- **high mechanical loading capacity**
- **oil resistant**

Technical data:

Nominal voltage:	**DIN VDE** Uo/U 300/500 V	**UL/CSA** 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2	
Min. bending radius *fixed laying:* *flexible application:*	 4 x d 6 x d	
Radiation resistance:	8 x 10^7 cJ/kg	
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** -40/+70 °C +5/+70 °C	**UL/CSA** up to +90°C up to +90°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1, CSA FT1 and FT2	
Oil resistance:	very good - TM5 acc. to DIN VDE 0281 part 1 + HD 21.1, Oil 60 °C acc. to UL 758, Fuel Oil acc. to CSA-C 22.2 No. 210-05	
Chem. resistance:	see page N/9	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02082002	2 x 20	0,21	5,3	9,6	41
02082003	3 x 20	0,21	5,6	14,4	48
02082004	4 x 20	0,21	6,0	19,2	57
02082005	5 x 20	0,21	6,7	24,0	70
02082007	7 x 20	0,21	7,2	33,6	86
02082008	8 x 20	0,21	8,5	38,4	108
02082010	10 x 20	0,21	9,4	48,0	126
02082012	12 x 20	0,21	9,7	57,6	143
02082014	14 x 20	0,21	10,1	67,2	161
02082016	16 x 20	0,21	10,9	76,8	186
02082018	18 x 20	0,21	11,4	86,4	205
02082025	25 x 20	0,21	13,9	120,0	282
02082030	30 x 20	0,21	14,3	144,0	232
02082034	34 x 20	0,21	15,6	163,2	370
02082040	40 x 20	0,21	16,9	192,0	435
02082061	61 x 20	0,21	19,8	292,8	628
02081903	3 x 19	0,21	6,2	21,6	60
02081904	4 x 19	0,21	6,7	28,8	71
02081905	5 x 19	0,21	7,5	36,0	89
02081907	7 x 19	0,21	8,2	50,4	111
02081908	8 x 19	0,21	9,6	57,6	136
02081910	10 x 19	0,21	10,6	72,0	161
02081912	12 x 19	0,21	10,9	86,4	182
02081914	14 x 19	0,21	11,4	100,8	205
02081916	16 x 19	0,21	12,0	115,2	228
02081918	18 x 19	0,21	12,9	129,6	261
02081925	25 x 19	0,21	15,6	180,0	357
02081930	30 x 19	0,21	16,1	216,0	410
02081934	34 x 19	0,21	17,8	244,8	478
02081940	40 x 19	0,21	19,0	288,0	549
02081961	61 x 19	0,21	22,8	439,2	824
02081802	2 x 18	0,21	6,0	19,2	55
02081803	3 x 18	0,21	6,4	28,8	68
02081804	4 x 18	0,21	7,0	38,4	82
02081805	5 x 18	0,21	7,8	48,0	102
02081807	7 x 18	0,21	8,5	67,2	128
02081808	8 x 18	0,21	9,9	76,8	157
02081812	12 x 18	0,21	11,3	115,2	211
02081814	14 x 18	0,21	12,1	134,4	245

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02081818	18 x 18	0,21	13,6	172,8	311
02081825	25 x 18	0,21	16,4	240,0	424
02081830	30 x 18	0,21	17,0	288,0	489
02081834	34 x 18	0,21	18,5	326,4	559
02081840	40 x 18	0,21	19,9	384,0	650
02081861	61 x 18	0,21	23,7	585,6	966
02081602	2 x 16	0,26	6,7	28,8	71
02081603	3 x 16	0,26	7,1	43,2	87
02081604	4 x 16	0,26	7,9	57,6	109
02081605	5 x 16	0,26	8,6	72,0	131
02081607	7 x 16	0,26	9,6	100,8	171
02081608	8 x 16	0,26	11,2	115,2	208
02081610	10 x 16	0,26	12,4	144,0	245
02081612	12 x 16	0,26	12,8	172,8	281
02081614	14 x 16	0,26	13,6	201,6	325
02081616	16 x 16	0,26	14,3	230,4	365
02081618	18 x 16	0,26	15,3	259,2	413
02081625	25 x 16	0,26	18,5	360,0	569
02081630	30 x 16	0,26	19,3	432,0	667
02081634	34 x 16	0,26	21,0	489,6	760
02081640	40 x 16	0,26	22,9	576,0	916
02081661	61 x 16	0,26	26,7	878,4	1309
02081402	2 x 14	0,26	8,1	48,0	108
02081403	3 x 14	0,26	8,6	72,0	132
02081404	4 x 14	0,26	9,5	96,0	166
02081405	5 x 14	0,26	10,6	120,0	208
02081407	7 x 14	0,26	11,6	168,0	263
02081408	8 x 14	0,26	13,8	192,0	322
02081410	10 x 14	0,26	15,2	240,0	383
02081412	12 x 14	0,26	15,7	288,0	440
02081418	18 x 14	0,26	18,7	432,0	643
02081425	25 x 14	0,26	23,1	600,0	904
02081203	3 x 12	0,31	10,2	115,2	196
02081204	4 x 12	0,31	11,3	153,6	246
02081205	5 x 12	0,31	12,6	192,0	304
02081207	7 x 12	0,31	13,9	268,8	397
02081003	3 x 10	0,31	12,1	172,8	284
02081004	4 x 10	0,31	13,2	230,4	351
02081005	5 x 10	0,31	14,9	288,0	440

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CC 600 blue PVC control cable with numbered blue cores. AWG 8 - AWG 2

Marking for CC 600 blue 02080805:
SAB BRÖCKSKES · D-VIERSEN · CC 600 blue 8 AWG/5c 02080805 AWM Style 21216 90°C Oil 60°C 600V CSA AWM I/II A/B 90°C F 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to UL/CSA
Insulation:	special PVC acc. to DIN VDE and UL/CSA
Colour code:	blue cores with consecutive numbers; green-yellow earth wire from 3 cores
Stranding:	in layers
Sheath material:	special oil resistant PVC acc. to DIN VDE and UL/CSA
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **UL recognized, CSA approved**
- **high mechanical loading capacity**
- **oil resistant**
- **on request construction with metric conductor stranding and VDE-Reg. no.**

Technical data:

Nominal voltage:	**DIN VDE** Uo/U 300/500 V	**UL/CSA** 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2	
Min. bending radius *fixed laying:* *flexible application:*	 4 x d 6 x d	
Radiation resistance:	8 x 10^7 cJ/kg	
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** -40/+70 °C +5/+70 °C	**UL/CSA** up to +90°C up to +90°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1, CSA FT1 and FT2	
Oil resistance:	very good - TM5 acc. to DIN VDE 0281 part 1 + HD 21.1, Oil 60 °C acc. to UL 758, Fuel Oil acc. to CSA-C 22.2 No. 210-05	
Chem. resistance:	see page N/9	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02080804	4 x 8	0,41	17,0	337,9	567
02080805	5 x 8	0,41	18,9	422,4	696
02080604	4 x 6	0,41	20,9	541,4	768
02080605	5 x 6	0,41	23,6	676,8	969
02080404	4 x 4	0,41	25,6	844,8	1355
02080204	4 x 2	0,41	30,4	1344,0	1998

Other dimensions and colours are possible on request.

CC 600 CY Lean

PVC control cable with numbered cores and overall copper screen, AWG 20 - AWG 10

RoHS

Marking for CC 600 CY Lean 32381804:
SAB BRÖCKSKES · D-VIERSEN · 4 x 1,0 mm² CC 600 CY Lean 18 AWG/4c 32381804
VDE-Reg.-Nr. 7000 AWM Style 21216 90°C Oil 60°C 600V CSA AWM I/II A/B 90° 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	special PVC acc. to DIN VDE and UL/CSA
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	in layers
Screen:	tinned copper braiding
Sheath material:	special oil resistant PVC acc. to DIN VDE and UL/CSA
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **UL recognized, CSA approved**
- **good EMC characteristics**
- **reduced outer diameter**
- **small bending radius**
- **high mechanical loading capacity**
- **oil resistant**

Technical data:

Nominal voltage:	**DIN VDE** Uo/U 300/500 V	**UL/CSA** 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2; core/screen 1000 V	
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d	
Radiation resistance:	5 x 10^7 cJ/kg	
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** -40/+70 °C +5/+70 °C	**UL/CSA:** up to +90 °C up to +90 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1, CSA FT1 and FT2	
Oil resistance:	very good - PVC, TM5 acc. to DIN VDE 0281 part 1 + HD 21.1	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
32382002	2 x 20	0,21	5,8	25,5	45
32382003	3 x 20	0,21	6,2	30,4	54
32382004	4 x 20	0,21	6,6	36,9	65
32382005	5 x 20	0,21	7,2	43,7	78
32382007	7 x 20	0,21	7,9	55,0	97
32382012	12 x 20	0,21	10,2	86,8	153
32382025	25 x 20	0,21	15,0	206,0	332
32381902	2 x 19	0,21	6,4	30,5	52
32381903	3 x 19	0,21	6,7	39,3	64
32381904	4 x 19	0,21	7,2	48,5	77
32381905	5 x 19	0,21	8,0	57,5	95
32381907	7 x 19	0,21	8,7	76,7	122
32381912	12 x 19	0,21	11,6	140,4	206
32381918	18 x 19	0,21	13,8	189,4	292
32381925	25 x 19	0,21	16,7	278,3	412
32381802	2 x 18	0,21	6,6	36,9	58
32381803	3 x 18	0,21	6,9	48,3	73
32381804	4 x 18	0,21	7,7	59,7	91
32381805	5 x 18	0,21	8,3	71,7	109
32381807	7 x 18	0,21	9,2	93,4	145
32381812	12 x 18	0,21	12,2	169,4	240
32381818	18 x 18	0,21	14,5	258,5	362
32381825	25 x 18	0,21	17,3	349,9	478

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
32381602	2 x 16	0,26	7,2	48,5	74
32381603	3 x 16	0,26	7,8	64,6	97
32381604	4 x 16	0,26	8,4	81,3	114
32381605	5 x 16	0,26	9,3	98,2	140
32381607	7 x 16	0,26	10,1	129,9	177
32381612	12 x 16	0,26	13,7	232,6	311
32381618	18 x 16	0,26	16,4	357,1	479
32381622	22 x 16	0,26	18,0	427,4	576
32381625	25 x 16	0,26	19,6	483,7	634
32381403	3 x 14	0,26	9,3	98,2	136
32381404	4 x 14	0,26	10,0	125,1	168
32381405	5 x 14	0,26	11,3	167,8	219
32381407	7 x 14	0,26	12,5	222,4	284
32381412	12 x 14	0,26	16,8	386,4	487
32381418	18 x 14	0,26	19,8	556,0	701
32381425	25 x 14	0,26	24,0	741,7	985
32381203	3 x 12	0,31	11,0	162,8	205
32381204	4 x 12	0,31	12,1	207,8	260
32381205	5 x 12	0,31	13,4	251,6	319
32381207	7 x 12	0,31	14,9	354,7	428
32381003	3 x 10	0,31	12,7	227,4	282
32381004	4 x 10	0,31	13,9	290,3	357
32381005	5 x 10	0,31	15,7	385,4	463

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SAB BRÖCKSKES

CC 600 CY Lean

PVC control cable with numbered cores and overall copper screen, AWG 8 - AWG 2

RoHS

Marking for CC 600 CY Lean 32380804:
SAB BRÖCKSKES · D-VIERSEN · CC 600 CY Lean 8 AWG/4c 32380804 AWM Style 21216 90°C Oil 60°C 600V CSA AWM I/II A/B 90° 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to UL/CSA
Insulation:	special PVC acc. to DIN VDE and UL/CSA
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	in layers
Screen:	tinned copper braiding
Sheath material:	special oil resistant PVC acc. to DIN VDE and UL/CSA
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **UL recognized, CSA approved**
- **good EMC characteristics**
- **reduced outer diameter**
- **small bending radius**
- **high mechanical loading capacity**
- **oil resistant**

Technical data:

Nominal voltage:	**DIN VDE** Uo/U 300/500 V	**UL/CSA** 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2; core/screen 1000 V	
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d	
Radiation resistance:	5 x 10^7 cJ/kg	
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** -40/+70 °C +5/+70 °C	**UL/CSA:** up to +90 °C up to +90 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1, CSA FT1 and FT2	
Oil resistance:	very good - PVC, TM5 acc. to DIN VDE 0281 part 1 + HD 21.1	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
32380804	4 x 8	0,41	18,6	508,9	648
32380604	4 x 6	0,41	22,8	753,8	946
32380404	4 x 4	0,41	27,6	1133,3	1462

Other dimensions and colours are possible on request.

SAB BRÖCKSKES

CC 600 CY

PVC control cable with numbered cores, inner sheath and overall copper screen, AWG 20 - AWG 10

RoHS

Marking for CC 600 CY 02591803:
SAB BRÖCKSKES · D-VIERSEN · 4 x 1,0 mm² CC 600 CY 18 AWG/4c 02591804
AWM Style 21216 90°C Oil 60°C 600V CSA AWM I/II A/B 90°C F 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	special PVC acc. to DIN VDE and UL/CSA
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	in layers
Inner sheath:	special PVC acc. to DIN VDE and UL/CSA
Screen:	tinned copper braiding
Sheath material:	special oil resistant PVC acc. to DIN VDE and UL/CSA
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **UL recognized, CSA approved**
- **high mechanical loading capacity**
- **oil resistant**

Technical data:

Nominal voltage:	**DIN VDE** Uo/U 300/500 V	**UL/CSA** 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2; core/screen 1000 V	
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d	
Radiation resistance:	5 x 10^7 cJ/kg	
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** -40/+70 °C +5/+70 °C	**UL/CSA:** up to +90 °C up to +90 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1, CSA FT1 and FT2	
Oil resistance:	very good - PVC, TM5 acc. to DIN VDE 0281 part 1 + HD 21.1, Oil 60 °C acc. to UL 758, Fuel Oil acc. to CSA-C 22.2 No. 210-05	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02592002	2 x 20	0,21	7,4	30,1	82
02592003	3 x 20	0,21	7,9	36,9	95
02592004	4 x 20	0,21	8,4	42,0	109
02592007	7 x 20	0,21	9,6	60,3	146
02592012	12 x 20	0,21	12,5	114,5	243
02592025	25 x 20	0,21	16,7	219,8	428
02591902	2 x 19	0,21	8,1	37,1	98
02591903	3 x 19	0,21	8,6	47,5	113
02591904	4 x 19	0,21	9,1	55,0	129
02591905	5 x 19	0,21	10,1	81,6	164
02591907	7 x 19	0,21	11,6	102,3	210
02591912	12 x 19	0,21	13,7	147,8	292
02591918	18 x 19	0,21	15,9	198,5	395
02591925	25 x 19	0,21	18,9	293,6	543
02591802	2 x 18	0,21	8,3	42,0	105
02591803	3 x 18	0,21	8,6	52,6	118
02591804	4 x 18	0,21	9,4	64,9	141
02591805	5 x 18	0,21	10,2	93,9	174
02591807	7 x 18	0,21	11,1	114,2	209
02591812	12 x 18	0,21	14,1	177,3	324
02591818	18 x 18	0,21	16,3	272,3	461
02591825	25 x 18	0,21	19,6	355,2	612

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02591602	2 x 16	0,26	9,1	55,0	129
02591603	3 x 16	0,26	9,5	69,8	146
02591604	4 x 16	0,26	10,3	103,7	182
02591605	5 x 16	0,26	11,0	122,8	214
02591607	7 x 16	0,26	12,2	153,4	262
02591612	12 x 16	0,26	15,6	243,5	408
02591618	18 x 16	0,26	18,4	371,7	587
02591625	25 x 16	0,26	22,3	494,3	815
02591403	3 x 14	0,26	11,2	119,1	215
02591404	4 x 14	0,26	12,1	148,0	256
02591405	5 x 14	0,26	13,2	180,9	307
02591407	7 x 14	0,26	14,4	236,7	381
02591412	12 x 14	0,26	18,9	401,8	622
02591425	25 x 14	0,26	26,1	761,7	1151
02591203	3 x 12	0,31	13,0	173,1	299
02591204	4 x 12	0,31	14,1	220,0	361
02591205	5 x 12	0,31	15,3	260,0	424
02591207	7 x 12	0,31	16,9	372,5	553
02591003	3 x 10	0,31	14,9	242,1	406
02591004	4 x 10	0,31	16,0	301,9	480
02591005	5 x 10	0,31	17,9	396,4	605

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CC 600 CY PVC control cable with numbered cores, inner sheath and overall copper screen, AWG 8 - AWG 2

RoHS

Marking for CC 600 CY 02590804:
SAB BRÖCKSKES · D-VIERSEN · CC 600 CY 8 AWG/4c 02590804 UL AWM Style 21216 90°C Oil 60°C 600V CSA AWM I/II A/B 90°C F 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to UL/CSA
Insulation:	special PVC acc. to DIN VDE and UL/CSA
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	in layers
Inner sheath:	special PVC acc. to DIN VDE and UL/CSA
Screen:	tinned copper braiding
Sheath material:	special oil resistant PVC acc. to DIN VDE and UL/CSA
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **UL recognized, CSA approved**
- **high mechanical loading capacity**
- **oil resistant**
- **on request construction with metric conductor stranding and VDE-Reg. no.**

Technical data:

Nominal voltage:	**DIN VDE** Uo/U 300/500 V	**UL/CSA** 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2; core/screen 1000 V	
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d	
Radiation resistance:	5 x 10^7 cJ/kg	
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** -40/+70 °C +5/+70 °C	**UL/CSA:** up to +90 °C up to +90 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1, CSA FT1 and FT2	
Oil resistance:	very good - PVC, TM5 acc. to DIN VDE 0281 part 1 + HD 21.1, Oil 60 °C acc. to UL 758, Fuel Oil acc. to CSA-C 22.2 No. 210-05	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02590804	4 x 8	0,41	21,0	517,1	820
02590604	4 x 6	0,41	25,1	771,1	1186
02590404	4 x 4	0,41	30,1	1149,8	1797
02590204	4 x 2	0,41	34,4	1550,3	2401

Other dimensions and colours are possible on request.

CC 600 T PVC control cable with numbered cores and extended temperature range, AWG 20 - AWG 10

Marking for CC 600 T 02581840:
SAB BRÖCKSKES · D-VIERSEN · 40 x 1,0 mm² CC 600 T 18 AWG/40c 02581840
UL AWM Style 2586 105°C 600V CSA AWM I/II A/B 105°C 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	special heat resistant PVC
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	in layers
Sheath material:	special heat resistant PVC
Sheath colour:	grey (RAL 7000)

Outstanding features:

- ➤ **UL recognized, CSA approved**
- ➤ **Temperature range up to + 105°C**

Technical data:

Nominal voltage:	**DIN VDE** Uo/U 300/500 V	**UL/CSA** 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2	
Min. bending radius *fixed laying:* *flexible application:*	 4 x d 6 x d	
Radiation resistance:	8 x 10^7 cJ/kg	
Temperature range *fixed laying:* *flexible application:* *short time use:*	**DIN VDE** -40/+90 °C +5/+90 °C +105 °C	**UL/CSA** up to +105°C up to +105°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1, CSA FT1 and FT2	
Oil resistance:	acc. to internal standard, see page N/13	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02582002	2 x 20	0,21	5,3	10,3	39
02582003	3 x 20	0,21	5,6	15,4	46
02582004	4 x 20	0,21	6,0	20,5	54
02582005	5 x 20	0,21	6,7	25,6	67
02582007	7 x 20	0,21	7,2	35,9	83
02582008	8 x 20	0,21	8,5	41,0	103
02582010	10 x 20	0,21	9,4	51,3	121
02582012	12 x 20	0,21	9,7	61,5	138
02582014	14 x 20	0,21	10,1	71,8	154
02582016	16 x 20	0,21	10,9	82,0	179
02582018	18 x 20	0,21	11,4	92,3	198
02582025	25 x 20	0,21	13,9	128,2	272
02582030	30 x 20	0,21	14,3	153,8	311
02582034	34 x 20	0,21	15,6	174,3	358
02582040	40 x 20	0,21	16,9	205,1	418
02582061	61 x 20	0,21	19,8	312,8	608
02581903	3 x 19	0,21	6,2	21,6	57
02581904	4 x 19	0,21	6,7	28,8	68
02581905	5 x 19	0,21	7,5	36,0	85
02581907	7 x 19	0,21	8,2	50,4	107
02581908	8 x 19	0,21	9,6	57,6	131
02581910	10 x 19	0,21	10,6	72,0	154
02581912	12 x 19	0,21	10,9	86,4	175
02581914	14 x 19	0,21	11,4	100,8	197
02581916	16 x 19	0,21	12,2	115,2	227
02581918	18 x 19	0,21	12,9	129,6	252
02581925	25 x 19	0,21	15,6	180,0	345
02581930	30 x 19	0,21	16,1	216,0	395
02581934	34 x 19	0,21	17,8	244,8	461
02581940	40 x 19	0,21	19,0	288,0	529
02581961	61 x 19	0,21	22,8	439,2	794
02581802	2 x 18	0,21	6,0	19,2	53
02581803	3 x 18	0,21	6,4	28,8	65
02581804	4 x 18	0,21	7,0	38,4	79
02581805	5 x 18	0,21	7,8	48,0	98
02581807	7 x 18	0,21	8,5	67,2	123
02581808	8 x 18	0,21	9,9	76,8	151
02581810	10 x 18	0,21	11,0	96,0	178
02581812	12 x 18	0,21	11,3	115,2	204
02581814	14 x 18	0,21	12,1	134,4	236

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02581818	18 x 18	0,21	13,6	172,8	300
02581825	25 x 18	0,21	16,4	240,0	411
02581830	30 x 18	0,21	17,0	288,0	474
02581834	34 x 18	0,21	18,5	326,4	540
02581840	40 x 18	0,21	19,9	384,0	631
02581861	61 x 18	0,21	23,7	585,6	935
02581602	2 x 16	0,26	6,7	28,8	69
02581603	3 x 16	0,26	7,1	43,2	84
02581604	4 x 16	0,26	7,9	57,6	105
02581605	5 x 16	0,26	8,6	72,0	127
02581607	7 x 16	0,26	9,6	100,8	166
02581608	8 x 16	0,26	11,2	115,2	201
02581610	10 x 16	0,26	12,4	144,0	238
02581612	12 x 16	0,26	12,8	172,8	272
02581614	14 x 16	0,26	13,6	201,6	315
02581616	16 x 16	0,26	14,3	230,4	354
02581618	18 x 16	0,26	15,3	259,2	400
02581625	25 x 16	0,26	18,5	360,0	551
02581630	30 x 16	0,26	19,3	432,0	650
02581634	34 x 16	0,26	21,0	489,6	739
02581640	40 x 16	0,26	22,9	576,0	870
02581661	61 x 16	0,26	26,7	878,4	1277
02581402	2 x 14	0,26	8,1	48,0	105
02581403	3 x 14	0,26	8,6	72,0	128
02581404	4 x 14	0,26	9,5	96,0	161
02581405	5 x 14	0,26	10,6	120,0	200
02581407	7 x 14	0,26	11,6	168,0	255
02581408	8 x 14	0,26	13,8	192,0	313
02581410	10 x 14	0,26	15,2	240,0	371
02581412	12 x 14	0,26	15,7	288,0	428
02581418	18 x 14	0,26	18,7	432,0	627
02581425	25 x 14	0,26	23,1	600,0	879
02581203	3 x 12	0,31	10,2	115,2	190
02581204	4 x 12	0,31	11,3	153,6	239
02581205	5 x 12	0,31	12,6	192,0	295
02581207	7 x 12	0,31	13,9	268,8	386
02581003	3 x 10	0,31	12,1	172,8	276
02581004	4 x 10	0,31	13,2	230,4	342
02581005	5 x 10	0,31	14,9	288,0	428

Continued on next page

CC 600 T PVC control cable with numbered cores and extended temperature range, AWG 8 - AWG 2v

RoHS

Marking for CC 600 T 02580805:
SAB BRÖCKSKES · D-VIERSEN · CC 600 T 8 AWG/5c AWM Style 2586 105°C 600V CSA AWM I/II A/B 105°C 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to UL/CSA
Insulation:	special heat resistant PVC
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	in layers
Sheath material:	special heat resistant PVC
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **UL recognized, CSA approved**
- **Temperature range up to + 105°C**
- **on request construction with metric conductor stranding**

Technical data:

Nominal voltage:	**DIN VDE** Uo/U 300/500 V	**UL/CSA** 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2	
Min. bending radius *fixed laying:* *flexible application:*	 4 x d 6 x d	
Radiation resistance:	8 x 10^7 cJ/kg	
Temperature range *fixed laying:* *flexible application:* *short time use:*	**DIN VDE** -40/+90 °C +5/+90 °C +105 °C	**UL/CSA** up to +105°C up to +105°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1, CSA FT1 and FT2	
Oil resistance:	acc. to internal standard, see page N/13	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02580804	4 x 8	0,41	17,0	384,0	564
02580805	5 x 8	0,41	18,9	480,0	684
02580604	4 x 6	0,41	20,9	614,4	762
02580404	4 x 4	0,41	25,6	960,0	1350
02580204	4 x 2	0,41	30,4	1344,0	1991

Other dimensions and colours are possible on request.

SAB BRÖCKSKES

CC 600 CY T

PVC control cable with numbered cores, extended temperature range and overall copper screen, AWG 20 - AWG 10

Marking for CC 600 CY T 02781850:
SAB BRÖCKSKES · D-VIERSEN · 50 x 1,0 mm² CC 600 CY T 18 AWG/50c 02781850
UL AWM Style 2586 105°C 600V CSA AWM I/II A/B 105°C 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	special heat resistant PVC
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	in layers with PETP foil over the outer layer
Screen:	tinned copper braiding
Sheath material:	special heat resistant PVC
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **UL recognized, CSA approved**
- **Temperature range up to + 105°C**

Technical data:

Nominal voltage:	**DIN VDE** Uo/U 300/500 V	**UL/CSA** 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2; core/screen: 1000 V	
Min. bending radius *fixed laying:* *flexible application:*	5 x d 10 x d	
Radiation resistance:	8 x 10^7 cJ/kg	
Temperature range *fixed laying:* *flexible application:* *short time use:*	**DIN VDE** -40/+90 °C +5/+90 °C +105 °C	**UL/CSA** up to +105°C up to +105°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1, CSA FT1 and FT2	
Oil resistance:	acc. to internal standard, see page N/13	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02782002	2 x 20	0,21	5,8	26,0	46
02782003	3 x 20	0,21	6,2	31,5	56
02782004	4 x 20	0,21	6,6	48,7	66
02782007	7 x 20	0,21	7,9	68,2	100
02782012	12 x 20	0,21	10,6	111,5	175
02782015	15 x 20	0,21	11,6	128,1	210
02782025	25 x 20	0,21	14,6	196,7	320
02781802	2 x 18	0,21	6,6	47,4	60
02781803	3 x 18	0,21	6,9	57,6	75
02781804	4 x 18	0,21	7,7	70,3	93
02781805	5 x 18	0,21	8,3	85,6	111
02781807	7 x 18	0,21	9,2	105,6	143
02781812	12 x 18	0,21	12,2	166,9	245
02781815	15 x 18	0,21	13,6	205,2	304
02781818	18 x 18	0,21	14,3	240,8	343
02781825	25 x 18	0,21	17,3	343,7	483
02781850	50 x 18	0,21	23,3	620,3	902
02781602	2 x 16	0,26	7,2	58,3	74
02781603	3 x 16	0,26	7,8	75,3	95
02781604	4 x 16	0,26	8,4	95,3	116
02781605	5 x 16	0,26	9,3	110,5	144

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02781607	7 x 16	0,26	10,3	150,7	193
02781612	12 x 16	0,26	13,7	231,2	319
02781615	15 x 16	0,26	15,2	285,3	393
02781618	18 x 16	0,26	16,4	358,2	475
02781625	25 x 16	0,26	19,6	476,2	642
02781650	50 x 16	0,26	25,8	881,0	1179
02781403	3 x 14	0,26	9,3	110,5	139
02781404	4 x 14	0,26	10,2	145,8	184
02781405	5 x 14	0,26	11,4	171,8	227
02781407	7 x 14	0,26	12,5	222,2	289
02781412	12 x 14	0,26	16,8	388,0	498
02781418	18 x 14	0,26	19,8	548,8	709
02781425	25 x 14	0,26	23,9	754,0	979
02781203	3 x 12	0,31	10,9	165,8	205
02781204	4 x 12	0,31	12,1	206,1	264
02781205	5 x 12	0,31	13,2	252,9	320
02781207	7 x 12	0,31	15,0	337,7	433
02781003	3 x 10	0,31	12,7	232,8	291
02781004	4 x 10	0,31	13,9	298,0	365
02781005	5 x 10	0,31	15,4	358,1	450

Continued on next page

CC 600 CY T

PVC control cable with numbered cores, extended temperature range and overall copper screen, AWG 8 - AWG 2

RoHS

Marking for CC 600 CY T 02780804:
SAB BRÖCKSKES · D-VIERSEN · CC 600 CY T 8 AWG/4c 02780804 UL AWM Style 2586 105°C 600V CSA AWM I/II A/B 105°C 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to UL/CSA
Insulation:	special heat resistant PVC
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	in layers with PETP foil over the outer layer
Screen:	tinned copper braiding
Sheath material:	special heat resistant PVC
Sheath colour:	grey (RAL 7000)

Outstanding features:

- ➤ **UL recognized, CSA approved**
- ➤ **Temperature range up to + 105°C**
- ➤ **on request construction with metric conductor stranding**

Technical data:

Nominal voltage:	**DIN VDE** Uo/U 300/500 V	**UL/CSA** 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2; core/screen: 1000 V	
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d	
Radiation resistance:	8 x 10^7 cJ/kg	
Temperature range *fixed laying:* *flexible application:* *short time use:*	**DIN VDE** -40/+90 °C +5/+90 °C +105 °C	**UL/CSA** up to +105°C up to +105°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1, CSA FT1 and FT2	
Oil resistance:	acc. to internal standard, see page N/13	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02780804	4 x 8	0,41	18,6	497,9	653
02780604	4 x 6	0,41	22,5	752,0	950
02780404	4 x 4	0,41	27,6	1127,0	1414
02780204	4 x 2	0,41	31,5	1541,2	1895
02780104	4 x 1	0,41	36,0	2151,9	2644

Other dimensions and colours are possible on request.

CC 600 DS T PVC control cable with numbered cores, extended temperature range and double screen

RoHS

Marking for CC 600 DS T 02871425:
SAB BRÖCKSKES · D-VIERSEN · 12 x 2,5 mm² CC 600 DS T 14 AWG/12c 02871412
UL AWM Style 2586 105°C 600V CSA AWM I/II A/B 105°C 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	special heat resistant PVC
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	in layers
Wrapping:	Alu-foil with a drain wire
Screen:	tinned copper braiding
Sheath material:	special heat resistant PVC
Sheath colour:	grey (RAL 7000)

Outstanding features:

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

Technical data:

Nominal voltage:	**DIN VDE** Uo/U 300/500 V	**UL/CSA** 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2; core/screen: 1000 V	
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d	
Radiation resistance:	8 x 10^7 cJ/kg	
Temperature range *fixed laying:* *flexible application:* *short time use:*	**DIN VDE** -40/+90 °C +5/+90 °C +105 °C	**UL/CSA** up to +105°C up to +105°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1, CSA FT1 and FT2	
Oil resistance:	acc. to internal standard, see page N/13	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

item no.	no. of cores x cross section n x AWG	drain wire	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02872002	2 x 20	20 AWG	0,21	6,3	27,0	54
02872003	3 x 20	20 AWG	0,21	6,7	32,5	64
02872004	4 x 20	20 AWG	0,21	7,1	49,7	74
02872007	7 x 20	20 AWG	0,21	8,4	69,4	108
02872009	9 x 20	20 AWG	0,21	10,1	100,0	145
02872012	12 x 20	20 AWG	0,21	11,2	113,0	190
02872015	15 x 20	20 AWG	0,21	12,3	130,0	225
02872025	25 x 20	20 AWG	0,21	15,3	198,7	335
02871802	2 x 18	18 AWG	0,21	7,5	49,4	76
02871803	3 x 18	18 AWG	0,21	7,8	59,2	91
02871804	4 x 18	18 AWG	0,21	8,4	71,8	106
02871805	5 x 18	18 AWG	0,21	9,2	87,7	128
02871807	7 x 18	18 AWG	0,21	9,9	107,1	156
02871809	9 x 18	18 AWG	0,21	12,1	130,0	200
02871812	12 x 18	18 AWG	0,21	13,1	169,1	265
02871815	15 x 18	18 AWG	0,21	14,3	207,1	319
02871818	18 x 18	18 AWG	0,21	15,2	243,3	366
02871825	25 x 18	18 AWG	0,21	18,2	346,7	508
02871850	50 x 18	18 AWG	0,21	24,0	621,5	919
02871602	2 x 16	16 AWG	0,26	7,9	68,3	90
02871603	3 x 16	16 AWG	0,26	8,6	85,3	112
02871604	4 x 16	16 AWG	0,26	9,4	105,3	135
02871605	5 x 16	16 AWG	0,26	10,3	121,5	165
02871607	7 x 16	16 AWG	0,26	11,3	162,5	217
02871609	9 x 16	16 AWG	0,26	13,7	203,8	285
02871612	12 x 16	16 AWG	0,26	14,7	244,2	345
02871615	15 x 16	16 AWG	0,26	16,2	299,3	420
02871618	18 x 16	16 AWG	0,26	17,4	345,1	505
02871625	25 x 16	16 AWG	0,26	20,6	492,2	674
02871650	50 x 16	16 AWG	0,26	26,9	900,4	1221
02871403	3 x 14	14 AWG	0,26	10,5	150,5	171
02871404	4 x 14	14 AWG	0,26	11,4	185,8	220
02871405	5 x 14	14 AWG	0,26	12,6	210,8	265
02871407	7 x 14	14 AWG	0,26	13,7	262,4	324
02871409	9 x 14	14 AWG	0,26	16,8	332,0	475
02871412	12 x 14	14 AWG	0,26	18,0	414,7	538
02871418	18 x 14	14 AWG	0,26	21,0	608,8	750
02871425	25 x 14	14 AWG	0,26	25,1	814,0	1024
02871203	3 x 12	14 AWG	0,31	12,1	205,8	237
02871204	4 x 12	14 AWG	0,31	13,3	245,3	295
02871205	5 x 12	14 AWG	0,31	14,4	289,9	354
02871207	7 x 12	14 AWG	0,31	16,2	377,3	465
02871003	3 x 10	14 AWG	0,31	13,9	272,8	325
02871004	4 x 10	14 AWG	0,31	15,1	338,0	399
02871005	5 x 10	14 AWG	0,31	16,6	398,3	485
02870804	4 x 8	14 AWG	0,41	19,8	523,7	650

Other dimensions and colours are possible on request.

NFPA 79 for industrial machinery

CC 600 MTW Type MTW

PVC control cable and Machine-Tool Cable with numbered cores

RoHS

Marking for CC 600 MTW 35501805:
SAB BRÖCKSKES · D-VIERSEN · 5 x 1,0 mm² CC 600 MTW 18 AWG/5c 35501805
(UL) Type MTW 600V AWM Style 21216 90°C Oil 60°C 600V CSA AWM I/II A/B 90°C 1000V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228 classe 5 and UL standard 758 Tabelle 5.1 + UL 1581 Tabelle 20.1
Insulation:	special formulated PVC/Nylon
Colour code:	black cores with consecutive numbers green-yellow earth wire from 3 cores
Stranding:	in layers
Sheath material:	special oil resistant PVC
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **UL recognized, CSA approved and (UL) listed**
- **Flexible cable for cable tray use**
- **oil resistant**
- **NFPA 79 for industrial machinery**

Technical data:

Voltage:	**UL-AWM / (UL)** 600 V	**CSA** 1000 V
Testing voltage U:	4000 V	
Min. bending radius *fixed laying:* *flexible application:*	4 x d 6 x d	
Radiation resistance:	8 x 10^7 cJ/kg	
Temperature range *storage ambient:*	**(UL) / CSA** -25/+90 °C -40/+90°C	
Fire performance:	CSA FT1 and FT2	
Oil resistance:	very good - TM5 acc. to DIN VDE 0281 part 1 + HD 21.1, Oil 60 °C acc. to UL 758, Fuel Oil acc. to CSA-C 22.2 No. 210-05	
Impact and Crushing test:	acc. to UL 1277	
Machinery Area:	yes	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
35501803	3 x 18	0,21	7,7	28,8	86
35501804	4 x 18	0,21	8,3	38,4	103
35501805	5 x 18	0,21	9,1	48,0	123
35501807	7 x 18	0,21	9,8	67,2	151
35501809	9 x 18	0,21	12,0	86,4	196
35501812	12 x 18	0,21	12,6	115,2	235
35501816	16 x 18	0,21	14,7	153,6	320
35501818	18 x 18	0,21	15,4	172,8	354
35501819	19 x 18	0,21	16,2	182,4	374
35501825	25 x 18	0,21	18,2	240,0	465
35501827	27 x 18	0,21	18,2	259,2	491
35501837	37 x 18	0,21	20,3	355,2	639
35501850	50 x 18	0,21	24,8	480,0	898
35501603	3 x 16	0,26	8,4	43,2	107
35501604	4 x 16	0,26	9,1	57,6	128
35501605	5 x 16	0,26	9,8	72,0	153
35501607	7 x 16	0,26	10,7	100,8	191
35501608	8 x 16	0,26	12,3	115,2	229
35501609	9 x 16	0,26	13,2	129,6	255
35501612	12 x 16	0,26	14,5	172,8	323
35501616	16 x 16	0,26	16,1	230,4	409
35501618	18 x 16	0,26	16,8	259,2	452
35501619	19 x 16	0,26	16,8	273,6	466
35501625	25 x 16	0,26	20,1	360,0	604
35501627	27 x 16	0,26	20,1	388,8	641
35501641	41 x 16	0,26	25,1	590,4	993

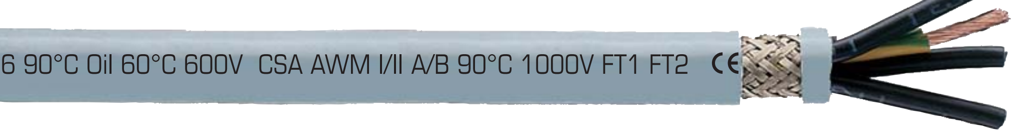
item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
35501650	50 x 16	0,26	27,3	720,0	1174
35501661	61 x 16	0,26	29,0	878,4	1390
35501403	3 x 14	0,26	9,3	72,0	143
35501404	4 x 14	0,26	10,0	96,0	173
35501405	5 x 14	0,26	11,0	120,0	209
35501407	7 x 14	0,26	11,9	168,0	265
35501409	9 x 14	0,26	15,4	216,0	373
35501412	12 x 14	0,26	16,1	288,0	446
35501418	18 x 14	0,26	18,8	432,0	633
35501425	25 x 14	0,26	23,5	600,0	902
35501203	3 x 12	0,31	10,5	115,2	199
35501204	4 x 12	0,31	11,4	153,6	244
35501205	5 x 12	0,31	12,5	192,0	296
35501207	7 x 12	0,31	14,4	268,8	404
35501003	3 x 10	0,31	12,4	172,8	285
35501004	4 x 10	0,31	14,3	230,4	377
35501005	5 x 10	0,31	15,6	288,0	453
35501007	7 x 10	0,31	17,0	403,2	584
35500804	4 x 8	0,41	18,1	337,9	586
35500805	5 x 8	0,41	19,9	422,4	709
35500604	4 x 6	0,41	22,8	541,4	919
35500605	5 x 6	0,41	25,1	676,8	1110
35500404	4 x 4	0,41	27,4	844,8	1386
35500405	5 x 4	0,41	30,3	1056,0	1684
35500204	4 x 2	0,41	31,8	1344,0	1976
35500205	5 x 2	0,41	35,2	1680,0	2398

Other dimensions and colours are possible on request.

NFPA 79 for industrial machinery

CC 600 MTW CY Type MTW

PVC control cable and Machine-Tool Cable with numbered cores and overall copper screen



Marking for CC 600 MTW CY 35601404:
SAB BRÖCKSKES · D-VIERSEN · 4 x 25,0 mm² CC 600 MTW CY 14 AWG/4c 35601404
(UL) Type MTW 600V AWM Style 21216 90°C Oil 60°C 600V CSA AWM I/II A/B 90°C 1000V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228 classe 5 and UL standard 758 Tabelle 5.1 + UL 1581 Tabelle 20.1
Insulation:	special formulated PVC/Nylon
Colour code:	black cores with consecutive numbers green-yellow earth wire from 3 cores
Stranding:	in layers
Wrapping:	non-woven tapes
Screen:	tinned copper braiding
Sheath material:	special oil resistant PVC
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **UL recognized, CSA approved and (UL) listed**
- **Flexible cable for cable tray use**
- **oil resistant**
- **NFPA 79 for industrial machinery**

Technical data:

Voltage:	**UL-AWM / (UL)** 600 V; **CSA** 1000 V
Testing voltage:	core/core 4000 V core/screen 2000 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range *storage ambient:*	**(UL) / CSA** -25/+90 °C -40/+90°C
Fire performance:	CSA FT1 and FT2
Oil resistance:	very good - TM5 acc. to DIN VDE 0281 part 1 + HD 21.1, Oil 60 °C acc. to UL 758, Fuel Oil acc. to CSA-C 22.2 No. 210-05
Impact and Crushing test:	acc. to UL 1277
Machinery Area:	yes
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
35601803	3 x 18	0,21	8,5	50,3	97
35601804	4 x 18	0,21	9,2	62,2	116
35601805	5 x 18	0,21	9,9	74,3	142
35601807	7 x 18	0,21	10,6	96,4	167
35601809	9 x 18	0,21	13,0	146,0	244
35601812	12 x 18	0,21	14,3	175,1	293
35601816	16 x 18	0,21	15,9	251,0	397
35601818	18 x 18	0,21	16,6	270,9	431
35601819	19 x 18	0,21	17,4	292,4	460
35601825	25 x 18	0,21	19,4	364,0	560
35601827	27 x 18	0,21	19,4	383,2	586
35601837	37 x 18	0,21	22,6	494,2	802
35601850	50 x 18	0,21	26,0	650,0	1029
35601603	3 x 16	0,26	9,2	67,0	117
35601604	4 x 16	0,26	9,9	83,9	140
35601605	5 x 16	0,26	10,5	101,2	178
35601607	7 x 16	0,26	11,7	154,8	222
35601608	8 x 16	0,26	14,1	175,0	300
35601609	9 x 16	0,26	15,1	215,5	347
35601612	12 x 16	0,26	15,9	270,2	401
35601616	16 x 16	0,26	17,3	340,3	495
35601618	18 x 16	0,26	18,1	370,1	539
35601619	19 x 16	0,26	18,1	384,5	553
35601625	25 x 16	0,26	22,4	498,6	766
35601627	27 x 16	0,26	22,4	527,4	802
35601641	41 x 16	0,26	26,3	761,2	1125

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
35601650	50 x 16	0,26	28,5	896,4	1309
35601661	61 x 16	0,26	30,2	1075,7	1540
35601403	3 x 14	0,26	10,1	101,0	169
35601404	4 x 14	0,26	11,0	143,6	200
35601405	5 x 14	0,26	12,0	174,2	236
35601407	7 x 14	0,26	12,9	227,5	295
35601409	9 x 14	0,26	16,6	314,1	451
35601412	12 x 14	0,26	17,4	398,0	532
35601418	18 x 14	0,26	20,1	557,1	731
35601425	25 x 14	0,26	24,8	767,1	1031
35601203	3 x 12	0,31	11,5	163,1	239
35601204	4 x 12	0,31	12,5	208,1	289
35601205	5 x 12	0,31	14,3	251,9	367
35601207	7 x 12	0,31	15,6	365,9	481
35601003	3 x 10	0,31	14,1	232,6	356
35601004	4 x 10	0,31	15,5	327,4	453
35601005	5 x 10	0,31	16,8	386,4	530
35601007	7 x 10	0,31	18,2	514,3	670
35600804	4 x 8	0,41	19,3	461,8	682
35600805	5 x 8	0,41	22,2	560,6	870
35600604	4 x 6	0,41	24,0	683,1	1030
35600605	5 x 6	0,41	25,9	846,6	1237
35600404	4 x 4	0,41	28,6	1021,4	1521
35600405	5 x 4	0,41	31,5	1258,3	1838
35600204	4 x 2	0,41	33,0	1552,1	2134
35600205	5 x 2	0,41	36,4	1914,1	2574

Other dimensions and colours are possible on request.

CC 600 World PVC control cable with numbered cores

RoHS

Marking for CC 600 World 02511805:
SAB BRÖCKSKES · D-VIERSEN · <VDE> <HAR> H05VV5-F 02511805 18G0,5 mm² CC 600 World 20 AWG/18c 02512018
AWM Style 21216 90°C Oil 60°C 600V CSA AWM I/II A/B 90°C F 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	in layers
Sheath material:	PVC, TM5 acc. to DIN VDE 0281 part 1 + HD 21.1
Sheath colour:	grey (RAL 7000)

Outstanding features:

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

Technical data:

Nominal voltage:	**DIN VDE** Uo/U 300/500 V	**UL/CSA** 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2	
Min. bending radius *fixed laying:* *flexible application:*	 4 x d 6 x d	
Radiation resistance:	8 x 10^7 cJ/kg	
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** -40/+70 °C +5/+70 °C	**UL/CSA:** up to +90 °C up to +90 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1, CSA FT1 and FT2	
Oil resistance:	very good - TM5 acc. to DIN VDE 0281 part 1 + HD 21.1	
Chem. resistance:	see page N/9	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

possible lengths:

item no.	no. of cores x cross section n x mm²	AWG x cross section	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km	coils: 250 ft/ 75 m	coils: 500 ft/ 150 m	drums: 500 ft/ 150 m	drums: 1000 ft/ 300 m	drums: 2000 ft/ 600 m
02510305	3 x 0,50	20	6,5	15,4	60	X	X		X	X
02510405	4 x 0,50	20	7,2	20,5	74	X	X		X	X
02510505	5 x 0,50	20	7,9	25,6	91	X	X		X	X
02510705	7 x 0,50	20	9,5	35,9	129	X	X		X	X
02511205	12 x 0,50	20	11,5	61,5	182	X		X	X	X
02511805	18 x 0,50	20	13,8	92,3	269	X		X	X	X
02510307	3 x 0,75	19	7,1	21,6	73	X	X		X	X
02510407	4 x 0,75	19	7,9	28,8	90	X	X		X	X
02510507	5 x 0,75	19	8,0	36,0	97	X	X		X	X
02510707	7 x 0,75	19	10,4	50,4	157	X	X		X	X
02511207	12 x 0,75	19	12,9	86,4	229	X		X	X	X
02511807	18 x 0,75	19	15,3	129,6	333	X		X	X	X
02510310	3 x 1,00	18	7,4	28,8	83	X	X		X	X
02510410	4 x 1,00	18	8,1	38,4	101	X	X		X	X
02510510	5 x 1,00	18	9,1	48,0	128	X	X		X	X
02510710	7 x 1,00	18	10,8	67,2	179	X	X		X	X
02511210	12 x 1,00	18	13,3	115,2	261	X		X	X	X
02511810	18 x 1,00	18	15,9	172,8	384			X	X	X
02510315	3 x 1,50	16	8,4	43,2	112	X	X		X	X
02510415	4 x 1,50	16	9,5	57,6	141	X	X		X	X
02510515	5 x 1,50	16	10,6	72,0	177	X	X		X	X
02510715	7 x 1,50	16	12,8	100,8	252	X		X	X	X
02511215	12 x 1,50	16	15,7	172,8	368	X		X	X	X
02511815	18 x 1,50	16	18,8	259,2	541			X	X	X
02510325	3 x 2,50	14	10,1	72,0	166	X	X		X	X
02510425	4 x 2,50	14	11,3	96,0	209	X		X	X	X
02510525	5 x 2,50	14	12,5	120,0	258	X		X	X	X
02510725	7 x 2,50	14	15,0	168,0	367	X		X	X	X
02511225	12 x 2,50	14	18,6	288,0	546			X	X	X
02511825	18 x 2,50	14	22,6	432,0	821			X	X	X

Other dimensions and colours are possible on request.

SAB BRÖCKSKES

CC 600 M CY

PVC control cable with numbered cores, inner sheath and overall copper screen

RoHS

Marking for CC 600 M CY 02561805:
SAB BRÖCKSKES · D-VIERSEN · <VDE> <HAR> H05VVC4V5-K 02561805 18G0,5mm² CC 600 M CY 20 AWG/18c 02562018
UL AWM Style 21216 90°C Oil 60°C 600V CSA AWM I/II A/B 90°C F 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	in layers
Inner sheath:	PVC, TM2 acc. to DIN VDE 0281 part 1, + HD 21.1
Screen:	tinned copper braiding
Sheath material:	PVC, TM5 acc. to DIN VDE 0281 part 1 + HD 21.1
Sheath colour:	grey (RAL 7000)

Outstanding features:

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

Technical data:

Nominal voltage:	**DIN VDE** Uo/U 300/500 V	**UL/CSA** 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2; core/screen 1000 V	
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d	
Radiation resistance:	8 x 10^7 cJ/kg	
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** -40/+70 °C +5/+70 °C	**UL/CSA:** up to +90 °C up to +90 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1, CSA FT1 and FT2	
Oil resistance:	very good - TM5 acc. to DIN VDE 0281 part 1 + HD 21.1	
Chem. resistance:	see page N/9	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

possible lengths:

item no.	no. of cores x cross section n x mm²	AWG x cross section	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km	coils: 250 ft/ 75 m	500 ft/ 150 m	drums: 500 ft/ 150 m	1000 ft/ 300 m	2000 ft/ 600 m
02560305	3 x 0,50	20	9,1	48,4	121	X			X	X
02560405	4 x 0,50	20	9,9	66,9	149	X	X		X	X
02560505	5 x 0,50	20	10,6	71,3	168	X	X		X	X
02560705	7 x 0,50	20	12,2	83,8	215	X		X	X	X
02561205	12 x 0,50	20	14,4	120,7	291	X		X	X	X
02561805	18 x 0,50	20	16,9	197,3	425			X	X	X
02560307	3 x 0,75	19	9,9	68,1	150	X	X		X	X
02560407	4 x 0,75	19	10,6	74,7	169	X	X		X	X
02560507	5 x 0,75	19	11,4	83,0	195	X		X	X	X
02560707	7 x 0,75	19	13,2	108,4	259	X		X	X	X
02561207	12 x 0,75	19	16,0	173,3	371			X	X	X
02561807	18 x 0,75	19	18,4	238,7	505			X	X	X
02560310	3 x 1,00	18	10,1	75,7	160	X	X		X	X
02560410	4 x 1,00	18	10,5	81,8	172	X	X		X	X
02560510	5 x 1,00	18	11,7	95,5	211	X		X	X	X
02560710	7 x 1,00	18	13,6	125,6	283	X		X	X	X
02561210	12 x 1,00	18	16,5	219,9	422			X	X	X
02561810	18 x 1,00	18	19,1	283,6	564			X	X	X
02560315	3 x 1,50	16	11,1	89,7	193	X	X		X	X
02560415	4 x 1,50	16	12,2	105,8	229	X		X	X	X
02560515	5 x 1,50	16	13,3	130,1	277	X		X	X	X
02560715	7 x 1,50	16	15,9	187,4	392	X		X	X	X
02561215	12 x 1,50	16	18,9	272,3	535			X	X	X
02561815	18 x 1,50	16	22,5	398,2	783			X	X	X
02560325	3 x 2,50	14	12,9	129,5	266	X		X	X	X
02560425	4 x 2,50	14	13,8	154,4	306	X		X	X	X
02560525	5 x 2,50	14	15,5	205,9	393	X		X	X	X
02560725	7 x 2,50	14	18,1	276,3	535			X	X	X
02561225	12 x 2,50	14	22,3	410,6	773			X	X	X
02561825	18 x 2,50	14	25,8	582,0	1066			X	X	X

Other dimensions and colours are possible on request.

SAB BRÖCKSKES

CC 600 P PUR control cable with numbered black cores and inner sheath

Marking for CC 600 P 02610510:
SAB BRÖCKSKES · D-VIERSEN · 02610510 5 x 1,0 mm² CC 600 P 18 AWG/5c 02611805
AWM Style 21060 80°C 600V CSA AWM I/II A/B 80°C 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	in layers
Inner sheath:	from 4,0 mm²: PVC TM2 acc. to DIN VDE 0281 part 1 + HD 21.1
Sheath material:	PU acc. to UL 758
Sheath colour:	grey (RAL 7000)

Outstanding features:

- oil resistant
- abrasion resistant
- notch resistant
- good chemical resistance

Technical data:

Nominal voltage:	**DIN VDE** Uo/U 300/500 V	**UL/CSA** 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2	
Min. bending radius *fixed laying:* *flexible application:*	 4 x d 6 x d	
Radiation resistance:	5 x 10^7 cJ/kg	
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** -40/+70 °C +5/+70 °C	**UL/CSA** up to +80 °C up to +80 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1, CSA FT1 and FT2	
Oil resistance:	very good - oilrating 60°C acc. to UL 1581	
Chem. resistance:	good against acids, alkalines, solvents, hydraulic liquids etc.	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02610205	2 x 0,50	0,21	6,2	10,3	48
02610305	3 x 0,50	0,21	6,4	15,4	56
02610405	4 x 0,50	0,21	6,8	20,5	66
02610505	5 x 0,50	0,21	7,4	25,6	79
02610705	7 x 0,50	0,21	7,9	35,9	96
02611205	12 x 0,50	0,21	10,1	61,5	144
02611805	18 x 0,50	0,21	11,6	92,3	203
02612505	25 x 0,50	0,21	13,7	128,2	265
02613005	30 x 0,50	0,21	14,1	153,8	306
02613405	34 x 0,50	0,21	15,2	174,3	347
02614205	42 x 0,50	0,21	16,6	215,3	432
02615005	50 x 0,50	0,21	18,0	256,4	492
02610207	2 x 0,75	0,21	6,7	14,4	58
02610307	3 x 0,75	0,21	6,9	21,6	67
02610407	4 x 0,75	0,21	7,4	28,8	80
02610507	5 x 0,75	0,21	8,0	36,0	96
02610707	7 x 0,75	0,21	9,3	50,4	130
02611207	12 x 0,75	0,21	11,1	86,4	178
02611807	18 x 0,75	0,21	12,9	129,6	253
02612507	25 x 0,75	0,21	15,2	180,0	330
02613007	30 x 0,75	0,21	16,0	216,0	393
02613407	34 x 0,75	0,21	17,3	244,8	446
02614207	42 x 0,75	0,21	18,5	302,4	542
02615007	50 x 0,75	0,21	20,1	360,0	621
02610210	2 x 1,00	0,21	6,9	19,2	64
02610310	3 x 1,00	0,21	7,1	28,8	76
02610410	4 x 1,00	0,21	7,7	38,4	91
02610510	5 x 1,00	0,21	8,3	48,0	110
02610710	7 x 1,00	0,21	9,6	67,2	148
02611210	12 x 1,00	0,21	11,5	115,2	207
02611810	18 x 1,00	0,21	13,4	172,8	297
02612510	25 x 1,00	0,21	16,0	240,0	397
02613010	30 x 1,00	0,21	16,7	288,0	465
02613410	34 x 1,00	0,21	18,0	326,4	528
02614210	42 x 1,00	0,21	19,2	403,2	642
02615010	50 x 1,00	0,21	22,5	480,0	806
02610215	2 x 1,50	0,26	7,5	28,8	79
02610315	3 x 1,50	0,26	7,8	43,2	96
02610415	4 x 1,50	0,26	8,4	57,6	116
02610515	5 x 1,50	0,26	9,1	72,0	140
02610715	7 x 1,50	0,26	10,6	100,8	190
02611215	12 x 1,50	0,26	12,8	172,8	271
02611815	18 x 1,50	0,26	14,9	259,2	392
02612515	25 x 1,50	0,26	18,0	360,0	536
02613015	30 x 1,50	0,26	18,6	432,0	625
02613415	34 x 1,50	0,26	20,1	489,6	786
02614215	42 x 1,50	0,26	22,9	604,8	936
02615015	50 x 1,50	0,26	25,0	720,0	1080
02610225	2 x 2,50	0,26	8,7	48,0	112
02610325	3 x 2,50	0,26	9,1	72,0	140
02610425	4 x 2,50	0,26	9,8	96,0	170
02610525	5 x 2,50	0,26	10,7	120,0	208
02610725	7 x 2,50	0,26	12,6	168,0	288
02611225	12 x 2,50	0,26	15,3	288,0	412
02611825	18 x 2,50	0,26	18,2	432,0	613
02612525	25 x 2,50	0,26	23,2	600,0	885
02610340	3 x 4,00	0,31	11,9	115,2	233
02610440	4 x 4,00	0,31	13,0	153,6	288
02610540	5 x 4,00	0,31	13,9	192,0	342
02610460	4 x 6,00	0,31	14,7	230,4	393
02610560	5 x 6,00	0,31	16,1	288,0	482
02610461	4 x 10,0	0,41	18,5	384,0	644

Other dimensions and colours are possible on request.

CC 600 P blue PUR control cable with numbered blue cores and inner sheath

RoHS

Ford approved

Marking for CC 600 P blue 02630510:
SAB BRÖCKSKES · D-VIERSEN · 02630510 5 x 1,0 mm² CC 600 P blue 18 AWG/5c 02631805
AWM Style 21060 80°C 600V CSA AWM I/II A/B 80°C 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	blue cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	in layers
Inner sheath:	from 4,0 mm²: PVC TM2 acc. to DIN VDE 0281 part 1 + HD 21.1
Sheath material:	PU acc. to UL 758
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **oil resistant**
- **abrasion resistant**
- **notch resistant**
- **good chemical resistance**

Technical data:

Nominal voltage:	**DIN VDE** Uo/U 300/500 V	**UL/CSA** 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2	
Min. bending radius *fixed laying:* *flexible application:*	 4 x d 6 x d	
Radiation resistance:	5 x 10^7 cJ/kg	
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** -40/+70 °C +5/+70 °C	**UL/CSA** up to +80 °C up to +80 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1, CSA FT1 and FT2	
Oil resistance:	very good - oilrating 60°C acc. to UL 1581	
Chem. resistance:	good against acids, alkalines, solvents, hydraulic liquids etc.	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02630205	2 x 0,50	0,21	6,2	10,3	48
02630305	3 x 0,50	0,21	6,4	15,4	56
02630405	4 x 0,50	0,21	6,8	20,5	66
02630505	5 x 0,50	0,21	7,4	25,6	79
02630705	7 x 0,50	0,21	7,9	35,9	96
02631205	12 x 0,50	0,21	10,1	61,5	144
02631805	18 x 0,50	0,21	11,6	92,3	203
02632505	25 x 0,50	0,21	13,7	128,2	265
02633005	30 x 0,50	0,21	14,1	153,8	306
02633405	34 x 0,50	0,21	15,2	174,3	347
02634205	42 x 0,50	0,21	16,6	215,3	432
02635005	50 x 0,50	0,21	18,0	256,4	492
02630207	2 x 0,75	0,21	6,7	14,4	58
02630307	3 x 0,75	0,21	6,9	21,6	67
02630407	4 x 0,75	0,21	7,4	28,8	80
02630507	5 x 0,75	0,21	8,0	36,0	96
02630707	7 x 0,75	0,21	9,3	50,4	130
02631207	12 x 0,75	0,21	11,1	86,4	178
02631807	18 x 0,75	0,21	12,9	129,6	253
02632507	25 x 0,75	0,21	15,2	180,0	330
02633007	30 x 0,75	0,21	16,0	216,0	393
02633407	34 x 0,75	0,21	17,3	244,8	446
02634207	42 x 0,75	0,21	18,5	302,4	542
02635007	50 x 0,75	0,21	20,1	360,0	621
02630210	2 x 1,00	0,21	6,9	19,2	64
02630310	3 x 1,00	0,21	7,1	28,8	76
02630410	4 x 1,00	0,21	7,7	38,4	91
02630510	5 x 1,00	0,21	8,3	48,0	110
02630710	7 x 1,00	0,21	9,6	67,2	148
02631210	12 x 1,00	0,21	11,5	115,2	207
02631810	18 x 1,00	0,21	13,4	172,8	297

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02632510	25 x 1,00	0,21	16,0	240,0	397
02633010	30 x 1,00	0,21	16,7	288,0	465
02633410	34 x 1,00	0,21	18,0	326,4	528
02634210	42 x 1,00	0,21	19,2	403,2	642
02635010	50 x 1,00	0,21	22,5	480,0	806
02630215	2 x 1,50	0,26	7,5	28,8	79
02630315	3 x 1,50	0,26	7,8	43,2	96
02630415	4 x 1,50	0,26	8,4	57,6	116
02630515	5 x 1,50	0,26	9,1	72,0	140
02630715	7 x 1,50	0,26	10,6	100,8	190
02631215	12 x 1,50	0,26	12,8	172,8	271
02631815	18 x 1,50	0,26	14,9	259,2	392
02632515	25 x 1,50	0,26	18,0	360,0	536
02633015	30 x 1,50	0,26	18,6	432,0	625
02633415	34 x 1,50	0,26	20,1	489,6	786
02634215	42 x 1,50	0,26	22,9	604,8	936
02635015	50 x 1,50	0,26	25,0	720,0	1080
02630225	2 x 2,50	0,26	8,7	48,0	112
02630325	3 x 2,50	0,26	9,1	72,0	140
02630425	4 x 2,50	0,26	9,8	96,0	170
02630525	5 x 2,50	0,26	10,7	120,0	208
02630725	7 x 2,50	0,26	12,6	168,0	288
02631225	12 x 2,50	0,26	15,3	288,0	412
02631825	18 x 2,50	0,26	18,2	432,0	613
02632525	25 x 2,50	0,26	23,2	600,0	885
02630340	3 x 4,00	0,31	11,9	115,2	233
02630440	4 x 4,00	0,31	13,0	153,6	288
02630540	5 x 4,00	0,31	13,9	192,0	342
02630460	4 x 6,00	0,31	14,7	230,4	393
02630560	5 x 6,00	0,31	16,1	288,0	482
02630461	4 x 10,0	0,41	18,5	384,0	644

Other dimensions and colours are possible on request.

CC 600 P red PUR control cable with numbered red cores and inner sheath

RoHS

Marking for CC 600 P red 02640510:
SAB BRÖCKSKES · D-VIERSEN · 02640510 5 x 1,0 mm² CC 600 P red 18 AWG/5c 02641805
AWM Style 21060 80°C 600V CSA AWM I/II A/B 80°C 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	red cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	in layers
Inner sheath:	from 4,0 mm²: PVC TM2 acc. to DIN VDE 0281 part 1 + HD 21.1
Sheath material:	PU acc. to UL 758
Sheath colour:	grey (RAL 7000)

Outstanding features:

- oil resistant
- abrasion resistant
- notch resistant
- good chemical resistance

Technical data:

Nominal voltage:	**DIN VDE** Uo/U 300/500 V	**UL/CSA** 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2	
Min. bending radius *fixed laying:* *flexible application:*	4 x d 6 x d	
Radiation resistance:	5 x 10^7 cJ/kg	
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** -40/+70 °C +5/+70 °C	**UL/CSA** up to +80 °C up to +80 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1, CSA FT1 and FT2	
Oil resistance:	very good - oilrating 60°C acc. to UL 1581	
Chem. resistance:	good against acids, alkalines, solvents, hydraulic liquids etc.	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02640205	2 x 0,50	0,21	6,2	10,3	48
02640305	3 x 0,50	0,21	6,4	15,4	56
02640405	4 x 0,50	0,21	6,8	20,5	66
02640505	5 x 0,50	0,21	7,4	25,6	79
02640705	7 x 0,50	0,21	7,9	35,9	96
02641205	12 x 0,50	0,21	10,1	61,5	144
02641805	18 x 0,50	0,21	11,6	92,3	203
02642505	25 x 0,50	0,21	13,7	128,2	265
02643005	30 x 0,50	0,21	14,1	153,8	306
02643405	34 x 0,50	0,21	15,2	174,3	347
02644205	42 x 0,50	0,21	16,6	215,3	432
02645005	50 x 0,50	0,21	18,0	256,4	492
02640207	2 x 0,75	0,21	6,7	14,4	58
02640307	3 x 0,75	0,21	6,9	21,6	67
02640407	4 x 0,75	0,21	7,4	28,8	80
02640507	5 x 0,75	0,21	8,0	36,0	96
02640707	7 x 0,75	0,21	9,3	50,4	130
02641207	12 x 0,75	0,21	11,1	86,4	178
02641807	18 x 0,75	0,21	12,9	129,6	253
02642507	25 x 0,75	0,21	15,2	180,0	330
02643007	30 x 0,75	0,21	16,0	216,0	393
02643407	34 x 0,75	0,21	17,3	244,8	446
02644207	42 x 0,75	0,21	18,5	302,4	542
02645007	50 x 0,75	0,21	20,1	360,0	621
02640210	2 x 1,00	0,21	6,9	19,2	64
02640310	3 x 1,00	0,21	7,1	28,8	76
02640410	4 x 1,00	0,21	7,7	38,4	91
02640510	5 x 1,00	0,21	8,3	48,0	110
02640710	7 x 1,00	0,21	9,6	67,2	148
02641210	12 x 1,00	0,21	11,5	115,2	207
02641810	18 x 1,00	0,21	13,4	172,8	297
02642510	25 x 1,00	0,21	16,0	240,0	397
02643010	30 x 1,00	0,21	16,7	288,0	465
02643410	34 x 1,00	0,21	18,0	326,4	528
02644210	42 x 1,00	0,21	19,2	403,2	642
02645010	50 x 1,00	0,21	22,5	480,0	806
02640215	2 x 1,50	0,26	7,5	28,8	79
02640315	3 x 1,50	0,26	7,8	43,2	96
02640415	4 x 1,50	0,26	8,4	57,6	116
02640515	5 x 1,50	0,26	9,1	72,0	140
02640715	7 x 1,50	0,26	10,6	100,8	190
02641215	12 x 1,50	0,26	12,8	172,8	271
02641815	18 x 1,50	0,26	14,9	259,2	392
02642515	25 x 1,50	0,26	18,0	360,0	536
02643015	30 x 1,50	0,26	18,6	432,0	625
02643415	34 x 1,50	0,26	20,1	489,6	786
02644215	42 x 1,50	0,26	22,9	604,8	936
02645015	50 x 1,50	0,26	25,0	720,0	1080
02640225	2 x 2,50	0,26	8,7	48,0	112
02640325	3 x 2,50	0,26	9,1	72,0	140
02640425	4 x 2,50	0,26	9,8	96,0	170
02640525	5 x 2,50	0,26	10,7	120,0	208
02640725	7 x 2,50	0,26	12,6	168,0	288
02641225	12 x 2,50	0,26	15,3	288,0	412
02641825	18 x 2,50	0,26	18,2	432,0	613
02642525	25 x 2,50	0,26	23,2	600,0	885
02640340	3 x 4,00	0,31	11,9	115,2	233
02640440	4 x 4,00	0,31	13,0	153,6	288
02640540	5 x 4,00	0,31	13,9	192,0	342
02640460	4 x 6,00	0,31	14,7	230,4	393
02640560	5 x 6,00	0,31	16,1	288,0	482
02640461	4 x 10,0	0,41	18,5	384,0	644

Other dimensions and colours are possible on request.

CC 600 CP PUR control cable with numbered cores with overall copper screen

RoHS

Marking for CC 600 CP 02812510:
SAB BRÖCKSKES · D-VIERSEN · 02812510 25 x 1,0 mm² CC 600 CP 18 AWG/25c 02811825
UL AWM Style 21060 80°C 600V CSA AWM I/II A/B 80°C 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
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
Wrapping:	fine cotton binding
Sheath material:	PU acc. to UL 758
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **oil resistant**
- **abrasion resistant**
- **notch resistant**
- **good chemical resistance**

Technical data:

Nominal voltage:	**DIN VDE** Uo/U 300/500 V	**UL/CSA** 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2 core/screen 1000 V	
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d	
Radiation resistance:	5 x 10^7 cJ/kg	
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** -40/+70 °C +5/+70 °C	**UL/CSA:** up to +80 °C up to +80 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1, CSA FT1 and FT2	
Oil resistance:	very good - oilrating 60°C acc. to UL 1581	
Chem. resistance:	good against acids, alkalines, solvents, hydraulic liquids etc.	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02810205	2 x 0,50	0,21	6,7	26,1	62
02810305	3 x 0,50	0,21	7,0	31,3	70
02810405	4 x 0,50	0,21	7,4	38,1	80
02810505	5 x 0,50	0,21	8,0	45,2	95
02810705	7 x 0,50	0,21	8,5	57,5	112
02811205	12 x 0,50	0,21	10,6	90,6	167
02811805	18 x 0,50	0,21	12,4	146,4	245
02812505	25 x 0,50	0,21	14,4	194,3	314
02810207	2 x 0,75	0,21	7,2	31,9	72
02810307	3 x 0,75	0,21	7,5	39,2	82
02810407	4 x 0,75	0,21	8,0	48,4	95
02810507	5 x 0,75	0,21	8,6	57,7	112
02810707	7 x 0,75	0,21	9,9	76,6	148
02811207	12 x 0,75	0,21	11,8	140,2	219
02811807	18 x 0,75	0,21	13,5	189,3	297
02812507	25 x 0,75	0,21	16,4	277,8	414
02810210	2 x 1,00	0,21	7,4	36,8	79
02810310	3 x 1,00	0,21	7,7	48,3	91
02810410	4 x 1,00	0,21	8,3	59,9	107
02810510	5 x 1,00	0,21	8,9	71,6	127
02810710	7 x 1,00	0,21	10,2	96,1	168
02811210	12 x 1,00	0,21	12,2	169,2	248
02811810	18 x 1,00	0,21	14,1	238,8	347
02812510	25 x 1,00	0,21	17,0	349,4	482

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02810315	3 x 1,50	0,26	8,4	64,8	112
02810415	4 x 1,50	0,26	9,0	81,3	133
02810515	5 x 1,50	0,26	9,7	98,2	159
02810715	7 x 1,50	0,26	11,4	148,4	225
02811215	12 x 1,50	0,26	13,5	232,4	316
02811815	18 x 1,50	0,26	16,1	356,7	475
02812515	25 x 1,50	0,26	18,9	483,1	627
02810325	3 x 2,50	0,26	9,7	98,2	158
02810425	4 x 2,50	0,26	10,4	125,0	189
02810525	5 x 2,50	0,26	11,5	167,6	240
02810725	7 x 2,50	0,26	13,4	227,6	326
02811225	12 x 2,50	0,26	16,5	385,9	496
02811825	18 x 2,50	0,26	19,1	555,4	704
02812525	25 x 2,50	0,26	24,1	740,9	992
02810340	3 x 4,00	0,31	11,3	162,7	232
02810440	4 x 4,00	0,31	12,2	207,6	281
02810540	5 x 4,00	0,31	13,3	251,5	340
02810360	3 x 6,00	0,31	13,1	227,2	323
02810460	4 x 6,00	0,31	14,2	296,2	395
02810560	5 x 6,00	0,31	15,7	385,1	498
02810461	4 x 10,0	0,41	19,0	494,9	692

Other dimensions and colours are possible on request.

CC 640 P PUR-control cable with coloured cores, halogen-free and oil resistant

Marking for CC 640 P 52680415:
SAB BRÖCKSKES · D-VIERSEN · 52680415 4 x 1,5 mm² CC 640 P 16 AWG 4c 52681604
AWM Style 21127 75°C 600V CSA AWM I/II A/B 80°C 600V FT1 FT2 CE

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	SABIX® 231
Colour code:	US 1, see page N/11
Stranding:	in layers with a non-woven tape over the outer layer
Sheath material:	PUR, TMPU acc. to DIN VDE 0282 part 10 + HD 22.10
Sheath colour:	yellow (RAL 1021)

Outstanding features:

- oil resistant
- abrasion resistant
- notch resistant
- good chemical resistance

Technical data:

Nominal voltage:	**DIN VDE** Uo/U 300/500 V	**UL/CSA** 600 V	
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2		
Min. bending radius *fixed laying:* *flexible application:*	4 x d 6 x d		
Radiation resistance:	5 x 10^7 cJ/kg		
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** -40/+90 °C -30/+90 °C	**UL** up to +75°C up to +75°C	**CSA** up to +80°C up to +80°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, UL VW-1, CSA FT1 and FT2		
Oil resistance:	very good - PUR TMPU acc. to DIN VDE 0282 part 10 + HD 22.10		
Flexibilität:	very good		
Weather resistance:	very good		
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14		

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
52680210	2 x 1,00	0,21	7,0	19,2	61
52680310	3 x 1,00	0,21	7,4	28,8	72
52680410	4 x 1,00	0,21	7,9	38,4	86
52680510	5 x 1,00	0,21	8,5	48,0	101
52680710	7 x 1,00	0,21	9,2	67,2	127
52681210	12 x 1,00	0,21	11,6	115,2	199
52680215	2 x 1,50	0,26	7,6	28,8	75
52680315	3 x 1,50	0,26	8,0	43,2	90
52680415	4 x 1,50	0,26	8,6	57,6	109
52680515	5 x 1,50	0,26	9,3	72,0	129
52680715	7 x 1,50	0,26	10,1	100,8	165
52681215	12 x 1,50	0,26	12,8	172,8	261

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
52680225	2 x 2,50	0,26	8,4	48,0	101
52680325	3 x 2,50	0,26	8,9	72,0	124
52680425	4 x 2,50	0,26	9,6	96,0	152
52680525	5 x 2,50	0,26	10,4	120,0	182
52680725	7 x 2,50	0,26	11,3	168,0	235
52680340	3 x 4,00	0,31	10,8	115,2	190
52680440	4 x 4,00	0,31	11,7	153,6	234
52680540	5 x 4,00	0,31	12,8	192,0	284
52680360	3 x 6,00	0,31	12,3	172,8	256
52680460	4 x 6,00	0,31	13,4	230,4	321
52680560	5 x 6,00	0,31	14,7	288,0	404

Other dimensions and colours are possible on request.

Sheath also possible in black or orange

CC 640 CP

PUR-control cable with coloured cores, halogen-free, oil resistant and overall copper screen

RoHS

Marking for CC 640 CP 52840415:
SAB BRÖCKSKES · D-VIERSEN · 52840415 4 x 1,50 mm² CC 640 CP 16 AWG/4c 52841604
UL AWM Style 21127 75°C 600V CSA AWM I/II A/B 80°C 600V FT1 FT2 CE

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	SABIX® 231
Colour code:	US 1, see page N/11
Stranding:	in layers with a non-woven tape over the outer layer
Screen:	tinned copper braiding
Wrapping:	non-woven tape
Sheath material:	PUR, TMPU acc. to DIN VDE 0282 part 10 + HD 22.10
Sheath colour:	yellow (RAL 1021)

Outstanding features:

- **oil resistant**
- **abrasion resistant**
- **notch resistant**
- **good chemical resistance**
- **good EMC characteristics**

Technical data:

Nominal voltage:	**DIN VDE** Uo/U 300/500 V	**UL/CSA** 600 V	
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2 core/screen 1000 V		
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d		
Radiation resistance:	5 x 10^7 cJ/kg		
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** -40/+90 °C -30/+90 °C	**UL** up to +75°C up to +75°C	**CSA** up to +80°C up to +80°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, UL VW-1, CSA FT1 and FT2		
Oil resistance:	very good - PUR TMPU acc. to DIN VDE 0282 part 10 + HD 22.10		
Flexibilität:	very good		
Weather resistance:	very good		
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14		

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
52840210	2 x 1,00	0,21	8,0	34,1	83
52840310	3 x 1,00	0,21	8,3	45,0	95
52840410	4 x 1,00	0,21	8,8	55,9	110
52840510	5 x 1,00	0,21	9,5	67,0	128
52840710	7 x 1,00	0,21	10,1	87,8	156
52841210	12 x 1,00	0,21	12,8	154,5	249
52840215	2 x 1,50	0,26	8,6	45,1	100
52840315	3 x 1,50	0,26	9,0	60,8	116
52840415	4 x 1,50	0,26	9,6	76,6	136
52840515	5 x 1,50	0,26	10,3	92,7	158
52840715	7 x 1,50	0,26	11,1	123,4	197
52841215	12 x 1,50	0,26	14,0	215,8	315

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
52840225	2 x 2,50	0,26	9,9	68,6	139
52840325	3 x 2,50	0,26	10,4	92,7	163
52840425	4 x 2,50	0,26	11,1	118,6	194
52840525	5 x 2,50	0,26	12,2	159,0	244
52840725	7 x 2,50	0,26	13,2	207,5	302
52840340	3 x 4,00	0,31	11,8	150,1	233
52840440	4 x 4,00	0,31	12,8	192,9	282
52840540	5 x 4,00	0,31	13,9	234,9	337
52840360	3 x 6,00	0,31	13,5	215,6	320
52840460	4 x 6,00	0,31	14,6	277,6	389
52840560	5 x 6,00	0,31	16,4	356,1	493

Other dimensions and colours are possible on request.

Sheath also possible in black or orange

acc. to DIN VDE 0250

NYMH11YÖ-J PUR connection cable with coloured cores and PVC-core insulation

RoHS

Marking for NYMH11YÖ-J 02680415:
SAB BRÖCKSKES · D-VIERSEN · NYMH11YÖ-J 4 x 1,5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	coloured acc. to HD 308 (VDE 0293 part 308); green-yellow earth wire from 3 cores
Stranding:	in layers
Sheath material:	PUR, TMPU acc. to DIN VDE 0282 part 10 + HD 22.10
Sheath colour:	orange (RAL 2003)

Outstanding features:

- oil resistant
- abrasion resistant
- notch resistant
- good chemical resistance

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2
Min. bending radius *fixed laying:* *flexible application:*	 4 x d 6 x d
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	 -40/+70 °C +5/+70 °C
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.
Colour code:	see page N/10-12
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02680207	2 x 0,75	0,21	6,9	14,4	54
02680307	3 x 0,75	0,21	7,2	21,6	65
02680407	4 x 0,75	0,21	7,8	28,8	79
02680507	5 x 0,75	0,21	8,8	36,0	102
02680210	2 x 1,00	0,21	7,1	19,2	60
02680310	3 x 1,00	0,21	7,4	28,8	74
02680410	4 x 1,00	0,21	8,2	38,4	93
02680510	5 x 1,00	0,21	9,0	48,0	114
02680215	2 x 1,50	0,26	8,1	28,8	81
02680315	3 x 1,50	0,26	8,6	43,2	102
02680415	4 x 1,50	0,26	9,5	57,6	126
02680515	5 x 1,50	0,26	10,8	72,0	164
02680225	2 x 2,50	0,26	9,6	48,0	121
02680325	3 x 2,50	0,26	10,4	72,0	154
02680425	4 x 2,50	0,26	11,3	96,0	190
02680525	5 x 2,50	0,26	12,6	120,0	239

Other dimensions and colours are possible on request.

HAR

NFPA 79 for industrial machinery

H05V-K/MTW/TEW PVC insulated wiring cable
H07V-K/MTW/TEW PVC insulated single conductor

RoHS

Marking for H05V-K/MTW/TEW 31660150:
SAB BRÖCKSKES · D-VIERSEN · ◁ VDE ▷ ◁ HAR ▷ H05V-K 1,0 mm² 18 AWG (UL)
Type MTW 600V AWM Style 1015/10519 105°C 600V VW1 CSA Type TEW 105°C 600V FT1 CE

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	PVC TI1 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour:	black (RAL 9005)

Outstanding features:

- **H05V-K: 300/500 V**
- **H07V-K: 450/750 V**
- **flexible conductor**
- **harmonised acc. to European standards**
- **MTW (Machine Tool Wire)**
- **TEW (Thermoplastic Equipment Wire)**
- **NFPA 79 for industrial machinery**

Technical data:

Nominal voltage H05V-K:	**DIN VDE** Uo/U 300/500 V	**UL/CSA** 600 V	
Nominal voltage H07V-K:	**DIN VDE** Uo/U 450/750 V	**UL/CSA** 600 V	
Testing voltage H05V-K:	2000 V acc. to DIN VDE 0281 part 2 + HD 21.2		
Testing voltage H07V-K:	2500 V acc. to DIN VDE 0281 part 2 + HD 21.2		
Min. bending radius:	4 x d		
Temperature range	**DIN VDE**	**UL-AWM/CSA**	**(UL) MTW**
fixed laying:	-40/+70 °C	up to +105°C	up to +90°C
flexible application:	+5/+70 °C	up to +105°C	up to +90°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1, CSA FT1		
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14		

05V-K/MTW/TEW UL/CSA/CE

item no.	nominal cross section mm²	largest single wire ø mm	outer-ø approx. mm	copper figure kg/km	cable weight ≈ kg/km
31660114*	0,14	0,11	2,0	1,3	6
31660125*	0,25	0,16	2,2	2,4	7
31660134	0,34	0,16	2,3	3,3	9

*without MTW

Other dimensions and colours are possible on request.

07V-K/MTW/TEW UL/CSA/CE

item no.	nominal cross section mm²	largest single wire ø mm	outer-ø approx. mm	copper figure kg/km	cable weight ≈ kg/km
31670192	50,00	0,41	15,2	480,0	600
31670193	70,00	0,41	16,2	672,0	790
31670194	95,00	0,51	19,3	912,0	1067
31670195	120,00	0,51	20,8	1152,0	1277

Other dimensions and colours are possible on request.

H05V-K/MTW/TEW HAR/UL/CSA/CE

item no.	nominal cross section mm²	largest single wire ø mm	outer-ø approx. mm	copper figure kg/km	cable weight ≈ kg/km
31660150	0,50	0,21	2,5	5,1	11
31660175	0,75	0,21	2,7	7,2	14
31660180	1,00	0,21	2,8	9,6	16

Other dimensions and colours are possible on request.

H07V-K/MTW/TEW HAR/UL/CSA/CE

item no.	nominal cross section mm²	largest single wire ø mm	outer-ø approx. mm	copper figure kg/km	cable weight ≈ kg/km
31670182	1,50	0,26	3,1	14,4	20
31670184	2,50	0,26	3,7	24,0	32
31670186	4,00	0,31	4,3	38,4	50
31670187	6,00	0,31	4,8	57,6	66
31670188	10,00	0,41	6,8	96,0	121
31670189	16,00	0,41	9,1	153,6	211
31670190	25,00	0,41	10,6	240,0	303
31670191	35,00	0,41	11,8	336,0	407

Other dimensions and colours are possible on request.

MEGA 147/H05V2-K/H05V-K PVC insulated wiring cable
MEGA 157/H07V2-K/H07V-K PVC insulated single conductor

RoHS

Marking for H05V2-K 31470150:
SAB BRÖCKSKES · D-VIERSEN · ◁ VDE ▷ ◁ HAR ▷ H05V2-K H05V-K 0,5 mm² 20 AWG
AWM Style 1015 105°C 600V E172204 CSA Type TEW 105°C 600V FT1 LL104758 CE

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	PVC TI3 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour:	black (RAL 9005)

Outstanding features:

- **H05V2-K: 300/500 V**
- **H07V2-K: 450/750 V**
- **flexible conductor**
- **harmonised acc. to European standards**

Technical data:

Nominal voltage H05V2-K / H05V-K:	**DIN VDE** Uo/U 300/500 V	**UL/CSA** 600 V
Nominal voltage H07V2-K / H07V-K:	**DIN VDE** Uo/U 450/750 V	**UL/CSA** 600 V
Testing voltage H05V2-K / H05V-K:	2000 V acc. to DIN VDE 0281 part 2 + HD 21.1	
Testing voltage H07V2-K / H07V-K:	2500 V acc. to DIN VDE 0281 part 2 + HD 21.2	
Min. bending radius *fixed laying:* *flexible application:*	4 x d 6 x d	
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** -40/+90 °C +5/+90 °C	**UL/CSA** up to +105°C up to +105°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1, CSA FT1	
Absence of harmfull substances:	acc. to RoHS directive of the European Union see page N/14	

MEGA 147 UL/CSA/CE

item no.	nominal cross section mm²	largest single wire ø mm	outer-ø approx. mm	copper figure kg/km	cable weight ≈ kg/km
31470114	0,14	0,11	2,0	1,3	6
31470125	0,25	0,16	2,2	2,4	7
31470134	0,34	0,16	2,3	3,3	9

Other dimensions and colours are possible on request.

MEGA 157 UL/CSA/CE

item no.	nominal cross section mm²	largest single wire ø mm	outer-ø approx. mm	copper figure kg/km	cable weight ≈ kg/km
31570192	50,00	0,41	15,2	480,0	600
31570193	70,00	0,41	16,2	672,0	790
31570194	95,00	0,51	19,3	912,0	1067
31570195	120,00	0,51	20,8	1152,0	1277

Other dimensions and colours are possible on request.

MEGA 147/H05V2-K/H05V-K HAR/UL/CSA/CE

item no.	nominal cross section mm²	largest single wire ø mm	outer-ø approx. mm	copper figure kg/km	cable weight ≈ kg/km
31470150	0,50	0,21	2,5	5,1	11
31470175	0,75	0,21	2,7	7,2	14
31470180	1,00	0,21	2,8	9,6	16

Other dimensions and colours are possible on request.

MEGA 157/H07V2-K/H07V-K HAR/UL/CSA/CE

item no.	nominal cross section mm²	largest single wire ø mm	outer-ø approx. mm	copper figure kg/km	cable weight ≈ kg/km
31570182	1,50	0,26	3,1	14,4	20
31570184	2,50	0,26	3,7	24,0	32
31570186	4,00	0,31	4,3	38,4	50
31570187	6,00	0,31	4,8	57,6	66
31570188	10,00	0,41	6,8	96,0	121
31570189	16,00	0,41	9,1	153,6	211
31570190	25,00	0,41	10,6	240,0	303
31570191	35,00	0,41	11,8	336,0	407

Other dimensions and colours are possible on request.

CRX 600 TPE control cable with numbered cores, oil resistant

RoHS

Marking for CRX 600 32040315:
SAB BRÖCKSKES · D-VIERSEN · CRX 600 RU AWM Style 21237 105°C 600V cRU AWM I/II A/B 105°C Oil 60°C 1000V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	TPE 355
Color code:	black conductors with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 conductors
Stranding:	in layers
Sheath material:	TPE 355
Sheath color:	gray (RAL 7000)

Outstanding features:

- **UL and cUL recognized**
- **all-purpose flexible**

Technical data:

Voltage:	**UL:** 600 V	**cUL:** 1000 V
Nominal voltage:	**DIN VDE:** Uo/U 300/500 V	
Testing voltage U:	conductor/conductor 2000 V	
Min. bending radius *fixed laying:* *flexible application:*	4 x d 6 x d	
Temperature range *fixed laying:* *flexible application:*	**DIN VDE:** -30/+80°C -20/+80°C	**UL/cUL:** up to +105°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1, cUL FT1 and FT2	
Oil resistance:	Oil 60 °C	

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø mm	copper figure kg/km	cable weight ≈ kg/km
32040205	2 x 0,50	0,21	5,3	10,3	35
32040305	3 x 0,50	0,21	5,6	15,4	42
32040405	4 x 0,50	0,21	6,0	20,5	50
32040505	5 x 0,50	0,21	6,5	25,6	60
32040705	7 x 0,50	0,21	7,1	35,9	76
32041205	12 x 0,50	0,21	9,4	61,5	124
32041505	15 x 0,50	0,21	10,6	76,9	157
32042505	25 x 0,50	0,21	13,6	128,2	215
32040210	2 x 1,00	0,21	6,0	19,2	49
32040310	3 x 1,00	0,21	6,3	28,8	59
32040410	4 x 1,00	0,21	6,8	38,4	72
32040510	5 x 1,00	0,21	7,6	48,0	89
32040710	7 x 1,00	0,21	8,2	67,2	112
32040910	9 x 1,00	0,21	10,5	86,4	160
32041210	12 x 1,00	0,21	11,1	115,2	188
32041410	14 x 1,00	0,21	12,1	134,4	223
32041510	15 x 1,00	0,21	12,5	144,0	236
32041810	18 x 1,00	0,21	13,3	172,8	278
32042510	25 x 1,00	0,21	16,2	240,0	381
32045010	50 x 1,00	0,21	21,6	480,0	721
32040215	2 x 1,50	0,26	6,6	28,8	67
32040315	3 x 1,50	0,26	6,9	43,2	81
32040415	4 x 1,50	0,26	7,7	57,6	101
32040515	5 x 1,50	0,26	8,4	72,0	116
32040715	7 x 1,50	0,26	9,3	100,8	152
32041215	12 x 1,50	0,26	12,5	172,8	253

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø mm	copper figure kg/km	cable weight ≈ kg/km
32041515	15 x 1,50	0,26	14,1	216,0	317
32041615	16 x 1,50	0,26	14,1	230,4	331
32041815	18 x 1,50	0,26	15,0	259,2	374
32042515	25 x 1,50	0,26	18,2	360,0	517
32043015	30 x 1,50	0,26	19,0	432,0	609
32045015	50 x 1,50	0,26	24,5	720,0	995
32040325	3 x 2,50	0,26	8,3	72,0	115
32040425	4 x 2,50	0,26	8,5	69,0	144
32040525	5 x 2,50	0,26	10,1	120,0	178
32040725	7 x 2,50	0,26	11,2	168,0	234
32041225	12 x 2,50	0,26	15,3	288,0	396
32041825	18 x 2,50	0,26	18,2	432,0	582
32042525	25 x 2,50	0,26	22,3	600,0	803
32040340	3 x 4,00	0,31	9,7	115,2	171
32040440	4 x 4,00	0,31	10,8	153,6	217
32040540	5 x 4,00	0,31	12,1	192,0	270
32040740	7 x 4,00	0,31	13,4	268,8	336
32040360	3 x 6,00	0,31	11,4	172,8	247
32040460	4 x 6,00	0,31	12,7	230,4	314
32040560	5 x 6,00	0,31	14,2	288,0	389
32040461	4 x 10,0	0,41	19,3	384,0	604
32040462	4 x 16,0	0,41	21,2	614,4	857
32040463	4 x 25,0	0,41	26,5	960,0	1384
32040464	4 x 35,0	0,41	30,2	1344,0	1892
32040465	4 x 50,0	0,41	35,0	1920,0	2584

Other dimensions and colours are possible on request.

Extra chemical resistance

CRX 600 C TPE control cable with numbered cores, oil resistant and tinned copper screen

RoHS

Marking for CRX 600 C 32140315:
SAB BRÖCKSKES · D-VIERSEN · CRX 600 C AWM Style 21237 105°C 600V c AWM I/II A/B 105°C Oil 60°C 1000V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	TPE 355
Color code:	black conductors with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 conductors
Stranding:	in layers
Wrapping:	fine cotton binding tape
Screen:	tinned copper braiding
Sheath material:	TPE 355
Sheath color:	gray (RAL 7000)

Outstanding features:

- **UL and cUL recognized**
- **all-purpose flexible**

Technical data:

Voltage:	**UL:** 600 V c**UL:** 1000 V
Nominal voltage:	**DIN VDE:** Uo/U 300/500 V
Testing voltage U:	conductor/conductor 2000 V conductor/screen 1000 V
Min. bending radius *fixed laying:* *flexible application:*	 4 x d 6 x d
Temperature range *fixed laying:* *flexible application:*	**DIN VDE:** **UL/cUL:** up to +105°C -30/+80°C -20/+80°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1, cUL FT1 and FT2
Oil resistance:	Oil 60 °C

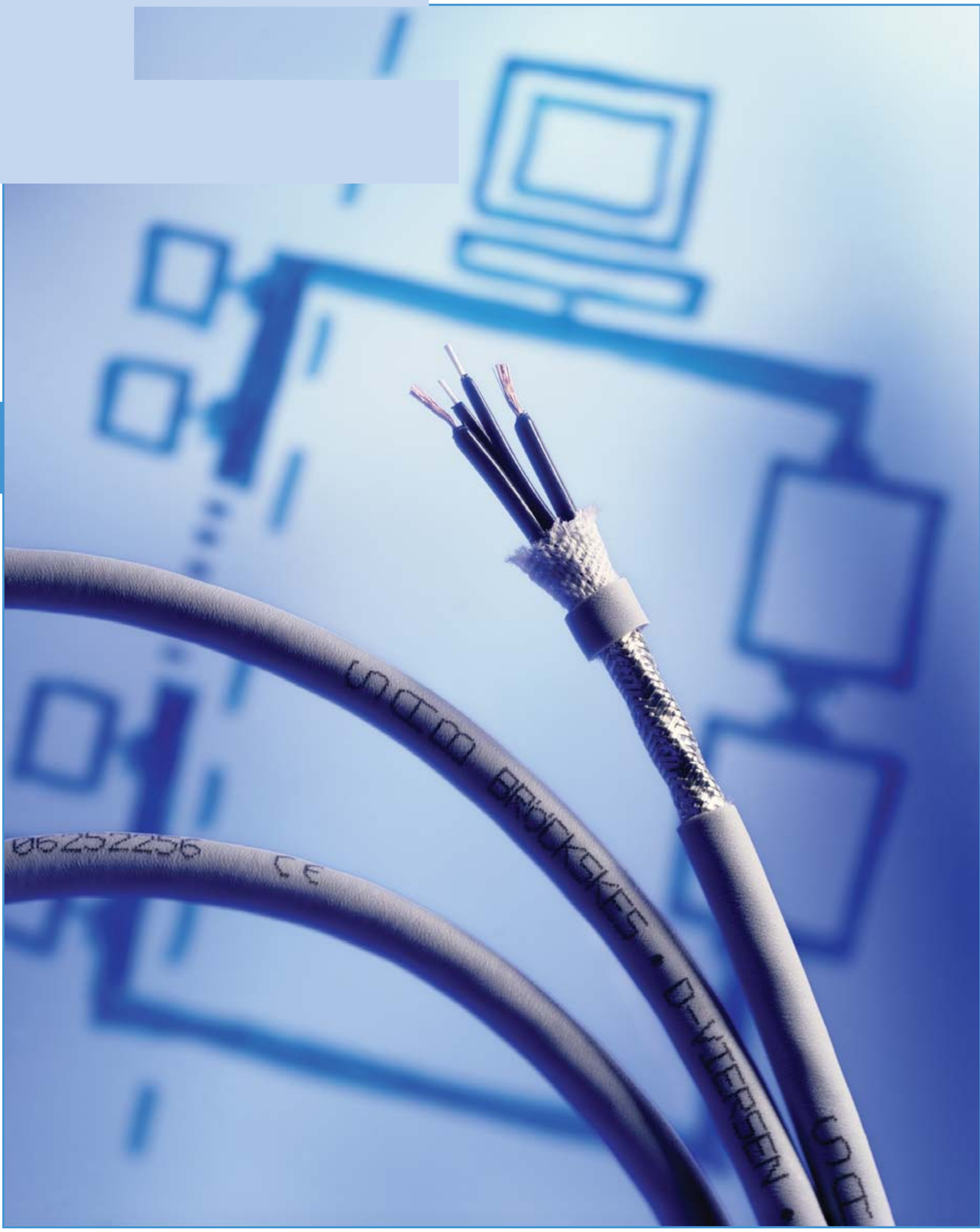
item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø mm	copper figure kg/km	cable weight ≈ kg/km
32140205	2 x 0,50	0,21	5,9	25,5	42
32140305	3 x 0,50	0,21	6,2	30,5	51
32140405	4 x 0,50	0,21	6,6	36,9	60
32140505	5 x 0,50	0,21	7,2	43,7	72
32140705	7 x 0,50	0,21	7,8	55,1	89
32141205	12 x 0,50	0,21	10,0	86,8	141
32141505	15 x 0,50	0,21	11,5	126,0	191
32140210	2 x 1,00	0,21	6,6	36,9	54
32140310	3 x 1,00	0,21	7,0	48,4	69
32140410	4 x 1,00	0,21	7,5	59,7	84
32140510	5 x 1,00	0,21	8,2	71,7	101
32140710	7 x 1,00	0,21	9,0	93,4	129
32140910	9 x 1,00	0,21	11,3	140,3	188
32141210	12 x 1,00	0,21	12,1	169,5	225
32141510	15 x 1,00	0,21	13,5	203,8	277
32141810	18 x 1,00	0,21	14,3	258,5	332
32142510	25 x 1,00	0,21	17,2	350,0	451
32145010	50 x 1,00	0,21	22,8	620,3	818
32140215	2 x 1,50	0,26	7,2	48,5	67
32140315	3 x 1,50	0,26	7,6	64,6	86
32140415	4 x 1,50	0,26	8,3	81,4	106
32140515	5 x 1,50	0,26	9,2	98,3	131
32140715	7 x 1,50	0,26	9,9	129,9	165
32141215	12 x 1,50	0,26	13,5	232,6	292

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø mm	copper figure kg/km	cable weight ≈ kg/km
32141515	15 x 1,50	0,26	15,3	313,2	382
32141815	18 x 1,50	0,26	16,2	357,1	439
32142515	25 x 1,50	0,26	19,4	483,7	601
32145015	50 x 1,50	0,26	25,7	889,5	1109
32140325	3 x 2,50	0,26	9,1	98,2	126
32140425	4 x 2,50	0,26	9,8	125,1	156
32140525	5 x 2,50	0,26	11,1	167,8	205
32140725	7 x 2,50	0,26	12,2	222,4	266
32141225	12 x 2,50	0,26	16,5	386,3	458
32141825	18 x 2,50	0,26	19,4	555,7	660
32142525	25 x 2,50	0,26	23,5	741,3	894
32140340	3 x 4,00	0,31	10,7	162,8	191
32140440	4 x 4,00	0,31	11,8	207,7	244
32140540	5 x 4,00	0,31	12,9	251,6	295
32140740	7 x 4,00	0,31	14,4	354,6	399
32140360	3 x 6,00	0,31	12,4	227,3	265
32140460	4 x 6,00	0,31	13,7	290,3	337
32140560	5 x 6,00	0,31	15,4	385,3	438
32140461	4 x 10,0	0,41	20,5	509,1	670
32140462	4 x 16,0	0,41	22,4	753,9	906
32140463	4 x 25,0	0,41	27,5	1133,5	1404
32140464	4 x 35,0	0,41	31,4	1543,2	1902
32140465	4 x 50,0	0,41	35,9	2145,9	2610

Other dimensions and colours are possible on request.

Extra chemical resistance

Bus Cables



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Applications

Applications of INTERBUS-S cables · remote bus cables · installation remote bus cables

INTERBUS-S is an open sensor/actuator bus, which is mostly used for communication on the field level (e.g. sensors, actuators, controllers), but also for the information transmission between the field level and the above-lying control level (e.g. SPS). Therefore, the INTERBUS-S belongs to the category of the so-called field busses and particularly characterised as a fast sensor/actuator. It is mainly applied in production engineering, materials processing, transportation and storage technique, particularly in car manufacturing and automation industries.

Applications of CAN-bus cables

CAN-bus acc. to ISO 11898. CAN-bus cables are used for the exchange of digital information. Controller Area Network (CAN) for fast data transmission / exchange. Recommended as highly flexible data cables in cable tracks.

Applications of DeviceNet™ cables

DeviceNet is based on the proved CAN-bus technology for fast data exchange. Trunk cable and drop cable configurations. DeviceNet is a connection-mode network. Applications may require as high flex bus cables in cable tracks.

Applications of Interbus-Loop cables

The two-conductor Interbus-Loop cable is to be applied as a data transmission cable as well as for the supply of sensors. The three-conductor Interbus-Loop cables is applied for supply of actuators. These cables are also suitable for Interbus-Loop 2.

Applications of Profibus-DP cables

This Profibus modification, optimized with respect to velocity and low installation cost, was especially developed for the communication between automation systems and decentralized peripheral units. Profibus DP is used as a replacement for conventional parallel data transmission with 24 V or 0 - 20 mA. The specifications for Profibus-DP type A acc. to EN 50170 are met. Profibus-DP and Profibus-FMS apply the same transmission technology and a uniform bus access log. Therefore, both types can be used simultaneously on one cable.

Applications of Profibus cables

Profibus PA acc. to IEC 61158-2
Transmission technology acc. to IEC 61158-2 fulfils the requests by chemical and petrochemical industries and also allows inherent safety and bus supply of field units. It is a bit synchronous data log with D.C. free transmission, often marked as H1. IEC 61158-2 technology is applied at Profibus-PA.

Profibus type B acc. to EN 50170
Application especially developed for the communication between automation systems and decentralized peripheral units in the field level.

Profibus with „Fast Connect" construction
The shape of this bus cables is radially symmetric and allows an insulation stripping tool to be used. This means that bus connectors can be assembled quickly and easily.

Applications of SafetyBUS p cables

SafetyBUS p is an open bus system for the serial transmission of safety directed data. The basic argument for SafetyBUS p is the safety by which it distinguishes itself from other bus systems in automation technique. Above all the users in many fields of machine and plant construction, automobile industry, and process engineering profit from this technique. SafetyBUS p accomplishes all demands for safety.

Applications

■ Applications of Hybrid field bus cables

S 670 and S 671 are flexible UL recognized, CSA approval hybrid field bus control cables, suitable for cable continuous flexing with optical fibre and copper conductors. The cable S 670 with its polyurethane outer jacket has a very good resistance against acids, alkalines, solvents hydraulic liquids and oil.

■ Application of USB 2.0 Cables

The robot cable USB 2.0 was developed for high frequency data transmission in industry. In the automobile industry intelligent image processing systems are very important. They are the key to more efficiency, precision and productivity with the installation and treatment by robots for the most different applications. Whether for the identification of parts and components, for visual inspection, welded seam control or for the collection of bar codes or type tests; wherever a quick and reliable collection and transmission of data from the camera to the industrial PC are absolutely important. Our highly flexible robot cable USB 2.0 was especially developed for this application. It guarantees excellent transmission characteristics as it is demanded for intelligent image processing with a transmission distance of up to 10 m without amplifier under extreme industrial application conditions.

■ Application of Industrial ETHERNET cables

Industrial Ethernet is a young and quickly developing network technology. Ethernet with the worldwide accepted **TCP/IP** (**T**ransmission **C**ontrol **P**rotocol/**I**nternet **P**rotocol) will be the future connection to the well established field bus or sensor / actuator level . Generally, the following transmission rates are divided into:

SHARED ETHERNET	=	10 Mbit/s
FAST ETHERNET	=	100 Mbit/s (CAT 5 requirements)
GIGABIT ETHERNET	=	1000 Mbit/s (1 Gbit/s)

SAB Bröckskes developed a variety of cable solutions due to the strong innovative force of automation industry. Depending on the application, we are able to offer today CAT 5 and CAT 6 cable solutions for flexible and continuous flexible use, for chemical and thermal stress as well as special cable constructions for reeling purpose and robot operation.

■ **You will find further information about the safe application of cables on pages N/28-38**

IBS 612 PVC Interbus-S cable for indoor and outdoor installation
IBS 614 PVC Interbus-S cable
IBS 617 PVC Interbus-S cable with UL recognition
S IBS 616 PUR Interbus-S cable for cable tracks

Marking for S IBS 616 06163251:
SAB BRÖCKSKES · D-VIERSEN · S IBS 616 3 x 2 x 0,25 mm² CE

General construction:

Conductor:	bare copper strands with reference to DIN VDE 0812
Core insulation:	PE, 2YI1 acc. to DIN VDE 0207 part 2
Colour code:	acc. to DIN VDE 47100
Stranding:	twisted to pairs
Screen:	tinned copper braiding

Technical data:

Peak operating voltage:	max. 350 V
Testing voltage:	1500 V
Min. bending radius:	7,5 x d
Characteristic impedance at 0.064 MHz:	120 Ω ± 20%
Characteristic impedance at > 1 MHz:	100 Ω ± 15 Ω
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

	IBS 612	IBS 617	IBS 614	S IBS 616*
➤ **Wrapping:**	PETP foil	PETP foil	PETP foil	non-woven tape
➤ **Outer sheath:**	PVC acc. to DIN VDE 0281 part 1 colour: black (RAL 9005)	PVC, YÖ acc. to DIN VDE 0281 part 1 colour: redlilac (RAL 4001)	PVC, TM1 acc. to DIN VDE 0281 part 1 colour: redlilac (RAL 4001)	PUR, TMPU acc. to DIN VDE 0282 part 10 with rough surface colour: redlilac (RAL 4001)
➤ **Voltage acc. to UL:**	–	300 V	–	–
➤ **Radiation resistance:**	8 x 10^7 cJ/kg	8 x 10^7 cJ/kg	8 x 10^7 cJ/kg	5 x 10^7 cJ/kg
➤ **Temperature range:** *fixed laying:* *flexible application:*	-30/+70°C -5/+70°C	UL: up to +80°C -30/+70°C -5/+70°C	-30/+70°C -5/+70°C	-40/+70°C -40/+70°C
➤ **Halogen-free:**	–	–	–	acc. to DIN VDE 0472 part 815 + IEC 60754-1
➤ **Fire performance:** flame retardant and self-extinguishing acc. to IEC 60332-1-2 and EN 60332-1-2	X	X	X	–
➤ **Corrosiveness of conflagration gases:** in compliance with IEC 60754-2 and EN 50267-2-2 + VDE 0482 part 267-2-2 - no development of corrosive conflagration gases	–	–	–	X
➤ **Oil resistance:**	acc. to internal standard see page N/13	very good - acc. to DIN VDE 0207 part 5	acc. to internal standard see page N/13	very good - TMPU acc. to DIN VDE 0282 part 10
➤ **Flexibility:**	good	good	good	very good
➤ **Application in cable tracks:**	not recommended	not recommended	not recommended	recommended
➤ **Weather resistance:**	medium	medium	medium	very good
➤ **Bending characteristics:** number of bendings acc. to DIN VDE 0472 part 603 test methode H	–	–	–	min. 1.000.000 single bendings
➤ **Direct burial:**	X	–	–	–
➤ **UL Style:**	–	2464-80°C	–	–

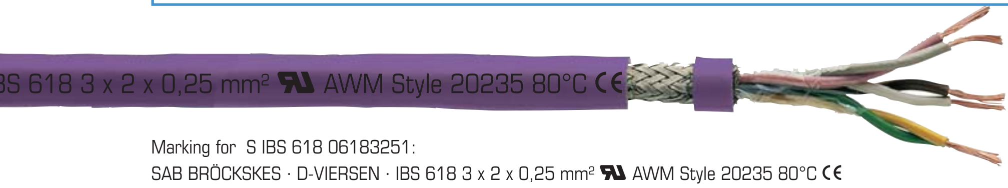
* Interbus-S remote bus cables 3 x 2 x 0.22 mm² or 3 x 2 x 0.25 mm² are used for the sensor/actuator level of industrial communication

item no.	type	no. of pairs x cross section mm²	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
06123228	IBS 612	3 x 2 x 0,22	9,0	31,2	95
06173221	IBS 617	3 x 2 x 0,22	7,0	31,2	60
06143221	IBS 614	3 x 2 x 0,22	6,9	31,2	56
06163251	S IBS 616	3 x 2 x 0,25	7,4*	35,9	64

Other dimensions and colours are possible on request.

* max. 8.0 mm

S IBS 618 PUR Interbus-S cable for cable tracks with UL approval
SABIX® IBS 610 halogen-free Interbus-S cable
SABIX® IBS 610 FRNC halogen-free, flame retardant Interbus-S cable



Marking for S IBS 618 06183251:
SAB BRÖCKSKES · D-VIERSEN · IBS 618 3 x 2 x 0,25 mm² AWM Style 20235 80°C CE

General construction:

Conductor:	bare copper strands with reference to DIN VDE 0812
Colour code:	acc. to DIN VDE 47100
Stranding:	twisted to pairs
Screen:	tinned copper braiding

Technical data:

Peak operating voltage:	max. 350 V
Testing voltage:	1500 V
Min. bending radius:	7,5 x d
Halogen-free:	acc. to DIN VDE 0472 part 815 and IEC 60754-1
Characteristic impedance at 0.064 MHz:	120 Ω ± 20%
Characteristic impedance at > 1 MHz:	100 Ω ± 15 Ω
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

E 8

	S IBS 618*	SABIX® IBS 610	SABIX® IBS 610 FRNC
➤ **Core insulation:**	PE, 2YI1 acc. to DIN VDE 0207 part 2	SABIX® 336	SABIX® 336
➤ **Wrapping:**	non-woven tape	PETP foil	PETP foil
➤ **Outer sheath, redlilac (RAL 4001):**	PUR,TMPU acc. to DIN VDE 0282 part 10, with rough surface	SABIX® 322	SABIX® 230
➤ **Voltage acc. to UL:**	300 V	–	–
➤ **Radiation resistance:**	5 x 10^7 cJ/kg	5 x 10^6 cJ/kg	–
➤ **Temperature range:** *fixed laying:* *flexible application:*	UL: up to +80°C -40/+70°C -40/+70°C	 -50/+90°C -40/+90°C	 -40/+85°C -30/+85°C
➤ **Fire performance:** no flame propagation acc. to IEC 60332-3 + EN 60332-3 Cat. C resp. D (see page N/20)	–	–	X
➤ **Fire performance:** flame retardant and self-extinguishing acc. to IEC 60332-1-2 and EN 60332-1-2	X	–	X
➤ **Corrosiveness of conflagration gases:** in compliance with IEC 60754-2 and EN 50267-2-2 + VDE 0482 part 267-2-2 - no development of corrosive conflagration gases	–	X	X
➤ **Smoke density:**	–	low	acc. to IEC 61034 and EN 61034
➤ **Oil resistance:**	very good - TMPU acc. to DIN VDE 0282 part 10	very good - TM5 acc. to DIN VDE 0281 part 1	–
➤ **Flexibility:**	very good	very good	good
➤ **Application in cable tracks:**	recommended	not recommended	not recommended
➤ **Weather resistance:**	very good	good	good
➤ **Bending characteristics:** number of bendings acc. to DIN VDE 0472 part 603 test methode H	min. 1.000.000 single bendings	–	–
➤ **UL Style:**	20235-80°C	–	–

* Interbus-S remote bus cables 3 x 2 x 0.22 mm² or 3 x 2 x 0.25 mm² are used for the sensor/actuator level of industrial communication

item no.	type	no. of pairs x cross section mm²	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
06183251	S IBS 618	3 x 2 x 0,25	8,5	35,9	82
56103221	SABIX® IBS 610	3 x 2 x 0,22	7,0	31,3	53
66103221	SABIX® IBS 610 FRNC	3 x 2 x 0,22	7,0	31,3	62

Other dimensions and colours are possible on request.

IBS 612 PVC Interbus-S cable for indoor and outdoor installation
IBS 614 PVC Interbus-S cable
IBS 617 PVC Interbus-S cable with UL recognition
S IBS 616 PUR Interbus-S cable for cable tracks

RoHS

Marking for IBS 612 06126228:
SAB BRÖCKSKES · D-VIERSEN · IBS 612 3 x 2 x 0,22 mm² + 3 x 1,0 mm² CE

General construction:

Core insulation:	PE, 2YI1 acc. to DIN VDE 0207 part 2
Colour code:	acc. to DIN VDE 47100 (pairs), 1,0 mm²: red, blue and green-yellow earth wire
Stranding:	twisted to pairs (≤ 0,25 mm²)
Screen:	tinned copper braiding

Technical data:

Peak operating voltage:	max. 350 V
Testing voltage:	1500 V
Min. bending radius:	7,5 x d
Characteristic impedance at 0.064 MHz:	120 Ω ± 20%
Characteristic impedance at > 1 MHz:	100 Ω ± 15 Ω
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

	IBS 612	IBS 617	IBS 614	S IBS 616*
➤ **Conductor:**	0.22 mm²: bare copper strands with reference to DIN VDE 0812 + 1.00 mm²: bare copper strands acc. to IEC 60228, EN 60228 VDE 0295, class 5	0.22 mm²: bare copper strands with reference to DIN VDE 0812 + 1.00 mm²: bare copper strands acc. to IEC 60228, EN 60228 VDE 0295, class 5	0.22 mm²: bare copper strands with reference to DIN VDE 0812 + 1.00 mm²: bare copper strands acc. to IEC 60228, EN 60228 VDE 0295, class 5	0.25 mm²: bare copper strands with reference to DIN VDE 0812 + 1.00 mm²: bare copper strands acc. to IEC 60228, EN 60228 VDE 0295, class 6
➤ **Wrapping:**	PETP foil	PETP foil	PETP foil	non-woven tape
➤ **Outer sheath:**	PVC acc. to DIN VDE 0281 part 1 colour: black (RAL 9005)	PVC, YÖ acc. to DIN VDE 0281 part 1 colour: redlilac (RAL 4001)	PVC, TM1 acc. to DIN VDE 0281 part 1 colour: redlilac (RAL 4001)	PUR, TMPU acc. to DIN VDE 0282 part 10 with rough surface colour: redlilac (RAL 4001)
➤ **Voltage acc. to UL:**	–	300 V	–	–
➤ **Radiation resistance:**	8 x 10^7 cJ/kg	8 x 10^7 cJ/kg	8 x 10^7 cJ/kg	5 x 10^7 cJ/kg
➤ **Temperature range:** *fixed laying:* *flexible application:*	 -30/+70°C -5/+70°C	UL: up to +80°C -30/+70°C -5/+70°C	 -30/+70°C -5/+70°C	 -40/+70°C -40/+70°C
➤ **Halogen-free:**	–	–	–	acc. to DIN VDE 0472 part 815 + IEC60754-1
➤ **Fire performance:** flame retardant and self-extinguishing acc. to IEC 60332-1-2 and EN 60332-1-2	X	X	X	–
➤ **Corrosiveness of conflagration gases:** in compliance with IEC 60754-2 and EN 50267-2-2 + VDE 0482 part 267-2-2 - no development of corrosive conflagration gases	–	–	–	X
➤ **Oil resistance:**	acc. to internal standard see page N/13	very good - acc. to DIN VDE 0207 part 5	acc. to internal standard see page N/13	very good - TMPU acc. to DIN VDE 0282 part 10
➤ **Flexibility:**	good	good	good	very good
➤ **Application in cable tracks:**	not recommended	not recommended	not recommended	recommended
➤ **Weather resistance:**	medium	medium	medium	very good
➤ **Bending characteristics:** number of bendings acc. to DIN VDE 0472 part 603 test methode H	–	–	–	min. 1.000.000 single bendings
➤ **Direct burial:**	X	–	–	–
➤ **UL Style:**	–	2464-80°C	–	–

* Interbus-S installation remote bus cables 3 x 2 x 0.22 mm² + 3 x 1,0 mm² or 3 x 2 x 0.25 mm² + 3 x 1,0 mm² are used for the sensor/actuator level of industrial communication

item no.	type	no. of pairs/cores x cross section mm²	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
06126228	IBS 612	3 x 2 x 0,22 + 3 x 1,00	10,0	62,0	132
06176221	IBS 617	3 x 2 x 0,22 + 3 x 1,00	9,0	64,5	106
06146221	IBS 614	3 x 2 x 0,22 + 3 x 1,00	7,9*	62,0	90
06166251	S IBS 616	3 x 2 x 0,25 + 3 x 1,00	8,0*	70,8	101

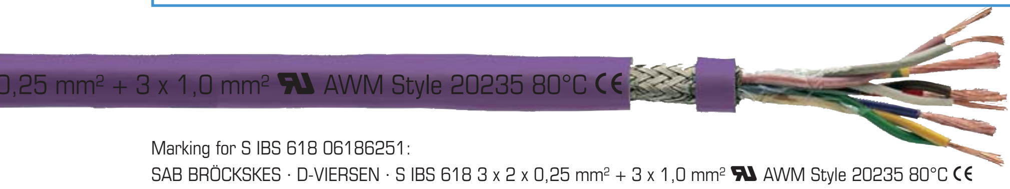
Other dimensions and colours are possible on request.

* max. 8.0 mm

S IBS 618 PUR Interbus-S cable for cable tracks with UL approal

SABIX® IBS 610 halogen-free Interbus-S cable

SABIX® IBS 610 FRNC halogen-free, flame retardant Interbus-S cable



Marking for S IBS 618 06186251:
SAB BRÖCKSKES · D-VIERSEN · S IBS 618 3 x 2 x 0,25 mm^2 + 3 x 1,0 mm^2 AWM Style 20235 80°C CE

General construction:

Colour code:	acc. to DIN VDE 47100 (pairs), 1,0 mm^2: red, blue and green-yellow earth wire
Stranding:	twisted to pairs (≤ 0,25 mm^2)
Screen:	tinned copper braiding

Technical data:

Peak operating voltage:	max. 350 V
Testing voltage:	1500 V
Min. bending radius:	7,5 x d
Halogen-free:	acc. to DIN VDE 0472 part 815 and IEC 60754-1
Characteristic impedance at 0.064 MHz:	120 Ω ± 20%
Characteristic impedance at > 1 MHz:	100 Ω ± 15 Ω
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

	S IBS 618*	SABIX® IBS 610	SABIX® IBS 610 FRNC
➤ **Conductor:**	0.25 mm^2: bare copper strands with reference to DIN VDE 0812 + 1.00 mm^2: bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 6	0.22 mm^2: bare copper strands with reference to DIN VDE 0812 + 1.00 mm^2: bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 6	0.22 mm^2: bare copper strands with reference to DIN VDE 0812 + 1.00 mm^2: bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 6
➤ **Core insulation:**	PE, 2YI1 acc. to DIN VDE 0207 part 2	SABIX® 336	SABIX® 336
➤ **Wrapping:**	non-woven tape	PETP foil	PETP foil
➤ **Outer sheath, redlilac (RAL 4001):**	PUR,TMPU acc. to DIN VDE 0282 part 10, with rough surface	SABIX® 322	SABIX® 230
➤ **Voltage acc. to UL:**	300 V	–	–
➤ **Radiation resistance:**	$5 x 10^7$ cJ/kg	$5 x 10^6$ cJ/kg	–
➤ **Temperature range:** *fixed laying:* *flexible application:*	**UL:** up to +80°C -40/+70°C -40/+70°C	 -50/+90°C -40/+90°C	 -40/+85°C -30/+85°C
➤ **Fire performance:** no flame propagation acc. to IEC 60332-3 and EN 60332-3 Cat. C resp. D (see page N/20)	–	–	X
➤ **Fire performance:** flame retardant and self-extinguishing acc. to IEC 60332-1-2 and EN 60332-1-2	X	–	X
➤ **Corrosiveness of conflagration gases:** in compliance with IEC 60754-2 and EN 50267-2-2 + VDE 0482 part 267-2-2 - no development of corrosive conflagration gases	–	X	X
➤ **Smoke density:**	–	low	acc. to IEC 61034 and EN 61034
➤ **Oil resistance:**	very good - TMPU acc. to DIN VDE 0282 part 10	very good - TM5 acc. to DIN VDE 0281 part 1	–
➤ **Flexibility:**	very good	very good	good
➤ **Application in cable tracks:**	recommended	not recommended	not recommended
➤ **Weather resistance:**	very good	good	good
➤ **Bending characteristics:** number of bendings acc. to DIN VDE 0472 part 603 test methode H	min. 1.000.000 single bendings		
➤ **UL Style:**	20235-80°C	–	–

* Interbus-S installation remote bus cables 3 x 2 x 0.22 mm^2 + 3 x 1,0 mm^2 or 3 x 2 x 0.25 mm^2 + 3 x 1,0 mm^2 are used for the sensor/actuator level of industrial communication

item no.	type	no. of pairs/cores x cross section mm^2	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
06186251	S IBS 618	3 x 2 x 0,25 + 3 x 1,00	9,2	71,0	121
56106221	SABIX® IBS 610	3 x 2 x 0,22 + 3 x 1,00	7,9*	62,0	84
66106221	SABIX® IBS 610 FRNC	3 x 2 x 0,22 + 3 x 1,00	7,9*	62,0	94

Other dimensions and colours are possible on request.

* max. 8.0 mm

SABIX® IBL 600 FRNC Halogen-free, flame retardant Interbus-Loop cable
IBL 600 PVC Interbus-Loop cable
SABIX® IBL 600 Halogen-free Interbus-Loop cable
S IBL 605 PUR Interbus-Loop cable for cable tracks

RoHS

Marking for IBL 600 06002853:
SAB BRÖCKSKES · D-VIERSEN · IBL 600 2 x 1,5 mm² *and current meter marking* CE

General construction:

Conductor:	bare copper strands with reference to IEC 60228, EN 60228, VDE 0295, class 5, S IBL 605 = class 6
Colour code:	coloured acc. to HD 308 (VDE 0293 part 308); green-yellow earth wire from 3 cores

Technical data:

Peak operating voltage:	max. 350 V
Testing voltage:	1000 V
Min. bending radius:	15 x d
Characteristic impedance at 0,25 MHz - 10 MHz:	for two-core cables 75 Ω ± 15%
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

	SABIX® IBL 600 FRNC	IBL 600	SABIX® IBL 600	S IBL 605
➤ **Core insulation:**	SABIX® 336	PVC, TI2 acc. to DINVDE 0281 part 1	SABIX® 336	TPE-E
➤ **Stranding:**	in layers	in layers	in layers	specially adjusted layering with netting tape and one additional non-woven tape over the outer layer
➤ **Outer sheath, redlilac (RAL 4001):**	SABIX® 230	PVC, YÖ acc. to DIN VDE 0281 part 1	SABIX® 322	PUR, TMPU acc. to DIN VDE 0282 part 10 with rough surface
➤ **Radiation resistance:**	–	8 x 10⁷ cJ/kg	5 x 10⁶ cJ/kg	5 x 10⁷ cJ/kg
➤ **Temperature range:** *fixed laying:* *flexible application:*	 -40/+85°C -30/+85°C	 -40/+70°C +5/+70°C	 -50/+90°C -40/+90°C	 -50/+90°C -40/+90°C
➤ **Halogen-free:**	acc. to DIN VDE 0472 part 815 + IEC 60754-1	–	acc. to DIN VDE 0472 part 815 + IEC 60754-1	acc. to DIN VDE 0472 part 815 + IEC 60754-1
➤ **Fire performance:** no flame propagation acc. to IEC 60332-3 + EN 60332-3 Cat. C resp. D (see page N/20)	X	–	–	–
➤ **Fire performance:** flame retardant and self-extinguishing acc. to IEC 60332-1-2 and EN 60332-1-2	–	X	–	–
➤ **Corrosiveness of conflagration gases:** in compliance with IEC 60754-2 and EN 50267-2-2 + VDE 0482 part 267-2-2 - no development of corrosive conflagration gases	X	–	X	X
➤ **Smoke density:**	acc. to IEC 61034 + EN 61034	–	low	–
➤ **Oil resistance:**	–	very good - acc. to DIN VDE 0207 part 5	very good - TM5 acc. to DIN VDE 0281 part 1	very good - TMPU acc. to DIN VDE 0282 part 10
➤ **Flexibility:**	good	–	very good	very good
➤ **Chemichal resistance:** good against acids, alkalines, solvents, hydraulic liquids etc.	–	–	–	X
➤ **Application in cable tracks:**	not recommended	not recommended	not recommended	recommended
➤ **Weather resistance:**	good	medium	good	very good
➤ **Continuosly flexible application:**	–	–	–	very good

item no.	type	no. of cores x cross section mm²	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
66012853	SABIX® IBL 600 FRNC	2 x 1,50	6,9	28,8	78
66013853	SABIX® IBL 600 FRNC	3 x 1,50	7,5	43,2	94
06002853	IBL 600	2 x 1,50	6,9	28,8	75
06003853	IBL 600	3 x 1,50	7,5	43,2	94
56002853	SABIX® IBL 600	2 x 1,50	6,9	28,8	59
56003853	SABIX® IBL 600	3 x 1,50	7,5	43,2	75
06052853	S IBL 605	2 x 1,50	7,7	28,8	75
06053853	S IBL 605	3 x 1,50	8,1	43,2	90

Other dimensions and colours are possible on request.

S CB 626 CAN-Bus cable for cable tracks
SABIX® CB 620 Halogen-free CAN-Bus cable
S CB 625 Halogen-free CAN-Bus cable for cable tracks
SABIX® CB 620 FRNC Halogen-free, flame retardant CAN-Bus cable

RoHS

Marking for SABIX CB 620 56202251:
SAB BRÖCKSKES · D-VIERSEN · SABIX CB 620 2 x 0,25 mm² CE

General construction:

Colour code:	acc. to DIN VDE 47100
Screen:	tinned copper braiding

Technical data:

Peak operating voltage:	max. 350 V
Testing voltage:	1500 V
Min. bending radius:	7,5 x d
Characteristic impedance at 1 MHz:	120 Ω (95 - 140 Ω)
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

	S CB 626	S CB 625	SABIX® CB 620	SABIX® CB 620 FRNC
➤ **Conductor:**	bare copper strands extra fine wires	bare copper strands extra fine wires	bare copper strands acc. to DIN VDE 0812	bare copper strands acc. to DIN VDE 0812
➤ **Core insulation:**	FEP	TPE-E	SABIX® 336	SABIX® 336
➤ **Wrapping:**	non-woven tape	non-woven tape	PETP foil	PETP foil
➤ **Wrapping:**	non-woven tape	non-woven tape	–	–
➤ **Outer sheath, redlilac (RAL 4001):**	PUR, TMPU acc. to DIN VDE 0282 part 10 with rough surface	PUR, TMPU acc. to DIN VDE 0282 part 10 with rough surface	SABIX® 322	SABIX® 230
➤ **Radiation resistance:**	5 x 10^7 cJ/kg	5 x 10^7 cJ/kg	5 x 10^6 cJ/kg	–
➤ **Temperature range:** *fixed laying:* *flexible application:*	-50/+90°C -40/+90°C	-50/+90°C -40/+90°C	-50/+90°C -40/+90°C	-40/+85°C -30/+85°C
➤ **Halogen-free:**	–	acc. to DIN VDE 0472 part 815 + IEC 60754-1	acc. to DIN VDE 0472 part 815 + IEC 60754-1	acc. to DIN VDE 0472 part 815 + IEC 60754-1
➤ **Fire performance:** no flame propagation acc. to IEC 60332-3 + EN 60332-3 Cat. C resp. D (see page N/20)	–	–	–	X
➤ **Corrosiveness of conflagration gases:** in compliance with IEC 60754-2 and EN 50267-2-2 + VDE 0482 part 267-2-2 - no development of corrosive conflagration gases	–	X	X	X
➤ **Smoke density:**	–	–	low	acc. to IEC 61034 + EN 61034
➤ **Oil resistance:**	very good - TMPU acc. to DIN VDE 0282 part 10	very good - TMPU acc. to DIN VDE 0282 part 10	very good - TM5 acc. to DIN VDE 0281 part 1	–
➤ **Flexibility:**	very good	very good	very good	good
➤ **Application in cable tracks:**	recommended	recommended	not recommended	not recommended
➤ **Chemichal resistance:** good against acids, alkalines, solvents, hydraulic liquids etc.	X	X	–	–
➤ **Weather resistance:**	very good	very good	good	good
➤ **Bending characteristics:** number of bendings acc. to DIN VDE 0472 part 603 test methode H	min. 250.000 single bendings	min. 500.000 single bendings	min. 60.000 single bendings	–

item no.	type	no. of pairs x cross section mm²	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
06262251	S CB 626	2 x 0,25	6,3	20,8	55
06252251	S CB 625	2 x 0,25	8,1	25,3	75
56202251	SABIX® CB 620	2 x 0,25	5,7	19,0	35
66202251	SABIX® CB 620 FRNC	2 x 0,25	5,7	19,0	41

Other dimensions and colours are possible on request.

CB 627 CAN-Bus cable with UL recognition

S CB 628 Halogen-free CAN-Bus cable for cable tracks with UL recognition

RoHS

Marking for S CB 628 06282251:
SAB BRÖCKSKES · D-VIERSEN · S CB 628 2 x 0.25 mm² AWM Style 20235 80°C 300 V CE

General construction:

Colour code:	acc. to DIN VDE 47100
Core insulation:	PE 2YI1 acc. to DIN VDE 0207 part 2
Screen:	tinned copper braiding

Technical data:

Peak operating voltage:	max. 350 V
Voltage:	**UL:** 300 V
Testing voltage:	1500 V
Min. bending radius:	7,5 x d
Characteristic impedance at 1 MHz:	120 Ω (95 - 140 Ω)
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

	CB 627	S CB 628
➤ **Conductor:**	bare copper strands acc. to DIN VDE 0812	bare copper strands, extra fine wires
➤ **Wrapping:**	PETP foil	non-woven tape
➤ **Inner sheath (nature):**	–	SABIX®
➤ **Outer sheath, redlilac (RAL 4001):**	PVC, YÖ acc. to DIN VDE 0281 part 1	TMPU acc. to DIN VDE 0281 part 10 with rough surface
➤ **Radiation resistance:**	8 x 10^7 cJ/kg	5 x 10^7 cJ/kg
➤ **Temperature range:** *fixed laying:* *flexible application:*	**UL:** up to +80°C -30/+70°C -5/+70°C	**UL:** up to +80°C -40/+70°C -40/+70°C
➤ **Halogen-free:**	–	acc. to DIN VDE 0472 part 815 + IEC 60754-1
➤ **Fire performance:** flame retardant and self-extinguishing acc. to IEC 60332-1-2 and EN 60332-1-2	X	X
➤ **Corrosiveness of conflagration gases:** in compliance with IEC 60754-2 and EN 50267-2-2 + VDE 0482 part 267-2-2 - no development of corrosive conflagration gases	–	–
➤ **Oil resistance:**	very good - acc. to DIN VDE 0207 part 5	very good - TMPU acc. to DIN VDE 0282 part 10
➤ **Flexibility:**	good	very good
➤ **Application in cable tracks:**	not recommended	recommended
➤ **Chemichal resistance:** good against acids, alkalines, solvents, hydraulic liquids etc.	–	X
➤ **Weather resistance:**	medium	very good

item no.	type	no. of pairs/cores x cross section mm²	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
06272251	CB 627	2 x 0,25	6,0	19,0	44
06272341	CB 627	2 x 0,34	6,4	21,8	47
06272501	CB 627	2 x 0,50	7,6	28,4	63
06272751	CB 627	2 x 0,75	9,6	39,6	93
06282251	S CB 628	2 x 0,25	7,9	20,2	71
06282341	S CB 628	2 x 0,34	8,3	22,9	77
06282501	S CB 628	2 x 0,50	8,7	29,0	74
06274251	CB 627	2 x 2 x 0,25	7,1	27,4	57
06274341	CB 627	2 x 2 x 0,34	7,7	33,5	66
06274501	CB 627	2 x 2 x 0,50	9,5	44,3	98
06274751	CB 627	2 x 2 x 0,75	13,5	80,8	174
06284251	S CB 628	2 x 2 x 0,25	9,1	27,9	90
06284341	S CB 628	2 x 2 x 0,34	9,6	32,7	97
06284501	S CB 628	2 x 2 x 0,50	10,6	44,9	94

Other dimensions and colours are possible on request.

DN 650 PVC DeviceNet™ cable with with overall copper screen and UL recognition

DN 651 Flexible PVC DeviceNet™ cable with a static screen and UL recognition

Marking for DN 650 06502241: SAB BRÖCKSKES · D-VIERSEN · DN 650 2x0,24mm² + 2x0,38mm² 06502241
24 AWG/1pr + 22 AWG/1pr Low Voltage Computer Cable AWM Style 2560 60°C 30V CE

General construction:

Wrapping:	each pair wrapped with alu foil
Wrapping:	non-woven tape
Outer sheath:	PVC, TM1 acc. to DIN VDE 0281 part 1
Sheath colour:	redlilac (RAL 4001)

Technical data:

Voltage UL:	30 V	
Peak operating voltage:	max. 350 V	
Testing voltage:	1500 V	
Min. bending radius	fixed laying: 7,5 x d flexible application: 15 x d	
Temperature range *fixed laying:* *flexible application:*	**DIN/VDE:** -30/+70 °C - 5/+70 °C	**UL:** up to +60 °C
Characteristic impedance at 1 MHz:	120 Ω ± 10%	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

	DN 650 Drop Cable 2 x 0,24 mm² + 2 x 0,38 mm²	DN 650 Trunk Cable 2 x 0,96 mm² + 2 x 1,53 mm²	DN 651 Drop Cable 2 x 0,24 mm² + 2 x 0,38 mm²	DN 651 Trunk Cable 2 x 0,96 mm² + 2 x 1,53 mm²
➤ **Conductor:** 0,24 mm² tinned copper strands 0,38 mm² tinned copper strands	AWG 24/19 AWG 22/19	– –	AWG 24/19 AWG 22/19	– –
➤ **Conductor:** 0,96 mm² tinned copper strands 1,53 mm² tinned copper strands	– –	AWG 18/19 AWG 15/19	– –	AWG 18/19 AWG 15/19
➤ **Core insulation:**	0,24 mm²: acc. to DIN VDE 0819 part 103 (02YI1) 0,38 mm²: PVC,TI2 acc. to DIN VDE 0281 part1	0,96 mm²: acc. to DIN VDE 0819 part 103 (02YI1) 1,53 mm²: PVC,TI2 acc. to DIN VDE 0281 part1	0,24 mm²: acc. to DIN VDE 0819 part 103 (02YI1) 0,38 mm²: PVC,TI2 acc. to DIN VDE 0281 part 1	0,96 mm²: acc. to DIN VDE 0819 part 103 (02YI1) 1,53 mm²: PVC,TI2 acc. to DIN VDE 0281 part 1
➤ **Colour code:** 0,24 mm²: data pair white and light blue 0,38 mm²: supply pair black and red	X X	– –	X X	– –
➤ **Colour code:** 0,96 mm²: data pair white and light blue 1,53 mm²: supply pair black and red	– –	X X	– –	X X
➤ **Stranding:** cores 0,24 mm² twisted to pair and cores 0,38 mm² twisted to pair	X X	– –	X X	– –
➤ **Stranding:** cores 0,96 mm² twisted to pair and cores 1,53 mm² twisted to pair	– –	X X	– –	X X
➤ **Total stranding:** pairs twisted together with tinned copper drain wire	AWG 22/19	AWG 18/19	AWG 22/19	AWG 18/19
➤ **Screen:**	tinned copper braiding	tinned copper braiding	Alu foil	Alu foil

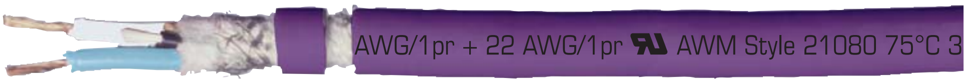
item no.	type	no. of pairs x cross section mm²	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
06502241	DN 650 (Drop Cable)	2 x 0,24 + 2 x 0,38	6,1 - 7,1	41,2	74
06502781	DN 650 (Trunk Cable)	2 x 0,96 + 2 x 1,53	10,4 - 12,4	98,7	166
06512241	DN 651 (Drop Cable)	2 x 0,24 + 2 x 0,38	6,1 - 7,1	16,4	57
06512781	DN 651 (Trunk Cable)	2 x 0,96 + 2 x 1,53	10,4 - 12,4	58,4	116

Other dimensions and colours are possible on request.

DN 656 Halogen-free, flexible DeviceNet™ cable with a static screen and UL recognition

DN 657 Halogen-free, flexible DeviceNet™ cable with overall copper screen

RoHS



Marking for DN 656 06562241:
SAB BRÖCKSKES · D-VIERSEN · DN 656 2x0,24mm^2 + 2x0,38mm^2 06562241 24 AWG/1pr + 22 AWG/1pr AWM Style 21080 75°C 300V CE

General construction:

Wrapping:	each pair wrapped with alu foil
Wrapping:	non-woven tape
Outer sheath:	SABIX® 231
Sheath colour:	redlilac (RAL 4001)

Technical data:

Peak operating voltage:	max. 350 V
Testing voltage:	1500 V
Min. bending radius	fixed laying: 7,5 x d flexible application: 15 x d
Halogen-free:	acc. to DIN VDE 0472 part 815 + IEC60754-1
Characteristic impedance at 1 MHz:	120 Ω ± 10%
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

	DN 656 Drop Cable 2 x 0,24 mm^2 + 2 x 0,38 mm^2	DN 656 Trunk Cable 2 x 0,96 mm^2 + 2 x 1,53 mm^2	DN 657 Drop Cable 2 x 0,24 mm^2 + 2 x 0,38 mm^2	DN 657 Trunk Cable 2 x 0,96 mm^2 + 2 x 1,53 mm^2
➤ **Conductor:** 0,24 mm^2 tinned copper strands 0,38 mm^2 tinned copper strands	AWG 24/19 AWG 22/19	– –	AWG 24/19 AWG 22/19	– –
➤ **Conductor:** 0,96 mm^2 tinned copper strands 1,53 mm^2 tinned copper strands	– –	AWG 18/19 AWG 15/19	– –	AWG 18/19 AWG 15/19
➤ **Core insulation:**	0,24 mm^2: acc. to DIN VDE 0819 part 103 (02YI1) 0,38 mm^2: SABIX® 231	0,96 mm^2: acc. to DIN VDE 0819 part 103 (02YI1) 1,53 mm^2: SABIX® 231	0,24 mm^2:acc. to DIN VDE 0819 part 103 (02YI1) 0,38 mm^2: SABIX® 231	0,96 mm^2:acc. to DIN VDE 0819 part 103 (02YI1) 1,53 mm^2: SABIX® 231
➤ **Colour code:** 0,24 mm^2: data pair white and light blue 0,38 mm^2: supply pair black and red	X X	– –	X X	– –
➤ **Colour code:** 0,96 mm^2: data pair white and light blue 1,53 mm^2: supply pair black and red	– –	X X	– –	X X
➤ **Stranding:** cores 0,24 mm^2 twisted to pair and cores 0,38 mm^2 twisted to pair	X X	– –	X X	– –
➤ **Stranding:** cores 0,96 mm^2 twisted to pair and cores 1,53 mm^2 twisted to pair	– –	X X	– –	X X
➤ **Total stranding:** pairs twisted together with tinned copper drain wire	AWG 22/19	AWG 18/19	AWG 22/19	AWG 18/19
➤ **Screen:**	Alu foil	Alu foil	tinned copper braiding	tinned copper braiding
➤ **Voltage UL:**	300 V	300 V	–	–
➤ **Temperature range:** *fixed laying:* *flexible application:*	UL: up to +75°C -40/+70°C -30/+70°C	UL: up to +75°C -40/+70°C -30/+70°C	 -40/+70°C -30/+70°C	 -40/+70°C -30/+70°C

item no.	type	no. of pairs x cross section mm^2	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
06562241	DN 656 (Drop Cable)	2 x 0,24 + 2 x 0,38	6,1 - 7,1	16,4	56
06562781	DN 656 (Trunk Cable)	2 x 0,96 + 2 x 1,53	10,4 - 12,4	58,4	120
06572241	DN 657 (Drop Cable)	2 x 0,24 + 2 x 0,38	6,1 - 7,1	41,2	74
06572781	DN 657 (Trunk Cable)	2 x 0,96 + 2 x 1,53	10,4 - 12,4	98,7	183

Other dimensions and colours are possible on request.

DN 658 Highly flexible DeviceNet™ cable with overall copper screen and UL recognition

DN 659 Highly flexible DeviceNet™ cable with a static screen and UL recognition

Marking for DN 659 06592241:
SAB BRÖCKSKES · D-VIERSEN · DN 659 2x0,24mm² + 2x0,38mm² 06592241 24 AWG/1pr + 22 AWG/1pr AWM Style 20417 60°C 30V CE

General construction:

Wrapping:	each pair wrapped with alu foil
Wrapping:	non-woven tape
Outer sheath:	PUR, TMPU acc. to DIN VDE 0281 part 10 with rough surface
Sheath colour:	redlilac (RAL 4001)

Technical data:

Voltage UL:	30 V
Peak operating voltage:	max. 350 V
Testing voltage:	1500 V
Min. bending radius	fixed laying: 7,5 x d flexible application: 15 x d
Temperature range *fixed laying:* *flexible application:*	**UL:** up to +60 °C -30/+70 °C -5/+70 °C
Characteristic impedance at 1 MHz:	120 Ω ± 10%
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

	DN 658 Drop Cable 2 x 0,24 mm² + 2 x 0,38 mm²	**DN 658 Trunk Cable** 2 x 0,96 mm² + 2 x 1,53 mm²	**DN 659 Drop Cable** 2 x 0,24 mm² + 2 x 0,38 mm²	**DN 659 Trunk Cable** 2 x 0,96 mm² + 2 x 1,53 mm²
➤ **Conductor:** 0,24 mm² tinned copper strands 0,38 mm² tinned copper strands	fine wires fine wires	– –	fine wires fine wires	– –
➤ **Conductor:** 0,96 mm² tinned copper strands 1,53 mm² tinned copper strands	– –	fine wires fine wires	– –	fine wires fine wires
➤ **Core insulation:**	0,24 mm²: acc. to DIN VDE 0819 part 103 (02YI1) 0,38 mm²: PVC,TI2 acc. to DIN VDE 0281 part1	0,96 mm²: acc. to DIN VDE 0819 part 103 (02YI1) 1,53 mm²: PVC,TI2 acc. to DIN VDE 0281 part1	0,24 mm²: acc. to DIN VDE 0819 part 103 (02YI1) 0,38 mm²:PVC,TI2 acc. to DIN VDE 0281 part 1	0,96 mm²: acc. to DIN VDE 0819 part 103 (02YI1) 1,53 mm²:PVC,TI2 acc. to DIN VDE 0281 part 1
➤ **Colour code:** 0,24 mm²: data pair white and light blue 0,38 mm²: supply pair black and red	X X	– –	X X	– –
➤ **Colour code:** 0,96 mm²: data pair white and light blue 1,53 mm²: supply pair black and red	– –	X X	– –	X X
➤ **Stranding:** cores 0,24 mm² twisted to pair and cores 0,38 mm² twisted to pair	X X	– –	X X	– –
➤ **Stranding:** cores 0,96 mm² twisted to pair and cores 1,53 mm² twisted to pair	– –	X X	– –	X X
➤ **Total stranding:** pairs twisted together with tinned copper drain wire	AWG 22/19	AWG 18/19	AWG 22/19	AWG 18/19
➤ **Screen:**	tinned copper braiding	tinned copper braiding	Alu foil	Alu foil

item no.	type	no. of pairs x cross section mm²	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
06582241	DN 658 (Drop Cable)	2 x 0,24 + 2 x 0,38	6,1 - 7,1	41,2	74
06582781	DN 658 (Trunk Cable)	2 x 0,96 + 2 x 1,53	10,4 - 12,4	98,7	183
06592241	DN 659 (Drop Cable)	2 x 0,24 + 2 x 0,38	6,1 - 7,1	16,4	56
06592781	DN 659 (Trunk Cable)	2 x 0,96 + 2 x 1,53	10,4 - 12,4	58,4	115

Other dimensions and colours are possible on request.

DN 658 robot cable/Drop

Highly flexible DeviceNet™ cable, suitable for robots with overall copper screen and UL recognition

RoHS

Marking for DN 658 06589007:
SAB BRÖCKSKES · D-VIERSEN · DN 658 robot cable/Drop 2x0,24mm²+2x0,38mm² 24AWG/1pr+22AWG/1pr AWM Style 21198 80°C 300V 06589007 CE

Construction:

Conductor:	tinned copper strands, fine wires
Insulation:	0,24 mm²: Foam-Skin 0,38 mm²: SABIX® 151
Colour code:	0,24 mm²: white, blue 0,38 mm²: black, red
Wrapping:	each pair wrapped with alu foil
Stranding:	pairs in a specially adjusted layering, tinned copper drain wire in the core
Screen:	tinned copper braiding
Wrapping:	non-woven tape
Outer sheath:	PUR, TMPU acc. to EN 50363-10-2
Sheath colour:	redlilac (RAL 4001)

Technical data:

Voltage UL:	300 V
Peak operating voltage:	max. 350 V
Testing voltage U:	core/core 1500 V core/screen 1200 V
Min. bending radius	fixed laying: 7,5 x d flexible application: 15 x d
Temperature range *fixed laying:* *flexible application:*	**UL:** up to +80 °C -40/+80 °C -30/+80 °C
Torsion angle:	up to ± 180°/m
Characteristic impedance at 1 MHz:	120 Ω ± 10%
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

E 17

item no..	no. of conductors	nominal cross-section mm²	outer-ø mm	copper figure kg/km	cable weight ≈kg/km	ohmic resistance at 20°C max.Ω/km
06589007	2 2	0,24 0,38	min. 6,1 max. 7,1	32,9	64	83,3 52,6

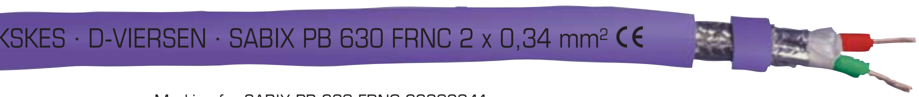
Other dimensions and colours are possible on request.

SABIX® PB 630 Halogen-free Profibus-DP cable

SABIX® PB 630 FRNC Halogen-free, flame retardant Profibus-DP cable

PB 630 PVC Profibus-DP cable for fixed installation

PB 631 Halogen-free PE Profibus-DP cable for fixed installation



Marking for SABIX PB 630 FRNC 66302341:
SAB BRÖCKSKES · D-VIERSEN · SABIX PB 630 FRNC 2 x 0,34 mm² CE

General construction:

Core insulation:	acc. to DIN VDE 0819 part 103 (02YI1)
Colour code:	red, green
Stranding:	in layers
Wrapping:	Alu foil
Screen:	tinned copper braiding

Technical data:

Peak operating voltage:	max. 350 V
Testing voltage:	1500 V
Min. bending radius:	12 x d
Characteristic impedance 3 - 20 MHz:	150 Ω ± 10%
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

	SABIX® PB 630	SABIX® PB 630 FRNC	PB 630	PB 631
➤ **Conductor:**	bare copper strands acc. to DIN VDE 0812	bare copper strands acc. to DIN VDE 0812	bare copper wire AWG 22, single wire	bare copper wire AWG 22, single wire
➤ **Outer sheath, redlilac (RAL 4001):**	SABIX® 322	SABIX® 230	PVC, TM1 acc. to DIN VDE 0281 part 1	PE, 2YM1 acc. to DIN VDE 0207 part 3
➤ **Radiation resistance:**	5 x 10^6 cJ/kg	–	8 x 10^7 cJ/kg	7 x 10^6 cJ/kg
➤ **Temperature range:** *fixed laying:* *flexible application:*	-40/+80°C -40/+80°C	-40/+80°C -30/+80°C	-30/+70°C -5/+70°C	-40/+70°C -40/+70°C
➤ **Halogen-free:**	acc. to DIN VDE 0472 part 815 + IEC60754-1	acc. to DIN VDE 0472 part 815 + IEC60754-1	–	acc. to DIN VDE 0472 part 815 + IEC60754-1
➤ **Fire performance:** no flame propagation acc. to IEC 60332-3 + EN 60332-3 Cat. C resp. D (see page N/20)	–	X	–	–
➤ **Fire performance:** flame retardant and self-extinguishing acc. to IEC 60332-1-2 and EN 60332-1-2	–	X	X	–
➤ **Corrosiveness of conflagration gases:** in compliance with IEC 60754-2 and EN 50267-2-2 + VDE 0482 part 267-2-2 - no development of corrosive conflagration gases	X	X	–	X
➤ **Smoke density:**	low	very low	–	low
➤ **Oil resistance:**	very good - TM5 acc. to DIN VDE 0281 part 1	–	acc. to internal standard see page N/13	–
➤ **For fixed installation:**	X	X	X	X
➤ **For flexible application:**	X	–	–	–
➤ **Weather resistance:**	good	good	medium	good
➤ **Outdoor installation:**	–	–	–	–
➤ **Direct burial:**	–	–	–	–
➤ **UL Style:**	–	–	–	–

Profibus-DP and **Profibus-FMS** apply the same transmission technology and a uniform bus access log. Therefore, both types can be used simultaneously on one cable.

item no.	type	no. of cores x cross section mm²	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
56302341	SABIX® PB 630	2 x 0,34	7,5	30,4	50
66302341	SABIX® PB 630 FRNC	2 x 0,34	7,5	30,4	62
06302331	PB 630	2 x AWG 22	7,1	23,8	49
06312331	PB 631	2 x AWG 22	7,1	23,8	44

Other dimensions and colours are possible on request.

PB 636 Flexible PVC Profibus-DP cable for outdoor installation

PB 637 PVC Profibus-DP cable with UL recognition

PB 639 PVC Profibus-DP cable applyable in ground

PB 635 PVC Profibus-DP cable for outdoor installation

RoHS

Marking for PB 636 06362348:
SAB BRÖCKSKES · D-VIERSEN · PB 636 2 x 0,34 mm² CE

General construction:

Core insulation:	acc. to DIN VDE 0819 part 103 (02YI1)
Colour code:	red, green
Stranding:	in layers
Wrapping:	Alu foil
Screen:	tinned copper braiding

Technical data:

Peak operating voltage:	max. 350 V
Testing voltage:	1500 V
Min. bending radius:	12 x d
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Characteristic impedance 3 - 20 MHz:	150 Ω ± 10%
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

	PB 636	PB 637	PB 639	PB 635
➤ **Conductor:**	bare copper strands acc. to DIN VDE 0812	bare copper wire AWG 22, single wire	bare copper wire AWG 22, single wire	bare copper wire AWG 22, single wire
➤ **Outer sheath, redlilac (RAL 4001):**	PVC, TM2 acc. to DIN VDE 0281 part 1	PVC, YOE acc. to DIN VDE 0281 part 1	PVC acc. to DIN VDE 0281 part 1	PVC, TM2 acc. to DIN VDE 0281 part 1
➤ **Voltage acc. to UL:**	–	30 V	–	–
➤ **Temperature range:** *fixed laying:* *flexible application:*	 -30/+70°C -5/+70°C	UL: up to +60°C -30/+70°C -5/+70°C	 -30/+70°C -5/+70°C	 -30/+70°C -5/+70°C
➤ **Oil resistance:**	acc. to internal standard see page N/13	very good - acc. to DIN VDE 0207 part 5	acc. to internal standard see page N/13	acc. to internal standard see page N/13
➤ **For fixed installation:**	X	X	X	X
➤ **For flexible application:**	X	–	–	–
➤ **Weather resistance:**	good	medium	very good	good
➤ **Outdoor installation:**	X	–	X	X
➤ **Direct burial:**	–	–	X	–
➤ **UL Style:**	–	2560 ▪ 60°C	–	–

Profibus-DP and **Profibus-FMS** apply the same transmission technology and a uniform bus access log. Therefore, both types can be used simultaneously on one cable.

item no.	type	no. of cores x cross section mm²	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
06362348	PB 636	2 x 0,34	8,8	23,8	79
06372331	PB 637	2 x 0,34	7,3	23,8	53
06392338	PB 639	2 x AWG 22	9,2	23,8	89
06352338	PB 635	2 x AWG 22	8,4	23,8	74

Other dimensions and colours are possible on request.

S PB 634 PUR Profibus-DP cable for cable tracks

PB 633 Halogen-free, flexible PE Profibus-DP cable

PB 632 Flexible PVC Profibus-DP cable

RoHS

Marking for PB 632 06322341:
SAB BRÖCKSKES · D-VIERSEN · PB 632 2 x 0,34 mm² CE

General construction:

Colour code:	red, green (0,34 mm²); brown, light blue and green-yellow earth wire (1,0 mm²)
Pairwise screening:	tinned copper braiding
Stranding:	in layers

Technical data:

Peak operating voltage:	max. 350 V
Testing voltage:	1500 V
Min. bending radius:	12 x d
Characteristic impedance 3 - 20 MHz:	150 Ω ± 10%
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

	S PB 634	PB 633	PB 632
➤ **Conductor:**	0,34 mm²: bare copper strands acc. to DIN VDE 0812 1,00 mm²: bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 6	0,34 mm²: bare copper strands acc. to DIN VDE 0812 1,00 mm²: bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5	0,34 mm²: bare copper strands acc. to DIN VDE 0812 1,00 mm²: bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
➤ **Pairwise wrapping:**	non-woven tape/Alu foil, non-woven tape	Alu foil, PETP foil	Alu foil, PETP foil
➤ **Pairwise sheathing:**	TPE	–	–
➤ **Core insulation:**	0,34 mm²: DIN VDE 0819 part 103 (02YI1) 1,00 mm²: TPE	0,34 mm²: DIN VDE 0819 part 103 (02YI1) 1,00 mm²: PE, 2YI1 acc. to DIN VDE 0207 part 2	0,34 mm²: DIN VDE 0819 part 103 (02YI1) 1,00 mm²: PVC, TI2 acc. to DIN VDE 0281 part 1
➤ **Outer sheath, redlilac (RAL 4001):**	PUR, TMPU acc. to DIN VDE 0282 part 10 with rough surface	PE, 2YM1 acc. to DIN VDE 0207 part 3	PVC, TM1 acc. to DIN VDE 0281 part 1
➤ **Temperature range:** *fixed laying:* *flexible application:*	 -40/+80°C -40/+80°C	 -40/+70°C -40/+70°C	 -30/+70°C -5/+70°C
➤ **Fire performance:** flame retardant and self-extinguishing acc. to IEC 60332-1-2 and EN 60332-1-2	–	–	X
➤ **Corrosiveness of conflagration gases:** in compliance with IEC 60754-2 and EN 50267-2-2 + VDE 0482 part 267-2-2 - no development of corrosive conflagration gases	X	X	–
➤ **Oil resistance:**	very good - TMPU acc. to DIN VDE 0282 part 10	–	acc. to internal standard see page N/13
➤ **For fixed installation:**	X	X	X
➤ **For flexible application:**	X	X	X
➤ **Suitable for cable tracks:**	X	–	–
➤ **Weather resistance:**	very good	good	medium

Profibus-DP and **Profibus-FMS** apply the same transmission technology and a uniform bus access log. Therefore, both types can be used simultaneously on one cable.

item no.	type	no. of cores x cross section mm²	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
06342341	S PB 634	2 x 0,34	7,6	30,9	58
06344341	S PB 634	2 x 0,34 + 3 x 1,00	10,2	58,8	108
06332341	PB 633	2 x 0,34	7,5	25,8	50
06334341	PB 633	2 x 0,34 + 3 x 1,00	10,1	58,8	101
06322341	PB 632	2 x 0,34	7,5	25,8	56
06324341	PB 632	2 x 0,34 + 3 x 1,00	10,1	58,8	122

Other dimensions and colours are possible on request.

SAB BRÖCKSKES

with „Fast Connect" construction

PB 640 flexible PVC Profibus-DP cable

PB 640 UL flexible PVC Profibus-DP cable with UL recognition

S PB 640 UL highly flexible PUR Profibus-DP cable with UL recognition

S PB 640 highly flexible PUR Profibus-DP cable

RoHS

Marking for S PB 640 06402601:
SAB BRÖCKSKES · D-VIERSEN · S PB 640 · 24 AWG/2c 06402601 CE

General construction:

Conductor:	bare copper strands AWG 24
Core insulation:	acc. to DIN VDE 0819 partl 103 (02YI1)
Colour code:	red, green
Stranding:	in layers
Wrapping:	alu foil and tinned copper braiding

Outstanding features:

- short assembling time
- avoidance of connection errors

Technical data:

Peak operating voltage:	max. 350 V
Testing voltage:	1500 V
Min. bending radius:	12 x d
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Characteristic impedance 3 - 20 MHz:	150 Ω ± 10%
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

	PB 640	PB 640 UL	S PB 640	S PB 640 UL
Inner sheat, nature:	PVC	PVC	SABIX®	SABIX®
Outer sheath, redlilac (RAL 4001):	PVC, TM2 acc. to DIN VDE 0281 part 1	PVC, TM2 acc. to DIN VDE 0281 part 1	PUR, TMPU acc. to DIN VDE 0282 part 10 with matt surface	PUR, TMPU acc. to DIN VDE 0282 part 10 with matt surface
Voltage acc. to UL:	-	300 V	-	300 V
Temperature range: *fixed laying:* *flexible application:*	-30/+70°C -5/+70°C	UL: up to +80°C -30/+70°C -5/+70°C	-40/+80°C -30/+80°C	UL: up to +80°C -40/+80°C -30/+80°C
Halogen-free:	-	-	acc. to DIN VDE 0472 part 815 + IEC 60754-1	acc. to DIN VDE 0472 part 815 + IEC 60754-1
Oil resistance:	acc. to internal standard see page N/13	acc. to internal standard see page N/13	very good - TMPU acc. to DIN VDE 0282 part 10	very good - TMPU acc. to DIN VDE 0282 part 10
For fixed installation:	X	X	X	X
For flexible application:	X	X	X	X
Suitable for cable tracks:	-	-	X	X
UL Style:	-	X	-	X

Profibus-DP and **Profibus-FMS** apply the same transmission technology and a uniform bus access log. Therefore, both types can be used simultaneously on one cable.

item no.	type	no. of cores x AWG	outer-ø ± mm	copper figure kg/km	cable weight ≈ kg/km
06402421	PB 640	2 x AWG 24	8,0 ± 0,4	31,2	63
06402631	PB 640 UL	2 x AWG 24	8,0 ± 0,4	31,2	62
06402601	S PB 640	2 x AWG 24	8,0 ± 0,4	31,2	57
06402611	S PB 640 UL	2 x AWG 24	8,0 ± 0,4	31,2	62

Other dimensions and colours are possible on request.

PB 642 PVC Profibus cable   S PB 644 PUR Profibus cable for cable tracks

RoHS

Marking for S PB 644 06442251:
SAB BRÖCKSKES · D-VIERSEN · S PB 644 2 x 0,25 mm² CE

General construction:

Core insulation:	PE, 2YI1 acc. to DIN VDE 0207 part 2
Colour code:	red, green (PA) DIN 47100 (Typ B)
Stranding:	in layers
Wrapping:	PETP foil
Screen:	tinned copper braiding

Technical data:

Peak operating voltage:	max. 350 V
Testing voltage:	1500 V
Min. bending radius:	7,5 x d 12 x d continuously flexible (S PB 644)
Characteristic impedance:	**Typ B:** at > 100 kHz 100 Ω - 130 Ω **PA:** at 31.25 kHz 100 Ω ± 20%
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

	PB 642	S PB 644
➤ **Conductor:**	bare copper strands with reference to DIN VDE 0812	bare copper strands, extra fine wires
➤ **Outer sheath:**	PVC, TM1 acc. to DIN VDE 0281 part 1	PUR, TMPU acc. to DIN VDE 0282 part 10 with rough surface
➤ **Temperature range:** *fixed laying:* *flexible application:*	-30/+70°C -5/+70°C	-40/+70°C -40/+70°C
➤ **Oil resistance:**	acc. to internal standard see page N/13	very good - TMPU acc. to DIN VDE 0282 part 10
➤ **For fixed installation:**	X	X
➤ **For flexible application:**	X	X
➤ **Suitable for cable tracks:**	–	X
➤ **Weather resistance:**	medium	very good

item no.	type	no. of cores x cross section mm²	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
06422221	PB 642, redlilac (RAL 4001)	2 x 0,22	4,4	14,7	26
06424221	PB 642, redlilac (RAL 4001)	2 x 2 x 0,22	6,2	22,4	45
06422251	PB 642, redlilac (RAL 4001)	2 x 0,25	4,9	15,4	30
06424251	PB 642, redlilac (RAL 4001)	2 x 2 x 0,25	6,7	26,5	52
06422767	PB 642, blue (RAL 5015)	2 x 0,82	7,3	38,1	68
06422768	PB 642, black (RAL 9005)	2 x 0,82	7,3	38,1	68
06442251	S PB 644, redlilac (RAL 4001)	2 x 0,25	5,2	15,9	33
06444251	S PB 644, redlilac (RAL 4001)	2 x 2 x 0,25	6,8	26,4	57

Other dimensions and colours are possible on request.

SBP 680 SafetyBUS p cable for fixed installation

S SBP 684 Move SafetyBUS p cable for flexible applications

RoHS

Marking for SBP 680 06803754:
SAB BRÖCKSKES · D-VIERSEN · SafetyBUS p SBP 680 3 x 0,75 mm² CE *and current meter marking from 1 m up to 999 m*

Marking for S SBP 684 Move 06843754:
SAB BRÖCKSKES · D-VIERSEN · SafetyBUS p MOVE S SBP 684 3 x 0,75 mm² CE *and current meter marking from 1 m up to 999 m*

General construction:

Insulation:	acc. to DIN VDE 0819 part 103 (02YI1)
Colour code:	acc. to DIN VDE 47100
Wrapping:	non-woven tape
Screen:	tinned copper braiding
Wrapping:	non-woven tape
Outer sheath:	PUR, signal yellow (RAL 1003)

Technical data:

Peak operating voltage:	max. 350 V
Testing voltage:	1500 V
Temperature range:	-40/+80 °C
Halogen-free:	acc. to DIN VDE 0472 part 815 + IEC 60754-1
Oil resistance:	very good - TMPU acc. to DIN VDE 0282 part 10
Characteristic impedance at 1 MHz:	100 - 120 Ω
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

	SBP 680	S SBP 684 Move
➤ **Conductor:**	bare copper strands acc. to DIN VDE class 5	bare copper strands acc. to DIN VDE class 6
➤ **Min. bending radius**		
fixed laying:	5 x d	5 x d
flexible application:	10 x d	10 x d
continuously flexible:	–	12 x d
➤ **Application in cable tracks:**	not recommended	recommended
➤ **Continuosly flexible application:**	–	very good

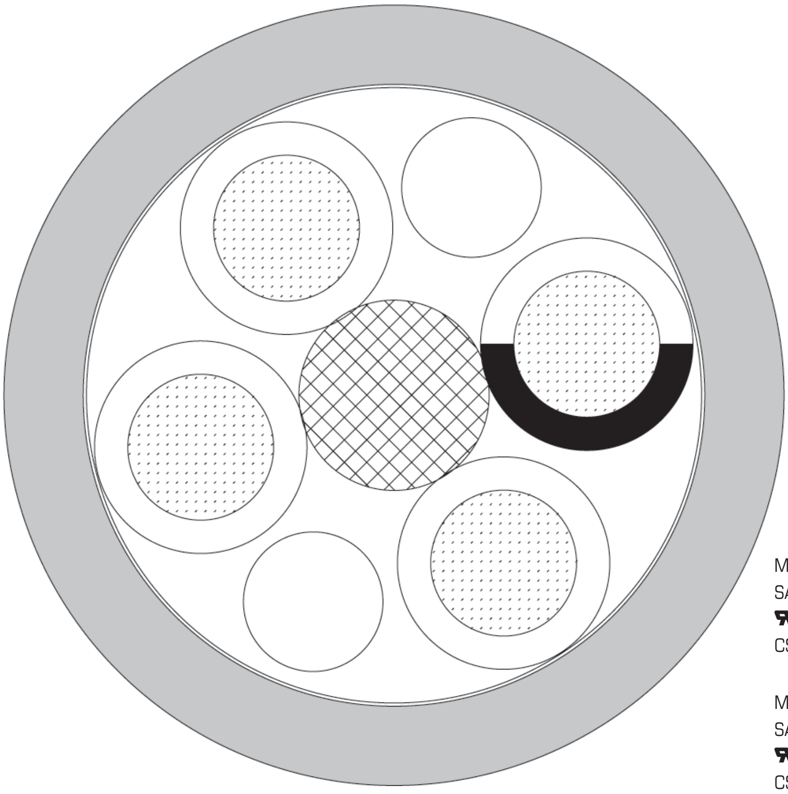
Item no.	Type	No. of pairs/cores x mm², each conductor	Outer ø mm	Copper figure kg/km	Cable wight ≈ kg/km
06803754	SBP 680	3 x 0,75	7,8 ± 0,4	43,2	74
06843754	S SBP 684	3 x 0,75	7,8 ± 0,4	43,2	74

Other dimensions and colours are possible on request.

S 670 PUR hybrid field bus control cable, suitable for cable tracks
S 671 PVC hybrid field bus control cable, suitable for cable tracks

RoHS

optical waveguide + copper conductors



Marking for S 670 06701604:
SAB BRÖCKSKES · D-VIERSEN · S 670 4 x 1,5 mm² + 2 POF
UL AWM Style 21060 80 °C 600V
CSA AWM I/II A/B 80 °C 600V FT1 FT2 CE

Marking for S 671 06711802:
SAB BRÖCKSKES · D-VIERSEN · S 671 2 x 1,0 mm² + 2 POF
UL AWM Style 21047 75 °C 600V
CSA AWM I/II A/B 75 °C 600V FT1 FT2 CE

Construction:

Conductor:	bare copper stands, extra fine wires
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Optical waveguide:	POF (polymeric optical fibres)
Colour code POF:	black
Stranding:	cores and POF in specially adjusted layering
Wrapping:	non-woven tape
Sheath material:	**S 670:** PUR, TMPU acc. to DIN VDE 0282 part 10 with mat surface **S 671:** PVC, TM2 acc. to DIN VDE 0281 part 1, reinforced wall-thickness
Sheath colour:	acc. to customers' specifications

Technical data:

Nominal voltage DIN VDE:	Uo/U 300/500 V	
Voltage UL/CSA:	600 V	
Testing voltage:	3000 V	
Min. bending radius *fixed laying:* *flexible application:* *continuously flexible:*	 4 x d 7.5 x d 10 x d	
Temperature range *fixed laying:* *flexible application:*	**S 670** -40/+70 °C +5/+70 °C **UL/CSA:** up to +80 °C	**S 671** -40/+70 °C +5/+70 °C **UL/CSA:** up to +75 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 and EN 60332-1-2	
Oil resistance:	PVC - acc. to internal standard, see page N/13 PUR - very good	
Attenuation POF measured at 650 nm:	max. 10 dBm / 20 m	
Diameter:	**PMMA:** 1,0 mm · **POF:** 2,2 mm	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

PUR sheath

no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
4 x 1,50	0,16	9,9	57,6	138
5 x 1,50	0,16	10,6	72,0	165
4 x 2,50	0,16	12,3	96,0	207
5 x 2,50	0,16	13,2	120,0	249

each + 2 x POF (polymeric optical fibres)

Other dimensions are possible on request.

PVC sheath

no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
2 x 1,00	0,16	7,2	19,2	66
3 x 1,00	0,16	8,0	28,8	79
2 x 1,50	0,16	7,7	28,8	80
5 x 1,50	0,16	10,4	72,0	163

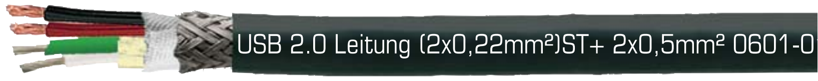
each + 2 x POF (polymeric optical fibres)

Other dimensions are possible on request.

transmission length up to 10m!

USB 2.0 Cables flexible

RoHS



Marking for USB 2.0 cable 06010122:
SAB BRÖCKSKES · D-VIERSEN · USB 2.0 Leitung (2x0,22mm²) ST + 2x0,5mm² 0601-0122 CE

Construction:	**USB 2.0** *flexible*	**USB 2.0 with UL** *flexible*	**USB 2.0 FRNC** *flexible*
Dimension:	(2 x 0,22 mm²) ST + 2 x 0,5 mm²		
Conductor:	bare copper strands (0,50 mm²), silver-plated strands (0,22 mm²)		
Core insulation:	SABIX® 151		
Colour code:	black, red (0,50 mm²), white, green (0,22 mm²)		
Stranding:	2 x 0,22 mm² wrapped with alu foil, together with 0,5 mm²		
Wrapping:	non-woven tape		
Screen:	tinned copper braiding		
Outer sheath:	PVC		SABIX®
Sheath colour:	black (RAL 9005)		

Technical data:	**USB 2.0** *flexible*	**USB 2.0 with UL** *flexible*	**USB 2.0 FRNC** *flexible*
Item number:	0601-0122	0601-0222	0601-9001
Peak operating voltage VDE:	max. 350 V		
Voltage: UL:	---	300 V	---
Testing voltage:	core/core 1500 V core/screen 1200 V	core/core 2000 V core/screen 2000 V	core/core 1500 V core/screen 1200 V
Temperature range VDE fixed laying: flexible application:	- 30°C / + 70°C - 5°C / + 70°C	**UL:** up to + 80°C - 30°C / + 70 °C - 5°C / + 70 °C	- 50°C / + 90 °C - 40°C / + 90 °C
Min. bending radius fixed laying: flexible application:	5 x d 10 x d		
Halogen-free:	---		acc. to DIN VDE 0472 part 815 + IEC 60754-1
Fire performance:	---		flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Oil resistance:	acc. to internal standard see page N/13		---
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page N/14		

item no.	type	dimension mm²	outer-ø approx. mm	copper figure kg/km	cable weight ≈kg/km
06010122	PVC	(2x0,22) ST + 2x0,50	6,8	34,0	60
06010222	PVC with UL	(2x0,22) ST + 2x0,50	7,0	34,0	63
06019001	SABIX®	(2x0,22) ST + 2x0,50	6,8	34,0	62

Other dimensions and colours are possible on request.

transmission length up to 10m!

USB 2.0 Cables continuously flexible

Marking for USB 2.0 cable 06010122:
SAB BRÖCKSKES · D-VIERSEN · USB 2.0 Leitung (2x0,22mm²) ST + 2x0,5mm² 0601-0122 CE

Construction:	**USB 2.0** *suitable for cable tracks*	**USB 2.0 with UL/CSA** *suitable for cable tracks*	**USB 2.0 with UL/CSA** *suitable for robots*
Dimension:	(2 x 0,22 mm²) ST + 2 x 0,5 mm²		
Conductor:	bare copper strands (0,50 mm²), silver-plated strands (0,22 mm²)		
Core insulation:	SABIX® 151		
Colour code:	black, red (0,50 mm²), white, green (0,22 mm²)		
Stranding:	2 x 0,22 mm² wrapped with alu foil, together with 0,5 mm²		
Wrapping:	non-woven tape		PTFE foil
Screen:	tinned copper braiding		wrapping with tinned copper round wires
Wrapping:	non-woven tape		
Outer sheath:	PUR		
Sheath colour:	black (RAL 9005)		

E
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Technical data:	**USB 2.0** *suitable for cable tracks*	**USB 2.0 with UL/CSA** *suitable for cable tracks*	**USB 2.0 with UL/CSA** *suitable for robots*
Item number:	0601-1022	0601-1122	0601-2022
Peak operating voltage VDE:	max. 350 V		
Voltage: UL:	---	300 V	
Testing voltage:	core/core 2000 V - core/screen 2000 V		
Temperature range VDE fixed laying: flexible application:	- 50°C / + 90 °C - 40°C / + 90 °C	**UL:** up to + 80°C - 50°C / + 90 °C - 40°C / + 90 °C	
Min. bending radius fixed laying: flexible application: continuously flexible: torsion angle:	5 x d 6 x d 7,5 x d		5 x d 7,5 x d 10 x d up to +/- 180°/m
Halogen-free:	acc. to DIN VDE 0472 part 815 + IEC 60754-1		---
Oil resistance:	TMPU acc. to DIN VDE 0282 part 10 + HD 22.10		
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page N/14		

item no.	type	dimension mm²	outer-ø approx. mm	copper figure kg/km	cable weight ≈kg/km
06011022	PUR	(2x0,22) ST + 2x0,50	7,0	34,1	59
06011122	PUR with UL/CSA	(2x0,22) ST + 2x0,50	7,2	34,1	66
06012022	robot cable with UL/CSA	(2x0,22) ST + 2x0,50	7,0	34,3	64

Other dimensions and colours are possible on request.

PN 662 Profinet type B, for flexible applications

PN 663 Profinet type B, for flexible applications with UL recognition

S PN 668 Profinet type C, continuously flexible

S PN 669 Profinet type C, continuously flexible with UL recognition

RoHS

Marking for S PN 668:
SAB BRÖCKSKES · D-VIERSEN · S PN 668 Profinet CAT 5 Typ C 2x2x22AWG CE

Construction:	PN 662 Profinet type B *flexible*	S PN 668 Profinet type C *continuously flexible*	PN 663 Profinet type B *flexible*	S PN 669 Profinet type C *continuously flexible*
Dimension:	2 x 2 x 22 AWG			
Conductor:	tinned copper strands, fine wires acc. to VDE 0812	tinned copper strands, extra fine wires	tinned copper strands, fine wires acc. to VDE 0812	tinned copper strands, extra fine wires
Core insulation:	PE, L/MD acc. to DIN VDE 0819 part 103	PE	PE, L/MD acc. to DIN VDE 0819 part 103	PE
Colour code:	blue, yellow, white, orange			
Stranding:	in layers			
Wrapping:	PETP foil			
Inner sheath:	thermoplastic material			
Wrapping:	alu foil			
Screen:	tinned copper braiding			
Wrapping:	---	non-woven tape	---	non-woven tape
Outer sheath:	PVC	PUR	PVC	PUR
Sheath colour:	green (similar RAL 6018)			

Technical data:	PN 662 Profinet type B *flexible*	S PN 668 Profinet type C *continuously flexible*	PN 663 Profinet type B *flexible*	S PN 669 Profinet type C *continuously flexible*
Item number:	0662-2202	0668-2202	0663-2202	0669-2202
Peak operating voltage VDE:	max. 350 V			
Voltage UL:	---		300 V	
Testing voltage:	core/core 1500 V - core/screen 1200 V			
Temperature range VDE fixed laying: flexible application:	 - 30°C / + 70°C - 5°C / + 70°C	 - 40°C / + 70°C - 30°C / + 70°C	**UL:** up to + 80°C - 30°C / + 70 °C - 5°C / + 70 °C	**UL:** up to + 80°C - 30°C / + 70 °C - 20°C / + 70 °C
Min. bending radius fixed laying: flexible application: continuously flexible:	 5 x d 10 x d	 5 x d 10 x d 15 x d	 5 x d 10 x d	 5 x d 10 x d 15 x d
Characteristic impedance:	100Ω ± 5Ω, accomplishes the electrical and transmission requirements with high frequency acc. to EN 50288-2-2 (CAT 5 acc. to EN 50173-1)			
Halogen-free:	---	acc. to DIN VDE 0472 part 815 + IEC 60754-1	---	acc. to DIN VDE 0472 part 815 + IEC 60754-1
Oil resistance:	acc. to internal standard see page N/13	TMPU acc. to DIN VDE 0282 part 10 + HD 22.10	acc. to internal standard see page N/13	acc. to internal standard see page N/13
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page N/14			

item no.	type	no. of cores	cross section AWG	max. core-ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈kg/km	ohmic resistance at 20°C acc. to VDE 0812 max.Ω/km
06622202	PN 662	4	22	1,55	6,1	33,9	57	58,0
06682202	S PN 668	4	22	1,55	6,4	36,7	58	58,0
06632202	PN 663	4	22	1,55	6,5	36,2	66	58,0
06692202	S PN 669	4	22	1,55	6,9	36,7	69	58,0

Other dimensions and colours are possible on request.

PN 654 Profinet type A, for fixed installation

PN 655 Profinet type A, for fixed installation with UL recognition

PN 660 Profinet type B, for flexible applications

PN 661 Profinet type B, for flexible applications with UL recognition

Marking for PN 660:
SAB BRÖCKSKES · D-VIERSEN · PN 660 Profinet CAT 5 Typ B 2x2x22AWG CE

Construction:	**PN 654 Profinet type A** *fixed laying*	**PN 660 Profinet type B** *flexible*	**PN 655 Profinet type A** *fixed laying*	**PN 661 Profinet type B** *flexible*
Dimension:	2 x 2 x 22 AWG			
Conductor:	bare copper wire	bare copper strands, fine wires acc. to VDE 0812	bare copper wire	bare copper strands, fine wires acc. to VDE 0812
Core insulation:	PE, L/MD acc. to DIN VDE 0819 part 103			
Colour code:	blue, yellow, white, orange			
Stranding:	in layers			
Wrapping:	PETP foil			
Inner sheat:	---	thermoplastic material	---	thermoplastic material
Wrapping:	---	alu foil	---	alu foil
Screen:	tinned copper braiding			
Wrapping:	---	non-woven tape	---	non-woven tape
Outer sheath:	PVC	SABIX® 230	PVC	SABIX® 235
Sheath colour:	green (similar RAL 6018)			

Technical data:	**PN 654 Profinet type A** *fixed laying*	**PN 660 Profinet type B** *flexible*	**PN 655 Profinet type A** *fixed laying*	**PN 661 Profinet type B** *flexible*
Item number:	0654-2202	0660-2202	0655-2202	0661-2202
Peak operating voltage VDE:	max. 350 V			
Voltage UL:	---		300 V	
Testing voltage:	core/core 1500 V - core/screen 1200 V			
Temperature range VDE fixed laying: flexible application:	- 30°C / + 70°C - 5°C / + 70°C	- 30°C / + 70°C - 20°C / + 70°C	**UL:** up to + 80°C - 30°C / + 70 °C - 5°C / + 70 °C	**UL:** up to + 75°C - 40°C / + 70 °C - 30°C / + 70 °C
Min. bending radius fixed laying: flexible application:	5 x d	5 x d 12 x d	5 x d	5 x d 12 x d
Characteristic impedance:	100Ω ± 5Ω, accomplishes the electrical and transmission requirements with high frequency acc. to EN 50288-2-2 (CAT 5 acc. to EN 50173-1)			
Halogen-free:	---	acc. to DIN VDE 0472 part 815 + IEC 60754-1	---	acc. to DIN VDE 0472 part 815 + IEC 60754-1
Oil resistance:	acc. to internal standard see page N/13	---	acc. to internal standard see page N/13	---
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page N/14			

item no.	type	no. of cores	cross section AWG	max. core-ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈kg/km	ohmic resistance at 20°C acc. to VDE 0812 max.Ω/km
06542202	PN 654	4	22	1,55	5,3	28,0	43	58,0
06602202	PN 660	4	22	1,55	6,6	36,2	67	58,0
06552202	PN 655	4	22	1,55	5,9	30,4	51	58,0
06612202	PN 661	4	22	1,55	6,6	36,2	70	58,0

Other dimensions and colours are possible on request.

PN 678 type A, for fixed installation

PN 679 type B, for flexible applications

S PN 681 type C, continuously flexible

RoHS

Marking for PN 679:
SAB BRÖCKSKES · D-VIERSEN · PN 679 CAT 5 Typ B 4x2x26AWG CE

Construction:	PN 678 type A *fixed laying*	PN 679 type B *flexible*	S PN 681 type C *continuously flexible*
Dimension:	4 x 2 x 26 AWG		
Conductor:	tinned copper wire	tinned copper strands, fine wires acc. to VDE 0812	tinned copper strands, extra fine wires
Core insulation:	PE, L/MD acc. to DIN VDE 0819 part 103	PE, L/MD acc. to DIN VDE 0819 part 103	SABIX® 151
Colour code:	white cores with numbers 1 - 4 (+ blue, orange, green, brown)		
Stranding:	twisted pairs		
Wrapping:	alu foil	PETP foil + alu foil	non-woven tapes + alu foil
Screen:	tinned copper braiding		
Wrapping:	---	non-woven tape	non-woven tape
Outer sheath:	PVC	PUR	PUR
Sheath colour:	green (similar RAL 6018)		

Technical data:	PN 678 type A *fixed laying*	PN 679 type B *flexible*	S PN 681 type C *continuously flexible*
Item number:	0678-2604	0679-2604	0681-2604
Peak operating voltage VDE:	max. 350 V		
Testing voltage:	core/core 1500 V, core/screen 1200 V		
Temperature range VDE fixed laying: flexible application:	- 30°C / + 70°C - 5°C / + 70°C	- 40°C / + 70°C - 40°C / + 70°C	- 40°C / + 90°C - 30°C / + 90°C
Min. bending radius fixed laying: flexible application: continuously flexible:	5 x d	5 x d 10 x d	5 x d 10 x d 12 x d
Characteristic impedance:	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency acc. to EN 50288-2-2 (CAT 5 acc. to EN 50173-1)		
Halogen-free:	---	acc. to DIN VDE 0472 part 815 + IEC 60754-1	acc. to DIN VDE 0472 part 815 + IEC 60754-1
Oil resistance:	acc. to internal standard see page N/13	TMPU acc. to DIN VDE 0282 part 10 + HD 22.10	TMPU acc. to DIN VDE 0282 part 10 + HD 22.10
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page N/14		

item no.	type	no. of pairs	cross section AWG	max. core-ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈kg/km	ohmic resistance at 20°C acc. to VDE 0812 max.Ω/km
06782604	PN 678	4	26	1,10	6,2	33,0	49	150
06792604	PN 679	4	26	1,10	7,3	35,0	58	148
06812604	S PN 681	4	26	1,10	7,2	35,5	58	145

Other dimensions and colours are possible on request.

with „Fast Connect" construction

S PN 665 Profinet type C, continuously flexible
S PN 667 Profinet type C, continuously flexible with UL recognition, CSA approval

RoHS

Marking for S PN 665:
SAB BRÖCKSKES · D-VIERSEN · S PN 665 Profinet CAT 5 Typ C 2x2x22AWG CE

Construction:	S PN 665 Profinet type C *continuously flexible*	S PN 667 Profinet type C *continuously flexible*
Dimension:	2 x 2 x 22 AWG	
Conductor:	tinned copper strands, 7 wires	
Core insulation:	PE	
Colour code:	blue, yellow, white, orange	
Stranding:	in layers	
Wrapping:	PETP foil	
Inner sheath:	thermoplastic material	
Wrapping:	alu foil	
Screen:	tinned copper braiding	
Wrapping:	non-woven tape	
Outer sheath:	PUR	
Sheath colour:	green (similar RAL 6018)	

Technical data:	S PN 665 Profinet type C *continuously flexible*	S PN 667 Profinet type C *continuously flexible*
Item number:	0665-4223	0667-2202
Peak operating voltage VDE:	max. 350 V	
Voltage UL/CSA:	---	300 V
Testing voltage:	core/core 1500 V - core/screen 1200 V	
Temperature range VDE fixed laying: flexible application:	- 40°C / + 70°C - 30°C / + 70°C	**UL/CSA:** up to + 80°C - 30°C / + 70 °C - 20°C / + 70 °C
Min. bending radius fixed laying: flexible application: continuously flexible:	5 x d 10 x d 15 x d	
Characteristic impedance:	100Ω ± 5Ω, accomplishes the electrical and transmission requirements with high frequency acc. to EN 50288-2-2 (CAT 5 acc. to EN 50173-1)	
Halogen-free:	acc. to DIN VDE 0472 part 815 + IEC 60754-1	
Oil resistance:	TMPU acc. to DIN VDE 0282 part 10 + HD 22.10	
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page N/14	

item no.	type	no. of cores	cross section AWG	max. core-ø mm	outer-ø mm	copper figure kg/km	cable weight ≈kg/km	ohmic resistance at 20°C acc. to VDE 0812 max.Ω/km
06654223	S PN 665	4	22	1,55	6,5 ± 0,2	33,8	58	58,8
06672202	S PN 667	4	22	1,55	6,5 ± 0,2	33,8	60	58,8

Other dimensions and colours are possible on request.

short assembling time by „Fast Connect" construction

SAB BRÖCKSKES

SPECIAL
INDUSTRIAL ETHERNET CABLES CAT 5

DR PN 689 P Highflex reeling Profinet cable

S PN 668 Hybrid Hybrid cable with UL recognition

RT PN 668 Profinet cable suitable for robots

RoHS

Marking for DR PN 689 P Highflex:
SAB BRÖCKSKES · D-VIERSEN · DR PN 689 P Highflex 2x2x22AWG CE

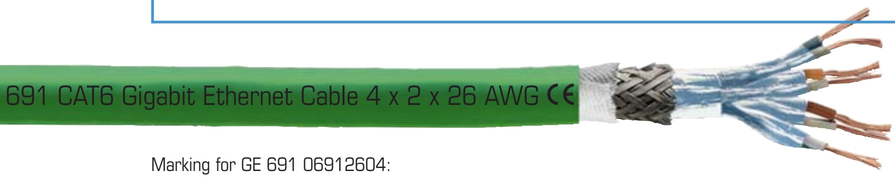
Construction:	DR PN 689 P Highflex *reeling Profinet cable*	S PN 668 Hybrid *Hybrid cable type C continuously flexible*	RT PN 668 *Profinet cable suitable for robots*
Dimension:	2 x 2 x 22 AWG	2 x 2 x 22 AWG + 4 x 1,5 mm²	2 x 2 x 22 AWG
Conductor:	tinned copper strands, fine wires with reference to VDE 0812	22 AWG: tinned copper strands, extra fine wires 1,5 mm²: bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 6	tinned copper strands, extra fine wires
Core insulation:	SABIX® 151	22 AWG: SABIX® 151. 1,5 mm²: TPE 531	PE
Colour code:	blue, yellow, white, orange	22 AWG: blue, yellow, white, orange. 1,5 mm²: black cores with consecutive numbers acc. to EN 50334	blue, yellow, white, orange
Stranding:	in layers	22 AWG: in layers together in layers	in layers
Wrapping:	PETP foli		netting tape, alu foil
Inner sheath:	SABIX® 322		---
Wrapping:	alu foil		---
Screen:	tinned copper braiding		
Wrapping:	non-woven tape		
Outer sheath:	PUR / supporting braid / PUR	PUR	
Sheath colour:	green (similar RAL 6018)		

Technical data:	DR PN 689 P Highflex *reeling Profinet cable*	S PN 668 Hybrid *Hybrid cable type C continuously flexible*	RT PN 668 *Profinet cable suitable for robots*
Item number:	0689-2202	0668-9010	0668-9001
Peak operating voltage VDE:	max. 350 V		
Voltage: UL:	---	300 V	---
Testing voltage:	core/core 1500 V, core/screen 1200 V		
Temperature range VDE fixed laying: flexible application:	- 40°C / + 90°C - 30°C / + 90°C	**UL:** up to + 80°C - 40°C / + 90°C - 30°C / + 90°C	- 40°C / + 70°C - 30°C / + 70°C
Min. bending radius	for laying and installation (fixed laying): 5 x d for repeated winding action (flexible): 10 x d guided on deflection pulleys (flexible): 12 x d	fixed laying: 5 x d flexible application: 10 x d continuously flexible: 12 x d	fixed laying: 5 x d flexible application: 10 x d torsion angle ± 180°/m
Characteristic impedance:	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-2-2 (CAT 5 acc. to EN 50173-1)		
Halogen-free:	acc. to DIN VDE 0472 part 815 + IEC 60754-1		
Oil resistance:	TMPU acc. to DIN VDE 0282 part 10 + HD 22.10		
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page N/14		

item no.	type	no. of cores	cross section AWG	approx. core-ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈kg/km	ohmic resistance at 20°C acc. to VDE 0812 max.Ω/km
06892202	DR PN 689 P Highflex, reeling cable	4	22	1,50	7,9	36,2	82	58,0
06689010	S PN 668 Hybrid	8	22 + 16	1,50 / 2,15	10,0	94,1	158	58,0 / 13,3
06689001	RT PN 668 suitable for robots	4	22	1,50	7,0	36,3	62	58,0

Other dimensions and colours are possible on request.

GE 691 CAT 6 Gigabit Ethernet cable, for flexible applications
S GE 696 CAT 6 Gigabit Ethernet cable, continuously flexible



RoHS

Marking for GE 691 06912604:
SAB BRÖCKSKES · D-VIERSEN · GE 691 CAT6 Gigabit Ethernet Cable 4 x 2 x 26 AWG CE

Construction:	GE 691	S GE 696
Dimension:	4 x 2 x 26 AWG	
Conductor:	tinned copper strands, fine wires	tinned copper strands, extra fine wires
Core insulation:	PE	
Colour code:	white cores with consecutive numbers 1 - 4 (+ blue, orange, green, brown)	
Stranding:	twisted to pairs / pairs wrapped with PETP foil and alu foil	
Wrapping:	non-woven tape	
Screen:	alu foil + tinned copper braiding	
Wrapping:	non-woven tape	
Outer sheath:	PUR	
Sheath colour:	green (similar RAL 6018)	

Technical data:	GE 691	S GE 696
Item number:	0691-2604	0696-2604
Peak operating voltage VDE:	max. 350 V	
Testing voltage:	core/core 1500 V, core/screen 1200 V	
Temperature range VDE fixed laying: flexible application:	- 40°C / + 70°C - 30°C / + 70°C	
Min. bending radius fixed laying: flexible application: continuously flexible:	5 x d 10 x d	5 x d 10 x d 15 x d
Characteristic impedance (1-250 MHz):	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-5-2	
Halogen-free:	acc. to DIN VDE 0472 part 815 + IEC 60754-1	
Oil resistance:	TMPU acc. to DIN VDE 0282 part 10 + HD 22.10	
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page N/14	

item no.	type	no. of pairs	cross section AWG	max. core-ø mm	outer-ø max. mm	copper figure kg/km	cable weight ≈kg/km	ohmic resistance at 20°C acc. to VDE 0812 max.Ω/km
0691-2604	GE 691	4	26	1,50	9,0	39,8	73	145
0696-2604	S GE 696	4	26	1,50	9,0	40,6	74	145

Other dimensions and colours are possible on request.

S GE 696 HT high temperature, CAT 6 Gigabit Ethernet cable, for flexible applications
RT GE 696 Hybrid CAT 6 Gigabit Ethernet cable, suitable for robots

RoHS

Marking for S GE 696 HT:
SAB BRÖCKSKES · D-VIERSEN · S GE 696 HT CAT6 Gigabit Ethernet Cable 4 x 2 x 26 AWG CE

Construction:	S GE 696 HT	RT GE 696 Hybrid
Dimension:	4 x 2 x 26 AWG	4 x 2 x 26 AWG + 4 x 1,0 mm²
Conductor:	tinned copper strands, extra fine wires	bare copper strands, extra fine wires
Core insulation:	PFA	26 AWG: FEP / 1,0 mm²: TPE
Colour code:	white cores with consecutive numbers 1 - 4 (+ blue, orange, green, brown)	26 AWG: white-blue/blue, white-orange/orange, white-green/green, white-brown/brown, 1,0 mm²: black cores with consecutive numbers acc. to EN 50334
Stranding:	cores twisted to pairs	
Wrapping:	twisted to pairs with alu foil + overall PTFE foil	26 AWG pairwise with alu foil
Screen:	alu foil + tinned copper braiding	pairs 26 AWG: tinned copper braiding
Wrapping:	---	26 AWG (pairs white-green/green and white-blue/blue): PTFE foil
Inner sheath:	---	26 AWG (pairs white-orange/orange and white-brown/brown): TPE, black (similar RAL 9005)
Stranding:	---	in layers
Wrapping:	---	non-woven tape
Outer sheath:	Special Besilen®	PUR
Sheath colour:	green (similar RAL 6018)	black (similar RAL 9005)

Technical data:	S GE 696 HT	RT GE 696 Hybrid
Item number:	3696-2604	0696-9002
Peak operating voltage VDE:	max. 350 V	26 AWG: max. 350 V
Nominal voltage:	---	1,0 mm²: 300/500 V
Testing voltage:	core/core 1500 V, core/screen 1200 V	core/core 26 AWG: 1500 V 1,0 mm²: 2000 V core/screen 26 AWG: 1200 V
Temperature range VDE fixed laying: flexible application: short-time use:	- 40°C / + 180°C - 25°C / + 180°C + 250°C	- 50°C / + 90°C - 40°C / + 90°C
Min. bending radius fixed laying: flexible application: continuously flexible:	7,5 x d 10 x d 15 x d	5 x d 10 x d
Characteristic impedance (1-250 MHz):	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-5-2	26 AWG: 100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-5-2
Oil resistance:	---	TMPU acc. to DIN VDE 0207 part 363-10-2
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page N/14	

item no.	type	no. of pairs	cross section AWG	max. core-ø mm	outer-ø max. mm	copper figure kg/km	cable weight ≈kg/km	ohmic resistance at 20°C acc. to EN 50288-5-2 max.Ω/km
3696-2604	S GE 696 HT	8	26 AWG	1,50	9,4	40,4	105	145
0696-9002	RT GE 696 Hybrid	12	26 AWG 1,0 mm²	26 AWG: 1,50	12,6	105,5	190	26 AWG: 145 1,0 mm²: 19,5

Other dimensions and colours are possible on request.

SAB BRÖCKSKES

Cables for photovoltaic systems

www.sab-worldwide.com

SAB BRÖCKSKES

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

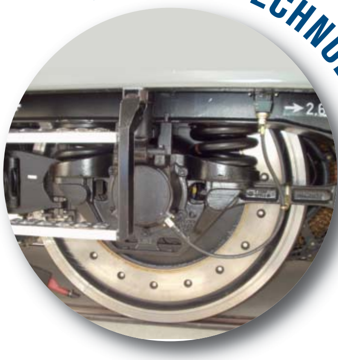
certificates and approvals:
- quality management system acc. to ISO 9001:2008 for every manufacturing field
- environmental management system acc. to ISO 14001:2004
- occupational health and safety management acc. to NLF/ILO-OSH 2001 and OHSAS 18001:2007
- energy management system acc. to DIN EN 16001:2009

JET

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

ROBOT INDUSTRY

RAILWAY TECHNOLOGY



AUTOMATION

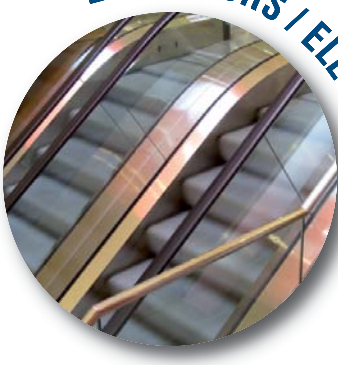
MEDICAL TECHNOLOGY

AUTOMOBILE INDUSTRY

SOLAR TECHNOLOGY

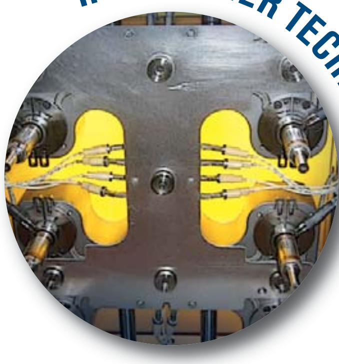
STEEL INDUSTRY

ESCALATORS / ELEVATORS



WIND POWER

HOT RUNNER TECHNIQUE



B 110361971005

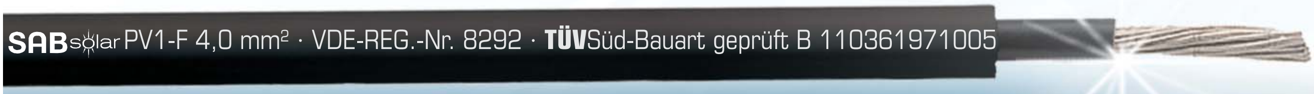
The requirements acc. to the VDE application prescriptions VDE-AR-E 2283-4 are fulfilled.

RoHS

SABsolar PV1-F halogen-free cable for photovoltaic systems

VDE-REG. no. 8292

+120 °C



Marking for SABsolar PV1-F 71913386:
SAB BRÖCKSKES · D-VIERSEN · SABsolar PV1-F 4,0 mm² · VDE-REG.-Nr. 8292 · TÜVSüd-Bauart geprüft B 110361971005 CE

Construction:

Conductor :	tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Primary insulation:	SABIX® solar
Color code primary insulation:	see table below
Secondary insulation:	SABIX® solar
Color code secondary insulation:	see table below

Outstanding features:

- fulfills the requirements acc. to the VDE application prescriptions VDE-AR-E 2283-4
- halogen-free
- no flame propagation
- flame retardant and self-extinguishing
- up to +120 °C
- weather resistant
- sunlight resistance
- with improved fire performance
- expected service life: up to 25 years
- very good resistance against acids and alkaline solutions
- ammonia resistance
- absence of marten attractants

Technical data:

Nominal voltage Uo/U:	0,6/1 kV (AC)
Testing voltage:	6500 V (AC)
Min. bending radius Ø ≤ 12 mm: Ø > 12 mm:	 3 x d 4 x d
Temperature range	**VDE-REG.-no. 8292 as well as TÜV SÜD type tested B 110361971005:**
for ambient temperature:	up to +90 °C
maximum temperature at the conductor:	+120 °C
for installation:	-30/+120 °C
fixed laying:	-40/+120 °C
short circuit:	+250 °C
Halogen-free :	without hydrogen chloride acc. to EN 50267-2-1, without fluorine content acc. to EN 60684-2
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
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 +EN 60332-1-2
Sunlight resistance:	yes
Weather resistance:	very good
Ozone resistance:	acc. to EN 50396
Ammonia resistance:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union

item no.	nominal cross-section mm²	outer-ø max. mm	copper figure kg/km	cable weight ≈ kg/km
7191 .. 82	1,50	5,0	14,4	39
7191 .. 84	2,50	5,4	24,0	50
7191 .. 86	4,00	5,6	38,4	67
7191 .. 87	6,00	6,2	57,6	95
7191 .. 88	10,0	8,9	96,0	162
7191 .. 89	16,0	10,3	153,6	234
7191 .. 90	25,0	12,5	240,0	353
7191 .. 91	35,0	13,9	236,0	463

Other dimensions are possible on request.

Marking for primary insulation and secondary insulation

Primary insulation / secondary insulation	
33 black / black	38 black / red
32 black / blue	83 red / black
88 red / red	22 blue / blue
23 blue / black	Other colours are possible on request.

suitable for protecting class II

TÜV SÜD
Production monitored · Type tested
Produktion überwacht · Bauart geprüft
B 110361971005

SABsolar PV1-F dual halogen-free twin cable for photovoltaic systems

The requirements acc. to the VDE application prescriptions VDE-AR-E 2283-4 are fulfilled.

RoHS

VDE-REG. no. 8292

+120 °C

Marking for SABsolar PV1-F dual 71918317:
SAB BRÖCKSKES · D-VIERSEN · SABsolar PV1-F 2x6,0 mm² · VDE-REG.-Nr. 8292 · TÜVSüd-Bauart geprüft B 110361971005 CE

Construction:

Conductor :	tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Primary insulation:	SABIX® solar
Color code primary insulation:	black / red or black / blue
Secondary insulation:	SABIX® solar
Color code secondary insulation:	black

Outstanding features:

- fulfills the requirements acc. to the VDE application prescriptions VDE-AR-E 2283-4
- halogen-free
- no flame propagation
- flame retardant and self-extinguishing
- up to +120 °C
- weather resistant
- sunlight resistance
- with improved fire performance
- expected service life: up to 25 years
- very good resistance against acids and alkaline solutions
- ammonia resistance
- absence of marten attractants

Technical data:

Nominal voltage Uo/U:	0,6/1 kV (AC)
Testing voltage:	6500 V (AC)
Min. bending radius Ø ≤ 12 mm: Ø > 12 mm:	 3 x d 4 x d
Temperature range	**VDE-REG.-no. 8292 as well as TÜV SÜD type tested B 110361971005:**
for ambient temperature:	up to +90 °C
maximum temperature at the conductor:	+120 °C
for installation:	-30/+120 °C
fixed laying:	-40/+120 °C
short circuit:	+250 °C
Halogen-free :	without hydrogen chloride acc. to EN 50267-2-1, without fluorine content acc. to EN 60684-2
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
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 +EN 60332-1-2
Sunlight resistance:	yes
Weather resistance:	very good
Ozone resistance:	acc. to EN 50396
Ammonia resistance:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union

item no.	no. of conductors	nominal cross-section mm²	outer-ø approx. mm	copper figure kg/km	cable weight ≈ kg/km
7191 .. 16	2	4,00	6,0 x 11,9	76,8	140
7191 .. 17	2	6,00	6,9 x 13,8	115,2	190
7191 .. 18	2	10,0	8,7 x 17,4	192,0	323

Other dimensions are possible on request.

Marking for primary insulation and secondary insulation	
Primary insulation / secondary insulation	
83 red / black	23 blue / black
Other colours are possible on request.	

suitable for protecting class II

SAB BRÖCKSKES

SABsolar PV Wire

halogen-free cable
for photovoltaic systems

Photovoltaic Wire

Service-Entrance Cable

RoHS

Marking for SABsolar PV Wire 71813386:
SAB BRÖCKSKES · D-VIERSEN · SABsolar 12 AWG (UL) · Photovoltaic Wire 600V 90°C dry 90°C wet sunlight-resistant -40°C (UL) Service-Entrance Cable Type USE-2 600V Single Conductor CE

Construction:

Conductor :	tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5 and UL standard 758 table 5.1 + UL 1581 table 20.1
Primary insulation:	SABIX® solar
Color code primary insulation:	see table below
Secondary insulation:	SABIX® solar
Color code secondary insulation:	see table below

Outstanding features:

- **UL Subject 4703 PV Wire**
- **UL 854 USE-2**
- **halogen-free**
- **flame retardant and self-extinguishing**
- **weather resistant**
- **sunlight resistance**
- **very good resistance against acids and alkaline solutions**
- **connection cable for photovoltaic modules acc. to NEC Section 690.31 (A)**
- **ammonia resistance**
- **absence of marten attractants**

Technical data:

Nominal voltage:	600 V (AC)
Testing voltage:	3000 V (AC)
Min. bending radius Ø ≤ 12 mm: Ø > 12 mm:	3 x d 4 x d
Temperature range *for ambient temperature:*	-40°C/+90 °C
Halogen-free :	without hydrogen chloride acc. to EN 50267-2-1, without fluorine content acc. to EN 60684-2
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.
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 +EN 60332-1-2 and (UL) FT1
Sunlight resistance:	yes
Weather resistance:	very good
Ozone resistance:	acc. to EN 50396
Ammonia resistance:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union

item no.	AWG	outer-ø max. mm	copper figure kg/km	cable weight ≈ kg/km
7181 .. 86	12	6,6	38,4	77
7181 .. 87	10	7,1	57,6	97
7181 .. 88	8	8,9	84,5	151

Other dimensions are possible on request.

Marking for primary insulation and secondary insulation

Primary insulation / secondary insulation	
33 black / black	23 blue / black
63 white / black	83 red / black

Other colours for the primary insulation possible on request.

SAB BRÖCKSKES

TÜV SÜD Production monitored Type tested · Produktion überwacht Bauart geprüft

B 110361971005

RoHS

SABsolar PV1-F with UL

halogen-free cable
for photovoltaic systems

Photovoltaic Wire

Service-Entrance Cable

VDE-REG. no. 8292

The requirements acc. to the VDE application prescriptions VDE-AR-E 2283-4 are fulfilled.

+120 °C

Marking for SAB solar PV1-F with UL 71913346:
SAB BRÖCKSKES · D-VIERSEN · SAB solar PV1-F 4,0 mm² · VDE-REG.-Nr. 8292 · TÜV Süd-Bauart geprüft B 110361971005
AWG12 (UL) Photovoltaic Wire 600V 90°C dry 90°C wet sunlight-resistant -40°C (UL) Service-Entrance Cable Type USE-2 600V Single Conductor CE

Construction:

Conductor :	tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5 and UL standard 758 table 5.1 + UL 1581 table 20.1
Primary insulation:	SABIX® solar
Color code primary insulation:	see table below
Secondary insulation:	SABIX® solar
Color code secondary insulation:	see table below

Outstanding features:

- **fulfills the requirements acc. to the VDE application prescriptions VDE-AR-E 2283-4**
- **UL Subject 4703 PV Wire**
- **UL 854 USE-2**
- **halogen-free**
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **up to +120 °C**
- **weather resistant**
- **sunlight resistance**
- **with improved fire performance**
- **expected service life: up to 25 years**
- **very good resistance against acids and alkaline solutions**
- **connection cable for photovoltaic modules acc. to NEC Section 690.31 (A)**
- **ammonia resistance**
- **absence of marten attractants**

Technical data:

Nominal voltage Uo/U:	0,6/1 kV (AC)	**(UL):** 600 V (AC)
Testing voltage:	6500 V (AC)	**(UL):** 3000 V (AC)
Min. bending radius Ø ≤ 12 mm: Ø > 12 mm:	 3 x d 4 x d	
Temperature range	**VDE-REG.-no. 8292 as well as TÜV SÜD type tested B 110361971005:**	
for ambient temperature:	up to +90 °C	**(UL):** -40°C/+90°C
maximum temperature at the conductor:	+120 °C	
for installation:	-30/+120 °C	
fixed laying:	-40/+120 °C	
short circuit:	+250 °C	
Halogen-free :	without hydrogen chloride acc. to EN 50267-2-1, without fluorine content acc. to EN 60684-2	
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	
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 +EN 60332-1-2 and (UL) FT1	
Sunlight resistance:	yes	
Weather resistance:	very good	
Ozone resistance:	acc. to EN 50396	
Ammonia resistance:	very good	
Absence of harmful substances:	acc. to RoHS directive of the European Union	

item no.	nominal cross-section mm²	outer-ø mm	copper figure kg/km	cable weight ≈ kg/km
7191 .. 46	4,00	6,8	38,4	79
7191 .. 47	6,00	7,5	57,6	114

Other dimensions are possible on request.

Marking for primary insulation and secondary insulation	
Primary insulation / secondary insulation	
33 black / black	83 red / black
23 blue / black	63 white / black
Other colours are possible on request.	

suitable for protecting class II

SAB BRÖCKSKES

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

SAB Bröckskes GmbH & Co. KG · Grefrather Str. 204 - 212 b · 41749 Viersen · GERMANY
Tel.: +49/2162/898-0 · Fax: +49/2162/898-101 · www.sab-worldwide.com · info@sab-broeckskes.de

Cables for Railway Technology

www.sab-worldwide.com

SAB BRÖCKSKES

Content

In case that you don't find a suitable cable for your special application, we are always prepared to design a cable according to your individual construction requirements.

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 m^2 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

JET

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

Verification of Burning Characteristics

Verification of Burning Characteristics

DIN 5510-2 (May 2009) Table 6
Requirements for electrical cables (normative extract)

No.	Vehicle parts requiring verification	Fire protection level acc. to DIN 5510-1	Test standard
1	Cables, including data cables (fibre optic cables, data bus cables, coaxial cables)	1 to 4	DIN EN 60332-1-2 (1 kW-flame) or DIN EN 60332-2-2 (blazing flame)
2	Cables (without data cables[1])	2 to 4	DIN EN 50266-2-4 for cable diameter ≥ 12 mm, test method C DIN EN 50266-2-5 for cable diameter > 6mm < 12mm, test method D DIN EN 50266-2-5 for cable diameter ≤ 6mm, test method D – Burning test on ladder –
3	Cables, including data cables (fibre optic cables, data bus cables, coaxial cables)	2 to 4	DIN EN 61034-1 (smoke density test)

Verification of smoke gas toxicity

According to DIN EN 50305 or DIN 5510-2 table C.3

[1]In order to reach a higher planning reliability for our customers also the data cables have been fully certified according to DIN 5510-2.

CURRENTA

CURRENTA GmbH & Co. OHG
SER ANT Brandtechnologie
CHEMPARK, Gebäude B411
51368 Leverkusen

3. November 2009

Prüfbericht	09/1088
Prüfung	DIN EN 60332-1-2: 06-2005 Prüfungen an Kabeln, isolierten Leitungen und Glasfaserkabeln im Brandfall – Teil 1-2: Prüfung der vertikalen Flammenausbreitung an einer Ader, einer isolierten Leitung oder einem Kabel – Prüfverfahren mit 1-kW-Flamme mit Gas/Luft-Gemisch (IEC 60332-1-2:2004); Deutsche Fassung EN 60332-1-2:2004
Klassifizierung	DIN EN 60332-1-2: 06-2005 Prüfungen an Kabeln, isolierten Leitungen und Glasfaserkabeln im Brandfall – Teil 1-2: Prüfung der vertikalen Flammenausbreitung an einer Ader, einer isolierten Leitung oder einem Kabel – Prüfverfahren mit 1-kW-Flamme mit Gas/Luft-Gemisch (IEC 60332-1-2:2004); Deutsche Fassung EN 60332-1-2:2004
Auftraggeber	SAB Bröckskes GmbH & Co. KG Herr Skambraks Grefrather Straße 204-212b 41749 Viersen
Material	SABIX R 615 FRNC
Nenndicke	3,7 mm

Prüfergebnis

In der Prüfung vom 2009-10-21 wurden die Anforderung nach DIN EN 60332-1-2 erfüllt.

Michael Halfmann
(Leiter Brandtechnologie)

CURRENTA Brandtechnologie

Günter Strompen
(Sachbearbeiter Brandtechnologie)

Deutscher Akkreditierungs Rat

Die CURRENTA Brandtechnologie ist nach DIN EN ISO/IEC 17025 für alle Prüfarten im Bereich Brandprüfungen akkreditiert. Die Brandtechnologie ist für brandschutztechnische Prüfungen durch das Eisenbahn-Bundesamt (EBA) und für den europäischen Schienenverkehr vom Eisenbahn-Cert (EBC) sowie für den französischen Schienenverkehr durch CERTIFER anerkannt. Diese Ergebnisse gelten nur für das Verhalten der repräsentativen Probekörper unter den besonderen Bedingungen der Prüfung; sie sind nicht als das alleinige Kriterium zur Beurteilung der potentiellen ... Genehmigung erlaubt.

CURRENTA GmbH & Co. OHG
SER ANT Brandtechnologie
CHEMPARK, Gebäude B411
51368 Leverkusen

CURRENTA

2. Dezember 2009

Prüfbericht	09/1291
Prüfung	EN 50266-2-4 : 2001 Prüfung der senkrechten Flammenausbreitung von senkrecht angeordneten Bündeln von Kabeln und isolierten Leitungen Teil 2-4: Prüfverfahren – Prüfart C
Klassifizierung	DIN 5510-2: 2009 Vorbeugender Brandschutz in Schienenfahrzeugen – Teil 2: Brennverhalten und Brandnebenerscheinungen von Werkstoffen und Bauteilen – Klassifizierung, Anforderungen und Prüfverfahren
Auftraggeber	SAB Bröckskes GmbH & Co. KG Herr Skambraks Grefrather Straße 204-212b 41749 Viersen
Material	SABIX R 615 FRNC
Nenndicke	13,0 mm

Prüfergebnis

In der Prüfung vom 2009-12-01 wurden die Anforderungen nach EN 50266-2-4 und DIN 5510-2, Tabelle 6 erfüllt.

Frank Volkenborn
(stellv. Leiter Brandtechnologie)

CURRENTA Brandtechnologie

Günter Strompen
(Sachbearbeiter Brandtechnologie)

Deutscher Akkreditierungs Rat
DAC-PL-0001-94-20-02
DACH
DAC-PL-0001-94-20-02

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Die auszugsweise Vervielfältigung dieses Prüfberichtes ist nur mit unserer Genehmigung erlaubt.

CURRENTA GmbH & Co. OHG
SER ANT Brandtechnologie
CHEMPARK, Gebäude B411
51368 Leverkusen

CURRENTA

18. November 2009

Prüfbericht	09/1229
Prüfung	EN 50266-2-5 : 2001 Prüfung der senkrechten Flammenausbreitung von senkrecht angeordneten Bündeln von Kabeln und isolierten Leitungen Teil 2-5: Prüfverfahren – Prüfart D
Klassifizierung	DIN 5510-2: 2009 Vorbeugender Brandschutz in Schienenfahrzeugen – Teil 2: Brennverhalten und Brandnebenerscheinungen von Werkstoffen und Bauteilen – Klassifizierung, Anforderungen und Prüfverfahren
Auftraggeber	SAB Bröckskes GmbH & Co. KG Herr Skambraks Grefrather Straße 204-212b 41749 Viersen
Material	SABIX R 615 FRNC
Nenndicke	3,7 mm

Prüfergebnis

In der Prüfung vom 2009-11-11 wurden die Anforderung nach EN 50266-2-5 und DIN 5510-2, Tabelle 6 erfüllt.

Michael Halfmann
(Leiter Brandtechnologie)

CURRENTA Brandtechnologie

Günter Strompen
(Sachbearbeiter Brandtechnologie)

Deutscher Akkreditierungs Rat
DAC-PL-0001-94-20-02
DACH
DAC-PL-0001-94-20-02

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Die auszugsweise Vervielfältigung dieses Prüfberichtes ist nur mit unserer Genehmigung erlaubt.

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CURRENTA

...RRENTA GmbH & Co. OHG
...ER ANT Brandtechnologie
...HEMPARK, Gebäude B411
...1368 Leverkusen

...6. November 2009

Prüfbericht	09/1170
Prüfung	DIN EN 61034-2: 2006 Messung der Rauchdichte von Kabeln und isolierten Leitungen beim Brennen unter definierten Bedingungen – Teil 2: Prüfverfahren und Anforderungen (IEC 61034-2:2005); Deutsche Fassung EN 61034-2:2005
Kassifizierung	DIN 5510-2: 2009 Vorbeugender Brandschutz in Schienenfahrzeugen – Teil 2: Brennverhalten und Brandnebenerscheinungen von Werkstoffen und Bauteilen – Klassifizierung, Anforderungen und Prüfverfahren
Auftraggeber	SAB Bröckskes GmbH & Co. KG Herr Skambraks Grefrather Straße 204-212b 41749 Viersen
Material	SABIX R 615 FRNC
Nenndicke	7,0 mm

Prüfergebnis

In der Prüfung vom 29. Oktober 2009 wurde eine minimale Lichtdurchlässigkeit innerhalb der ersten 20 min nach Prüfbeginn von 94,7 % ermittelt.

Die Anforderungen nach DIN 5510-2, Tabelle 6, wurden erfüllt.

Michael Halfmann
(Leiter Brandtechnologie)

CURRENTA Brandtechnologie

Günter Strompen
(Sachbearbeiter Brandtechnologie)

Deutscher Akkreditierungs Rat
DAC-PL-0001-94-20-02
DACH
DAC-PL-0001-94-20-02

Die CURRENTA Brandtechnologie ist nach DIN EN ISO/IEC 17025 für alle Prüfarten im Bereich Brandprüfungen akkreditiert. Die Brandtechnologie ist für brandschutztechnische Prüfungen durch das Eisenbahn-Bundesamt (EBA) und für den europäischen Schienenverkehr vom Eisenbahn-Cert (EBC) sowie für den französischen Schienenverkehr durch CERTIFER anerkannt.
Diese Ergebnisse gelten nur für das Verhalten der repräsentativen Probekörper unter den besonderen Bedingungen der Prüfung; sie sind nicht als das alleinige Kriterium zur Beurteilung der potentiellen Gefährdung beim Brand des jeweiligen Erzeugnisses geeignet.
Die auszugsweise Vervielfältigung dieses Prüfberichtes ist nur mit unserer Genehmigung erlaubt.

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Selection index for cables for railway technology

		Cable type	SABIX® A 146 FRNC	SABIX® A 156 FRNC	SABIX® R 600 FRNC	SABIX® R 638 FRNC	SABIX® R 605 FRNC	SABIX® R 615 FRNC	SABIX® R 645 FRNC TP	SABIX® R 660 FRNC CAT 5e	SABIX® R 691 FRNC CAT 6	SABIX® A 280 FRNC X	SABIX® A 285 FRNC X
Applications		Single conductor	X	X								X	
		Multi-core cable			X	X	X	X	X	X	X	X	X
		screened				X		X	X	X	X		X
		Wiring cable	X	X								X	
		Data cable					X	X	X				
		Control cable			X	X						X	X
		Ethernet cable								X	X		
		cross linked type										X	X
Standards		tested acc. to DIN 5510-2	X	X	X	X	X	X	X	X	X	X	X
		tested acc. to NF F 16-101										X	X
	Halogen-free	acc. to EN 50306-1 + EN 50264-1 are fulfilled. Development of HCl is < 0,5% acc. to EN 50267-2-1. pH-value is > 4,3 acc. to EN 50267-2-2. Conductivity is < 10,0 µS/mm acc. to EN 50267-2-2. Fluoric content < 0,1% acc. to EN 60684-2.	X	X	X	X	X	X	X			X	X
		acc. to DIN VDE 0472 part 815 + IEC 60754-1								X	X		
	Fire performance	For cable diameter ≥ 12 mm: no flame propagation acc. to EN 50266-2-4. For cable diameter > 6 mm < 12 mm: no flame propagation acc. to EN 50266-2-5 For cable diameter ≤ 6 mm: no flame propagation acc. to EN 50266-2-5 with configuration acc. to EN 50306-1 resp. EN 50264-1. Flame retardant and self-extinguishing acc. to EN 60332-1-2.	X	X	X	X	X	X	X	X	X	X	X
		Burning tests acc. to ASTM E 162-09						X	X				
		acc. to NF C 32-070 C1										X	X
		Toxicity acc. to DIN EN 50305	X	X	X	X	X	X	X			X	X
		Toxicity FED_{t30} < 1 acc. to DIN EN 5510-2 appendix C 3.3								X	X		
		Smoke density acc. to IEC 61034 + EN 61034	X	X	X	X	X	X	X	X	X	X	X
		Smoke density acc. to ASTM E 662-09						X	X				
		Smoke gas index acc. to NF F 16-101 < 20 class F1										X	X
		Absence of harmful substances acc. to RoHS-guideline 2002/95/EG as well as acc. to RoHS directive of the European Union	X	X	X	X	X	X	X	X	X	X	X
Temperature range fixed laying*		+ 125 °C											
		+ 90 °C											
		+ 70 °C											
		– 40 °C											
Voltage		Nominal voltage Uo/U 300/500 V	X		X	X						X	X
		Nominal voltage Uo/U 450/750 V		X									
		Peak operating voltage: < 0,25 mm² = max. 350 V ≥ 0,25 mm² = max. 500 V					X	X	X				
		Peak operating voltage: max. 350 V								X	X		

from

to

*The temperature range for flexible application is mentioned on the particular catalogue page externally tested acc. to DIN 5510-2 edition May 2009

SABIX® A 146 FRNC Wiring cable 300/500 V
SABIX® A 156 FRNC Wiring cable 450/750 V

CEN/TS 45545-2

RoHS

Marking for SABIX® A 146 FRNC 61460150:
SAB BRÖCKSKES · D-VIERSEN · SABIX® A 146 FRNC 300/500V 0,5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	special SABIX®
Colour code:	coloured

Outstanding features:

- halogen-free
- no flame propagation
- flame retardant and self-extinguishing
- very good stripping
- flexible
- fulfils fire protection level 1 - 4 acc. to DIN 5510-1
- externally tested acc. to DIN 5510-2
- fulfils HL1 - HL3 acc. to CEN/TS 45545-2

Technical data:

Nominal voltage:	**SABIX® A 146 FRNC:** Uo/U 300/500 V	**SABIX® A 156 FRNC:** Uo/U 450/750 V
Testing voltage:	**SABIX® A 146 FRNC:** 2000 V	**SABIX® A 156 FRNC:** 2500 V
Min. bending radius: **For one single bend:**	7.5 x d 5 x d	
Temperature range *fixed laying:* *flexible application:*	 -40/+90 °C -30/+90 °C	
Halogen-free:	acc. to EN 50306-1 + EN 50264-1 are fulfilled. Development of HCl is < 0,5% acc. to EN 50267-2-1. pH-value is > 4,3 acc. to EN 50267-2-2. Conductivity is < 10,0 µS/mm acc. to EN 50267-2-2. Fluoric content < 0,1% acc. to EN 60684-2.	
Fire performance:	For cable diameter ≤ 6 mm: no flame propagation acc. to EN 50266-2-5 with configuration acc. to EN 50306-1 resp. EN 50264-1. Flame retardant and self-extinguishing acc. to EN 60332-1-2.	
Toxicity:	acc. to DIN EN 50305 + NF X 70-100-1 + NF X 70-100-2	
Smoke density:	acc. to IEC 61034 + EN 61034	
Flexibility:	good	
Weather resistance:	good	
Absence of harmful substances:	acc. to RoHS directive of the European Union	

SABIX® A 146 FRNC

item no.	nominal cross-section mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
6146 .. 50*	0,50	0,21	2,1	4,8	9
6146 .. 75*	0,75	0,21	2,4	7,2	12
6146 .. 80*	1,00	0,21	2,5	9,6	14

Other colours are possible on request.

SABIX® A 156 FRNC

item no.	nominal cross-section mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
6156 .. 82*	1,50	0,26	3,0	14,4	20
6156 .. 84*	2,50	0,26	3,6	24,0	32
6156 .. 86*	4,00	0,31	4,2	38,4	48
6156 .. 87*	6,00	0,31	4,8	57,6	67

Other colours are possible on request.

*** Colour code for single conductors:**

01 = black	06 = green
02 = blue	07 = violet
03 = brown	08 = white
04 = grey	16 = gentian blue
05 = yellow	27 = green-yellow

tested acc. to DIN 5510-2* edition May 2009

CEN/TS 45545-2*

RoHS

SABIX® R 600 FRNC SABIX® Rail Control with numbered cores

Marking for SABIX® R 600 FRNC 66001215: SAB BRÖCKSKES · D-VIERSEN · SABIX® R 600 FRNC 12 x 1,5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	special 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
Sheath material:	special SABIX®
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **halogen-free**
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **fulfils fire protection level 1 - 4 acc. to DIN 5510-1***
- **tested acc. to DIN 5510-2***
- **fulfils HL1 - HL3 acc. to CEN/TS 45545-2***

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage U:	3000 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d
Temperature range *fixed laying:* *flexible application:*	 -40/+90 °C -30/+90 °C
Halogen-free*:	acc. to EN 50306-1 + EN 50264-1 are fulfilled. Development of HCl is < 0,5% acc. to EN 50267-2-1. pH-value is > 4,3 acc. to EN 50267-2-2. Conductivity is < 10,0 µS/mm acc. to EN 50267-2-2. Fluoric content < 0,1% acc. to EN 60684-2.
Fire performance*:	For cable diameter ≥ 12 mm: no flame propagation acc. to EN 50266-2-4. For cable diameter > 6 mm < 12 mm: no flame propagation acc. to EN 50266-2-5 For cable diameter ≤ 6 mm: no flame propagation acc. to EN 50266-2-5 with configuration acc. to EN 50306-1 resp. EN 50264-1. Flame retardant and self-extinguishing acc. to EN 60332-1-2.
Toxicity*:	acc. to DIN EN 50305 + NF X 70-100-1 + NF X 70-100-2
Smoke density*:	acc. to IEC 61034 + EN 61034
Flexibility:	good
Absence of harmful substances:	acc. to RoHS directive of the European Union

* Tested at the reference types SABIX® R 615 FRNC and SABIX® R 645 FRNC TP
Burning test on ladder internally performed.

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
66000205	2 x 0,50	0,21	4,8	9,6	33
66000305	3 x 0,50	0,21	5,1	14,4	38
66000405	4 x 0,50	0,21	5,5	19,2	46
66000505	5 x 0,50	0,21	6,2	24,0	57
66000705	7 x 0,50	0,21	6,7	33,6	69
66001005	10 x 0,50	0,21	8,6	48,0	96
66001205	12 x 0,50	0,21	9,1	57,6	110
66001805	18 x 0,50	0,21	10,7	86,4	169
66002505	25 x 0,50	0,21	12,9	120,0	221
66003205	32 x 0,50	0,21	14,0	153,6	287
66004205	42 x 0,50	0,21	15,7	201,6	365
66006105	61 x 0,50	0,21	18,5	292,8	510
66000207	2 x 0,75	0,21	5,4	14,4	44
66000307	3 x 0,75	0,21	5,7	21,6	51
66000407	4 x 0,75	0,21	6,4	28,8	63
66000507	5 x 0,75	0,21	7,0	36,0	77
66000707	7 x 0,75	0,21	7,8	50,4	96
66001007	10 x 0,75	0,21	10,0	72,0	144
66001207	12 x 0,75	0,21	10,5	86,4	163
66001807	18 x 0,75	0,21	12,4	129,6	230
66002507	25 x 0,75	0,21	15,1	180,0	316
66003207	32 x 0,75	0,21	16,4	230,4	388
66004207	42 x 0,75	0,21	18,4	302,4	515
66006107	61 x 0,75	0,21	21,6	439,2	721
66000210	2 x 1,00	0,21	5,6	19,2	50
66000310	3 x 1,00	0,21	6,1	28,8	62
66000410	4 x 1,00	0,21	6,6	38,4	76
66000510	5 x 1,00	0,21	7,5	48,0	94
66000710	7 x 1,00	0,21	8,1	67,2	117
66001010	10 x 1,00	0,21	10,6	96,0	172
66001210	12 x 1,00	0,21	10,9	115,2	196
66001810	18 x 1,00	0,21	12,9	172,8	280
66002510	25 x 1,00	0,21	15,7	240,0	381
66003210	32 x 1,00	0,21	17,1	307,2	486
66004210	42 x 1,00	0,21	19,4	403,2	616
66006110	61 x 1,00	0,21	22,7	585,6	873
66000215	2 x 1,50	0,26	6,4	28,8	69
66000315	3 x 1,50	0,26	6,8	43,2	81

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
66000415	4 x 1,50	0,26	7,6	57,6	99
66000515	5 x 1,50	0,26	8,3	72,0	124
66000715	7 x 1,50	0,26	9,2	100,8	170
66001015	10 x 1,50	0,26	12,0	144,0	229
66001215	12 x 1,50	0,26	12,4	172,8	263
66001815	18 x 1,50	0,26	14,8	259,2	289
66002515	25 x 1,50	0,26	18,0	360,0	537
66003215	32 x 1,50	0,26	19,5	460,8	661
66004215	42 x 1,50	0,26	22,0	604,8	867
66006115	61 x 1,50	0,26	25,8	878,4	1217
66000225	2 x 2,50	0,26	7,8	48,0	105
66000325	3 x 2,50	0,26	8,9	72,0	127
66000425	4 x 2,50	0,26	9,2	96,0	155
66000525	5 x 2,50	0,26	10,1	120,0	199
66000725	7 x 2,50	0,26	11,2	168,0	252
66001025	10 x 2,50	0,26	14,8	240,0	362
66001225	12 x 2,50	0,26	15,3	288,0	416
66001825	18 x 2,50	0,26	18,2	432,0	615
66002525	25 x 2,50	0,26	22,3	600,0	837
66000340	3 x 4,00	0,31	9,7	115,2	185
66000440	4 x 4,00	0,31	10,8	153,6	234
66000540	5 x 4,00	0,31	12,1	192,0	290
66000740	7 x 4,00	0,31	13,4	268,8	375
66000360	3 x 6,00	0,31	11,4	172,8	270
66000460	4 x 6,00	0,31	12,7	230,4	336
66000560	5 x 6,00	0,31	14,2	288,0	415
66000760	7 x 6,00	0,31	15,7	403,2	545
66000461	4 x 10,0	0,41	16,7	384,0	579
66000561	5 x 10,0	0,41	18,6	480,0	740
66000761	7 x 10,0	0,41	20,7	672,0	960
66000462	4 x 16,0	0,41	20,6	614,4	887
66000562	5 x 16,0	0,41	23,0	768,0	1105
66000762	7 x 16,0	0,41	25,5	1075,2	1445
66000463	4 x 25,0	0,41	24,9	960,0	1388
66000563	5 x 25,0	0,41	28,1	1200,0	1750
66000464	4 x 35,0	0,41	28,8	1344,0	1927
66000564	5 x 35,0	0,41	32,5	1680,0	2413

Other dimensions and colours are possible on request.

SAB BRÖCKSKES

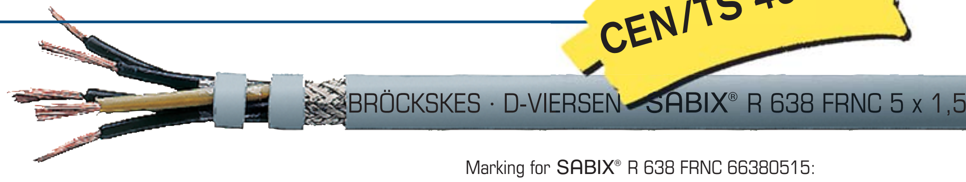
tested acc. to DIN 5510-2* edition May 2009

CEN/TS 45545-2*

SABIX® R 638 FRNC

SABIX® Rail Control with numbered cores and overall copper screen

RoHS



Marking for SABIX® R 638 FRNC 66380515:
SAB BRÖCKSKES · D-VIERSEN · SABIX® R 638 FRNC 5 x 1,5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	special 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:	special SABIX®
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **halogen-free**
- **good EMC characteristics****
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **fulfils fire protection level 1 - 4 acc. to DIN 5510-1***
- **tested acc. to DIN 5510-2***
- **fulfils HL1 - HL3 acc. to CEN/TS 45545-2***

** Copper braiding should be connected circularly to optimize the EMC characteristics

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage U:	3000 V core/screen 2000 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d
Temperature range *fixed laying:* *flexible application:*	 -40/+90 °C -30/+90 °C
Halogen-free*:	acc. to EN 50306-1 + EN 50264-1 are fulfilled. Development of HCl is < 0,5% acc. to EN 50267-2-1. pH-value is > 4,3 acc. to EN 50267-2-2. Conductivity is < 10,0 µS/mm acc. to EN 50267-2-2. Fluoric content < 0,1% acc. to EN 60684-2.
Fire performance*:	For cable diameter ≥ 12 mm: no flame propagation acc. to EN 50266-2-4. For cable diameter > 6 mm < 12 mm: no flame propagation acc. to EN 50266-2-5 For cable diameter ≤ 6 mm: no flame propagation acc. to EN 50266-2-5 with configuration acc. to EN 50306-1 resp. EN 50264-1. Flame retardant and self-extinguishing acc. to EN 60332-1-2.
Toxicity*:	acc. to DIN EN 50305 + NF X 70-100-1 + NF X 70-100-2
Smoke density*:	acc. to IEC 61034 + EN 61034
Flexibility:	good
Absence of harmful substances:	acc. to RoHS directive of the European Union

* Tested at the reference types SABIX® R 615 FRNC and SABIX® R 645 FRNC TP
Burning test on ladder internally performed.

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
66380205	2 x 0,50	0,21	5,3	25,5	38
66380305	3 x 0,50	0,21	5,6	30,7	45
66380405	4 x 0,50	0,21	6,2	48,0	61
66380505	5 x 0,50	0,21	6,7	55,9	70
66380705	7 x 0,50	0,21	7,2	71,1	81
66381205	12 x 0,50	0,21	9,6	108,1	150
66381805	18 x 0,50	0,21	11,4	143,5	206
66382505	25 x 0,50	0,21	13,8	189,7	272
66380207	2 x 0,75	0,21	6,1	31,1	50
66380307	3 x 0,75	0,21	6,4	50,6	61
66380407	4 x 0,75	0,21	6,9	61,1	73
66380507	5 x 0,75	0,21	7,7	73,7	96
66380707	7 x 0,75	0,21	8,3	90,9	121
66381207	12 x 0,75	0,21	11,2	142,4	193
66381807	18 x 0,75	0,21	13,3	197,9	280
66382507	25 x 0,75	0,21	16,2	284,6	395
66380210	2 x 1,00	0,21	6,3	48,0	56
66380310	3 x 1,00	0,21	6,6	58,2	68
66380410	4 x 1,00	0,21	7,1	75,7	94
66380510	5 x 1,00	0,21	8,0	86,1	110
66380710	7 x 1,00	0,21	8,6	108,2	138
66381210	12 x 1,00	0,21	11,8	172,1	226
66381810	18 x 1,00	0,21	13,8	242,1	315
66382510	25 x 1,00	0,21	16,8	346,5	454

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
66380215	2 x 1,50	0,26	6,9	60,7	63
66380315	3 x 1,50	0,26	7,2	80,5	90
66380415	4 x 1,50	0,26	8,1	95,6	110
66380515	5 x 1,50	0,26	9,0	113,2	135
66380715	7 x 1,50	0,26	9,7	151,2	178
66381215	12 x 1,50	0,26	13,9	240,8	300
66381815	18 x 1,50	0,26	15,7	362,3	454
66382515	25 x 1,50	0,26	19,1	492,1	613
66380225	2 x 2,50	0,26	8,3	86,3	100
66380325	3 x 2,50	0,26	9,0	113,0	128
66380425	4 x 2,50	0,26	9,7	146,2	163
66380525	5 x 2,50	0,26	11,0	175,0	215
66380725	7 x 2,50	0,26	12,1	225,1	276
66381225	12 x 2,50	0,26	16,4	392,0	466
66381825	18 x 2,50	0,26	19,3	564,1	666
66382525	25 x 2,50	0,26	23,4	770,1	931
66380440	4 x 4,00	0,31	11,5	210,7	250
66380540	5 x 4,00	0,31	12,8	260,0	309
66380460	4 x 6,00	0,31	13,6	298,4	353
66380560	5 x 6,00	0,31	15,1	358,7	420
66380461	4 x 10,00	0,41	17,8	517,1	616
66380462	4 x 16,00	0,41	21,9	756,0	917

Other dimensions and colours are possible on request.

tested acc. to DIN 5510-2*
edition May 2009

CEN/TS 45545-2*

SABIX® R 605 FRNC SABIX® Rail Data

RoHS

Marking for SABIX® R 605 FRNC 66053250:
SAB BRÖCKSKES · D-VIERSEN · SABIX® R 605 FRNC 32 x 0,5 mm² CE

Construction:

Conductor:	bare copper strands with reference to IEC 60228, EN 6028, VDE 0295, class 5
Insulation:	special SABIX®
Colour code:	with reference to DIN 47100
Stranding:	in layers
Wrapping:	PETP foil
Sheath material:	special SABIX®
Sheath colour:	grey (RAL 7032)

Outstanding features:

- **halogen-free**
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **fulfils fire protection level 1 - 4 acc. to DIN 5510-1***
- **tested acc. to DIN 5510-2***
- **fulfils HL1 - HL3 acc. to CEN/TS 45545-2***

Technical data:

Peak operating voltage:	< 0.25 mm² = max. 350 V ≥ 0.25 mm² = max. 500 V
Testing voltage:	< 0.25 mm² = 800 V ≥ 0.25 mm² = 1200 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d
Temperature range *fixed laying:* *flexible application:*	 -40/+90 °C -30/+90 °C
Halogen-free*:	acc. to EN 50306-1 + EN 50264-1 are fulfilled. Development of HCl is < 0,5% acc. to EN 50267-2-1. pH-value is > 4,3 acc. to EN 50267-2-2. Conductivity is < 10,0 µS/mm acc. to EN 50267-2-2. Fluoric content < 0,1% acc. to EN 60684-2.
Fire performance*:	For cable diameter ≥ 12 mm: no flame propagation acc. to EN 50266-2-4. For cable diameter > 6 mm < 12 mm: no flame propagation acc. to EN 50266-2-5 For cable diameter ≤ 6 mm: no flame propagation acc. to EN 50266-2-5 with configuration acc. to EN 50306-1 resp. EN 50264-1. Flame retardant and self-extinguishing acc. to EN 60332-1-2.
Toxicity*:	acc. to DIN EN 50305 + NF X 70-100-1 + NF X 70-100-2
Smoke density*:	acc. to IEC 61034 + EN 61034
Flexibility:	good
Absence of harmful substances:	acc. to RoHS directive of the European Union

* Tested at the reference types SABIX® R 615 FRNC and SABIX® R 645 FRNC TP
Burning test on ladder internally performed.

item no.	no. of cores x cross section n x mm²	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
66050214	2 x 0,14	3,1	2,7	13
66050314	3 x 0,14	3,3	4,0	15
66050414	4 x 0,14	3,5	5,4	18
66050514	5 x 0,14	3,8	6,7	21
66050714	7 x 0,14	4,1	9,4	25
66050814	8 x 0,14	5,0	10,8	32
66051214	12 x 0,14	5,3	16,1	38
66051414	14 x 0,14	5,5	18,8	42
66051614	16 x 0,14	6,0	21,5	51
66051814	18 x 0,14	6,3	24,2	56
66052114	21 x 0,14	6,9	28,2	65
66052414	24 x 0,14	7,3	32,3	70
66052714	27 x 0,14	7,7	36,3	80
66053014	30 x 0,14	7,9	40,3	86
66053214	32 x 0,14	8,2	43,0	92
66053614	36 x 0,14	8,5	48,4	101
66054014	40 x 0,14	9,1	53,8	112
66054414	44 x 0,14	9,5	59,1	119
66055014	50 x 0,14	10,3	67,2	142
66056114	61 x 0,14	10,9	82,0	165
66050225	2 x 0,25	3,4	4,8	17
66050325	3 x 0,25	3,6	7,2	20
66050425	4 x 0,25	3,9	9,6	24
66050525	5 x 0,25	4,2	12,0	29
66050725	7 x 0,25	4,6	16,8	35
66050825	8 x 0,25	5,2	19,2	43
66051225	12 x 0,25	6,1	28,8	57
66051425	14 x 0,25	6,4	33,6	64
66051625	16 x 0,25	6,7	38,4	72

item no.	no. of cores x cross section n x mm²	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
66051825	18 x 0,25	7,1	43,2	80
66052125	21 x 0,25	7,9	50,4	96
66052425	24 x 0,25	8,4	57,6	104
66052725	27 x 0,25	8,6	64,8	114
66053025	30 x 0,25	8,9	72,0	125
66053225	32 x 0,25	9,2	76,8	132
66053625	36 x 0,25	10,0	86,4	156
66054025	40 x 0,25	10,6	96,0	173
66054425	44 x 0,25	11,1	105,6	184
66055025	50 x 0,25	11,6	120,0	204
66056125	61 x 0,25	12,3	146,4	241
66050234	2 x 0,34	4,0	6,5	24
66050334	3 x 0,34	4,2	9,8	27
66050434	4 x 0,34	4,6	13,1	33
66050534	5 x 0,34	5,0	16,3	40
66050734	7 x 0,34	5,5	22,8	49
66050834	8 x 0,34	6,5	26,1	63
66051234	12 x 0,34	7,3	39,2	80
66051434	14 x 0,34	7,9	45,7	94
66051634	16 x 0,34	8,3	52,2	106
66051834	18 x 0,34	8,8	58,8	117
66052134	21 x 0,34	10,0	68,5	146
66052434	24 x 0,34	10,6	78,3	157
66052734	27 x 0,34	10,8	88,1	172
66053034	30 x 0,34	11,2	97,9	187
66053234	32 x 0,34	11,6	104,4	199
66053634	36 x 0,34	12,1	117,5	220
66054034	40 x 0,34	12,9	130,6	244
66054434	44 x 0,34	13,5	143,6	261

Continued on next page

SAB BRÖCKSKES

tested acc. to DIN 5510-2* edition May 2009

CEN/TS 45545-2*

SABIX® R 605 FRNC SABIX® Rail Data

RoHS

Marking for SABIX® R 605 FRNC 66053250:
SAB BRÖCKSKES · D-VIERSEN · SABIX® R 605 FRNC 32 x 0,5 mm² CE

item no.	no. of cores x cross section n x mm²	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
66055034	50 x 0,34	14,5	163,2	304
66056134	61 x 0,34	15,4	199,1	358
66050250	2 x 0,50	4,3	9,6	28
66050350	3 x 0,50	4,5	14,4	33
66050450	4 x 0,50	4,9	19,2	40
66050550	5 x 0,50	5,4	24,0	49
66050750	7 x 0,50	6,1	33,6	63
66050850	8 x 0,50	7,1	38,4	79
66051250	12 x 0,50	8,1	57,6	102
66051450	14 x 0,50	8,5	67,2	115
66051650	16 x 0,50	9,0	76,8	131
66051850	18 x 0,50	9,5	86,4	145
66052150	21 x 0,50	10,9	100,8	180
66052450	24 x 0,50	11,5	115,2	195
66052750	27 x 0,50	11,7	129,6	213
66053050	30 x 0,50	12,1	144,0	232
66053250	32 x 0,50	12,6	153,6	248
66053650	36 x 0,50	13,1	172,8	274
66054450	44 x 0,50	15,1	211,2	341
66055050	50 x 0,50	15,7	240,0	411
66056150	61 x 0,50	16,7	292,8	448
66050275	2 x 0,75	4,9	14,4	38
66050375	3 x 0,75	5,2	21,6	45
66050475	4 x 0,75	5,9	28,8	58
66050575	5 x 0,75	6,4	36,0	70
66050775	7 x 0,75	7,0	50,4	87
66050875	8 x 0,75	8,3	57,6	111

item no.	no. of cores x cross section n x mm²	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
66051275	12 x 0,75	9,4	86,4	142
66051475	14 x 0,75	10,3	100,8	170
66051675	16 x 0,75	10,8	115,2	192
66051875	18 x 0,75	11,4	129,6	213
66052175	21 x 0,75	12,5	151,2	248
66052475	24 x 0,75	13,3	172,8	270
66052775	27 x 0,75	13,6	194,4	297
66053075	30 x 0,75	14,5	216,0	339
66053275	32 x 0,75	15,0	230,4	360
66053675	36 x 0,75	15,6	259,2	399
66054075	40 x 0,75	16,7	288,0	443
66054475	44 x 0,75	17,5	316,8	475
66055075	50 x 0,75	18,3	360,0	530
66056175	61 x 0,75	19,8	439,2	648
66050280	2 x 1,00	5,1	19,2	43
66050380	3 x 1,00	5,4	28,8	53
66050480	4 x 1,00	6,1	38,4	68
66050580	5 x 1,00	6,7	48,0	82
66050680	6 x 1,00	7,3	57,6	97
66050780	7 x 1,00	7,3	67,2	104
66050285	2 x 1,50	5,6	28,8	55
66050385	3 x 1,50	6,1	43,2	71
66050485	4 x 1,50	6,7	57,6	87
66050585	5 x 1,50	7,7	72,0	113
66050685	6 x 1,50	8,4	86,4	134
66050785	7 x 1,50	8,4	100,8	144

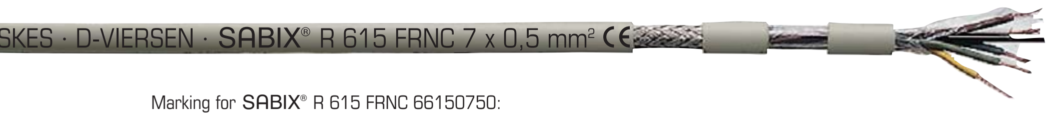
Other dimensions and colours are possible on request.

ASTM E 162-09
ASTM E 662-09

externally tested acc. to DIN 5510-2 edition May 2009

CEN/TS 45545-2

SABIX® R 615 FRNC SABIX® Rail Data with overall copper screen



RoHS

Marking for SABIX® R 615 FRNC 66150750:
SAB BRÖCKSKES · D-VIERSEN · SABIX® R 615 FRNC 7 x 0,5 mm² CE

Construction:

Conductor:	bare copper strands with reference to IEC 60228, EN 6028, VDE 0295, class 5
Insulation:	special SABIX®
Colour code:	with reference to DIN 47100
Stranding:	in layers
Wrapping:	PETP foil
Screen:	tinned copper braiding
Sheath material:	special SABIX®
Sheath colour:	grey (RAL 7032)

Outstanding features:

- **halogen-free**
- **good EMC characteristics***
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **fulfils fire protection level 1 - 4 acc. to DIN 5510-1**
- **externally tested acc. to DIN 5510-2**
- **tested acc. to American ASTM standard**
- **fulfils HL1 - HL3 acc. to CEN/TS 45545-2**

* Copper braiding should be connected circularly to optimize the EMC characteristics

Technical data:

Peak operating voltage:	< 0.25 mm² = max. 350 V ≥ 0.25 mm² = max. 500 V
Testing voltage:	< 0.25 mm² = 800 V ≥ 0.25 mm² = 1200 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d
Temperature range *fixed laying:* *flexible application:*	 -40/+90 °C -30/+90 °C
Halogen-free:	acc. to EN 50306-1 + EN 50264-1 are fulfilled. Development of HCl is < 0,5% acc. to EN 50267-2-1. pH-value is > 4,3 acc. to EN 50267-2-2. Conductivity is < 10,0 µS/mm acc. to EN 50267-2-2. Fluoric content < 0,1% acc. to EN 60684-2.
Fire performance:	For cable diameter ≥ 12 mm: no flame propagation acc. to EN 50266-2-4. For cable diameter > 6 mm < 12 mm: no flame propagation acc. to EN 50266-2-5 For cable diameter ≤ 6 mm: no flame propagation acc. to EN 50266-2-5 with configuration acc. to EN 50306-1 resp. EN 50264-1. Flame retardant and self-extinguishing acc. to EN 60332-1-2. Burning tests acc. to ASTM E 162-09.
Toxicity:	acc. to DIN EN 50305 + NF X 70-100-1 + NF X 70-100-2
Smoke density:	acc. to IEC 61034 + EN 61034 + ASTM E 662-09
Flexibility:	good
Absence of harmful substances:	acc. to RoHS directive of the European Union

item no.	no. of cores x cross section n x mm²	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
66150214	2 x 0,14	3,6	12,6	21
66150314	3 x 0,14	3,8	14,1	22
66150414	4 x 0,14	4,0	15,9	24
66150514	5 x 0,14	4,3	19,5	29
66150714	7 x 0,14	4,6	24,0	33
66150814	8 x 0,14	5,4	26,0	43
66151014	10 x 0,14	5,8	29,0	47
66151214	12 x 0,14	6,2	32,0	54
66151414	14 x 0,14	6,4	35,0	60
66151614	16 x 0,14	6,7	49,0	67
66151814	18 x 0,14	7,0	54,0	72
66152114	21 x 0,14	7,6	60,0	84
66152414	24 x 0,14	8,0	74,0	89
66152714	27 x 0,14	8,6	85,0	104
66153014	30 x 0,14	8,8	98,0	112
66153214	32 x 0,14	9,1	108,0	118
66153614	36 x 0,14	9,4	117,0	128
66154014	40 x 0,14	10,0	126,0	141
66154414	44 x 0,14	10,6	138,0	162
66155014	50 x 0,14	11,0	150,0	175
66155214	52 x 0,14	11,0	155,0	179
66156114	61 x 0,14	11,6	176,0	203
66150225	2 x 0,25	3,9	15,0	24
66150325	3 x 0,25	4,1	18,0	26
66150425	4 x 0,25	4,4	22,0	31
66150525	5 x 0,25	4,9	25,0	38
66150725	7 x 0,25	5,3	32,0	46
66150825	8 x 0,25	6,1	35,0	58
66151025	10 x 0,25	6,6	42,0	64

item no.	no. of cores x cross section n x mm²	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
66151225	12 x 0,25	6,8	50,0	72
66151425	14 x 0,25	7,1	64,0	80
66151625	16 x 0,25	7,4	71,0	89
66151825	18 x 0,25	7,8	80,0	98
66152125	21 x 0,25	8,8	105,0	122
66152425	24 x 0,25	9,3	115,0	130
66152725	27 x 0,25	9,5	120,0	142
66153025	30 x 0,25	9,8	132,0	152
66153225	32 x 0,25	10,1	138,0	161
66153625	36 x 0,25	10,7	152,0	189
66154025	40 x 0,25	11,3	164,0	209
66154425	44 x 0,25	11,8	180,0	221
66155025	50 x 0,25	12,7	222,0	254
66155225	52 x 0,25	12,7	234,0	260
66156125	61 x 0,25	13,4	287,0	295
66150234	2 x 0,34	4,5	17,0	31
66150334	3 x 0,34	4,9	21,0	36
66150434	4 x 0,34	5,3	25,0	43
66150534	5 x 0,34	5,7	30,0	51
66150734	7 x 0,34	6,4	42,0	63
66150834	8 x 0,34	7,2	45,0	78
66151034	10 x 0,34	7,8	63,0	87
66151234	12 x 0,34	8,0	70,0	97
66151434	14 x 0,34	8,8	78,0	118
66151634	16 x 0,34	9,2	87,0	129
66151834	18 x 0,34	9,7	108,0	144
66152134	21 x 0,34	10,7	127,0	177
66152434	24 x 0,34	11,3	140,0	193
66152734	27 x 0,34	11,5	151,0	207

Continued on next page

SAB BRÖCKSKES

ASTM E 162-09
ASTM E 662-09

externally tested acc. to DIN 5510-2 edition May 2009

CEN/TS 45545-2

SABIX® R 615 FRNC SABIX® Rail Data with overall copper screen

RoHS

Marking for SABIX® R 615 FRNC 66150750:
SAB BRÖCKSKES · D-VIERSEN · SABIX® R 615 FRNC 7 x 0,5 mm² CE

item no.	no. of cores x cross section n x mm²	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
66153034	30 x 0,34	11,9	162,0	222
66153234	32 x 0,34	12,7	171,0	247
66153634	36 x 0,34	13,2	188,0	272
66154034	40 x 0,34	14,0	208,0	301
66154434	44 x 0,34	14,6	223,0	319
66155034	50 x 0,34	15,8	248,0	386
66155234	52 x 0,34	15,8	273,0	395
66156134	61 x 0,34	16,7	316,0	366
66150250	2 x 0,50	5,0	23,5	39
66150350	3 x 0,50	5,2	28,4	42
66150450	4 x 0,50	5,6	35,1	50
66150550	5 x 0,50	6,3	41,6	63
66150750	7 x 0,50	6,8	53,1	76
66150850	8 x 0,50	7,8	62,0	94
66151050	10 x 0,50	8,8	74,5	113
66151250	12 x 0,50	9,0	84,2	126
66151450	14 x 0,50	9,4	93,5	139
66151650	16 x 0,50	9,9	105,9	156
66151850	18 x 0,50	10,6	133,9	185
66152150	21 x 0,50	11,6	154,9	220
66152450	24 x 0,50	12,6	169,7	240
66152750	27 x 0,50	12,8	184,2	260
66153050	30 x 0,50	13,2	203,6	283
66153250	32 x 0,50	13,7	213,5	299
66153650	36 x 0,50	14,2	239,0	330
66154450	44 x 0,50	16,4	309,2	422
66155050	50 x 0,50	17,0	349,7	469
66156150	61 x 0,50	18,0	403,7	540

item no.	no. of cores x cross section n x mm²	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
66150275	2 x 0,75	5,6	30,3	48
66150375	3 x 0,75	6,1	37,6	56
66150475	4 x 0,75	6,6	46,5	73
66150575	5 x 0,75	7,1	55,7	81
66150775	7 x 0,75	7,7	74,0	101
66150875	8 x 0,75	9,2	83,8	132
66151275	12 x 0,75	10,5	133,9	179
66151475	14 x 0,75	11,0	148,5	198
66151675	16 x 0,75	11,5	169,2	224
66151875	18 x 0,75	12,4	184,0	257
66152175	21 x 0,75	13,6	211,0	297
66152475	24 x 0,75	14,4	239,1	324
66152775	27 x 0,75	14,7	260,9	352
66153075	30 x 0,75	15,8	313,4	417
66153275	32 x 0,75	16,3	328,3	440
66153675	36 x 0,75	16,9	357,8	479
66150280	2 x 1,00	5,8	35,2	53
66150380	3 x 1,00	6,3	46,4	65
66150480	4 x 1,00	6,8	57,9	78
66150580	5 x 1,00	7,4	69,6	95
66150680	6 x 1,00	8,0	81,3	111
66150780	7 x 1,00	8,0	90,9	117
66150285	2 x 1,50	6,6	46,5	71
66150385	3 x 1,50	6,8	62,7	90
66150485	4 x 1,50	7,4	79,2	98
66150585	5 x 1,50	8,6	95,8	130
66150685	6 x 1,50	9,3	112,7	152
66150785	7 x 1,50	9,3	127,1	162

Other dimensions and colours are possible on request.

ASTM E 162-09
ASTM E 662-09

externally tested
acc. to DIN 5510-2
edition May 2009

CEN/TS 45545-2

SABIX® R 645 FRNC TP

**SABIX® Rail Data,
paired with overall copper screen**

RoHS

Marking for SABIX® R 645 FRNC TP 66450325:
SAB BRÖCKSKES · D-VIERSEN · SABIX® R 645 FRNC TP 3 x 2 x 0,25 mm² CE

Construction:

Conductor:	bare copper strands with reference to IEC 60228, EN 6028, VDE 0295, class 5
Insulation:	special SABIX®
Colour code:	with reference to DIN 47100
Stranding:	pairwise, pairs in layers
Wrapping:	PETP foil
Screen:	tinned copper braiding
Sheath material:	special SABIX®
Sheath colour:	grey (RAL 7032)

Outstanding features:

- **halogen-free**
- **no flame propagation**
- **good EMC characteristics***
- **flame retardant and self-extinguishing**
- **fulfils fire protection level 1 - 4 acc. to DIN 5510-1**
- **externally tested acc. to DIN 5510-2**
- **tested acc. to American ASTM standard**
- **fulfils HL1 - HL3 acc. to CEN/TS 45545-2**
- **good transmission rates and crosstalk attenuation**

* Copper braiding should be connected circularly to optimize the EMC characteristics

Technical data:

Peak operating voltage:	< 0.25 mm² = max. 350 V ≥ 0.25 mm² = max. 500 V
Testing voltage:	< 0.25 mm² = 800 V ≥ 0.25 mm² = 1200 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d
Temperature range *fixed laying:* *flexible application:*	 -40/+90 °C -30/+90 °C
Halogen-free:	acc. to EN 50306-1 + EN 50264-1 are fulfilled. Development of HCl is < 0,5% acc. to EN 50267-2-1. pH-value is > 4,3 acc. to EN 50267-2-2. Conductivity is < 10,0 µS/mm acc. to EN 50267-2-2. Fluoric content < 0,1% acc. to EN 60684-2.
Fire performance:	For cable diameter ≥ 12 mm: no flame propagation acc. to EN 50266-2-4. For cable diameter > 6 mm < 12 mm: no flame propagation acc. to EN 50266-2-5 For cable diameter ≤ 6 mm: no flame propagation acc. to EN 50266-2-5 with configuration acc. to EN 50306-1 resp. EN 50264-1. Flame retardant and self-extinguishing acc. to EN 60332-1-2. Burning tests acc. to ASTM E 162-09.
Toxicity:	acc. to DIN EN 50305 + NF X 70-100-1 + NF X 70-100-2
Smoke density:	acc. to IEC 61034 + EN 61034 + ASTM E 662-09
Flexibility:	good
Absence of harmful substances:	acc. to RoHS directive of the European Union

item no.	no. of pairs x cross section n x 2 x mm²	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
66450214	2 x 2 x 0,14	5,2	19,1	38
66450314	3 x 2 x 0,14	5,7	23,4	44
66450414	4 x 2 x 0,14	6,5	27,8	54
66450514	5 x 2 x 0,14	7,0	31,9	64
66450614	6 x 2 x 0,14	7,2	36,2	71
66450814	8 x 2 x 0,14	7,8	43,4	83
66451014	10 x 2 x 0,14	8,9	50,6	105
66451214	12 x 2 x 0,14	9,7	58,2	121
66451614	16 x 2 x 0,14	10,5	71,4	147
66451814	18 x 2 x 0,14	11,1	92,8	174
66452414	24 x 2 x 0,14	12,8	114,8	223
66450225	2 x 2 x 0,25	5,7	24,9	46
66450325	3 x 2 x 0,25	6,4	31,4	61
66450425	4 x 2 x 0,25	7,2	39,3	72
66450525	5 x 2 x 0,25	7,7	45,8	83
66450625	6 x 2 x 0,25	7,9	50,7	92
66450825	8 x 2 x 0,25	9,0	62,1	119
66451025	10 x 2 x 0,25	9,8	73,9	138
66451225	12 x 2 x 0,25	10,9	101,9	173
66451625	16 x 2 x 0,25	11,9	126,8	213
66451825	18 x 2 x 0,25	12,7	136,6	245
66452425	24 x 2 x 0,25	14,2	170,3	296
66450234	2 x 2 x 0,34	6,8	31,5	63
66450334	3 x 2 x 0,34	7,4	39,7	79
66450434	4 x 2 x 0,34	8,8	49,8	102
66450534	5 x 2 x 0,34	9,5	58,5	121
66450634	6 x 2 x 0,34	9,7	65,1	125
66450834	8 x 2 x 0,34	10,6	80,7	159
66451234	12 x 2 x 0,34	13,4	133,1	248
66451634	16 x 2 x 0,34	14,6	165,0	305
66451834	18 x 2 x 0,34	15,1	178,3	334
66452434	24 x 2 x 0,34	17,6	255,1	449
66450250	2 x 2 x 0,50	7,2	39,3	72
66450350	3 x 2 x 0,50	7,9	50,1	92
66450450	4 x 2 x 0,50	9,4	64,6	119
66450550	5 x 2 x 0,50	10,2	76,3	141
66450650	6 x 2 x 0,50	10,4	86,0	155
66450850	8 x 2 x 0,50	11,4	126,6	179
66451050	10 x 2 x 0,50	13,2	146,5	252
66451250	12 x 2 x 0,50	14,4	175,6	294
66451650	16 x 2 x 0,50	16,3	241,3	380
66451850	18 x 2 x 0,50	16,9	261,0	436
66452450	24 x 2 x 0,50	19,0	330,4	508
66450275	2 x 2 x 0,75	8,5	52,4	102
66450375	3 x 2 x 0,75	9,4	69,4	128
66450475	4 x 2 x 0,75	10,9	101,9	166
66450575	5 x 2 x 0,75	11,7	121,9	201
66450675	6 x 2 x 0,75	12,5	136,5	239
66450875	8 x 2 x 0,75	13,7	170,1	279
66451275	12 x 2 x 0,75	17,1	261,2	419
66451675	16 x 2 x 0,75	18,6	329,9	522
66451875	18 x 2 x 0,75	19,3	369,3	580
66452475	24 x 2 x 0,75	21,8	469,2	714

Other dimensions and colours are possible on request.

SAB BRÖCKSKES

Ethernet cable
CAT 5e + CAT 6

externally tested
acc. to DIN 5510-2*
edition May 2009

SABIX® R 660 FRNC CAT 5e SABIX® Rail CAT 5e
SABIX® R 691 FRNC CAT 6 SABIX® Rail CAT 6

Marking for SABIX® R 660 FRNC CAT 5e 66602202:
SAB BRÖCKSKES · D-VIERSEN · SABIX® R 660 FRNC CAT 5e 2x2x22AWG CE

Construction:	SABIX® R 660 FRNC CAT 5e *flexible*		SABIX® R 691 FRNC CAT 6 *flexible*
Dimension:	2 x 2 x 24 AWG	2 x 2 x 22 AWG	4 x 2 x 26 AWG
Conductor:	tinned copper strands, fine wires		
Core insulation:	PE		
Colour code:	blue, yellow, white, orange		white cores with numbers 1 - 4 (+ blue, orange, green, brown)
Stranding:	in layers		twisted pairs wrapped with PETP foil and alu foil
Wrapping:	PETP foil		non-woven tape
Inner sheath:	special SABIX®		---
Screen:	alu foil and tinned copper braiding		
Outer sheath:	special SABIX®		
Sheath colour:	green (similar RAL 6018)		

Technical data:	SABIX® R 660 FRNC CAT 5e *flexible*		SABIX® R 691 FRNC CAT 6 *flexible*
Item number:	6660-2402	6660-2202	6691-2604
Peak operating voltage VDE:	max. 350 V		
Testing voltage:	core/core 1500 V - core/screen 1200 V		
Temperature range VDE fixed laying: flexible application:	- 40°C / + 70°C - 30°C / + 70°C		
Min. bending radius fixed laying: flexible application:	5 x d 12 x d		
Characteristic impedance:	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-2-2 (CAT 5 acc. to EN 50173-1)		100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-5-2 (CAT 6 acc. to EN 50173-1)
Halogen-free:	acc. to DIN VDE 0472 part 815 + IEC 60754-1		
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1 and EN 60332-1-2, no flame propagation acc. to IEC 60332-3-25, EN 60332-3-25 and EN 50266-2-5 for cable diameter > 6 mm < 12 mm		
Smoke density:	acc. to IEC 61034-1 and EN 61034-1, translucence > 60%		
Toxicity:	FED_{t30} < 1 acc. to DIN EN 5510-2 appendix C 3.3		
Flexibility:	good		
Absence of harmful substances:	acc. to RoHS directive of the European Union		

item no.	type	no. of cores	cross section AWG	core-ø mm	outer-ø mm	copper figure kg/km	cable weight ≈kg/km	ohmic resistance at 20°C acc. to VDE 0812 max. Ω/km
66602402	SABIX® R 660 FRNC CAT 5e	4	24	approx. 1,16	approx. 6,1	19,4	62	83,3
66602202	SABIX® R 660 FRNC CAT 5e	4	22	approx. 1,51	approx. 6,7	34,4	70	58,0
66912604	SABIX® R 691 FRNC CAT 6	8	26	approx. 1,40	max. 9,0	40,6	85	145,0

Other dimensions and colours are possible on request.

Outstanding features:

- **halogen-free**
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **fulfils fire protection level 1 - 4 acc. to DIN 5510-1***
- **externally tested acc. to DIN 5510-2***

* Externally tested at the reference types SABIX® R 660 FRNC CAT 5e 2 x 2 x 22 AWG and SABIX® R 691 FRNC CAT 6.

tested acc. to NF F 16-101 and DIN 5510-2

SABIX® A 280 FRNC X Wiring cable / Control cable

up to +125°C

RoHS

Marking for SABIX® A 280 FRNC X 1 x 1,0 mm²:
SAB BRÖCKSKES · D-VIERSEN · SABIX® A 280 FRNC X 1 x 1,0 mm² CE

Marking for SABIX® A 280 FRNC X 5 x 0,5 mm²:
SAB BRÖCKSKES · D-VIERSEN · SABIX® A 280 FRNC X 5 x 0,5 mm² CE

Construction:

Conductor:	tinned copper strands fine wires acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	special SABIX®
Single conductor: **Colour code:**	white (similar RAL 9010)
Multi-core cable: **Colour code:**	white cores with black numbers acc. to. EN 50334
Multi-core cable: **Stranding:**	in layers
Multi-core cable: **Sheath material:**	special SABIX®
Multi-core cable: **Sheath colour:**	black (RAL 9005)

Outstanding features:

- halogen-free
- no flame propagation
- flame retardant and self-extinguishing
- good ozone resistance
- good oil and chamical resistance
- acc. to NF F 16-101
- fulfils fire protection level 1 - 4 acc. to DIN 5510-1

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage U:	2000 V
Min. bending radius:	5 x d
Temperature range *during protected, fixed laying:*	-40/+125 °C
Halogen-free:	acc. to EN 50306-1 + EN 50264-1 are fulfilled. Development of HCl is < 0,5% acc. to EN 50267-2-1. pH-value is > 4,3 acc. to EN 50267-2-2. Conductivity is < 10,0 µS/mm acc. to EN 50267-2-2. Fluoric content < 0,1% acc. to EN 60684-2.
Fire performance:	nach NF C 32-070 C1. For cable diameter ≥ 12 mm: no flame propagation acc. to EN 50266-2-4. For cable diameter > 6 mm < 12 mm: no flame propagation acc. to EN 50266-2-5 For cable diameter ≤ 6 mm: no flame propagation acc. to EN 50266-2-5 with configuration acc. to EN 50306-1 resp. EN 50264-1. Flame retardant and self-extinguishing acc. to EN 60332-1-2.
Toxicity:	acc. to DIN EN 50305
Smoke density:	acc. to IEC 61034 + EN 61034
Smoke gas index:	NF F 16-101 < 20 class F1
Absence of harmful substances:	acc. to RoHS directive of the European Union

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km	ohmic resistance at 20°C max. Ω/km	heating value approx. kWh/km
62800105	1 x 0,50	0,21	1,7	4,8	7	40,1	13,0
62800305	3 x 0,50	0,21	4,7	14,4	35	40,1	115
62800505	5 x 0,50	0,21	5,8	24,0	50	40,1	170
62800805	8 x 0,50	0,21	7,3	38,4	83	40,1	246
62801005	10 x 0,50	0,21	8,1	48,0	97	40,1	275
62801205	12 x 0,50	0,21	8,4	57,6	112	40,1	306
62800607	6 x 0,75	0,21	7,2	43,2	86	26,7	237
62800807	8 x 0,75	0,21	7,3	57,6	101	26,7	245
62801007	10 x 0,75	0,21	9,4	72,0	133	26,7	345
62800110	1 x 1,00	0,21	2,1	9,6	12	20,0	17,0
62800310	3 x 1,00	0,21	5,5	28,8	55	20,0	149
62800410	4 x 1,00	0,21	6,2	38,4	71	20,0	186
62800610	6 x 1,00	0,21	7,5	57,6	101	20,0	252
62800810	8 x 1,00	0,21	9,0	76,8	135	20,0	338
62801010	10 x 1,00	0,21	10,1	96,0	164	20,0	402
62800115	1 x 1,50	0,21	2,5	14,4	17	13,7	22,5
62800315	3 x 1,50	0,21	6,6	43,2	68	13,7	210
62800125	1 x 2,50	0,26	3,1	24,0	27	8,21	34

Other dimensions and colours are possible on request.

SAB BRÖCKSKES

tested acc. to NF F 16-101 and DIN 5510-2

SABIX® A 285 FRNC X

Control cable with numbered cores and overall copper screen

RoHS

up to +125°C

Marking for SABIX® A 285 FRNC X 5 x 0,5 mm²:
SAB BRÖCKSKES · D-VIERSEN · SABIX® A 285 FRNC X 5 x 0,5 mm² CE

Construction:

Conductor:	tinned copper strands fine wires acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	special SABIX®
Colour code:	white cores with black numbers acc. to. EN 50334
Stranding:	in layers
Wrapping:	PETP foil
Screen:	tinned copper braiding
Sheath material:	special SABIX®
Sheath colour:	black (RAL 9005)

Outstanding features:

- **halogen-free**
- **good EMC characteristics***
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **good ozone resistance**
- **good oil and chamical resistance**
- **acc. to NF F 16-101**
- **fulfils fire protection level 1 - 4 acc. to DIN 5510-1**

* Copper braiding should be connected circularly to optimize the EMC characteristics

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage U:	2000 V
Min. bending radius:	10 x d
Temperature range *during protected, fixed laying:*	-40/+125 °C
Halogen-free:	acc. to EN 50306-1 + EN 50264-1 are fulfilled. Development of HCl is < 0,5% acc. to EN 50267-2-1. pH-value is > 4,3 acc. to EN 50267-2-2. Conductivity is < 10,0 µS/mm acc. to EN 50267-2-2. Fluoric content < 0,1% acc. to EN 60684-2.
Fire performance:	nach NF C 32-070 C1. For cable diameter ≥ 12 mm: no flame propagation acc. to EN 50266-2-4. For cable diameter > 6 mm < 12 mm: no flame propagation acc. to EN 50266-2-5 For cable diameter ≤ 6 mm: no flame propagation acc. to EN 50266-2-5 with configuration acc. to EN 50306-1 resp. EN 50264-1. Flame retardant and self-extinguishing acc. to EN 60332-1-2.
Toxicity:	acc. to DIN EN 50305
Smoke density:	acc. to IEC 61034 + EN 61034
Smoke gas index:	NF F 16-101 < 20 class F1
Absence of harmful substances:	acc. to RoHS directive of the European Union

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km	ohmic resistance at 20°C max. Ω/km	heating value approx. kWh/km
62850305	3 x 0,50	0,21	5,2	30,3	45	40,1	99
62850505	5 x 0,50	0,21	6,3	43,5	68	40,1	154
62850805	8 x 0,50	0,21	7,9	62,2	97	40,1	237
62851005	10 x 0,50	0,21	8,6	74,3	114	40,1	258
62851205	12 x 0,50	0,21	8,9	86,6	127	40,1	288
62850607	6 x 0,75	0,21	7,7	67,0	101	26,7	231
62850807	8 x 0,75	0,21	9,1	86,6	132	26,7	305
62851007	10 x 0,75	0,21	10,4	119,7	172	26,7	381
62850310	3 x 1,00	0,21	6,2	46,5	66	20,0	155
62850610	6 x 1,00	0,21	8,2	83,7	125	20,0	285
62850810	8 x 1,00	0,21	9,8	106,0	160	20,0	366
62851010	10 x 1,00	0,21	10,8	149,9	200	20,0	401

Other dimensions and colours are possible on request.

up to 1,8/3,0 kV

B 107 Besilen® insulated strands

RoHS

Marking for B 107 01071000:
SAB BRÖCKSKES · D-VIERSEN · B 107 · Uo/U 1,8/3 kV

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	Besilen® EI2 acc. to DIN VDE 0282 part 1 and HD 22.1
Colour:	translucent

Outstanding features:

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

Technical data:

Nominal voltage	
4,0 - 6,0 mm²:	Uo/U 1,5/1,5 kV
10,0 - 150,0 mm²:	Uo/U 1,8/3,0 kV
Testing voltage	
4,0 - 6,0 mm²:	4000 V
10,0 - 150,0 mm²:	6000 V
Min. bending radius:	5 x d
Temperature range	
fixed laying:	-40/+180 °C
flexible application:	-25/+180 °C
short-time use:	+250 °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
Corrosiveness of conflagration gases:	IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2 – no development of corrosive conflagration gases
Weather resistance:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union

item no.	nominal cross section mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
01070400	4,00	0,07	5,3	38,4	54
01070600	6,00	0,07	5,7	57,6	73
01071000	10,00	0,07	9,0	96,0	114
01071600	16,00	0,07	9,3	153,6	194
01072500	25,00	0,10	12,0	240,0	331
01073500	35,00	0,10	13,8	336,0	422
01075000	50,00	0,10	15,7	480,0	576
01077000	70,00	0,10	17,7	672,0	771
01079500	95,00	0,10	18,8	912,0	1006
01071200	120,00	0,10	22,0	1152,0	1257
01071500	150,00	0,10	23,7	1440,0	1542

Other dimensions and colours are possible on request.

Besilen® is a specially developed Silicone rubber-based material with good electrical characteristics and it is a registered trademark of SAB BRÖCKSKES GmbH & Co. KG.

up to 1,8/3,0 kV

B 108 Besilen® insulated strands with copper braid

RoHS

Marking for B 108 01081000: SAB BRÖCKSKES · D-VIERSEN · B 108 · Uo/U 1,8/3 kV

Construction:

Conductor:	bare copper strands, extra fine wires
Screen:	bare copper braiding
Insulation:	Besilen® EI2 acc. to DIN VDE 0282 part 1 and HD 22.1
Colour:	translucent

Outstanding features:

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

Technical data:

Nominal voltage	
4,0 - 6,0 mm²:	Uo/U 1,5/1,5 kV
10,0 - 150,0 mm²:	Uo/U 1,8/3,0 kV
Testing voltage	
4,0 - 6,0 mm²:	4000 V
10,0 - 150,0 mm²:	6000 V
Min. bending radius:	5 x d
Temperature range	
fixed laying:	-40/+180 °C
flexible application:	-25/+180 °C
short-time use:	+250 °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
Corrosiveness of conflagration gases:	IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2 – no development of corrosive conflagration gases
Weather resistance:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union

item no.	nominal cross section mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
01080400	4,00	0,07	5,7	53,7	67
01080600	6,00	0,07	6,1	73,3	87
01081000	10,00	0,07	9,4	116,3	164
01081600	16,00	0,07	9,7	174,2	214
01082500	25,00	0,10	12,6	285,9	351
01083500	35,00	0,10	14,4	388,3	468
01085000	50,00	0,10	16,3	542,1	629
01087000	70,00	0,10	18,5	771,8	852
01089500	95,00	0,10	19,6	1023,5	1096
01081200	120,00	0,10	22,8	1285,7	1363
01081500	150,00	0,10	24,5	1593,3	1663

Other dimensions and colours are possible on request.

Besilen® is a specially developed Silicone rubber-based material with good electrical characteristics and it is a registered trademark of SAB BRÖCKSKES GmbH & Co. KG.

acc. to NF C32-070 C1

SABIX® A 224 FRNC C1 Control cable with numbered cores

RoHS

Marking for SABIX® A 224 FRNC C1 62245005
SAB BRÖCKSKES · D-VIERSEN · SABIX® A 224 FRNC C1 50 x 0,5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	SABIX® 233
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	in layers
Sheath material:	SABIX® 233
Sheath colour:	black (RAL 9005)

Outstanding features:

- **halogen-free**
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **NF C32-070 C1**

Technical data:

Nominal voltage:	Uo/U 450/750 V
Testing voltage U:	3000 V
Min. bending radius *fixed laying:* *flexible application:*	 4 x d 6 x d
Temperature range *fixed laying:* *flexible application:*	 -30/+90 °C -20/+90 °C
Halogen-free:	acc. to DIN VDE 0472 part 815 and IEC 60754-1
Fire performance:	no flame propagation acc. to IEC 60332 + EN 50266 cat. C resp. D. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2 + NF C32-070 C1.
Corrosiveness of conflagration gases:	in compliance with IEC 60754-2 and EN 50267-2-2 + VDE 0482 part 267-2-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + EN 61034
Absence of harmful substances:	acc. to RoHS directive of the European Union

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
62240205	2 x 0,50	0,21	5,8	9,6	36
62240305	3 x 0,50	0,21	6,3	14,4	49
62240405	4 x 0,50	0,21	6,8	19,2	59
62240505	5 x 0,50	0,21	7,7	24,0	76
62240705	7 x 0,50	0,21	8,3	33,6	94
62240805	8 x 0,50	0,21	9,8	38,4	118
62240905	9 x 0,50	0,21	10,6	43,2	135
62241005	10 x 0,50	0,21	10,8	48,0	140
62241205	12 x 0,50	0,21	11,1	57,6	159
62241405	14 x 0,50	0,21	11,6	67,2	179
62241605	16 x 0,50	0,21	12,5	76,8	207
62241805	18 x 0,50	0,21	13,1	86,4	228
62242105	21 x 0,50	0,21	14,6	100,8	271
62242505	25 x 0,50	0,21	15,9	120,0	315
62243005	30 x 0,50	0,21	16,6	144,0	369
62243405	34 x 0,50	0,21	18,1	163,2	424
62244005	40 x 0,50	0,21	19,6	192,0	497
62244205	42 x 0,50	0,21	19,6	201,6	514
62245005	50 x 0,50	0,21	21,4	240,0	602
62246105	61 x 0,50	0,21	22,9	292,8	718
62240207	2 x 0,75	0,21	6,4	14,4	45
62240307	3 x 0,75	0,21	7,0	21,6	61
62240407	4 x 0,75	0,21	7,8	28,8	79
62240507	5 x 0,75	0,21	8,5	36,0	95
62240707	7 x 0,75	0,21	9,4	50,4	125
62240807	8 x 0,75	0,21	11,0	57,6	154
62240907	9 x 0,75	0,21	12,0	64,8	178
62241007	10 x 0,75	0,21	12,2	72,0	184
62241207	12 x 0,75	0,21	12,6	86,4	209
62241407	14 x 0,75	0,21	13,2	100,8	236

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
62241607	16 x 0,75	0,21	14,1	115,2	272
62241807	18 x 0,75	0,21	15,0	129,6	308
62242107	21 x 0,75	0,21	16,6	151,2	363
62242507	25 x 0,75	0,21	18,2	180,0	424
62243007	30 x 0,75	0,21	18,8	216,0	487
62243407	34 x 0,75	0,21	20,4	244,8	557
62244007	40 x 0,75	0,21	22,2	288,0	661
62244207	42 x 0,75	0,21	22,2	302,4	685
62245007	50 x 0,75	0,21	24,4	360,0	803
62246107	61 x 0,75	0,21	26,0	439,2	957
62240210	2 x 1,00	0,21	6,8	19,2	53
62240310	3 x 1,00	0,21	7,2	28,8	69
62240410	4 x 1,00	0,21	8,0	38,4	89
62240510	5 x 1,00	0,21	8,8	48,0	108
62240710	7 x 1,00	0,21	9,7	67,2	142
62240810	8 x 1,00	0,21	11,4	76,8	174
62240910	9 x 1,00	0,21	12,4	86,4	200
62241010	10 x 1,00	0,21	12,6	96,0	209
62241210	12 x 1,00	0,21	13,0	115,2	239
62241410	14 x 1,00	0,21	13,8	134,4	277
62241610	16 x 1,00	0,21	14,6	153,6	311
62241810	18 x 1,00	0,21	15,5	172,8	352
62242110	21 x 1,00	0,21	17,2	201,6	415
62242510	25 x 1,00	0,21	18,8	240,0	485
62243010	30 x 1,00	0,21	19,6	288,0	568
62243410	34 x 1,00	0,21	21,3	326,4	649
62244010	40 x 1,00	0,21	23,0	384,0	759
62244210	42 x 1,00	0,21	23,0	403,2	787
62245010	50 x 1,00	0,21	25,4	480,0	953
62246110	61 x 1,00	0,21	27,1	585,6	1116

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SAB BRÖCKSKES

acc. to NF C32-070 C1

SABIX® A 224 FRNC C1 Control cable with numbered cores

RoHS

Marking for SABIX® A 224 FRNC C1 62245005
SAB BRÖCKSKES · D-VIERSEN · SABIX® A 224 FRNC C1 50 x 0,5 mm² CE

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
62240215	2 x 1,50	0,26	7,4	28,8	65
62240315	3 x 1,50	0,26	8,0	43,2	89
62240415	4 x 1,50	0,26	8,7	57,6	111
62240515	5 x 1,50	0,26	9,8	72,0	140
62240715	7 x 1,50	0,26	10,8	100,8	185
62240815	8 x 1,50	0,26	12,7	115,2	226
62240915	9 x 1,50	0,26	13,7	129,6	258
62241015	10 x 1,50	0,26	14,0	144,0	270
62241215	12 x 1,50	0,26	14,4	172,8	309
62241415	14 x 1,50	0,26	15,3	201,6	358
62241615	16 x 1,50	0,26	16,4	230,4	412
62241815	18 x 1,50	0,26	17,2	259,2	456
62242115	21 x 1,50	0,26	19,3	302,4	547
62242515	25 x 1,50	0,26	21,0	360,0	643
62243015	30 x 1,50	0,26	21,7	432,0	743
62243415	34 x 1,50	0,26	23,8	489,6	859
62244015	40 x 1,50	0,26	25,7	576,0	1004
62244215	42 x 1,50	0,26	25,7	604,8	1041
62245015	50 x 1,50	0,26	28,3	720,0	1239
62246115	61 x 1,50	0,26	30,2	878,4	1480
62240225	2 x 2,50	0,26	8,8	48,0	96
62240325	3 x 2,50	0,26	9,5	72,0	132
62240425	4 x 2,50	0,26	10,6	96,0	170
62240525	5 x 2,50	0,26	11,6	120,0	208
62240725	7 x 2,50	0,26	12,8	168,0	275
62240825	8 x 2,50	0,26	15,2	192,0	340
62240925	9 x 2,50	0,26	16,5	216,0	388
62241025	10 x 2,50	0,26	16,8	240,0	407
62241225	12 x 2,50	0,26	17,3	288,0	469
62241425	14 x 2,50	0,26	18,4	336,0	543
62241625	16 x 2,50	0,26	19,6	384,0	622
62241825	18 x 2,50	0,26	20,8	432,0	700
62242125	21 x 2,50	0,26	23,0	504,0	824
62242525	25 x 2,50	0,26	25,3	600,0	971
62240340	3 x 4,00	0,31	11,0	115,2	187
62240440	4 x 4,00	0,31	12,2	153,6	243
62240540	5 x 4,00	0,31	13,6	192,0	304
62240740	7 x 4,00	0,31	15,0	268,8	403
62240360	3 x 6,00	0,31	12,7	172,8	263
62240460	4 x 6,00	0,31	14,1	230,4	341
62240560	5 x 6,00	0,31	15,7	288,0	426
62240760	7 x 6,00	0,31	17,3	403,2	568
62240461	4 x 10,0	0,41	18,0	384,0	566
62240561	5 x 10,0	0,41	25,1	480,0	984
62240761	7 x 10,0	0,41	25,1	672,0	1121
62240462	4 x 16,0	0,41	25,2	614,4	1026
62240562	5 x 16,0	0,41	25,3	768,0	1087
62240762	7 x 16,0	0,41	27,1	1075,2	1403
62240463	4 x 25,0	0,41	24,4	960,0	1273
62240563	5 x 25,0	0,41	27,2	1200,0	1598
62240763	7 x 25,0	0,41	30,2	1680,0	2175
62240464	4 x 35,0	0,41	27,8	1344,0	1750
62240564	5 x 35,0	0,41	31,2	1680,0	2153
62240764	7 x 35,0	0,41	34,5	2352,0	2982
62240465	4 x 50,0	0,41	34,6	1920,0	2465

Other dimensions and colours are possible on request.

Screened version on request!

SABIX® CC 625 FRNC M Control cable with numbered cores

Marking for SABIX CC 625 FRNC M 62521215:
SAB BRÖCKSKES · D-VIERSEN · 62521215 12 x 1,5 mm² SABIX CC 625 FRNC M 16 AWG/12c 62521612
AWM Style 21089 75°C 600V CSA AWM I/II A/B 80°C 600V FT1 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	FRNC
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	in layers
Sheath material:	FRNC
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **halogen-free**
- **UL/CSA approved**
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **flexible**

Technical data:

Nominal voltage:	**UL/CSA:** 600 V **DIN VDE:** Uo/U 300/500 V
Testing voltage:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2
Min. bending radius *fixed laying:* *flexible application:*	 4 x d 6 x d
Temperature range *fixed laying:* *flexible application:*	**UL:** up to +75 °C **CSA:** up to + 80 °C **DIN VDE:** -40/+90 °C -30/+90 °C
Halogen-free:	acc. to DIN VDE 0472 part 815 and IEC 60754-1
Fire performance:	no flame propagation acc. to IEC 60332 + EN 50266 cat. C resp. D. flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, CSA FT1 FT2.
Corrosiveness of conflagration gases:	in compliance with IEC 60754-2 and EN 50267-2-2 + VDE 0472 part 267-2-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + EN 61034
Flexibility:	good
Absence of harmful substances:	acc. to RoHS directive of the European Union

item no.	no. of cores	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
► 20 AWG (15/32) ▪ 0,50 mm²				
62520205	2	5,2	10,3	40
62520305	3	5,5	15,4	47
62520405	4	5,9	20,5	56
62520505	5	6,4	25,6	65
62520705	7	7,0	35,9	83
62520805	8	8,2	41,0	104
62520905	9	8,9	46,1	118
62521005	10	9,1	51,3	120
62521205	12	9,3	61,5	136
62521405	14	9,8	71,8	154
62521605	16	10,5	82,0	177
62521805	18	11,1	92,3	196
62522505	25	13,5	128,2	270
62523005	30	13,9	153,8	310
62523405	34	15,2	174,3	355
62524005	40	16,5	205,1	421
62524105	41	16,5	210,2	428
62526105	61	19,3	312,8	608
► 19 AWG (23/32) ▪ 0,75 mm²				
62520207	2	5,7	14,4	48
62520307	3	6,0	21,6	57
62520407	4	6,5	28,8	69
62520507	5	7,1	36,0	81
62520707	7	7,9	50,4	106
62520807	8	9,3	57,6	132
62520907	9	9,9	64,8	145
62521007	10	10,1	72,0	149
62521207	12	10,6	86,4	175
62521407	14	11,1	100,8	197
62521607	16	11,9	115,2	226
62521807	18	12,5	129,6	250
62522507	25	15,2	180,0	344
62523007	30	15,7	216,0	397
62523407	34	17,1	244,8	453
62524007	40	18,6	288,0	535
62524107	41	18,6	295,2	545
62526107	61	22,0	439,2	786

item no.	no. of cores	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
► 18 AWG (30/32) ▪ 1,00 mm²				
62520210	2	5,9	19,2	54
62520310	3	6,3	28,8	66
62520410	4	6,8	38,4	80
62520510	5	7,5	48,0	97
62520710	7	8,2	67,2	124
62520810	8	9,6	76,8	152
62520910	9	10,5	86,4	173
62521010	10	10,7	96,0	179
62521210	12	11,0	115,2	204
62521410	14	11,5	134,4	231
62521810	18	13,0	172,8	294
62522510	25	15,8	240,0	404
62523010	30	16,6	288,0	477
62523410	34	18,0	326,4	543
62524010	40	19,5	384,0	639
62524110	41	19,5	393,6	675
62526110	61	22,9	585,6	931
► 16 AWG (27-29/30) ▪ 1,50 mm²				
62520215	2	6,5	28,8	69
62520315	3	6,9	43,2	85
62520415	4	7,6	57,6	105
62520515	5	8,3	72,0	129
62520715	7	9,3	100,8	166
62520815	8	10,9	115,2	202
62520915	9	11,8	129,6	228
62521015	10	12,1	144,0	240
62521215	12	12,4	172,8	274
62521415	14	13,0	201,6	311
62521815	18	14,9	259,2	404
62522515	25	18,1	360,0	558
62523015	30	18,7	432,0	647
62523415	34	20,5	489,6	747
62524015	40	22,2	576,0	874
62524115	41	22,2	590,4	883
62526115	61	26,0	878,4	1281

item no.	no. of cores	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
► 14 AWG (46/30) ▪ 2,50 mm²				
62520225	2	7,8	48,0	104
62520325	3	8,3	72,0	128
62520425	4	9,2	96,0	161
62520525	5	10,1	120,0	195
62520725	7	11,2	168,0	257
62520825	8	13,4	192,0	316
62520925	9	14,3	216,0	348
62521025	10	14,8	240,0	375
62521225	12	15,3	288,0	431
62521825	18	18,2	432,0	632
62522525	25	22,3	600,0	871
► 12 AWG (52/28) ▪ 4,00 mm²				
62520340	3	9,7	115,2	188
62520440	4	10,8	153,6	238
62520540	5	12,1	192,0	295
62520740	7	13,4	268,8	388
► 10 AWG (78/28) ▪ 6,00 mm²				
62520360	3	11,4	172,8	271
62520460	4	12,7	230,4	343
62520560	5	14,2	288,0	425
► 8 AWG (77/26) ▪ 10,00 mm²				
62520461	4	17,2	384,0	608
62520561	5	19,3	480,0	756
► 6 AWG (119/26) ▪ 16,00 mm²				
62520462	4	21,1	614,4	909
► 4 AWG (196/26) ▪ 25,00 mm²				
62520463	4	26,5	960,0	1475
► 2 AWG (280/26) ▪ 35,00 mm²				
62520464	4	30,2	1344,0	2004

Weitere Abmessungen und Farben auf Anfrage

SABIX® CC 625 S FRNC M
Control cable with numbered cores and overall copper screen

RoHS

Marking for SABIX CC 625 S FRNC M 62341215:
SAB BRÖCKSKES · D-VIERSEN · 62341215 12 x 1,5 mm² SABIX CC 625 S FRNC M 16 AWG/12c 62341612
AWM Style 21089 75°C 600V CSA AWM I/II A/B 80°C 600V FT1 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	FRNC
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:	FRNC
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **halogen-free**
- **UL/CSA approved**
- **no flame propagation**
- **good EMC characteristics***
- **flame retardant and self-extinguishing**
- **flexible**

* Copper braiding should be connected circularly to optimize the EMC characteristics

Technical data:

Nominal voltage:	**UL/CSA:** 600 V **DIN VDE:** Uo/U 300/500 V
Testing voltage:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2 core/screen 1000 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d
Temperature range *fixed laying:* *flexible application:*	**UL:** up to +75 °C **CSA:** up to + 80 °C **DIN VDE:** -40/+90 °C -30/+90 °C
Halogen-free:	acc. to DIN VDE 0472 part 815 and IEC 60754-1
Fire performance:	no flame propagation acc. to IEC 60332 + EN 50266 cat. C resp. D. flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, CSA FT1.
Corrosiveness of conflagration gases:	in compliance with IEC 60754-2 and EN 50267-2-2 + VDE 047 2 part 267-2-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + EN 61034
Flexibility:	good
Absence of harmful substances:	acc. to RoHS directive of the European Union

item no.	no. of cores	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
► 20 AWG (17/32) · 0,50 mm²				
62340205	2	5,7	20,8	45
62340305	3	6,0	26,0	54
62340405	4	6,4	32,2	64
62340505	5	7,0	38,7	76
62340705	7	7,6	50,3	96
62340805	8	8,9	58,4	121
62340905	9	9,4	63,6	131
62341005	10	9,6	70,6	136
62341205	12	9,8	80,9	152
62341405	14	10,7	103,4	188
62341605	16	11,2	113,8	206
62341805	18	12,0	128,3	234
62342505	25	13,8	168,2	306
62343005	30	15,0	198,0	361
62343405	34	16,3	239,4	429
62344005	40	17,6	278,3	503
62344105	41	17,6	283,4	514
62346105	61	20,2	395,6	693
► 19 AWG (23/32) · 0,75 mm²				
62340207	2	6,2	25,1	52
62340307	3	6,5	33,3	64
62340407	4	7,0	41,8	77
62340507	5	7,8	50,4	94
62340707	7	8,4	67,8	118
62340807	8	9,8	76,9	145
62340907	9	10,8	100,4	181
62341007	10	11,0	103,7	182
62341207	12	11,3	122,2	207
62341407	14	12,0	136,8	235
62341607	16	12,6	151,5	259
62341807	18	13,2	169,3	286
62342507	25	16,3	245,1	416
62343007	30	16,8	281,4	468
62343407	34	18,2	318,5	534
62344007	40	19,7	370,3	625
62344107	41	19,7	377,5	635
62346107	61	22,9	532,4	879

item no.	no. of cores	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
► 18 AWG (30/32) · 1,00 mm²				
62340210	2	6,4	30,9	58
62340310	3	6,8	41,8	73
62340410	4	7,3	51,5	87
62340510	5	8,0	63,7	107
62340710	7	8,9	84,6	139
62340810	8	10,1	96,2	165
62340910	9	11,2	118,2	200
62341010	10	11,4	131,8	210
62341210	12	11,9	151,2	241
62341410	14	12,4	170,6	268
62341810	18	13,9	216,7	340
62342510	25	16,9	312,8	483
62343010	30	17,7	361,3	556
62343410	34	19,1	400,7	629
62344010	40	20,6	467,1	730
62344110	41	20,6	476,7	742
62346110	61	24,0	687,8	1042
► 16 AWG (27-29/30) · 1,50 mm²				
62340215	2	7,0	41,8	71
62340315	3	7,5	57,5	92
62340415	4	8,1	73,4	113
62340515	5	9,0	89,4	139
62340715	7	9,8	120,1	178
62340815	8	11,8	151,1	236
62340915	9	12,5	165,8	259
62341015	10	12,8	183,6	272
62341215	12	13,3	212,5	313
62341415	14	13,9	245,5	354
62341815	18	15,8	324,1	464
62342515	25	19,2	441,8	644
62343015	30	19,8	514,5	734
62343415	34	21,4	581,2	835
62344015	40	23,1	669,4	963
62344115	41	23,1	683,8	972
62346115	61	27,1	992,6	1403

item no.	no. of cores	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
► 14 AWG (46/36) · 2,50 mm²				
62340225	2	8,3	63,8	101
62340325	3	9,0	89,4	136
62340425	4	9,7	115,3	168
62340525	5	11,0	151,7	220
62340725	7	12,1	204,1	286
62340825	8	14,1	236,0	346
62340925	9	15,2	260,4	386
62341025	10	15,7	304,8	428
62341225	12	16,4	353,1	493
62341825	18	19,3	513,9	712
62342525	25	23,4	693,5	965
► 12 AWG (52/28) · 4,00 mm²				
62340340	3	10,6	146,8	205
62340440	4	11,5	189,5	256
62340540	5	12,8	231,6	316
62340740	7	14,1	312,8	412
► 10 AWG (78/28) · 6,00 mm²				
62340360	3	12,3	208,9	284
62340460	4	13,6	270,2	362
62340560	5	15,1	332,3	449
► 8 AWG (77/26) · 10,00 mm²				
62340461	4	18,3	457,8	636
62340561	5	20,2	562,9	783
► 6 AWG (119/26) · 16,00 mm²				
62340462	4	22,2	706,7	927
► 4 AWG (196/26) · 25,00 mm²				
62340463	4	27,4	1074,8	1450
► 2 AWG (280/26) · 35,00 mm²				
62340464	4	31,3	1471,8	1959

Weitere Abmessungen und Farben auf Anfrage

SABIX® CC 625 SH FRNC M

Control cable with numbered cores, inner sheath and overall copper screen

RoHS

Marking for SABIX CC 625 SH FRNC M 62571215:
SAB BRÖCKSKES · D-VIERSEN · 62571215 12 x 1,5 mm² SABIX CC 625 SH FRNC M 16AWG/12c 62571612
AWM Style 21089 75°C 600V CSA AWM I/II A/B 80°C 600V FT1 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	FRNC
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	in layers
Inner sheath:	FRNC
Screen:	tinned copper braiding
Sheath material:	FRNC
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **halogen-free**
- **UL/CSA approved**
- **no flame propagation**
- **good EMC characteristics***
- **flame retardant and self-extinguishing**
- **flexible**

* Copper braiding should be connected circularly to optimize the EMC characteristics

Technical data:

Nominal voltage:	**UL/CSA:** 600 V **DIN VDE:** Uo/U 300/500 V
Testing voltage:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2 core/screen 1000 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d
Temperature range *fixed laying:* *flexible application:*	**UL:** up to +75 °C **CSA:** up to + 80 °C **DIN VDE:** -40/+90 °C -30/+90 °C
Halogen-free:	acc. to DIN VDE 0472 part 815 and IEC 60754-1
Fire performance:	no flame propagation acc. to IEC 60332 + EN 50266 cat. C resp. D. flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2; CSA FT1.
Corrosiveness of conflagration gases:	in compliance with IEC 60754-2 and EN 50267-2-2 + VDE 0482 part 267-2-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + EN 61034
Flexibility:	good
Absence of harmful substances:	acc. to RoHS directive of the European Union

item no.	no. of cores	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
► 20 AWG (17/32) · 0,50 mm²				
62570205	2	7,0	23,3	74
62570305	3	7,3	28,5	82
62570405	4	7,8	34,9	95
62570505	5	8,4	41,5	110
62570705	7	9,1	53,3	134
62570805	8	10,4	60,5	164
62570905	9	11,1	77,9	189
62571005	10	11,3	87,1	196
62571205	12	11,5	97,4	213
62571405	14	12,4	108,0	244
62571605	16	12,9	121,6	268
62571805	18	13,7	132,1	296
62572505	25	16,3	193,3	409
62573005	30	16,7	219,2	451
62573405	34	18,0	247,9	511
62574005	40	19,5	287,2	602
62574105	41	19,5	292,4	608
62576105	61	22,3	405,2	813
► 19 AWG (23/32) · 0,75 mm²				
62570207	2	7,6	28,8	87
62570307	3	7,9	36,1	97
62570407	4	8,4	46,2	113
62570507	5	9,3	53,5	134
62570707	7	9,9	69,8	160
62570807	8	11,5	93,5	209
62570907	9	12,3	100,9	230
62571007	10	12,7	111,5	244
62571207	12	13,0	126,0	267
62571407	14	13,7	140,6	297
62571607	16	14,3	159,3	328
62571807	18	15,1	173,9	361
62572507	25	18,0	253,5	499
62573007	30	18,7	290,1	563
62573407	34	20,1	327,6	636
62574007	40	21,6	379,8	735
62574107	41	21,6	387,0	745
62576107	61	25,2	542,8	1028

item no.	no. of cores	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
► 18 AWG (30/32) · 1,00 mm²				
62570210	2	7,8	33,6	94
62570310	3	8,2	44,6	108
62570410	4	8,9	55,8	129
62570510	5	9,5	67,3	149
62570710	7	10,4	86,6	183
62570810	8	12,2	112,9	241
62570910	9	12,9	126,0	264
62571010	10	13,3	135,7	277
62571210	12	13,6	155,0	304
62571410	14	14,1	178,4	337
62571810	18	15,8	237,7	430
62572510	25	18,8	314,2	572
62573010	30	19,6	370,2	657
62573410	34	21,0	409,9	732
62574010	40	22,5	476,7	845
62574110	41	22,5	486,3	857
62576110	61	26,3	690,5	1191
► 16 AWG (27-29/30) · 1,50 mm²				
62570215	2	8,4	44,6	112
62570315	3	9,0	60,6	135
62570415	4	9,6	76,9	158
62570515	5	10,7	103,6	199
62570715	7	11,5	136,7	243
62570815	8	13,5	154,9	301
62570915	9	14,2	173,6	330
62571015	10	14,7	188,1	349
62571215	12	15,0	217,1	385
62571415	14	15,8	266,5	446
62571815	18	17,7	332,5	557
62572515	25	21,1	443,6	748
62573015	30	21,7	523,9	848
62573415	34	23,5	583,3	959
62574015	40	25,4	679,9	1117
62574115	41	25,4	694,3	1126
62576115	61	29,4	996,7	1574

item no.	no. of cores	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
► 14 AWG (46/30) · 2,50 mm²				
62570225	2	9,8	67,3	157
62570325	3	10,7	103,6	202
62570425	4	11,4	131,8	238
62570525	5	12,7	159,5	290
62570725	7	13,8	207,9	357
62570825	8	16,2	257,0	454
62570925	9	17,1	288,9	498
62571025	10	17,6	313,2	528
62571225	12	18,3	361,8	596
62571825	18	21,2	515,7	822
62572525	25	25,5	704,0	1115
► 12 AWG (52/28) · 4,00 mm²				
62570340	3	12,3	151,3	228
62570440	4	13,4	193,3	337
62570540	5	14,7	236,1	405
62570740	7	16,2	333,8	526
► 10 AWG (78/28) · 6,00 mm²				
62570360	3	14,0	216,7	377
62570460	4	15,5	295,1	477
62570560	5	17,0	360,9	575
► 8 AWG (77/26) · 10,00 mm²				
62570461	4	20,2	466,9	791
62570561	5	22,3	572,4	960
► 6 AWG (119/26) · 16,00 mm²				
62570462	4	24,3	717,0	1144
► 4 AWG (196/26) · 25,00 mm²				
62570463	4	29,7	1079,0	1758
► 2 AWG (280/26) · 35,00 mm²				
62570464	4	33,8	1480,9	2358

Weitere Abmessungen und Farben auf Anfrage

SAB BRÖCKSKES

0,6/1 kV

SABIX® A 810 FRNC Motor connection cable with numbered cores

SABIX® A 812 C FRNC Motor connection cable with numbered cores, inner sheath and overall copper screen

RoHS

Marking for SABIX A 812 C FRNC 68120715:
SAB BRÖCKSKES · D-VIERSEN · SABIX A 812 C FRNC rf 0,6/1 kV 7 x 1,5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, 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
Inner sheath:	**SABIX® A 812 C FRNC:** SABIX® FRNC
Screen:	**SABIX® A 812 C FRNC:** tinned copper braiding
Sheath material:	SABIX® FRNC
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **halogen-free**
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **SABIX® A 812 C FRNC: good EMC characteristics***

* Copper braiding should be connected circularly to optimize the EMC characteristics

Technical data:

Nominal voltage:	Uo/U 0.6/1 kV	
Testing voltage U:	4000 V acc. to DIN VDE 0281 part 2 + HD 21.2 **SABIX® A 812 C FRNC:** core/screen 2000 V	
Min. bending radius *fixed laying:* *flexible application:*	**SABIX® A 810 FRNC:** 4 x d 6 x d	**SABIX® A 812 C FRNC:** 5 x d 10 x d
Temperature range *fixed laying:* *flexible application:*	 -40/+85 °C -30/+85 °C	
Halogen-free:	acc. to DIN VDE 0472 part 815 and IEC 60754-1	
Fire performance:	no flame propagation acc. to IEC 60332 + EN 50266 cat. C resp. D. 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 and EN 50267-2-2 + VDE 0482 part 267-2-2 - no development of corrosive conflagration gases	
Smoke density:	acc. to IEC 61034 + EN 61034	
Flexibility:	good	
Weather resistance:	good	
Absence of harmful substances:	acc. to RoHS directive of the European Union	

SABIX® A 810 FRNC

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
68100315	3 x 1,50	0,26	9,4	43,2	127
68100415	4 x 1,50	0,26	10,1	57,6	149
68100515	5 x 1,50	0,26	11,0	72,0	176
68100715	7 x 1,50	0,26	11,9	100,8	215
68100325	3 x 2,50	0,26	10,6	72,0	173
68100425	4 x 2,50	0,26	11,5	96,0	206
68100525	5 x 2,50	0,26	12,6	120,0	245
68100725	7 x 2,50	0,26	13,8	168,0	309
68100340	3 x 4,00	0,31	11,9	115,2	234
68100440	4 x 4,00	0,31	13,2	153,6	286
68100540	5 x 4,00	0,31	14,3	192,0	337
68100740	7 x 4,00	0,31	15,7	268,8	435
68100360	3 x 6,00	0,31	13,3	172,8	308
68100460	4 x 6,00	0,31	14,3	230,4	373

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
68100560	5 x 6,00	0,31	15,8	288,0	448
68100760	7 x 6,00	0,31	17,2	403,2	579
68100370	3 x 10,0	0,41	18,3	288,0	583
68100470	4 x 10,0	0,41	20,0	384,0	709
68100570	5 x 10,0	0,41	21,9	480,0	846
68100770	7 x 10,0	0,41	23,9	672,0	1082
68100380	3 x 16,0	0,41	21,5	460,8	823
68100480	4 x 16,0	0,41	23,5	614,4	1007
68100580	5 x 16,0	0,41	25,9	768,0	1232
68100780	7 x 16,0	0,41	28,3	1075,2	1585
68100390	3 x 25,0	0,41	25,9	720,0	1265
68100490	4 x 25,0	0,41	28,4	960,0	1557
68100590	5 x 25,0	0,41	31,4	1200,0	1878
68100790	7 x 25,0	0,41	34,4	1680,0	2445

Other dimensions and colours are possible on request.

SABIX® A 812 C FRNC

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
68120315	3 x 1,50	0,26	11,3	90,9	202
68120415	4 x 1,50	0,26	12,0	111,7	226
68120715	7 x 1,50	0,26	13,8	160,8	312
68120325	3 x 2,50	0,26	12,6	126,5	258
68120425	4 x 2,50	0,26	13,5	155,8	298
68120525	5 x 2,50	0,26	15,0	216,9	373
68120725	7 x 2,50	0,26	16,2	266,9	437
68120440	4 x 4,00	0,31	16,3	251,6	454
68120740	7 x 4,00	0,31	18,0	379,9	589
68120360	3 x 6,00	0,31	15,1	270,0	426
68120460	4 x 6,00	0,31	16,7	328,8	516
68120760	7 x 6,00	0,31	19,9	528,3	777

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
68120370	3 x 10,0	0,41	19,4	412,3	614
68120470	4 x 10,0	0,41	21,0	522,4	746
68120570	5 x 10,0	0,41	22,8	645,5	916
68120770	7 x 10,0	0,41	25,1	842,0	1154
68120380	3 x 16,0	0,41	22,4	601,9	827
68120480	4 x 16,0	0,41	24,7	783,4	1055
68120580	5 x 16,0	0,41	27,0	942,8	1291
68120780	7 x 16,0	0,41	29,7	1274,0	1661
68120390	3 x 25,0	0,41	26,7	894,0	1188
68120490	4 x 25,0	0,41	29,4	1157,7	1510
68120590	5 x 25,0	0,41	32,3	1413,6	1862

Other dimensions and colours are possible on request.

Hybrid and Special Cables

Technical problems often arise that can not be solved properly by standard cables. Being a customer of SAB BRÖCKSKES , you have the right to get the best solution. We are your specialist for hybrid and special cables in railway technologies. No matter whether a cable of our standard range is to be modified or a completely new cable is to be constructed: we will work together with you intensively in order to realise your requests and needs. Anyway, you will profit from our variedness and flexibility, that besides our wide standard product range of cables count among the special strengths of our company.

We produce nearly every type of special cable for you already with minimum quantities of 500 m, in certain dimensions already 100 m – exactly according to your individual construction demands. Please give us your requested details, such as:

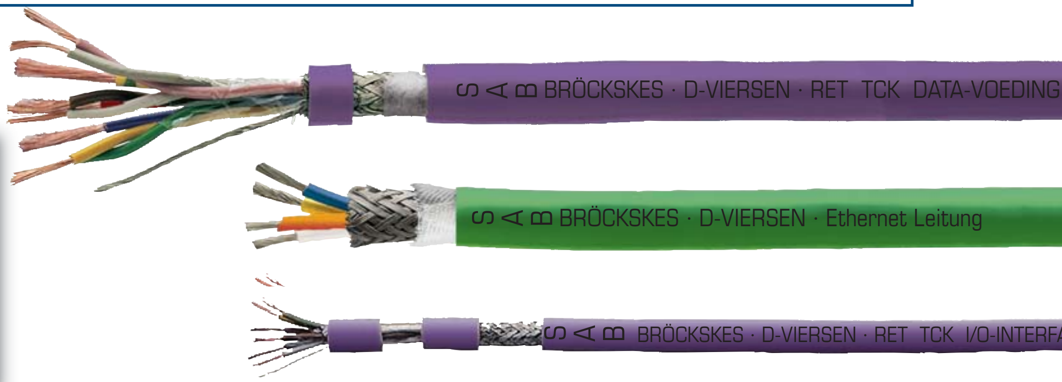
- conductor material
- number of cores
- cross sections
- colours
- outer diameter
- flexibility
- low and high temperature resistance
- materials
- types of screening
- combined cables
- technical specifications
- optical waveguide
- number of fibres
- POF (polymeric optical fibres)

Of course, we also fulfil other parameters than the above-mentioned. Your requests are always most important and our highly motivated team will meet them applying our comprehensive know-how. By this means you will be able to improve the efficiency of your machines.

Are you interested in a special solution? Contact directly our sales team that is supported by sales representatives in many parts of Europe.

Cables for E-Ticketing Systems

SABIX® IBS 610 FRNC (B)
SABIX® IBS 610 FRNC
Ethernet Cable



Construction:	SABIX® IBS 610 FRNC (B) item no. 6610-9002	SABIX® IBS 610 FRNC item no. 6610-9003	Ethernet Cable item no. 0660-9002
Dimension:	3 x 2 x 0,25 + 2 x 0,5 mm²	2 x 0,25 + 1 x 0,25 mm²	2 x 2 x 0,34 mm²
Conductor:	bare copper strands		
Isolation:	0,25 mm²: PE, 2YI1 acc. to DIN VDE 0207 part 2 0,50 mm²: SABIX® 233	0,25 mm²: PE, 2YI1 acc. to DIN VDE 0207 part 2 0,25 mm²: SABIX® 231	thermoplastic material based on Polyethylene
Colour code:	with reference to DIN VDE 47100	with reference to DIN VDE 47100 and pink	blue, yellow, white, orange
Stranding:	pairwise, pairs in layers		specially adjusted layering
Wrapping:	PETP foil		
Inner sheath:	---		SABIX®
Screen:	tinned copper braiding		
Wrapping:	non-woven tape		
Outer sheath:	SABIX® FRNC		
Sheath colour:	purple (RAL 4001)		green (RAL 6018)

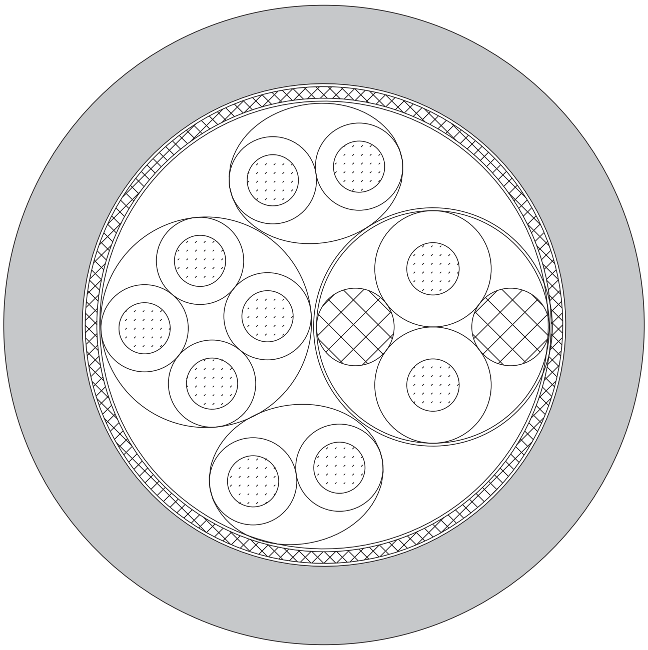
Technical data:	SABIX® IBS 610 FRNC (B) item no. 6610-9002	SABIX® IBS 610 FRNC item no. 6610-9003	Ethernet Cable item no. 0660-9002
Peak operating voltage:	max. 350 V		
Testing voltage:	core/core 1500 V · core/screen 1200 V		
Temperature range fixed laying: flexible application:	- 40°C / + 70°C - 30°C / + 70°C		- 30°C / + 70°C - 20°C / + 70°C
Min. bending radius fixed laying: flexible application:	7,5 x d		5 x d 10 x d
Characteristic impedance:	0,064 MHz: 120 Ω ± 20% acc. to VDE 0472 part 516 1 MHz: 100 Ω ± 15% acc to. VDE 0472 part 516		---
Halogen-free:	acc. to DIN VDE 0472 part 815 and IEC 60754-1		
Fire performance:	fulfills DIN EN 60332-1-2, IEC 60332-1-2 in accordance with DIN EN 50265-2-1 (VDE 0482 part 265-2-1)65-2-1)		
Absence of harmful substances:	acc. to RoHS directive of the European Union		

Outstanding features:	SABIX® IBS 610 FRNC (B) item no. 6610-9002	SABIX® IBS 610 FRNC item no. 6610-9003	Ethernet Cable item no. 0660-9002
	combined bus and control cable - space-saving version		accomplishes the electrical and transmission requirements with high frequency acc. to EN 50288-2-2 (CAT 5 acc. to EN 50173-1)

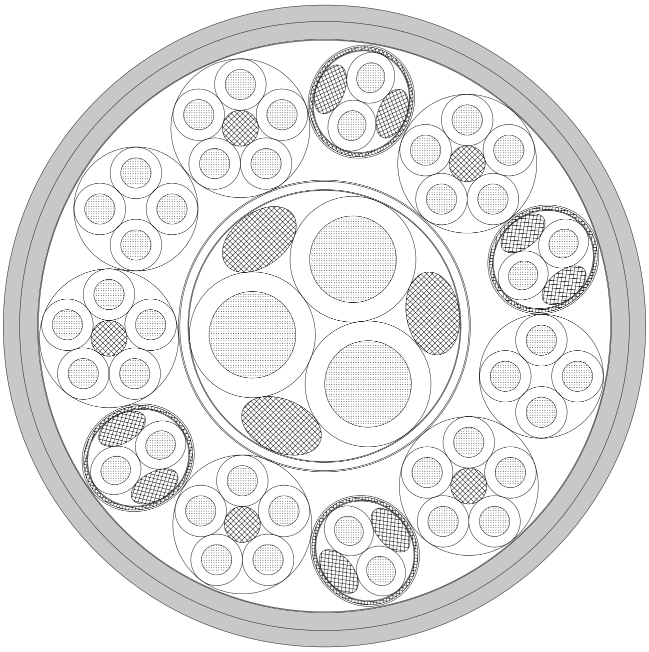
RoHS

CAN-Bus cable Halogen-free combined cable with overall copper screen
Coupling cable Torsion able connecting cable

CAN-Bus cable



Coupling cable



CAN-Bus cable
Halogen-free combined cable with overall copper screen

item no. 63359002

cross section: 2 x 2 x 0,50 mm² +4 x 0,50 mm² + 2 x 0,50 mm²

Construction:

Conductor:	tinned copper strands, fine wires with reference to DIN VDE 0812
Insulation:	SABIX® 231 thermoplastic material and 02YI1 acc. to DIN VDE 0819 part 103 (for 2 x 0.50 mm²)
Screen:	tinned copper braid, optical coverage ≥ 85%
Sheath material:	SABIX® 263 thermoplastic material
Sheath colour:	black (RAL 9005)
Marking:	SAB BRÖCKSKES · D-VIERSEN · SO. SABIX CAN-BUS-LEITUNG

Technical data:

Peak operating voltage:	max. 450 V
Testing voltage:	core/core 1000 V (DC) core/screen 1500 V (DC)
Min. bending radius *flexible application:*	10 x d
Temperature range *fixed laying:* *flexible application:*	-40/+70 °C -30/+70 °C
Halogen-free:	acc. to DIN VDE 0472 part 815 and IEC 60754-1
Fire performance:	no flame propagation acc. to IEC 60332 + EN 50266 category C resp. D. flame retardant and self-extinguishing acc. to IEC 60332-1-2 and EN 60332-1-2.
Characteristic impedance:	acc. to VDE 0472 part 516 at 1 Mhz: 120 Ω ± 10% (CAN-Bus)
Image attenuation constant:	acc. to VDE 0472 part 515 at 1 Mhz: approx. 1.5 dB/100 m (CAN-Bus)
Mutual capacitance:	acc. to VDE 0472 part 504 test method: approx. 15 nF/km (CAN-Bus)
Oil resistance:	acc. to EN 60811-2-1 section 10 and VDE 0473 part 811-2-1 section 10
Absence of harmful substances:	acc. to RoHS-guideline 2002/95/EG as well as acc. to RoHS directive of the European Union

Coupling cable
Torsion able connecting cable

item no. 07909008

cross section: 33 x 1,5 mm² + 3 x 10,0 mm² + 4 x (2 x 1,5) mm²

Construction:

Conductor:	special copper, fine wires
Insulation:	TPE
Screen:	spezial copper braid, optical coverage ≥ 85%
Sheath material:	special PUR
Sheath colour:	black (RAL 9005)

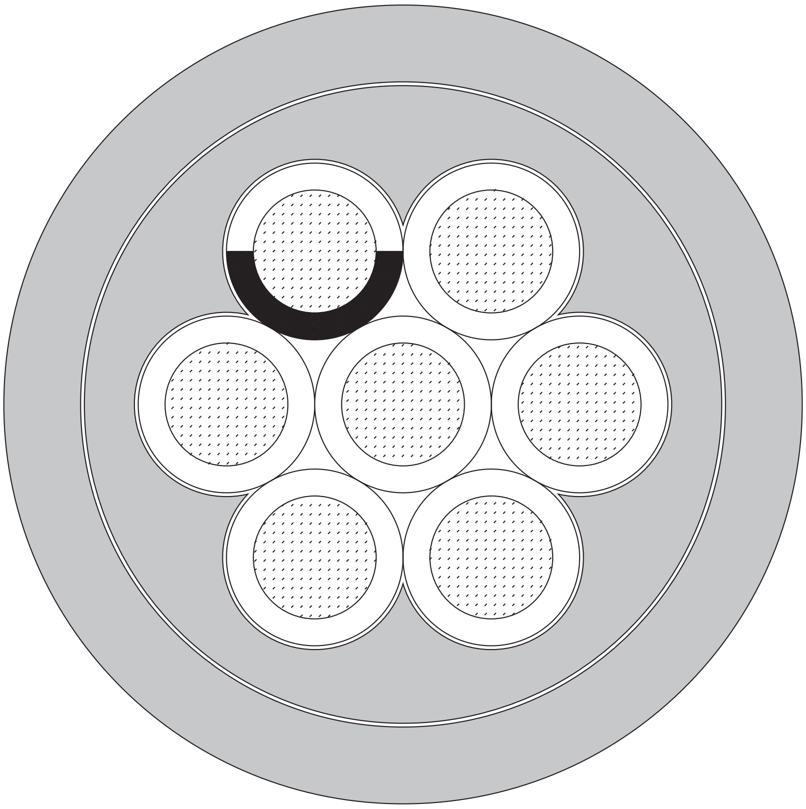
Technical data:

Nominal voltage:	1,50 mm²: Uo/U 0,6/1,0 kV 10,0 mm²: Uo/U 1,8/3,0 kV
Testing voltage:	core/core 1,50 mm²: 4000 V, 10,0 mm²: 12000 V core/screen 1,50 mm²: 2000 V, 10,0 mm²: 6000 V
Min. bending radius *flexible application:*	10 x d
Temperature range *fixed laying:* *flexible application:*	-50/+90 °C -40/+90 °C
Absence of harmful substances:	as acc. to RoHS directive of the European Union

SAB BRÖCKSKES

SABIX® A 883 Ö twisting and torsion connection cable

RoHS



for the use in rail vehicles, e. g. bogies and boxes

also possible without earth wire

Construction:

Conductor:	tinned copper strands, acc. to IEC 60228. EN 60228, DIN VDE 0295 class 6
Insulation:	TPE
Colour code:	black cores with consecutive numbers acc. to DIN VDE 50334 green-yellow earth wire from 3 cores
Stranding:	in layers
Inner sheath:	SABIX®
Sheath material:	PUR
Sheath colour:	black (RAL 9005)
Marking:	SAB BRÖCKSKES · D-VIERSEN · SABIX® A 833 Ö dimension CE

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	core/core 2000 V
Min. bending radius *fixed laying:* *flexible application:*	 4 x d 6 x d
Temperature range *fixed laying:* *flexible application:*	 -50/+85 °C -40/+85 °C
Torsion angle:	± 15°
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
UV resistance:	good
Ozone resistance:	good
Oil resistance:	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 mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
08830215	2 x 1,50	0,16	8,1	28,8	92
08830315	3 x 1,50	0,16	8,4	43,2	107
08830415	4 x 1,50	0,16	9,0	57,6	128
08830715	7 x 1,50	0,16	10,4	100,8	189
08831815	18 x 1,50	0,16	15,2	259,2	417

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
08830325	3 x 2,50	0,16	9,7	75,5	158
08830425	4 x 2,50	0,16	10,5	100,6	192
08830525	5 x 2,50	0,16	11,5	125,8	233
08830725	7 x 2,50	0,16	12,2	176,1	291
08830540	5 x 4,00	0,16	13,6	192,0	335

Other dimensions and colours are possible on request.

Halogen-free bus cables

Marking for 06569001:
SAB BRÖCKSKES · D-VIERSEN ·Halogen-free Bus Cable/120 Ohms 4 x 0,5 mm² 06569001 CE

Construction:	paired screened LSZH cable	120Ω bus cable (quad)	120Ω bus cable (twin)
Dimension:	2 x 2 x 0,50 mm²	4 x 0,50 mm²	2 x 0,50 mm² + 1 x 0,50 mm²
Conductor:	tinned copper strands, fine wires		
Core insulation:	PE	Foam Skin PE	
Colour code:	white, blue, yellow, orange	white, red, yellow, black	blue, red, black
Stranding:	twisted to pairs	---	
Stranding:	pairs twisted in specially adjusted layering		
Wrapping:	alu foil		
Screen:	tinned copper braiding		
Wrapping:	PETP foil		
Outer sheath:	SABIX®		
Sheath colour:	black (similar RAL 9005)		

Technical data:	paired screened LSZH cable	120Ω bus cable (quad)	120Ω bus cable (twin)
Item number:	66109008	06569001	06569002
Peak operating voltage:	max. 300 V	max. 350 V	max. 300 V
Testing voltage:	core/core 1500 V core/screen 1200 V	core/core 1500 V core/screen 1500 V	core/core 1500 V core/screen 1200 V
Temperature range VDE fixed laying: flexible application: short time use:	- 30°C / + 70°C - 30°C / + 70°C	- 40°C / + 80°C - 40°C / + 80°C up to + 85°C	- 30°C / + 80°C - 30°C / + 80°C up to + 85°C
Min. bending radius fixed laying: flexible application:	5 x d 10 x d		
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 (EN 60332-1-2, NF C 32-070 C2, EN 50265-2-1	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2 + NFC 32-070 C2	
Halogen-free:	acc. to DIN VDE 0472 part 815 + IEC 60754-1		
Smoke density:	> 60% acc. to IEC 61034 + EN 61034 (EN 50268-2, DIN 5510-2 table 6)	> 60% acc. to IEC 61034 + EN 61034	
Toxicity (outer sheat):	acc. to EN 50305	---	
Low smoke emission:	I,F. < 7 (NF F 16-101)	---	
Toxicity Index:	class F1 (NFF 16-101), BS 6853 table 13 Cat. 1a	---	
Impedance:	100 ± 15 Ω between 1 and 16 MHz	120 Ω ± 10% between 1 and 10 MHz	120 Ω ± 10% between 0,75 and 3 MHz
Absence of harmful substances:	acc. to RoHS directive of the European Union		

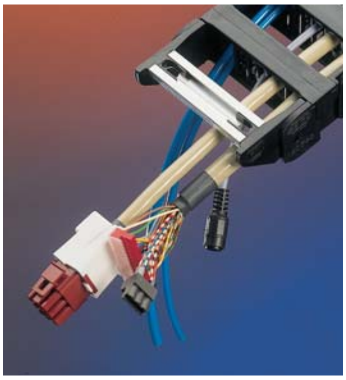
item no.	type	outer-ø mm	copper figure kg/km	cable wight ≈kg/km	ohmic resistance at 20°C acc. to VDE 0812 max.Ω/km
66109008	paired screened LSZH cable	9,7 ± 0,5	60,5	136	40,1
06569001	120Ω bus cable (quad)	8,3 ± 0,3	40,7	70	42,0
06569002	120Ω bus cable (twin)	6,3 ± 0,3	34,7	60	42,0

Other dimensions and colours are possible on request.

Cable harnessing · SAB helix cables

Cable harnessing

■ Due to the good co-operation with our customers we get continuously new ideas. Therefore, SAB BRÖCKSKES has enlarged the product range by the field of cable and wire harnessing. No matter whether you need cable looms, assembled single conductors or cables – SAB BRÖCKSKES offers a wide range of products, especially adjusted to your demands and specifications. There are many possibilities in use of assembled cables. Some of these applications are in the car manufacturing industry, machine and industrial plant construction, control engineering, manufacturing of house hold appliances. Connection possibilities of the large variety of connectors and sling parts offer efficient and cost saving solutions. The variety of possible uses of materials that are processed by SAB BRÖCKSKES at present:



- PUR (polyurethane)
- TPE
- Besilen® (silicone)
- PVC (polyvinyl chloride)
- SABIX® (halogen-free)
- ETFE, FEP, PFA
- Rubber
- Special materials (fibre glass, Pi foil, SABtex etc.)

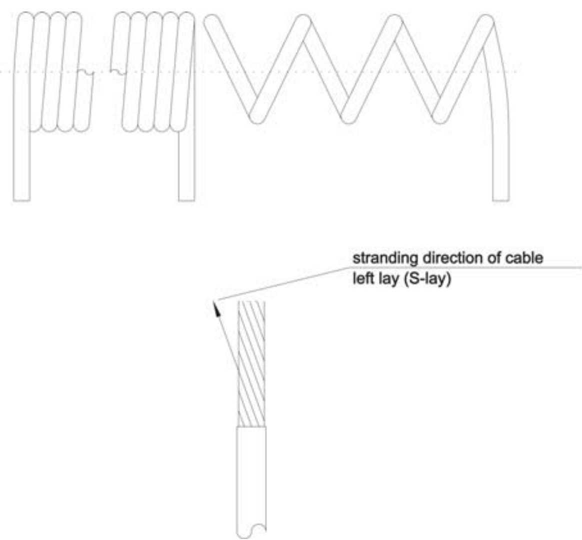
… also offer a wide range of applications in industry.

■ **Please do not hesitate to contact our specialists, who will help you with an individual advice fitting to your application.**

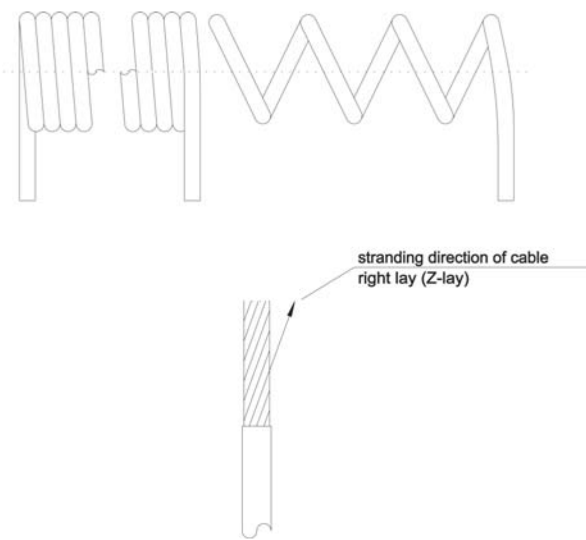
SAB helix cables

■ By a special method cables can be transferred from their straight form to a curling form. According to the application the cable can be adjusted to your demands and specifications. It is possible to make helix cables of both, PVC as well as PUR PUR sheathed cables. You can also buy screened helix cables from us. PVC helix cables can be used as extension or connection cables. These cost saving cables are used if there is no continuous restoring force demanded, e.g. for lamps or electrical appliances. PUR helix cables are used for very high requests on the quality of the cable. The pull-off length of these cables is approximately 4:1 and they have a good restoring force as well. For this reason these cables are used e.g. material handling appliances, in machines and on gates. The helical direction is dependent on the stranding direction of a cable.

Helical direction ⇨ left (counter-clockwirse)



Helical direction ⇨ right (clockwise)



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

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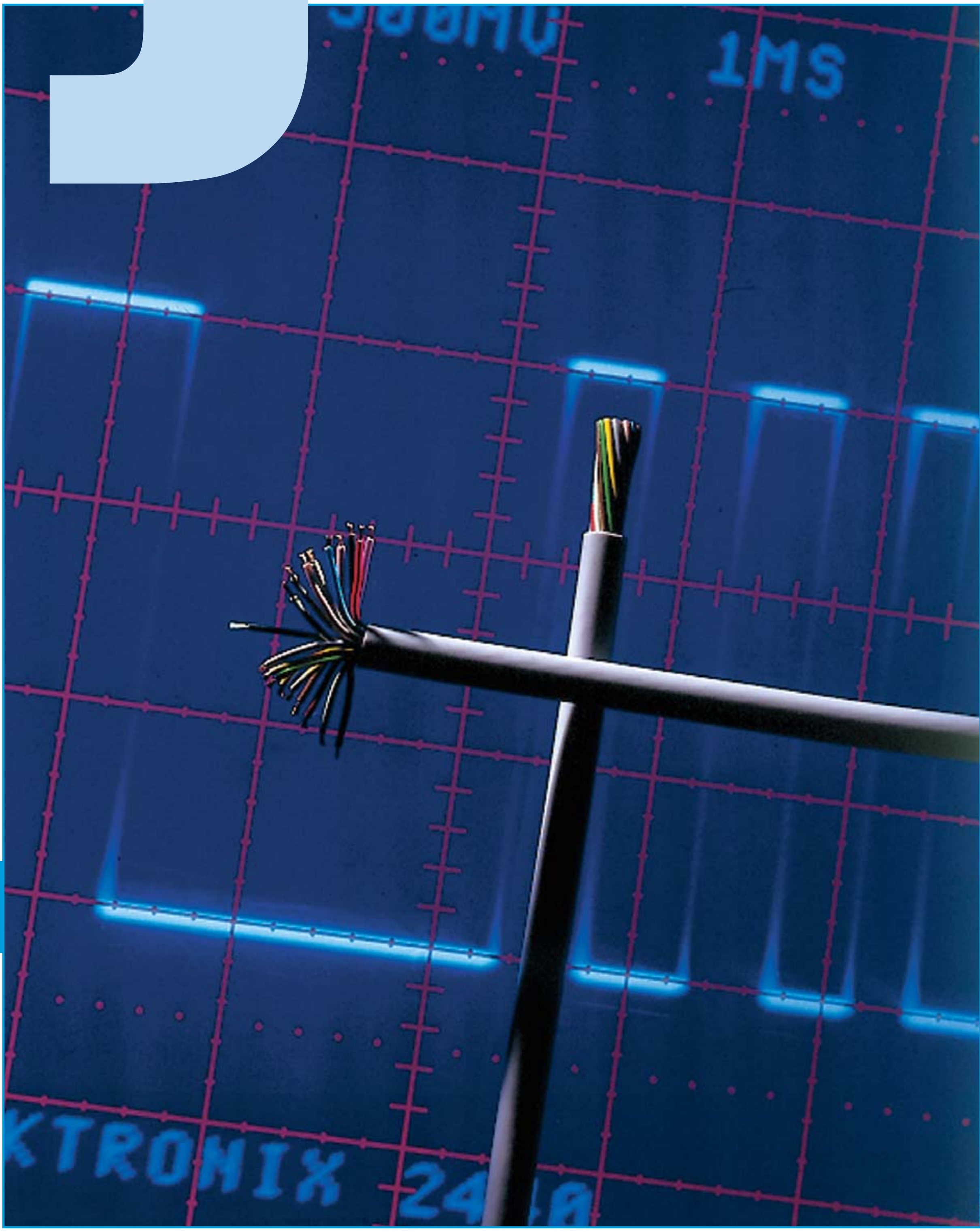
J

Data Cables



SAB BRÖCKSKES

Content

You will find halogen-free data cables on page A/33-47

Applications

■ Modern electronics and miniaturized appliances require data cables with smallest cross sections, best screenings and highest flexibility. SAB data cables meet these requirements to a high degree. Different types of screenings, i.e. single or double screens, tinned copper wrappings or braids, protect the cables against outer high-frequency interference. Different types of strandings (in layers or pair-wise) can prevent mutual interference of adjoining circuits. Especially in the computer era data cables have become essential and they must continously to the latest technical developments. The colour code with reference to DIN 47100 guarantees a perfect assignment of the cores for the connection of the cable. The cables are produced with reference to the usual DIN VDE regulations.

■ PVC data cables

SAB data cables are used for the transmission of measuring, control and voice signals in electronic control appliances, in electronics of data processing systems, for paging and intercom systems, weighing installations, office machines, etc. The cables can be used for fixed installations and flexible applications with free movement, without tensile load and mechanically guided movement in dry, damp and wet rooms. They are not suitable for outdoor use.

Exemplary applications:

LiYY	Scales, construction of appliances and control panels, construction of low-voltage switchboard plants, communication technologies
LiYY TP	Scales, construction of appliances and control panels, construction of low-voltage switchboard plants, communication technologies, construction of appliances for electric installations
LiYCY **LiYCY (B)**	Scales, construction of appliances and control panels, construction of low-voltage switchboard plants, process controls, construction of appliances for electric installations, test and control techniques
LiYCY (B) TP **LiFYCY (B) TP**	Measuring, control and voice signals, e.g. in low-voltage switchboard plants, scales and appliance engineering, in communication technologies, in control and measuring technologies, in office and computing machines
LiYDY-CY TP	Measuring, control and voice signals, e.g. in scales and low-voltage switchboard plant engineering, for interference-prone operation controls, in control and measuring technologies, in high-sensitive data processing systems
SRY D 311 **SRY D 321 C** **SRY D 351 C (B) TP**	Measuring, control and voice signals, e.g. in medicine technologies, in scales and low-voltage switchboard plant engineering, in control and measuring technologies, for interference-prone operation controls, in high-sensitive data-processing systems
DC 300 DS **DC 300 DS TP**	Measuring, control and voice signals, e.g. in scales and low-voltage switchboard plant engineering, for interference-prone process controls, in control and measuring technologies, in high-sensitive data processing systems

■ FEP insulated Koax cables

RG 179 FEP is a high temperature coax cable with an excellent resistance to chemicals and solvents. This cable is suitable for attenuation poor and distortionless transmission of signals refering to RG 179 (75 Ω impedance). RG 316 FEP is a FEP insulated coax cable with TPE outer jacket in reference to RG 316 (50 Ω impedance). The TPE outer jacket is especially used where plugs are tight encapsulated.

Exemplary applications:

RG 179 FEP **RG 316 FEP**	High broadband transmission Telecommunication e. g. cell phone and industrial communication

■ **You will find further information about the safe application of cables on pages N/28-38**

Selection table

	Cable type	LiYY	LiYY TP	LiYCY	LiYCY (B) TP	LiFYCY (B) TP	LiYDY-CY TP	SRY D 311	SRY D 321 C	SRY D 351 C (B) TP	DC 300 DS	DC 300 DS TP	RG 179 FEP	RG 316 FE
Basic construction	Bare copper strands with reference to DIN VDE 0812	x	x	x	x		x							
	Bare copper strands, extra fine wires					x								
	Bare copper strands acc. to. ASTM B 286							x	x	x				
	Tinned copper strands acc. to. ASTM B 286										x	x		
	Tinned copper strands, fine wires													x
	Silver-plated strands, fine wires												x	
	Overall copper screen			x	x	x	x		x	x	x	x		x
	Silver-plated screen												x	
	Pair-wise screen						x							
	No coupling of individual signals, low influence of nighboured cable circuits effective suppression of crosstalk and side-to-side crosstalk effects		x		x	x	x			x		x		
	Drain wire				x	x	x			x	x	x		
Temperature range fixed laying*	+ 180 °C												■	
	+ 90 °C												■	■
	+ 80 °C (UL/CSA)							■	■	■	■	■	■	■
	+ 70 °C	■	■	■	■	■	■	■	■	■	■	■	■	■
	– 30 °C	■	■	■	■	■	■	■	■	■	■	■	■	■
	– 50 °C												■	■
	– 90 °C												■	
Voltage	Peak operating voltage < 0.25 mm² = max. 350 V ≥ 0.25 mm² = max. 500 V	x x	x x	x x	x x	x	x x							
	Peak operating voltage 900 V												x	x
	Voltage (UL/CSA) = 300 V							x	x	x	x	x		
	Testing voltage < 0.25 mm² = 800 V ≥ 0.25 mm² = 1200 V	x x	x x	x x	x x	x	x x				x	x		
	Testing voltage 1500 V							x	x	x				
	Testing voltage 2000 V												x	x
Standards and approvals	Fire performance: flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2	x	x	x	x	x	x							
	Fire performance: flame retardant and self-extinguishing acc. to UL VW1, CSA FT1 FT2							x	x	x	x	x		
	UL/CSA Approval							x	x	x	x	x		
Characteristics	Oil resistance acc. to internal standard	x	x	x	x	x	x	x	x	x	x	x		
	Chem. resistance: very good against acids, halogens, bases, chlorinated solvents as well as organic and inorganic compounds												x	
	Flexibility	B	B	B	B	A	B	B	B	B				

from

to

A = very good
B = good

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

with colour code DIN 47100

LiYY PVC data cable

RoHS

Marking for LiYY 03053614:
SAB BRÖCKSKES · D-VIERSEN · LIYY 36 x 0,14 mm² CE

Construction:

Conductor:	bare copper strands with reference to DIN VDE 0812
Insulation:	PVC, YI2 acc. to DIN VDE 0207 part 4
Colour code:	with reference to DIN 47100
Stranding:	in layers
Sheath material:	PVC, YM1 acc. to DIN VDE 0207 part 5
Sheath colour:	grey (RAL 7032)

Outstanding features:

- **flexible**
- **small outer diameter**
- **small bending radius**

Technical data:

Peak operating voltage:	< 0,25 mm² = max. 350 V ≥ 0,25 mm² = max. 500 V
Testing voltage:	< 0,25 mm² = 800 V ≥ 0,25 mm² = 1200 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d
Capacitance:	see page N/8
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	 -30/+70 °C -5/+70 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Oil resistance:	acc. to internal standard, see page N/13
Chem. resistance:	see page N/9
Colour code:	see page N/10
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
03050214	2 x 0,14	3,1	2,7	13
03050314	3 x 0,14	3,3	4,0	15
03050414	4 x 0,14	3,5	5,4	17
03050514	5 x 0,14	3,8	6,7	21
03050614	6 x 0,14	4,1	8,1	25
03050714	7 x 0,14	4,1	9,4	25
03050814	8 x 0,14	4,7	10,8	33
03051014	10 x 0,14	5,1	13,4	34
03051214	12 x 0,14	5,3	16,1	39
03051414	14 x 0,14	5,5	18,8	44
03051614	16 x 0,14	6,0	21,5	53
03051814	18 x 0,14	6,3	24,2	59
03052014	20 x 0,14	6,6	26,9	65
03052114	21 x 0,14	6,9	28,2	69
03052414	24 x 0,14	7,3	32,3	73
03052514	25 x 0,14	7,7	33,6	79
03052714	27 x 0,14	7,7	36,3	83
03053014	30 x 0,14	7,9	40,3	90
03053214	32 x 0,14	8,2	43,0	97
03053614	36 x 0,14	8,5	48,4	107
03054014	40 x 0,14	9,1	53,8	119
03054414	44 x 0,14	9,5	59,1	126
03054814	48 x 0,14	10,1	64,5	144
03055014	50 x 0,14	10,3	67,2	149
03055214	52 x 0,14	10,3	69,9	154
03055614	56 x 0,14	10,6	75,3	165
03056114	61 x 0,14	10,9	82,0	175
03050225	2 x 0,25	3,4	4,8	16

item no.	no. of cores x cross section n x mm²	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
03050325	3 x 0,25	3,6	7,2	20
03050425	4 x 0,25	3,9	9,6	24
03050525	5 x 0,25	4,2	12,0	29
03050625	6 x 0,25	4,6	14,4	34
03050725	7 x 0,25	4,6	16,8	35
03050825	8 x 0,25	5,2	19,2	45
03050925	9 x 0,25	5,6	21,6	51
03051025	10 x 0,25	5,9	24,0	51
03051225	12 x 0,25	6,1	28,8	58
03051425	14 x 0,25	6,4	33,6	66
03051625	16 x 0,25	6,7	38,4	74
03051825	18 x 0,25	7,1	43,2	83
03052025	20 x 0,25	7,6	48,0	95
03052125	21 x 0,25	7,9	50,4	100
03052425	24 x 0,25	8,4	57,6	108
03052525	25 x 0,25	8,6	60,0	112
03052725	27 x 0,25	8,6	64,8	119
03053025	30 x 0,25	8,9	72,0	131
03053225	32 x 0,25	9,2	76,8	139
03053625	36 x 0,25	10,0	86,4	163
03054025	40 x 0,25	10,6	96,0	181
03054425	44 x 0,25	11,1	105,6	192
03054825	48 x 0,25	11,3	115,2	206
03055025	50 x 0,25	11,6	120,0	214
03055225	52 x 0,25	11,6	124,8	221
03055625	56 x 0,25	11,9	134,4	237
03056125	61 x 0,25	12,3	146,4	254

Continued on next page

with colour code DIN 47100

LiYY PVC data cable

Marking for LiYY 03053614:
SAB BRÖCKSKES · D-VIERSEN · LIYY 36 x 0,14 mm² CE

item no.	no. of cores x cross section n x mm²	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
03050234	2 x 0,34	4,0	6,5	23
03050334	3 x 0,34	4,2	9,8	27
03050434	4 x 0,34	4,6	13,1	33
03050534	5 x 0,34	5,0	16,3	41
03050634	6 x 0,34	5,5	19,6	49
03050734	7 x 0,34	5,5	22,8	51
03050834	8 x 0,34	6,5	26,1	67
03051034	10 x 0,34	7,1	32,6	72
03051234	12 x 0,34	7,3	39,2	83
03051434	14 x 0,34	7,9	45,7	98
03051634	16 x 0,34	8,3	52,2	111
03051834	18 x 0,34	8,8	58,8	124
03052034	20 x 0,34	9,2	65,3	137
03052134	21 x 0,34	10,0	68,5	153
03052434	24 x 0,34	10,6	78,3	165
03052534	25 x 0,34	10,8	81,6	170
03052734	27 x 0,34	10,8	88,1	181
03053034	30 x 0,34	11,2	97,9	197
03053234	32 x 0,34	11,6	104,4	210
03053634	36 x 0,34	12,1	117,5	234
03054034	40 x 0,34	12,9	130,6	261
03054434	44 x 0,34	13,5	143,6	277
03054834	48 x 0,34	13,7	156,7	298
03055234	52 x 0,34	14,5	169,7	333
03055634	56 x 0,34	14,9	182,8	356
03056134	61 x 0,34	15,4	199,1	382
03050250	2 x 0,50	4,3	9,6	27
03050350	3 x 0,50	4,5	14,4	33
03050450	4 x 0,50	4,9	19,2	40
03050550	5 x 0,50	5,4	24,0	50
03050650	6 x 0,50	6,1	28,8	62
03050750	7 x 0,50	6,1	33,6	65
03050850	8 x 0,50	7,1	38,4	83
03051050	10 x 0,50	7,9	48,0	92
03051250	12 x 0,50	8,1	57,6	106
03051450	14 x 0,50	8,5	67,2	120
03051650	16 x 0,50	9,0	76,8	137
03051850	18 x 0,50	9,5	86,4	152
03052050	20 x 0,50	10,4	96,0	178
03052150	21 x 0,50	10,9	100,8	189
03052450	24 x 0,50	11,5	115,2	203
03052550	25 x 0,50	11,7	120,0	210
03052750	27 x 0,50	11,7	129,6	223
03053050	30 x 0,50	12,1	144,0	244
03053250	32 x 0,50	12,6	153,6	261
03053650	36 x 0,50	13,1	172,8	290
03054050	40 x 0,50	14,5	192,0	337
03054450	44 x 0,50	15,1	211,2	358
03054850	48 x 0,50	15,3	230,4	384
03055250	52 x 0,50	15,7	249,6	412
03055650	56 x 0,50	16,2	268,8	442
03056150	61 x 0,50	16,7	292,8	475
03050275	2 x 0,75	4,9	14,4	37
03050375	3 x 0,75	5,2	21,6	45
03050475	4 x 0,75	5,9	28,8	58
03050575	5 x 0,75	6,4	36,0	71
03050675	6 x 0,75	7,0	43,2	84
03050775	7 x 0,75	7,0	50,4	89
03050875	8 x 0,75	8,3	57,6	116
03051075	10 x 0,75	9,1	72,0	127
03051275	12 x 0,75	9,4	86,4	146
03051475	14 x 0,75	10,3	100,8	175
03051675	16 x 0,75	10,8	115,2	198
03051875	18 x 0,75	11,4	129,6	221
03052175	21 x 0,75	12,5	151,2	260
03052475	24 x 0,75	13,3	172,8	280
03052775	27 x 0,75	13,6	194,4	309
03053075	30 x 0,75	14,5	216,0	351
03053275	32 x 0,75	15,0	230,4	375
03053675	36 x 0,75	15,6	259,2	417
03050280	2 x 1,00	5,1	19,2	43
03050380	3 x 1,00	5,4	28,8	54
03050480	4 x 1,00	6,1	38,4	70
03050580	5 x 1,00	6,7	48,0	87
03050680	6 x 1,00	7,3	57,6	103
03050780	7 x 1,00	7,3	67,2	110
03050285	2 x 1,50	5,6	28,8	54
03050385	3 x 1,50	6,1	43,2	70
03050485	4 x 1,50	6,7	57,6	87
03050585	5 x 1,50	7,7	72,0	115
03050685	6 x 1,50	8,4	86,4	136
03050785	7 x 1,50	8,4	100,8	146

Other dimensions and colours are possible on request.

with colour code DIN 47100

LiYY TP PVC data cable, twisted pairs

RoHS

Marking for LiYY TP 03250514:
SAB BRÖCKSKES · D-VIERSEN · LIYY TP 5 x 2 x 0,14 mm² CE

Construction:

Conductor:	bare copper strands with reference to DIN VDE 0812
Insulation:	PVC, YI2 acc. to DIN VDE 0207 part 4
Colour code:	with reference to DIN 47100
Stranding:	cores twisted to pairs, pairs twisted in layers
Wrapping:	PETP foil
Sheath material:	PVC, YM1 acc. to DIN VDE 0207 part 5
Sheath colour:	grey (RAL 7032)

Outstanding features:

- **flexible**
- **small outer diameter**
- **small bending radius**

Technical data:

Peak operating voltage:	< 0,25 mm² = max. 350 V ≥ 0,25 mm² = max. 500 V
Testing voltage:	< 0,25 mm² = 800 V ≥ 0,25 mm² = 1200 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d
Capacitance:	see page N/8
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	 -30/+70 °C -5/+70 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Oil resistance:	acc. to internal standard, see page N/13
Chem. resistance:	see page N/9
Colour code:	see page N/10
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of pairs x cross section n x 2 x mm²	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
03250314	3 x 2 x 0,14	4,9	8,1	27
03250414	4 x 2 x 0,14	5,5	10,8	34
03250514	5 x 2 x 0,14	6,2	13,4	43
03250614	6 x 2 x 0,14	6,4	16,1	50
03250814	8 x 2 x 0,14	7,0	21,5	59
03251014	10 x 2 x 0,14	7,7	26,9	71
03251214	12 x 2 x 0,14	8,9	32,3	87
03251414	14 x 2 x 0,14	9,4	37,6	98
03251614	16 x 2 x 0,14	9,7	43,0	110
03251814	18 x 2 x 0,14	10,1	48,4	120
03252014	20 x 2 x 0,14	10,1	53,8	125
03252414	24 x 2 x 0,14	11,4	64,5	148
03252514	25 x 2 x 0,14	11,4	67,2	153
03252614	26 x 2 x 0,14	11,7	69,9	170
03252814	28 x 2 x 0,14	11,7	75,3	167
03253014	30 x 2 x 0,14	12,8	80,6	189
03253214	32 x 2 x 0,14	13,1	86,0	202
03253614	36 x 2 x 0,14	13,6	96,8	223
03254014	40 x 2 x 0,14	13,9	107,5	244
03255014	50 x 2 x 0,14	15,8	134,4	303
03255214	52 x 2 x 0,14	15,8	139,8	312
03250225	2 x 2 x 0,25	4,9	9,6	27
03250325	3 x 2 x 0,25	5,4	14,4	36
03250425	4 x 2 x 0,25	6,4	19,2	50
03250525	5 x 2 x 0,25	6,9	24,0	57
03250625	6 x 2 x 0,25	7,1	28,8	65
03250725	7 x 2 x 0,25	7,3	33,6	71
03250825	8 x 2 x 0,25	7,8	38,4	80
03251025	10 x 2 x 0,25	9,0	48,0	108
03251225	12 x 2 x 0,25	9,9	57,6	121
03251425	14 x 2 x 0,25	10,5	67,2	134
03251625	16 x 2 x 0,25	10,9	76,8	152
03251825	18 x 2 x 0,25	11,3	86,4	168
03252425	24 x 2 x 0,25	13,2	115,2	222
03254025	40 x 2 x 0,25	16,0	192,0	363

item no.	no. of pairs x cross section n x 2 x mm²	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
03250234	2 x 2 x 0,34	5,8	13,1	37
03250334	3 x 2 x 0,34	6,6	19,6	53
03250434	4 x 2 x 0,34	7,6	26,1	70
03250534	5 x 2 x 0,34	8,7	32,6	92
03250634	6 x 2 x 0,34	8,9	39,2	104
03250734	7 x 2 x 0,34	9,2	45,7	105
03250834	8 x 2 x 0,34	9,8	52,2	118
03251034	10 x 2 x 0,34	10,8	65,3	142
03251234	12 x 2 x 0,34	12,4	78,3	178
03251434	14 x 2 x 0,34	13,1	91,4	201
03251834	18 x 2 x 0,34	14,1	117,5	253
03252434	24 x 2 x 0,34	16,4	156,7	331
03250250	2 x 2 x 0,50	6,4	19,2	47
03250350	3 x 2 x 0,50	7,1	28,8	64
03250450	4 x 2 x 0,50	8,6	38,4	87
03250550	5 x 2 x 0,50	9,4	48,0	105
03250650	6 x 2 x 0,50	9,6	57,6	120
03250750	7 x 2 x 0,50	9,9	67,2	128
03250850	8 x 2 x 0,50	10,6	76,8	146
03251050	10 x 2 x 0,50	11,8	96,0	174
03251250	12 x 2 x 0,50	13,4	115,2	216
03251450	14 x 2 x 0,50	14,6	134,4	259
03251850	18 x 2 x 0,50	15,3	172,8	311
03252450	24 x 2 x 0,50	17,8	230,4	406
03250275	2 x 2 x 0,75	7,3	28,8	63
03250375	3 x 2 x 0,75	8,6	43,2	87
03250475	4 x 2 x 0,75	9,9	57,6	118
03250575	5 x 2 x 0,75	10,7	72,0	140
03250675	6 x 2 x 0,75	11,1	86,4	164
03250775	7 x 2 x 0,75	11,4	100,8	173
03250875	8 x 2 x 0,75	12,7	115,2	207
03251075	10 x 2 x 0,75	14,0	144,0	251
03251275	12 x 2 x 0,75	15,9	172,8	309
03251475	14 x 2 x 0,75	16,8	201,6	351
03251875	18 x 2 x 0,75	18,1	259,2	443
03252475	24 x 2 x 0,75	20,6	345,6	559

Other dimensions and colours are possible on request.

with colour code DIN 47100

LiYCY PVC data cable with overall copper screen

RoHS

Marking for LiYCY 03150714:
SAB BRÖCKSKES · D-VIERSEN · LIYCY 7 x 0,14 mm² CE

Construction:

Conductor:	bare copper strands with reference to DIN VDE 0812
Insulation:	PVC, YI2 acc. to DIN VDE 0207 part 4
Colour code:	with reference to DIN 47100
Stranding:	in layers
Wrapping:	PETP foil
Screen:	tinned copper braiding
Sheath material:	PVC, YM1 acc. to DIN VDE 0207 part 5
Sheath colour:	grey (RAL 7032)

Outstanding features:

- good EMC characteristic
- flexible
- small outer diameter
- small bending radius

Technical data:

Peak operating voltage:	< 0,25 mm² = max. 350 V ≥ 0,25 mm² = max. 500 V
Testing voltage:	< 0,25 mm² = 800 V ≥ 0,25 mm² = 1200 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d
Capacitance:	see page N/8
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	 -30/+70 °C -5/+70 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Oil resistance:	acc. to internal standard, see page N/13
Chem. resistance:	see page N/9
Colour code:	see page N/10
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
03150214	2 x 0,14	3,6	12,6	18
03150314	3 x 0,14	3,8	14,1	21
03150414	4 x 0,14	4,0	15,9	24
03150514	5 x 0,14	4,3	19,5	29
03150614	6 x 0,14	4,6	22,0	33
03150714	7 x 0,14	4,6	24,0	33
03150814	8 x 0,14	5,4	26,0	44
03151014	10 x 0,14	5,8	29,0	47
03151214	12 x 0,14	6,2	32,0	55
03151414	14 x 0,14	6,4	35,0	61
03151614	16 x 0,14	6,7	49,0	69
03151814	18 x 0,14	7,0	54,0	75
03152014	20 x 0,14	7,3	58,0	82
03152114	21 x 0,14	7,6	60,0	87
03152414	24 x 0,14	8,0	74,0	92
03152514	25 x 0,14	8,6	78,0	102
03152714	27 x 0,14	8,6	85,0	106
03153014	30 x 0,14	8,8	98,0	116
03153214	32 x 0,14	9,1	108,0	122
03153614	36 x 0,14	9,4	117,0	133
03154014	40 x 0,14	10,0	126,0	148
03154414	44 x 0,14	10,6	138,0	168
03154814	48 x 0,14	10,8	145,0	177
03155014	50 x 0,14	11,0	150,0	183
03155214	52 x 0,14	11,0	155,0	187
03155614	56 x 0,14	11,3	166,0	202
03156114	61 x 0,14	11,6	176,0	213
03150125	1 x 0,25	2,7	8,0	13
03150225	2 x 0,25	3,9	15,0	23

item no.	no. of cores x cross section n x mm²	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
03150325	3 x 0,25	4,1	18,0	26
03150425	4 x 0,25	4,4	22,0	31
03150525	5 x 0,25	4,9	25,0	38
03150625	6 x 0,25	5,3	30,0	45
03150725	7 x 0,25	5,3	32,0	46
03150825	8 x 0,25	6,1	35,0	59
03150925	9 x 0,25	6,5	39,0	67
03151025	10 x 0,25	6,6	42,0	65
03151225	12 x 0,25	6,8	50,0	73
03151425	14 x 0,25	7,1	64,0	81
03151525	15 x 0,25	7,4	68,0	90
03151625	16 x 0,25	7,4	71,0	91
03151825	18 x 0,25	7,8	80,0	102
03152025	20 x 0,25	8,5	96,0	117
03152125	21 x 0,25	8,8	105,0	125
03152425	24 x 0,25	9,3	115,0	133
03152525	25 x 0,25	9,5	117,0	139
03152725	27 x 0,25	9,5	120,0	145
03153025	30 x 0,25	9,8	132,0	157
03153225	32 x 0,25	10,1	138,0	166
03153625	36 x 0,25	10,7	152,0	195
03154025	40 x 0,25	11,3	164,0	217
03154425	44 x 0,25	11,8	180,0	229
03154825	48 x 0,25	12,4	209,0	254
03155025	50 x 0,25	12,7	222,0	262
03155225	52 x 0,25	12,7	234,0	269
03155625	56 x 0,25	13,0	259,0	288
03156125	61 x 0,25	13,4	287,0	306

Continued on next page

with colour code DIN 47100

LiYCY PVC data cable with overall copper screen

RoHS

Marking for LiYCY 03150714:
SAB BRÖCKSKES · D-VIERSEN · LIYCY 7 x 0,14 mm² CE

item no.	no. of cores x cross section n x mm²	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
03150234	2 x 0,34	4,5	17,0	29
03150334	3 x 0,34	4,9	21,0	35
03150434	4 x 0,34	5,3	25,0	43
03150534	5 x 0,34	5,7	30,0	52
03150634	6 x 0,34	6,4	37,0	64
03150734	7 x 0,34	6,4	42,0	65
03150834	8 x 0,34	7,2	45,0	81
03151034	10 x 0,34	7,8	63,0	89
03151234	12 x 0,34	8,0	70,0	100
03151434	14 x 0,34	8,8	78,0	121
03151634	16 x 0,34	9,2	87,0	134
03151834	18 x 0,34	9,7	108,0	150
03152034	20 x 0,34	10,1	124,0	163
03152134	21 x 0,34	10,7	127,0	185
03152434	24 x 0,34	11,3	140,0	200
03152734	27 x 0,34	11,5	151,0	216
03153034	30 x 0,34	11,9	162,0	233
03153234	32 x 0,34	12,7	171,0	257
03153634	36 x 0,34	13,2	188,0	285
03154034	40 x 0,34	14,0	208,0	316
03154234	42 x 0,34	14,0	215,0	326
03154434	44 x 0,34	14,6	223,0	334
03154834	48 x 0,34	14,8	243,0	355
03155034	50 x 0,34	15,8	248,0	402
03155234	52 x 0,34	15,8	273,0	412
03155634	56 x 0,34	16,2	292,0	437
03156134	61 x 0,34	16,7	316,0	464
03150150	1 x 0,50	3,2	13,3	19
03150250	2 x 0,50	5,0	23,5	36
03150350	3 x 0,50	5,2	28,4	42
03150450	4 x 0,50	5,6	35,1	51
03150550	5 x 0,50	6,3	41,6	64
03150650	6 x 0,50	6,8	48,3	75
03150750	7 x 0,50	6,8	53,1	78
03150850	8 x 0,50	7,8	62,0	99
03151050	10 x 0,50	8,8	74,5	115
03151250	12 x 0,50	9,0	84,2	128
03151450	14 x 0,50	9,4	93,5	143
03151650	16 x 0,50	9,9	105,9	162
03151850	18 x 0,50	10,6	133,9	191
03152050	20 x 0,50	11,1	143,8	208
03152150	21 x 0,50	11,6	154,9	224
03152450	24 x 0,50	12,6	169,7	248
03152550	25 x 0,50	12,8	174,6	256

item no.	no. of cores x cross section n x mm²	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
03152750	27 x 0,50	12,8	184,2	269
03153050	30 x 0,50	13,2	203,6	293
03153250	32 x 0,50	13,7	213,5	311
03153650	36 x 0,50	14,2	239,0	344
03154050	40 x 0,50	15,8	289,4	416
03154250	42 x 0,50	15,8	299,0	429
03155050	50 x 0,50	17,0	349,7	487
03155250	52 x 0,50	17,0	359,3	500
03156150	61 x 0,50	18,0	403,7	565
03150175	1 x 0,75	3,5	15,7	22
03150275	2 x 0,75	5,6	30,3	45
03150375	3 x 0,75	6,1	37,6	56
03150475	4 x 0,75	6,6	46,5	68
03150575	5 x 0,75	7,1	55,7	83
03150675	6 x 0,75	7,7	66,8	99
03150775	7 x 0,75	7,7	74,0	103
03150875	8 x 0,75	9,2	83,8	136
03151075	10 x 0,75	10,0	101,1	150
03151275	12 x 0,75	10,5	133,9	183
03151475	14 x 0,75	11,0	148,5	203
03151675	16 x 0,75	11,5	169,2	231
03151875	18 x 0,75	12,4	184,0	264
03152175	21 x 0,75	13,6	211,0	307
03152475	24 x 0,75	14,4	239,1	333
03152775	27 x 0,75	14,7	260,9	363
03153075	30 x 0,75	15,8	313,4	428
03153275	32 x 0,75	16,3	328,3	453
03153675	36 x 0,75	16,9	357,8	496
03150180	1 x 1,00	3,6	18,2	25
03150280	2 x 1,00	5,8	35,2	50
03150380	3 x 1,00	6,3	46,4	64
03150480	4 x 1,00	6,8	57,9	79
03150580	5 x 1,00	7,4	69,6	96
03150680	6 x 1,00	8,0	81,3	113
03150780	7 x 1,00	8,0	90,9	120
03150185	1 x 1,50	3,8	24,7	31
03150285	2 x 1,50	6,5	46,5	68
03150385	3 x 1,50	6,8	62,7	79
03150485	4 x 1,50	7,4	79,2	98
03150585	5 x 1,50	8,6	95,8	131
03150685	6 x 1,50	9,3	112,7	155
03150785	7 x 1,50	9,3	127,1	164

Other dimensions and colours are possible on request.

with colour code DIN 47100

LiYCY (B) TP Paired PVC data cable with overall copper screen

RoHS

Marking for LiYCY (B)) TP 03450325:
SAB BRÖCKSKES · D-VIERSEN · LIYCY (B) TP 3 x 2 x 0,25 mm² CE

Construction:

Conductor:	bare copper strands with reference to DIN VDE 0812
Insulation:	PVC, YI2 acc. to DIN VDE 0207 part 4
Colour code:	with reference to DIN 47100
Stranding:	cores twisted to pairs, pairs twisted in layers
Wrapping:	PETP foil
Screen:	tinned copper braiding with a tinned copper drain wire (0,34 mm²)
Sheath material:	PVC, YM1 acc. to DIN VDE 0207 part 5
Sheath colour:	grey (RAL 7032)

Outstanding features:

- **good EMC characteristic**
- **flexible**
- **small outer diameter**
- **small bending radius**

Technical data:

Peak operating voltage:	< 0,25 mm² = max. 350 V ≥ 0,25 mm² = max. 500 V
Testing voltage:	< 0,25 mm² = 800 V ≥ 0,25 mm² = 1200 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d
Capacitance:	see page N/8
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	 -30/+70 °C -5/+70 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Oil resistance:	acc. to internal standard, see page N/13
Chem. resistance:	see page N/9
Colour code:	see page N/10
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of pairs x cross section n x 2 x mm²	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
03450214	2 x 2 x 0,14	5,2	19,1	34
03450314	3 x 2 x 0,14	5,7	23,4	41
03450414	4 x 2 x 0,14	6,5	27,8	53
03450514	5 x 2 x 0,14	7,0	31,9	60
03450614	6 x 2 x 0,14	7,2	36,2	68
03450814	8 x 2 x 0,14	7,8	43,4	80
03451014	10 x 2 x 0,14	8,9	50,6	100
03451214	12 x 2 x 0,14	9,7	58,2	111
03451614	16 x 2 x 0,14	10,5	71,4	136
03451814	18 x 2 x 0,14	11,1	92,8	159
03452014	20 x 2 x 0,14	11,1	98,1	164
03452414	24 x 2 x 0,14	12,8	114,8	203
03452514	25 x 2 x 0,14	12,8	117,5	207
03452814	28 x 2 x 0,14	13,1	125,7	221
03453014	30 x 2 x 0,14	13,8	135,6	237
03453614	36 x 2 x 0,14	14,6	157,3	275
03454014	40 x 2 x 0,14	14,9	168,2	296
03454414	44 x 2 x 0,14	16,3	205,9	348
03455214	52 x 2 x 0,14	17,0	228,1	388
03456114	61 x 2 x 0,14	18,3	263,2	443
03450225	2 x 2 x 0,25	5,7	24,9	42
03450325	3 x 2 x 0,25	6,4	31,4	55
03450625	6 x 2 x 0,25	7,9	50,7	85
03450825	8 x 2 x 0,25	9,0	62,1	109
03451025	10 x 2 x 0,25	9,8	73,9	132
03451225	12 x 2 x 0,25	10,9	101,9	160
03451625	16 x 2 x 0,25	11,9	126,8	195
03451825	18 x 2 x 0,25	12,7	136,6	222
03452425	24 x 2 x 0,25	14,2	170,3	270
03450234	2 x 2 x 0,34	6,8	31,5	57
03450334	3 x 2 x 0,34	7,4	39,7	72
03450434	4 x 2 x 0,34	8,8	49,8	99
03450534	5 x 2 x 0,34	9,5	58,5	116
03450634	6 x 2 x 0,34	9,7	65,1	128
03450834	8 x 2 x 0,34	10,6	80,7	144
03451234	12 x 2 x 0,34	13,4	133,1	225
03451634	16 x 2 x 0,34	14,6	165,0	280
03451834	18 x 2 x 0,34	15,1	178,3	306
03452434	24 x 2 x 0,34	17,6	255,1	415
03450250	2 x 2 x 0,50	7,2	39,3	66
03450350	3 x 2 x 0,50	7,9	50,1	84
03450650	6 x 2 x 0,50	10,4	86,0	146
03450850	8 x 2 x 0,50	10,9	111,5	166
03451050	10 x 2 x 0,50	13,2	146,5	229
03451250	12 x 2 x 0,50	14,4	175,7	268
03451650	16 x 2 x 0,50	16,3	241,3	368
03451850	18 x 2 x 0,50	16,9	261,0	399
03452050	20 x 2 x 0,50	16,9	280,2	418
03452450	24 x 2 x 0,50	19,0	330,4	491
03450275	2 x 2 x 0,75	8,5	52,4	92
03450375	3 x 2 x 0,75	9,4	69,4	112
03450675	6 x 2 x 0,75	12,5	136,5	218
03451275	12 x 2 x 0,75	17,1	261,2	385
03451675	16 x 2 x 0,75	18,6	329,9	482
03451875	18 x 2 x 0,75	19,3	369,3	535
03452475	24 x 2 x 0,75	21,8	469,2	661

Other dimensions and colours are possible on request.

SAB BRÖCKSKES

extra fine wires

LiFYCY (B) TP Paired PVC data cable with overall copper screen, twisted pairs

RoHS

Marking for LiFYCY (B) TP 03030820:
SAB BRÖCKSKES · D-VIERSEN · LIFYCY (B) TP 8 x 2 x 0,2 mm² C

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	PVC, YI2 acc. to DIN VDE 0207 part 4
Colour code:	with reference to DIN 47100
Stranding:	cores twisted to pairs, pairs twisted in layers
Wrapping:	PETP foil
Screen:	tinned copper braiding with a tinned copper drain wire (0,25 mm²)
Sheath material:	PVC, YM1 acc. to DIN VDE 0207 part 5
Sheath colour:	grey (RAL 7032)

Outstanding features:

- **good EMC characteristic**
- **highly flexible**
- **good handling**
- **small bending radius**

Technical data:

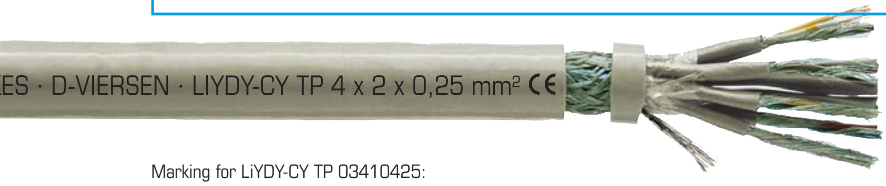
Peak operating voltage:	max. 350 V
Testing voltage:	800 V
Min. bending radius *fixed laying:* *flexible application:*	5 x d 10 x d
Capacitance:	see page N/8
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	-30/+70 °C -5/+70 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Oil resistance:	acc. to internal standard, see page N/13
Chem. resistance:	see page N/9
Colour code:	see page N/10
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of pairs x cross section n x 2 x mm²	nominal wire ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
03030220	2 x 2 x 0,20	0,05	5,4	22,1	38
03030320	3 x 2 x 0,20	0,05	6,1	27,6	50
03030420	4 x 2 x 0,20	0,05	6,9	33,0	58
03030620	6 x 2 x 0,20	0,05	7,5	42,4	76
03030820	8 x 2 x 0,20	0,05	9,0	53,7	103
03031220	12 x 2 x 0,20	0,05	10,3	73,6	133
03031820	18 x 2 x 0,20	0,05	11,8	118,3	191
03032420	24 x 2 x 0,20	0,05	13,6	146,2	243
03033220	32 x 2 x 0,20	0,05	15,1	182,9	305

Other dimensions and colours are possible on request.

very good EMC

LiYDY-CY TP Paired PVC data cable with pair-wise and overall copper screen



RoHS

Marking for LiYDY-CY TP 03410425:
SAB BRÖCKSKES · D-VIERSEN · LIYDY-CY TP 4 x 2 x 0,25 mm² CE

Construction:

Conductor:	bare copper strands with reference to DIN VDE 0812
Insulation:	PVC, YI2 acc. to DIN VDE 0207 part 4
Colour code:	with reference to DIN 47100
Stranding:	2 cores twisted to pairs
Screen:	wrapped pair-wise with tinned copper wires
Inner sheath:	pair-wise PVC, YM1 acc. to DIN VDE 0207 part 5
Stranding:	pairs in concentric layers
Wrapping:	PETP foil
Screen:	tinned copper braiding with a tinned copper drain wire (equal to conductor section)
Sheath material:	PVC, YM1 acc. to DIN VDE 0207 part 5
Sheath colour:	grey (RAL 7032)

Outstanding features:

- **very good EMC characteristic**
- **flexible**

Technical data:

Peak operating voltage:	< 0,25 mm² = max. 350 V ≥ 0,25 mm² = max. 500 V
Testing voltage:	< 0,25 mm² = 800 V ≥ 0,25 mm² = 1200 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d
Capacitance:	see page N/8
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	 -30/+70 °C -5/+70 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Oil resistance:	acc. to internal standard, see page N/13
Chem. resistance:	see page N/9
Colour code:	see page N/10
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of pairs x cross section n x 2 x mm²	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
03410214	2 x 2 x 0,14	8,1	35,6	82
03410314	3 x 2 x 0,14	9,2	45,4	111
03410414	4 x 2 x 0,14	9,9	55,4	127
03410614	6 x 2 x 0,14	11,8	95,0	187
03410814	8 x 2 x 0,14	13,8	115,6	245
03411014	10 x 2 x 0,14	14,8	153,9	297
03411214	12 x 2 x 0,14	15,6	179,5	331
03411414	14 x 2 x 0,14	15,7	189,7	352
03411614	16 x 2 x 0,14	17,3	221,7	415
03412414	24 x 2 x 0,14	20,4	297,4	571
03410225	2 x 2 x 0,25	8,4	41,2	92
03410325	3 x 2 x 0,25	9,4	53,2	122
03410425	4 x 2 x 0,25	11,6	89,2	176
03410625	6 x 2 x 0,25	13,9	114,5	241
03410825	8 x 2 x 0,25	15,1	157,2	313
03411025	10 x 2 x 0,25	16,5	187,7	354
03411225	12 x 2 x 0,25	16,9	208,1	389
03411425	14 x 2 x 0,25	17,4	238,2	426
03411625	16 x 2 x 0,25	18,7	259,7	480
03412425	24 x 2 x 0,25	23,7	365,9	709

item no.	no. of pairs x cross section n x 2 x mm²	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
03410234	2 x 2 x 0,34	10,6	57,4	133
03410334	3 x 2 x 0,34	11,2	70,9	152
03410434	4 x 2 x 0,34	12,2	99,9	198
03410634	6 x 2 x 0,34	14,6	142,0	280
03410834	8 x 2 x 0,34	17,1	201,3	382
03411034	10 x 2 x 0,34	18,4	223,9	429
03411234	12 x 2 x 0,34	18,8	249,2	474
03411434	14 x 2 x 0,34	20,6	316,6	574
03411634	16 x 2 x 0,34	20,9	343,2	626
03412434	24 x 2 x 0,34	24,8	446,5	851
03410250	2 x 2 x 0,50	10,8	61,8	142
03410350	3 x 2 x 0,50	11,2	77,8	167
03410450	4 x 2 x 0,50	13,4	115,6	233
03410650	6 x 2 x 0,50	15,0	174,3	322
03410850	8 x 2 x 0,50	18,2	227,8	433
03411050	10 x 2 x 0,50	19,9	270,8	505
03411250	12 x 2 x 0,50	20,8	303,7	555
03411450	14 x 2 x 0,50	21,4	336,2	607
03411650	16 x 2 x 0,50	23,1	393,7	696
03412450	24 x 2 x 0,50	26,5	533,9	960

Other dimensions and colours are possible on request.

SRY D 311 Semi-rigid PVC data cable

RoHS

Marking for SRY D 311 03110322:
SAB BRÖCKSKES · D-VIERSEN · 03112522 SRY D 311 22 AWG/25c 03112225
UL AWM Style 2464 80°C 300V CSA AWM I/II A/B 80°C 300V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to ASTM B 286
Insulation:	semi-rigid PVC
Colour code:	colour code US 2 see page N/11
Stranding:	in layers
Sheath material:	PVC, YM1 acc. to DIN VDE 0207 part 5
Sheath colour:	grey (RAL 7032)

Outstanding features:

- **flexible**
- **small outer diameter**
- **small bending radius**

Technical data:

Voltage UL/CSA:	300 V	
Testing voltage:	1500 V	
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d	
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** -30/+70 °C - 5/+70 °C	**UL/CSA** up to + 80 °C up to + 80 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, CSA FT1 FT2	
Oil resistance:	acc. to internal standard, see page N/13	
Chem. resistance:	see page N/9	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

On request also possible with colour code
DIN 47100
see page N/10

item no.	no. of cores x cross section n x AWG	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
03110226	2 x 26	3,6	2,7	16
03110326	3 x 26	3,8	4,0	19
03110426	4 x 26	4,0	5,4	21
03110526	5 x 26	4,3	6,7	25
03110726	7 x 26	4,7	9,4	30
03110826	8 x 26	5,2	10,8	36
03111226	12 x 26	5,7	16,1	45
03111626	16 x 26	6,3	21,5	56
03111826	18 x 26	6,6	24,2	61
03112526	25 x 26	7,8	33,6	80
03110224	2 x 24	3,9	4,4	20
03110324	3 x 24	4,1	6,6	23
03110424	4 x 24	4,3	8,8	27
03110524	5 x 24	4,7	11,0	32
03110724	7 x 24	5,0	15,5	39
03110824	8 x 24	5,7	17,7	45
03111224	12 x 24	6,3	26,5	59
03111624	16 x 24	6,9	35,3	74
03111824	18 x 24	7,2	39,7	82
03112524	25 x 24	8,5	55,2	107
03110222	2 x 22	4,2	6,9	24
03110322	3 x 22	4,4	10,4	29
03110422	4 x 22	4,7	13,8	34
03110522	5 x 22	5,1	17,3	41
03110722	7 x 22	5,5	24,2	51
03110822	8 x 22	6,2	27,6	60

item no.	no. of cores x cross section n x AWG	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
03111222	12 x 22	6,9	41,5	78
03111622	16 x 22	7,6	55,3	100
03111822	18 x 22	8,0	62,2	110
03112522	25 x 22	9,4	86,4	146
03110220	2 x 20	4,7	11,9	33
03110320	3 x 20	4,9	17,9	40
03110420	4 x 20	5,3	23,8	48
03110520	5 x 20	5,7	29,8	57
03110720	7 x 20	6,2	41,7	73
03111220	12 x 20	7,9	71,4	115
03111820	18 x 20	9,2	107,1	164
03112520	25 x 20	12,4	148,8	228
03110218	2 x 18	5,2	18,4	43
03110318	3 x 18	5,4	27,6	53
03110418	4 x 18	5,9	36,9	66
03110518	5 x 18	6,4	46,1	79
03110718	7 x 18	6,9	64,5	102
03111218	12 x 18	8,9	110,6	164
03111818	18 x 18	10,6	165,9	238
03112518	25 x 18	13,1	230,4	321
03110216	2 x 16	5,5	23,6	51
03110316	3 x 16	5,8	35,4	64
03110416	4 x 16	6,2	47,2	78
03110516	5 x 16	6,8	59,0	92
03110716	7 x 16	7,4	82,7	123

Other dimensions and colours are possible on request.

SRY D 321 C Semi-rigid PVC data cable with overall copper screen

Marking for SRY D 321 C 03210322:
SAB BRÖCKSKES · D-VIERSEN · 03210722 SRY D 321 C 22 AWG/7c 03212207
UL AWM Style 2464 80°C 300V CSA AWM I/II A/B 80°C 300V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to. ASTM B 286
Insulation:	semi-rigid PVC
Colour code:	colour code US 2 see page N/11
Stranding:	in layers
Wrapping:	PETP foil
Screen:	tinned copper braiding
Sheath material:	PVC, YM1 acc. to DIN VDE 0207 part 5
Sheath colour:	grey (RAL 7032)

Outstanding features:

- **good EMC characteristic**
- **flexible**
- **small outer diameter**
- **small bending radius**

Technical data:

Voltage UL/CSA:	300 V	
Testing voltage:	1500 V	
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d	
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** -30/+70 °C - 5/+70 °C	**UL/CSA** up to + 80 °C up to + 80 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, CSA FT1 FT2	
Oil resistance:	acc. to internal standard, see page N/13	
Chem. resistance:	see page N/9	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

On request also possible with colour code
DIN 47100
see page N/10

item no.	no. of cores x cross section n x AWG	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
03210226	2 x 26	4,1	9,5	22
03210326	3 x 26	4,3	10,8	24
03210426	4 x 26	4,5	12,2	26
03210526	5 x 26	4,8	15,3	31
03210726	7 x 26	5,1	18,0	36
03210826	8 x 26	5,7	21,2	44
03211226	12 x 26	6,2	26,6	52
03211626	16 x 26	6,8	33,9	64
03211826	18 x 26	7,1	38,4	71
03212526	25 x 26	8,2	50,0	91
03210224	2 x 24	4,4	11,2	25
03210324	3 x 24	4,6	13,4	28
03210424	4 x 24	4,9	17,4	33
03210524	5 x 24	5,2	19,6	38
03210724	7 x 24	5,5	25,8	46
03210824	8 x 24	6,2	28,2	55
03211024	10 x 24	6,6	34,4	60
03211224	12 x 24	6,8	38,9	67
03211624	16 x 24	7,4	49,7	84
03211824	18 x 24	7,8	54,2	92
03212524	25 x 24	9,2	73,8	123
03210222	2 x 22	4,7	13,7	28
03210322	3 x 22	4,9	18,9	34
03210422	4 x 22	5,2	22,4	40
03210522	5 x 22	5,6	27,7	47
03210722	7 x 22	6,0	34,6	57
03210822	8 x 22	6,7	40,0	68
03211022	10 x 22	7,2	48,8	78
03211222	12 x 22	7,4	55,8	87

item no.	no. of cores x cross section n x AWG	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
03211622	16 x 22	8,1	71,7	110
03211822	18 x 22	8,7	78,8	124
03212522	25 x 22	10,1	107,4	136
03210220	2 x 20	5,2	20,5	37
03210320	3 x 20	5,4	26,5	44
03210420	4 x 20	5,8	34,2	54
03210520	5 x 20	6,2	40,3	63
03210620	6 x 20	6,7	48,1	74
03210720	7 x 20	6,7	54,0	80
03211020	10 x 20	8,2	76,0	109
03211220	12 x 20	8,5	87,9	127
03211820	18 x 20	9,9	126,1	179
03212520	25 x 20	11,6	172,8	238
03210218	2 x 18	5,6	28,8	47
03210318	3 x 18	5,9	38,1	57
03210418	4 x 18	6,3	49,1	71
03210518	5 x 18	6,9	60,3	86
03210718	7 x 18	7,4	78,8	108
03210818	8 x 18	8,6	90,2	131
03211218	12 x 18	9,6	129,4	176
03211818	18 x 18	11,1	189,5	251
03212518	25 x 18	13,4	258,9	346
03210216	2 x 16	6,0	34,1	54
03210316	3 x 16	6,2	45,9	67
03210416	4 x 16	6,7	59,6	83
03210516	5 x 16	7,3	73,3	101
03210716	7 x 16	7,9	99,0	130
03210816	8 x 16	9,1	113,1	157
03211216	12 x 16	10,2	162,8	212

Other dimensions and colours are possible on request.

SRY D 351 C (B) TP Semi-rigid paired PVC data cable with overall copper screen

Marking for SRY D 351 C (B) TP 03510322:
SAB BRÖCKSKES · D-VIERSEN · 03510322 SRY D 351 C (B) TP 22 AWG/3pr 03512203
AWM Style 2464 80°C 300V CSA AWM I/II A/B 80°C 300V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to. ASTM B 286
Insulation:	semi-rigid PVC
Colour code:	colour code US 3 see page N/11
Stranding:	cores twisted to pairs, pairs twisted in layers
Wrapping:	PETP foil
Screen:	tinned copper braiding with a tinned copper drain wire ≙ (0,22 mm²)
Sheath material:	PVC, YM1 acc. to DIN VDE 0207 part 5
Sheath colour:	grey (RAL 7032)

Technical data:

Voltage UL/CSA:	300 V	
Testing voltage:	1500 V	
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d	
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** -30/+70 °C - 5/+70 °C	**UL/CSA** up to + 80 °C up to + 80 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, CSA FT1 FT2	
Oil resistance:	acc. to internal standard, see page N/13	
Chem. resistance:	see page N/9	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

Outstanding features:

- good EMC characteristic
- flexible
- small outer diameter
- small bending radius

On request also possible with colour code
DIN 47100
see page N/10

item no.	no. of pairs x cross section n x 2 x AWG	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
03510226	2 x 2 x 26	5,5	14,9	34
03510326	3 x 2 x 26	6,1	19,2	43
03510426	4 x 2 x 26	6,8	23,5	49
03510526	5 x 2 x 26	7,3	26,3	56
03510726	7 x 2 x 26	7,6	33,3	66
03510826	8 x 2 x 26	8,1	36,1	72
03511026	10 x 2 x 26	9,0	43,3	89
03511226	12 x 2 x 26	9,8	50,6	102
03511626	16 x 2 x 26	10,6	63,4	125
03511826	18 x 2 x 26	10,9	70,6	136
03512526	25 x 2 x 26	12,7	90,3	182
03512626	26 x 2 x 26	12,6	92,9	185
03510224	2 x 2 x 24	5,9	19,9	42
03510324	3 x 2 x 24	6,6	24,4	51
03510424	4 x 2 x 24	7,4	30,5	59
03510524	5 x 2 x 24	7,9	36,6	69
03510724	7 x 2 x 24	8,5	47,2	87
03510824	8 x 2 x 24	9,0	51,7	95
03511024	10 x 2 x 24	9,8	62,5	113
03511224	12 x 2 x 24	10,7	73,4	130
03511624	16 x 2 x 24	11,6	93,3	161
03511824	18 x 2 x 24	12,4	102,4	189
03512524	25 x 2 x 24	14,0	137,3	239
03512624	26 x 2 x 24	14,3	141,9	247
03510222	2 x 2 x 22	6,4	25,0	50
03510322	3 x 2 x 22	7,1	33,5	62
03510422	4 x 2 x 22	8,0	42,2	74

item no.	no. of pairs x cross section n x 2 x AWG	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
03510522	5 x 2 x 22	8,8	50,9	91
03510722	7 x 2 x 22	9,3	64,9	110
03511222	12 x 2 x 22	11,8	105,7	170
03511822	18 x 2 x 22	13,7	151,2	246
03512522	25 x 2 x 22	15,8	203,0	332
03510220	2 x 2 x 20	7,0	36,6	64
03510320	3 x 2 x 20	7,6	50,3	80
03510420	4 x 2 x 20	9,2	64,1	104
03510520	5 x 2 x 20	9,9	77,9	124
03510720	7 x 2 x 20	10,4	103,6	155
03511220	12 x 2 x 20	13,9	169,7	255
03511820	18 x 2 x 20	16,0	244,6	368
03512520	25 x 2 x 20	18,1	336,9	484
03510218	2 x 2 x 18	7,8	51,4	81
03510318	3 x 2 x 18	9,0	71,7	114
03510418	4 x 2 x 18	10,2	92,3	138
03510518	5 x 2 x 18	11,1	112,8	166
03510718	7 x 2 x 18	11,7	151,7	211
03511218	12 x 2 x 18	16,0	251,6	365
03511818	18 x 2 x 18	18,0	366,1	511
03512518	25 x 2 x 18	20,6	521,4	692
03510216	2 x 2 x 16	8,2	61,9	96
03510316	3 x 2 x 16	9,6	89,1	133
03510416	4 x 2 x 16	10,9	115,0	164
03510516	5 x 2 x 16	11,8	140,8	198
03510716	7 x 2 x 16	12,9	188,5	264
03510816	8 x 2 x 16	13,8	215,8	297

Other dimensions and colours are possible on request.

DC 300 DS Semi-rigid PVC data cable with double screen

Marking for DC 300 DS 03242526:
SAB BRÖCKSKES · D-VIERSEN · 03242526 DC 300 DS 26 AWG/25c 03242625
UL AWM Style 2464 80°C 300V CSA AWM I/II A/B 80°C 300V FT1 FT2 CE

Construction:

Conductor:	tinned copper strands acc. to. ASTM B 286
Insulation:	semi-rigid PVC
Colour code:	colour code US 2 see page N/11
Stranding:	in layers
Screen:	double screen, Alu-foil plus tinned copper braiding with tinned drain wire (0,22 mm²)
Sheath material:	PVC, YM1 acc. to DIN VDE 0207 part 5
Sheath colour:	grey (RAL 7032)

Outstanding features:

- **very good EMC characteristic**
- **small outer diameter**
- **small bending radius**

Technical data:

Voltage UL/CSA:	300 V	
Peak operating voltage:	max. 350 V	
Testing voltage:	800 V	
Min. bending radius		
fixed laying:	5 x d	
flexible application:	10 x d	
Radiation resistance:	8 x 10^7 cJ/kg	
Temperature range		**UL/CSA**
fixed laying:	-30/+70 °C	up to + 80 °C
flexible application:	- 5/+70 °C	up to + 80 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW1, CSA FT1 FT2	
Oil resistance:	acc. to internal standard, see page N/13	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

item no.	no. of cores x cross section n x AWG	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
03240228	2 x 28	4,3	8,9	21
03240328	3 x 28	4,4	11,5	24
03240428	4 x 28	4,6	12,4	26
03240528	5 x 28	4,9	13,2	30
03240728	7 x 28	5,1	16,7	34
03241028	10 x 28	6,0	21,1	43
03241228	12 x 28	6,2	22,9	47
03241428	14 x 28	6,4	24,7	50
03241828	18 x 28	6,9	30,0	61
03242528	25 x 28	7,9	38,1	75
03240226	2 x 26	4,5	11,6	24
03240326	3 x 26	4,6	12,9	26
03240426	4 x 26	4,9	14,3	30
03240526	5 x 26	5,1	17,4	35
03240726	7 x 26	5,4	20,1	39
03241026	10 x 26	6,4	26,0	50
03241226	12 x 26	6,6	30,5	56
03241426	14 x 26	6,8	33,2	61
03241826	18 x 26	7,4	40,5	75
03242526	25 x 26	8,5	52,1	94

item no.	no. of cores x cross section n x AWG	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
03240224	2 x 24	4,7	13,3	27
03240324	3 x 24	4,9	15,5	30
03240424	4 x 24	5,1	19,5	35
03240524	5 x 24	5,5	21,7	41
03240724	7 x 24	5,8	27,9	48
03241024	10 x 24	6,9	36,5	63
03241224	12 x 24	7,1	41,0	70
03241424	14 x 24	7,3	45,4	77
03241824	18 x 24	8,0	56,3	95
03242524	25 x 24	9,3	75,9	122
03240222	2 x 22	5,0	15,8	31
03240322	3 x 22	5,2	21,0	37
03240422	4 x 22	5,5	24,5	42
03240522	5 x 22	5,9	29,8	51
03240722	7 x 22	6,3	36,7	60
03241022	10 x 22	7,5	50,9	80
03241222	12 x 22	7,7	57,9	90
03241422	14 x 22	8,0	64,9	100
03241822	18 x 22	8,8	80,9	124
03242522	25 x 22	10,3	109,5	164

Other dimensions and colours are possible on request.

DC 300 DS TP Semi-rigid paired PVC data cable with double screen

Marking for DC 300 DS TP 03840326:
SAB BRÖCKSKES · D-VIERSEN · 03840326 DC 300 DS TP 26 AWG/3pr 03842603
AWM Style 2464 80°C 300V CSA AWM I/II A/B 80°C 300V FT1 FT2 CE

Construction:

Conductor:	tinned copper strands acc. to. ASTM B 286
Insulation:	semi-rigid PVC
Colour code:	colour code US 3 see page N/11
Stranding:	cores twisted to pairs, pairs twisted in layers
Screen:	double screen, Alu-foil plus tinned copper braiding with tinned drain wire (0,22 mm²)
Sheath material:	PVC, YM1 acc. to DIN VDE 0207 part 5
Sheath colour:	grey (RAL 7032)

Outstanding features:

- **very good EMC characteristic**
- **small outer diameter**
- **small bending radius**

Technical data:

Voltage UL/CSA:	300 V	
Peak operating voltage:	max. 350 V	
Testing voltage:	800 V	
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d	
Radiation resistance:	8 x 10^7 cJ/kg	
Temperature range *fixed laying:* *flexible application:*	 -30/+70 °C - 5/+70 °C	**UL/CSA** up to + 80 °C up to + 80 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW1, CSA FT1 FT2	
Oil resistance:	acc. to internal standard, see page N/13	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

item no.	no. of pairs x cross section n x 2 x AWG	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
03840228	2 x 2 x 28	5,1	13,0	29
03840328	3 x 2 x 28	5,5	14,7	34
03840428	4 x 2 x 28	6,1	18,0	40
03840528	5 x 2 x 28	6,5	19,8	46
03840728	7 x 2 x 28	6,9	24,9	53
03841028	10 x 2 x 28	7,9	31,9	67
03841428	14 x 2 x 28	9,0	40,7	85
03841828	18 x 2 x 28	9,6	49,5	104
03842528	25 x 2 x 28	10,8	63,8	130
03840226	2 x 2 x 26	5,4	14,9	33
03840326	3 x 2 x 26	5,9	19,2	40
03840426	4 x 2 x 26	6,6	23,5	48
03840526	5 x 2 x 26	7,0	26,2	56
03840726	7 x 2 x 26	7,3	31,7	63
03841026	10 x 2 x 26	8,5	43,2	83
03841426	14 x 2 x 26	9,8	56,1	108
03841826	18 x 2 x 26	10,5	68,8	133
03842526	25 x 2 x 26	11,8	90,1	166

item no.	no. of pairs x cross section n x 2 x AWG	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
03840224	2 x 2 x 24	5,8	19,9	39
03840324	3 x 2 x 24	6,3	24,4	47
03840424	4 x 2 x 24	7,1	30,5	58
03840524	5 x 2 x 24	7,6	36,6	69
03840724	7 x 2 x 24	7,9	45,5	80
03841024	10 x 2 x 24	9,2	62,4	106
03841424	14 x 2 x 24	10,7	82,4	140
03841824	18 x 2 x 24	11,5	102,2	173
03842524	25 x 2 x 24	12,9	137,1	220
03840222	2 x 2 x 22	6,3	25,0	47
03840322	3 x 2 x 22	6,8	33,5	59
03840422	4 x 2 x 22	7,7	42,2	72
03840522	5 x 2 x 22	8,3	50,8	87
03840722	7 x 2 x 22	8,7	64,8	104
03841022	10 x 2 x 22	10,2	89,4	141
03841422	14 x 2 x 22	11,8	119,7	185
03841822	18 x 2 x 22	12,7	151,0	232
03842522	25 x 2 x 22	14,7	200,2	308

Other dimensions and colours are possible on request.

RG 179 FEP FEP insulated Koax cable with FEP jacket in reference to RG 179 (75 Ω)

Construction:

Conductor:	silver-plated strands, fine wires
Insulation:	FEP
Color code:	nature
Screen:	silver-plated braiding
Jacket material:	FEP
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

Technical data:

Frequency range:	max. 1 GHz
Peak operating voltage:	900 V
Testing voltage:	2000 V
Min. bending radius:	7.5 x d
Intrinsic impedance:	75 Ω ± 5 Ω
Spreading velocity:	approx. 69%
Capacitance:	max. 75 pF/m
Conductor resistance:	max. 363 Ω/km
Attenuation at 20 °C:	50 MHz approx. 15 dB/100 m 100 MHz approx. 20 dB/100 m 400 MHz approx. 55 dB/100 m 900 MHz approx. 70 dB/100 m 1000 MHz approx. 85 dB/100 m 1800 MHz approx. 90 dB/100 m 3000 MHz approx. 110 dB/100 m
Regularity:	50 MHz up to 400 MHz > 26 dB 400 MHz up to 1000 MHz > 24 dB 1000 MHz up to 3000 MHz > 20 dB
Temperature range *fixed laying:* *flexible application:*	 -90/+180 °C -55/+180 °C
Chem. resistance:	very good against acids, halogens, bases, chlorinated solvents as well as organic and inorganic compounds
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	nominal cross-section mm²	nominal single wire ø mm	outer-ø mm	copper figure kg/km	cable weight ≈ kg/km
36200062	1 x 0,055	0,11	2,54 ± 0,15 mm	9,5	15

Other dimensions and colours are possible on request.

RG 316 FEP FEP insulated Koax cable with TPE jacket in reference to RG 316 (50 Ω)

RoHS

Construction:

Conductor:	tinned copper strands, fine wires
Insulation:	FEP
Color code:	nature
Screen:	tinned copper braiding
Jacket material:	TPE
Jacket color:	black (RAL 9005)

Outstanding features:

excellent temperature resistance and flexibility at low temperatures

excellent electrical insulating characteristics with low, nearly frequency-independent dielectric characteristics

Technical data:

Frequency range:	max. 3 GHz
Peak operating voltage:	900 V
Testing voltage:	2000 V
Min. bending radius:	7.5 x d
Intrinsic impedance:	50 Ω ± 5 Ω
Spreading velocity:	approx. 69%
Capacitance:	max. 105 pF/m
Conductor resistance:	max. 363 Ω/km
Attenuation at 20 °C:	50 MHz approx. 19 dB/100 m 100 MHz approx. 27 dB/100 m 400 MHz approx. 57 dB/100 m 900 MHz approx. 90 dB/100 m 1000 MHz approx. 95 dB/100 m 1800 MHz approx. 140 dB/100 m 3000 MHz approx. 165 dB/100 m
Regularity:	50 MHz up to 400 MHz > 26 dB 400 MHz up to 1800 MHz > 23 dB 1800 MHz up to 3000 MHz > 15 dB
Temperature range *fixed laying:* *flexible application:*	 -50/+90 °C -40/+90 °C
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

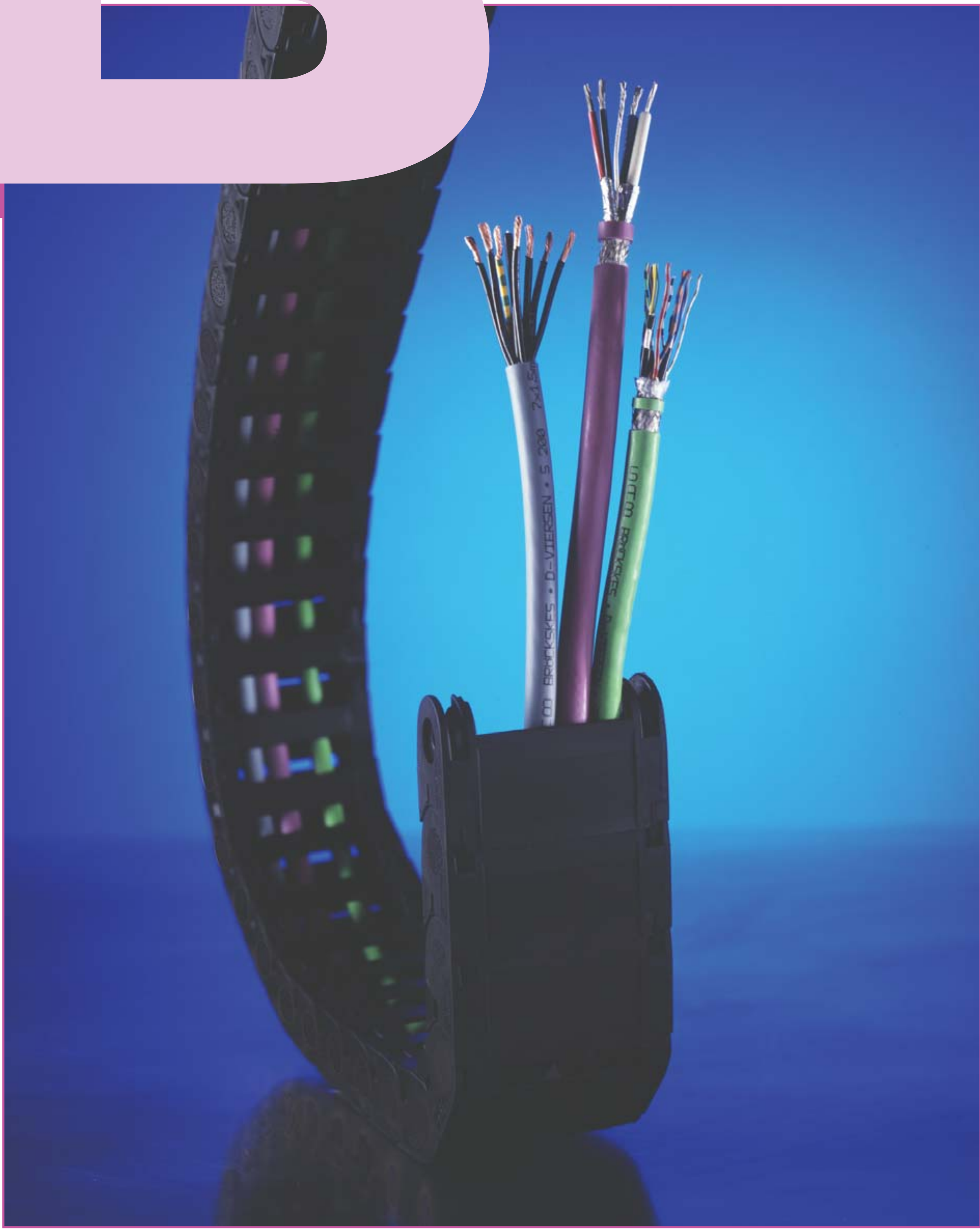
item no.	nominal cross-section mm²	nominal single wire ø mm	outer-ø mm	copper figure kg/km	cable weight ≈ kg/km
36000172	1 x 0,17	0,175	2,55 ± 0,05	8,9	12

Other dimensions and colours are possible on request.

SAB BRÖCKSKES

B

Cable Track Cables



Content

Content

TP: twisted pairs

Applications

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

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

■ Application of PVC cable track cables

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

Exemplary applications:

SD 86/S 86 **SD 86 C/S 86 C** **SD 86 C TP**	Wood working and packaging machines, assembly lines, automation plants
S 900 **SD 950, S 950** **SD 960/S 960, blue, red** **SD 960 CY/S 960 CY** **SD 960 CY TP** **SD 965/S 965** **SD 965 CY/S 965 CY, SD 965 CY TP** **S 965 MTW/S 965 MTW CY**	Wood working and packaging machines, assembly lines, automation plants, also for the American market

■ Application of PUR cable track cables

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

Exemplary applications:

SD 90/S 90 **SD 90 C/S 90 C** **SD 90 C TP**	Handling, material handling and automation technologies, wood working and packaging machines, welding machine and cutting systems
SD 200/S 200 **SD 200 C/S 200 C** **SD 200 C TP**	Handling, material handling and automation technologies, wood working and packaging machines, industrial robot construction, car manufacturing industry, high rack construction
S 900 P, S 910 P, S 910 CP **SD 960 P/S 960 P, blue, red** **SD 960 CP/S 960 CP** **SD 960 CP TP**	Handling, material handling and automation technologies, wood working and packaging machines, car manufacturing industry, press manufacturing
SD 980 P/S 980 P **SD 980 CP/S 980 CP** **SD 980 CP TP**	Handling, material handling and automation technologies, wood working and packaging machines, industrial robot construction, car manufacturing industry, high rack construction

■ Application of cable track cables with Besilen® outer sheath

SAB cable track cables with Besilen® outer sheath are for continuously flexible use in high temperature areas as for example in cable tracks as control cable with medium mechanical stress.

Exemplary applications:

S 180 HT/S 180 C HT	conveyor systems in steel production and steel processing industries, at feeding lines for blast furnaces

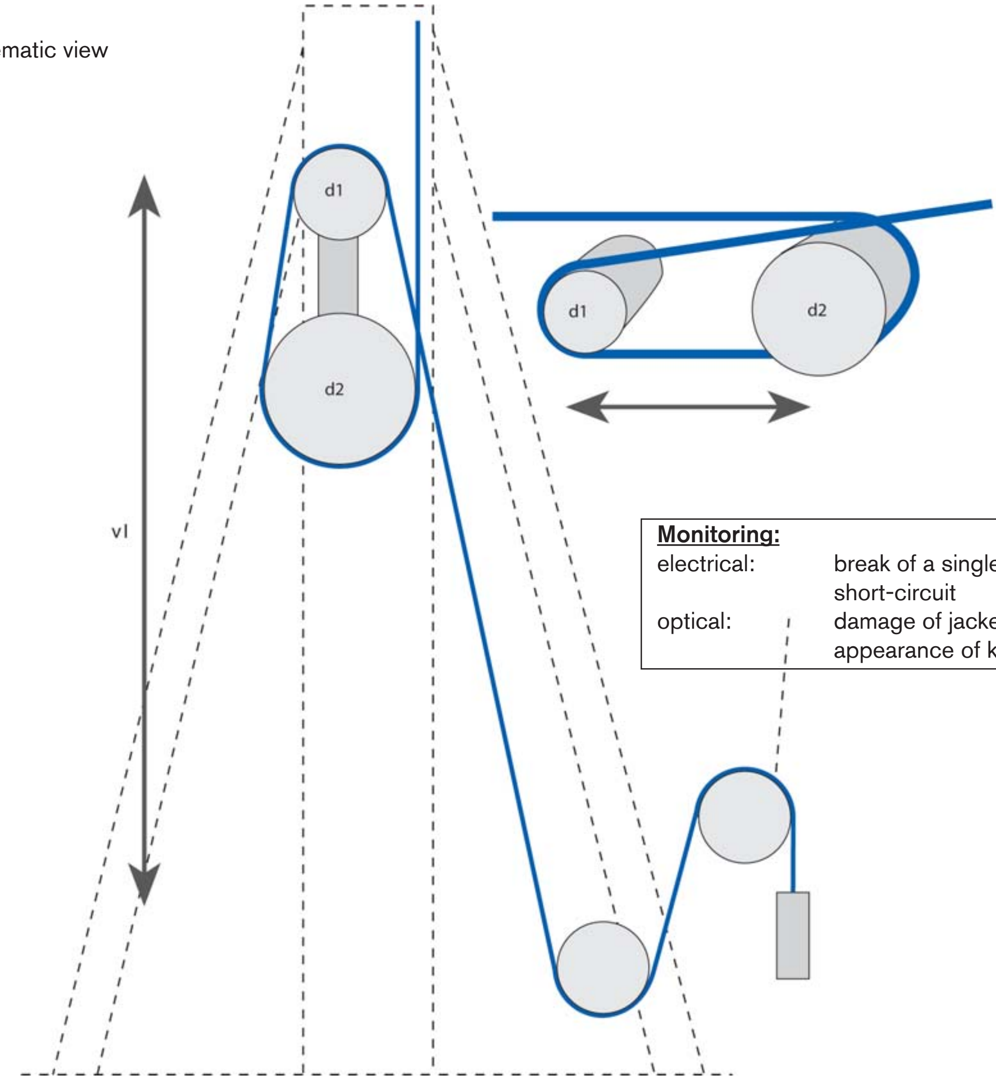
■ **You will find guidelines for the laying of cables in cable tracks on page N/25**

■ **You will find further information about the safe application of cables on pages N/28-38**

Applications

■ BI Directional cycle life test for flexible cables

schematic view



Monitoring:

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

Test parameter:

Acceleration:	40 m/s²	Bending radius:	variable
Travel vl:	1900 mm	Load:	variable
Cable length in motion:	2700 mm	Roll-ø d1:	variable
Speed:	1.4 m/s	Roll-ø d2:	variable
No. of bendings:	18 per min		

Test findings	S 200 (12 x 1.0 mm²)	S 90 (12 x 1.0 mm²)	S 86 (12 x 1.0 mm²)
Bending radius during test:	4.3 x d	3.6 x d	3.5 x d
Travel :	1.9 m	1.9 m	1.9 m
Acceleration :	40 m/s²	40 m/s²	40 m/s²
Temperature during test:	+10°C up to +22°C	+10°C up to +22°C	+10°C up to +22°C
Speed :	1.4 m/s	1.4 m/s	1.4 m/s
Dimension :	10.4 mm	12.5 mm	12.9 mm
Roll diameter d1:	90 mm	90 mm	90 mm
Roll diameter d2:	125 mm	125 mm	125 mm
No. of bendings:	**17.438.485**	**2.929.730**	**2.508.904**

Selection table

	Cable type	SD 86 PVC/PVC	S 86 PVC/PVC	SD 86 C PVC/PVC	S 86 C PVC/PVC	SD 86 C TP PVC/PVC	SD 90 PVC/PUR	S 90 PVC/PUR	SD 90 C PVC/PUR	S 90 C PVC/PUR	SD 90 C TP PVC/PUR	SD 200 TPE/PUR	S 200 TPE/PUR	SD 200 C TPE/PUR	S 200 C TPE/PUR	SD 200 C TP TPE/PUR	S 180 HT FEP/Besilen®	S 180 C HT FEP/Besilen®	S 900 PVC/PVC	S 900 P PVC/PUR	S 910 P TPE/PVC	S 910 CP TPE/PUR	SD 950 PVC/PVC	S 950 PVC/PVC
Application	Data cables	x		x		x	x		x		x	x		x		x							x	
	Control cables		x		x			x		x			x		x		x	x	x	x	x	x		x
	Bare copper strands, extra fine wires	x		x		x	x		x		x	x		x		x							x	
	Screened			x	x	x			x	x	x			x	x	x		x				x		
	No coupling of individual signals by twisted-pair cabling low influence on neighboured cable circuits, effective suppression of crosstalk and side-to-side crosstalk effects					x					x					x								
Temperature range fixed laying*	+ 200 °C																■	■						
	+ 180 °C																■	■						
	+ 90 °C											■	■	■	■	■	■	■	■		■	■		
	+ 80 °C											■	■	■	■	■	■	■	■	■	■	■		
	+ 75 °C											■	■	■	■	■	■	■	■	■	■	■	■	■
	+ 70 °C	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	– 25 °C	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	– 30 °C	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■			■	■	■	■	■	■
	– 40 °C		■		■			■		■		■	■	■	■	■			■	■	■	■		■
	– 50 °C											■	■	■	■	■					■	■		
Voltage	Peak operating voltage max. 350 V	x		x		x	x		x		x	x		x		x							x	
	Peak operating voltage UL 300 V																						x	
	Nominal voltage Uo/U: 300/500 V		x		x			x		x			x		x									x
	Nominal voltage Uo/U: 0,6/1 kV																x	x	x	x	x	x		
	Voltage (UL/CSA): 600 V																		x	x				x
	Voltage (UL/(UL)): 600 V																							
	Voltage: UL 600 V / CSA 1000 V																				x	x		
	Testing voltage: 1500 V	x		x		x	x		x		x	x		x		x							x	
	Testing voltage: 2000 V												x		x									
	Testing voltage: 3000 V		x		x			x		x														x
	Testing voltage: 4000 V																x	x						
Characteristics, standards and approvals	Flexible at low temperature											x	x	x	x	x								
	LABS uncritical**	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			x	x	x	x	x	x
	Halogen-free acc. to DIN VDE and IEC											x	x	x	x	x								
	Flame retardant and self-extinguishing acc. to IEC + EN	x	x	x	x	x											x	x	x	x	x	x	x	x
	Flame retardant and self-extinguishing acc. to UL/CSA																		x	x	x	x	x	x
	UL recognition																		x	x	x	x	x	x
	(UL) listed																							
	CSA approval																		x	x	x	x		x
	Oil resistant acc. to internal standard	x	x	x	x	x																		
	Oil resistant acc. to DIN VDE						x	x	x	x	x	x	x	x	x	x			x	x	x	x		
	Fuel-Oil acc. to CSA																							
	Good chemical resistance see page N/9						x	x	x	x	x	x	x	x	x	x				x	x	x		
	Weathering resistance											x	x	x	x	x								
Application A: high service life B: medium service life C: low service life	At acceleration values of up to 05 m/s²	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	#	#	A	A	A	A	A	A
	up to 20 m/s²	B	B	B	B	B	A	A	A	A	A	A	A	A	A	A	#	#	B	A	A	A	B	B
	up to 40 m/s²	C	C	C	C	C	B	B	B	B	B	A	A	A	A	A	#	#	B	B	B	B	C	C
	more than 40 m/s²	C	C	C	C	C	B	B	B	B	B	A	A	A	A	A	#	#	B	B	B	B	C	C
	At path feet rates of up to 01 m/s	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	#	#	A	A	A	A	A	A
	up to 03 m/s	B	B	B	B	B	A	A	A	A	A	A	A	A	A	A	#	#	B	A	A	A	B	B
	up to 10 m/s	C	C	C	C	C	B	B	B	B	B	A	A	A	A	A	#	#	B	B	B	B	C	C
	more than 10 m/s	C	C	C	C	C	B	B	B	B	B	A	A	A	A	A	#	#	B	B	B	B	C	C
	For cable tracks with a length of up to 05 m	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	#	#	A	A	A	A	A	A
	up to 10 m	B	B	B	B	B	A	A	A	A	A	A	A	A	A	A	#	#	B	A	A	A	B	B
	up to 25 m	C	C	C	C	C	B	B	B	B	B	A	A	A	A	A	#	#	C	B	B	B	C	C
	more than 25 m	C	C	C	C	C	B	B	B	B	B	A	A	A	A	A	#	#	C	B	B	B	C	C

These pages are meant to be helpful for choosing cables, they do not contain any guaranteed characteristics. Please also see the technical data on the corresponding catalogue pages.

from

to

short-time use

**LABS = enamel moisturing interfering substances

= not specified

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

Selection table

	Cable type	SD 960 PVC/PVC	S 960 / blue / red PVC/PVC	SD 960 CY PVC/PVC	S 960 CY PVC/PVC	SD 960 CY TP PVC/PVC	SD 960 P PVC/PUR	S 960 P / blue / red PVC/PUR	SD 960 CP PVC/PUR	S 960 CP PVC/PUR	SD 960 CP TP PVC/PUR	SD 965 PVC/PVC	S 965 PVC/PVC	SD 965 CY PVC/PVC	S 965 CY PVC/PVC	SD 965 CY TP PVC/PVC	S 965 MTW PVC/PVC	S 965 MTW CY PVC/PVC	SD 980 P TPE/PUR	S 980 P TPE/PUR	SD 980 CP TPE/PUR	S 980 CP TPE/PUR	SD 980 CP TP TPE/PUR
Application	Data cables	x		x		x	x		x		x	x		x		x			x		x		x
	Control cables		x		x			x		x			x		x		x	x		x		x	
	Bare copper strands, extra fine wires	x		x		x	x		x		x	x		x		x			x	x	x		x
	Screened			x	x	x			x	x	x			x	x	x		x			x	x	x
	No coupling of individual signals by twisted-pair cabling low influence on neighboured cable circuits, effective suppression of crosstalk and side-to-side crosstalk effects					x					x					x							x
Temperature range fixed laying*	+ 200 °C																						
	+ 180 °C																						
	+ 90 °C																						
	+ 80 °C																						
	+ 75 °C																						
	+ 70 °C																						
	– 25 °C																						
	– 30 °C																						
	– 40 °C																						
	– 50 °C																						
Voltage	Peak operating voltage max. 350 V	x		x		x	x		x		x	x		x		x			x		x		x
	Peak operating voltage UL/CSA 300 V	x		x		x	x		x		x	x		x		x			x		x		x
	Nominal voltage Uo/U: 300/500 V		x		x			x		x			x		x		x	x		x		x	
	Nominal voltage Uo/U: 0,6/1 kV																						
	Voltage (UL/CSA): 600 V		x		x			x		x			x		x					x		x	
	Voltage (UL/(UL)): 600 V																x	x					
	Voltage: UL 600 V / CSA 1000 V																						
	Testing voltage: 1500 V	x		x		x	x		x		x	x		x		x			x		x		x
	Testing voltage: 2000 V																						
	Testing voltage: 3000 V		x		x			x		x			x		x		x	x		x		x	
	Testing voltage: 4000 V																						
Characteristics, standards and approvals	Flexible at low temperature																		x	x	x	x	x
	LABS uncritical**	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			x	x	x	x	x
	Halogen-free acc. to DIN VDE and IEC																		x	x	x	x	x
	Flame retardant and self-extinguishing acc. to IEC + EN	x	x	x	x	x						x	x	x	x	x	x	x	x	x	x	x	x
	Flame retardant and self-extinguishing acc. to UL/CSA	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			x	x	x	x	x
	UL recognition	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	(UL) listed																x	x					
	CSA approval		x		x		x	x	x	x	x		x		x				x	x	x	x	x
	Oil resistant acc. to internal standard	x	x	x	x	x																	
	Oil resistant acc. to DIN VDE						x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Fuel-Oil acc. to CSA												x		x								
	Good chemical resistance see page N/9						x	x	x	x	x								x	x	x	x	x
	Weathering resistance																						
Application A: high service life B: medium service life C: low service life	At acceleration values of up to 05 m/s²	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	up to 20 m/s²	B	B	B	B	B	A	A	A	A	A	B	B	B	B	B	B	B	A	A	A	A	A
	up to 40 m/s²	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	A	A	A	A	A
	more than 40 m/s²	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	A	A	A	A	A
	At path feet rates of up to 01 m/s	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	up to 03 m/s	B	B	B	B	B	A	A	A	A	A	B	B	B	B	B	B	B	A	A	A	A	A
	up to 10 m/s	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	A	A	A	A	A
	more than 10 m/s	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	A	A	A	A	A
	For cable tracks with a length of up to 05 m	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	up to 10 m	B	B	B	B	B	A	A	A	A	A	B	B	B	B	B	B	B	A	A	A	A	A
	up to 25 m	C	C	C	C	C	B	B	B	B	B	C	C	C	C	C	C	C	A	A	A	A	A
	more than 25 m	C	C	C	C	C	B	B	B	B	B	C	C	C	C	C	C	C	A	A	A	A	A
	These pages are meant to be helpful for choosing cables, they do not contain any guaranteed characteristics. Please also see the technical data on the corresponding catalogue pages.																						

from

to

short-time use

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= not specified

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

SD 86 Continuously flexible PVC data cable with coloured cores

Marking for SD 86 37722502:
SAB BRÖCKSKES · D-VIERSEN · SD 86 25 x 0,25 mm² CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	PVC TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	with reference to DIN 47100
Stranding:	specially adjusted layering with non-woven tape over each layer
Sheath material:	PVC TM2 acc. to DIN VDE 0281 part 1 + HD 21.1, reinforced wall thickness
Sheath colour:	grey (RAL 7032)

Outstanding features:

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

Technical data:

Peak operating voltage:	max. 350 V acc. to DIN VDE
Testing voltage U:	1500 V acc. to DIN VDE 0472 part 509
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	-30/+70 °C -5/+70 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Oil resistance:	acc. to our internal standard see page N/13
Chem. resistance:	see page N/9
Flexibility:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
37720201	2 x 0,14	0,11	3,1	2,7	13
37720301	3 x 0,14	0,11	3,3	4,0	15
37720401	4 x 0,14	0,11	3,5	5,4	17
37720501	5 x 0,14	0,11	3,8	6,7	21
37720701	7 x 0,14	0,11	4,4	9,4	29
37721001	10 x 0,14	0,11	5,4	13,4	37
37721201	12 x 0,14	0,11	5,6	16,1	42
37721401	14 x 0,14	0,11	5,8	18,8	47
37721801	18 x 0,14	0,11	6,4	24,2	59
37722501	25 x 0,14	0,11	7,8	33,6	79
37720202	2 x 0,25	0,11	3,4	4,8	16
37720302	3 x 0,25	0,11	3,6	7,2	19
37720402	4 x 0,25	0,11	3,9	9,6	23
37720502	5 x 0,25	0,11	4,2	12,0	28
37720702	7 x 0,25	0,11	4,9	16,8	39
37721002	10 x 0,25	0,11	6,0	24,0	51
37721202	12 x 0,25	0,11	6,2	28,8	58
37721402	14 x 0,25	0,11	6,5	33,6	66
37721802	18 x 0,25	0,11	7,2	43,2	84
37722502	25 x 0,25	0,11	8,7	60,0	111
37720203	2 x 0,34	0,11	4,0	6,5	22
37720303	3 x 0,34	0,11	4,2	9,8	27
37720403	4 x 0,34	0,11	4,6	13,1	30
37720503	5 x 0,34	0,11	5,0	16,3	40
37720703	7 x 0,34	0,11	6,1	22,8	53
37721003	10 x 0,34	0,11	7,3	32,6	72
37721203	12 x 0,34	0,11	7,5	39,2	83
37721403	14 x 0,34	0,11	7,9	45,7	94
37721803	18 x 0,34	0,11	8,8	58,8	119
37722503	25 x 0,34	0,11	10,9	81,6	165

Other dimensions and colours are possible on request.

On request also possible in dimensions
0,50 mm²
and
0,75 mm²!

S 86 Continuously flexible PVC control cable with numbered cores

RoHS

Marking for S 86 37721215:
SAB BRÖCKSKES · D-VIERSEN · S 86 12 x 1,5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 6
Insulation:	PVC TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	specially adjusted layering with non-woven tape over each layer
Sheath material:	PVC TM2 acc. to DIN VDE 0281 part 1 + HD 21.1, reinforced wall thickness
Sheath colour:	grey (RAL 7000)

Outstanding features:

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

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	-40/+70 °C +5/+70 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Oil resistance:	acc. to our internal standard see page N/13
Chem. resistance:	see page N/9
Flexibility:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

Also available as hybrid cable for example

3G1,0 + 16 x 0,34 mm²
3G1,0 + 8 x 0,34 mm²
1G0,5 + 4 x 0,34 mm²

Peak operating voltage of data conductors: max. 500 V

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
37720205	2 x 0,50	0,16	5,3	9,6	38
37720305	3 x 0,50	0,16	5,6	14,4	45
37720405	4 x 0,50	0,16	6,2	19,2	56
37720505	5 x 0,50	0,16	6,8	24,0	68
37720705	7 x 0,50	0,16	8,0	33,6	97
37721205	12 x 0,50	0,16	9,9	57,6	138
37721805	18 x 0,50	0,16	11,6	86,4	199
37722505	25 x 0,50	0,16	14,2	120,0	271
37723605	36 x 0,50	0,16	15,9	172,8	373
37724405	44 x 0,50	0,16	18,2	211,2	451
37725205	52 x 0,50	0,16	18,9	249,6	521
37726505	65 x 0,50	0,16	21,5	312,0	656
37720207	2 x 0,75	0,16	5,8	14,4	47
37720307	3 x 0,75	0,16	6,3	21,6	59
37720407	4 x 0,75	0,16	6,8	28,8	71
37720507	5 x 0,75	0,16	7,6	36,0	89
37720707	7 x 0,75	0,16	9,1	50,4	117
37721207	12 x 0,75	0,16	11,1	86,4	182
37721807	18 x 0,75	0,16	13,1	129,6	271
37722507	25 x 0,75	0,16	15,9	180,0	358
37723607	36 x 0,75	0,16	18,1	259,2	510
37725207	52 x 0,75	0,16	21,4	374,4	701
37726507	65 x 0,75	0,16	24,3	468,0	886
37720210	2 x 1,00	0,16	6,2	19,2	56
37720310	3 x 1,00	0,16	6,5	28,8	68
37720410	4 x 1,00	0,16	7,1	38,4	82
37720510	5 x 1,00	0,16	7,9	48,0	104
37720710	7 x 1,00	0,16	9,4	67,2	132
37721210	12 x 1,00	0,16	11,5	115,2	214
37721810	18 x 1,00	0,16	13,8	172,8	324
37722510	25 x 1,00	0,16	16,7	240,0	431
37723610	36 x 1,00	0,16	18,8	345,6	603
37725210	52 x 1,00	0,16	22,5	499,2	845
37726510	65 x 1,00	0,16	25,4	624,0	1066
37720215	2 x 1,50	0,16	6,8	28,8	73
37720315	3 x 1,50	0,16	7,2	43,2	88
37720415	4 x 1,50	0,16	8,0	57,6	111
37720515	5 x 1,50	0,16	8,7	72,0	136
37720715	7 x 1,50	0,16	10,6	100,8	196
37721215	12 x 1,50	0,16	13,0	172,8	290
37721815	18 x 1,50	0,16	15,5	259,2	431
37722515	25 x 1,50	0,16	18,8	360,0	583
37723615	36 x 1,50	0,16	21,3	518,4	820
37725215	52 x 1,50	0,16	25,4	748,8	1157
37726515	65 x 1,50	0,16	28,7	936,0	1439
37720225	2 x 2,50	0,16	8,8	48,0	118
37720325	3 x 2,50	0,16	9,5	72,0	149
37720425	4 x 2,50	0,16	10,3	96,0	181
37720525	5 x 2,50	0,16	11,5	120,0	230
37720725	7 x 2,50	0,16	14,0	168,0	327
37721225	12 x 2,50	0,16	17,3	288,0	488
37721825	18 x 2,50	0,16	20,8	432,0	699
37722525	25 x 2,50	0,16	25,3	600,0	990
37723625	36 x 2,50	0,16	28,6	864,0	1384
37720240	2 x 4,00	0,16	9,9	76,8	162
37720340	3 x 4,00	0,16	10,8	115,2	219
37720440	4 x 4,00	0,16	11,7	153,6	271
37720540	5 x 4,00	0,16	13,1	192,0	318
37720740	7 x 4,00	0,16	16,5	268,8	454
37720260	2 x 6,00	0,21	12,3	115,2	242
37720360	3 x 6,00	0,21	13,0	172,8	322
37720460	4 x 6,00	0,21	14,4	230,4	406
37720560	5 x 6,00	0,21	16,1	288,0	485
37720760	7 x 6,00	0,21	19,5	403,2	655
37720361	3 x 10,0	0,21	15,7	288,0	461
37720461	4 x 10,0	0,21	17,3	384,0	605
37720561	5 x 10,0	0,21	19,5	480,0	751
37720462	4 x 16,0	0,21	20,9	614,4	917
37720562	5 x 16,0	0,21	23,3	768,0	1081
37720463	4 x 25,0	0,21	24,7	960,0	1321
37720464	4 x 35,0	0,21	28,7	1344,0	1787
37720465	4 x 50,0	0,31	34,5	1920,0	2565

Other dimensions and colours are possible on request.

SD 86 C

Continuously flexible PVC data cable with coloured cores and overall copper screen

Marking for SD 86 C 37822502:
SAB BRÖCKSKES · D-VIERSEN · SD 86 C 25 x 0,25 mm² CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	PVC TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	with reference to DIN 47100
Stranding:	specially adjusted layering with non-woven tape over each layer
Wrapping:	non-woven tape
Screen:	tinned copper braiding
Wrapping:	non-woven tape
Sheath material:	PVC TM2 acc. to DIN VDE 0281 part 1 + HD 21.1
Sheath colour:	grey (RAL 7032)

Outstanding features:

- ➤ very good flexibility
- ➤ good EMC characteristics
- ➤ small bending radius
- ➤ reinforced outer sheath

Technical data:

Peak operating voltage:	max. 350 V acc. to DIN VDE
Testing voltage U:	1500 V acc. to DIN VDE 0472 part 509 core/screen 1200 V
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	-30/+70 °C -5/+70 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Oil resistance:	acc. to our internal standard see page N/13
Chem. resistance:	see page N/9
Flexibility:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
37820201	2 x 0,14	0,11	3,7	11,6	19
37820301	3 x 0,14	0,11	3,9	14,4	22
37820401	4 x 0,14	0,11	4,1	15,7	24
37820501	5 x 0,14	0,11	4,4	18,8	30
37820701	7 x 0,14	0,11	5,2	23,4	40
37821201	12 x 0,14	0,11	6,3	33,8	56
37821801	18 x 0,14	0,11	7,1	45,5	75
37822501	25 x 0,14	0,11	8,8	59,8	104
37820202	2 x 0,25	0,11	4,0	15,1	22
37820302	3 x 0,25	0,11	4,2	18,3	28
37820402	4 x 0,25	0,11	4,5	21,7	32
37820502	5 x 0,25	0,11	5,0	25,9	39

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
37820702	7 x 0,25	0,11	5,7	32,9	52
37821202	12 x 0,25	0,11	6,9	48,5	73
37821802	18 x 0,25	0,11	8,3	67,0	108
37822502	25 x 0,25	0,11	9,7	89,1	139
37820203	2 x 0,34	0,11	4,8	18,7	31
37820303	3 x 0,34	0,11	5,0	23,7	37
37820403	4 x 0,34	0,11	5,4	27,1	44
37820503	5 x 0,34	0,11	5,8	32,3	51
37820703	7 x 0,34	0,11	6,8	42,4	66
37821203	12 x 0,34	0,11	8,5	63,0	104
37821803	18 x 0,34	0,11	9,8	87,9	145
37822503	25 x 0,34	0,11	11,7	136,0	201

Other dimensions and colours are possible on request.

On request also possible in dimensions

0,50 mm²

and

0,75 mm²!

S 86 C Continuously flexible PVC control cable with numbered cores and overall copper screen

RoHS

Marking for S 86 C 37820715:
SAB BRÖCKSKES · D-VIERSEN · S 86 C 7 x 1,5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 6
Insulation:	PVC TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	specially adjusted layering with non-woven tape over each layer
Inner sheath:	PVC TM2 acc. to DIN VDE 0281 part 1 + HD 21.1
Screen:	tinned copper braiding
Wrapping:	non-woven tape
Sheath material:	PVC TM2 acc. to DIN VDE 0281 part 1 + HD 21.1
Sheath colour:	grey (RAL 7000)

Outstanding features:

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

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2 core/screen 2000 V
Min. bending radius *continuously flexible:*	 7,5 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	 -40/+70 °C +5/+70 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Oil resistance:	acc. to our internal standard see page N/13
Chem. resistance:	see page N/9
Flexibility:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
37820205	2 x 0,50	0,16	7,8	41,5	80
37820305	3 x 0,50	0,16	8,1	46,8	89
37820405	4 x 0,50	0,16	8,5	56,9	101
37820505	5 x 0,50	0,16	9,3	62,4	121
37820705	7 x 0,50	0,16	10,3	83,6	156
37821205	12 x 0,50	0,16	12,8	112,2	230
37821805	18 x 0,50	0,16	15,0	172,3	329
37822505	25 x 0,50	0,16	17,3	229,8	423
37823005	30 x 0,50	0,16	17,9	254,3	472
37823605	36 x 0,50	0,16	19,5	296,2	560
37820207	2 x 0,75	0,16	8,3	51,9	92
37820307	3 x 0,75	0,16	8,6	59,4	103
37820407	4 x 0,75	0,16	9,3	67,2	123
37820507	5 x 0,75	0,16	9,9	77,3	143
37820707	7 x 0,75	0,16	11,6	101,5	194
37821207	12 x 0,75	0,16	14,0	146,3	283
37821807	18 x 0,75	0,16	16,1	227,3	399
37822507	25 x 0,75	0,16	19,4	292,0	536
37823007	30 x 0,75	0,16	19,9	340,0	601
37823607	36 x 0,75	0,16	21,4	385,3	688
37820210	2 x 1,00	0,16	8,6	56,9	101
37820310	3 x 1,00	0,16	9,0	66,9	117
37820410	4 x 1,00	0,16	9,6	79,2	136
37820510	5 x 1,00	0,16	10,2	97,9	158
37820710	7 x 1,00	0,16	12,1	121,3	249
37821210	12 x 1,00	0,16	14,6	200,9	335
37821810	18 x 1,00	0,16	16,9	271,2	465
37822510	25 x 1,00	0,16	19,7	363,7	608
37822710	27 x 1,00	0,16	20,0	383,3	638
37823010	30 x 1,00	0,16	20,8	413,1	692
37823610	36 x 1,00	0,16	22,3	484,4	815
37820215	2 x 1,50	0,16	9,3	67,2	121
37820315	3 x 1,50	0,16	9,7	84,2	140
37820415	4 x 1,50	0,16	10,5	107,6	170
37820515	5 x 1,50	0,16	11,4	122,8	211
37820715	7 x 1,50	0,16	13,3	160,4	287
37821215	12 x 1,50	0,16	16,1	270,5	426
37821815	18 x 1,50	0,16	18,6	370,4	588
37822515	25 x 1,50	0,16	22,3	498,8	794
37822715	27 x 1,50	0,16	22,3	527,6	829
37823015	30 x 1,50	0,16	22,9	571,9	890
37823615	36 x 1,50	0,16	24,8	685,5	1064
37820225	2 x 2,50	0,16	11,3	99,0	183
37820325	3 x 2,50	0,16	12,0	126,2	224
37820425	4 x 2,50	0,16	13,0	155,6	269
37820525	5 x 2,50	0,16	14,4	205,7	345
37820725	7 x 2,50	0,16	16,7	266,6	457
37821225	12 x 2,50	0,16	20,2	413,1	658
37821825	18 x 2,50	0,16	23,6	597,5	939
37822525	25 x 2,50	0,16	28,2	775,6	1241
37823025	30 x 2,50	0,16	29,0	912,9	1410
37823625	36 x 2,50	0,16	31,6	1065,5	1675
37820240	2 x 4,00	0,16	12,9	133,7	248
37820340	3 x 4,00	0,16	13,7	174,9	307
37820440	4 x 4,00	0,16	15,0	239,5	389
37820540	5 x 4,00	0,16	16,4	289,8	452
37820740	7 x 4,00	0,16	19,1	383,8	593
37820260	2 x 6,00	0,21	15,0	201,1	342
37820360	3 x 6,00	0,21	15,7	270,1	424
37820460	4 x 6,00	0,21	17,5	334,4	511
37820560	5 x 6,00	0,21	18,8	403,9	611
37820760	7 x 6,00	0,21	22,2	541,8	808
37820361	3 x 10,0	0,21	19,0	399,7	635
37820461	4 x 10,0	0,21	20,8	516,1	794
37820561	5 x 10,0	0,21	22,8	634,4	923
37820462	4 x 16,0	0,21	24,2	780,1	1133
37820562	5 x 16,0	0,21	27,0	939,5	1342
37820463	4 x 25,0	0,21	28,4	1142,6	1614
37820563	5 x 25,0	0,21	31,6	1398,8	1933
37820464	4 x 35,0	0,21	32,6	1545,9	2119

Other dimensions and colours are possible on request.

with coloured cores

SD 86 C TP Continuously flexible paired PVC data cable with overall copper screen

RoHS

Marking for SD 86 C TP 37650305:
SAB BRÖCKSKES · D-VIERSEN · SD 86 C TP 3 x 2 x 0,5 mm^2 CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	PVC TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	with reference to DIN 47100
Stranding:	cores twisted to pairs, pairs twisted in specially adjusted layering with non-woven tape over each layer
Wrapping:	non-woven tape
Screen:	tinned copper braiding
Sheath material:	PVC TM2 acc. to DIN VDE 0281 part 1 + HD 21.1
Sheath colour:	grey (RAL 7032)

Outstanding features:

- very good flexibility
- good EMC characteristics
- small bending radius
- reinforced outer sheath

Technical data:

Peak operating voltage:	max. 350 V acc. to DIN VDE
Testing voltage U:	1500 V acc. to DIN VDE 0472 part 509 core/screen 1200 V
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	-30/+70 °C -5/+70 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Oil resistance:	acc. to our internal standard see page N/13
Flexibility:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of pairs x cross section n x 2 x mm^2	largest single wire ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
37640214	2 x 2 x 0,14	0,11	4,9	19,3	31
37640314	3 x 2 x 0,14	0,11	5,4	24,0	40
37640414	4 x 2 x 0,14	0,11	6,2	28,4	49
37640514	5 x 2 x 0,14	0,11	6,7	33,0	58
37640714	7 x 2 x 0,14	0,11	7,2	40,2	79
37641014	10 x 2 x 0,14	0,11	8,7	53,0	95
37641214	12 x 2 x 0,14	0,11	9,5	61,3	109
37641414	14 x 2 x 0,14	0,11	10,0	66,8	120
37641814	18 x 2 x 0,14	0,11	10,9	96,2	158
37642514	25 x 2 x 0,14	0,11	12,7	126,7	210
37640225	2 x 2 x 0,25	0,11	5,4	25,5	40
37640325	3 x 2 x 0,25	0,11	6,1	30,5	52
37640425	4 x 2 x 0,25	0,11	6,9	38,9	64
37640525	5 x 2 x 0,25	0,11	7,4	45,4	76
37640725	7 x 2 x 0,25	0,11	7,9	57,3	96
37641025	10 x 2 x 0,25	0,11	9,6	77,0	124
37641225	12 x 2 x 0,25	0,11	10,7	105,3	155
37641425	14 x 2 x 0,25	0,11	11,3	121,3	175
37641825	18 x 2 x 0,25	0,11	12,5	141,0	220
37642525	25 x 2 x 0,25	0,11	14,3	206,0	293
37640234	2 x 2 x 0,34	0,11	6,5	30,8	53
37640334	3 x 2 x 0,34	0,11	7,1	39,3	67
37640434	4 x 2 x 0,34	0,11	8,5	49,9	90
37640534	5 x 2 x 0,34	0,11	9,2	58,9	108
37640734	7 x 2 x 0,34	0,11	9,8	74,8	136

item no.	no. of pairs x cross section n x 2 x mm^2	largest single wire ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
37641034	10 x 2 x 0,34	0,11	11,6	119,6	179
37641234	12 x 2 x 0,34	0,11	13,2	138,1	218
37641434	14 x 2 x 0,34	0,11	14,1	177,2	260
37641834	18 x 2 x 0,34	0,11	15,1	215,0	319
37642534	25 x 2 x 0,34	0,11	17,5	274,0	413
37640250	2 x 2 x 0,50	0,11	7,1	39,0	66
37640350	3 x 2 x 0,50	0,11	7,8	52,5	84
37640450	4 x 2 x 0,50	0,11	9,3	64,7	112
37640550	5 x 2 x 0,50	0,11	10,1	77,2	129
37640750	7 x 2 x 0,50	0,11	11,0	121,1	186
37641050	10 x 2 x 0,50	0,11	13,3	155,8	236
37641250	12 x 2 x 0,50	0,11	14,8	212,4	301
37641450	14 x 2 x 0,50	0,11	15,9	232,3	340
37641850	18 x 2 x 0,50	0,11	17,1	283,1	408
37642550	25 x 2 x 0,50	0,11	19,4	364,8	525
37640275	2 x 2 x 0,75	0,11	8,0	52,6	86
37640375	3 x 2 x 0,75	0,11	9,2	69,5	118
37640475	4 x 2 x 0,75	0,11	10,7	105,3	158
37640575	5 x 2 x 0,75	0,11	11,7	126,4	195
37640775	7 x 2 x 0,75	0,11	13,0	160,5	256
37641075	10 x 2 x 0,75	0,11	15,3	241,7	328
37641275	12 x 2 x 0,75	0,11	17,3	283,4	403
37641475	14 x 2 x 0,75	0,11	18,2	313,3	442
37641875	18 x 2 x 0,75	0,11	19,5	384,1	545
37642575	25 x 2 x 0,75	0,11	22,2	501,3	694

Other dimensions and colours are possible on request.

SD 90 Continuously flexible PUR data cable with coloured cores

Marking for SD 90 07782502:
SAB BRÖCKSKES · D-VIERSEN · SD 90 25 x 0,25 mm² CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	with reference to DIN 47100
Stranding:	specially adjusted layering with non-woven tape over each layer
Wrapping:	non-woven tape
Sheath material:	TMPU acc. to DIN VDE 0282 part 10 + HD 22.10 with mat surface
Sheath colour:	grey (RAL 7032)

Outstanding features:

- **oil resistant**
- **improved abrasion resistance**
- **high tear resistance**
- **good chemical resistance**
- **increased efficiency**

Technical data:

Peak operating voltage:	max. 350 V acc. to DIN VDE
Testing voltage U:	1500 V acc. to DIN VDE 0472 part 509
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	-30/+70 °C -5/+70 °C
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
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07780201	2 x 0,14	0,11	3,3	2,7	12
07780301	3 x 0,14	0,11	3,5	4,0	14
07780401	4 x 0,14	0,11	3,7	5,4	17
07780501	5 x 0,14	0,11	4,0	6,7	20
07780701	7 x 0,14	0,11	4,6	9,4	27
07781201	12 x 0,14	0,11	5,5	16,1	38
07781801	18 x 0,14	0,11	6,3	24,2	54
07782501	25 x 0,14	0,11	7,5	33,6	70
07780202	2 x 0,25	0,11	3,5	4,8	15
07780302	3 x 0,25	0,11	3,8	7,2	19
07780402	4 x 0,25	0,11	4,1	9,6	23
07780502	5 x 0,25	0,11	4,4	12,0	28

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07780702	7 x 0,25	0,11	5,1	16,8	38
07781202	12 x 0,25	0,11	6,1	28,8	54
07781802	18 x 0,25	0,11	7,1	43,2	78
07782502	25 x 0,25	0,11	8,6	60,0	106
07780203	2 x 0,34	0,11	4,2	6,5	21
07780303	3 x 0,34	0,11	4,4	9,8	25
07780403	4 x 0,34	0,11	4,8	13,1	31
07780503	5 x 0,34	0,11	5,2	16,3	38
07780703	7 x 0,34	0,11	6,1	22,8	52
07781203	12 x 0,34	0,11	7,3	39,2	74
07781803	18 x 0,34	0,11	8,8	58,8	112
07782503	25 x 0,34	0,11	10,4	81,6	147

Other dimensions and colours are possible on request.

On request also possible in dimensions

0,50 mm²

and

0,75 mm²!

S 90 Continuously flexible PUR control cable with numbered cores

RoHS

Marking for S 90 07780715:
SAB BRÖCKSKES · D-VIERSEN · S 90 7 x 1,5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 6
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	specially adjusted layering with non-woven tape over each layer
Wrapping:	non-woven tape
Sheath material:	TMPU acc. to DIN VDE 0282 part 10 + HD 22.10 with mat surface
Sheath colour:	grey (RAL 7000)

Outstanding features:

- oil resistant
- improved abrasion resistance
- high tear resistance
- good chemical resistance
- increased efficiency

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	-40/+70 °C +5/+70 °C
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
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

Also available as hybrid cable for example

3G1,0 + 16 x 0,34 mm²

3G1,0 + 8 x 0,34 mm²

1G0,5 + 4 x 0,34 mm²

Peak operating voltage of data conductors: max. 500 V

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07780205	2 x 0,50	0,16	5,3	9,6	32
07780305	3 x 0,50	0,16	5,6	14,4	40
07780405	4 x 0,50	0,16	6,0	19,2	48
07780505	5 x 0,50	0,16	6,5	24,0	58
07780705	7 x 0,50	0,16	7,6	33,6	81
07781205	12 x 0,50	0,16	9,2	57,6	115
07781805	18 x 0,50	0,16	11,1	86,4	175
07782505	25 x 0,50	0,16	13,2	120,0	230
07783605	36 x 0,50	0,16	14,7	172,8	319
07785005	50 x 0,50	0,16	18,0	240,0	452
07786505	65 x 0,50	0,16	20,2	312,0	583
07780207	2 x 0,75	0,16	5,8	14,4	40
07780307	3 x 0,75	0,16	6,1	21,6	51
07780407	4 x 0,75	0,16	6,6	28,8	61
07780507	5 x 0,75	0,16	7,2	36,0	76
07780707	7 x 0,75	0,16	8,5	50,4	106
07781207	12 x 0,75	0,16	10,6	86,4	160
07781807	18 x 0,75	0,16	12,4	129,6	233
07782507	25 x 0,75	0,16	14,7	180,0	305
07783607	36 x 0,75	0,16	16,9	259,2	441
07785007	50 x 0,75	0,16	20,1	360,0	602
07786507	65 x 0,75	0,16	22,6	468,0	778
07780210	2 x 1,00	0,16	6,0	19,2	46
07780310	3 x 1,00	0,16	6,3	28,8	59
07780410	4 x 1,00	0,16	6,9	38,4	73
07780510	5 x 1,00	0,16	7,5	48,0	90
07780710	7 x 1,00	0,16	8,8	67,2	126
07781210	12 x 1,00	0,16	11,0	115,2	191
07781810	18 x 1,00	0,16	12,8	172,8	275
07782510	25 x 1,00	0,16	15,7	240,0	382
07783610	36 x 1,00	0,16	18,0	345,6	547
07785010	50 x 1,00	0,16	21,0	480,0	732
07786510	65 x 1,00	0,16	23,7	624,0	963
07780215	2 x 1,50	0,16	6,6	28,8	58
07780315	3 x 1,50	0,16	7,0	43,2	78
07780415	4 x 1,50	0,16	7,6	57,6	97
07780515	5 x 1,50	0,16	8,3	72,0	120
07780715	7 x 1,50	0,16	10,2	100,8	175
07781215	12 x 1,50	0,16	12,3	172,8	259
07781815	18 x 1,50	0,16	14,4	259,2	380
07782515	25 x 1,50	0,16	18,0	360,0	533
07783615	36 x 1,50	0,16	20,1	518,4	746
07785015	50 x 1,50	0,16	23,9	720,0	1021
07786515	65 x 1,50	0,16	26,8	936,0	1321
07780225	2 x 2,50	0,16	8,4	48,0	93
07780325	3 x 2,50	0,16	8,9	72,0	125
07780425	4 x 2,50	0,16	10,1	96,0	163
07780525	5 x 2,50	0,16	11,1	120,0	201
07780725	7 x 2,50	0,16	13,2	168,0	285
07781225	12 x 2,50	0,16	16,4	288,0	431
07781825	18 x 2,50	0,16	19,7	432,0	650
07782525	25 x 2,50	0,16	23,9	600,0	879
07783625	36 x 2,50	0,16	27,2	864,0	1255
07780240	2 x 4,00	0,16	10,2	76,8	145
07780340	3 x 4,00	0,16	10,8	115,2	190
07780440	4 x 4,00	0,16	11,6	153,6	238
07780540	5 x 4,00	0,16	12,9	192,0	305
07780740	7 x 4,00	0,16	15,2	268,8	426
07781240	12 x 4,00	0,16	18,9	460,8	657
07780260	2 x 6,00	0,21	12,5	115,2	218
07780360	3 x 6,00	0,21	13,2	172,8	286
07780460	4 x 6,00	0,21	14,4	230,4	364
07780560	5 x 6,00	0,21	15,9	288,0	461
07780760	7 x 6,00	0,21	18,7	403,2	642
07780361	3 x 10,0	0,21	15,9	288,0	416
07780461	4 x 10,0	0,21	17,3	384,0	570
07780561	5 x 10,0	0,21	19,1	480,0	724
07780362	3 x 16,0	0,21	18,6	460,8	664
07780462	4 x 16,0	0,21	20,3	614,4	849
07780562	5 x 16,0	0,21	22,4	768,0	1081
07780463	4 x 25,0	0,21	24,1	960,0	1247
07780563	5 x 25,0	0,21	26,7	1200,0	1601
07780464	4 x 35,0	0,21	27,5	1344,0	1665
07780564	5 x 35,0	0,21	30,4	1680,0	2140
07780465	4 x 50,0	0,31	32,5	1920,0	2354
07780565	5 x 50,0	0,31	36,5	2400,0	3066

Other dimensions and colours are possible on request.

SD 90 C Continuously flexible PUR data cable with coloured cores and overall copper screen

RoHS

Marking for SD 90 C 07882502:
SAB BRÖCKSKES · D-VIERSEN · SD 90 C 25 x 0,25 mm² CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	with reference to DIN 47100
Stranding:	specially adjusted layering with non-woven tape over each layer
Wrapping:	non-woven tape
Screen:	tinned copper braiding
Wrapping:	non-woven tape
Sheath material:	TMPU acc. to DIN VDE 0282 part 10 + HD 22.10 with mat surface
Sheath colour:	grey (RAL 7032)

Outstanding features:

- **very good EMC characteristics**
- **improved abrasion resistance**
- **high tear resistance**
- **good chemical resistance**
- **increased efficiency**

Technical data:

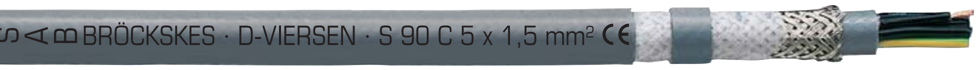
Peak operating voltage:	max. 350 V acc. to DIN VDE
Testing voltage U:	1500 V acc. to DIN VDE 0472 part 509 core/screen 1200 V
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	-30/+70 °C -5/+70 °C
Oil resistance:	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
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07880201	2 x 0,14	0,11	3,9	11,3	20
07880301	3 x 0,14	0,11	4,1	14,4	23
07880401	4 x 0,14	0,11	4,3	15,7	25
07880501	5 x 0,14	0,11	4,6	18,8	31
07880701	7 x 0,14	0,11	5,2	23,4	39
07881201	12 x 0,14	0,11	6,1	33,7	52
07881801	18 x 0,14	0,11	6,9	43,9	70
07882501	25 x 0,14	0,11	8,1	57,4	89
07880202	2 x 0,25	0,11	4,2	15,1	25
07880302	3 x 0,25	0,11	4,4	17,6	28
07880402	4 x 0,25	0,11	4,7	21,7	33
07880502	5 x 0,25	0,11	5,0	25,9	39
07880702	7 x 0,25	0,11	5,7	32,7	51
07881202	12 x 0,25	0,11	6,7	48,4	69
07881802	18 x 0,25	0,11	7,7	66,9	97
07882502	25 x 0,25	0,11	9,2	89,0	128
07880203	2 x 0,34	0,11	4,8	18,7	32
07880303	3 x 0,34	0,11	5,0	23,2	36
07880403	4 x 0,34	0,11	5,4	27,1	42
07880503	5 x 0,34	0,11	5,8	32,3	51

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07880703	7 x 0,34	0,11	6,7	42,4	68
07881203	12 x 0,34	0,11	7,9	62,9	93
07881803	18 x 0,34	0,11	9,4	87,8	135
07882503	25 x 0,34	0,11	11,6	135,7	195
07880250	2 x 0,50	0,11	5,2	23,2	38
07880350	3 x 0,50	0,11	5,4	30,1	45
07880450	4 x 0,50	0,11	5,9	35,5	53
07880550	5 x 0,50	0,11	6,6	52,8	74
07880750	7 x 0,50	0,11	7,5	66,0	93
07881250	12 x 0,50	0,11	9,1	99,6	133
07881850	18 x 0,50	0,11	11,0	137,5	195
07882550	25 x 0,50	0,11	12,8	179,4	249
07880275	2 x 0,75	0,11	5,8	30,6	49
07880375	3 x 0,75	0,11	6,3	49,8	66
07880475	4 x 0,75	0,11	6,8	58,0	77
07880575	5 x 0,75	0,11	7,4	68,3	92
07880775	7 x 0,75	0,11	8,7	89,8	126
07881275	12 x 0,75	0,11	10,4	137,2	180
07881875	18 x 0,75	0,11	12,5	187,3	256
07882575	25 x 0,75	0,11	15,1	250,5	351

Other dimensions and colours are possible on request.

S 90 C Continuously flexible PUR control cable with numbered cores and overall copper screen



RoHS

Marking for S 90 C 07880515:
SAB BRÖCKSKES · D-VIERSEN · S 90 C 5 x 1,5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 6
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	specially adjusted layering with non-woven tape over each layer
Inner sheath:	PVC, TM2 acc. to DIN VDE 0281 part 1 + HD 21.1
Screen:	tinned copper braiding
Wrapping:	non-woven tape
Sheath material:	TMPU acc. to DIN VDE 0282 part 10 + HD 22.10 with mat surface
Sheath colour:	grey (RAL 7000)

Outstanding features:

- very good EMC characteristics
- improved abrasion resistance
- high tear resistance
- good chemical resistance
- increased efficiency

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2 core/screen 2000 V
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	5 x 10⁷ cJ/kg
Temperature range *fixed laying:* *flexible application:*	 -40/+70 °C +5/+70 °C
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
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07880205	2 x 0,50	0,16	7,6	41,5	85
07880305	3 x 0,50	0,16	7,9	46,8	91
07880405	4 x 0,50	0,16	8,3	56,9	103
07880505	5 x 0,50	0,16	8,9	62,4	117
07880705	7 x 0,50	0,16	10,3	83,6	157
07881205	12 x 0,50	0,16	12,1	114,0	207
07881805	18 x 0,50	0,16	13,6	154,4	274
07882505	25 x 0,50	0,16	16,3	222,8	273
07883605	36 x 0,50	0,16	18,4	300,3	507
07884405	44 x 0,50	0,16	20,2	344,6	583
07885205	52 x 0,50	0,16	20,9	385,5	650
07886505	65 x 0,50	0,16	23,5	466,4	805
07880207	2 x 0,75	0,16	8,1	51,4	101
07880307	3 x 0,75	0,16	8,4	59,4	108
07880407	4 x 0,75	0,16	8,9	67,2	120
07880507	5 x 0,75	0,16	9,5	77,3	138
07880707	7 x 0,75	0,16	11,2	101,5	188
07881207	12 x 0,75	0,16	13,1	145,0	251
07881807	18 x 0,75	0,16	14,9	200,1	340
07882507	25 x 0,75	0,16	18,4	294,8	486
07883607	36 x 0,75	0,16	20,2	392,6	632
07884407	44 x 0,75	0,16	22,2	457,3	731
07885207	52 x 0,75	0,16	23,4	528,4	845
07886507	65 x 0,75	0,16	26,1	632,6	1032
07880210	2 x 1,00	0,16	8,1	56,9	108
07880310	3 x 1,00	0,16	8,6	66,9	118
07880410	4 x 1,00	0,16	9,2	79,2	135
07880510	5 x 1,00	0,16	10,2	97,9	167
07880710	7 x 1,00	0,16	11,5	118,7	208
07881210	12 x 1,00	0,16	13,5	183,0	291
07881810	18 x 1,00	0,16	15,8	244,3	401
07882510	25 x 1,00	0,16	19,0	356,5	556
07883610	36 x 1,00	0,16	20,9	481,5	731
07884410	44 x 1,00	0,16	23,4	565,8	868
07885210	52 x 1,00	0,16	24,5	657,4	998
07886510	65 x 1,00	0,16	26,4	807,5	1216
07880215	2 x 1,50	0,16	8,9	67,2	129
07880315	3 x 1,50	0,16	9,3	84,2	144
07880415	4 x 1,50	0,16	10,3	107,6	177
07880515	5 x 1,50	0,16	11,0	122,8	203
07880715	7 x 1,50	0,16	12,7	158,5	267
07881215	12 x 1,50	0,16	14,8	243,1	368
07881815	18 x 1,50	0,16	17,9	365,7	548
07882515	25 x 1,50	0,16	20,9	495,9	719
07883615	36 x 1,50	0,16	23,4	672,4	976
07884415	44 x 1,50	0,16	26,0	827,6	1167
07885215	52 x 1,50	0,16	27,0	947,6	1323
07886515	65 x 1,50	0,16	30,5	1133,7	1637
07880225	2 x 2,50	0,16	11,1	99,0	199
07880325	3 x 2,50	0,16	11,6	127,4	223
07880425	4 x 2,50	0,16	12,6	153,5	261
07880525	5 x 2,50	0,16	13,6	188,0	309
07880725	7 x 2,50	0,16	16,3	270,8	437
07881225	12 x 2,50	0,16	20,1	419,8	640
07881825	18 x 2,50	0,16	22,6	573,9	852
07882525	25 x 2,50	0,16	27,0	783,5	1141
07883625	36 x 2,50	0,16	30,5	1061,7	1556
07880240	2 x 4,00	0,16	12,7	133,7	242
07880340	3 x 4,00	0,16	13,3	173,3	289
07880440	4 x 4,00	0,16	14,2	221,9	345
07880540	5 x 4,00	0,16	15,4	262,7	428
07880740	7 x 4,00	0,16	18,5	383,8	613
07880260	2 x 6,00	0,21	15,6	184,3	340
07880360	3 x 6,00	0,21	15,7	243,3	408
07880460	4 x 6,00	0,21	17,1	334,4	506
07880560	5 x 6,00	0,21	18,8	403,9	643
07880760	7 x 6,00	0,21	21,6	541,5	850
07880461	4 x 10,0	0,21	20,2	516,1	756
07880561	5 x 10,0	0,21	22,0	618,3	948
07880462	4 x 16,0	0,21	23,2	757,1	1065
07880562	5 x 16,0	0,21	25,6	945,3	1376
07880463	4 x 25,0	0,21	27,2	1142,6	1534
07880464	4 x 35,0	0,21	30,8	1543,1	2006

Other dimensions and colours are possible on request.

with coloured cores

SD 90 C TP Continuously flexible paired PUR data cable with overall copper screen

RoHS

Marking for SD 90 C TP 07710350:
SAB BRÖCKSKES · D-VIERSEN · SD 90 C TP 3 x 2 x 0,5 mm² CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	with reference to DIN 47100
Stranding:	cores twisted to pairs, pairs twisted in specially adjusted layering with non-woven tape over each layer
Wrapping:	non-woven tape
Screen:	tinned copper braiding
Wrapping:	non-woven tape
Sheath material:	TMPU acc. to DIN VDE 0282 part 10 + HD 22.10 with mat surface
Sheath colour:	grey (RAL 7032)

Outstanding features:

- very good EMC characteristics
- improved abrasion resistance
- high tear resistance
- good chemical resistance
- increased efficiency

Technical data:

Peak operating voltage:	max. 350 V acc. to DIN VDE
Testing voltage: U	1500 V acc. to DIN VDE 0472 part 509 core/screen 1200 V
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	-30/+70 °C -5/+70 °C
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
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

B
17

item no.	no. of pairs x cross section n x 2 x mm²	largest single wire ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
07710214	2 x 2 x 0,14	0,11	4,9	15,9	31
07710314	3 x 2 x 0,14	0,11	5,4	20,3	37
07710414	4 x 2 x 0,14	0,11	6,0	24,7	44
07710514	5 x 2 x 0,14	0,11	6,5	30,3	54
07710714	7 x 2 x 0,14	0,11	7,0	35,9	67
07711814	18 x 2 x 0,14	0,11	10,4	89,7	143
07712514	25 x 2 x 0,14	0,11	12,1	114,4	186
07710225	2 x 2 x 0,25	0,11	5,4	21,8	40
07710325	3 x 2 x 0,25	0,11	5,9	28,3	48
07710425	4 x 2 x 0,25	0,11	6,7	36,2	59
07710525	5 x 2 x 0,25	0,11	7,2	42,7	70
07710725	7 x 2 x 0,25	0,11	7,6	54,1	90
07711825	18 x 2 x 0,25	0,11	12,0	133,5	204
07712525	25 x 2 x 0,25	0,11	13,9	177,2	269
07710234	2 x 2 x 0,34	0,11	6,3	28,4	53
07710334	3 x 2 x 0,34	0,11	6,9	36,6	63
07710434	4 x 2 x 0,34	0,11	7,9	46,7	78
07710534	5 x 2 x 0,34	0,11	8,8	55,4	97
07710734	7 x 2 x 0,34	0,11	9,4	70,9	127
07711834	18 x 2 x 0,34	0,11	14,8	175,2	287
07712534	25 x 2 x 0,34	0,11	17,1	258,6	391
07710250	2 x 2 x 0,50	0,16	6,9	36,2	65
07710350	3 x 2 x 0,50	0,16	7,6	49,3	81
07710450	4 x 2 x 0,50	0,16	8,9	61,2	101
07710550	5 x 2 x 0,50	0,16	9,7	73,3	123
07710750	7 x 2 x 0,50	0,16	11,0	108,6	180
07711850	18 x 2 x 0,50	0,16	16,8	267,8	399
07712550	25 x 2 x 0,50	0,16	19,2	347,3	509
07710275	2 x 2 x 0,75	0,16	7,8	49,3	87
07710375	3 x 2 x 0,75	0,16	8,8	65,9	110
07710475	4 x 2 x 0,75	0,16	10,4	98,9	148
07710575	5 x 2 x 0,75	0,16	11,7	118,9	188
07710775	7 x 2 x 0,75	0,16	12,6	152,4	246
07711875	18 x 2 x 0,75	0,16	19,4	366,8	545
07712575	25 x 2 x 0,75	0,16	22,4	481,4	709

Other dimensions and colours are possible on request.

SD 200 Extremely flexible TPE/PUR data cable with coloured cores for continuous movement

RoHS

Marking for SD 200 07742501:
SAB BRÖCKSKES · D-VIERSEN · SD 200 25 x 0,14 mm² CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	TPE 510
Colour code:	with reference to DIN 47100
Stranding:	specially adjusted layering with non-woven tape over each layer
Wrapping:	non-woven tape
Sheath material:	PUR, TMPU acc. to DIN VDE 0282 part 10 + HD 22.10 with mat surface
Sheath colour:	grey (RAL 7032)

Outstanding features:

- **labs uncritical**
  (labs = enamel moisturing interfering substances)
- **flexible at low temperatures**
- **halogen-free**
- **travel > 10 m is possible**
- **high abrasion resistance**
- **min. bending radius**
- **small outer diameter**

Technical data:

Peak operating voltage:	max. 350 V acc. to DIN VDE
Testing voltage U:	1500 V acc. to DIN VDE 0472 part 509
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range *fixed laying:* / *flexible application:*	-50/+90 °C / -40/+90 °C
Halogen-free:	acc. to DIN VDE 0472 part 815 + IEC 60754-1
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..
Continuous flexibility:	very good
Weather resistance:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07740201	2 x 0,14	0,11	3,2	2,7	11
07740301	3 x 0,14	0,11	3,3	4,0	13
07740401	4 x 0,14	0,11	3,6	5,4	15
07740501	5 x 0,14	0,11	3,8	6,7	18
07740701	7 x 0,14	0,11	4,4	9,4	24
07741001	10 x 0,14	0,11	5,1	13,4	30
07741201	12 x 0,14	0,11	5,2	16,1	34
07741401	14 x 0,14	0,11	5,5	18,8	38
07741801	18 x 0,14	0,11	6,0	24,2	48
07742501	25 x 0,14	0,11	7,1	33,6	63
07743201	32 x 0,14	0,11	7,6	43,0	78
07740202	2 x 0,25	0,11	3,5	4,8	15
07740302	3 x 0,25	0,11	3,7	7,2	18
07740402	4 x 0,25	0,11	3,9	9,6	21
07740502	5 x 0,25	0,11	4,2	12,0	25
07740702	7 x 0,25	0,11	4,9	16,8	34
07741002	10 x 0,25	0,11	5,7	24,0	43

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07741202	12 x 0,25	0,11	5,8	28,8	49
07741402	14 x 0,25	0,11	6,1	33,6	56
07741802	18 x 0,25	0,11	6,8	43,2	71
07742502	25 x 0,25	0,11	8,1	60,0	94
07743202	32 x 0,25	0,11	8,8	76,8	120
07740203	2 x 0,34	0,11	3,7	6,5	17
07740303	3 x 0,34	0,11	3,9	9,8	21
07740403	4 x 0,34	0,11	4,2	13,1	25
07740503	5 x 0,34	0,11	4,5	16,3	30
07740703	7 x 0,34	0,11	5,2	22,8	41
07741003	10 x 0,34	0,11	6,1	32,6	52
07741203	12 x 0,34	0,11	6,3	39,2	60
07741403	14 x 0,34	0,11	6,6	45,7	69
07741803	18 x 0,34	0,11	7,3	58,8	87
07742503	25 x 0,34	0,11	8,9	81,6	119
07743203	32 x 0,34	0,11	9,5	104,4	149

Other dimensions and colours are possible on request.

On request also possible in dimensions
0,50 mm²
and
0,75 mm²!

S 200 Extremely flexible TPE/PUR control cable with numbered cores for continuous movement

RoHS

Marking for S 200 07440161:
SAB BRÖCKSKES · D-VIERSEN · S 200 1 x 10,0 mm² CE

Marking for S 200 07741215:
SAB BRÖCKSKES · D-VIERSEN · S 200 12 x 1,5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 6
Insulation:	TPE 510
Colour code from 2 conductors	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	specially adjusted layering with non-woven tape over each layer
Wrapping:	non-woven tape
Sheath material:	PUR, TMPU acc. to DIN VDE 0282 part 10 + HD 22.10 with mat surface
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **labs uncritical**
  (labs = enamel moisturing interfering substances)
- **flexible at low temperatures**
- **halogen-free**
- **travel > 10 m is possible**
- **high abrasion resistance**
- **min. bending radius**
- **small outer diameter**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage U:	2000 V acc. to DIN VDE 0281 part 2 + HD 21.2
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	-50/+90 °C -40/+90 °C
Halogen-free:	acc. to DIN VDE 0472 part 815 + IEC 60754-1
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..
Continuous flexibility:	very good
Weather resistance:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

Also available as hybrid cable for example

3G1,0 + 16 x 0,34 mm²
3G1,0 + 8 x 0,34 mm²
1G0,5 + 4 x 0,34 mm²

Peak operating voltage of data conductors: max. 500 V

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07740205	2 x 0,50	0,16	4,9	9,6	27
07740305	3 x 0,50	0,16	5,1	14,4	34
07740405	4 x 0,50	0,16	5,5	19,2	41
07740505	5 x 0,50	0,16	6,0	24,0	50
07740705	7 x 0,50	0,16	6,9	33,6	67
07741205	12 x 0,50	0,16	8,3	57,6	98
07741805	18 x 0,50	0,16	9,9	86,4	145
07742505	25 x 0,50	0,16	11,9	120,0	196
07743605	36 x 0,50	0,16	13,7	172,8	280
07745005	50 x 0,50	0,16	16,1	240,0	379
07746505	65 x 0,50	0,16	18,2	312,0	492
07740207	2 x 0,75	0,16	5,4	14,4	35
07740307	3 x 0,75	0,16	5,7	21,6	45
07740407	4 x 0,75	0,16	6,1	28,8	54
07740507	5 x 0,75	0,16	6,7	36,0	66
07740707	7 x 0,75	0,16	7,7	50,4	90
07741207	12 x 0,75	0,16	9,6	86,4	137
07741807	18 x 0,75	0,16	11,3	129,6	201
07742507	25 x 0,75	0,16	13,9	180,0	277
07743607	36 x 0,75	0,16	15,4	259,2	382
07745007	50 x 0,75	0,16	18,4	360,0	526
07746507	65 x 0,75	0,16	20,8	468,0	683
07740210	2 x 1,00	0,16	5,8	19,2	43
07740310	3 x 1,00	0,16	6,1	28,8	55
07740410	4 x 1,00	0,16	6,6	38,4	67
07740510	5 x 1,00	0,16	7,2	48,0	83
07740710	7 x 1,00	0,16	8,4	67,2	114
07741210	12 x 1,00	0,16	10,4	115,2	173
07741810	18 x 1,00	0,16	12,3	172,8	256
07742510	25 x 1,00	0,16	15,1	240,0	353
07743610	36 x 1,00	0,16	17,0	345,6	497
07745010	50 x 1,00	0,16	20,2	480,0	682
07746510	65 x 1,00	0,16	22,9	624,0	886

Continued on next page

S 200 Extremely flexible TPE/PUR control cable with numbered cores for continuous movement

RoHS

Marking for S 200 07440161:
SAB BRÖCKSKES · D-VIERSEN · S 200 1 x 10,0 mm² CE

Marking for S 200 07741215:
SAB BRÖCKSKES · D-VIERSEN · S 200 12 x 1,5 mm² CE

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07740115	1 x 1,50	0,16	4,0	14,4	25
07740215	2 x 1,50	0,16	6,4	28,8	55
07740315	3 x 1,50	0,16	6,7	43,2	73
07740415	4 x 1,50	0,16	7,3	57,6	91
07740515	5 x 1,50	0,16	8,0	72,0	112
07740715	7 x 1,50	0,16	9,6	100,8	157
07741215	12 x 1,50	0,16	11,9	172,8	243
07741815	18 x 1,50	0,16	14,2	259,2	364
07742515	25 x 1,50	0,16	17,1	360,0	493
07743615	36 x 1,50	0,16	19,2	518,4	695
07745015	50 x 1,50	0,16	23,0	720,0	955
07746515	65 x 1,50	0,16	26,0	936,0	1241
07740125	1 x 2,50	0,16	4,6	24,0	37
07740225	2 x 2,50	0,16	8,0	48,0	86
07740325	3 x 2,50	0,16	8,5	72,0	116
07740425	4 x 2,50	0,16	9,4	96,0	147
07740525	5 x 2,50	0,16	10,4	120,0	182
07740725	7 x 2,50	0,16	12,4	168,0	255
07741225	12 x 2,50	0,16	15,8	288,0	405
07741825	18 x 2,50	0,16	18,6	432,0	596
07742525	25 x 2,50	0,16	22,7	600,0	814
07743625	36 x 2,50	0,16	25,5	864,0	1146
07740140	1 x 4,00	0,16	5,4	38,4	54
07740240	2 x 4,00	0,16	9,3	76,8	127
07740340	3 x 4,00	0,16	9,8	115,2	169
07740440	4 x 4,00	0,16	10,8	153,6	210
07740540	5 x 4,00	0,16	12,1	192,0	272
07740740	7 x 4,00	0,16	14,6	268,8	389
07740160	1 x 6,00	0,21	6,1	57,6	76
07740260	2 x 6,00	0,21	10,8	115,2	183
07740360	3 x 6,00	0,21	11,7	172,8	246
07740460	4 x 6,00	0,21	12,8	230,4	310
07740560	5 x 6,00	0,21	14,5	288,0	400
07740760	7 x 6,00	0,21	17,3	403,2	561
07740161	1 x 10,0	0,21	7,1	96,0	117
07740361	3 x 10,0	0,21	14,5	288,0	407
07740461	4 x 10,0	0,21	15,8	384,0	506
07740561	5 x 10,0	0,21	17,2	480,0	627
07740162	1 x 16,0	0,21	8,3	153,6	177
07740362	3 x 16,0	0,21	17,2	460,8	604
07740462	4 x 16,0	0,21	19,0	614,4	780
07740562	5 x 16,0	0,21	21,2	768,0	978
07740163	1 x 25,0	0,21	9,9	240,0	270
07740363	3 x 25,0	0,21	20,6	720,0	920
07740463	4 x 25,0	0,21	22,8	960,0	1182
07740563	5 x 25,0	0,21	25,4	1200,0	1485
07740164	1 x 35,0	0,21	11,5	336,0	362
07740464	4 x 35,0	0,21	26,4	1344,0	1598
07740564	5 x 35,0	0,21	29,4	1680,0	2010
07740165	1 x 50,0	0,31	14,0	480,0	531
07740465	4 x 50,0	0,31	31,8	1920,0	2259
07740166	1 x 70,0	0,31	16,7	672,0	744
07740167	1 x 95,0	0,31	20,5	912,0	1020
07740168	1 x 120,0	0,31	21,5	1152,0	1244
07740169	1 x 150,0	0,31	24,6	1440,0	1584
07740170	1 x 185,0	0,41	26,7	1776,0	1920
07740171	1 x 240,0	0,41	30,1	2304,0	2458

Other dimensions and colours are possible on request.

Singlecore on request with green-yellow insulation and black outer sheath or 0,6/1 kV.

SD 200 C Continuously flexible TPE/PUR data cable with coloured cores and overall copper screen

RoHS

Marking for SD 200 C 07842501:
SAB BRÖCKSKES · D-VIERSEN · SD 200 C 25 x 0,14 mm² CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	TPE 510
Colour code:	with reference to DIN 47100
Stranding:	specially adjusted layering with non-woven tape over each layer
Wrapping:	non-woven tape
Screen:	tinned copper braiding
Wrapping:	non-woven tape
Sheath material:	PUR, TMPU acc. to DIN VDE 0282 part 10 + HD 22.10 with mat surface
Sheath colour:	grey (RAL 7032)

Outstanding features:

- **labs uncritical**
  (labs = enamel moisturing interfering substances)
- **flexible at low temperatures**
- **halogen-free**
- **travel > 10 m is possible**
- **good EMC characteristics**
- **high abrasion resistance**

Technical data:

Peak operating voltage:	max. 350 V acc. to DIN VDE
Testing voltage U:	1500 V acc. to DIN VDE 0472 part 509 core/screen 1200 V
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	-50/+90 °C -40/+90 °C
Halogen-free:	acc. to DIN VDE 0472 part 815 + IEC 60754-1
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..
Continuous flexibility:	very good
Weather resistance:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

B 21

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07840201	2 x 0,14	0,11	3,7	11,6	18
07840301	3 x 0,14	0,11	3,8	13,0	20
07840401	4 x 0,14	0,11	4,1	16,2	24
07840501	5 x 0,14	0,11	4,3	17,7	27
07840701	7 x 0,14	0,11	4,9	22,7	35
07841201	12 x 0,14	0,11	5,9	43,5	54
07841801	18 x 0,14	0,11	6,7	53,2	70
07842501	25 x 0,14	0,11	7,8	71,2	90
07843201	32 x 0,14	0,11	8,5	81,2	104
07840202	2 x 0,25	0,11	4,0	15,6	23
07840302	3 x 0,25	0,11	4,2	18,1	26
07840402	4 x 0,25	0,11	4,4	20,7	29
07840502	5 x 0,25	0,11	4,7	25,1	35
07840702	7 x 0,25	0,11	5,4	32,5	46
07841202	12 x 0,25	0,11	6,6	57,6	71
07841802	18 x 0,25	0,11	7,5	75,6	95
07842502	25 x 0,25	0,11	9,0	100,8	127
07843202	32 x 0,25	0,11	9,5	126,6	156
07840203	2 x 0,34	0,11	4,2	17,5	26
07840303	3 x 0,34	0,11	4,4	20,4	29
07840403	4 x 0,34	0,11	4,7	26,2	35
07840503	5 x 0,34	0,11	5,0	29,7	41

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07840703	7 x 0,34	0,11	5,7	38,9	53
07841203	12 x 0,34	0,11	6,9	68,6	82
07841803	18 x 0,34	0,11	8,0	96,6	115
07842503	25 x 0,34	0,11	9,6	131,5	155
07843203	32 x 0,34	0,11	10,2	155,0	185
07840250	2 x 0,50	0,11	4,8	22,8	34
07840350	3 x 0,50	0,11	5,0	27,8	39
07840450	4 x 0,50	0,11	5,4	34,9	47
07840550	5 x 0,50	0,11	5,8	40,2	55
07840750	7 x 0,50	0,11	6,9	63,1	81
07841250	12 x 0,50	0,11	8,0	81,4	105
07841850	18 x 0,50	0,11	9,7	136,4	167
07842550	25 x 0,50	0,11	11,8	176,2	222
07840275	2 x 0,75	0,11	5,4	30,2	44
07840375	3 x 0,75	0,11	5,7	37,7	52
07840475	4 x 0,75	0,11	6,3	57,0	69
07840575	5 x 0,75	0,11	6,8	65,2	81
07840775	7 x 0,75	0,11	7,9	88,1	106
07841275	12 x 0,75	0,11	9,7	136,4	163
07841875	18 x 0,75	0,11	11,6	181,5	227
07842575	25 x 0,75	0,11	14,1	248,5	316

Other dimensions and colours are possible on request.

S 200 C Continuously flexible TPE/PUR control cable with numbered cores and overall copper screen

RoHS

Marking for S 200 C 07840161:
SAB BRÖCKSKES · D-VIERSEN · S 200 C 1 x 10,0 mm² CE

Marking for S 200 C 07840515:
SAB BRÖCKSKES · D-VIERSEN · S 200 C 5 x 1,5 mm² CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 6
Insulation:	TPE 510
Colour code from 2 conductors	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	specially adjusted layering with non-woven tape over each layer
Inner sheath:	SABIX® 322
Wrapping:	non-woven tape
Screen:	tinned copper braiding
Wrapping:	non-woven tape
Sheath material:	PUR, TMPU acc. to DIN VDE 0282 part 10 + HD 22.10 with mat surface
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **labs uncritical**
  (labs = enamel moisturing interfering substances)
- **flexible at low temperatures**
- **halogen-free**
- **travel > 10 m is possible**
- **good EMC characteristics**
- **high abrasion resistance**
- **min. bending radius**
- **small outer diameter**

Technical data:

Nominal voltage:	Uo/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 *continuously flexible:*	 7,5 x d
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	 -50/+90 °C -40/+90 °C
Halogen-free:	acc. to DIN VDE 0472 part 815 + IEC 60754-1
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..
Continuous flexibility:	very good
Weather resistance:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

Also available as hybrid cable for example

3G1,0 + 16 x 0,34 mm²
3G1,0 + 8 x 0,34 mm²
1G0,5 + 4 x 0,34 mm²

Peak operating voltage of data conductors: max. 500 V

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07840205	2 x 0,50	0,16	6,8	38,4	51
07840305	3 x 0,50	0,16	7,0	43,6	58
07840405	4 x 0,50	0,16	7,4	51,1	67
07840505	5 x 0,50	0,16	7,9	61,5	77
07840705	7 x 0,50	0,16	9,0	74,1	101
07841205	12 x 0,50	0,16	10,6	108,2	151
07841805	18 x 0,50	0,16	12,2	143,0	203
07842505	25 x 0,50	0,16	14,8	217,0	299
07843605	36 x 0,50	0,16	16,4	275,3	379
07845205	52 x 0,50	0,16	19,2	379,7	524
07846505	65 x 0,50	0,16	21,7	451,5	647

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07840207	2 x 0,75	0,16	7,3	46,3	59
07840307	3 x 0,75	0,16	7,6	54,1	70
07840407	4 x 0,75	0,16	8,0	64,0	82
07840507	5 x 0,75	0,16	8,8	74,3	98
07840707	7 x 0,75	0,16	9,8	92,3	123
07841207	12 x 0,75	0,16	11,9	142,4	192
07841807	18 x 0,75	0,16	14,2	215,3	294
07842507	25 x 0,75	0,16	16,6	289,7	386
07843607	36 x 0,75	0,16	18,7	387,7	520
07845207	52 x 0,75	0,16	21,9	514,3	722
07846507	65 x 0,75	0,16	24,5	639,8	868

Continued on next page

S 200 C Continuously flexible TPE/PUR control cable with numbered cores and overall copper screen

Marking for S 200 C 07840161:
SAB BRÖCKSKES · D-VIERSEN · S 200 C 1 x 10,0 mm² CE

Marking for S 200 C 07840515:
SAB BRÖCKSKES · D-VIERSEN · S 200 C 5 x 1,5 mm² CE

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07840210	2 x 1,00	0,16	7,7	56,5	68
07840310	3 x 1,00	0,16	8,0	66,4	82
07840410	4 x 1,00	0,16	8,5	77,3	97
07840510	5 x 1,00	0,16	9,3	89,0	114
07840710	7 x 1,00	0,16	10,7	117,9	159
07841210	12 x 1,00	0,16	12,8	174,9	239
07841810	18 x 1,00	0,16	15,2	270,2	353
07842510	25 x 1,00	0,16	18,4	367,5	481
07843610	36 x 1,00	0,16	20,3	478,7	633
07845210	52 x 1,00	0,16	23,8	668,9	884
07846510	65 x 1,00	0,16	26,8	805,7	1081
07840115	1 x 1,50	0,16	4,6	24,8	35
07840215	2 x 1,50	0,16	8,3	66,8	82
07840315	3 x 1,50	0,16	8,8	81,5	104
07840415	4 x 1,50	0,16	9,4	101,2	125
07840515	5 x 1,50	0,16	10,1	122,2	145
07840715	7 x 1,50	0,16	11,9	156,8	206
07841215	12 x 1,50	0,16	14,7	269,7	341
07841815	18 x 1,50	0,16	16,9	369,2	465
07842515	25 x 1,50	0,16	20,4	493,4	633
07843615	36 x 1,50	0,16	23,0	660,3	856
07845215	52 x 1,50	0,16	26,9	931,0	1056
07846515	65 x 1,50	0,16	29,9	1132,8	1450
07840125	1 x 2,50	0,16	5,3	38,0	49
07840225	2 x 2,50	0,16	9,9	98,2	117
07840325	3 x 2,50	0,16	10,6	122,8	159
07840425	4 x 2,50	0,16	11,5	150,1	197
07840525	5 x 2,50	0,16	12,6	179,6	236
07840725	7 x 2,50	0,16	15,0	265,2	335
07841225	12 x 2,50	0,16	18,5	417,1	525
07841825	18 x 2,50	0,16	21,8	571,4	739
07842525	25 x 2,50	0,16	26,0	780,8	1004
07843625	36 x 2,50	0,16	28,7	1058,0	1341
07845225	52 x 2,50	0,16	33,0	1479,3	1817
07840140	1 x 4,00	0,16	6,0	54,4	68

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07840240	2 x 4,00	0,16	11,9	132,8	179
07840340	3 x 4,00	0,16	12,1	172,9	224
07840440	4 x 4,00	0,16	13,7	216,5	287
07840540	5 x 4,00	0,16	15,0	289,2	357
07840740	7 x 4,00	0,16	18,0	396,3	486
07840160	1 x 6,00	0,21	6,6	75,3	90
07840260	2 x 6,00	0,21	13,7	182,6	251
07840360	3 x 6,00	0,21	14,6	258,8	334
07840460	4 x 6,00	0,21	15,9	328,3	414
07840560	5 x 6,00	0,21	17,2	398,4	485
07840760	7 x 6,00	0,21	20,6	537,3	615
07840161	1 x 10,0	0,21	7,7	117,5	135
07840361	3 x 10,0	0,21	17,4	392,9	502
07840461	4 x 10,0	0,21	18,7	507,4	624
07840561	5 x 10,0	0,21	20,5	615,5	731
07840162	1 x 16,0	0,21	9,1	179,9	206
07840362	3 x 16,0	0,21	20,7	598,4	724
07840462	4 x 16,0	0,21	22,5	758,2	915
07840562	5 x 16,0	0,21	24,7	947,1	1101
07840163	1 x 25,0	0,21	10,7	287,7	306
07840363	3 x 25,0	0,21	23,9	898,2	1047
07840463	4 x 25,0	0,21	25,8	1148,0	1312
07840563	5 x 25,0	0,21	29,1	1400,1	1610
07840164	1 x 35,0	0,21	12,5	390,6	408
07840464	4 x 35,0	0,21	30,1	1546,4	1765
07840564	5 x 35,0	0,21	33,1	1915,1	2119
07840165	1 x 50,0	0,31	14,9	577,2	601
07840465	4 x 50,0	0,31	35,5	2165,3	2471
07840166	1 x 70,0	0,31	17,7	783,1	826
07840167	1 x 95,0	0,31	21,5	1051,2	1122
07840168	1 x 120,0	0,31	22,7	1293,1	1356
07840169	1 x 150,0	0,31	26,2	1611,0	1712
07840170	1 x 185,0	0,41	27,9	1952,4	2059
07840171	1 x 240,0	0,41	31,3	2507,0	2617

Other dimensions and colours are possible on request.

Singlecore on request with green-yellow insulation and black outer sheath or 0,6/1 kV.

SD 200 C TP

Continuously flexible paired TPE/PUR data cable with coloured cores and overall copper screen

Marking for SD 200 C TP 07890350:
SAB BRÖCKSKES · D-VIERSEN · SD 200 C TP 3 x 2 x 0,5 mm^2 CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	TPE 510
Colour code:	with reference to DIN 47100
Stranding:	cores twisted to pairs, pairs twisted in specially adjusted layering with non-woven tape over each layer
Wrapping:	non-woven tape
Screen:	tinned copper braiding
Wrapping:	non-woven tape
Sheath material:	PUR, TMPU acc. to DIN VDE 0282 part 10 + HD 22.10 with mat surface
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **labs uncritical**
  (labs = enamel moisturing interfering substances)
- **flexible at low temperatures**
- **halogen-free**
- **travel > 10 m is possible**
- **good EMC characteristics**
- **high abrasion resistance**

Technical data:

Peak operating voltage:	max. 350 V acc. to DIN VDE
Testing voltage:	1500 V acc. to DIN VDE 0472 part 509 core/screen 1200 V
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	 -50/+90 °C -40/+90 °C
Halogen-free:	acc. to DIN VDE 0472 part 815 + IEC 60754-1
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..
Continuous flexibility:	very good
Weather resistance:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of pairs x cross section n x 2 x mm^2	largest single wire ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
07890214	2 x 2 x 0,14	0,11	4,6	17,4	28
07890314	3 x 2 x 0,14	0,11	5,1	20,2	32
07890414	4 x 2 x 0,14	0,11	5,8	24,7	39
07890514	5 x 2 x 0,14	0,11	6,2	28,8	46
07890614	6 x 2 x 0,14	0,11	6,4	31,5	53
07890714	7 x 2 x 0,14	0,11	6,7	35,9	59
07891014	10 x 2 x 0,14	0,11	7,9	47,5	72
07891414	14 x 2 x 0,14	0,11	9,0	62,7	96
07891814	18 x 2 x 0,14	0,11	10,0	89,6	129
07892514	25 x 2 x 0,14	0,11	11,7	114,3	170
07890225	2 x 2 x 0,25	0,11	5,1	21,8	35
07890325	3 x 2 x 0,25	0,11	5,7	28,3	44
07890425	4 x 2 x 0,25	0,11	6,4	36,1	52
07890525	5 x 2 x 0,25	0,11	6,9	41,1	61
07890625	6 x 2 x 0,25	0,11	7,1	47,3	69
07890725	7 x 2 x 0,25	0,11	7,4	54,1	82
07891025	10 x 2 x 0,25	0,11	8,9	70,8	101
07891425	14 x 2 x 0,25	0,11	10,9	108,7	153
07891825	18 x 2 x 0,25	0,11	11,6	133,4	189
07892525	25 x 2 x 0,25	0,11	13,8	171,9	262
07890234	2 x 2 x 0,34	0,11	5,4	20,3	40
07890334	3 x 2 x 0,34	0,11	6,0	34,9	52
07890434	4 x 2 x 0,34	0,11	6,9	43,2	63
07890534	5 x 2 x 0,34	0,11	7,4	53,1	73

item no.	no. of pairs x cross section n x 2 x mm^2	largest single wire ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
07890734	7 x 2 x 0,34	0,11	8,0	66,4	94
07891034	10 x 2 x 0,34	0,11	9,6	90,5	121
07891434	14 x 2 x 0,34	0,11	11,6	138,3	181
07891834	18 x 2 x 0,34	0,11	12,5	169,2	223
07892534	25 x 2 x 0,34	0,11	14,7	247,3	313
07890250	2 x 2 x 0,50	0,11	6,3	34,6	52
07890350	3 x 2 x 0,50	0,11	7,1	47,3	69
07890450	4 x 2 x 0,50	0,11	8,2	61,4	87
07890550	5 x 2 x 0,50	0,11	9,1	73,1	105
07890750	7 x 2 x 0,50	0,11	10,0	108,4	151
07891050	10 x 2 x 0,50	0,11	12,1	143,3	192
07891450	14 x 2 x 0,50	0,11	14,3	191,7	276
07891850	18 x 2 x 0,50	0,11	15,8	257,8	345
07892550	25 x 2 x 0,50	0,11	17,9	336,5	446
07890275	2 x 2 x 0,75	0,11	7,2	47,4	69
07890375	3 x 2 x 0,75	0,11	8,3	66,2	87
07890475	4 x 2 x 0,75	0,11	9,6	101,0	112
07890575	5 x 2 x 0,75	0,11	11,1	118,8	163
07890775	7 x 2 x 0,75	0,11	11,9	148,0	212
07891075	10 x 2 x 0,75	0,11	14,7	228,0	296
07891475	14 x 2 x 0,75	0,11	17,2	296,9	390
07891875	18 x 2 x 0,75	0,11	18,5	366,1	482
07892575	25 x 2 x 0,75	0,11	21,2	480,5	620

Other dimensions and colours are possible on request.

+180 °C

S 180 HT Continuously flexible high temperature control cable with numbered cores and Besilen® outer sheath

RoHS

Marking for S 180 HT 31800440:
SAB BRÖCKSKES · D-VIERSEN · S 180 HT CE

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 6
Insulation:	FEP
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	specially adjusted layering with non-woven tape over each layer
Wrapping:	tape
Sheath material:	special Besilen®
Sheath colour:	grey (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 U:	4000 V acc. to EN 50264
Min. bending radius *continuously flexible:*	10 x d
Temperature range *fixed laying:* *flexible application:* *short-time use:*	-25/+180 °C -25/+180 °C +200 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Flexibility:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

B 25

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
31800315	3 x 1,50	0,16	7,7	43,2	94
31800415	4 x 1,50	0,16	8,3	57,6	116
31800515	5 x 1,50	0,16	9,2	72,0	147
31800715	7 x 1,50	0,16	10,6	100,8	200
31800325	3 x 2,50	0,16	9,4	72,0	144
31800425	4 x 2,50	0,16	10,1	96,0	177
31800525	5 x 2,50	0,16	11,5	120,0	228
31800725	7 x 2,50	0,16	13,5	168,0	320
31800440	4 x 4,00	0,16	12,1	153,6	265
31800540	5 x 4,00	0,16	13,4	192,0	333
31800740	7 x 4,00	0,16	15,9	268,8	469
31800460	4 x 6,00	0,21	14,6	230,4	408
31800560	5 x 6,00	0,21	16,4	288,0	495
31800760	7 x 6,00	0,21	19,4	403,2	697
31800461	4 x 10,0	0,21	17,0	384,0	609
31800561	5 x 10,0	0,21	18,9	480,0	745
31800462	4 x 16,0	0,21	20,7	614,4	912
31800562	5 x 16,0	0,21	23,2	768,0	1146
31800463	4 x 25,0	0,21	24,0	960,0	1312
31800464	4 x 35,0	0,21	28,2	1344,0	1800

Other dimensions and colours are possible on request.

Application:
for use
in cable tracks
with extremely
ambient temperature
like for example
in steel industry!

SAB BRÖCKSKES

+180 °C

S 180 C HT

Continuously flexible high temperature control cable with numbered cores, overall copper screen and Besilen® outer sheath

RoHS

Marking for S 180 C HT 31850440:
SAB BRÖCKSKES · D-VIERSEN · S 180 C HT CE

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 6
Insulation:	FEP
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	specially adjusted layering with non-woven tape over each layer
Wrapping:	tape
Screen:	tinned copper braiding
Sheath material:	special Besilen®
Sheath colour:	grey (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 U:	4000 V acc. to EN 50264
Min. bending radius *continuously flexible:*	15 x d
Temperature range *fixed laying:* *flexible application:* *short-time use:*	 -25/+180 °C -25/+180 °C +200 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Flexibility:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
31850315	3 x 1,50	0,15	8,1	63,8	110
31850415	4 x 1,50	0,15	8,9	80,4	137
31850515	5 x 1,50	0,15	9,6	98,3	166
31850715	7 x 1,50	0,15	11,4	147,6	240
31850325	3 x 2,50	0,15	9,8	98,5	163
31850425	4 x 2,50	0,15	11,1	142,1	221
31850525	5 x 2,50	0,15	12,1	171,9	268
31850725	7 x 2,50	0,15	14,0	229,2	364
31850440	4 x 4,00	0,15	12,7	206,4	304
31850540	5 x 4,00	0,15	14,0	253,2	378
31850740	7 x 4,00	0,15	16,7	368,0	541
31850460	4 x 6,00	0,20	15,2	297,9	457
31850560	5 x 6,00	0,20	17,2	388,0	568
31850760	7 x 6,00	0,20	20,2	519,5	780
31850461	4 x 10,0	0,20	17,8	485,6	683
31850561	5 x 10,0	0,20	19,7	594,9	828
31850462	4 x 16,0	0,20	21,5	747,7	1007
31850562	5 x 16,0	0,20	24,0	922,4	1256
31850463	4 x 25,0	0,20	25,2	1117,5	1444
31850464	4 x 35,0	0,20	29,0	1532,5	1934

Other dimensions and colours are possible on request.

Application:
for use
in cable tracks
with extremely
ambient temperature
like for example
in steel industry!

SAB BRÖCKSKES

S 900 Continuously flexible PVC/PVC single conductor

RoHS

Marking for S 900 07671362:
SAB BRÖCKSKES · D-VIERSEN · 07671362 16,0 mm² S 900 6 AWG 07670601 AWM Style 10455 90°C 600V CSA AWM I/II A/B 90°C 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 6
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Wrapping:	non-woven tape
Sheath material:	PVC TM5 acc. to DIN VDE 0281 part 1 + HD 21.1
Sheath colour:	black (RAL 9005)

Outstanding features:

➤ **highly flexible single conductor for use in cable tracks**

Technical data:

Nominal voltage:	**DIN VDE:** Uo/U 0,6/1 kV
Voltage:	**UL/CSA:** 600 V
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** -40/+70°C +5/+70°C; **UL/CSA:** up to +90°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1 + CSA FT1 and FT2
Oil resistance:	very good - PVC TM5 acc. to DIN VDE 0281 part 1 + HD 21.1
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

Colour of insulation: ➤ black

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	AWG/ MCM	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km	ampere at 30°C
07671315	1 x 1,50	0,16	16 (84/34)	4,9	14,4	38	24
07671325	1 x 2,50	0,16	14 (140/34)	5,8	24,0	55	32
07671340	1 x 4,00	0,16	12 (224/34)	6,6	38,4	77	42
07671360	1 x 6,00	0,21	10 (186/32)	7,3	57,6	104	54
07671361	1 x 10,00	0,21	8 (320/32)	9,1	96,0	161	73
07671362	1 x 16,00	0,21	6 (512/32)	10,1	153,6	231	98
07671363	1 x 25,00	0,21	4 (798/32)	12,0	240,0	337	129
07671364	1 x 35,00	0,21	2 (1083/32)	13,7	336,0	454	158
07671365	1 x 50,00	0,31	1 (703/28)	15,8	480,0	632	198
07671385	1 x 54,00	0,31	1/0 (779/28)	16,3	518,4	677	213
07671386	1 x 68,00	0,31	2/0 (969/28)	17,1	652,8	789	226
07671366	1 x 70,00	0,31	(988/28)	17,3	672,0	803	245
07671387	1 x 86,00	0,31	3/0 (1218/28)	19,7	825,6	1036	263
07671367	1 x 95,00	0,31	(1340/28)	21,0	912,0	1146	292
07671388	1 x 108,00	0,31	4/0 (1528/28)	22,5	1036,8	1286	313
07671368	1 x 120,00	0,31	(1680/28)	22,8	1152,0	1401	344
07671389	1 x 127,00	0,31	250 MCM (1799/28)	23,3	1220,8	1490	370
07671369	1 x 150,00	0,31	250 MCM (2122/28)	24,6	1440,0	1724	391
07671390	1 x 152,00	0,31	300 MCM (2154/28)	24,6	1461,7	1724	396
07671391	1 x 177,00	0,41	350 MCM (1443/26)	26,7	1740,8	2051	430
07671370	1 x 185,00	0,41	(1472/26)	26,7	1776,0	2085	448
07671392	1 x 204,00	0,41	400 MCM (1628/26)	30,4	1964,0	2411	470
07671393	1 x 232,00	0,41	450 MCM (1850/26)	31,5	2231,8	2693	490
07671371	1 x 240,00	0,41	(1910/26)	31,5	2304,0	2763	528
07671394	1 x 255,00	0,41	500 MCM (2035/26)	31,8	2455,0	2920	535
07671395	1 x 283,00	0,41	550 MCM (2257/26)	33,6	2722,8	3399	560
07671372	1 x 300,00	0,41	(2388/26)	34,3	2880,0	3403	608
07671396	1 x 306,00	0,41	600 MCM (2442/26)	34,3	2946,0	3466	613

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

On request with
green-yellow insulation

S 900 P Continuously flexible PVC/PUR single conductor

Marking for S 900 P 07681362:
SAB BRÖCKSKES · D-VIERSEN · 07681362 16,0 mm² S 900 P 6 AWG 07680601 AWM Style 10456 80°C 600V CSA AWM I/II A/B 80°C 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 6
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Wrapping:	non-woven tape
Sheath material:	TMPU acc. to DIN VDE 0282 part 10 + HD 22.10 with mat surface
Sheath colour:	black (RAL 9005)

Outstanding features:

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

Technical data:

Nominal voltage:	**DIN VDE:** Uo/U 0,6/1 kV
Voltage:	**UL/CSA:** 600 V
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** -40/+70°C +5/+70°C; **UL/CSA:** up to +80°C
Fire performance:	flame retardant and self-extinguishing acc. to UL + CSA FT1 and FT2
Oil resistance:	very good - PUR TMPU acc. to DIN VDE 0282 part 10 + HD 22.10
Chem. resistance:	good against acids, alkalines, solvents, hydraulic liquids etc..
Continuous flexibility:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

Colour of insulation: ➤ black

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	AWG/ MCM	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km	ampere at 30°C
07681315	1 x 1,50	0,16	16 (84/34)	5,6	14,4	45	24
07681325	1 x 2,50	0,16	14 (140/34)	6,5	24,0	63	32
07681340	1 x 4,00	0,16	12 (224/34)	7,3	38,4	86	42
07681360	1 x 6,00	0,21	10 (186/32)	8,0	57,6	114	54
07681361	1 x 10,00	0,21	8 (320/32)	9,8	96,0	173	73
07681362	1 x 16,00	0,21	6 (512/32)	10,8	153,6	245	98
07681363	1 x 25,00	0,21	4 (798/32)	12,7	240,0	353	129
07681364	1 x 35,00	0,21	2 (1083/32)	14,0	336,0	459	158
07681365	1 x 50,00	0,31	1 (703/28)	16,1	480,0	638	198
07681385	1 x 54,00	0,31	1/0 (779/28)	16,6	518,4	683	213
07681386	1 x 68,00	0,31	2/0 (969/28)	18,1	652,8	838	226
07681366	1 x 70,00	0,31	(988/28)	18,1	672,0	854	245
07681387	1 x 86,00	0,31	3/0 (1218/28)	20,0	825,6	1044	263
07681367	1 x 95,00	0,31	(1340/28)	21,0	912,0	1140	292
07681388	1 x 108,00	0,31	4/0 (1528/28)	22,5	1036,8	1279	313
07681368	1 x 120,00	0,31	(1680/28)	22,8	1152,0	1394	344
07681389	1 x 127,00	0,31	250 MCM (1799/28)	23,3	1220,8	1483	370
07681369	1 x 150,00	0,31	250 MCM (2122/28)	24,6	1440,0	1716	391
07681390	1 x 152,00	0,31	300 MCM (2154/28)	24,6	1461,7	1716	396
07681391	1 x 177,00	0,41	350 MCM (1443/26)	26,7	1740,8	2043	430
07681370	1 x 185,00	0,41	(1472/26)	26,7	1776,0	2077	448
07681392	1 x 204,00	0,41	400 MCM (1628/26)	30,4	1964,0	2399	470
07681393	1 x 232,00	0,41	450 MCM (1850/26)	31,5	2231,8	2680	490
07681371	1 x 240,00	0,41	(1910/26)	31,5	2304,0	2750	528
07681394	1 x 255,00	0,41	500 MCM (2035/26)	31,8	2455,0	2907	535
07681395	1 x 283,00	0,41	550 MCM (2257/26)	33,6	2722,8	3385	560
07681372	1 x 300,00	0,41	(2388/26)	34,3	2880,0	3389	608
07681396	1 x 306,00	0,41	600 MCM (2442/26)	34,3	2946,0	3451	613

Other dimensions and colours are possible on request.

On request with
green-yellow insulation

S 910 P Continuously flexible TPE/PUR single conductor

RoHS

Marking for S 910 P 37681362:
SAB BRÖCKSKES · D-VIERSEN · 37681362 16,0 mm² S 910 P 6 AWG 37680601 AWM Style 10456 80°C 600V CSA AWM I/II A/B 80°C 1000V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 6
Insulation:	TPE 510
Wrapping:	non-woven tape
Sheath material:	TMPU acc. to DIN VDE 0282 part 10 + HD 22.10 with mat surface
Sheath colour:	black (RAL 9005)

Outstanding features:

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

Technical data:

Nominal voltage:	**DIN VDE:** Uo/U 0,6/1 kV	
Voltage :	**UL:** 600 V	**CSA:** 1000 V
Min. bending radius *continuously flexible:*	7,5 x d	
Radiation resistance:	5 x 10^7 cJ/kg	
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** -50/+90°C -40/+90°C	**UL/CSA:** up to +80°C
Fire performance:	flame retardant and self-extinguishing acc. to UL + CSA FT1 and FT2	
Oil resistance:	very good - PUR TMPU acc. to DIN VDE 0282 part 10 + HD 22.10	
Chem. resistance:	good against acids, alkalines, solvents, hydraulic liquids etc..	
Continuous flexibility:	very good	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

Colour of insulation: ➤ black

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	AWG/ MCM	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
37681340	1 x 4,00	0,16	12	6,6	38,4	69
37681360	1 x 6,00	0,21	10	7,5	57,6	94
37681361	1 x 10,00	0,21	8	8,4	96,0	138
37681362	1 x 16,00	0,21	6	9,9	153,6	206
37681363	1 x 25,00	0,21	4	11,1	240,0	296
37681364	1 x 35,00	0,21	2	12,6	336,0	390
37681365	1 x 50,00	0,31	1	14,7	480,0	554
37681366	1 x 70,00	0,31	2/0	17,0	672,0	771
37681367	1 x 95,00	0,31	3/0	20,4	912,0	1024
37681368	1 x 120,00	0,31	4/0	23,0	1152,0	1318
37681369	1 x 150,00	0,31	250 MCM	25,7	1440,0	1649

Other dimensions and colours are possible on request.

On request with
green-yellow insulation

S 910 CP Continuously flexible TPE/PUR single conductor with overall copper screen

Marking for S 910 CP 37692362:
SAB BRÖCKSKES · D-VIERSEN · 37692362 16,0 mm² S 910 CP 6 AWG 37690601 AWM Style 10456 80°C 600V CSA AWM I/II A/B 80°C 1000V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 6
Insulation:	TPE 510
Wrapping:	non-woven tape
Screen:	tinned copper braiding
Wrapping:	non-woven tape
Sheath material:	TMPU acc. to DIN VDE 0282 part 10 + HD 22.10 with mat surface
Sheath colour:	orange (RAL 2003)

Outstanding features:

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

Technical data:

Nominal voltage:	**DIN VDE:** Uo/U 0,6/1 kV	
Voltage :	**UL:** 600 V	**CSA:** 1000 V
Min. bending radius *continuously flexible:*	7,5 x d	
Radiation resistance:	5 x 10⁷ cJ/kg	
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** -50/+90°C -40/+90°C	**UL/CSA:** up to +80°C
Fire performance:	flame retardant and self-extinguishing acc. to UL + CSA FT1 and FT2	
Oil resistance:	very good - PUR TMPU acc. to DIN VDE 0282 part 10 + HD 22.10	
Chem. resistance:	good against acids, alkalines, solvents, hydraulic liquids etc..	
Continuous flexibility:	very good	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

Colour of insulation: ➤ black

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	AWG/ MCM	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
37692340	1 x 4,00	0,16	12	7,1	54,5	83
37692360	1 x 6,00	0,21	10	8,0	77,3	112
37692361	1 x 10,00	0,21	8	8,9	119,7	157
37692362	1 x 16,00	0,21	6	10,3	182,6	227
37692363	1 x 25,00	0,21	4	11,7	293,9	335
37692364	1 x 35,00	0,21	2	13,3	395,7	434
37692365	1 x 50,00	0,31	1	15,8	577,7	631
37692366	1 x 70,00	0,31	2/0	17,9	783,2	840
37692367	1 x 95,00	0,31	3/0	22,9	1051,4	1193
37692368	1 x 120,00	0,31	4/0	23,9	1293,3	1421
37692369	1 x 150,00	0,31	250 MCM	26,6	1611,3	1773

Other dimensions and colours are possible on request.

On request with
green-yellow insulation

SD 950 Continuously flexible PVC data cable with coloured cores

Marking for SD 950 37302502:
SAB BRÖCKSKES · D-VIERSEN · 37302502 25 x 0,25 mm² SD 950 24 AWG/25c 37302425 AWM Style 21222 75°C 300V CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	PVC TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	with reference to colour code acc. to US 2 see page N/11
Stranding:	specially adjusted layering with non-woven tape over each layer
Sheath material:	PVC TM2 acc. to DIN VDE 0281 part 1 + HD 21.1, reinforced wall thickness
Sheath colour:	grey (RAL 7032)

Outstanding features:

- very good flexibility
- small bending radius
- reinforced outer sheath

Technical data:

Peak operating voltage:	**DIN VDE:** max. 350 V **UL:** 300 V
Testing voltage U:	1500 V acc. to DIN VDE 0472 part 509
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** **UL:** up to +75°C -30/+70°C -5/+70°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1
Chem. resistance:	see page N/9
Flexibility:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
37300201	2 x 0,14	0,11	3,1	2,7	13
37300301	3 x 0,14	0,11	3,3	4,0	15
37300401	4 x 0,14	0,11	3,5	5,4	17
37300501	5 x 0,14	0,11	3,8	6,7	21
37300701	7 x 0,14	0,11	4,4	9,4	29
37301001	10 x 0,14	0,11	5,4	13,4	37
37301201	12 x 0,14	0,11	5,6	16,1	42
37301401	14 x 0,14	0,11	5,8	18,8	47
37301801	18 x 0,14	0,11	6,4	24,2	59
37302501	25 x 0,14	0,11	7,8	33,6	79
37300202	2 x 0,25	0,11	3,4	4,8	16
37300302	3 x 0,25	0,11	3,6	7,2	19
37300402	4 x 0,25	0,11	3,9	9,6	23
37300502	5 x 0,25	0,11	4,2	12,0	28
37300702	7 x 0,25	0,11	4,9	16,8	39

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
37301002	10 x 0,25	0,11	6,0	24,0	51
37301202	12 x 0,25	0,11	6,2	28,8	58
37301402	14 x 0,25	0,11	6,5	33,6	66
37301802	18 x 0,25	0,11	7,2	43,2	84
37302502	25 x 0,25	0,11	8,7	60,0	111
37300203	2 x 0,34	0,11	4,0	6,5	22
37300303	3 x 0,34	0,11	4,2	9,8	27
37300403	4 x 0,34	0,11	4,6	13,1	30
37300503	5 x 0,34	0,11	5,0	16,3	40
37300703	7 x 0,34	0,11	6,1	22,8	53
37301003	10 x 0,34	0,11	7,3	32,6	72
37301203	12 x 0,34	0,11	7,5	39,2	83
37301403	14 x 0,34	0,11	7,9	45,7	94
37301803	18 x 0,34	0,11	8,8	58,8	119
37302503	25 x 0,34	0,11	10,9	81,6	165

Other dimensions and colours are possible on request.

On request also possible in dimensions

0,50 mm²

and

0,75 mm²!

S 950 Continuously flexible PVC control cable with numbered cores

Marking for S 950 37301215:
SAB BRÖCKSKES · D-VIERSEN · 37301215 12 x 1,5 mm² S 950 16 AWG/15c 37301615 UL AWM Style 21047 75°C 600V CSA AWM I/II A/B 75°C 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 6
Insulation:	PVC TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	specially adjusted layering with non-woven tape over each layer
Sheath material:	PVC TM2 acc. to DIN VDE 0281 part 1 + HD 21.1, reinforced wall thickness
Sheath colour:	grey (RAL 7000)

Outstanding features:

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

Technical data:

Nominal voltage:	**DIN VDE:** Uo/U 300/500 V **UL/CSA**: 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2
Min. bending radius *continuously flexible:*	 7,5 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** **UL/CSA:** up to +75°C -40/+70°C +5/+70°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2 UL VW-1 + CSA FT1 and FT2
Chem. resistance:	see page N/9
Flexibility:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
37300205	2 x 0,50	0,16	5,3	9,6	38
37300305	3 x 0,50	0,16	5,6	14,4	45
37300405	4 x 0,50	0,16	6,2	19,2	56
37300505	5 x 0,50	0,16	6,8	24,0	68
37300705	7 x 0,50	0,16	8,0	33,6	97
37301205	12 x 0,50	0,16	9,9	57,6	138
37301805	18 x 0,50	0,16	11,6	86,4	199
37302505	25 x 0,50	0,16	14,2	120,0	271
37303605	36 x 0,50	0,16	15,9	172,8	373
37304405	44 x 0,50	0,16	18,2	211,2	451
37305205	52 x 0,50	0,16	18,9	249,6	521
37306505	65 x 0,50	0,16	21,5	312,0	656
37300207	2 x 0,75	0,16	5,8	14,4	47
37300307	3 x 0,75	0,16	6,3	21,6	59
37300407	4 x 0,75	0,16	6,8	28,8	71
37300507	5 x 0,75	0,16	7,6	36,0	89
37300707	7 x 0,75	0,16	9,1	50,4	117
37301207	12 x 0,75	0,16	11,1	86,4	182
37301807	18 x 0,75	0,16	13,1	129,6	271
37302507	25 x 0,75	0,16	15,9	180,0	358
37303607	36 x 0,75	0,16	18,1	259,2	510
37305207	52 x 0,75	0,16	21,4	374,4	701
37306507	65 x 0,75	0,16	24,3	468,0	886
37300210	2 x 1,00	0,16	6,2	19,2	56
37300310	3 x 1,00	0,16	6,5	28,8	68
37300410	4 x 1,00	0,16	7,1	38,4	82
37300510	5 x 1,00	0,16	7,9	48,0	104
37300710	7 x 1,00	0,16	9,4	67,2	132
37301210	12 x 1,00	0,16	11,5	115,2	214
37301810	18 x 1,00	0,16	13,8	172,8	324
37302510	25 x 1,00	0,16	16,7	240,0	431
37303610	36 x 1,00	0,16	18,8	345,6	603
37305210	52 x 1,00	0,16	22,5	499,2	845
37306510	65 x 1,00	0,16	25,4	624,0	1066
37300215	2 x 1,50	0,16	6,8	28,8	73
37300315	3 x 1,50	0,16	7,2	43,2	88

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
37300415	4 x 1,50	0,16	8,0	57,6	111
37300515	5 x 1,50	0,16	8,7	72,0	136
37300715	7 x 1,50	0,16	10,6	100,8	196
37301215	12 x 1,50	0,16	13,0	172,8	290
37301815	18 x 1,50	0,16	15,5	259,2	431
37302515	25 x 1,50	0,16	18,8	360,0	583
37303615	36 x 1,50	0,16	21,3	518,4	820
37305215	52 x 1,50	0,16	25,4	748,8	1157
37306515	65 x 1,50	0,16	28,7	936,0	1439
37300225	2 x 2,50	0,16	8,8	48,0	118
37300325	3 x 2,50	0,16	9,5	72,0	149
37300425	4 x 2,50	0,16	10,3	96,0	181
37300525	5 x 2,50	0,16	11,5	120,0	230
37300725	7 x 2,50	0,16	14,0	168,0	327
37301225	12 x 2,50	0,16	17,3	288,0	488
37301825	18 x 2,50	0,16	20,8	432,0	699
37302525	25 x 2,50	0,16	25,3	600,0	990
37303625	36 x 2,50	0,16	28,6	864,0	1384
37300240	2 x 4,00	0,16	9,9	76,8	162
37300340	3 x 4,00	0,16	10,8	115,2	219
37300440	4 x 4,00	0,16	11,7	153,6	271
37300540	5 x 4,00	0,16	13,1	192,0	318
37300740	7 x 4,00	0,16	16,5	268,8	454
37300260	2 x 6,00	0,21	12,3	115,2	242
37300360	3 x 6,00	0,21	13,0	172,8	322
37300460	4 x 6,00	0,21	14,4	230,4	406
37300560	5 x 6,00	0,21	16,1	288,0	485
37300760	7 x 6,00	0,21	19,5	403,2	655
37300361	3 x 10,0	0,21	15,7	288,0	461
37300461	4 x 10,0	0,21	17,3	384,0	605
37300561	5 x 10,0	0,21	19,5	480,0	751
37300462	4 x 16,0	0,21	20,9	614,4	917
37300562	5 x 16,0	0,21	23,3	768,0	1081
37300463	4 x 25,0	0,21	24,7	960,0	1321
37300464	4 x 35,0	0,21	28,7	1344,0	1787
37300465	4 x 50,0	0,31	34,5	1920,0	2565

Other dimensions and colours are possible on request.

SD 960 Continuously flexible PVC data cable with coloured cores

RoHS

Marking for SD 960 07752501:
SAB BRÖCKSKES · D-VIERSEN · 07752501 25 x 0,14 mm² SD 960 26 AWG/25c 07752625 AWM Style 21083 80°C 300V CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	with reference to colour code acc. to US 2 see page N/11
Stranding:	specially adjusted layering with non-woven tape over each layer
Sheath material:	PVC TM2 acc. to DIN VDE 0281 part 1 + HD 21.1
Sheath colour:	black (RAL 9005)

Outstanding features:

- good flexibility
- small bending radius
- reinforced outer sheath

Technical data:

Peak operating voltage:	**DIN VDE:** max. 350 V **UL:** 300 V
Testing voltage U:	1500 V acc. to DIN VDE 0472 part 509
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	8 x 10⁷ cJ/kg
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** **UL:** up to +80°C -30/+70°C -5/+70°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1
Oil resistance:	acc. to our internal standard see page N/13
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07750201	2 x 0,14	0,11	3,9	2,7	17
07750301	3 x 0,14	0,11	4,1	4,0	21
07750401	4 x 0,14	0,11	4,5	5,4	24
07750501	5 x 0,14	0,11	4,9	6,7	30
07750701	7 x 0,14	0,11	5,7	9,4	41
07751001	10 x 0,14	0,11	6,7	13,4	49
07751401	14 x 0,14	0,11	7,2	18,8	63
07751801	18 x 0,14	0,11	8,2	24,2	84
07752501	25 x 0,14	0,11	10,1	33,6	116
07750202	2 x 0,25	0,11	4,2	4,8	22
07750302	3 x 0,25	0,11	4,5	7,2	26
07750402	4 x 0,25	0,11	4,8	9,6	31
07750502	5 x 0,25	0,11	5,3	12,0	38
07750702	7 x 0,25	0,11	6,3	16,8	53

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07751002	10 x 0,25	0,11	7,3	24,0	65
07751402	14 x 0,25	0,11	8,1	33,6	87
07751802	18 x 0,25	0,11	9,0	43,2	110
07752502	25 x 0,25	0,11	11,0	60,0	152
07750203	2 x 0,34	0,11	4,4	6,5	25
07750303	3 x 0,34	0,11	4,7	9,8	30
07750403	4 x 0,34	0,11	5,1	13,1	36
07750503	5 x 0,34	0,11	5,5	16,3	44
07750703	7 x 0,34	0,11	6,6	22,8	61
07751003	10 x 0,34	0,11	7,9	32,6	79
07751403	14 x 0,34	0,11	8,5	45,7	102
07751803	18 x 0,34	0,11	9,5	58,8	130
07752503	25 x 0,34	0,11	11,7	81,6	179

Other dimensions and colours are possible on request.

Possible on request!

- in dimensions 0,50 mm² and 0,75 mm²
- with grey outer sheath and coloured cores acc. to DIN 47100

S 960 Continuously flexible PVC control cable with numbered black cores

RoHS

Ford approved

Marking for S 960 07521215:
SAB BRÖCKSKES · D-VIERSEN · 07521215 12 x 1,5 mm² S 960 16 AWG/12c 07521612
UL AWM Style 2587 90°C 600V CSA AWM I/II A/B 90°C 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 6
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	specially adjusted layering with non-woven tape over each layer
Sheath material:	PVC TM2 acc. to DIN VDE 0281 part 1 + HD 21.1
Sheath colour:	black (RAL 9005)

Technical data:

Nominal voltage:	**DIN VDE:** Uo/U 300/500 V **UL/CSA:** 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** **UL/CSA:** up to +90°C -40/+70°C +5/+70°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2 UL VW-1 + CSA FT1 and FT2
Oil resistance:	acc. to our internal standard see page N/13
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

Outstanding features:

- good flexibility
- small bending radius
- reinforced outer sheath

Possible on request!

- with grey outer sheath and blue or red cores

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07520205	2 x 0,50	0,16	5,5	10,6	40
07520305	3 x 0,50	0,16	5,8	15,8	47
07520405	4 x 0,50	0,16	6,3	21,1	57
07520505	5 x 0,50	0,16	7,0	26,4	71
07520705	7 x 0,50	0,16	8,2	37,0	98
07521205	12 x 0,50	0,16	10,1	63,4	144
07521805	18 x 0,50	0,16	12,0	95,0	212
07522505	25 x 0,50	0,16	14,4	132,0	284
07523405	34 x 0,50	0,16	16,2	179,5	378
07525005	50 x 0,50	0,16	19,1	264,0	523
07526105	61 x 0,50	0,16	21,1	322,1	655
07520207	2 x 0,75	0,16	5,9	14,4	47
07520307	3 x 0,75	0,16	6,3	21,6	57
07520407	4 x 0,75	0,16	6,8	28,8	68
07520507	5 x 0,75	0,16	7,5	36,0	85
07520707	7 x 0,75	0,16	9,1	50,4	122
07521207	12 x 0,75	0,16	11,0	86,4	177
07521807	18 x 0,75	0,16	13,1	129,6	261
07522507	25 x 0,75	0,16	15,8	180,0	354
07523407	34 x 0,75	0,16	17,9	244,8	474
07525007	50 x 0,75	0,16	21,1	360,0	670
07526107	61 x 0,75	0,16	23,5	439,2	831
07520210	2 x 1,00	0,16	6,2	19,2	55
07520310	3 x 1,00	0,16	6,5	28,8	66
07520410	4 x 1,00	0,16	7,2	38,4	82
07520510	5 x 1,00	0,16	7,9	48,0	101
07520710	7 x 1,00	0,16	9,4	67,2	142
07521210	12 x 1,00	0,16	11,5	115,2	212
07521810	18 x 1,00	0,16	13,7	172,8	313
07522510	25 x 1,00	0,16	16,5	240,0	424
07523410	34 x 1,00	0,16	18,7	326,4	569
07525010	50 x 1,00	0,16	22,5	480,0	826
07526110	61 x 1,00	0,16	24,5	585,6	998
07520215	2 x 1,50	0,16	6,8	28,8	70
07520315	3 x 1,50	0,16	7,3	43,2	88
07520415	4 x 1,50	0,16	8,0	57,6	109

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07520515	5 x 1,50	0,16	8,8	72,0	135
07520715	7 x 1,50	0,16	10,6	100,8	192
07521215	12 x 1,50	0,16	13,0	172,8	288
07521815	18 x 1,50	0,16	15,4	259,2	425
07522515	25 x 1,50	0,16	18,7	360,0	580
07523415	34 x 1,50	0,16	21,1	489,6	777
07525015	50 x 1,50	0,16	25,1	720,0	1115
07526115	61 x 1,50	0,16	27,6	878,4	1362
07520225	2 x 2,50	0,16	8,9	48,0	117
07520325	3 x 2,50	0,16	9,5	72,0	144
07520425	4 x 2,50	0,16	10,4	96,0	178
07520525	5 x 2,50	0,16	11,6	120,0	223
07520725	7 x 2,50	0,16	14,0	168,0	319
07521225	12 x 2,50	0,16	17,3	288,0	480
07521825	18 x 2,50	0,16	20,7	432,0	715
07522525	25 x 2,50	0,16	25,1	600,0	973
07520340	3 x 4,00	0,16	11,3	115,2	223
07520440	4 x 4,00	0,16	12,4	153,6	267
07520540	5 x 4,00	0,16	13,8	192,0	342
07520740	7 x 4,00	0,16	16,7	268,8	493
07520360	3 x 6,00	0,21	13,1	172,8	319
07520460	4 x 6,00	0,21	14,5	230,4	381
07520560	5 x 6,00	0,21	16,2	288,0	490
07520760	7 x 6,00	0,21	19,4	403,2	700
07520361	3 x 10,0	0,21	16,2	288,0	502
07520461	4 x 10,0	0,21	18,0	384,0	637
07520561	5 x 10,0	0,21	20,1	480,0	787
07520362	3 x 16,0	0,21	19,4	460,8	754
07520462	4 x 16,0	0,21	21,5	614,4	954
07520562	5 x 16,0	0,21	24,1	768,0	1188
07520463	4 x 25,0	0,21	26,0	960,0	1391
07520563	5 x 25,0	0,21	29,0	1200,0	1779
07520464	4 x 35,0	0,21	29,8	1344,0	1911
07520564	5 x 35,0	0,21	32,9	1680,0	2354
07520465	4 x 50,0	0,21	34,9	1920,0	2672

Other dimensions and colours are possible on request.

S 960 blue Continuously flexible PVC control cable with numbered blue cores

RoHS

Ford approved

Marking for S 960 blue 07511215:
SAB BRÖCKSKES · D-VIERSEN · 07511215 12 x 1,5 mm² S 960 blue 16 AWG/12c 07511612
AWM Style 2587 90°C 600V CSA AWM I/II A/B 90°C 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 6
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	blue cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	specially adjusted layering with non-woven tape over each layer
Sheath material:	PVC TM2 acc. to DIN VDE 0281 part 1 + HD 21.1
Sheath colour:	black (RAL 9005)

Technical data:

Nominal voltage:	**DIN VDE:** Uo/U 300/500 V **UL/CSA**: 600 V	
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2	
Min. bending radius *continuously flexible:*	7,5 x d	
Radiation resistance:	8 x 10^7 cJ/kg	
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** -40/+70°C +5/+70°C	**UL/CSA:** up to +90°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2 UL VW-1 + CSA FT1 and FT2	
Oil resistance:	acc. to our internal standard see page N/13	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

Outstanding features:

- good flexibility
- small bending radius
- reinforced outer sheath

Possible on request!

- with grey outer sheath and black or red cores

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07510205	2 x 0,50	0,16	5,5	10,6	40
07510305	3 x 0,50	0,16	5,8	15,8	47
07510405	4 x 0,50	0,16	6,3	21,1	57
07510505	5 x 0,50	0,16	7,0	26,4	71
07510705	7 x 0,50	0,16	8,2	37,0	98
07511205	12 x 0,50	0,16	10,1	63,4	144
07511805	18 x 0,50	0,16	12,0	95,0	212
07512505	25 x 0,50	0,16	14,4	132,0	284
07513405	34 x 0,50	0,16	16,2	179,5	378
07515005	50 x 0,50	0,16	19,1	264,0	523
07516105	61 x 0,50	0,16	21,1	322,1	655
07510207	2 x 0,75	0,16	5,9	14,4	47
07510307	3 x 0,75	0,16	6,3	21,6	57
07510407	4 x 0,75	0,16	6,8	28,8	68
07510507	5 x 0,75	0,16	7,5	36,0	85
07510707	7 x 0,75	0,16	9,1	50,4	122
07511207	12 x 0,75	0,16	11,0	86,4	177
07511807	18 x 0,75	0,16	13,1	129,6	261
07512507	25 x 0,75	0,16	15,8	180,0	354
07513407	34 x 0,75	0,16	17,9	244,8	474
07515007	50 x 0,75	0,16	21,1	360,0	670
07516107	61 x 0,75	0,16	23,5	439,2	831
07510210	2 x 1,00	0,16	6,2	19,2	55
07510310	3 x 1,00	0,16	6,5	28,8	66
07510410	4 x 1,00	0,16	7,2	38,4	82
07510510	5 x 1,00	0,16	7,9	48,0	101
07510710	7 x 1,00	0,16	9,4	67,2	142
07511210	12 x 1,00	0,16	11,5	115,2	212
07511810	18 x 1,00	0,16	13,7	172,8	313
07512510	25 x 1,00	0,16	16,5	240,0	424
07513410	34 x 1,00	0,16	18,7	326,4	569
07515010	50 x 1,00	0,16	22,5	480,0	826
07516110	61 x 1,00	0,16	24,5	585,6	998
07510215	2 x 1,50	0,16	6,8	28,8	70
07510315	3 x 1,50	0,16	7,3	43,2	88
07510415	4 x 1,50	0,16	8,0	57,6	109

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07510515	5 x 1,50	0,16	8,8	72,0	135
07510715	7 x 1,50	0,16	10,6	100,8	192
07511215	12 x 1,50	0,16	13,0	172,8	288
07511815	18 x 1,50	0,16	15,4	259,2	425
07512515	25 x 1,50	0,16	18,7	360,0	580
07513415	34 x 1,50	0,16	21,1	489,6	777
07515015	50 x 1,50	0,16	25,1	720,0	1115
07516115	61 x 1,50	0,16	27,6	878,4	1362
07510225	2 x 2,50	0,16	8,9	48,0	117
07510325	3 x 2,50	0,16	9,5	72,0	144
07510425	4 x 2,50	0,16	10,4	96,0	178
07510525	5 x 2,50	0,16	11,6	120,0	223
07510725	7 x 2,50	0,16	14,0	168,0	319
07511225	12 x 2,50	0,16	17,3	288,0	480
07511825	18 x 2,50	0,16	20,7	432,0	715
07512525	25 x 2,50	0,16	25,1	600,0	973
07510340	3 x 4,00	0,16	11,3	115,2	223
07510440	4 x 4,00	0,16	12,4	153,6	267
07510540	5 x 4,00	0,16	13,8	192,0	342
07510740	7 x 4,00	0,16	16,7	268,8	493
07510360	3 x 6,00	0,21	13,1	172,8	319
07510460	4 x 6,00	0,21	14,5	230,4	381
07510560	5 x 6,00	0,21	16,2	288,0	490
07510760	7 x 6,00	0,21	19,4	403,2	700
07510361	3 x 10,0	0,21	16,2	288,0	502
07510461	4 x 10,0	0,21	18,0	384,0	637
07510561	5 x 10,0	0,21	20,1	480,0	787
07510362	3 x 16,0	0,21	19,4	460,8	754
07510462	4 x 16,0	0,21	21,5	614,4	954
07510562	5 x 16,0	0,21	24,1	768,0	1188
07510463	4 x 25,0	0,21	26,0	960,0	1391
07510563	5 x 25,0	0,21	29,0	1200,0	1779
07510464	4 x 35,0	0,21	29,8	1344,0	1911
07510564	5 x 35,0	0,21	32,9	1680,0	2354
07510465	4 x 50,0	0,21	34,9	1920,0	2672

Other dimensions and colours are possible on request.

S 960 red Continuously flexible PVC control cable with numbered red cores

Marking for S 960 red 07751215:
SAB BRÖCKSKES · D-VIERSEN · 07750715 7 x 1,5 mm² S 960 red 16 AWG/7c 07751607
UL AWM Style 2587 90°C 600V CSA AWM I/II A/B 90°C 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 6
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	red cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	specially adjusted layering with non-woven tape over each layer
Sheath material:	PVC TM2 acc. to DIN VDE 0281 part 1 + HD 21.1
Sheath colour:	black (RAL 9005)

Technical data:

Nominal voltage:	**DIN VDE:** Uo/U 300/500 V **UL/CSA**: 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** **UL/CSA:** up to +90°C -40/+70°C +5/+70°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2 UL VW-1 + CSA FT1 and FT2
Oil resistance:	acc. to our internal standard see page N/13
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

Outstanding features:

- good flexibility
- small bending radius
- reinforced outer sheath

Possible on request!

- with grey outer sheath and black or blue cores

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07750205	2 x 0,50	0,16	5,5	10,6	40
07750305	3 x 0,50	0,16	5,8	15,8	47
07750405	4 x 0,50	0,16	6,3	21,1	57
07750505	5 x 0,50	0,16	7,0	26,4	71
07750705	7 x 0,50	0,16	8,2	37,0	98
07751205	12 x 0,50	0,16	10,1	63,4	144
07751805	18 x 0,50	0,16	12,0	95,0	212
07752505	25 x 0,50	0,16	14,4	132,0	284
07753405	34 x 0,50	0,16	16,2	179,5	378
07755005	50 x 0,50	0,16	19,1	264,0	523
07756105	61 x 0,50	0,16	21,1	322,1	655
07750207	2 x 0,75	0,16	5,9	14,4	47
07750307	3 x 0,75	0,16	6,3	21,6	57
07750407	4 x 0,75	0,16	6,8	28,8	68
07750507	5 x 0,75	0,16	7,5	36,0	85
07750707	7 x 0,75	0,16	9,1	50,4	122
07751207	12 x 0,75	0,16	11,0	86,4	177
07751807	18 x 0,75	0,16	13,1	129,6	261
07752507	25 x 0,75	0,16	15,8	180,0	354
07753407	34 x 0,75	0,16	17,9	244,8	474
07755007	50 x 0,75	0,16	21,1	360,0	670
07756107	61 x 0,75	0,16	23,5	439,2	831
07750210	2 x 1,00	0,16	6,2	19,2	55
07750310	3 x 1,00	0,16	6,5	28,8	66
07750410	4 x 1,00	0,16	7,2	38,4	82
07750510	5 x 1,00	0,16	7,9	48,0	101
07750710	7 x 1,00	0,16	9,4	67,2	142
07751210	12 x 1,00	0,16	11,5	115,2	212
07751810	18 x 1,00	0,16	13,7	172,8	313
07752510	25 x 1,00	0,16	16,5	240,0	424
07753410	34 x 1,00	0,16	18,7	326,4	569
07755010	50 x 1,00	0,16	22,5	480,0	826
07756110	61 x 1,00	0,16	24,5	585,6	998
07750215	2 x 1,50	0,16	6,8	28,8	70
07750315	3 x 1,50	0,16	7,3	43,2	88
07750415	4 x 1,50	0,16	8,0	57,6	109

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07750515	5 x 1,50	0,16	8,8	72,0	135
07750715	7 x 1,50	0,16	10,6	100,8	192
07751215	12 x 1,50	0,16	13,0	172,8	288
07751815	18 x 1,50	0,16	15,4	259,2	425
07752515	25 x 1,50	0,16	18,7	360,0	580
07753415	34 x 1,50	0,16	21,1	489,6	777
07755015	50 x 1,50	0,16	25,1	720,0	1115
07756115	61 x 1,50	0,16	27,6	878,4	1362
07750225	2 x 2,50	0,16	8,9	48,0	117
07750325	3 x 2,50	0,16	9,5	72,0	144
07750425	4 x 2,50	0,16	10,4	96,0	178
07750525	5 x 2,50	0,16	11,6	120,0	223
07750725	7 x 2,50	0,16	14,0	168,0	319
07751225	12 x 2,50	0,16	17,3	288,0	480
07751825	18 x 2,50	0,16	20,7	432,0	715
07752525	25 x 2,50	0,16	25,1	600,0	973
07750340	3 x 4,00	0,16	11,3	115,2	223
07750440	4 x 4,00	0,16	12,4	153,6	267
07750540	5 x 4,00	0,16	13,8	192,0	342
07750740	7 x 4,00	0,16	16,7	268,8	493
07750360	3 x 6,00	0,21	13,1	172,8	319
07750460	4 x 6,00	0,21	14,5	230,4	381
07750560	5 x 6,00	0,21	16,2	288,0	490
07750760	7 x 6,00	0,21	19,4	403,2	700
07750361	3 x 10,0	0,21	16,2	288,0	502
07750461	4 x 10,0	0,21	18,0	384,0	637
07750561	5 x 10,0	0,21	20,1	480,0	787
07750362	3 x 16,0	0,21	19,4	460,8	754
07750462	4 x 16,0	0,21	21,5	614,4	954
07750562	5 x 16,0	0,21	24,1	768,0	1188
07750463	4 x 25,0	0,21	26,0	960,0	1391
07750563	5 x 25,0	0,21	29,0	1200,0	1779
07750464	4 x 35,0	0,21	29,8	1344,0	1911
07750564	5 x 35,0	0,21	32,9	1680,0	2354
07750465	4 x 50,0	0,21	34,9	1920,0	2672

Other dimensions and colours are possible on request.

SD 960 CY Continuously flexible PVC data cable with coloured cores and overall copper screen

RoHS

Marking for SD 960 CY 07852502:
SAB BRÖCKSKES · D-VIERSEN · 07852502 25 x 0,25 mm² SD 960 CY 24 AWG/25c 07852425 AWM Style 21083 80°C 300V CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	with reference to colour code acc. to US 2 see page N/11
Stranding:	specially adjusted layering with non-woven tape over each layer
Wrapping:	non-woven tape
Screen:	tinned copper braiding
Wrapping:	non-woven tape
Sheath material:	PVC TM2 acc. to DIN VDE 0281 part 1 + HD 21.1
Sheath colour:	black (RAL 9005)

Outstanding features:

- **very good EMC characteristics**
- **very good flexibility**
- **small bending radius**

Technical data:

Peak operating voltage:	**DIN VDE:** max. 350 V
Voltage:	**UL:** 300 V
Testing voltage U:	1500 V acc. to DIN VDE 0472 part 509 core/screen 1200 V
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** **UL:** up to +80°C -30/+70°C -5/+70°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1
Oil resistance:	acc. to our internal standard see page N/13
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

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item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
07850201	2 x 0,14	0,11	4,5	13,8	26
07850301	3 x 0,14	0,11	4,7	15,7	30
07850401	4 x 0,14	0,11	5,2	19,4	35
07850501	5 x 0,14	0,11	5,6	22,6	42
07850701	7 x 0,14	0,11	6,4	26,1	56
07851001	10 x 0,14	0,11	7,5	45,7	67
07851401	14 x 0,14	0,11	8,5	56,4	89
07851801	18 x 0,14	0,11	9,3	64,7	109
07852501	25 x 0,14	0,11	11,0	84,4	149
07850202	2 x 0,25	0,11	4,9	18,0	30
07850302	3 x 0,25	0,11	5,2	20,7	36
07850402	4 x 0,25	0,11	5,5	25,5	42
07850502	5 x 0,25	0,11	6,2	28,3	53
07850702	7 x 0,25	0,11	7,1	46,3	64

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
07851002	10 x 0,25	0,11	8,5	61,7	90
07851402	14 x 0,25	0,11	9,2	72,1	112
07851802	18 x 0,25	0,11	10,1	93,2	137
07852502	25 x 0,25	0,11	12,5	115,8	200
07850203	2 x 0,34	0,11	5,1	19,9	33
07850303	3 x 0,34	0,11	5,4	25,4	39
07850403	4 x 0,34	0,11	5,8	29,1	46
07850503	5 x 0,34	0,11	6,4	44,5	59
07850703	7 x 0,34	0,11	7,4	54,9	73
07851003	10 x 0,34	0,11	8,8	70,9	102
07851403	14 x 0,34	0,11	9,6	86,8	128
07851803	18 x 0,34	0,11	10,8	109,4	169
07852503	25 x 0,34	0,11	13,0	139,1	228

Other dimensions and colours are possible on request.

Possible on request!

- in dimensions 0,50 mm² and 0,75 mm²
- with grey outer sheath and coloured cores acc. to DIN 47100

S 960 CY

Continuously flexible PVC control cable with numbered red cores and overall copper screen

RoHS

Marking for S 960 CY 07850715:
SAB BRÖCKSKES · D-VIERSEN · 07850715 7 x 1,5 mm² S 960 CY 16 AWG/7c 07851607
UL AWM Style 2587 90°C 600V CSA AWM I/II A/B 90°C 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 6
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	red cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	specially adjusted layering with non-woven tape over each layer
Inner sheath:	PVC TM2 acc. to DIN VDE 0281 part 1 + HD 21.1
Screen:	tinned copper braiding
Wrapping:	non-woven tape
Sheath material:	PVC TM2 acc. to DIN VDE 0281 part 1 + HD 21.1
Sheath colour:	black (RAL 9005)

Technical data:

Nominal voltage:	**DIN VDE:** Uo/U 300/500 V
Voltage:	**UL/CSA:** 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2 core/screen 2000 V
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** -40/+70°C +5/+70°C; **UL/CSA:** up to +90°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1 + CSA FT1 and FT2
Oil resistance:	acc. to our internal standard see page N/13
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

Outstanding features:

- very good EMC characteristics
- very good flexibility
- small bending radius

Possible on request!

- with grey outer sheath and black cores

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07850205	2 x 0,50	0,16	7,9	42,5	79
07850305	3 x 0,50	0,16	8,2	48,3	91
07850405	4 x 0,50	0,16	8,7	56,0	104
07850505	5 x 0,50	0,16	9,4	64,6	123
07850705	7 x 0,50	0,16	10,7	78,7	164
07851205	12 x 0,50	0,16	13,1	119,0	242
07851805	18 x 0,50	0,16	15,1	172,4	337
07852505	25 x 0,50	0,16	17,7	234,2	440
07850207	2 x 0,75	0,16	8,3	51,7	89
07850307	3 x 0,75	0,16	8,7	59,2	102
07850407	4 x 0,75	0,16	9,3	67,5	120
07850507	5 x 0,75	0,16	10,0	77,0	141
07850707	7 x 0,75	0,16	11,6	101,2	187
07851207	12 x 0,75	0,16	14,0	146,3	275
07851807	18 x 0,75	0,16	16,2	227,3	388
07852507	25 x 0,75	0,16	19,4	292,0	521
07850210	2 x 1,00	0,16	8,6	56,7	98
07850310	3 x 1,00	0,16	8,9	66,6	112
07850410	4 x 1,00	0,16	9,5	77,3	131
07850510	5 x 1,00	0,16	10,3	89,5	156
07850710	7 x 1,00	0,16	12,1	122,0	214
07851210	12 x 1,00	0,16	14,7	200,9	330
07851810	18 x 1,00	0,16	16,9	271,1	454
07852510	25 x 1,00	0,16	20,1	368,2	602
07850215	2 x 1,50	0,16	9,3	67,0	118
07850315	3 x 1,50	0,16	9,7	83,8	137
07850415	4 x 1,50	0,16	10,4	102,5	163

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07850515	5 x 1,50	0,16	11,5	123,7	209
07850715	7 x 1,50	0,16	13,5	160,4	286
07851215	12 x 1,50	0,16	16,2	270,5	420
07851815	18 x 1,50	0,16	18,9	370,3	587
07852515	25 x 1,50	0,16	22,5	498,6	789
07850225	2 x 2,50	0,16	11,4	98,7	182
07850325	3 x 2,50	0,16	12,0	127,0	219
07850425	4 x 2,50	0,16	13,1	156,3	266
07850525	5 x 2,50	0,16	14,5	205,5	341
07850725	7 x 2,50	0,16	15,8	270,2	437
07851225	12 x 2,50	0,16	20,4	419,4	652
07851825	18 x 2,50	0,16	23,7	573,9	908
07852525	25 x 2,50	0,16	28,2	783,5	1213
07850340	3 x 4,00	0,16	13,7	183,2	301
07850440	4 x 4,00	0,16	14,6	239,3	374
07850540	5 x 4,00	0,16	16,0	296,6	453
07850360	3 x 6,00	0,21	16,2	243,7	429
07850460	4 x 6,00	0,21	17,4	340,2	517
07850560	5 x 6,00	0,21	19,3	418,1	619
07850461	4 x 10,0	0,21	21,2	524,1	791
07850561	5 x 10,0	0,21	23,5	652,6	959
07850462	4 x 16,0	0,21	24,9	781,5	1093
07850562	5 x 16,0	0,21	27,4	954,2	1342
07850463	4 x 25,0	0,21	29,6	1158,2	1673
07850563	5 x 25,0	0,21	32,8	1429,7	1978
07850464	4 x 35,0	0,21	33,1	1575,3	2110
07850465	4 x 50,0	0,21	39,8	2181,8	3009

Other dimensions and colours are possible on request.

SD 960 CY TP

Continuously flexible paired PVC data cable with coloured cores and overall copper screen

RoHS

Marking for SD 960 CY TP 07770525:
SAB BRÖCKSKES · D-VIERSEN · 07770525 5 x 2 x 0,25 mm² SD 960 CY TP 24 AWG/5pr 07772405 AWM Style 21083 80°C 300V CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	with reference to colour code acc. to US 3 see page N/11
Stranding:	cores twisted to pairs, pairs twisted in specially adjusted layering with non-woven tapeover the outer layer
Screen:	tinned copper braiding
Sheath material:	PVC TM2 acc. to DIN VDE 0281 part 1 + HD 21.1
Sheath colour:	black (RAL 9005)

Technical data:

Peak operating voltage:	**DIN VDE:** max. 350 V **UL:** 300 V
Testing voltage U:	1500 V acc. to DIN VDE 0472 part 509 core/screen 1200 V
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** **UL:** up to +80°C -40/+70°C +5/+70°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1
Oil resistance:	acc. to our internal standard see page N/13
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

Outstanding features:

- good flexibility
- small bending radius
- reinforced outer sheath

Possible on request!

- with grey outer sheath and coloured cores acc. to DIN 47100

item no.	no. of pairs x cross section n x 2 x mm²	largest single wire ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
07770214	2 x 2 x 0,14	0,11	5,6	19,4	38
07770314	3 x 2 x 0,14	0,11	6,4	33,0	52
07770414	4 x 2 x 0,14	0,11	7,3	43,1	66
07770514	5 x 2 x 0,14	0,11	7,9	46,3	77
07770714	7 x 2 x 0,14	0,11	8,5	54,0	99
07771014	10 x 2 x 0,14	0,11	9,9	70,7	117
07771414	14 x 2 x 0,14	0,11	11,5	87,3	150
07771814	18 x 2 x 0,14	0,11	12,4	107,0	189
07772514	25 x 2 x 0,14	0,11	14,1	128,6	231
07770225	2 x 2 x 0,25	0,11	6,3	34,4	54
07770325	3 x 2 x 0,25	0,11	6,9	42,2	63
07770425	4 x 2 x 0,25	0,11	7,9	52,1	78
07770525	5 x 2 x 0,25	0,11	8,6	59,4	94
07770725	7 x 2 x 0,25	0,11	9,2	69,9	122
07771025	10 x 2 x 0,25	0,11	10,8	96,2	149
07771425	14 x 2 x 0,25	0,11	12,6	126,1	196
07771825	18 x 2 x 0,25	0,11	13,6	147,0	242
07772525	25 x 2 x 0,25	0,11	15,7	211,2	323
07770234	2 x 2 x 0,34	0,11	6,6	38,4	57
07770334	3 x 2 x 0,34	0,11	7,2	47,9	70
07770434	4 x 2 x 0,34	0,11	8,3	61,0	88
07770534	5 x 2 x 0,34	0,11	9,0	68,6	106
07770734	7 x 2 x 0,34	0,11	9,7	89,4	144

item no.	no. of pairs x cross section n x 2 x mm²	largest single wire ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
07771034	10 x 2 x 0,34	0,11	11,4	114,6	169
07771434	14 x 2 x 0,34	0,11	13,3	151,4	224
07771834	18 x 2 x 0,34	0,11	14,6	205,9	300
07772534	25 x 2 x 0,34	0,11	16,6	273,7	386
07770250	2 x 2 x 0,50	0,16	7,2	47,5	70
07770350	3 x 2 x 0,50	0,16	7,9	61,7	86
07770450	4 x 2 x 0,50	0,16	9,1	74,5	106
07770550	5 x 2 x 0,50	0,16	10,0	92,1	134
07770750	7 x 2 x 0,50	0,16	10,8	115,6	181
07771050	10 x 2 x 0,50	0,16	12,6	154,9	218
07771450	14 x 2 x 0,50	0,16	15,0	223,8	305
07771850	18 x 2 x 0,50	0,16	16,2	265,4	378
07772550	25 x 2 x 0,50	0,16	18,5	355,9	490
07770275	2 x 2 x 0,75	0,16	8,1	61,9	90
07770375	3 x 2 x 0,75	0,16	9,0	79,2	111
07770475	4 x 2 x 0,75	0,16	10,4	105,3	144
07770575	5 x 2 x 0,75	0,16	11,3	121,3	176
07770775	7 x 2 x 0,75	0,16	12,3	159,2	244
07771075	10 x 2 x 0,75	0,16	14,6	232,4	311
07771475	14 x 2 x 0,75	0,16	17,2	313,8	419
07771875	18 x 2 x 0,75	0,16	18,6	375,4	523
07772575	25 x 2 x 0,75	0,16	21,8	484,6	689

Other dimensions and colours are possible on request.

SD 960 P Continuously flexible PUR data cable with coloured cores

RoHS

Marking for SD 960 P 07762503:
SAB BRÖCKSKES · D-VIERSEN · 07762503 25 x 0,34 mm² SD 960 P 22 AWG/25c 07762225
UL AWM Style 20233 80°C 300V CSA AWM I/II A/B 80°C 300V FT1 FT2 CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	with reference to colour code acc. to US 2 see page N/11
Stranding:	specially adjusted layering with non-woven tape over each layer
Sheath material:	PU acc. to UL 758 with mat surface
Sheath colour:	grey (RAL 7032)

Outstanding features:

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

Technical data:

Peak operating voltage:	**DIN VDE:** max. 350 V **UL/CSA:** 300 V
Testing voltage U:	1500 V acc. to DIN VDE 0472 part 509
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** **UL/CSA:** up to +80°C -30/+70°C -5/+70°C
Fire performance:	flame retardant and self-extinguishing acc. to UL FT1, CSA FT1 FT2
Oil resistance:	very good - oilrating 60°C acc. to UL 758
Chem. resistance:	good against acids, alkalines, solvents, hydraulic liquids etc..
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07760201	2 x 0,14	0,11	4,5	2,7	20
07760301	3 x 0,14	0,11	4,7	4,0	24
07760401	4 x 0,14	0,11	5,1	5,4	28
07760501	5 x 0,14	0,11	5,5	6,7	34
07760701	7 x 0,14	0,11	6,3	9,4	45
07761001	10 x 0,14	0,11	7,0	13,4	54
07761401	14 x 0,14	0,11	7,5	18,8	71
07761801	18 x 0,14	0,11	8,6	24,2	84
07762501	25 x 0,14	0,11	10,1	33,6	108
07760202	2 x 0,25	0,11	4,8	4,8	24
07760302	3 x 0,25	0,11	5,1	7,2	29
07760402	4 x 0,25	0,11	5,4	9,6	34
07760502	5 x 0,25	0,11	5,9	12,0	42
07760702	7 x 0,25	0,11	6,8	16,8	52

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07761002	10 x 0,25	0,11	7,6	24,0	70
07761402	14 x 0,25	0,11	8,2	33,6	84
07761802	18 x 0,25	0,11	9,3	43,2	110
07762502	25 x 0,25	0,11	11,4	60,0	150
07760203	2 x 0,34	0,11	5,0	6,5	27
07760303	3 x 0,34	0,11	5,3	9,8	32
07760403	4 x 0,34	0,11	5,7	13,1	39
07760503	5 x 0,34	0,11	6,1	16,3	47
07760703	7 x 0,34	0,11	7,1	22,8	59
07761003	10 x 0,34	0,11	8,0	32,6	77
07761403	14 x 0,34	0,11	8,6	45,7	100
07761803	18 x 0,34	0,11	9,8	58,8	128
07762503	25 x 0,34	0,11	12,1	81,6	175

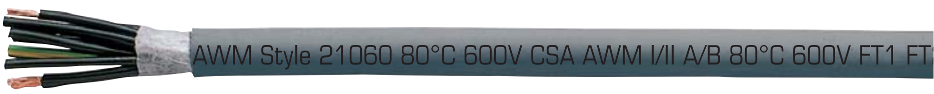
Other dimensions and colours are possible on request.

Possible on request!

- in dimensions 0,50 mm² and 0,75 mm²
- with orange outer sheath and coloured cores acc. to DIN 47100

S 960 P Continuously flexible PUR control cable with numbered black cores

RoHS



Marking for S 960 P 07760715:
SAB BRÖCKSKES · D-VIERSEN · 07760715 7 x 1,5 mm² S 960 P 16 AWG/7c 07761607
AWM Style 21060 80°C 600V CSA AWM I/II A/B 80°C 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 6
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	specially adjusted layering with non-woven tape over each layer
Sheath material:	PU acc. to UL 758 with mat surface
Sheath colour:	grey (RAL 7000)

Outstanding features:

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

Technical data:

Nominal voltage:	**DIN VDE:** Uo/U 300/500 V **UL/CSA**: 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** -40/+70°C +5/+70°C **UL/CSA:** up to +80°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2 UL VW-1 + CSA FT1 + FT2
Oil resistance:	very good - oilrating 60°C acc. to UL 758
Chem. resistance:	good against acids, alkalines, solvents, hydraulic liquids etc..
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

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Possible on request!

- **with orange outer sheath and blue or red cores**

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07760205	2 x 0,50	0,16	6,4	10,6	46
07760305	3 x 0,50	0,16	6,7	15,8	54
07760405	4 x 0,50	0,16	7,1	21,1	63
07760505	5 x 0,50	0,16	7,7	26,4	77
07760705	7 x 0,50	0,16	8,8	37,0	104
07761205	12 x 0,50	0,16	10,5	63,4	145
07761805	18 x 0,50	0,16	12,0	95,0	200
07762505	25 x 0,50	0,16	14,3	132,0	268
07763405	34 x 0,50	0,16	15,2	179,5	349
07765005	50 x 0,50	0,16	18,5	264,0	364
07766105	61 x 0,50	0,16	20,0	322,1	443
07760207	2 x 0,75	0,16	6,8	14,4	55
07760307	3 x 0,75	0,16	7,1	21,6	62
07760407	4 x 0,75	0,16	7,6	28,8	74
07760507	5 x 0,75	0,16	8,2	36,0	89
07760707	7 x 0,75	0,16	9,5	50,4	121
07761207	12 x 0,75	0,16	11,3	86,4	171
07761807	18 x 0,75	0,16	13,1	129,6	239
07762507	25 x 0,75	0,16	15,8	180,0	329
07763407	34 x 0,75	0,16	17,5	244,8	335
07765007	50 x 0,75	0,16	20,0	360,0	596
07766107	61 x 0,75	0,16	23,5	439,2	781
07760210	2 x 1,00	0,16	7,0	19,2	61
07760310	3 x 1,00	0,16	7,3	28,8	70
07760410	4 x 1,00	0,16	7,9	38,4	85
07760510	5 x 1,00	0,16	8,5	48,0	103
07760710	7 x 1,00	0,16	9,8	67,2	131
07761210	12 x 1,00	0,16	11,7	115,2	202
07761810	18 x 1,00	0,16	13,6	172,8	297
07762510	25 x 1,00	0,16	16,4	240,0	392
07763410	34 x 1,00	0,16	18,0	326,4	521
07765010	50 x 1,00	0,16	22,3	480,0	784
07766110	61 x 1,00	0,16	24,4	585,6	965
07760215	2 x 1,50	0,16	7,6	28,8	74
07760315	3 x 1,50	0,16	8,0	43,2	90
07760415	4 x 1,50	0,16	8,6	57,6	109
07760515	5 x 1,50	0,16	9,3	72,0	134
07760715	7 x 1,50	0,16	10,8	100,8	184
07761215	12 x 1,50	0,16	12,9	172,8	269
07761815	18 x 1,50	0,16	15,1	259,2	392
07762515	25 x 1,50	0,16	18,3	360,0	529
07763415	34 x 1,50	0,16	20,4	489,6	695
07765015	50 x 1,50	0,16	24,8	720,0	1056
07766115	61 x 1,50	0,16	27,7	878,4	1282
07760225	2 x 2,50	0,16	9,2	48,0	110
07760325	3 x 2,50	0,16	9,7	72,0	136
07760425	4 x 2,50	0,16	10,5	96,0	168
07760525	5 x 2,50	0,16	11,5	120,0	202
07760725	7 x 2,50	0,16	13,5	168,0	269
07761225	12 x 2,50	0,16	16,6	288,0	436
07761825	18 x 2,50	0,16	19,9	432,0	637
07762525	25 x 2,50	0,16	25,4	600,0	922
07760340	3 x 4,00	0,16	11,8	115,2	207
07760440	4 x 4,00	0,16	11,9	153,6	246
07760540	5 x 4,00	0,16	13,1	192,0	298
07760740	7 x 4,00	0,16	16,6	268,8	413
07760360	3 x 6,00	0,21	13,4	172,8	302
07760460	4 x 6,00	0,21	14,5	230,4	368
07760560	5 x 6,00	0,21	16,0	288,0	457
07760461	4 x 10,0	0,21	17,9	384,0	600
07760561	5 x 10,0	0,21	19,7	480,0	749
07760462	4 x 16,0	0,21	20,9	614,4	856
07760562	5 x 16,0	0,21	24,2	768,0	1093
07760463	4 x 25,0	0,21	25,9	960,0	1328
07760563	5 x 25,0	0,21	28,5	1200,0	1620
07760464	4 x 35,0	0,21	29,2	1344,0	1733
07760564	5 x 35,0	0,21	32,3	1680,0	2113
07760465	4 x 50,0	0,21	34,3	1920,0	2469

Other dimensions and colours are possible on request.

S 960 P blue Continuously flexible PUR control cable with numbered blue cores

RoHS

Marking for S 960 P blue 37210715:
SAB BRÖCKSKES · D-VIERSEN · 37210715 7 x 1,5 mm² S 960 P blue 16 AWG/7c 37211607
AWM Style 21060 80°C 600V CSA AWM I/II A/B 80°C 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 6
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	blue cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	specially adjusted layering with non-woven tape over each layer
Sheath material:	PU acc. to UL 758 with mat surface
Sheath colour:	grey (RAL 7000)

Outstanding features:

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

Technical data:

Nominal voltage:	**DIN VDE:** Uo/U 300/500 V **UL/CSA:** 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** **UL/CSA:** up to +80°C -40/+70°C +5/+70°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2 UL VW-1 + CSA FT1 + FT2
Oil resistance:	very good - oilrating 60°C acc. to UL 758
Chem. resistance:	good against acids, alkalines, solvents, hydraulic liquids etc..
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

Possible on request!

- with orange outer sheath and black or red cores

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
37210205	2 x 0,50	0,16	6,4	10,6	46
37210305	3 x 0,50	0,16	6,7	15,8	54
37210405	4 x 0,50	0,16	7,1	21,1	63
37210505	5 x 0,50	0,16	7,7	26,4	77
37210705	7 x 0,50	0,16	8,8	37,0	104
37211205	12 x 0,50	0,16	10,5	63,4	145
37211805	18 x 0,50	0,16	12,0	95,0	200
37212505	25 x 0,50	0,16	14,3	132,0	268
37213405	34 x 0,50	0,16	15,2	179,5	349
37215005	50 x 0,50	0,16	18,5	264,0	364
37216105	61 x 0,50	0,16	20,0	322,1	443
37210207	2 x 0,75	0,16	6,8	14,4	55
37210307	3 x 0,75	0,16	7,1	21,6	62
37210407	4 x 0,75	0,16	7,6	28,8	74
37210507	5 x 0,75	0,16	8,2	36,0	89
37210707	7 x 0,75	0,16	9,5	50,4	121
37211207	12 x 0,75	0,16	11,3	86,4	171
37211807	18 x 0,75	0,16	13,1	129,6	239
37212507	25 x 0,75	0,16	15,8	180,0	329
37213407	34 x 0,75	0,16	17,5	244,8	335
37215007	50 x 0,75	0,16	20,2	360,0	596
37216107	61 x 0,75	0,16	23,5	439,2	781
37210210	2 x 1,00	0,16	7,0	19,2	61
37210310	3 x 1,00	0,16	7,3	28,8	70
37210410	4 x 1,00	0,16	7,9	38,4	85
37210510	5 x 1,00	0,16	8,5	48,0	103
37210710	7 x 1,00	0,16	9,8	67,2	131
37211210	12 x 1,00	0,16	11,7	115,2	202
37211810	18 x 1,00	0,16	13,6	172,8	297
37212510	25 x 1,00	0,16	16,4	240,0	392
37213410	34 x 1,00	0,16	18,0	326,4	521
37215010	50 x 1,00	0,16	22,3	480,0	784
37216110	61 x 1,00	0,16	24,4	585,6	965
37210215	2 x 1,50	0,16	7,6	28,8	74

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
37210315	3 x 1,50	0,16	8,0	43,2	90
37210415	4 x 1,50	0,16	8,6	57,6	109
37210515	5 x 1,50	0,16	9,3	72,0	134
37210715	7 x 1,50	0,16	10,8	100,8	184
37211215	12 x 1,50	0,16	12,9	172,8	269
37211815	18 x 1,50	0,16	15,1	259,2	392
37212515	25 x 1,50	0,16	18,3	360,0	529
37213415	34 x 1,50	0,16	20,4	489,6	695
37215015	50 x 1,50	0,16	24,8	720,0	1056
37216115	61 x 1,50	0,16	27,7	878,4	1282
37210225	2 x 2,50	0,16	9,2	48,0	110
37210325	3 x 2,50	0,16	9,7	72,0	136
37210425	4 x 2,50	0,16	10,5	96,0	168
37210525	5 x 2,50	0,16	11,5	120,0	202
37210725	7 x 2,50	0,16	13,5	168,0	269
37211225	12 x 2,50	0,16	16,6	288,0	436
37211825	18 x 2,50	0,16	19,9	432,0	637
37212525	25 x 2,50	0,16	25,4	600,0	922
37210340	3 x 4,00	0,16	11,8	115,2	207
37210440	4 x 4,00	0,16	11,9	153,6	246
37210540	5 x 4,00	0,16	13,1	192,0	298
37210740	7 x 4,00	0,16	16,6	268,8	413
37210360	3 x 6,00	0,21	13,4	172,8	302
37210460	4 x 6,00	0,21	14,5	230,4	368
37210560	5 x 6,00	0,21	16,0	288,0	457
37210461	4 x 10,0	0,21	17,9	384,0	600
37210561	5 x 10,0	0,21	19,7	480,0	749
37210462	4 x 16,0	0,21	20,9	614,4	856
37210562	5 x 16,0	0,21	24,2	768,0	1093
37210463	4 x 25,0	0,21	25,9	960,0	1328
37210563	5 x 25,0	0,21	28,5	1200,0	1620
37210464	4 x 35,0	0,21	29,2	1344,0	1733
37210564	5 x 35,0	0,21	32,3	1680,0	2113
37210465	4 x 50,0	0,21	34,3	1920,0	2469

Other dimensions and colours are possible on request.

S 960 P red Continuously flexible PUR control cable with numbered red cores

RoHS

Marking for S 960 P red 37200715:
SAB BRÖCKSKES · D-VIERSEN · 37200715 7 x 1,5 mm² S 960 P red 16 AWG/7c 37201607
AWM Style 21060 80°C 600V CSA AWM I/II A/B 80°C 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 6
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	red cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	specially adjusted layering with non-woven tape over each layer
Sheath material:	PU acc. to UL 758 with mat surface
Sheath colour:	grey (RAL 7000)

Outstanding features:

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

Technical data:

Nominal voltage:	**DIN VDE:** Uo/U 300/500 V **UL/CSA:** 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** **UL/CSA:** up to +80°C -40/+70°C +5/+70°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2 UL VW-1 + CSA FT1 + FT2
Oil resistance:	very good - oilrating 60°C acc. to UL 758
Chem. resistance:	good against acids, alkalines, solvents, hydraulic liquids etc..
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

Possible on request!

- with orange outer sheath and black or blue cores

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
37200205	2 x 0,50	0,16	6,4	10,6	46
37200305	3 x 0,50	0,16	6,7	15,8	54
37200405	4 x 0,50	0,16	7,1	21,1	63
37200505	5 x 0,50	0,16	7,7	26,4	77
37200705	7 x 0,50	0,16	8,8	37,0	104
37201205	12 x 0,50	0,16	10,5	63,4	145
37201805	18 x 0,50	0,16	12,0	95,0	200
37202505	25 x 0,50	0,16	14,3	132,0	268
37203405	34 x 0,50	0,16	15,2	179,5	349
37205005	50 x 0,50	0,16	18,5	264,0	364
37206105	61 x 0,50	0,16	20,0	322,1	443
37200207	2 x 0,75	0,16	6,8	14,4	55
37200307	3 x 0,75	0,16	7,1	21,6	62
37200407	4 x 0,75	0,16	7,6	28,8	74
37200507	5 x 0,75	0,16	8,2	36,0	89
37200707	7 x 0,75	0,16	9,5	50,4	121
37201207	12 x 0,75	0,16	11,3	86,4	171
37201807	18 x 0,75	0,16	13,1	129,6	239
37202507	25 x 0,75	0,16	15,8	180,0	329
37203407	34 x 0,75	0,16	17,5	244,8	335
37205007	50 x 0,75	0,16	20,2	360,0	596
37206107	61 x 0,75	0,16	23,5	439,2	781
37200210	2 x 1,00	0,16	7,0	19,2	61
37200310	3 x 1,00	0,16	7,3	28,8	70
37200410	4 x 1,00	0,16	7,9	38,4	85
37200510	5 x 1,00	0,16	8,5	48,0	103
37200710	7 x 1,00	0,16	9,8	67,2	131
37201210	12 x 1,00	0,16	11,7	115,2	202
37201810	18 x 1,00	0,16	13,6	172,8	297
37202510	25 x 1,00	0,16	16,4	240,0	392
37203410	34 x 1,00	0,16	18,0	326,4	521
37205010	50 x 1,00	0,16	22,3	480,0	784
37206110	61 x 1,00	0,16	24,4	585,6	965
37200215	2 x 1,50	0,16	7,6	28,8	74
37200315	3 x 1,50	0,16	8,0	43,2	90
37200415	4 x 1,50	0,16	8,6	57,6	109
37200515	5 x 1,50	0,16	9,3	72,0	134
37200715	7 x 1,50	0,16	10,8	100,8	184
37201215	12 x 1,50	0,16	12,9	172,8	269
37201815	18 x 1,50	0,16	15,1	259,2	392
37202515	25 x 1,50	0,16	18,3	360,0	529
37203415	34 x 1,50	0,16	20,4	489,6	695
37205015	50 x 1,50	0,16	24,8	720,0	1056
37206115	61 x 1,50	0,16	27,7	878,4	1282
37200225	2 x 2,50	0,16	9,2	48,0	110
37200325	3 x 2,50	0,16	9,7	72,0	136
37200425	4 x 2,50	0,16	10,5	96,0	168
37200525	5 x 2,50	0,16	11,5	120,0	202
37200725	7 x 2,50	0,16	13,5	168,0	269
37201225	12 x 2,50	0,16	16,6	288,0	436
37201825	18 x 2,50	0,16	19,9	432,0	637
37202525	25 x 2,50	0,16	25,4	600,0	922
37200340	3 x 4,00	0,16	11,8	115,2	207
37200440	4 x 4,00	0,16	11,9	153,6	246
37200540	5 x 4,00	0,16	13,1	192,0	298
37200740	7 x 4,00	0,16	16,6	268,8	413
37200360	3 x 6,00	0,21	13,4	172,8	302
37200460	4 x 6,00	0,21	14,5	230,4	368
37200560	5 x 6,00	0,21	16,0	288,0	457
37200461	4 x 10,0	0,21	17,9	384,0	600
37200561	5 x 10,0	0,21	19,7	480,0	749
37200462	4 x 16,0	0,21	20,9	614,4	856
37200562	5 x 16,0	0,21	24,2	768,0	1093
37200463	4 x 25,0	0,21	25,9	960,0	1328
37200563	5 x 25,0	0,21	28,5	1200,0	1620
37200464	4 x 35,0	0,21	29,2	1344,0	1733
37200564	5 x 35,0	0,21	32,3	1680,0	2113
37200465	4 x 50,0	0,21	34,3	1920,0	2469

Other dimensions and colours are possible on request.

SD 960 CP Continuously flexible PUR data cable with coloured cores and overall copper screen

RoHS

Marking for SD 960 CP 07862501:
SAB BRÖCKSKES · D-VIERSEN · 07862501 25 x 0,14 mm² SD 960 CP 26 AWG/25c 07862625
AWM Style 20233 80°C 300V CSA AWM I/II A/B 80°C 300V FT1 FT2

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	with reference to colour code acc. to US 2 see page N/11
Stranding:	specially adjusted layering with non-woven tape over each layer
Wrapping:	non-woven tape
Screen:	tinned copper braiding
Wrapping:	non-woven tape
Sheath material:	PU acc. to UL 758 with mat surface
Sheath colour:	grey (RAL 7032)

Outstanding features:

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

Technical data:

Peak operating voltage:	**DIN VDE:** max. 350 V **UL/CSA:** 300 V
Testing voltage U:	1500 V acc. to DIN VDE 0472 part 509 core/screen 1200 V
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	5 x 10⁷ cJ/kg
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** **UL/CSA:** up to +80°C -30/+70°C -5/+70°C
Fire performance:	flame retardant and self-extinguishing acc. to UL FT1, CSA FT1 FT2
Oil resistance:	very good - oilrating 60°C acc. to UL 758
Chem. resistance:	good against acids, alkalines, solvents, hydraulic liquids etc..
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07860201	2 x 0,14	0,11	5,0	16,5	31
07860301	3 x 0,14	0,11	5,2	17,9	33
07860401	4 x 0,14	0,11	5,6	19,4	38
07860501	5 x 0,14	0,11	6,0	22,7	45
07860701	7 x 0,14	0,11	6,8	27,1	56
07861001	10 x 0,14	0,11	7,7	34,9	68
07861401	14 x 0,14	0,11	8,9	41,9	88
07861801	18 x 0,14	0,11	9,1	50,5	102
07862501	25 x 0,14	0,11	11,2	81,5	147
07860202	2 x 0,25	0,11	5,3	18,7	33
07860302	3 x 0,25	0,11	5,6	21,2	39
07860402	4 x 0,25	0,11	5,9	25,5	45
07860502	5 x 0,25	0,11	6,4	28,1	53
07860702	7 x 0,25	0,11	8,1	36,5	81

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07861002	10 x 0,25	0,11	9,0	49,8	89
07861402	14 x 0,25	0,11	9,6	61,9	111
07861802	18 x 0,25	0,11	9,8	72,4	129
07862502	25 x 0,25	0,11	12,1	114,5	187
07860203	2 x 0,34	0,11	5,5	20,5	36
07860303	3 x 0,34	0,11	5,8	23,9	42
07860403	4 x 0,34	0,11	6,2	29,1	50
07860503	5 x 0,34	0,11	6,6	34,0	59
07860703	7 x 0,34	0,11	7,6	44,2	73
07861003	10 x 0,34	0,11	9,4	70,8	122
07861403	14 x 0,34	0,11	10,0	86,8	154
07861803	18 x 0,34	0,11	10,5	106,4	161
07862503	25 x 0,34	0,11	12,7	141,2	215

Other dimensions and colours are possible on request.

Possible on request!

- in dimensions 0,50 mm² and 0,75 mm²
- with orange outer sheath and coloured cores acc. to DIN 47100

S 960 CP

Continuously flexible PUR control cable with numbered cores and overall copper screen

RoHS

Marking for S 960 CP 07861215:
SAB BRÖCKSKES · D-VIERSEN · 07861215 12 x 1,5 mm² S 960 CP 16 AWG/12c 07861612
AWM Style 21060 80°C 600V CSA AWM I/II A/B 80°C 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 6
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	specially adjusted layering with non-woven tape over each layer
Inner sheath:	special PVC
Screen:	tinned copper braiding
Wrapping:	non-woven tape
Sheath material:	PU acc. to UL 758 with mat surface
Sheath colour:	grey (RAL 7000)

Technical data:

Nominal voltage:	**DIN VDE:** Uo/U 300/500 V **UL/CSA:** 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2 core/screen 2000 V
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** **UL/CSA:** up to +80°C -40/+70°C +5/+70°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2 UL VW-1 + CSA FT1 + FT2
Oil resistance:	very good - oilrating 60°C acc. to UL 758
Chem. resistance:	good against acids, alkalines, solvents, hydraulic liquids etc..
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

Outstanding features:

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

Possible on request!

- **with orange outer sheath**

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07860205	2 x 0,50	0,16	8,4	31,0	86
07860305	3 x 0,50	0,16	8,7	38,8	96
07860405	4 x 0,50	0,16	9,1	43,0	108
07860505	5 x 0,50	0,16	9,7	50,2	125
07860705	7 x 0,50	0,16	10,8	62,8	161
07861205	12 x 0,50	0,16	12,9	117,1	231
07861805	18 x 0,50	0,16	14,6	172,4	314
07862505	25 x 0,50	0,16	16,9	230,2	402
07863005	30 x 0,50	0,16	16,9	253,8	418
07863605	36 x 0,50	0,16	18,0	284,0	455
07860207	2 x 0,75	0,16	8,8	38,1	97
07860307	3 x 0,75	0,16	9,1	45,4	106
07860407	4 x 0,75	0,16	9,6	55,0	121
07860507	5 x 0,75	0,16	10,2	65,0	140
07860707	7 x 0,75	0,16	11,6	98,3	182
07861207	12 x 0,75	0,16	13,7	146,3	260
07861807	18 x 0,75	0,16	15,9	227,3	369
07862507	25 x 0,75	0,16	18,6	292,0	478
07863007	30 x 0,75	0,16	18,7	344,5	558
07863607	36 x 0,75	0,16	20,3	385,1	611
07860210	2 x 1,00	0,16	9,0	42,9	104
07860310	3 x 1,00	0,16	9,3	52,6	115
07860410	4 x 1,00	0,16	9,8	64,7	133
07860510	5 x 1,00	0,16	10,5	77,1	155
07860710	7 x 1,00	0,16	12,0	121,3	206
07861210	12 x 1,00	0,16	14,3	200,9	311
07861810	18 x 1,00	0,16	16,4	271,1	429
07862510	25 x 1,00	0,16	19,2	364,1	553
07863010	30 x 1,00	0,16	19,4	418,8	643
07863610	36 x 1,00	0,16	22,5	484,2	789
07860215	2 x 1,50	0,16	9,6	55,0	122
07860315	3 x 1,50	0,16	9,9	69,5	138
07860415	4 x 1,50	0,16	10,6	86,8	163

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07860515	5 x 1,50	0,16	11,5	119,8	202
07860715	7 x 1,50	0,16	13,2	148,5	263
07861215	12 x 1,50	0,16	15,8	270,4	399
07861815	18 x 1,50	0,16	17,9	370,3	540
07862515	25 x 1,50	0,16	22,5	498,6	770
07863015	30 x 1,50	0,16	22,7	568,9	892
07863615	36 x 1,50	0,16	24,6	684,8	1012
07860225	2 x 2,50	0,16	11,4	95,7	180
07860325	3 x 2,50	0,16	11,9	126,0	211
07860425	4 x 2,50	0,16	12,9	155,5	254
07860525	5 x 2,50	0,16	14,1	205,5	322
07860725	7 x 2,50	0,16	16,4	266,3	426
07861225	12 x 2,50	0,16	19,5	412,5	592
07861825	18 x 2,50	0,16	24,1	573,9	946
07862525	25 x 2,50	0,16	28,1	783,5	1232
07860340	3 x 4,00	0,16	13,0	174,7	276
07860440	4 x 4,00	0,16	14,2	239,2	357
07860540	5 x 4,00	0,16	15,7	289,5	441
07860740	7 x 4,00	0,16	18,0	380,0	530
07860360	3 x 6,00	0,21	15,9	270,5	411
07860460	4 x 6,00	0,21	16,9	340,2	484
07860560	5 x 6,00	0,21	18,5	399,9	585
07860760	7 x 6,00	0,21	23,3	543,7	834
07860361	3 x 10,0	0,21	19,3	411,4	640
07860461	4 x 10,0	0,21	20,2	509,7	736
07860561	5 x 10,0	0,21	23,5	620,5	941
07860362	3 x 16,0	0,21	24,1	599,6	902
07860462	4 x 16,0	0,21	24,9	781,5	1155
07860562	5 x 16,0	0,21	27,0	940,3	1297
07860463	4 x 25,0	0,21	28,9	1137,2	1580
07860563	5 x 25,0	0,21	31,7	1402,6	1876
07860464	4 x 35,0	0,21	32,4	1549,3	2031

Other dimensions and colours are possible on request.

SD 960 CP TP

Continuously flexible paired PUR data cable with coloured cores and overall copper screen

RoHS

Marking for SD 960 CP TP 07870725:
SAB BRÖCKSKES · D-VIERSEN · 07870725 7 x 2 x 0,25 mm² SD 960 CP TP 24 AWG/7pr 07872407
AWM Style 20233 80°C 300V CSA AWM I/II A/B 80°C 300V FT1 FT2 CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	with reference to colour code acc. to US 3 see page N/11
Stranding:	cores twisted to pairs, pairs twisted in specially adjusted layering with one non-woven tape over the outer layer
Screen:	tinned copper braiding
Wrapping:	non-woven tape
Sheath material:	PU acc. to UL 758 with mat surface
Sheath colour:	grey (RAL 7032)

Technical data:

Peak operating voltage:	**DIN VDE:** max. 350 V **UL/CSA:** 300 V
Testing voltage U:	1500 V acc. to DIN VDE 0472 part 509 core/screen 1200 V
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** **UL/CSA:** up to +80°C -30/+70°C -5/+70°C
Fire performance:	flame retardant and self-extinguishing acc. to UL FT1, CSA FT1 FT2
Oil resistance:	very good - oilrating 60°C acc. to UL 758
Chem. resistance:	good against acids, alkalines, solvents, hydraulic liquids etc..
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

Outstanding features:

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

Possible on request!

- **with coloured cores acc. to DIN 47100**

item no.	no. of pairs x cross section n x 2 x mm²	largest single wire ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
07870214	2 x 2 x 0,14	0,11	6,4	19,3	46
07870314	3 x 2 x 0,14	0,11	6,8	25,0	52
07870414	4 x 2 x 0,14	0,11	7,9	31,2	64
07870514	5 x 2 x 0,14	0,11	8,5	34,1	75
07870714	7 x 2 x 0,14	0,11	9,0	41,6	116
07871014	10 x 2 x 0,14	0,11	10,6	68,3	125
07871414	14 x 2 x 0,14	0,11	12,6	89,3	169
07871814	18 x 2 x 0,14	0,11	14,1	122,6	236
07872514	25 x 2 x 0,14	0,11	16,2	152,3	292
07870225	2 x 2 x 0,25	0,11	6,8	25,0	52
07870325	3 x 2 x 0,25	0,11	7,5	32,9	63
07870425	4 x 2 x 0,25	0,11	8,4	39,8	76
07870525	5 x 2 x 0,25	0,11	9,2	46,8	93
07870725	7 x 2 x 0,25	0,11	9,8	58,9	121
07871025	10 x 2 x 0,25	0,11	11,9	95,1	165
07871425	14 x 2 x 0,25	0,11	14,3	141,5	238
07871825	18 x 2 x 0,25	0,11	15,6	170,9	301
07872525	25 x 2 x 0,25	0,11	17,6	216,0	370
07870234	2 x 2 x 0,34	0,11	7,1	30,1	59
07870334	3 x 2 x 0,34	0,11	7,7	38,1	69
07870434	4 x 2 x 0,34	0,11	8,9	48,8	86
07870534	5 x 2 x 0,34	0,11	9,6	57,8	101
07870734	7 x 2 x 0,34	0,11	10,5	87,0	150

item no.	no. of pairs x cross section n x 2 x mm²	largest single wire ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
07871034	10 x 2 x 0,34	0,11	12,5	116,9	188
07871434	14 x 2 x 0,34	0,11	15,1	175,7	274
07871834	18 x 2 x 0,34	0,11	16,4	202,8	329
07872534	25 x 2 x 0,34	0,11	18,6	260,3	424
07870250	2 x 2 x 0,50	0,11	7,7	37,8	75
07870350	3 x 2 x 0,50	0,11	8,5	49,5	86
07870450	4 x 2 x 0,50	0,11	9,7	63,6	109
07870550	5 x 2 x 0,50	0,11	10,7	89,4	151
07870750	7 x 2 x 0,50	0,11	11,9	114,3	183
07871050	10 x 2 x 0,50	0,11	14,3	170,3	266
07871450	14 x 2 x 0,50	0,11	16,7	229,5	357
07871850	18 x 2 x 0,50	0,11	18,1	269,3	458
07872550	25 x 2 x 0,50	0,11	20,5	349,1	560
07870275	2 x 2 x 0,75	0,11	8,6	51,5	91
07870375	3 x 2 x 0,75	0,11	9,5	68,4	108
07870475	4 x 2 x 0,75	0,11	11,2	104,5	151
07870575	5 x 2 x 0,75	0,11	12,4	123,5	193
07870775	7 x 2 x 0,75	0,11	14,0	174,9	278
07871075	10 x 2 x 0,75	0,11	16,3	219,8	332
07871475	14 x 2 x 0,75	0,11	19,1	309,1	455
07871875	18 x 2 x 0,75	0,11	20,8	378,7	572
07872575	25 x 2 x 0,75	0,11	24,8	504,6	791

Other dimensions and colours are possible on request.

SD 965 Continuously flexible PVC data cable with coloured cores

RoHS

Marking for SD 965 07272501:
SAB BRÖCKSKES · D-VIERSEN · 07272501 25 x 0,14 mm² SD 965 26 AWG/25c 07272625 AWM Style 21083 80°C 300V CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	with reference to colour code acc. to US 2 see page N/11
Stranding:	specially adjusted layering with non-woven tape over each layer
Sheath material:	PVC TM5 acc. to DIN VDE 0281 part 1 + HD 21.1
Sheath colour:	black (RAL 9005)

Outstanding features:

- very good flexibility
- small bending radius
- reinforced outer sheath
- oil resistant

Technical data:

Peak operating voltage:	**DIN VDE:** max. 350 V **UL:** 300 V
Testing voltage U:	1500 V acc. to DIN VDE 0472 part 509
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** **UL:** up to +80°C -30/+70°C -5/+70°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1
Oil resistance:	very good - TM5 acc. to DIN VDE 0281 part 1 + HD 21.1
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

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item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07270201	2 x 0,14	0,11	3,9	2,7	17
07270301	3 x 0,14	0,11	4,1	4,0	21
07270401	4 x 0,14	0,11	4,5	5,4	24
07270501	5 x 0,14	0,11	4,9	6,7	30
07270701	7 x 0,14	0,11	5,7	9,4	41
07271001	10 x 0,14	0,11	6,7	13,4	49
07271401	14 x 0,14	0,11	7,2	18,8	63
07271801	18 x 0,14	0,11	8,2	24,2	84
07272501	25 x 0,14	0,11	10,1	33,6	116
07270202	2 x 0,25	0,11	4,2	4,8	22
07270302	3 x 0,25	0,11	4,5	7,2	26
07270402	4 x 0,25	0,11	4,8	9,6	31
07270502	5 x 0,25	0,11	5,3	12,0	38
07270702	7 x 0,25	0,11	6,3	16,8	53

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07271002	10 x 0,25	0,11	7,3	24,0	65
07271402	14 x 0,25	0,11	8,1	33,6	87
07271802	18 x 0,25	0,11	9,0	43,2	110
07272502	25 x 0,25	0,11	11,0	60,0	152
07270203	2 x 0,34	0,11	4,4	6,5	25
07270303	3 x 0,34	0,11	4,7	9,8	30
07270403	4 x 0,34	0,11	5,1	13,1	36
07270503	5 x 0,34	0,11	5,5	16,3	44
07270703	7 x 0,34	0,11	6,6	22,8	61
07271003	10 x 0,34	0,11	7,9	32,6	79
07271403	14 x 0,34	0,11	8,5	45,7	102
07271803	18 x 0,34	0,11	9,5	58,8	130
07272503	25 x 0,34	0,11	11,7	81,6	179

Other dimensions and colours are possible on request.

Possible on request!

- in dimensions 0,50 mm² and 0,75 mm²
- with grey outer sheath and coloured cores acc. to DIN 47100

S 965 Continuously flexible PVC control cable with numbered red cores

RoHS

Marking for S 965 07271215:
SAB BRÖCKSKES · D-VIERSEN · 07270715 7 x 1,5 mm² S 965 16 AWG/7c 07271607
UL AWM Style 2587 90°C 600V CSA AWM I/II A/B 90°C F 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 6
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	red cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	specially adjusted layering with non-woven tape over each layer
Sheath material:	PVC TM5 acc. to DIN VDE 0281 part 1 + HD 21.1
Sheath colour:	black (RAL 9005)

Outstanding features:

- **very good flexibility**
- **small bending radius**
- **reinforced outer sheath**
- **oil resistant**
- **Fuel-Oil acc. to CSA C22.2 No. 210-05**

Technical data:

Nominal voltage:	**DIN VDE:** Uo/U 300/500 V **UL/CSA:** 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** **UL/CSA:** up to +90°C -40/+70°C +5/+70°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2 UL VW-1 + CSA FT1 and FT2
Oil resistance:	very good - TM5 acc. to DIN VDE 0281 part 1 + HD 21.1 Fuel-Oil acc. to CSA C22.2 No. 210-05
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07270205	2 x 0,50	0,16	5,5	10,6	40
07270305	3 x 0,50	0,16	5,8	15,8	47
07270405	4 x 0,50	0,16	6,3	21,1	57
07270505	5 x 0,50	0,16	7,0	26,4	71
07270705	7 x 0,50	0,16	8,2	37,0	98
07271205	12 x 0,50	0,16	10,1	63,4	144
07271805	18 x 0,50	0,16	12,0	95,0	212
07272505	25 x 0,50	0,16	14,4	132,0	284
07273405	34 x 0,50	0,16	16,2	179,5	378
07275005	50 x 0,50	0,16	19,1	264,0	523
07276105	61 x 0,50	0,16	21,1	322,1	655
07270207	2 x 0,75	0,16	5,9	14,4	47
07270307	3 x 0,75	0,16	6,3	21,6	57
07270407	4 x 0,75	0,16	6,8	28,8	68
07270507	5 x 0,75	0,16	7,5	36,0	85
07270707	7 x 0,75	0,16	9,1	50,4	122
07271207	12 x 0,75	0,16	11,0	86,4	177
07271807	18 x 0,75	0,16	13,1	129,6	261
07272507	25 x 0,75	0,16	15,8	180,0	354
07273407	34 x 0,75	0,16	17,9	244,8	474
07275007	50 x 0,75	0,16	21,1	360,0	670
07276107	61 x 0,75	0,16	23,5	439,2	831
07270210	2 x 1,00	0,16	6,2	19,2	55
07270310	3 x 1,00	0,16	6,5	28,8	66
07270410	4 x 1,00	0,16	7,2	38,4	82
07270510	5 x 1,00	0,16	7,9	48,0	101
07270710	7 x 1,00	0,16	9,4	67,2	142
07271210	12 x 1,00	0,16	11,5	115,2	212
07271810	18 x 1,00	0,16	13,7	172,8	313
07272510	25 x 1,00	0,16	16,5	240,0	424
07273410	34 x 1,00	0,16	18,7	326,4	569
07275010	50 x 1,00	0,16	22,5	480,0	826
07276110	61 x 1,00	0,16	24,5	585,6	998
07270215	2 x 1,50	0,16	6,8	28,8	70
07270315	3 x 1,50	0,16	7,3	43,2	88
07270415	4 x 1,50	0,16	8,0	57,6	109
07270515	5 x 1,50	0,16	8,8	72,0	135
07270715	7 x 1,50	0,16	10,6	100,8	192
07271215	12 x 1,50	0,16	13,0	172,8	288
07271815	18 x 1,50	0,16	15,4	259,2	425
07272515	25 x 1,50	0,16	18,7	360,0	580
07273415	34 x 1,50	0,16	21,1	489,6	777
07275015	50 x 1,50	0,16	25,1	720,0	1115
07276115	61 x 1,50	0,16	27,6	878,4	1362
07270225	2 x 2,50	0,16	8,9	48,0	117
07270325	3 x 2,50	0,16	9,5	72,0	144
07270425	4 x 2,50	0,16	10,4	96,0	178
07270525	5 x 2,50	0,16	11,6	120,0	223
07270725	7 x 2,50	0,16	14,0	168,0	319
07271225	12 x 2,50	0,16	17,3	288,0	480
07271825	18 x 2,50	0,16	20,7	432,0	715
07272525	25 x 2,50	0,16	25,1	600,0	973
07270340	3 x 4,00	0,16	11,3	115,2	223
07270440	4 x 4,00	0,16	12,4	153,6	267
07270540	5 x 4,00	0,16	13,8	192,0	342
07270740	7 x 4,00	0,16	16,7	268,8	493
07270360	3 x 6,00	0,21	13,1	172,8	319
07270460	4 x 6,00	0,21	14,5	230,4	381
07270560	5 x 6,00	0,21	16,2	288,0	490
07270760	7 x 6,00	0,21	19,4	403,2	700
07270361	3 x 10,0	0,21	16,2	288,0	502
07270461	4 x 10,0	0,21	18,0	384,0	637
07270561	5 x 10,0	0,21	20,1	480,0	787
07270362	3 x 16,0	0,21	19,4	460,8	754
07270462	4 x 16,0	0,21	21,5	614,4	954
07270562	5 x 16,0	0,21	24,1	768,0	1188
07270463	4 x 25,0	0,21	26,0	960,0	1391
07270563	5 x 25,0	0,21	29,0	1200,0	1779
07270464	4 x 35,0	0,21	29,8	1344,0	1911
07270564	5 x 35,0	0,21	32,9	1680,0	2354
07270465	4 x 50,0	0,21	34,9	1920,0	2672

Other dimensions and colours are possible on request.

SD 965 CY Continuously flexible PVC data cable with coloured cores and overall copper screen

RoHS

Marking for SD 965 CY 07282502:
SAB BRÖCKSKES · D-VIERSEN · 07282502 25 x 0,25 mm² SD 965 CY 24 AWG/25c 07282425 AWM Style 21083 80°C 300V CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	with reference to colour code acc. to US 2 see page N/11
Stranding:	specially adjusted layering with non-woven tape over each layer
Wrapping:	non-woven tape
Screen:	tinned copper braiding
Wrapping:	non-woven tape
Sheath material:	PVC TM5 acc. to DIN VDE 0281 part 1 + HD 21.1
Sheath colour:	black (RAL 9005)

Outstanding features:

- ➤ **very good EMC characteristics**
- ➤ **very good flexibility**
- ➤ **small bending radius**
- ➤ **oil resistant**

Technical data:

Peak operating voltage:	**DIN VDE:** max. 350 V
Voltage:	**UL:** 300 V
Testing voltage U:	1500 V acc. to DIN VDE 0472 part 509 core/screen 1200 V
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** **UL:** up to +80°C -30/+70°C -5/+70°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1
Oil resistance:	very good - TM5 acc. to DIN VDE 0281 part 1 + HD 21.1
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

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item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
07280201	2 x 0,14	0,11	4,4	13,8	25
07280301	3 x 0,14	0,11	4,6	15,7	29
07280401	4 x 0,14	0,11	5,1	19,4	34
07280501	5 x 0,14	0,11	5,5	22,6	41
07280701	7 x 0,14	0,11	6,3	26,1	55
07281001	10 x 0,14	0,11	7,4	45,7	66
07281401	14 x 0,14	0,11	8,0	56,4	81
07281801	18 x 0,14	0,11	9,2	64,7	108
07282501	25 x 0,14	0,11	11,0	84,4	152
07280202	2 x 0,25	0,11	4,6	18,0	28
07280302	3 x 0,25	0,11	5,1	20,7	35
07280402	4 x 0,25	0,11	5,4	25,5	41
07280502	5 x 0,25	0,11	6,1	28,3	52
07280702	7 x 0,25	0,11	7,0	46,3	67

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
07281002	10 x 0,25	0,11	8,0	61,7	82
07281402	14 x 0,25	0,11	9,1	72,1	111
07281802	18 x 0,25	0,11	10,0	93,2	135
07282502	25 x 0,25	0,11	12,4	115,8	199
07280203	2 x 0,34	0,11	5,0	19,9	32
07280303	3 x 0,34	0,11	5,3	25,4	38
07280403	4 x 0,34	0,11	5,7	29,1	46
07280503	5 x 0,34	0,11	6,3	44,5	58
07280703	7 x 0,34	0,11	7,3	54,9	72
07281003	10 x 0,34	0,11	8,7	70,9	101
07281403	14 x 0,34	0,11	9,5	86,8	126
07281803	18 x 0,34	0,11	10,7	109,4	168
07282503	25 x 0,34	0,11	12,9	139,1	227

Other dimensions and colours are possible on request.

Possible on request!

- ➤ in dimensions 0,50 mm² and 0,75 mm²
- ➤ with grey outer sheath and coloured cores acc. to DIN 47100

Fuel-Oil acc. to CSA C22.2 No. 210-05

S 965 CY

Continuously flexible PVC control cable with numbered red cores and overall copper screen

RoHS

Marking for S 965 CY 07280715:
SAB BRÖCKSKES · D-VIERSEN · 07280715 7 x 1,5 mm² S 965 CY 16 AWG/7c 07281607
UL AWM Style 2587 90°C 600V CSA AWM I/II A/B 90°C F 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 6
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	red cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	specially adjusted layering with non-woven tape over each layer
Inner sheath:	PVC TM2 acc. to DIN VDE 0281 part 1 + HD 21.1
Screen:	tinned copper braiding
Wrapping:	non-woven tape
Sheath material:	PVC TM5 acc. to DIN VDE 0281 part 1 + HD 21.1
Sheath colour:	black (RAL 9005)

Technical data:

Nominal voltage:	**DIN VDE:** Uo/U 300/500 V
Voltage:	**UL/CSA:** 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2 core/screen 2000 V
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** **UL/CSA:** up to +90°C -40/+70°C +5/+70°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1 + CSA FT1 and FT2
Oil resistance:	very good - TM5 acc. to DIN VDE 0281 part 1 + HD 21.1 Fuel-Oil acc. to CSA C22.2 No. 210-05
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

Outstanding features:

- ➤ **very good EMC characteristics**
- ➤ **very good flexibility**
- ➤ **small bending radius**
- ➤ **oil resistant**
- ➤ **Fuel-Oil acc. to CSA C22.2 No. 210-05**

Possible on request!

➤ **with grey outer sheath and black cores**

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07280205	2 x 0,50	0,16	7,8	42,5	78
07280305	3 x 0,50	0,16	8,1	48,3	90
07280405	4 x 0,50	0,16	8,6	56,0	103
07280505	5 x 0,50	0,16	9,3	64,6	122
07280705	7 x 0,50	0,16	10,6	78,7	163
07281205	12 x 0,50	0,16	13,0	119,0	240
07281805	18 x 0,50	0,16	15,0	172,4	335
07282505	25 x 0,50	0,16	17,6	234,2	438
07280207	2 x 0,75	0,16	8,2	51,7	88
07280307	3 x 0,75	0,16	8,6	59,2	101
07280407	4 x 0,75	0,16	9,2	67,5	118
07280507	5 x 0,75	0,16	9,9	77,0	139
07280707	7 x 0,75	0,16	11,5	101,2	185
07281207	12 x 0,75	0,16	13,9	146,3	273
07281807	18 x 0,75	0,16	16,1	227,3	386
07282507	25 x 0,75	0,16	19,3	292,0	518
07280210	2 x 1,00	0,16	8,5	56,7	97
07280310	3 x 1,00	0,16	8,7	66,6	108
07280410	4 x 1,00	0,16	9,4	77,3	130
07280510	5 x 1,00	0,16	10,2	89,5	155
07280710	7 x 1,00	0,16	12,0	122,0	212
07281210	12 x 1,00	0,16	14,6	200,9	328
07281810	18 x 1,00	0,16	16,8	271,1	452
07282510	25 x 1,00	0,16	20,0	368,2	598
07280215	2 x 1,50	0,16	9,2	67,0	117
07280315	3 x 1,50	0,16	9,6	83,8	136
07280415	4 x 1,50	0,16	10,3	102,5	162

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
07280515	5 x 1,50	0,16	11,3	123,7	205
07280715	7 x 1,50	0,16	13,2	160,4	283
07281215	12 x 1,50	0,16	16,1	270,5	417
07281815	18 x 1,50	0,16	18,5	370,3	573
07282515	25 x 1,50	0,16	22,4	498,6	785
07280225	2 x 2,50	0,16	11,3	98,7	179
07280325	3 x 2,50	0,16	11,9	127,0	217
07280425	4 x 2,50	0,16	13,0	156,3	264
07280525	5 x 2,50	0,16	14,4	205,5	339
07280725	7 x 2,50	0,16	15,7	270,2	435
07281225	12 x 2,50	0,16	20,3	419,4	650
07281825	18 x 2,50	0,16	23,6	573,9	905
07282525	25 x 2,50	0,16	27,9	783,5	1197
07280340	3 x 4,00	0,16	13,6	183,2	299
07280440	4 x 4,00	0,16	14,5	239,3	372
07280540	5 x 4,00	0,16	15,9	296,6	451
07280360	3 x 6,00	0,21	16,0	243,7	428
07280460	4 x 6,00	0,21	17,3	340,2	522
07280560	5 x 6,00	0,21	19,1	418,1	621
07280461	4 x 10,0	0,21	21,2	524,1	789
07280561	5 x 10,0	0,21	23,4	652,6	956
07280462	4 x 16,0	0,21	24,8	781,5	1040
07280562	5 x 16,0	0,21	27,3	954,2	1339
07280463	4 x 25,0	0,21	29,5	1158,2	1669
07280563	5 x 25,0	0,21	32,3	1429,7	1946
07280464	4 x 35,0	0,21	33,0	1575,3	2127
07280465	4 x 50,0	0,21	38,3	2181,8	2887

Other dimensions and colours are possible on request.

SD 965 CY TP

Continuously flexible paired PVC data cable with coloured cores and overall copper screen

Marking for SD 965 CY TP 07290525:
SAB BRÖCKSKES · D-VIERSEN · 07290525 5 x 2 x 0,25 mm² SD 965 CY TP 24 AWG/5pr 07292405 AWM Style 21083 80°C 300V CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	PVC, TI2 acc. to DIN VDE 0281 part 1 + HD 21.1
Colour code:	with reference to colour code acc. to US 3 see page N/11
Stranding:	cores twisted to pairs, pairs twisted in specially adjusted layering with non-woven tapeover the outer layer
Screen:	tinned copper braiding
Sheath material:	PVC TM5 acc. to DIN VDE 0281 part 1 + HD 21.1
Sheath colour:	black (RAL 9005)

Technical data:

Peak operating voltage:	**DIN VDE:** max. 350 V **UL:** 300 V
Testing voltage U:	1500 V acc. to DIN VDE 0472 part 509 core/screen 1200 V
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** **UL:** up to +80°C -40/+70°C +5/+70°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1
Oil resistance:	very good - TM5 acc. to DIN VDE 0281 part 1 + HD 21.1
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

Outstanding features:

- very good flexibility
- small bending radius
- reinforced outer sheath
- oil resistant

Possible on request!

- with grey outer sheath and coloured cores acc. to DIN 47100

item no.	no. of pairs x cross section n x 2 x mm²	largest single wire ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
07290214	2 x 2 x 0,14	0,11	5,6	19,4	38
07290314	3 x 2 x 0,14	0,11	6,4	33,0	52
07290414	4 x 2 x 0,14	0,11	7,3	43,1	66
07290514	5 x 2 x 0,14	0,11	7,9	46,3	77
07290714	7 x 2 x 0,14	0,11	8,5	54,0	99
07291014	10 x 2 x 0,14	0,11	9,9	70,7	117
07291414	14 x 2 x 0,14	0,11	11,5	87,3	150
07291814	18 x 2 x 0,14	0,11	12,4	107,0	189
07292514	25 x 2 x 0,14	0,11	14,1	128,6	231
07290225	2 x 2 x 0,25	0,11	6,3	34,4	54
07290325	3 x 2 x 0,25	0,11	6,9	42,2	63
07290425	4 x 2 x 0,25	0,11	7,9	52,1	78
07290525	5 x 2 x 0,25	0,11	8,6	59,4	94
07290725	7 x 2 x 0,25	0,11	9,2	69,9	122
07291025	10 x 2 x 0,25	0,11	10,8	96,2	149
07291425	14 x 2 x 0,25	0,11	12,6	126,1	196
07291825	18 x 2 x 0,25	0,11	13,6	147,0	242
07292525	25 x 2 x 0,25	0,11	15,7	211,2	323
07290234	2 x 2 x 0,34	0,11	6,6	38,4	57
07290334	3 x 2 x 0,34	0,11	7,2	47,9	70
07290434	4 x 2 x 0,34	0,11	8,3	61,0	88
07290534	5 x 2 x 0,34	0,11	9,0	68,6	106
07290734	7 x 2 x 0,34	0,11	9,7	89,4	144

item no.	no. of pairs x cross section n x 2 x mm²	largest single wire ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
07291034	10 x 2 x 0,34	0,11	11,4	114,6	169
07291434	14 x 2 x 0,34	0,11	13,3	151,4	224
07291834	18 x 2 x 0,34	0,11	14,6	205,9	300
07292534	25 x 2 x 0,34	0,11	16,6	273,7	386
07290250	2 x 2 x 0,50	0,16	7,2	47,5	70
07290350	3 x 2 x 0,50	0,16	7,9	61,7	86
07290450	4 x 2 x 0,50	0,16	9,1	74,5	106
07290550	5 x 2 x 0,50	0,16	10,0	92,1	134
07290750	7 x 2 x 0,50	0,16	10,8	115,6	181
07291050	10 x 2 x 0,50	0,16	12,6	154,9	218
07291450	14 x 2 x 0,50	0,16	15,0	223,8	305
07291850	18 x 2 x 0,50	0,16	16,2	265,4	378
07292550	25 x 2 x 0,50	0,16	18,5	355,9	490
07290275	2 x 2 x 0,75	0,16	8,1	61,9	90
07290375	3 x 2 x 0,75	0,16	9,0	79,2	111
07290475	4 x 2 x 0,75	0,16	10,4	105,3	144
07290575	5 x 2 x 0,75	0,16	11,3	121,3	176
07290775	7 x 2 x 0,75	0,16	12,3	159,2	244
07291075	10 x 2 x 0,75	0,16	14,6	232,4	311
07291475	14 x 2 x 0,75	0,16	17,2	313,8	419
07291875	18 x 2 x 0,75	0,16	18,6	375,4	523
07292575	25 x 2 x 0,75	0,16	21,8	484,6	689

Other dimensions and colours are possible on request.

NFPA 79 for industrial machinery

S 965 MTW Type MTW

Continuously flexible PVC control cable and Machine-Tool Cable with numbered red cores

RoHS

Marking for S 965 MTW 37270715:
SAB BRÖCKSKES · D-VIERSEN · 37270715 7x1,5mm² S 965 MTW 16 AWG/7c 37271607
(UL) Type MTW 600V AWM Style 2587 90°C 600V CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 6
Insulation:	special formulated PVC
Colour code:	red cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	specially adjusted layering with non-woven tape over each layer
Sheath material:	special oil resistant PVC
Sheath colour:	black (RAL 9005)

Outstanding features:

- **very good flexibility**
- **reinforced outer sheath**
- **oil resistant**
- **NFPA 79 for industrial machinery**

Technical data:

Nominal voltage:	**DIN VDE:** Uo/U 300/500 V **UL/(UL):** 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** **UL/(UL):** up to +90°C -40/+70°C +5/+70°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2 UL VW-1
Oil resistance:	very good - TM5 acc. to DIN VDE 0281 part 1 + HD 21.1
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø mm	copper figure kg/km	cable weight ≈ kg/km
37270205	2 x 0,50	0,16	7,8	9,6	69
37270305	3 x 0,50	0,16	8,1	14,4	81
37270405	4 x 0,50	0,16	8,8	19,2	96
37270505	5 x 0,50	0,16	9,6	24,0	113
37270705	7 x 0,50	0,16	11,1	33,6	160
37271205	12 x 0,50	0,16	14,1	57,6	241
37271805	18 x 0,50	0,16	16,3	86,4	337
37272505	25 x 0,50	0,16	19,8	120,0	452
37273405	34 x 0,50	0,16	22,7	163,2	622
37275005	50 x 0,50	0,16	26,7	240,0	857
37276105	61 x 0,50	0,16	29,4	292,8	1052
37270207	2 x 0,75	0,16	8,2	14,4	77
37270307	3 x 0,75	0,16	8,6	21,6	91
37270407	4 x 0,75	0,16	9,3	28,8	109
37270507	5 x 0,75	0,16	10,1	36,0	132
37270707	7 x 0,75	0,16	11,8	50,4	182
37271207	12 x 0,75	0,16	14,9	86,4	273
37271807	18 x 0,75	0,16	17,3	129,6	384
37272507	25 x 0,75	0,16	21,2	180,0	527
37273407	34 x 0,75	0,16	24,1	244,8	710
37275007	50 x 0,75	0,16	28,6	360,0	997
37276107	61 x 0,75	0,16	31,5	439,2	1223
37270210	2 x 1,00	0,16	8,4	19,2	84
37270310	3 x 1,00	0,16	8,8	28,8	100
37270410	4 x 1,00	0,16	9,5	38,4	121
37270510	5 x 1,00	0,16	10,4	48,0	147
37270710	7 x 1,00	0,16	12,2	67,2	205
37271210	12 x 1,00	0,16	15,4	115,2	308
37271810	18 x 1,00	0,16	18,0	172,8	444
37272510	25 x 1,00	0,16	22,3	240,0	623
37273410	34 x 1,00	0,16	24,8	326,4	807
37275010	50 x 1,00	0,16	29,6	480,0	1149
37276110	61 x 1,00	0,16	32,6	585,6	1407
37270215	2 x 1,50	0,16	9,0	28,8	100
37270315	3 x 1,50	0,16	9,4	43,2	122
37270415	4 x 1,50	0,16	10,2	57,6	148

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø mm	copper figure kg/km	cable weight ≈ kg/km
37270515	5 x 1,50	0,16	11,2	72,0	182
37270715	7 x 1,50	0,16	13,4	100,8	264
37271215	12 x 1,50	0,16	16,6	172,8	385
37271815	18 x 1,50	0,16	19,7	259,2	568
37272515	25 x 1,50	0,16	24,2	360,0	782
37273415	34 x 1,50	0,16	27,2	489,6	1038
37275015	50 x 1,50	0,16	32,5	720,0	1486
37276115	61 x 1,50	0,16	35,8	878,4	1820
37270225	2 x 2,50	0,16	10,2	48,0	133
37270325	3 x 2,50	0,16	10,7	72,0	166
37270425	4 x 2,50	0,16	11,7	96,0	204
37270525	5 x 2,50	0,16	12,9	120,0	255
37270725	7 x 2,50	0,16	15,8	168,0	378
37271225	12 x 2,50	0,16	19,5	288,0	558
37271825	18 x 2,50	0,16	23,4	432,0	838
37272525	25 x 2,50	0,16	28,4	600,0	1132
37270340	3 x 4,00	0,16	12,1	115,2	227
37270440	4 x 4,00	0,16	13,1	153,6	280
37270540	5 x 4,00	0,16	15,1	192,0	368
37270740	7 x 4,00	0,16	17,9	268,8	525
37270360	3 x 6,00	0,21	14,3	172,8	320
37270460	4 x 6,00	0,21	15,5	230,4	396
37270560	5 x 6,00	0,21	17,1	288,0	493
37270760	7 x 6,00	0,21	20,7	403,2	722
37270361	3 x 10,0	0,21	18,0	288,0	497
37270461	4 x 10,0	0,21	19,9	384,0	641
37270561	5 x 10,0	0,21	22,6	480,0	839
37270362	3 x 16,0	0,21	23,2	460,8	793
37270462	4 x 16,0	0,21	25,5	614,4	1014
37270562	5 x 16,0	0,21	28,5	768,0	1303
37270463	4 x 25,0	0,21	28,8	960,0	1390
37270563	5 x 25,0	0,21	32,3	1200,0	1790
37270464	4 x 35,0	0,21	32,9	1334,0	1880
37270564	5 x 35,0	0,21	36,9	1680,0	2416
37270465	4 x 50,0	0,21	42,0	1920,0	2835

Other dimensions and colours are possible on request.

NFPA 79 for industrial machinery

S 965 MTW CY Type MTW

Continuously flexible PVC control cable and Machine-Tool Cable with numbered red cores and overall copper screen

Marking for S 965 MTW CY 37280715:
SAB BRÖCKSKES · D-VIERSEN · 37280715 7 x 1,5 mm² S 965 MTW CY 16 AWG/7c 37281607
Type MTW 600V AWM Style 2587 90°C 600V CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 6
Insulation:	special formulated PVC
Colour code:	red cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	specially adjusted layering with non-woven tape over each layer
Inner sheath:	special formulated PVC
Screen:	tinned copper braiding
Wrapping:	non-woven tape
Sheath material:	special oil resistant PVC
Sheath colour:	black (RAL 9005)

Technical data:

Nominal voltage:	**DIN VDE:** Uo/U 300/500 V **UL/(UL):** 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2 core/screen 2000 V
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** -40/+70°C +5/+70°C **UL/(UL):** up to +90°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2 UL VW-1
Oil resistance:	very good - TM5 acc. to DIN VDE 0281 part 1 + HD 21.1
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

Outstanding features:

- very good EMC characteristics
- very good flexibility
- oil resistant
- NFPA 79 for industrial machinery

Possible on request!

- with grey outer sheath and black cores

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø mm	copper figure kg/km	cable weight ≈ kg/km
37280205	2 x 0,50	0,16	9,9	36,2	122
37280305	3 x 0,50	0,16	10,4	60,0	149
37280405	4 x 0,50	0,16	11,1	65,9	168
37280505	5 x 0,50	0,16	12,0	76,2	198
37280705	7 x 0,50	0,16	14,3	95,2	279
37281205	12 x 0,50	0,16	16,8	157,4	378
37281805	18 x 0,50	0,16	19,6	201,3	520
37282505	25 x 0,50	0,16	23,4	257,6	688
37280207	2 x 0,75	0,16	10,5	60,2	146
37280307	3 x 0,75	0,16	10,9	68,0	162
37280407	4 x 0,75	0,16	11,6	80,6	186
37280507	5 x 0,75	0,16	12,7	95,8	226
37280707	7 x 0,75	0,16	15,0	117,4	309
37281207	12 x 0,75	0,16	17,8	197,1	430
37281807	18 x 0,75	0,16	20,8	260,4	594
37282507	25 x 0,75	0,16	23,4	336,7	770
37280210	2 x 1,00	0,16	10,7	65,3	154
37280310	3 x 1,00	0,16	11,3	75,5	172
37280410	4 x 1,00	0,16	11,8	90,5	199
37280510	5 x 1,00	0,16	13,0	108,3	243
37280710	7 x 1,00	0,16	15,3	134,7	331
37281210	12 x 1,00	0,16	18,3	227,2	468
37281810	18 x 1,00	0,16	21,3	305,2	650
37282510	25 x 1,00	0,16	25,5	399,0	866
37280215	2 x 1,50	0,16	11,3	75,8	173
37280315	3 x 1,50	0,16	11,7	95,1	200
37280415	4 x 1,50	0,16	12,8	117,6	243
37280515	5 x 1,50	0,16	14,4	133,7	302
37280715	7 x 1,50	0,16	16,5	199,8	413
37281215	12 x 1,50	0,16	19,9	288,5	571
37281815	18 x 1,50	0,16	23,3	396,5	803
37282515	25 x 1,50	0,16	27,6	526,6	1053
37280225	2 x 2,50	0,16	12,8	108,0	228
37280325	3 x 2,50	0,16	13,5	132,9	270
37280425	4 x 2,50	0,16	14,9	158,6	328
37280525	5 x 2,50	0,16	16,0	188,7	387
37280725	7 x 2,50	0,16	18,9	281,6	549
37281225	12 x 2,50	0,16	23,1	424,6	791
37281825	18 x 2,50	0,16	26,8	595,4	1102
37282525	25 x 2,50	0,16	32,3	799,6	1488
37280340	3 x 4,00	0,16	15,2	182,6	352
37280440	4 x 4,00	0,16	16,4	252,3	434
37280540	5 x 4,00	0,16	18,0	303,2	526
37280360	3 x 6,00	0,21	17,0	273,1	459
37280460	4 x 6,00	0,21	18,4	342,5	557
37280560	5 x 6,00	0,21	20,4	418,2	691
37280461	4 x 10,0	0,21	23,5	522,0	873
37280561	5 x 10,0	0,21	25,8	640,2	1084
37280462	4 x 16,0	0,21	29,0	801,5	1309
37280562	5 x 16,0	0,21	32,4	968,1	1660
37280463	4 x 25,0	0,21	32,7	1161,5	1745
37280563	5 x 25,0	0,21	36,0	1424,9	2175
37280464	4 x 35,0	0,21	37,0	1527,6	2301
37280465	4 x 50,0	0,21	46,3	2187,3	3374

Other dimensions and colours are possible on request.

SD 980 P Continuously flexible TPE/PUR data cable with coloured cores

RoHS

Marking for SD 980 P 77742501:
SAB BRÖCKSKES · D-VIERSEN · 77742501 25 x 0,14 mm² SD 980 P 26 AWG/25c 77742625
AWM Style 21198 80°C 300V CSA AWM I/II A/B 80°C 300V FT1 FT2 CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	TPE
Colour code:	with reference to DIN 47100
Stranding:	specially adjusted layering with netting tape over each layer and one additional non-woven tape over the outer layer
Sheath material:	TMPU acc. to DIN VDE 0282 part 10 + HD 22.10 with mat surface
Sheath colour:	grey (RAL 7032)

Outstanding features:

- **halogen-free**
- **labs uncritical**
  (labs = enamel moisturing interfering substances)
- **flexible at low temperatures**
- **travel > 10 m is possible**
- **min. bending radius**
- **high abrasion resistance**

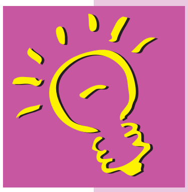
Technical data:

Peak operating voltage:	**DIN VDE:** max. 350 V **UL/CSA:** 300 V
Testing voltage U:	1500 V acc. to DIN VDE 0472 part 509
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	5 x 10⁷ cJ/kg
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** **UL/CSA:** up to +80°C -50/+90°C -40/+90°C
Halogen-free:	acc. to DIN VDE 0472 part 815 + IEC 60754-1
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2 UL VW-1 + CSA FT1 (acc. to dimension) FT2
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..
Continuous flexibility:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
77740301	3 x 0,14	0,11	3,8	4,0	16
77740401	4 x 0,14	0,11	4,1	5,4	19
77740501	5 x 0,14	0,11	4,5	6,7	23
77740701	7 x 0,14	0,11	4,9	9,4	28
77741001	10 x 0,14	0,11	5,6	13,4	36
77741401	14 x 0,14	0,11	6,0	18,8	45
77741801	18 x 0,14	0,11	6,6	24,2	54
77742501	25 x 0,14	0,11	7,6	33,6	71
77740302	3 x 0,25	0,11	4,2	7,2	21
77740402	4 x 0,25	0,11	4,4	9,6	25
77740502	5 x 0,25	0,11	4,8	12,0	30
77740702	7 x 0,25	0,11	5,4	16,8	37

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
77741002	10 x 0,25	0,11	6,2	24,0	49
77741402	14 x 0,25	0,11	6,6	33,6	62
77741802	18 x 0,25	0,11	7,3	43,2	77
77742502	25 x 0,25	0,11	8,6	60,0	102
77740303	3 x 0,34	0,11	4,4	9,8	24
77740403	4 x 0,34	0,11	4,7	13,1	29
77740503	5 x 0,34	0,11	5,2	16,3	35
77740703	7 x 0,34	0,11	5,8	22,8	44
77741003	10 x 0,34	0,11	6,6	32,6	59
77741403	14 x 0,34	0,11	7,1	45,7	75
77741803	18 x 0,34	0,11	7,8	58,8	93
77742503	25 x 0,34	0,11	9,2	81,6	124

Other dimensions and colours are possible on request.

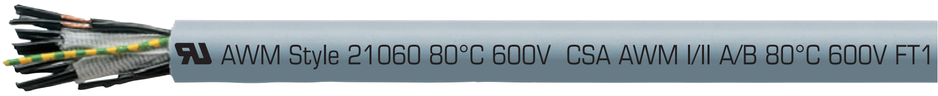


Possible on request!

- in dimensions
  0,50 mm² and 0,75 mm²
- coloured cores
  acc. to colour code US 2

S 980 P Continuously flexible TPE/PUR control cable with numbered cores

RoHS



Marking for S 980 P 77741807:
SAB BRÖCKSKES · D-VIERSEN · 77741807 S 980 P 18 x 0,75 mm² 19 AWG/18c 77741918
AWM Style 21060 80°C 600V CSA AWM I/II A/B 80°C 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, 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 with netting tape over each layer and one additional non-woven tape over the outer layer
Sheath material:	TMPU acc. to DIN VDE 0282 part 10 + HD 22.10 with mat surface
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **halogen-free**
- **labs uncritical**
  (labs = enamel moisturing interfering substances)
- **flexible at low temperatures**
- **travel > 10 m is possible**
- **min. bending radius**
- **high abrasion resistance**

Technical data:

Nominal voltage:	**DIN VDE:** Uo/U 300/500 V **UL/CSA**: 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** -50/+90°C -40/+90°C **UL/CSA:** up to +80°C
Halogen-free:	acc. to DIN VDE 0472 part 815 + IEC 60754-1
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2 UL VW-1 + CSA FT1 FT2
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..
Continuous flexibility:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
77740305	3 x 0,50	0,16	6,6	14,4	52
77740405	4 x 0,50	0,16	7,1	19,2	61
77740505	5 x 0,50	0,16	7,8	24,0	72
77740705	7 x 0,50	0,16	8,9	33,6	93
77741205	12 x 0,50	0,16	10,5	57,6	139
77741805	18 x 0,50	0,16	12,1	86,4	192
77742505	25 x 0,50	0,16	14,3	120,0	255
77743405	34 x 0,50	0,16	16,2	163,2	338
77745005	50 x 0,50	0,16	18,8	240,0	474
77746105	61 x 0,50	0,16	21,0	292,8	583
77740307	3 x 0,75	0,16	7,1	21,6	60
77740407	4 x 0,75	0,16	7,6	28,8	71
77740507	5 x 0,75	0,16	8,4	36,0	85
77740707	7 x 0,75	0,16	9,6	50,4	109
77741207	12 x 0,75	0,16	11,2	86,4	164
77741807	18 x 0,75	0,16	13,3	129,6	230
77742507	25 x 0,75	0,16	15,7	180,0	312
77743407	34 x 0,75	0,16	17,7	244,8	405
77745007	50 x 0,75	0,16	20,7	360,0	579
77746107	61 x 0,75	0,16	24,0	439,2	752
77740310	3 x 1,00	0,16	7,3	28,8	68
77740410	4 x 1,00	0,16	7,9	38,4	83
77740510	5 x 1,00	0,16	8,6	48,0	98
77740710	7 x 1,00	0,16	10,0	67,2	128
77741210	12 x 1,00	0,16	11,7	115,2	195
77741810	18 x 1,00	0,16	13,7	172,8	275
77742510	25 x 1,00	0,16	16,3	240,0	375
77743410	34 x 1,00	0,16	18,4	326,4	493
77745010	50 x 1,00	0,16	22,9	480,0	760
77746110	61 x 1,00	0,16	25,0	585,6	905
77740315	3 x 1,50	0,16	8,0	43,2	87
77740415	4 x 1,50	0,16	8,9	57,6	108

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
77740515	5 x 1,50	0,16	9,4	72,0	131
77740715	7 x 1,50	0,16	10,9	100,8	168
77741215	12 x 1,50	0,16	13,0	172,8	261
77741815	18 x 1,50	0,16	14,3	259,2	367
77742515	25 x 1,50	0,16	18,3	360,0	512
77743415	34 x 1,50	0,16	20,6	489,6	680
77745015	50 x 1,50	0,16	25,3	720,0	1026
77746115	61 x 1,50	0,16	27,7	878,4	1228
77740325	3 x 2,50	0,16	9,3	72,0	126
77740425	4 x 2,50	0,16	10,0	96,0	155
77740525	5 x 2,50	0,16	11,1	120,0	187
77740725	7 x 2,50	0,16	12,8	168,0	249
77741225	12 x 2,50	0,16	15,7	288,0	400
77741825	18 x 2,50	0,16	18,6	432,0	577
77742525	25 x 2,50	0,16	23,5	600,0	847
77740340	3 x 4,00	0,16	10,5	115,2	221
77740440	4 x 4,00	0,16	11,5	153,6	232
77740540	5 x 4,00	0,16	12,6	192,0	271
77740360	3 x 6,00	0,21	12,2	172,8	257
77740460	4 x 6,00	0,21	13,3	230,4	323
77740560	5 x 6,00	0,21	14,6	288,0	376
77740361	3 x 10,0	0,21	15,8	288,0	418
77740461	4 x 10,0	0,21	17,4	384,0	536
77740561	5 x 10,0	0,21	19,5	480,0	653
77740362	3 x 16,0	0,21	18,6	460,8	594
77740462	4 x 16,0	0,21	20,6	614,4	824
77740562	5 x 16,0	0,21	24,5	768,0	1062
77740463	4 x 25,0	0,21	26,0	960,0	1243
77740563	5 x 25,0	0,21	28,9	1200,0	1512
77740464	4 x 35,0	0,21	29,5	1344,0	1626
77740564	5 x 35,0	0,21	32,8	1680,0	1983
77740465	4 x 50,0	0,31	36,2	1920,0	2331

Other dimensions and colours are possible on request.

SD 980 CP

Continuously flexible TPE/PUR data cable with coloured cores and overall copper screen

RoHS

Marking for SD 980 CP 77842501:
SAB BRÖCKSKES · D-VIERSEN · 77842501 25 x 0,14 mm² SD 980 CP 26 AWG/25c 77842625
UL AWM Style 21198 80°C 300V CSA AWM I/II A/B 80°C 300V FT1 FT2 CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	TPE
Colour code:	with reference to DIN 47100
Stranding:	specially adjusted layering with netting tape over each layer
Screen:	tinned copper braiding
Wrapping:	non-woven tape
Sheath material:	TMPU acc. to DIN VDE 0282 part 10 + HD 22.10 with mat surface
Sheath colour:	grey (RAL 7032)

Outstanding features:

- **labs uncritical**
  (labs = enamel moisturing interfering substances)
- **flexible at low temperatures**
- **halogen-free**
- **travel > 10 m is possible**
- **good EMC characteristics**
- **high abrasion resistance**

Technical data:

Peak operating voltage:	**DIN VDE:** max. 350 V **UL/CSA:** 300 V
Testing voltage U:	1500 V acc. to DIN VDE 0472 part 509 core/screen 1200 V
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	5 x 10⁷ cJ/kg
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** **UL/CSA:** up to +80°C -50/+90°C -40/+90°C
Halogen-free:	acc. to DIN VDE 0472 part 815 + IEC 60754-1
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2 UL VW-1 + CSA FT1 FT2
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..
Continuous flexibility:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
77840301	3 x 0,14	0,11	4,2	14,3	24
77840401	4 x 0,14	0,11	4,5	15,7	27
77840501	5 x 0,14	0,11	4,9	20,6	33
77840701	7 x 0,14	0,11	5,3	23,4	38
77841001	10 x 0,14	0,11	6,0	29,4	47
77841401	14 x 0,14	0,11	6,4	34,9	55
77841801	18 x 0,14	0,11	7,0	43,8	68
77842501	25 x 0,14	0,11	8,0	57,3	88
77840302	3 x 0,25	0,11	4,6	17,6	29
77840402	4 x 0,25	0,11	4,8	20,0	32
77840502	5 x 0,25	0,11	5,2	25,9	40
77840702	7 x 0,25	0,11	5,8	30,9	47

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
77841002	10 x 0,25	0,11	6,6	41,7	61
77841402	14 x 0,25	0,11	7,0	53,2	76
77841802	18 x 0,25	0,11	7,8	64,7	91
77842502	25 x 0,25	0,11	9,0	86,3	120
77840303	3 x 0,34	0,11	4,8	20,2	32
77840403	4 x 0,34	0,11	5,1	26,9	39
77840503	5 x 0,34	0,11	5,6	30,4	44
77840703	7 x 0,34	0,11	6,2	38,9	55
77841003	10 x 0,34	0,11	7,0	52,2	72
77841403	14 x 0,34	0,11	7,5	67,0	89
77841803	18 x 0,34	0,11	8,2	82,5	108
77842503	25 x 0,34	0,11	9,6	110,7	142

Other dimensions and colours are possible on request.

Possible on request!

- in dimensions 0,50 mm² and 0,75 mm²
- with coloured cores acc. to colour code US 2

S 980 CP

Continuously flexible TPE/PUR control cable with numbered cores and overall copper screen

RoHS

Marking for S 980 CP 77840715:
SAB BRÖCKSKES · D-VIERSEN · 77840715 7 x 1,5 mm² S 980 CP 16 AWG/7c 77841607
AWM Style 21060 80°C 600V CSA AWM I/II A/B 80°C 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, 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 with netting tape over each layer
Inner sheath:	special SABIX®
Wrapping:	netting tape
Screen:	tinned copper braiding
Wrapping:	non-woven tape
Sheath material:	TMPU acc. to DIN VDE 0282 part 10 + HD 22.10 with mat surface
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **labs uncritical**
  (labs = enamel moisturing interfering substances)
- **flexible at low temperatures**
- **travel > 10 m is possible**
- **good EMC characteristics**
- **high abrasion resistance**

Technical data:

Nominal voltage:	**DIN VDE:** Uo/U 300/500 V **UL/CSA**: 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2 core/screen 2000 V
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** -40/+90°C, -30/+90°C **UL/CSA:** up to +80°C
Halogen-free:	acc. to DIN VDE 0472 part 815 + IEC 60754-1
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2 UL VW-1 + CSA FT1 FT2
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..
Continuous flexibility:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
77840305	3 x 0,50	0,16	8,6	35,9	86
77840405	4 x 0,50	0,16	9,0	42,9	98
77840505	5 x 0,50	0,16	9,7	50,2	112
77840705	7 x 0,50	0,16	10,8	62,8	137
77841205	12 x 0,50	0,16	12,6	112,1	204
77841805	18 x 0,50	0,16	14,7	172,4	286
77842505	25 x 0,50	0,16	17,1	230,2	380
77843005	30 x 0,50	0,16	18,0	255,2	434
77843605	36 x 0,50	0,16	19,2	296,9	498
77840307	3 x 0,75	0,16	9,0	45,3	96
77840407	4 x 0,75	0,16	9,5	55,0	110
77840507	5 x 0,75	0,16	10,3	65,0	127
77840707	7 x 0,75	0,16	11,7	104,3	172
77841207	12 x 0,75	0,16	13,8	146,2	254
77841807	18 x 0,75	0,16	16,0	227,5	354
77842507	25 x 0,75	0,16	18,7	303,4	455
77843007	30 x 0,75	0,16	19,0	339,8	522
77843607	36 x 0,75	0,16	20,4	384,9	599
77840310	3 x 1,00	0,16	9,2	52,6	105
77840410	4 x 1,00	0,16	9,8	64,7	122
77840510	5 x 1,00	0,16	10,5	77,1	141
77840710	7 x 1,00	0,16	12,1	121,4	192
77841210	12 x 1,00	0,16	14,2	200,8	299
77841810	18 x 1,00	0,16	16,1	270,8	401
77842510	25 x 1,00	0,16	19,3	364,3	521
77843010	30 x 1,00	0,16	19,7	412,9	603
77843610	36 x 1,00	0,16	22,8	484,8	776
77840315	3 x 1,50	0,16	9,5	69,4	119
77840415	4 x 1,50	0,16	10,8	86,8	152
77840515	5 x 1,50	0,16	11,5	119,8	189

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
77840715	7 x 1,50	0,16	13,2	160,4	250
77841215	12 x 1,50	0,16	15,7	270,4	384
77841815	18 x 1,50	0,16	18,0	370,8	515
77842515	25 x 1,50	0,16	23,1	499,7	776
77843015	30 x 1,50	0,16	23,5	572,5	865
77843615	36 x 1,50	0,16	24,9	685,5	1004
77840325	3 x 2,50	0,16	11,4	119,7	183
77840425	4 x 2,50	0,16	12,1	150,2	218
77840525	5 x 2,50	0,16	13,4	179,7	260
77840725	7 x 2,50	0,16	15,5	265,4	369
77841225	12 x 2,50	0,16	18,7	411,4	559
77841825	18 x 2,50	0,16	23,4	572,3	843
77842525	25 x 2,50	0,16	27,2	772,8	1079
77840340	3 x 4,00	0,16	12,6	169,7	249
77840440	4 x 4,00	0,16	13,8	213,6	305
77840540	5 x 4,00	0,16	15,2	289,3	374
77840360	3 x 6,00	0,21	14,7	258,8	349
77840460	4 x 6,00	0,21	15,8	328,3	437
77840560	5 x 6,00	0,21	17,3	398,4	497
77840361	3 x 10,0	0,21	18,8	411,5	553
77840461	4 x 10,0	0,21	20,5	509,9	681
77840561	5 x 10,0	0,21	24,3	645,7	903
77840362	3 x 16,0	0,21	22,3	601,1	786
77840462	4 x 16,0	0,21	25,2	782,2	1046
77840562	5 x 16,0	0,21	28,2	943,3	1257
77840463	4 x 25,0	0,21	29,7	1155,1	1504
77840563	5 x 25,0	0,21	32,6	1406,1	1802
77840464	4 x 35,0	0,21	33,2	1552,5	1918
77840564	5 x 35,0	0,21	36,5	1914,1	2299

Other dimensions and colours are possible on request.

SD 980 CP TP

Continuously flexible paired TPE/PUR data cable with coloured cores and overall copper screen

Marking for SD 980 CP TP 77890725:
SAB BRÖCKSKES · D-VIERSEN · 77890725 7 x 2 x 0,25 mm² SD 980 CP TP 24 AWG/7pr 77892407
UL AWM Style 21198 80°C 300V CSA AWM I/II A/B 80°C 300V FT1 FT2 CE

Construction:

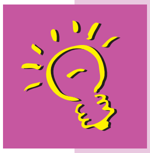
Conductor:	bare copper strands, extra fine wires
Insulation:	TPE
Colour code:	with reference to DIN 47100
Stranding:	cores twisted to pairs, pairs twisted in specially adjusted layering with netting tape over each layer
Screen:	tinned copper braiding
Wrapping:	non-woven tape
Sheath material:	TMPU acc. to DIN VDE 0282 part 10 + HD 22.10 with mat surface
Sheath colour:	grey (RAL 7032)

Outstanding features:

- **labs uncritical**
  (labs = enamel moisturing interfering substances)
- **flexible at low temperatures**
- **halogen-free**
- **travel > 10 m is possible**
- **good EMC characteristics**
- **high abrasion resistance**

Technical data:

Peak operating voltage:	**DIN VDE:** max. 350 V **UL/CSA:** 300 V
Testing voltage U:	1500 V acc. to DIN VDE 0472 part 509 core/screen 1200V
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** **UL/CSA:** up to +80°C -50/+90°C -40/+90°C
Halogen-free:	acc. to DIN VDE 0472 part 815 + IEC 60754-1
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2 UL VW-1 + CSA FT1 FT2
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..
Continuous flexibility:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14



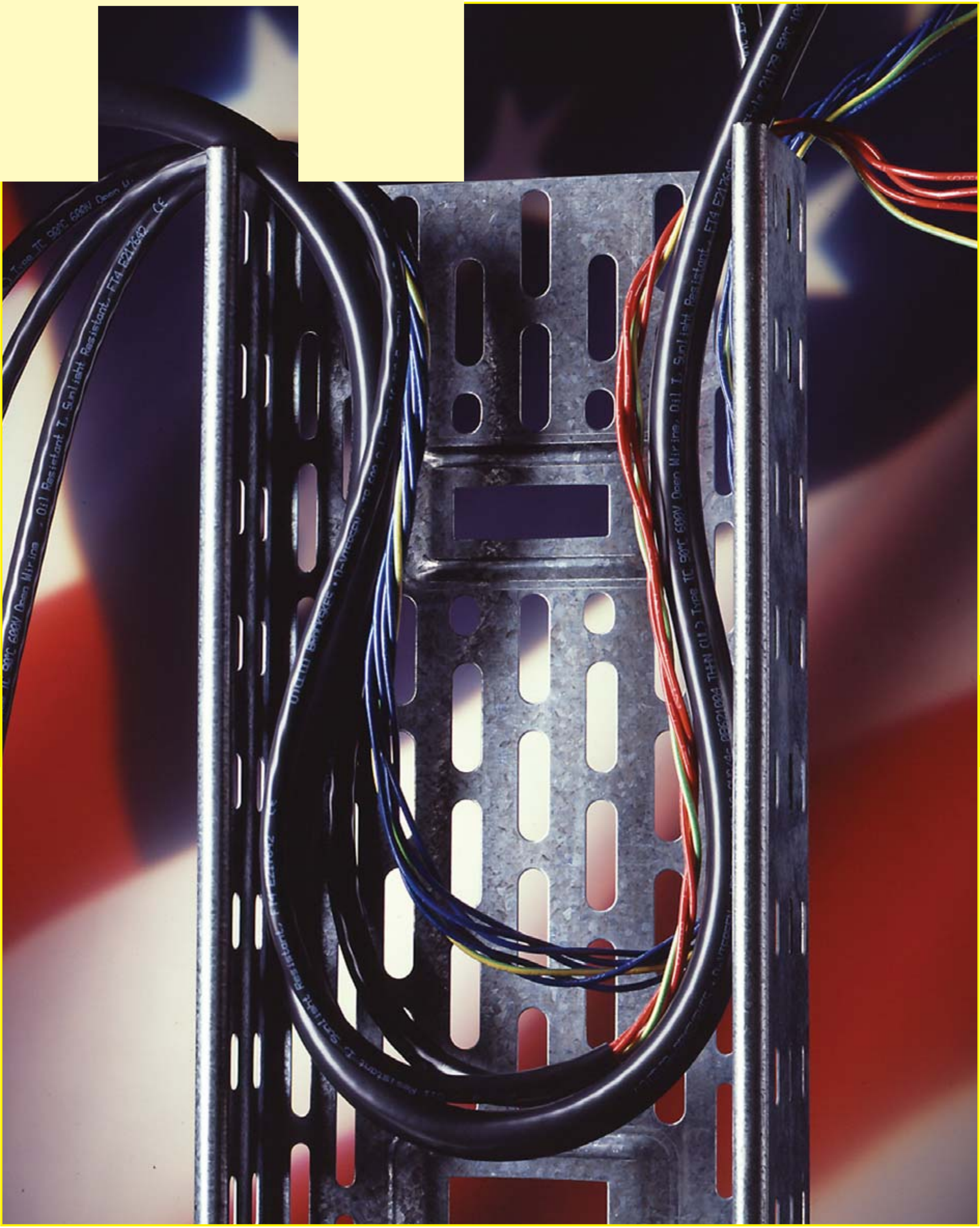
Possible on request!

- with coloured cores acc. to colour code US 3

item no.	no. of pairs x cross section n x 2 x mm²	largest single wire ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
77890214	2 x 2 x 0,14	0,11	5,1	19,3	34
77890314	3 x 2 x 0,14	0,11	5,6	22,1	39
77890414	4 x 2 x 0,14	0,11	6,3	26,8	47
77890514	5 x 2 x 0,14	0,11	6,7	31,1	53
77890714	7 x 2 x 0,14	0,11	7,2	38,5	64
77891014	10 x 2 x 0,14	0,11	8,4	50,7	83
77891414	14 x 2 x 0,14	0,11	9,3	66,6	105
77891814	18 x 2 x 0,14	0,11	10,3	96,0	136
77892514	25 x 2 x 0,14	0,11	11,7	121,6	174
77890225	2 x 2 x 0,25	0,11	5,6	23,6	42
77890325	3 x 2 x 0,25	0,11	6,2	30,4	52
77890425	4 x 2 x 0,25	0,11	6,9	38,7	60
77890525	5 x 2 x 0,25	0,11	7,4	43,8	68
77890725	7 x 2 x 0,25	0,11	7,9	57,2	85
77891025	10 x 2 x 0,25	0,11	9,2	74,3	110
77891425	14 x 2 x 0,25	0,11	10,9	115,1	157
77891825	18 x 2 x 0,25	0,11	11,6	140,7	188
77892525	25 x 2 x 0,25	0,11	14,0	205,5	275
77890234	2 x 2 x 0,34	0,11	5,9	29,0	48
77890334	3 x 2 x 0,34	0,11	6,5	37,2	60
77890434	4 x 2 x 0,34	0,11	7,4	45,9	72
77890534	5 x 2 x 0,34	0,11	7,9	56,3	81
77890734	7 x 2 x 0,34	0,11	8,5	69,5	98
77891034	10 x 2 x 0,34	0,11	9,9	94,5	130
77891434	14 x 2 x 0,34	0,11	11,6	145,7	186
77891834	18 x 2 x 0,34	0,11	12,5	177,1	223
77892534	25 x 2 x 0,34	0,11	14,7	260,3	320
77890250	2 x 2 x 0,50	0,11	6,8	36,9	60
77890350	3 x 2 x 0,50	0,11	7,6	50,2	79
77890450	4 x 2 x 0,50	0,11	8,7	64,6	98
77890550	5 x 2 x 0,50	0,11	9,4	77,0	113
77890750	7 x 2 x 0,50	0,11	10,3	114,8	148
77891050	10 x 2 x 0,50	0,11	12,1	150,6	197
77891450	14 x 2 x 0,50	0,11	14,3	220,4	282
77891850	18 x 2 x 0,50	0,11	16,1	270,8	363
77892550	25 x 2 x 0,50	0,11	18,0	351,3	460
77890275	2 x 2 x 0,75	0,11	7,7	50,2	79
77890375	3 x 2 x 0,75	0,11	8,8	69,4	98
77890475	4 x 2 x 0,75	0,11	9,9	86,8	121
77890575	5 x 2 x 0,75	0,11	11,1	126,0	161
77890775	7 x 2 x 0,75	0,11	11,9	155,3	189
77891075	10 x 2 x 0,75	0,11	14,7	241,1	303
77891475	14 x 2 x 0,75	0,11	17,3	312,0	403
77891875	18 x 2 x 0,75	0,11	18,6	382,6	486
77892575	25 x 2 x 0,75	0,11	22,7	499,0	704

Other dimensions and colours are possible on request.

Tray Cables



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Content

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Applications

■ Application of Tray Cable acc. to UL 1277 and Machine-Tool Cable acc. to UL 1063

Application of flexible Power and Control Tray Cable, Type TC, MTW and WTTC

This special multi-conductor cable shall be permitted for used in power, lighting, control and signal circuits in accordance to the National Electrical Code (NEC), NFPA 70 Article 336. In cable trays, in raceways and in outdoor locations supported by a messenger wire in accordance to Underwriters Laboratories Inc. (UL) Standard of Safety UL 1277. For class I division 2 circuits as permitted in NEC article 501.10 (B) and for class II division 2 circuits as permitted in NEC article 502.10 (B). In industrial establishments where the conditions of maintenance and supervision ensure that only qualified persons service the installation, and where the cable is continuously supported and protected against physical demage using mechanical protection, such as struts, angles or channels. This Tray Cable complies with the crush and impact requirements of Type TC and is identified for such use with the ER marking on the jacket. The cable is for use as exposed runs between a cable tray and the utilization device where the cable is continuously supported and protected against physical damage and is secured at intervals not exceeding 1.8 m (6 feet). Grounding for the utilization equipment shall be provided by an equipment grounding conductor within the cable. This Tray Cable shall also be permitted to be used in wet locations and is resistant to moisture and corrosive agents. Cables that are surface marked „oil resistant I" have a jacket that is for exposure to mineral oil at temperature not in excess of 60°C (140°F). Marked with „oil resistant II" they have a jacket that is for exposure to mineral oil at temperatures not in excess of 75°C (167°C). The Type TC is flame retardant and self-extinguishing. Also sunlight resistant depending on the jacket color. The cables listed as MTW can be applied in the NFPA 79 machinery area. MTW cables are specified for use acc. to National Electrical Code (NFPA 70) and acc. to the National Fire Protection Association Electrical Standard for industrial machinery (NFPA 79). Wind turbine power and control cable is intended to be installed in cable trays or raceways within a wind turbine generator.

Exemplary applications:

TR 600 Type TC, MTW and WTTC **TR 600 Auto Type TC, MTW and WTTC** **TR 600 CY Type TC, MTW and WTTC** **TR 600 CY Lean Type TC, MTW and WTTC** **TR 600 Auto CY Type TC, MTW and WTTC** **TR 249 Type TC und STOOW** **D 331 PLTC Type PLTC** **SABIX® D 331 PLTC Type PLTC**	Recommended applications are machine tools, control systems assembly lines, CNC machining, grinding machines, bottling equipment, data processing equipment and connections between control panels and machines

Exemplary applications:

TR 600 Type WTTC **TR 600 C Type WTTC**	In hazardous (classified) areas class I, Division 2 per NEC Article 501.4 (B), UL Type TC is in accordance with UL standard 1277 and NEC Article 336

Exemplary applications:

Servo VFD Type MTW and WTTC **Servo VFD Combo DS Type MTW and WTTC** **VFD Lean TR Type MTW and WTTC** **VFD Dual TR Type MTW and WTTC**	Can be used to connect alternating current variable frequency drives to alternating current variable frequency motors

■ **You will find further information about the safe application of cables on pages N/28-38**

Selection table

	Cable type	TR 600 black	TR 600 blue	TR 600 red	TR 600 yellow	TR 600 CY black	TR 600 CY blue	TR 600 CY Lean	TR 600 Auto black	TR 600 Auto blue	TR 600 Auto red	TR 600 Auto CY	TR 600 HD	TR 600 C HD	Servo VFD	Servo VFD Combo DS	VFD Lean TR	VFD Dual TR	TR 249	D 331 PLTC	SABIX® D 331 PLTC
Basic construction	Numbered cores	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x
	Colour code US 2																		x		
	Copper screen					x	x	x				x		x		x	x	x			
	Inner sheath					x	x					x		x				x			
Temperature range	UL-AWM: up to +105°C																				
	(UL) / c(UL): up to +90°C																				
	(UL) / c(UL) / CSA-AWM: up to +90°C																				
	(UL): up to +90°C																				
	(UL): up to +75°C																				
	-25°C																				
	-40°C																				
Voltage	Voltage 300 V																			x	x
	Voltage (UL) / c(UL) 600 V																		x		
	Voltage UL-AWM / (UL) / c(UL) 600 V	x	x	x	x	x	x	x	x	x	x	x	x	x							
	Voltage (UL) / c(UL) 600 V UL-AWM/CSA-AWM 1000 V														x	x	x	x			
	Voltage (UL) WTTC 1000 V	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			
	Testing voltage 1500 V																			x	x
	Testing voltage 3000 V																		x		
	Testing voltage 4000 V	x	x	x	x	x	x	x	x	x	x	x	x	x							
	Testing voltage 7500 V														x						
	Testing voltage core/core 7500 V core/screen 3000 V															x	x	x			
Standards and approvals	Halogen-free acc. to DIN VDE and IEC																				x
	Fire performance: (UL) FT4 and c(UL) FT1, FT2, FT4	x	x	x	x	x	x	x	x	x	x	x	x	x					x		
	Fire performance: (UL) / c(UL) FT4, c(UL) / CSA-AWM FT1, FT2														x	x	x	x			
	Fire performance: (UL) FT4																			x	x
Characteristics	Oil resistance I	x	x	x	x	x	x	x	x	x	x	x			x	x	x	x	x		
	Oil resistance I + II												x	x							
	Sunlight resistance	x	x	x	x	x	x	x	x	x	x	x			x	x	x	x	x	x	x
	Exposed Runs	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		
	Direct Burial	x	x	x	x	x	x	x	x	x	x	x			x	x	x	x	x		
	Machinery Area	x	x	x	x	x	x	x	x	x	x	x			x	x	x	x	x		

from

to

New with WTTC approval

TR 600 black

Type TC, MTW and WTTC

UV and oil resistant, flexible Tray Cable and Machine-Tool Cable with black cores

NFPA 79 for industrial machinery

RoHS

Marking for TR 600 black 02841637:
SAB BRÖCKSKES · D-VIERSEN · TR 600 black 16 AWG/37c 02841637 TFFN (UL) Type TC-ER 90°C 600V, Oil Resistant I, Sunlight Resistant, Direct Burial, FT4 (UL) WTTC 90°C 1000V (UL) MTW 16 AWG/37c 600V flexing AWM Style 21179 600V c(UL) Type CIC 90°C dry 600V FT1 FT2 FT4 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228 class 5 and UL standard 758 table 5.1 + UL 1581 table 20.1
Insulation:	special formulated PVC/Nylon
Color code:	black cores with consecutive white numbers; green-yellow earth wire from 3 cores
Stranding:	in layers
Sheath material:	special sunlight and oil resistant PVC
Sheath color:	black (RAL 9005)

Outstanding features:

- **Flexible cable for cable tray use**
- **Oil resistance**
- **Sunlight resistance**
- **NFPA 79 for industrial machinery**
- **New: Improved with WTTC approval**
- **WTTC: UL Subject 2277**
- **TC: UL Standard 1277**
- **(UL)/(cUL) listed**

Technical data:

Voltage:	**UL-AWM / (UL) / c(UL):** 600 V **(UL) WTTC:** 1000 V	
Testing voltage:	4000 V	
Min. bending radius *fixed laying:* *flexible application:*	< 12 mm = 3 x d > 12 mm = 4 x d < 12 mm = 5 x d > 12 mm = 6 x d	
Radiation resistance:	8 x 10^7 cJ/kg	
Temperature : *fixed laying:*	**UL-AWM:** up to +105°C -25°C	**(UL) / c(UL):** up to +90°C
Burning characteristics:	(UL) FT4 and c(UL) FT1, FT2, FT4	
Oil resistance I:	yes	
Sunlight resistance:	yes	
Exposed Runs:	yes	
Direct Burial:	yes	
Machinery Area:	yes	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02841803	3 x 18	0,21	7,7	28,8	83
02841804	4 x 18	0,21	8,3	38,4	99
02841805	5 x 18	0,21	9,0	48,0	118
02841807	7 x 18	0,21	9,8	67,2	146
02841809	9 x 18	0,21	11,9	86,4	194
02841812	12 x 18	0,21	12,5	115,2	227
02841816	16 x 18	0,21	14,6	153,6	310
02841818	18 x 18	0,21	15,3	172,8	343
02841819	19 x 18	0,21	15,3	182,4	352
02841825	25 x 18	0,21	18,1	240,0	450
02841827	27 x 18	0,21	18,1	259,2	476
02841837	37 x 18	0,21	20,1	355,2	620
02841850	50 x 18	0,21	24,6	480,0	868
02841603	3 x 16	0,26	8,3	43,2	103
02841604	4 x 16	0,26	9,0	57,6	123
02841605	5 x 16	0,26	9,8	72,0	148
02841607	7 x 16	0,26	10,7	100,8	186
02841608	8 x 16	0,26	12,3	115,2	222
02841609	9 x 16	0,26	13,1	129,6	248
02841612	12 x 16	0,26	14,5	172,8	313
02841616	16 x 16	0,26	16,0	230,4	397
02841618	18 x 16	0,26	16,8	259,2	439
02841619	19 x 16	0,26	16,8	273,6	453
02841625	25 x 16	0,26	19,9	360,0	581
02841627	27 x 16	0,26	19,9	388,8	616
02841637	37 x 16	0,26	23,3	532,8	862
02841641	41 x 16	0,26	25,0	590,4	957

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02841650	50 x 16	0,26	27,1	720,0	1126
02841661	61 x 16	0,26	28,8	878,4	1336
02841403	3 x 14	0,26	9,2	72,0	138
02841404	4 x 14	0,26	10,0	96,0	168
02841405	5 x 14	0,26	10,9	120,0	202
02841407	7 x 14	0,26	11,9	168,0	258
02841409	9 x 14	0,26	15,4	216,0	362
02841412	12 x 14	0,26	16,1	288,0	434
02841418	18 x 14	0,26	18,8	432,0	613
02841425	25 x 14	0,26	23,5	600,0	878
02841203	3 x 12	0,31	10,5	115,2	194
02841204	4 x 12	0,31	11,4	153,6	238
02841205	5 x 12	0,31	12,5	192,0	289
02841207	7 x 12	0,31	14,4	268,8	394
02841003	3 x 10	0,31	12,4	172,8	279
02841004	4 x 10	0,31	14,2	230,4	366
02841005	5 x 10	0,31	15,6	288,0	443
02841007	7 x 10	0,31	17,0	403,2	573
02840804	4 x 8	0,41	18,1	337,9	579
02840805	5 x 8	0,41	19,9	422,4	716
02840604	4 x 6	0,41	22,8	541,4	908
02840605	5 x 6	0,41	25,1	676,8	1099
02840404	4 x 4	0,41	27,4	844,8	1361
02840405	5 x 4	0,41	30,3	1056,0	1656
02840204	4 x 2	0,41	31,5	1305,6	1928
02840205	5 x 2	0,41	34,9	1632,0	2344

Other dimensions and colours are possible on request.

RoHS

TR 600 blue Type TC, MTW and WTTC

UV and oil resistant, flexible Tray Cable and Machine-Tool Cable with blue cores

NFPA 79 for industrial machinery

Marking for TR 600 blue 02861637:
SAB BRÖCKSKES · D-VIERSEN · TR 600 blue 16 AWG/37c 02861637 TFFN (UL) Type TC-ER 90°C 600V, Oil Resistant I, Sunlight Resistant,
Direct Burial, FT4 (UL) WTTC 90°C 1000V (UL) MTW 16 AWG/37c 600V flexing AWM Style 21179 600V c(UL) Type CIC 90°C dry 600V FT1 FT2 FT4 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228 class 5 and UL standard 758 table 5.1 + UL 1581 table 20.1
Insulation:	special formulated PVC/Nylon
Color code:	blue cores with numbers; white-blue ground wire and green-yellow earth wire from 3 cores
Stranding:	in layers
Sheath material:	special sunlight and oil resistant PVC
Sheath color:	black (RAL 9005)

Outstanding features:

- Flexible cable for cable tray use
- Oil resistance
- Sunlight resistance
- NFPA 79 for industrial machinery
- New: Improved with WTTC approval
- WTTC: UL Subject 2277
- TC: UL Standard 1277
- (UL)/(cUL) listed

Technical data:

Voltage:	**UL-AWM / (UL) / c(UL):** 600 V **(UL) WTTC:** 1000 V	
Testing voltage:	4000 V	
Min. bending radius *fixed laying:* *flexible application:*	< 12 mm = 3 x d > 12 mm = 4 x d < 12 mm = 5 x d > 12 mm = 6 x d	
Radiation resistance:	8 x 10^7 cJ/kg	
Temperature : *fixed laying:*	**UL-AWM:** up to +105°C -25°C	**(UL) / c(UL):** up to +90°C
Burning characteristics:	(UL) FT4 and c(UL) FT1, FT2, FT4	
Oil resistance I:	yes	
Sunlight resistance:	yes	
Exposed Runs:	yes	
Direct Burial:	yes	
Machinery Area:	yes	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

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item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02861803	3 x 18	0,21	7,7	28,8	83
02861804	4 x 18	0,21	8,3	38,4	99
02861805	5 x 18	0,21	9,0	48,0	118
02861807	7 x 18	0,21	9,8	67,2	146
02861809	9 x 18	0,21	11,9	86,4	194
02861812	12 x 18	0,21	12,5	115,2	227
02861816	16 x 18	0,21	14,6	153,6	310
02861818	18 x 18	0,21	15,3	172,8	343
02861819	19 x 18	0,21	15,3	182,4	352
02861825	25 x 18	0,21	18,1	240,0	450
02861827	27 x 18	0,21	18,1	259,2	476
02861837	37 x 18	0,21	20,1	355,2	620
02861850	50 x 18	0,21	24,6	480,0	868
02861603	3 x 16	0,26	8,3	43,2	103
02861604	4 x 16	0,26	9,0	57,6	123
02861605	5 x 16	0,26	9,8	72,0	148
02861607	7 x 16	0,26	10,7	100,8	186
02861608	8 x 16	0,26	12,3	115,2	222
02861609	9 x 16	0,26	13,1	129,6	248
02861612	12 x 16	0,26	14,5	172,8	313
02861616	16 x 16	0,26	16,0	230,4	397
02861618	18 x 16	0,26	16,8	259,2	439
02861619	19 x 16	0,26	16,8	273,6	453
02861625	25 x 16	0,26	19,9	360,0	581
02861627	27 x 16	0,26	19,9	388,8	616
02861637	37 x 16	0,26	23,3	532,8	862
02861641	41 x 16	0,26	25,0	590,4	957

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02861650	50 x 16	0,26	27,1	720,0	1126
02861661	61 x 16	0,26	28,8	878,4	1336
02861403	3 x 14	0,26	9,2	72,0	138
02861404	4 x 14	0,26	10,0	96,0	168
02861405	5 x 14	0,26	10,9	120,0	202
02861407	7 x 14	0,26	11,9	168,0	258
02861409	9 x 14	0,26	15,4	216,0	362
02861412	12 x 14	0,26	16,1	288,0	434
02861418	18 x 14	0,26	18,8	432,0	613
02861425	25 x 14	0,26	23,5	600,0	878
02861203	3 x 12	0,31	10,5	115,2	194
02861204	4 x 12	0,31	11,4	153,6	238
02861205	5 x 12	0,31	12,5	192,0	289
02861207	7 x 12	0,31	14,4	268,8	394
02861003	3 x 10	0,31	12,4	172,8	279
02861004	4 x 10	0,31	14,2	230,4	366
02861005	5 x 10	0,31	15,6	288,0	443
02861007	7 x 10	0,31	17,0	403,2	573
02860804	4 x 8	0,41	18,1	337,9	579
02860805	5 x 8	0,41	19,9	422,4	716
02860604	4 x 6	0,41	22,8	541,4	908
02860605	5 x 6	0,41	25,1	676,8	1099
02860404	4 x 4	0,41	27,4	844,8	1361
02860405	5 x 4	0,41	30,3	1056,0	1656
02860204	4 x 2	0,41	31,5	1305,6	1928
02860205	5 x 2	0,41	34,9	1632,0	2344

Other dimensions and colours are possible on request.

New with WTTC approval

RoHS

TR 600 red Type TC, MTW and WTTC

UV and oil resistant, flexible Tray Cable and Machine-Tool Cable with red cores

NFPA 79 for industrial machinery

Marking for TR 600 red 02981637:
SAB BRÖCKSKES · D-VIERSEN · TR 600 red 16 AWG/37c 02981637 TFFN (UL) Type TC-ER 90°C 600V, Oil Resistant I, Sunlight Resistant, Direct Burial, FT4 (UL) WTTC 90°C 1000V (UL) MTW 16 AWG/37c 600V flexing AWM Style 21179 600V c(UL) Type CIC 90°C dry 600V FT1 FT2 FT4 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228 class 5 and UL standard 758 table 5.1 + UL 1581 table 20.1
Insulation:	special formulated PVC/Nylon
Color code:	red cores with numbers; white ground wire and green-yellow earth wire from 3 cores
Stranding:	in layers
Sheath material:	special sunlight and oil resistant PVC
Sheath color:	black (RAL 9005)

Outstanding features:

- **Flexible cable for cable tray use**
- **Oil resistance**
- **Sunlight resistance**
- **NFPA 79 for industrial machinery**
- **New: Improved with WTTC approval**
- **WTTC: UL Subject 2277**
- **TC: UL Standard 1277**
- **(UL)/(cUL) listed**

Technical data:

Voltage:	**UL-AWM / (UL) / c(UL):** 600 V **(UL) WTTC:** 1000 V	
Testing voltage:	4000 V	
Min. bending radius *fixed laying:* *flexible application:*	< 12 mm = 3 x d > 12 mm = 4 x d < 12 mm = 5 x d > 12 mm = 6 x d	
Radiation resistance:	8 x 10^7 cJ/kg	
Temperature : *fixed laying:*	**UL-AWM:** up to +105°C -25°C	**(UL) / c(UL):** up to +90°C
Burning characteristics:	(UL) FT4 and c(UL) FT1, FT2, FT4	
Oil resistance I:	yes	
Sunlight resistance:	yes	
Exposed Runs:	yes	
Direct Burial:	yes	
Machinery Area:	yes	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02981803	3 x 18	0,21	7,7	28,8	83
02981804	4 x 18	0,21	8,3	38,4	99
02981805	5 x 18	0,21	9,0	48,0	118
02981807	7 x 18	0,21	9,8	67,2	146
02981809	9 x 18	0,21	11,9	86,4	194
02981812	12 x 18	0,21	12,5	115,2	227
02981816	16 x 18	0,21	14,6	153,6	310
02981818	18 x 18	0,21	15,3	172,8	343
02981819	19 x 18	0,21	15,3	182,4	352
02981825	25 x 18	0,21	18,1	240,0	450
02981827	27 x 18	0,21	18,1	259,2	476
02981837	37 x 18	0,21	20,1	355,2	620
02981850	50 x 18	0,21	24,6	480,0	868
02981603	3 x 16	0,26	8,3	43,2	103
02981604	4 x 16	0,26	9,0	57,6	123
02981605	5 x 16	0,26	9,8	72,0	148
02981607	7 x 16	0,26	10,7	100,8	186
02981608	8 x 16	0,26	12,3	115,2	222
02981609	9 x 16	0,26	13,1	129,6	248
02981612	12 x 16	0,26	14,5	172,8	313
02981616	16 x 16	0,26	16,0	230,4	397
02981618	18 x 16	0,26	16,8	259,2	439
02981619	19 x 16	0,26	16,8	273,6	453
02981625	25 x 16	0,26	19,9	360,0	581
02981627	27 x 16	0,26	19,9	388,8	616
02981637	37 x 16	0,26	23,3	532,8	862
02981641	41 x 16	0,26	25,0	590,4	957

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02981650	50 x 16	0,26	27,1	720,0	1126
02981661	61 x 16	0,26	28,8	878,4	1336
02981403	3 x 14	0,26	9,2	72,0	138
02981404	4 x 14	0,26	10,0	96,0	168
02981405	5 x 14	0,26	10,9	120,0	202
02981407	7 x 14	0,26	11,9	168,0	258
02981409	9 x 14	0,26	15,4	216,0	362
02981412	12 x 14	0,26	16,1	288,0	434
02981418	18 x 14	0,26	18,8	432,0	613
02981425	25 x 14	0,26	23,5	600,0	878
02981203	3 x 12	0,31	10,5	115,2	194
02981204	4 x 12	0,31	11,4	153,6	238
02981205	5 x 12	0,31	12,5	192,0	289
02981207	7 x 12	0,31	14,4	268,8	394
02981003	3 x 10	0,31	12,4	172,8	279
02981004	4 x 10	0,31	14,2	230,4	366
02981005	5 x 10	0,31	15,6	288,0	443
02981007	7 x 10	0,31	17,0	403,2	573
02980804	4 x 8	0,41	18,1	337,9	579
02980805	5 x 8	0,41	19,9	422,4	716
02980604	4 x 6	0,41	22,8	541,4	908
02980605	5 x 6	0,41	25,1	676,8	1099
02980404	4 x 4	0,41	27,4	844,8	1361
02980405	5 x 4	0,41	30,3	1056,0	1656
02980204	4 x 2	0,41	31,5	1305,6	1928
02980205	5 x 2	0,41	34,9	1632,0	2344

Other dimensions and colours are possible on request.

New with WTTC approval

TRAY CABLES

RoHS

TR 600 yellow

Type TC, MTW and WTTC

UV and oil resistant, flexible Tray Cable and Machine-Tool Cable with yellow cores

NFPA 79 for industrial machinery

Marking for TR 600 yellow 02901637:
SAB BRÖCKSKES · D-VIERSEN · TR 600 yellow 16 AWG/37c 02901637 TFFN (UL) Type TC-ER 90°C 600V, Oil Resistant I, Sunlight Resistant, Direct Burial, FT4 (UL) WTTC 90°C 1000V (UL) MTW 16 AWG/37c 600V flexing AWM Style 21179 600V c(UL) Type CIC 90°C dry 600V FT1 FT2 FT4 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228 class 5 and UL standard 758 table 5.1 + UL 1581 table 20.1
Insulation:	special formulated PVC/Nylon
Color code:	yellow cores with numbers; white-yellow ground wire and green-yellow earth wire from 3 cores
Stranding:	in layers
Sheath material:	special sunlight and oil resistant PVC
Sheath color:	black (RAL 9005)

Outstanding features:

- Flexible cable for cable tray use
- Oil resistance
- Sunlight resistance
- NFPA 79 for industrial machinery
- New: Improved with WTTC approval
- WTTC: UL Subject 2277
- TC: UL Standard 1277
- (UL)/(cUL) listed

Technical data:

Voltage:	**UL-AWM / (UL) / c(UL):** 600 V **(UL) WTTC:** 1000 V
Testing voltage:	4000 V
Min. bending radius *fixed laying:* *flexible application:*	< 12 mm = 3 x d > 12 mm = 4 x d < 12 mm = 5 x d > 12 mm = 6 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature : *fixed laying:*	**UL-AWM:** up to +105°C; **(UL) / c(UL):** up to +90°C -25°C
Burning characteristics:	(UL) FT4 and c(UL) FT1, FT2, FT4
Oil resistance I:	yes
Sunlight resistance:	yes
Exposed Runs:	yes
Direct Burial:	yes
Machinery Area:	yes
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02901803	3 x 18	0,21	7,7	28,8	83
02901804	4 x 18	0,21	8,3	38,4	99
02901805	5 x 18	0,21	9,0	48,0	118
02901807	7 x 18	0,21	9,8	67,2	146
02901809	9 x 18	0,21	11,9	86,4	194
02901812	12 x 18	0,21	12,5	115,2	227
02901816	16 x 18	0,21	14,6	153,6	310
02901818	18 x 18	0,21	15,3	172,8	343
02901819	19 x 18	0,21	15,3	182,4	352
02901825	25 x 18	0,21	18,1	240,0	450
02901827	27 x 18	0,21	18,1	259,2	476
02901837	37 x 18	0,21	20,1	355,2	620
02901850	50 x 18	0,21	24,6	480,0	868
02901603	3 x 16	0,26	8,3	43,2	103
02901604	4 x 16	0,26	9,0	57,6	123
02901605	5 x 16	0,26	9,8	72,0	148
02901607	7 x 16	0,26	10,7	100,8	186
02901608	8 x 16	0,26	12,3	115,2	222
02901609	9 x 16	0,26	13,1	129,6	248
02901612	12 x 16	0,26	14,5	172,8	313
02901616	16 x 16	0,26	16,0	230,4	397
02901618	18 x 16	0,26	16,8	259,2	439
02901619	19 x 16	0,26	16,8	273,6	453
02901625	25 x 16	0,26	19,9	360,0	581
02901627	27 x 16	0,26	19,9	388,8	616
02901637	37 x 16	0,26	23,3	532,8	862
02901641	41 x 16	0,26	25,0	590,4	957

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02901650	50 x 16	0,26	27,1	720,0	1126
02901661	61 x 16	0,26	28,8	878,4	1336
02901403	3 x 14	0,26	9,2	72,0	138
02901404	4 x 14	0,26	10,0	96,0	168
02901405	5 x 14	0,26	10,9	120,0	202
02901407	7 x 14	0,26	11,9	168,0	258
02901409	9 x 14	0,26	15,4	216,0	362
02901412	12 x 14	0,26	16,1	288,0	434
02901418	18 x 14	0,26	18,8	432,0	613
02901425	25 x 14	0,26	23,5	600,0	878
02901203	3 x 12	0,31	10,5	115,2	194
02901204	4 x 12	0,31	11,4	153,6	238
02901205	5 x 12	0,31	12,5	192,0	289
02901207	7 x 12	0,31	14,4	268,8	394
02901003	3 x 10	0,31	12,4	172,8	279
02901004	4 x 10	0,31	14,2	230,4	366
02901005	5 x 10	0,31	15,6	288,0	443
02901007	7 x 10	0,31	17,0	403,2	573
02900804	4 x 8	0,41	18,1	337,9	579
02900805	5 x 8	0,41	19,9	422,4	716
02900604	4 x 6	0,41	22,8	541,4	908
02900605	5 x 6	0,41	25,1	676,8	1099
02900404	4 x 4	0,41	27,4	844,8	1361
02900405	5 x 4	0,41	30,3	1056,0	1656
02900204	4 x 2	0,41	31,5	1305,6	1928
02900205	5 x 2	0,41	34,9	1632,0	2344

Other dimensions and colours are possible on request.

New with WTTC approval

TR 600 CY black Type TC, MTW and WTTC

UV and oil resistant, flexible Tray Cable and Machine-Tool Cable with black cores and overall copper screen

NFPA 79 for industrial machinery

Marking for TR 600 CY black 32231612:
SAB BRÖCKSKES · D-VIERSEN · TR 600 CY black 16 AWG/12c 32231612 TFFN (UL) Type TC-ER 90°C 600V, Oil Resistant I, Sunlight Resistant, Direct Burial, FT4 (UL) WTTC 90°C 1000V (UL) MTW 16 AWG/12c 600V flexing AWM Style 21179 600V c(UL) Type CIC SHIELDED 90°C dry 600V FT1 FT2 FT4 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228 class 5 and UL standard 758 table 5.1 + UL 1581 table 20.1
Insulation:	special formulated PVC/Nylon
Color code:	black cores with consecutive white numbers; green-yellow earth wire from 3 cores
Stranding:	in layers
Inner sheath:	special formulated PVC
Screen:	tinned copper braiding
Sheath material:	special sunlight and oil resistant PVC
Sheath color:	black (RAL 9005)

Outstanding features:

- Flexible cable for cable tray use
- Oil resistance
- Sunlight resistance
- NFPA 79 for industrial machinery
- New: Improved with WTTC approval
- WTTC: UL Subject 2277
- TC: UL Standard 1277
- (UL)/(cUL) listed

Technical data:

Voltage:	**UL-AWM / (UL) / c(UL):** 600 V **(UL) WTTC:** 1000 V
Testing voltage:	4000 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature : *fixed laying:*	**UL-AWM:** up to +105°C -25°C **(UL) / c(UL):** up to +90°C
Burning characteristics:	(UL) FT4 and c(UL) FT1, FT2, FT4
Oil resistance I:	yes
Sunlight resistance:	yes
Exposed Runs:	yes
Direct Burial:	yes
Machinery Area:	yes
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
32231803	3 x 18	0,21	9,1	52,6	118
32231804	4 x 18	0,21	9,7	64,7	137
32231805	5 x 18	0,21	10,4	77,1	159
32231807	7 x 18	0,21	11,4	115,0	203
32231809	9 x 18	0,21	14,2	146,2	280
32231812	12 x 18	0,21	15,0	201,0	337
32231816	16 x 18	0,21	17,2	263,4	444
32231818	18 x 18	0,21	17,9	283,5	483
32231819	19 x 18	0,21	17,9	293,1	492
32231825	25 x 18	0,21	20,7	366,1	611
32231827	27 x 18	0,21	20,7	385,3	633
32231837	37 x 18	0,21	23,8	496,5	853
32231850	50 x 18	0,21	27,9	654,8	1128
32231603	3 x 16	0,26	9,7	69,5	141
32231604	4 x 16	0,26	10,4	86,7	165
32231605	5 x 16	0,26	11,4	119,8	205
32231607	7 x 16	0,26	12,3	155,2	249
32231608	8 x 16	0,26	14,8	200,8	330
32231609	9 x 16	0,26	15,6	226,7	368
32231612	12 x 16	0,26	17,1	282,5	450
32231616	16 x 16	0,26	18,6	342,0	541
32231618	18 x 16	0,26	19,4	383,2	595
32231619	19 x 16	0,26	19,4	397,6	608
32231625	25 x 16	0,26	23,6	500,9	812
32231627	27 x 16	0,26	23,6	529,7	848
32231637	37 x 16	0,26	26,6	704,3	1113
32231641	41 x 16	0,26	28,3	766,3	1214

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
32231650	50 x 16	0,26	30,4	918,1	1408
32231661	61 x 16	0,26	32,1	1038,0	1637
32231403	3 x 14	0,26	10,6	101,2	180
32231404	4 x 14	0,26	11,6	149,9	229
32231405	5 x 14	0,26	12,5	174,5	266
32231407	7 x 14	0,26	14,2	227,8	348
32231409	9 x 14	0,26	18,0	326,8	504
32231412	12 x 14	0,26	18,7	399,7	579
32231418	18 x 14	0,26	22,5	570,8	842
32231425	25 x 14	0,26	26,8	772,0	1131
32231203	3 x 12	0,31	12,1	169,4	256
32231204	4 x 12	0,31	13,0	213,2	306
32231205	5 x 12	0,31	15,0	277,8	400
32231207	7 x 12	0,31	17,0	367,4	524
32231003	3 x 10	0,31	14,9	258,5	390
32231004	4 x 10	0,31	16,8	328,8	495
32231005	5 x 10	0,31	18,2	399,1	585
32231007	7 x 10	0,31	19,6	527,5	730
32230804	4 x 8	0,41	20,7	464,0	741
32230805	5 x 8	0,41	23,6	563,3	933
32230604	4 x 6	0,41	26,1	711,7	1156
32230605	5 x 6	0,41	28,4	852,9	1365
32230404	4 x 4	0,41	30,7	1044,0	1653
32230405	5 x 4	0,41	33,6	1277,3	1974
32230204	4 x 2	0,41	34,8	1532,4	2261
32230205	5 x 2	0,41	38,2	1879,0	2713

Other dimensions and colours are possible on request.

Possible on request!

- **also available with blue, red or other color cores**

New with WTTC approval

RoHS

TR 600 CY blue

Type TC, MTW and WTTC

UV and oil resistant, flexible Tray Cable and Machine-Tool Cable with blue cores and overall copper screen

NFPA 79 for industrial machinery

Marking for TR 600 CY blue 32211612:
SAB BRÖCKSKES · D-VIERSEN · TR 600 CY blue 16 AWG/12c 32211612 TFFN (UL) Type TC-ER 90°C 600V, Oil Resistant I, Sunlight Resistant, Direct Burial, FT4 (UL) WTTC 90°C 1000V (UL) MTW 16 AWG/12c 600V flexing AWM Style 21179 600V c(UL) Type CIC SHIELDED 90°C dry 600V FT1 FT2 FT4 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228 class 5 and UL standard 758 table 5.1 + UL 1581 table 20.1
Insulation:	special formulated PVC/Nylon
Color code:	blue cores with numbers; green-yellow earth wire from 3 cores
Stranding:	in layers
Inner sheath:	special formulated PVC
Screen:	tinned copper braiding
Sheath material:	special sunlight and oil resistant PVC
Sheath color:	black (RAL 9005)

Outstanding features:

- **Flexible cable for cable tray use**
- **Oil resistance**
- **Sunlight resistance**
- **NFPA 79 for industrial machinery**
- **New: Improved with WTTC approval**
- **WTTC: UL Subject 2277**
- **TC: UL Standard 1277**
- **(UL)/(cUL) listed**

Technical data:

Voltage:	**UL-AWM / (UL) / c(UL):** 600 V **(UL) WTTC:** 1000 V	
Testing voltage:	4000 V	
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d	
Radiation resistance:	8 x 10^7 cJ/kg	
Temperature : *fixed laying:*	**UL-AWM:** up to +105°C -25°C	**(UL) / c(UL):** up to +90°C
Burning characteristics:	(UL) FT4 and c(UL) FT1, FT2, FT4	
Oil resistance I:	yes	
Sunlight resistance:	yes	
Exposed Runs:	yes	
Direct Burial:	yes	
Machinery Area:	yes	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
32211803	3 x 18	0,21	9,1	52,6	118
32211804	4 x 18	0,21	9,7	64,7	137
32211805	5 x 18	0,21	10,4	77,1	159
32211807	7 x 18	0,21	11,4	115,0	203
32211809	9 x 18	0,21	14,2	146,2	280
32211812	12 x 18	0,21	15,0	201,0	337
32211816	16 x 18	0,21	17,2	263,4	444
32211818	18 x 18	0,21	17,9	283,5	483
32211819	19 x 18	0,21	17,9	293,1	492
32211825	25 x 18	0,21	20,7	366,1	611
32211827	27 x 18	0,21	20,7	385,3	633
32211837	37 x 18	0,21	23,8	496,5	853
32211850	50 x 18	0,21	27,9	654,8	1128
32211603	3 x 16	0,26	9,7	69,5	141
32211604	4 x 16	0,26	10,4	86,7	165
32211605	5 x 16	0,26	11,4	119,8	205
32211607	7 x 16	0,26	12,3	155,2	249
32211608	8 x 16	0,26	14,8	200,8	330
32211609	9 x 16	0,26	15,6	226,7	368
32211612	12 x 16	0,26	17,1	282,5	450
32211616	16 x 16	0,26	18,6	342,0	541
32211618	18 x 16	0,26	19,4	383,2	595
32211619	19 x 16	0,26	19,4	397,6	608
32211625	25 x 16	0,26	23,6	500,9	812
32211627	27 x 16	0,26	23,6	529,7	848
32211637	37 x 16	0,26	26,6	704,3	1113
32211641	41 x 16	0,26	28,3	766,3	1214

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
32211650	50 x 16	0,26	30,4	918,1	1408
32211661	61 x 16	0,26	32,1	1038,0	1637
32211403	3 x 14	0,26	10,6	101,2	180
32211404	4 x 14	0,26	11,6	149,9	229
32211405	5 x 14	0,26	12,5	174,5	266
32211407	7 x 14	0,26	14,2	227,8	348
32211409	9 x 14	0,26	18,0	326,8	504
32211412	12 x 14	0,26	18,7	399,7	579
32211418	18 x 14	0,26	22,5	570,8	842
32211425	25 x 14	0,26	26,8	772,0	1131
32211203	3 x 12	0,31	12,1	169,4	256
32211204	4 x 12	0,31	13,0	213,2	306
32211205	5 x 12	0,31	15,0	277,8	400
32211207	7 x 12	0,31	17,0	367,4	524
32211003	3 x 10	0,31	14,9	258,5	390
32211004	4 x 10	0,31	16,8	328,8	495
32211005	5 x 10	0,31	18,2	399,1	585
32211007	7 x 10	0,31	19,6	527,5	730
32210804	4 x 8	0,41	20,7	464,0	741
32210805	5 x 8	0,41	23,6	563,3	933
32210604	4 x 6	0,41	26,1	711,7	1156
32210605	5 x 6	0,41	28,4	852,9	1365
32210404	4 x 4	0,41	30,7	1044,0	1653
32210405	5 x 4	0,41	33,6	1277,3	1974
32210204	4 x 2	0,41	34,8	1532,4	2261
32210205	5 x 2	0,41	38,2	1879,0	2713

Other dimensions and colours are possible on request.

Possible on request!

- **also available with black, red or other color cores**

SAB BRÖCKSKES

New with WTTC approval

TR 600 CY Lean

Type TC, MTW and WTTC

UV and oil resistant, flexible Tray Cable and Machine-Tool Cable with black cores and overall copper screen

NFPA 79 for industrial machinery

Marking for TR 600 CY lean 32241625: SAB BRÖCKSKES · D-VIERSEN · TR 600 CY Lean 16 AWG/25c 32241625 TFFN (UL) Type TC-ER 90°C 600V, Oil Resistant I, Sunlight Resistant, Direct Burial, FT4 (UL) WTTC 90°C 1000V (UL) MTW 16 AWG/25c 600V flexing AWM Style 21179 600V c(UL) Type CIC SHIELDED 90°C dry 600V FT1 FT2 FT4 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228 class 5 and UL standard 758 table 5.1 + UL 1581 table 20.1
Insulation:	special formulated PVC/Nylon
Color code:	black cores with numbers; green-yellow earth wire from 3 cores
Stranding:	in layers
Wrapping:	PETP foil
Screen:	tinned copper braiding
Sheath material:	special sunlight and oil resistant PVC
Sheath color:	black (RAL 9005)

Outstanding features:

- **Flexible cable for cable tray use**
- **Oil resistance**
- **Sunlight resistance**
- **NFPA 79 for industrial machinery**
- **New: Improved with WTTC approval**
- **WTTC: UL Subject 2277**
- **TC: UL Standard 1277**
- **(UL)/(cUL) listed**

Technical data:

Voltage:	**UL-AWM / (UL) / c(UL):** 600 V **(UL) WTTC:** 1000 V	
Testing voltage:	4000 V	
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d	
Radiation resistance:	8 x 10^7 cJ/kg	
Temperature : *fixed laying:*	**UL-AWM:** up to +105°C -25°C	**(UL) / c(UL):** up to +90°C
Burning characteristics:	(UL) FT4 and c(UL) FT1, FT2, FT4	
Oil resistance I:	yes	
Sunlight resistance:	yes	
Exposed Runs:	yes	
Direct Burial:	yes	
Machinery Area:	yes	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
32241603	3 x 16	0,26	8,8	66,9	109
32241604	4 x 16	0,26	9,5	83,8	132
32241605	5 x 16	0,26	10,3	101,1	158
32241607	7 x 16	0,26	11,4	148,6	209
32241612	12 x 16	0,26	15,4	269,7	369
32241618	18 x 16	0,26	17,7	369,6	502
32241625	25 x 16	0,26	20,8	486,2	653
32241403	3 x 14	0,26	9,7	98,3	142
32241404	4 x 14	0,26	10,5	125,2	175
32241405	5 x 14	0,26	11,6	173,9	226
32241407	7 x 14	0,26	12,6	222,6	282
32241412	12 x 14	0,26	17,0	386,6	487
32241418	18 x 14	0,26	19,7	556,5	685
32241425	25 x 14	0,26	24,4	766,2	974
32241204	4 x 12	0,31	12,1	207,8	256
32241205	5 x 12	0,31	13,2	251,7	311
32241207	7 x 12	0,31	15,3	354,8	435
32241004	4 x 10	0,31	15,1	316,3	405
32241005	5 x 10	0,31	16,5	386,0	490
32241007	7 x 10	0,31	17,9	513,9	617
32240804	4 x 8	0,41	19,0	461,3	619
32240604	4 x 6	0,41	23,7	682,5	932
32240404	4 x 4	0,41	28,3	1020,7	1359
32240204	4 x 2	0,41	32,4	1511,3	1875

Other dimensions and colours are possible on request.

New with WTTC approval

TRAY CABLES

RoHS

TR 600 Auto black

Type TC, MTW and WTTC

UV and oil resistant, flexible Tray Cable and Machine-Tool Cable with black cores for cable tracks

High-flex NFPA 79 for industrial machinery

Marking for TR 600 Auto black 32121625:
SAB BRÖCKSKES · D-VIERSEN · TR 600 Auto black 16 AWG/25c 32121625 TFFN (UL) Type TC-ER 90°C 600V, Oil Resistant I, Sunlight Resistant, Direct Burial, FT4 (UL) WTTC 90°C 1000V (UL) MTW 16 AWG/25c 600V flexing AWM Style 21179 600V c(UL) Type CIC 90°C dry 600V FT1 FT2 FT4 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228 class 6
Insulation:	special formulated PVC/Nylon
Color code:	black cores with consecutive white numbers; green-yellow earth wire from 3 cores
Stranding:	in layers
Sheath material:	special sunlight and oil resistant PVC
Sheath color:	black (RAL 9005)

Outstanding features:

- Flexible cable for cable tray use
- Oil resistance
- Sunlight resistance
- NFPA 79 for industrial machinery
- New: Improved with WTTC approval
- WTTC: UL Subject 2277
- TC: UL Standard 1277
- (UL)/(cUL) listed

Technical data:

Voltage:	**UL-AWM / (UL) / c(UL):** 600 V **(UL) WTTC:** 1000 V
Testing voltage:	4000 V
Min. bending radius *fixed laying:* *flexible application:* *continuously flexible:*	< 12 mm = 3 x d > 12 mm = 4 x d < 12 mm = 5 x d > 12 mm = 6 x d 10 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature : *fixed laying:*	**UL-AWM:** up to +105°C -25°C **(UL) / c(UL):** up to +90°C
Burning characteristics:	(UL) FT4 and c(UL) FT1, FT2, FT4
Oil resistance I:	yes
Sunlight resistance:	yes
Exposed Runs:	yes
Direct Burial:	yes
Machinery Area:	yes
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
32121803	3 x 18	0,16	7,7	28,8	84
32121804	4 x 18	0,16	8,3	38,4	100
32121805	5 x 18	0,16	9,0	48,0	125
32121807	7 x 18	0,16	10,5	67,2	165
32121809	9 x 18	0,16	11,9	86,4	210
32121812	12 x 18	0,16	12,5	115,2	232
32121816	16 x 18	0,16	14,6	153,6	316
32121818	18 x 18	0,16	15,3	172,8	350
32121819	19 x 18	0,16	16,0	182,4	376
32121825	25 x 18	0,16	18,1	240,0	460
32121603	3 x 16	0,16	8,3	43,2	105
32121604	4 x 16	0,16	9,0	57,6	129
32121605	5 x 16	0,16	9,8	72,0	150
32121607	7 x 16	0,16	11,5	100,8	211
32121608	8 x 16	0,16	12,3	115,2	243

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
32121609	9 x 16	0,16	13,1	129,6	270
32121612	12 x 16	0,16	14,5	172,8	324
32121616	16 x 16	0,16	16,0	230,4	410
32121618	18 x 16	0,16	16,8	259,2	453
32121619	19 x 16	0,16	17,6	273,6	490
32121625	25 x 16	0,16	19,9	360,0	604
32121403	3 x 14	0,16	9,9	72,0	153
32121404	4 x 14	0,16	10,7	96,0	184
32121405	5 x 14	0,16	11,7	120,0	230
32121407	7 x 14	0,16	14,5	168,0	334
32121409	9 x 14	0,16	16,5	216,0	431
32121412	12 x 14	0,16	17,4	288,0	479
32121418	18 x 14	0,16	20,3	432,0	690
32121425	25 x 14	0,16	25,3	600,0	966
32121007	7 x 10	0,21	18,7	369,6	583

Other dimensions and colours are possible on request.

New with WTTC approval

TR 600 Auto blue

Type TC, MTW and WTTC

UV and oil resistant, flexible Tray Cable and Machine-Tool Cable with blue cores for cable tracks

High-flex
NFPA 79 for industrial machinery

Marking for TR 600 Auto blue 32101625:
SAB BRÖCKSKES · D-VIERSEN · TR 600 Auto blue 16 AWG/25c 32101625 TFFN (UL) Type TC-ER 90°C 600V, Oil Resistant I, Sunlight Resistant, Direct Burial, FT4 (UL) WTTC 90°C 1000V (UL) MTW 16 AWG/25c 600V flexing AWM Style 21179 600V c(UL) Type CIC 90°C dry 600V FT1 FT2 FT4 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228 class 6
Insulation:	special formulated PVC/Nylon
Color code:	blue cores with numbers; white-blue ground wire and green-yellow earth wire from 3 cores
Stranding:	in layers
Sheath material:	special sunlight and oil resistant PVC
Sheath color:	black (RAL 9005)

Outstanding features:

- **Flexible cable for cable tray use**
- **Oil resistance**
- **Sunlight resistance**
- **NFPA 79 for industrial machinery**
- **New: Improved with WTTC approval**
- **WTTC: UL Subject 2277**
- **TC: UL Standard 1277**
- **(UL)/(cUL) listed**

Technical data:

Voltage:	**UL-AWM / (UL) / c(UL):** 600 V **(UL) WTTC:** 1000 V
Testing voltage:	4000 V
Min. bending radius *fixed laying:* *flexible application:* *continuously flexible:*	 < 12 mm = 3 x d > 12 mm = 4 x d < 12 mm = 5 x d > 12 mm = 6 x d 10 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature : *fixed laying:*	**UL-AWM:** up to +105°C, -25°C **(UL) / c(UL):** up to +90°C
Burning characteristics:	(UL) FT4 and c(UL) FT1, FT2, FT4
Oil resistance I:	yes
Sunlight resistance:	yes
Exposed Runs:	yes
Direct Burial:	yes
Machinery Area:	yes
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
32101803	3 x 18	0,16	7,7	28,8	84
32101804	4 x 18	0,16	8,3	38,4	100
32101805	5 x 18	0,16	9,0	48,0	125
32101807	7 x 18	0,16	10,5	67,2	165
32101809	9 x 18	0,16	11,9	86,4	210
32101812	12 x 18	0,16	12,5	115,2	232
32101816	16 x 18	0,16	14,6	153,6	316
32101818	18 x 18	0,16	15,3	172,8	350
32101819	19 x 18	0,16	16,0	182,4	376
32101825	25 x 18	0,16	18,1	240,0	460
32101603	3 x 16	0,16	8,3	43,2	105
32101604	4 x 16	0,16	9,0	57,6	129
32101605	5 x 16	0,16	9,8	72,0	150
32101607	7 x 16	0,16	11,5	100,8	211
32101608	8 x 16	0,16	12,3	115,2	243

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
32101609	9 x 16	0,16	13,1	129,6	270
32101612	12 x 16	0,16	14,5	172,8	324
32101616	16 x 16	0,16	16,0	230,4	410
32101618	18 x 16	0,16	16,8	259,2	453
32101619	19 x 16	0,16	17,6	273,6	490
32101625	25 x 16	0,16	19,9	360,0	604
32101403	3 x 14	0,16	9,9	72,0	153
32101404	4 x 14	0,16	10,7	96,0	184
32101405	5 x 14	0,16	11,7	120,0	230
32101407	7 x 14	0,16	14,5	168,0	334
32101409	9 x 14	0,16	16,5	216,0	431
32101412	12 x 14	0,16	17,4	288,0	479
32101418	18 x 14	0,16	20,3	432,0	690
32101425	25 x 14	0,16	25,3	600,0	966
32101007	7 x 10	0,21	18,7	369,6	583

Other dimensions and colours are possible on request.

New with WTTC approval

RoHS

TR 600 Auto red

Type TC, MTW and WTTC

UV and oil resistant, flexible Tray Cable and Machine-Tool Cable with red cores for cable tracks

High-flex NFPA 79 for industrial machinery

Marking for TR 600 Auto red 32111625:
SAB BRÖCKSKES · D-VIERSEN · TR 600 Auto red 16 AWG/25c 32111625 TFFN (UL) Type TC-ER 90°C 600V, Oil Resistant I, Sunlight Resistant, Direct Burial, FT4 (UL) WTTC 90°C 1000V (UL) MTW 16 AWG/25c 600V flexing AWM Style 21179 600V c(UL) Type CIC 90°C dry 600V FT1 FT2 FT4 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228 class 6
Insulation:	special formulated PVC/Nylon
Color code:	red cores with numbers; white ground wire and green-yellow earth wire from 3 cores
Stranding:	in layers
Sheath material:	special sunlight and oil resistant PVC
Sheath color:	black (RAL 9005)

Outstanding features:

- **Flexible cable for cable tray use**
- **Oil resistance**
- **Sunlight resistance**
- **NFPA 79 for industrial machinery**
- **New: Improved with WTTC approval**
- **WTTC: UL Subject 2277**
- **TC: UL Standard 1277**
- **(UL)/(cUL) listed**

Technical data:

Voltage:	**UL-AWM / (UL) / c(UL):** 600 V **(UL) WTTC:** 1000 V
Testing voltage:	4000 V
Min. bending radius *fixed laying:* *flexible application:* *continuously flexible:*	< 12 mm = 3 x d > 12 mm = 4 x d < 12 mm = 5 x d > 12 mm = 6 x d 10 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature : *fixed laying:*	**UL-AWM:** up to +105°C -25°C **(UL) / c(UL):** up to +90°C
Burning characteristics:	(UL) FT4 and c(UL) FT1, FT2, FT4
Oil resistance I:	yes
Sunlight resistance:	yes
Exposed Runs:	yes
Direct Burial:	yes
Machinery Area:	yes
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
32111803	3 x 18	0,16	7,7	28,8	84
32111804	4 x 18	0,16	8,3	38,4	100
32111805	5 x 18	0,16	9,0	48,0	125
32111807	7 x 18	0,16	10,5	67,2	165
32111809	9 x 18	0,16	11,9	86,4	210
32111812	12 x 18	0,16	12,5	115,2	232
32111816	16 x 18	0,16	14,6	153,6	316
32111818	18 x 18	0,16	15,3	172,8	350
32111819	19 x 18	0,16	16,0	182,4	376
32111825	25 x 18	0,16	18,1	240,0	460
32111603	3 x 16	0,16	8,3	43,2	105
32111604	4 x 16	0,16	9,0	57,6	129
32111605	5 x 16	0,16	9,8	72,0	150
32111607	7 x 16	0,16	11,5	100,8	211
32111608	8 x 16	0,16	12,3	115,2	243

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
32111609	9 x 16	0,16	13,1	129,6	270
32111612	12 x 16	0,16	14,5	172,8	324
32111616	16 x 16	0,16	16,0	230,4	410
32111618	18 x 16	0,16	16,8	259,2	453
32111619	19 x 16	0,16	17,6	273,6	490
32111625	25 x 16	0,16	19,9	360,0	604
32111403	3 x 14	0,16	9,9	72,0	153
32111404	4 x 14	0,16	10,7	96,0	184
32111405	5 x 14	0,16	11,7	120,0	230
32111407	7 x 14	0,16	14,5	168,0	334
32111409	9 x 14	0,16	16,5	216,0	431
32111412	12 x 14	0,16	17,4	288,0	479
32111418	18 x 14	0,16	20,3	432,0	690
32111425	25 x 14	0,16	25,3	600,0	966
32111007	7 x 10	0,21	18,7	369,6	583

Other dimensions and colours are possible on request.

New with WTTC approval

RoHS

TR 600 Auto CY black

Type TC, MTW and WTTC

UV and oil resistant, flexible Tray Cable and Machine-Tool Cable with overall copper screen for cable tracks

High-flex NFPA 79 for industrial machinery

c UL us CE

Marking for TR 600 Auto CY black 32261612:
SAB BRÖCKSKES · D-VIERSEN · TR 600 Auto CY black 16 AWG/12c 32261612 TFFN (UL) Type TC-ER 90°C 600V, Oil Resistant I, Sunlight Resistant, Direct Burial, FT4 (UL) WTTC 90°C 1000V (UL) MTW 16 AWG/12c 600V flexing AWM Style 21179 600V c(UL) Type CIC SHIELDED 90°C dry 600V FT1 FT2 FT4 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228 class 6
Insulation:	special formulated PVC/Nylon
Color code:	black cores with consecutive white numbers; green-yellow earth wire from 3 cores. Also available with blue, red or other color cores
Stranding:	in layers
Wrapping:	fine cotton binding
Inner sheath:	special formulated PVC
Screen:	tinned copper braiding
Sheath material:	special sunlight and oil resistant PVC
Sheath color:	black (RAL 9005)

Outstanding features:

- **Flexible cable for cable tray use**
- **Oil resistance**
- **Sunlight resistance**
- **NFPA 79 for industrial machinery**
- **New: Improved with WTTC approval**
- **WTTC: UL Subject 2277**
- **TC: UL Standard 1277**
- **(UL)/(cUL) listed**

Technical data:

Voltage:	**UL-AWM / (UL) / c(UL):** 600 V **(UL) WTTC:** 1000 V	
Testing voltage:	4000 V	
Min. bending radius *fixed laying:* *flexible application:* *continuously flexible:*	 5 x d 10 x d 12 x d	
Radiation resistance:	8 x 10^7 cJ/kg	
Temperature : *fixed laying:*	**UL-AWM:** up to +105°C -25°C	**(UL) / c(UL):** up to +90°C
Burning characteristics:	(UL) FT4 and c(UL) FT1, FT2, FT4	
Oil resistance I:	yes	
Sunlight resistance:	yes	
Exposed Runs:	yes	
Direct Burial:	yes	
Machinery Area:	yes	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
32261803	3 x 18	0,16	9,2	52,6	116
32261804	4 x 18	0,16	9,8	64,7	135
32261805	5 x 18	0,16	10,5	77,2	159
32261807	7 x 18	0,16	12,2	121,5	224
32261809	9 x 18	0,16	14,3	146,3	296
32261812	12 x 18	0,16	15,1	201,1	338
32261816	16 x 18	0,16	17,3	263,5	451
32261818	18 x 18	0,16	18,0	283,6	492
32261819	19 x 18	0,16	18,7	294,1	515
32261825	25 x 18	0,16	20,8	366,2	616
32261603	3 x 16	0,16	9,8	69,5	139
32261604	4 x 16	0,16	10,5	86,8	164
32261605	5 x 16	0,16	11,5	119,9	202
32261607	7 x 16	0,16	13,9	160,5	294
32261608	8 x 16	0,16	14,9	200,9	347
32261609	9 x 16	0,16	15,7	226,8	359
32261612	12 x 16	0,16	17,2	282,6	456
32261616	16 x 16	0,16	18,7	342,1	548
32261618	18 x 16	0,16	19,5	383,3	602
32261619	19 x 16	0,16	20,3	399,0	643
32261625	25 x 16	0,16	23,7	501,1	829
32261403	3 x 14	0,16	11,2	119,7	197
32261404	4 x 14	0,16	12,1	150,2	237
32261405	5 x 14	0,16	13,2	179,7	286
32261407	7 x 14	0,16	16,9	266,5	448
32261409	9 x 14	0,16	18,8	327,9	515
32261412	12 x 14	0,16	19,7	412,5	619
32261418	18 x 14	0,16	23,6	572,9	901
32261425	25 x 14	0,16	28,1	775,3	1202
32261207	7 x 12	0,16	18,6	380,1	567

Other dimensions and colours are possible on request.

Ford approved

New with WTTC approval

TR 600 HD Type WTTC Heavy Duty Tray Cable

RoHS in process

Marking for TR 600 HD 32301604:
SAB BRÖCKSKES · D-VIERSEN · TR 600 HD TFFN
(UL) Type TC-ER 90°C 600V, Oil I/II -40°C FT4 (UL) WTTC 90°C 1000V AWM Style 21237 105°C 600V c(UL) CSA Type CIC 90°C dry 600V FT1 FT2 FT4 CE

Construction:

Conductor:	tinned copper strands acc. to DIN VDE 0295 class 5 + IEC 60228 class 5 + HD 383 class 5 from 18 AWG - 14 AWG, from 10 AWG - 2 AWG class k in acc. to ASTM B 172
Insulation:	special formulated PVC/Nylon
Color code:	black cores with consecutive white numbers and green-yellow earth wire
Stranding:	in layers
Sheath material:	TPE 356
Sheath color:	orange (RAL 2003)

Outstanding features:

- **Heavy Duty Tray Cable and Control and Instrumentation Cable**
- **UL-AWM recognition for 105 °C**
- **Extreme oil resistant**
- **New: Improved with WTTC approval**
- **WTTC: UL Subject 2277**
- **TC: UL Standard 1277**
- **(UL)/(cUL) listed**

Technical data:

Voltage:	**UL-AWM / (UL) / c(UL):** 600 V **(UL) WTTC:** 1000 V
Testing voltage U:	4000 V
Min. bending radius:	7,5 x d
Temperature :	**UL-AWM:** up to +105°C **(UL) / c(UL):** -40/+90°C
Burning characteristics:	(UL) FT4 and c(UL) FT1, FT2, FT4
Oil resistance I & II:	yes
Exposed Runs:	yes

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
32301804	4 x 18	0,21	8,4	38,4	95
32301604	4 x 16	0,26	9,1	57,6	119
32301404	4 x 14	0,26	10,0	96,0	162
32301204	4 x 12	0,26	11,2	138,2	214
32301004	4 x 10	0,26	14,3	211,2	341
32300804	4 x 8	0,26	18,4	337,9	525
32300604	4 x 6	0,26	22,9	541,4	811
32300404	4 x 4	0,26	27,4	844,8	1205
32300204	4 x 2	0,26	31,7	1305,6	1725

Other dimensions and colours are possible on request.

Ford approved

New with WTTC approval

TR 600 C HD Type WTTC Heavy Duty Tray Cable with overall copper screen

RoHS in process

Marking for TR 600 C HD 32401604:
SAB BRÖCKSKES · D-VIERSEN · TR 600 C HD TFFN (UL) Type TC-ER 90°C 600V, Oil I/II -40°C FT4
(UL) WTTC 90°C 1000V AWM Style 21237 105°C 600V c(UL) CSA Type CIC SHIELDED 90°C dry 600V FT1 FT2 FT4 CE

Construction:

Conductor:	tinned copper strands acc. to DIN VDE 0295 class 5 + IEC 60228 class 5 + HD 383 class 5 from 18 AWG - 14 AWG, from 10 AWG - 2 AWG class k in acc. to ASTM B 172
Insulation:	special formulated PVC/Nylon
Color code:	black cores with consecutive white numbers and green-yellow earth wire
Stranding:	in layers
Inner sheath:	PVC, color black
Screen:	tinned copper braiding
Sheath material:	TPE 356
Sheath color:	orange (RAL 2003)

Technical data:

Voltage:	**UL-AWM / (UL) / c(UL):** 600 V **(UL) WTTC:** 1000 V	
Testing voltage U:	4000 V	
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d	
Temperature:	**UL-AWM:** up to +105°C	**(UL) / c(UL):** -40/+90°C
Burning characteristics:	(UL) FT4 and c(UL) FT1, FT2, FT4	
Oil resistance I & II:	yes	
Exposed Runs:	yes	

Outstanding features:

- **Heavy Duty Tray Cable and Control and Instrumentation Cable**
- **UL-AWM recognition for 105 °C**
- **Extreme oil resistant**
- **New: Improved with WTTC approval**
- **WTTC: UL Subject 2277**
- **TC: UL Standard 1277**
- **(UL)/(cUL) listed**

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
32401804	4 x 18	0,21	9,8	64,7	131
32401604	4 x 16	0,26	10,5	86,8	159
32401404	4 x 14	0,26	11,6	149,9	221
32401204	4 x 12	0,26	12,8	197,7	281
32401004	4 x 10	0,26	16,9	309,7	461
32400804	4 x 8	0,26	22,1	476,0	740
32400604	4 x 6	0,26	26,2	711,9	1057
32400404	4 x 4	0,26	30,7	1044,0	1495
32400204	4 x 2	0,26	35,0	1533,3	2056

Other dimensions and colours are possible on request.

RoHS

Servo VFD Type MTW and WTTC

Variable Frequency Drive -
Tray Cable and Machine-Tool Cable

NFPA 79 for industrial machinery

Marking for Servo VFD 08520404:
SAB BRÖCKSKES · D-VIERSEN · Servo VFD 4 AWG/4c 08520404 THHN (UL) Type TC-ER 90°C 600V, Oil I, Sunlight Resistant, Direct Burial, FT4 (UL) WTTC 90°C 1000V (UL) MTW 4 AWG/4c 600V AWM Style 21179 1000V c(UL) Type CIC 4 AWG/4c 90°C dry 600V FT1, FT2, FT4 CSA AWM I/II A/B 90°C 1000V FT1 FT2 CE

Construction:

Conductor:	tinned copper strands acc. to DIN VDE 0295 class 5 + IEC 60228 class 5 + HD 383 class 5 from 18 AWG - 14 AWG, from 10 AWG - 2 AWG class k in acc. to ASTM B 172
Insulation:	special formulated PVC/Nylon
Color code:	black cores with consecutive white numbers and green-yellow earth wire
Stranding:	in layers
Sheath material:	special sunlight and oil resistant PVC
Sheath color:	black (RAL 9005)

Outstanding features:

- **Interconnection of variable frequency drive control device to variable frequency motors**
- **NFPA 79 for industrial machinery**
- **New: Improved with WTTC approval**
- **WTTC: UL Subject 2277**
- **TC: UL Standard 1277**
- **(UL)/(cUL) listed**

Technical data:

Voltage:	**(UL) / c(UL):** 600 V **UL-AWM/CSA-AWM:** 1000 V **(UL) WTTC:** 1000 V
Testing voltage U:	7500 V
Min. bending radius:	12 x d
Temperature : *fixed laying:*	**UL-AWM:** up to +105°C; **(UL) / c(UL) / CSA-AWM:** up to +90°C -25°C
Burning characteristics:	(UL) / c(UL) FT4, c(UL) / CSA-AWM FT1, FT2
Oil resistance I:	yes
Sunlight resistance:	yes
Exposed Runs:	yes
Direct Burial:	yes
Machinery Area:	yes
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
08521804	4 x 18	0,21	8,4	38,4	100
08521604	4 x 16	0,26	9,1	57,6	124
08521404	4 x 14	0,26	10,0	96,0	168
08521204	4 x 12	0,26	11,2	138,2	219
08521004	4 x 10	0,26	13,8	211,2	332
08520804	4 x 8	0,26	18,4	337,9	536
08520604	4 x 6	0,26	22,9	541,4	831
08520404	4 x 4	0,26	27,4	844,8	1228
08520204	4 x 2	0,26	31,7	1305,6	1751

Other dimensions and colours are possible on request.

New with WTTC approval

Servo VFD Combo DS Type TC and WTTC

Variable Frequency Drive - Tray Cable and Machine-Tool Cable with overall copper screen

NFPA 79 for industrial machinery

Marking for Servo VFD Combo DS 08530444: SAB BRÖCKSKES · D-VIERSEN · Servo VFD Combo DS 4 AWG/4c + 16 AWG/2pr 08530444 THHN + TFFN (UL) Type TC-ER 90°C 600V, Oil I, Sunlight Resistant, Direct Burial, FT4 (UL) WTTC 90°C 1000V (UL) MTW 600V flexing AWM Style 21179 1000V c(UL) Type CIC SHIELDED 4 AWG/4c + 16 AWG/2pr 90°C dry 600V FT1, FT2, FT4 CSA AWM I/II A/B 90°C 1000V FT1 FT2 CE

Construction:

Conductor:	tinned copper strands acc. to DIN VDE 0295 class 5 + IEC 60228 class 5 + HD 383 class 5 from 18 AWG - 14 AWG, from 10 AWG - 2 AWG class k in acc. to ASTM B 172
Insulation:	special formulated PVC/Nylon
Color code:	black cores with consecutive white numbers and green-yellow earth wire
Stranding:	signal cores in pairs
Screen:	pairwise with alu foil, tinned copper drain wire AWG 26 and braided with tinned copper wires
Wrapping:	pairwise with PETP foil
Stranding:	screened signal pair(s) and power cores in layers
Wrapping:	non-woven tape
Screen:	double shield, alu foil and tinned copper braiding
Sheath material:	special sunlight and oil resistant PVC
Sheath color:	black (RAL 9005)

Outstanding features:

- **Interconnection of variable frequency drive control device to variable frequency motors**
- **NFPA 79 for industrial machinery**
- **New: Improved with WTTC approval**
- **WTTC: UL Subject 2277**
- **TC: UL Standard 1277**
- **(UL)/(cUL) listed**

Technical data:

Voltage:	**(UL) / c(UL):** 600 V **UL-AWM/CSA-AWM:** 1000 V **(UL) WTTC:** 1000 V	
Testing voltage U:	core/core 7500 V core/screen 3000 V	
Min. bending radius:	12 x d	
Temperature : *fixed laying:*	**UL-AWM:** up to +105°C -25°C	**(UL) / c(UL) / CSA-AWM:** up to +90°C
Burning characteristics:	(UL) / c(UL) FT4, c(UL) / CSA-AWM FT1, FT2	
Oil resistance I:	yes	
Sunlight resistance:	yes	
Exposed Runs:	yes	
Direct Burial:	yes	
Machinery Area:	yes	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

item no.	dimensions AWG AWG	largest single wire ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
08531614	4 x 16 + 1 x 2 x 18	0,26/0,21	11,9	152,0	209
08531604	4 x 16 + 1 x 2 x 14	0,26/0,26	13,1	192,8	259
08531464	4 x 14 + 2 x 2 x 18	0,26/0,21	17,6	287,0	390
08531414	4 x 14 + 1 x 2 x 18	0,26/0,21	12,8	195,8	253
08531404	4 x 14 + 1 x 2 x 14	0,26/0,26	14,1	231,4	308
08531264	4 x 12 + 2 x 2 x 18	0,26/0,21	18,4	330,3	447
08531214	4 x 12 + 1 x 2 x 18	0,26/0,21	14,3	238,5	333
08531204	4 x 12 + 1 x 2 x 14	0,26/0,26	15,5	310,8	401
08531064	4 x 10 + 2 x 2 x 18	0,26/0,21	19,2	415,6	552
08531004	4 x 10 + 1 x 2 x 14	0,26/0,26	17,5	396,9	512
08530864	4 x 8 + 2 x 2 x 18	0,26/0,21	23,8	559,9	805
08530804	4 x 8 + 1 x 2 x 14	0,26/0,26	22,3	551,9	774
08530644	4 x 6 + 2 x 2 x 16	0,26/0,26	26,5	816,2	1090
08530604	4 x 6 + 1 x 2 x 14	0,26/0,26	26,0	787,0	1049
08530444	4 x 4 + 2 x 2 x 16	0,26/0,26	30,9	1148,2	1510
08530404	4 x 4 + 1 x 2 x 14	0,26/0,26	29,4	1114,7	1461

Other dimensions and colours are possible on request.

RoHS

VFD Lean TR Type MTW and WTTC

Variable Frequency Drive - Tray Cable and Machine-Tool Cable with overall copper screen

NFPA 79 for industrial machinery

Marking for VFD Lean TR 08610404: SAB BRÖCKSKES · D-VIERSEN ·
VFD Lean TR 4 AWG/4c 08610404 THHN (UL) Type TC-ER 90°C 600V, Oil I, Sunlight Resistant, Direct Burial, FT4 (UL) WTTC 90°C 1000V (UL) MTW 4 AWG/4c 600V AWM Style 21179 1000V c(UL) Type CIC SHIELDED 4 AWG/4c 90°C dry 600V FT1, FT2, FT4 CSA AWM I/II A/B 90°C 1000V FT1 FT2 CE

Construction:

Conductor:	tinned copper strands acc. to DIN VDE 0295 class 5 + IEC 60228 class 5 + HD 383 class 5 from 18 AWG - 14 AWG, from 10 AWG - 2 AWG class k in acc. to ASTM B 172
Insulation:	special formulated PVC/Nylon
Color code:	black cores with consecutive white numbers and green-yellow earth wire
Stranding:	in layers
Wrapping:	non-woven tape
Screen:	double shield, alu foil and tinned copper braiding
Sheath material:	special sunlight and oil resistant PVC
Sheath color:	black (RAL 9005)

Outstanding features:

- **Interconnection of variable frequency drive control device to variable frequency motors**
- **NFPA 79 for industrial machinery**
- **New: Improved with WTTC approval**
- **WTTC: UL Subject 2277**
- **TC: UL Standard 1277**
- **(UL)/(cUL) listed**

Technical data:

Voltage:	**(UL) / c(UL):** 600 V **UL-AWM/CSA-AWM:** 1000 V **(UL) WTTC:** 1000 V
Testing voltage U:	core/core 7500 V core/screen 3000 V
Min. bending radius:	12 x d
Temperature : *fixed laying:*	**UL-AWM:** up to +105°C -25°C **(UL) / c(UL) / CSA-AWM:** up to +90°C
Burning characteristics:	(UL) / c(UL) FT4, c(UL) / CSA-AWM FT1, FT2
Oil resistance I:	yes
Sunlight resistance:	yes
Exposed Runs:	yes
Direct Burial:	yes
Machinery Area:	yes
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
08611804	4 x 18	0,21	9,0	62,2	111
08611604	4 x 16	0,26	9,7	83,9	135
08611404	4 x 14	0,26	10,6	125,2	178
08611204	4 x 12	0,26	12,0	192,4	264
08611004	4 x 10	0,26	15,3	297,2	413
08610804	4 x 8	0,26	19,4	461,9	640
08610604	4 x 6	0,26	23,9	682,9	942
08610404	4 x 4	0,26	28,4	1020,9	1363
08610204	4 x 2	0,26	32,7	1512,5	1909

Other dimensions and colours are possible on request.

New with WTTC approval

RoHS

VFD Dual TR Type MTW and WTTC

Variable Frequency Drive - double screened
Tray Cable and Machine-Tool Cable

NFPA 79 for industrial machinery

Marking for VFD Dual TR 08620404: SAB BRÖCKSKES · D-VIERSEN · VFD Dual TR 4 AWG/4c 08620404 THHN (UL) Type TC-ER 90°C 600V, Oil I, Sunlight Resistant, Direct Burial, FT4 (UL) WTTC 90°C 1000V (UL) MTW 4 AWG/4c 600V AWM Style 21179 1000V c(UL) Type CIC SHIELDED 4 AWG/4c 90°C dry 600V FT1, FT2, FT4 CSA AWM I/II A/B 90°C 1000V FT1 FT2 CE

Construction:

Conductor:	tinned copper strands acc. to DIN VDE 0295 class 5 + IEC 60228 class 5 + HD 383 class 5 from 18 AWG - 14 AWG, from 10 AWG - 2 AWG class k in acc. to ASTM B 172
Insulation:	special formulated PVC/Nylon
Color code:	black cores with consecutive white numbers and green-yellow earth wire
Stranding:	in layers
Inner sheath:	special formulated PVC
Screen:	double shield, alu foil and tinned copper braiding
Sheath material:	special sunlight and oil resistant PVC
Sheath color:	black (RAL 9005)

Outstanding features:

- **Interconnection of variable frequency drive control device to variable frequency motors**
- **NFPA 79 for industrial machinery**
- **New: Improved with WTTC approval**
- **WTTC: UL Subject 2277**
- **TC: UL Standard 1277**
- **(UL)/(cUL) listed**

Technical data:

Voltage:	**(UL) / c(UL):** 600 V **UL-AWM/CSA-AWM:** 1000 V **(UL) WTTC:** 1000 V
Testing voltage U:	core/core 7500 V core/screen 3000 V
Min. bending radius:	12 x d
Temperature : *fixed laying:*	**UL-AWM:** up to +105°C -25°C **(UL) / c(UL) / CSA-AWM:** up to +90°C
Burning characteristics:	(UL) / c(UL) FT4, c(UL) / CSA-AWM FT1, FT2
Oil resistance I:	yes
Sunlight resistance:	yes
Exposed Runs:	yes
Direct Burial:	yes
Machinery Area:	yes
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
08621804	4 x 18	0,21	9,9	64,7	141
08621604	4 x 16	0,26	10,6	86,8	169
08621404	4 x 14	0,26	11,7	150,0	230
08621204	4 x 12	0,26	12,9	197,7	291
08621004	4 x 10	0,26	17,2	321,0	491
08620804	4 x 8	0,26	22,2	476,2	772
08620604	4 x 6	0,26	26,3	712,2	1087
08620404	4 x 4	0,26	30,8	1044,4	1528
08620204	4 x 2	0,26	35,1	1533,7	2095

Other dimensions and colours are possible on request.

RoHS

TR 249 Type TC and STOOW

UV and oil resistant, flexible
Tray Cable - flexible Cord

NFPA 79 for industrial machinery

Marking for TR 249 08491637:
SAB BRÖCKSKES · D-VIERSEN · TR 249 16 AWG/37c 08491637 TFFN (UL) Type TC-ER 90°C 600V, Oil Resistant I,
Sunlight Resistant, Direct Burial, FT4 (UL) STOOW 90°C 600V Oil Resistant I AWM Style 21179 600V c(UL) Type CIC 90°C dry 600V FT1 FT2 FT4 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228 class 5 and UL standard 758 table 5.1 + UL 1581 table 20.1
Insulation:	special formulated PVC
Aderkenn-zeichnung:	colour code US 2 see page N/11
Stranding:	in layers
Sheath material:	special sunlight and oil resistant PVC
Sheath color:	black (RAL 9005)

Outstanding features:

- **Flexible cable for cable tray use**
- **NFPA 79 for industrial machinery**
- **(UL)/(cUL) listed**

Technical Data:

Voltage:	**(UL) / c(UL):** 600 V	
Testing voltage U:	3000 V	
Min. bending radius *fixed laying:*	< 12 mm = 3 x d > 12 mm = 4 x d	
flexible application:	< 12 mm = 5 x d > 12 mm = 6 x d	
Temperature :	**UL-AWM:** up to +105°C	**(UL) / c(UL):** up to +90°C
Burning characteristics:	(UL) FT4 and c(UL) FT1, FT2, FT4	
Oil resistance I:	yes	
Sunlight resistance:	yes	
Exposed Runs:	yes	
Direct Burial:	yes	
Machinery Area:	yes	
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14	

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
08491806	6 x 18	0,21	13,0	57,6	230
08491807	7 x 18	0,21	13,0	67,2	260
08491808	8 x 18	0,21	14,6	76,8	300
08491603	3 x 16	0,26	10,0	43,2	145
08491203	3 x 12	0,26	15,8	115,2	339
08491204	4 x 12	0,26	17,0	153,6	405

Other dimensions and colours are possible on request.

SAB BRÖCKSKES

D 331 PLTC Type PLTC UV resistant Power Limited Circuit Cable

Marking for D 331 PLTC 33311224:
SAB BRÖCKSKES · D-VIERSEN · D 331 PLTC 12 AWG/24c (UL) Type PLTC 90°C 300V CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228 class 5 and UL standard 758 table 5.1 + UL 1581 table 20.1
Insulation:	special formulated PVC
Color code:	black cores with consecutive white numbers and a white ground wire
Stranding:	in layers
Sheath material:	special sunlight resistant PVC
Sheath color:	black (RAL 9005)

Outstanding features:

- **Flexible cable for cable tray use**
- **(UL) listed**

Technical data:

Voltage:	300 V
Testing voltage U:	1500 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 7,5 x d
Temperature (UL):	up to +90°C
Burning characteristics:	(UL) FT4
Sunlight resistance:	yes
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
33312002	2 x 20	0,21	5,2	9,6	35
33312003	3 x 20	0,21	5,4	14,4	45
33312004	4 x 20	0,21	5,8	19,2	53
33312005	5 x 20	0,21	6,3	24,0	61
33312006	6 x 20	0,21	6,9	28,8	75
33312012	12 x 20	0,21	8,8	57,6	119
33312018	18 x 20	0,21	10,8	86,4	178

Other dimensions and colours are possible on request.

SABIX® D 331 PLTC Type PLTC

halogen-free, UV resistant
Power Limited Circuit Cable

Marking for SABIX® D 331 PLTC 83311224:
SAB BRÖCKSKES · D-VIERSEN · SABIX® D 331 PLTC 12 AWG/24c (UL) Type PLTC 75°C 300V CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228 class 5 and UL standard 758 table 5.1 + UL 1581 table 20.1
Insulation:	SABIX® 231
Color code:	black cores with consecutive white numbers and a white ground wire
Stranding:	in layers
Sheath material:	SABIX® 235
Sheath color:	black (RAL 9005)

Outstanding features:

- **Flexible cable for cable tray use**
- **(UL) listed**

Technical data:

Voltage:	300 V
Testing voltage U:	1500 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 7,5 x d
Temperature (UL):	up to +75°C
Halogen-free :	acc. to DIN VDE 0472 Teil 815 + IEC 60754-1
Burning characteristics:	(UL) FT4
Sunlight resistance:	yes
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
83312002	2 x 20	0,21	5,2	9,6	43
83312003	3 x 20	0,21	5,4	14,4	50
83312004	4 x 20	0,21	5,8	19,2	59
83312005	5 x 20	0,21	6,3	24,0	70
83312006	6 x 20	0,21	6,9	28,8	81
83312012	12 x 20	0,21	8,8	57,6	135
83312018	18 x 20	0,21	10,8	86,4	202

Other dimensions and colours are possible on request.

K

Besilen® (Silicone) Cables

SAB BRÖCKSKES

Content

Applications

Applications Besilen® cables

Our Besilen® (Silicone) cables are suitable for diverse applications. The product programme ranges from ignition cables to sheathed cables with mechanical protection and cables with flame protection. Therefore, Besilen® cables can be used for example in the following industries: coke oven plants, foundries, heating appliances, smelteries, steelworks, hot-rolling mills, illumination, in ships and aeroplanes, cement, glass and ceramic factories, bakeries, oil burners, solariums, saunas, coolers, air-conditioning, electronic motor engineering and under certain conditions in food and medical industries. Wherever they are used, Besilen® cables have one thing in common: outstanding heat and cold resistance.

Exemplary applications:

BiS	Especially for the insulation of connecting and soldering points, can be drawn over cables or conductors in lamps, heating appliances and electrical plants
BiAF/YW	Connection cable for low-voltage lamps, connection between transformer and halogen lamp

Application of Besilen® single conductors

Our Besilen® ignition cables and Besilen® high-voltage ignition cables are suitable for the application at high or very unsteady ambient temperatures of up to +180°C. Besilen® insulated wires and Besilen® insulated strands are suitable for the use at high ambient temperatures especially for the internal wiring of lamps and appliances as well as for the wiring of switchboard plants and distributors, at low mechanical loads.

Exemplary applications:

BiZ	Application in smelteries, steelworks and hot-rolling mills, in cement, glass and ceramic factories or for the internal wiring of lamps and heating appliances
ZKBi	Ignition cable for the use at high and very unsteady ambient temperatures, e.g. in thermal and process technologies, in motor engineering, in heat system technology, in dedusting plant and fan engineering
HZLBi	Ignition cable for the use at high and very unsteady ambient temperatures in lamp and illumination industries, e.g. for floodlight projectors or industrial lamps, in electric heating engineering, in thermal and process technologies, in refrigeration and air-conditioning industries
BiL	Single conductor for tubes lamps, especially for the use at high and very unsteady ambient temperatures, mostly in lamp and illumination industries, e.g. for floodlight projectors or industrial lamps, drop lights, equipment lights (protected installation is necessary)
BiA	For internal wiring in lamps, appliances, switchboard plants and distributors in industries such as industrial oven construction, smelteries, steelworks and hot-rolling mills, cement, glass, ceramic and plastic processing and electric industries
BiAF **N2GFA/2GFA**	Flexible applications for internal wiring of lamps, heating appliances, switchboard plants and distributors in industries such as smelteries, steelworks and hot-rolling mills, industrial oven and textile machine construction, lamp, illumination and electric industries, wood working and paper processing industries
BiAFF **N2GFAF/2GFAF**	Highly flexible applications for internal wiring of lamps, heating appliances, switchboard plants and distributors in industries such as e.g. smelteries, steelworks and hot-rolling mills, industrial oven and machine tool construction, lamp, illumination and electric industries as well as electric drive technology
B 118 **B 119** **B 120**	Switchboard plants and distributors, smelteries, steelworks and hot-rolling mills, cement, glass and ceramic processing, industrial oven and textile machine construction, lamp, illumination and electric industries, railway technology

Applications

Application of Besilen® single conductors with fibre-glass braiding

This Besilen® cables with fibre-glass braiding are for use at high ambient temperatures for internal wiring e.g. of lamps, heating appliances and electric machines as well as for wiring of switchboard plants and distributors. The fibre-glass braiding offers protection against mechanical damage and at the same time offers excellent heat resistance.

Exemplary applications:

BiAF/GL **A05SJ-U** **H05SJ-K**	Application at ambient temperatures higher than +55°C, for internal wiring of e.g. lamps and illuminations, heating appliances, household, kitchen and laboratory appliances, electric machines, switchboard plants and distributors, medical appliances

Application of Besilen® sheathed cables

Our Besilen® sheathed cables are suitable for applications at high ambient temperatures in dry, damp and wet rooms as well as for outdoor use; as flexible connection cable with low mechanical load. The mechanical load capacity can be enhanced by using a steel wire armouring, a fibre-glass braiding or an inner sheath. The EMC characteristics can be improved by use of an overall copper screen. If these cables are used for fixed installation, they are only to be installed in ventilated tube systems or conduits.

Exemplary applications:

BiHF-J **BiHF(K)-J** **SC 500 HDTR** **SC 600 HDTR**	Application in plastics processing, packaging machine construction, smelteries, steelworks and hot-rolling mills, safety technology, measuring and control technologies, cement, glass and ceramic industries, refrigeration, heat and air-conditioning technologies, power plants, sauna construction
BiHFP-J **BiHFGLP-J** **SC 500 HDTRS** **SC 600 HDTRS**	Application in plastics processing, packaging and textile machine engineering, smelteries, steelworks and hot-rolling mills, cement, glass and ceramic industries sauna construction, refrigeration, heat and air-conditioning technologies, paper industry, foundries
BiAF/CU/Bi-J	Application in packaging and textile machine construction, refrigeration, heat and air-conditioning, plastics processing, smelteries, steelworks and hot-rolling mills, cement, glass and ceramic industries, control engineering
BiHF/CU/Bi-J **BiHF/Cu/Bi(K)-J** **SC 500 C HDTR** **SC 600 C HDTR**	Application in packaging and textile machine construction, refrigeration, heat and air-conditioning, plastics processing, smelteries, steelworks and hot-rolling mills, cement, glass and ceramic industries, plastic processing machine construction

Note:

If hermetically sealed and used at temperatures higher than 90°C
the mechanical characteristics of Silicone rubber will be reduced.

You will find further information about the safe application of cables on pages N/28-38.

Selection table

	Cable type	BiZ	ZKBi	HZLBi	BiL	BiA	BiAF	BiAFF	BiAF/GL	B 118	B 119	B120	BiHF-J / BiHF(K)-J	BiHFP-J	BiHFGLP-J
Application	Twin cable	x													
	Ignition cable			x	x										
	Single conductor for tube lamps				x										
	Single conductor					x	x	x	x	x	x	x			
	Solid wire acc. to DIN VDE and IEC					x									
	Highly flexible strands							x							
	Screen or steel wire braiding														x
	Coloured cores									x	x	x			
Temperature range fixed laying*	+ 250 °C														
	+ 180 °C														
	+ 105 °C														
	+ 90 °C														
	– 40 °C														
Voltage	Low voltage/Nominal voltage 24 V Testing voltage 500 V														
	Nominal voltage Uo/U 300/300 V Testing voltage 1500 V	x													
	Nominal voltage Uo/U 300/300 V Testing voltage 2000 V					x	x	x							
	Nennspannung Uo/U 300/500 V Prüfspannung 2000 V								x				x	x	x
	Nominal voltage Uo/U 0,6/1 kV Testing voltage 2500 V									x					
	Nominal voltage Uo/U 1,8/3 kV Testing voltage 6000 V										x				
	Nominal voltage Uo/U 3,6/6 kV Testing voltage 11000 V											x			
	Nominal voltage Uo/U 3,5 kV/4,0 kV/7,5 kV Testing voltage 10000 V				x										
	Testing voltage 15 kV/20 kV		x	x											
	Testing voltage core/screen 1000 V														
	UL + CSA or cUL = 600 V														
Standards and approvals	Fire performance: flame retardant and self-extinguishing acc. to IEC 60332-1-2 and EN 60332-1-2	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Halogen-free acc. to DIN VDE 0472 part 815 and IEC 60754-1	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Corrosiveness of conflagration gases: IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2 - no development of corrosive conflagration gases	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	acc. to DIN VDE														
	VDE-Reg. no.														
	<HAR> standardized														
	UL + cUL recognized, CSA approved														
Special features	Min. bending radius x d	5	7,5	7,5	7,5	7,5	7,5	5	7,5	7,5	7,5	7,5	6	10	10
	Weather resistance	x	x	x	x	x	x	x		x	x	x	x	x	x
	Flexibility	f	f	f	f		f	h	f	f	f	f	f	f	f
	Protection against mechanical damage													x	x

from
to

short-time use

f = flexible · h = highly flexible

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

Selection table

	Cable type	BiAF/Cu/Bi-J	BiHF/Cu/Bi-J / BiHF/Cu/Bi(K)-J	SC 500 HDTR	SC 500 C HDTR	SC 500 HDTRS	SC 600 HDTR	SC 600 C HDTR	SC 600 HDTRS	N2GFA/2GFA	N2GFAF/2GFAF	A05SJ-U	H05SJ-K	BiAF/YW
Application	Twin cable													
	Ignition cable													
	Single conductor for tube lamps													
	Single conductor									x	x	x	x	
	Solid wire acc. to DIN VDE and IEC									x		x		
	Highly flexible strands													
	Screen or steel wire braiding	x	x		x	x		x	x					
	Coloured cores													
Temperature range fixed laying*	+ 250 °C													at conductor
	+ 180 °C													
	+ 105 °C													
	+ 90 °C													
	– 40 °C													
Voltage	Low voltage/Nominal voltage 24 V Testing voltage 500 V													x
	Nominal voltage Uo/U 300/300 V Testing voltage 1500 V													
	Nominal voltage Uo/U 300/300 V Testing voltage 2000 V									x	x			
	Nennspannung Uo/U 300/500 V Prüfspannung 2000 V	x	x	x	x	x	x	x	x			x	x	
	Nominal voltage Uo/U 0,6/1 kV Testing voltage 2500 V													
	Nominal voltage Uo/U 1,8/3 kV Testing voltage 6000 V													
	Nominal voltage Uo/U 3,6/6 kV Testing voltage 11000 V													
	Nominal voltage Uo/U 3,5 kV/4,0 kV/7,5 kV Testing voltage 10000 V													
	Testing voltage 15 kV/20 kV													
	Testing voltage core/screen 1000 V	x												
	UL + CSA or cUL = 600 V			x	x	x	x	x	x					
Standards and approvals	Fire performance: flame retardant and self-extinguishing acc. to IEC 60332-1-2 and EN 60332-1-2	x	x	x	x	x	x	x	x	x	x	x	x	x
	Halogen-free acc. to DIN VDE 0472 part 815 and IEC 60754-1	x	x	x	x	x	x	x	x	x	x	x	x	
	Corrosiveness of conflagration gases: IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2 - no development of corrosive conflagration gases	x	x	x	x	x	x	x	x	x	x	x	x	
	acc. to DIN VDE									x	x	x	x	
	VDE-Reg. no.													
	<HAR> standardized												x	
	UL + cUL recognized, CSA approved			x	x	x	x	x	x					
Special features	Min. bending radius x d	12	10	6	10	10	6	10	10	7,5	7,5	7,5	7,5	7,5
	Weather resistance	x	x	x	x	x	x	x	x	x	x			
	Flexibility	f	f	f	f	f	f	f	f		f		f	f
	Protection against mechanical damage				x	x		x	x					

from

to

short-time use

f = flexible · h = highly flexible

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

BiS Besilen® insulating sleeve, non-fibrous

RoHS

Outstanding features:

- halogen-free
- flexible at low temperatures
- heat resistant

Technical data:

Dielectric voltage:	20 kV/mm
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:* *short-time use:*	 -40/+180 °C -25/+180 °C +250 °C
Halogen-free:	acc. to DIN VDE 0472 part 815 and IEC 60754-1
Corrosiveness of conflagration gases:	IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2 – no development of corrosive conflagration gases
Chem. resistance:	see page N/9
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	inside diameter x wall thickness mm	outer ø mm	weight approx. ≈ kg/km
01001004	1,0 x 0,40	1,8	2,2
01001504	1,5 x 0,40	2,3	3,0
01001506	1,5 x 0,60	2,7	5,7
01002004	2,0 x 0,40	2,8	3,8
01002504	2,5 x 0,40	3,3	4,7
01003004	3,0 x 0,40	3,8	5,5
01004005	4,0 x 0,50	5,0	8,9
01004007	4,0 x 0,75	5,5	14,2
01006009	6,0 x 0,90	7,8	23,5
01007009	7,0 x 0,90	8,8	27,0
01008010	8,0 x 1,00	10,0	34,0
01005210	10,0 x 1,00	12,0	44,0

BiZ Besilen® twin cable

RoHS

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	Besilen® EI2 acc. to DIN VDE 0282 part 1 and HD 22.1
Sheath colour:	reddish brown (similar RAL 3016)

Outstanding features:

- **halogen-free**
- **flexible at low temperatures**
- **heat resistant**

Technical data:

Nominal voltage:	Uo/U 300/300 V
Testing voltage U:	1500 V
Min. bending radius:	5 x d
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:* *short-time use:*	 -40/+180 °C -25/+180 °C +250 °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
Corrosiveness of conflagration gases:	IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2 – no development of corrosive conflagration gases
Chem. resistance:	see page N/9
Weather resistance:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	dimen-sions mm x mm	copper figure kg/km	cable weight ≈ kg/km
01020205	2 x 0,50	0,21	4,2 x 2,1	9,6	17
01020207	2 x 0,75	0,21	4,8 x 2,4	14,4	23

Other dimensions and colours are possible on request.

ZKBi Besilen® ignition cable

RoHS

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	Besilen® EI2 acc. to DIN VDE 0282 part1 and HD 22.1
Braiding:	fibre-glass
Sheath material:	Besilen® 2GM1 acc. to DIN VDE 0207 part 21
Sheath colour:	blue (similar RAL 5012)

Outstanding features:

- **halogen-free**
- **flexible at low temperatures**
- **heat resistant**
- **voltage-stable**

Technical data:

Testing voltage:	20000 V
Min. bending radius:	7.5 x d
Radiation resistance:	2×10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:* *short-time use:*	 -40/+180 °C -25/+180 °C +250 °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
Corrosiveness of conflagration gases:	IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2 – no development of corrosive conflagration gases
Chem. resistance:	see page N/9
Weather resistance:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	nominal cross section mm^2	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
01040101	1,00	0,21	8,0	9,6	78
01040115	1,50	0,26	8,5	14,4	95

Other dimensions and colours are possible on request.

Testing voltage 20 kV

HZLBi Besilen® high-voltage ignition cable

RoHS

Construction:

Conductor:	tinned copper strands 19 x 0,25 mm ø
Insulation:	Besilen® EI2 acc. to DIN VDE 0282 part 1 and HD 22.1
Sheath colour:	reddish brown (similar RAL 3016)

Outstanding features:

- **halogen-free**
- **flexible at low temperatures**
- **heat resistant**
- **voltage-stable**

Technical data:

Testing voltage:	20000 V at 7 mm ø 15000 V at 5 mm ø
Min. bending radius:	7.5 x d
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:* *short-time use:*	 -40/+180 °C -25/+180 °C +250 °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
Corrosiveness of conflagration gases:	IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2 – no development of corrosive conflagration gases
Chem. resistance:	see page N/9
Weather resistance:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	nominal cross section mm^2	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
01050102	1,00	0,26	7,0	9,6	62
01050103	1,00	0,26	5,0	9,6	35

Other dimensions and colours are possible on request.

SAB BRÖCKSKES

Nominal voltage 3.5/4.0/7.5 kV

BiL Besilen® insulated single conductor for tube lamps (neon cable)

RoHS

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	Besilen® EI2 acc. to DIN VDE 0282 part 1 and HD 22.1
Sheath colour:	yellow (similar RAL 1006)

Outstanding features:

- **halogen-free**
- **flexible at low temperatures**
- **heat resistant**
- **neon coloured**

Technical data:

Nominal voltage:	Uo 3,5 kV · Uo 4,0 kV · Uo 7,5 kV
Testing voltage:	10 kV
Min. bending radius:	7.5 x d
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:* *short-time use:*	 -40/+180 °C -25/+180 °C +250 °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
Corrosiveness of conflagration gases:	IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2 – no development of corrosive conflagration gases
Chem. resistance:	see page N/9
Weather resistance:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	nominal cross section mm^2	largest single wire ø mm	nominal voltage kV	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
01063515	1,50	0,26	3,5	4,4	14,4	32
01064815	1,50	0,26	4,0	6,6	14,4	59
01067515	1,50	0,26	7,5	7,6	14,4	75

Other dimensions and colours are possible on request.

BiA Besilen® insulated wire

RoHS

Construction:

Conductor:	solid tinned copper wire acc. to IEC 60228, EN 60228, VDE 0295, class 1
Insulation:	Besilen® EI2 acc. to DIN VDE 0282 part 1 and HD 22.1

Outstanding features:

- halogen-free
- heat resistant

Technical data:

Nominal voltage:	Uo/U 300/300 V
Testing voltage:	2000 V
Min. bending radius:	7.5 x d
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:* *short-time use:*	 -40/+180 °C -25/+180 °C +250 °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
Corrosiveness of conflagration gases:	IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2 – no development of corrosive conflagration gases
Chem. resistance:	see page N/9
Weather resistance:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	nominal cross section mm²	nominal wire-ø ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
0111005…*	0,50	0,80	1,8	4,8	8
0111007…*	0,75	0,98	2,0	7,2	10
0111010…*	1,00	1,13	2,1	9,6	13
0111015…*	1,50	1,38	2,6	14,4	19
0111025…*	2,50	1,78	3,2	24,0	31
0111040…*	4,00	2,26	3,7	38,4	47
0111060…*	6,00	2,76	4,2	57,6	67
0111100…*	10,00	3,57	5,6	96,0	114

Other dimensions and colours are possible on request.

*** Colour code for single conductors:**

…0 = green-yellow	…4 = grey
…1 = blue	…5 = white
…2 = black	…6 = reddish brown
…3 = brown	…7 = red

BiAF Besilen® insulated strands

RoHS

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	Besilen® EI2 acc. to DIN VDE 0282 part 1 and HD 22.1

Outstanding features:

- **halogen-free**
- **flexible at low temperatures**
- **heat resistant**

Technical data:

Nominal voltage:	Uo/U 300/300 V
Testing voltage:	2000 V
Min. bending radius:	7.5 x d
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:* *short-time use:*	 -40/+180 °C -25/+180 °C +250 °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
Corrosiveness of conflagration gases:	IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2 – no development of corrosive conflagration gases
Chem. resistance:	see page N/9
Weather resistance:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	nominal cross section mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
0113002...*	0,25	0,16	1,7	2,4	5
0113003...*	0,34	0,26	1,8	3,3	6
0113005...*	0,50	0,21	1,9	4,8	8
0113007...*	0,75	0,21	2,2	7,2	10
0113010...*	1,00	0,21	2,3	9,6	13
0113015...*	1,50	0,26	2,8	14,4	18
0113025...*	2,50	0,26	3,4	24,0	29
0113040...*	4,00	0,31	4,0	38,4	44
0113060...*	6,00	0,31	4,5	57,6	62
0113100...*	10,00	0,41	6,1	96,0	107
0113160...*	16,00	0,41	7,5	153,6	167
0113250...*	25,00	0,41	9,3	240,0	271
0113350...*	35,00	0,41	10,7	336,0	376
0113500...*	50,00	0,41	12,3	480,0	523
0113700...*	70,00	0,41	14,6	672,0	713
0113950...*	95,00	0,51	17,5	912,0	961
0113120...*	120,00	0,51	19,0	1152,0	1177
0113150...*	150,00	0,51	20,9	1440,0	1462
0113185...*	185,00	0,51	23,0	1776,0	1785
0113240...*	240,00	0,51	26,9	2304,0	2404
0113300...*	300,00	0,51	30,0	2880,0	2998

Other dimensions and colours are possible on request.

*** Colour code for single conductors:**

...0 = green-yellow	...4 = grey
...1 = blue	...5 = white
...2 = black	...6 = reddish brown
...3 = brown	...7 = red

SAB BRÖCKSKES

BiAFF Besilen® insulated strands, highly flexible

RoHS

Construction:

Conductor:	tinned copper strands, highly flexible
Insulation:	Besilen® EI2 acc. to DIN VDE 0282 part 1 and HD 22.1

Outstanding features:

- **halogen-free**
- **flexible at low temperatures**
- **heat resistant**
- **highly flexible**

Technical data:

Nominal voltage:	Uo/U 300/300 V
Testing voltage:	2000 V
Min. bending radius:	5 x d
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:* *short-time use:*	 -40/+180 °C -25/+180 °C +250 °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
Corrosiveness of conflagration gases:	IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2 – no development of corrosive conflagration gases
Chem. resistance:	see page N/9
Weather resistance:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	nominal cross section mm^2	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
0115025…*	0,25	0,05	1,9	2,4	6
0115050…*	0,50	0,05	2,2	4,8	9
0115051…*	0,50	0,07	2,2	4,8	9
0115075…*	0,75	0,05	2,4	7,2	12
0115076…*	0,75	0,07	2,5	7,2	13
0115100…*	1,00	0,05	2,7	9,6	15
0115101…*	1,00	0,07	2,7	9,6	15
0115150…*	1,50	0,07	3,3	14,4	22
0115250…*	2,50	0,07	4,0	24,0	35

Other dimensions and colours are possible on request.

*** Colour code for single conductors:**

…0 = green-yellow	…4 = grey
…1 = blue	…5 = white
…2 = black	…6 = reddish brown
…3 = brown	…7 = red

BiAF/GL Besilen® insulated strands with fibre-glass braiding

RoHS

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	Besilen® EI2 acc. to DIN VDE 0282 part 1 and HD 22.1
Standard colour:	nature
Braiding:	fibre-glass
Impregnation:	impregnating lacquer

Outstanding features:

- halogen-free
- flexible at low temperatures
- heat resistant
- flexible

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	2000 V
Min. bending radius:	7.5 x d
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:* *short-time use:*	 -40/+180 °C -25/+180 °C +250 °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
Corrosiveness of conflagration gases:	IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2 – no development of corrosive conflagration gases
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	nominal cross section mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
01230050	0,50	0,21	2,4	4,8	11
01230070	0,75	0,21	2,7	7,2	16
01230100	1,00	0,21	2,8	9,6	18
01230150	1,50	0,26	3,2	14,4	23
01230250	2,50	0,26	3,9	24,0	35
01230400	4,00	0,31	4,5	38,4	51
01230600	6,00	0,31	5,2	57,6	74
01231000	10,00	0,41	7,3	96,0	135
01231600	16,00	0,41	8,3	153,6	198
01232500	25,00	0,41	10,2	240,0	306
01233500	35,00	0,41	11,4	336,0	403
01235000	50,00	0,41	14,1	480,0	571
01237000	70,00	0,41	15,1	672,0	758
01239500	95,00	0,51	18,5	912,0	1045

Other dimensions and colours are possible on request.

Nominal voltage Uo/U 0.6/1 kV

B 118 Besilen® insulated strands Uo/U 0.6/1 kV

RoHS

Construction:

Conductor: tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5

Insulation: Besilen® EI2 acc. to DIN VDE 0282 part 1 and HD 22.1

Outstanding features:

- **halogen-free**
- **heat resistant**
- **flexible at low temperatures**

Technical data:

Nominal voltage:	Uo/U 0,6/1 kV
Testing voltage:	2500 V
Min. bending radius:	7.5 x d
Temperature range *fixed laying:* *flexible application:*	 -40/+180 °C -25/+180 °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
Corrosiveness of conflagration gases:	IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2 – no development of corrosive conflagration gases
Weather resistance:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	nominal cross section mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
0118 .. 50	0,50	0,21	2,6	4,8	11
0118 .. 75	0,75	0,21	2,9	7,2	15
0118 .. 80	1,00	0,21	3,0	9,6	17
0118 .. 82	1,50	0,26	3,2	14,4	22
0118 .. 84	2,50	0,26	3,9	24,0	34
0118 .. 86	4,00	0,31	4,7	38,4	52
0118 .. 87	6,00	0,31	5,2	57,6	71
0118 .. 88	10,00	0,41	7,5	96,0	121
0118 .. 89	16,00	0,41	8,5	153,6	186
0118 .. 90	25,00	0,41	10,4	240,0	298
0118 .. 91	35,00	0,41	11,6	336,0	401
0118 .. 92	50,00	0,41	14,3	480,0	571
0118 .. 93	70,00	0,41	15,3	672,0	759
0118 .. 94	95,00	0,51	18,7	912,0	1043
0118 .. 95	120,00	0,51	20,2	1152,0	1251
0118 .. 96	150,00	0,51	22,3	1440,0	1554
0118 .. 97	185,00	0,51	23,7	1776,0	1876
0118 .. 98	240,00	0,51	27,4	2304,0	2518
0118 .. 99	300,00	0,51	30,5	2880,0	3136

Other dimensions and colours are possible on request.

*** Colour code for single conductors:**

01 = black	06 = green
02 = blue	07 = violet
03 = brown	08 = white
04 = grey	16 = enzianblue
05 = yellow	27 = green-yellow

Nominal voltage Uo/U 1.8/3 kV

B 119 Besilen® insulated strands Uo/U 1.8/3 kV

RoHS

Construction:

Conductor: tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5

Insulation: Besilen® EI2 acc. to DIN VDE 0282 part 1 and HD 22.1

Outstanding features:

- **halogen-free**
- **heat resistant**
- **flexible at low temperatures**

Technical data:

Nominal voltage:	Uo/U 1,8/3 kV
Testing voltage:	6000 V
Min. bending radius:	7.5 x d
Temperature range *fixed laying:* *flexible application:*	 -40/+180 °C -25/+180 °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
Corrosiveness of conflagration gases:	IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2 – no development of corrosive conflagration gases
Weather resistance:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	nominal cross section mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
0119 .. 82	1,50	0,26	4,2	14,4	30
0119 .. 84	2,50	0,26	4,7	24,0	41
0119 .. 86	4,00	0,31	5,3	38,4	58
0119 .. 87	6,00	0,31	5,8	57,6	78
0119 .. 88	10,00	0,41	8,1	96,0	140
0119 .. 89	16,00	0,41	9,1	153,6	198
0119 .. 90	25,00	0,41	11,2	240,0	317
0119 .. 91	35,00	0,41	12,4	336,0	422
0119 .. 92	50,00	0,41	14,7	480,0	584
0119 .. 93	70,00	0,41	15,7	672,0	773
0119 .. 94	95,00	0,51	19,5	912,0	1077
0119 .. 95	120,00	0,51	21,0	1152,0	1288
0119 .. 96	150,00	0,51	22,7	1440,0	1574
0119 .. 97	185,00	0,51	24,1	1776,0	1897
0119 .. 98	240,00	0,51	27,8	2304,0	2542
0119 .. 99	300,00	0,51	30,9	2880,0	3163

Other dimensions and colours are possible on request.

*** Colour code for single conductors:**

01 = black	06 = green
02 = blue	07 = violet
03 = brown	08 = white
04 = grey	16 = enzianblue
05 = yellow	27 = green-yellow

Nominal voltage Uo/U 3.6/6 kV

B 120 Besilen® insulated strands Uo/U 3.6/6 kV

RoHS

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	Besilen® EI2 acc. to DIN VDE 0282 part 1 and HD 22.1

Outstanding features:

- **halogen-free**
- **heat resistant**
- **flexible at low temperatures**

Technical data:

Nominal voltage:	Uo/U 3,6/6 kV
Testing voltage:	11000 V
Min. bending radius:	7.5 x d
Temperature range *fixed laying:* *flexible application:*	 -40/+180 °C -25/+180 °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
Corrosiveness of conflagration gases:	IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2 – no development of corrosive conflagration gases
Weather resistance:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	nominal cross section mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
0120 .. 82	1,50	0,26	6,8	14,4	62
0120 .. 84	2,50	0,26	7,3	24,0	76
0120 .. 86	4,00	0,31	7,9	38,4	97
0120 .. 87	6,00	0,31	8,4	57,6	119
0120 .. 88	10,00	0,41	10,3	96,0	185
0120 .. 89	16,00	0,41	11,3	153,6	248
0120 .. 90	25,00	0,41	13,4	240,0	377
0120 .. 91	35,00	0,41	14,6	336,0	488
0120 .. 92	50,00	0,41	16,9	480,0	662
0120 .. 93	70,00	0,41	17,9	672,0	856
0120 .. 94	95,00	0,51	21,5	912,0	1168
0120 .. 95	120,00	0,51	23,0	1152,0	1386
0120 .. 96	150,00	0,51	24,7	1440,0	1680
0120 .. 97	185,00	0,51	25,7	1776,0	1986

Other dimensions and colours are possible on request.

*** Colour code for single conductors:**

01 = black	06 = green
02 = blue	07 = violet
03 = brown	08 = white
04 = grey	16 = enzianblue
05 = yellow	27 = green-yellow

also possible with extremely notch resistant sheath

BiHF-J Besilen® insulated strands with Besilen® outer sheath

RoHS

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	Besilen® EI2 acc. to DIN VDE 0282 part 1 and HD 22.1
Colour code:	up to 5 cores coloured acc. to HD 308 (VDE 0293 part 308); from 6 cores black cores with consecutive numbers acc. to EN 50334; from 3 cores a green-yellow earth wire
Stranding:	in layers
Sheath material:	Besilen® EM9 acc. to DIN VDE 0282 part 1 + HD 22.1
Sheath colour:	reddish brown (similar RAL 3016)

Outstanding features:

- halogen-free
- flexible at low temperatures
- heat resistant

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	2000 V
Min. bending radius *fixed laying:* *flexible application:*	 4 x d 6 x d
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:* *short-time use:*	 -40/+180 °C -25/+180 °C +250 °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
Corrosiveness of conflagration gases:	IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2 – no development of corrosive conflagration gases
Chem. resistance:	see page N/9
Weather resistance:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
01410202	2 x 0,25	0,16	4,3	4,8	23
01410402	4 x 0,25	0,16	4,9	9,6	32
01410205	2 x 0,50	0,21	4,8	9,6	31
01410305	3 x 0,50	0,21	5,1	14,4	37
01410405	4 x 0,50	0,21	5,5	19,2	45
01410505	5 x 0,50	0,21	6,1	24,0	53
01410705	7 x 0,50	0,21	6,6	33,6	69
01411205	12 x 0,50	0,21	8,9	57,6	113
01411805	18 x 0,50	0,21	10,6	86,4	164
01412505	25 x 0,50	0,21	12,9	120,0	225
01410207	2 x 0,75	0,21	5,4	14,4	41
01410307	3 x 0,75	0,21	5,7	21,6	49
01410407	4 x 0,75	0,21	6,2	28,8	60
01410507	5 x 0,75	0,21	6,9	36,0	72
01410607	6 x 0,75	0,21	7,7	43,2	86
01410707	7 x 0,75	0,21	7,7	50,4	96
01411007	10 x 0,75	0,21	10,0	57,6	136
01411207	12 x 0,75	0,21	10,3	86,4	157
01411607	16 x 0,75	0,21	11,5	115,2	201
01411807	18 x 0,75	0,21	13,2	129,6	228
01412507	25 x 0,75	0,21	14,9	180,0	314
01410210	2 x 1,00	0,21	5,6	19,2	46
01410310	3 x 1,00	0,21	5,9	28,8	57
01410410	4 x 1,00	0,21	6,5	38,4	70
01410510	5 x 1,00	0,21	7,1	48,0	84
01410610	6 x 1,00	0,21	8,0	57,6	101
01410710	7 x 1,00	0,21	8,0	67,2	113
01410810	8 x 1,00	0,21	9,3	76,8	129
01411010	10 x 1,00	0,21	10,4	96,0	160
01411210	12 x 1,00	0,21	10,7	115,2	185
01411410	14 x 1,00	0,21	11,3	134,4	211
01411610	16 x 1,00	0,21	11,9	153,6	242
01411810	18 x 1,00	0,21	12,8	172,8	270
01412010	20 x 1,00	0,21	13,5	192,0	296
01412510	25 x 1,00	0,21	15,5	240,0	369
01410215	2 x 1,50	0,26	6,6	28,8	62

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
01410315	3 x 1,50	0,26	7,0	43,2	80
01410415	4 x 1,50	0,26	7,8	57,6	102
01410515	5 x 1,50	0,26	8,6	72,0	121
01410615	6 x 1,50	0,26	9,4	86,4	142
01410715	7 x 1,50	0,26	9,4	100,8	158
01410815	8 x 1,50	0,26	11,2	115,2	187
01411215	12 x 1,50	0,26	12,8	172,8	265
01411615	16 x 1,50	0,26	14,6	230,4	352
01411815	18 x 1,50	0,26	15,4	259,2	391
01412015	20 x 1,50	0,26	16,2	288,0	429
01412415	24 x 1,50	0,26	18,2	345,6	520
01412515	25 x 1,50	0,26	18,6	360,0	539
01410225	2 x 2,50	0,26	8,0	48,0	99
01410325	3 x 2,50	0,26	8,5	72,0	123
01410425	4 x 2,50	0,26	9,3	96,0	153
01410525	5 x 2,50	0,26	10,6	120,0	192
01410625	6 x 2,50	0,26	11,6	144,0	224
01410725	7 x 2,50	0,26	11,6	168,0	251
01410925	9 x 2,50	0,26	15,2	216,0	333
01411225	12 x 2,50	0,26	15,7	288,0	417
01412425	24 x 2,50	0,26	22,4	576,0	813
01410240	2 x 4,00	0,31	9,6	76,8	148
01410340	3 x 4,00	0,31	10,2	115,2	186
01410440	4 x 4,00	0,31	11,1	153,6	230
01410540	5 x 4,00	0,31	12,5	192,0	282
01410740	7 x 4,00	0,31	13,6	230,4	371
01410260	2 x 6,00	0,31	10,8	115,2	201
01410360	3 x 6,00	0,31	11,4	172,8	254
01410460	4 x 6,00	0,31	12,5	230,4	317
01410560	5 x 6,00	0,31	13,8	288,0	383
01410461	4 x 10,0	0,41	16,8	384,0	556
01410561	5 x 10,0	0,41	18,7	480,0	679
01410462	4 x 16,0	0,41	20,3	614,4	820
01410463	4 x 25,0	0,41	25,4	960,0	1330
01410464	4 x 35,0	0,41	28,8	1344,0	1800

Other dimensions and colours are possible on request.

EWKF

BiHF(K)-J Besilen® insulated strands with extremely notch resistant Besilen® outer sheath

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	Besilen® EI2 acc. to DIN VDE 0282 part 1 and HD 22.1
Colour code:	up to 5 cores coloured acc. to HD 308 (VDE 0293 part 308); from 6 cores black cores with consecutive numbers acc. to EN 50334; from 3 cores a green-yellow earth wire
Stranding:	in layers
Sheath material:	Besilen® notch resistant
Sheath colour:	black (similar RAL 9011)

Outstanding features:

- improved tear resistance
- extremely notch resistant
- good sunlight resistance
- halogen-free
- flexible at low temperatures
- heat resistant

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	2000 V
Min. bending radius *fixed laying:* *flexible application:*	 4 x d 6 x d
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:* *short-time use:*	 -40/+180 °C -25/+180 °C +250 °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
Corrosiveness of conflagration gases:	IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2 – no development of corrosive conflagration gases
Chem. resistance:	see page N/9
Weather resistance:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
01450207	2 x 0,75	0,21	5,4	14,4	40
01450307	3 x 0,75	0,21	5,7	21,6	49
01450407	4 x 0,75	0,21	6,2	28,8	59
01450507	5 x 0,75	0,21	6,9	36,0	71
01450707	7 x 0,75	0,21	7,7	50,4	96
01451207	12 x 0,75	0,21	10,3	86,4	157
01450210	2 x 1,00	0,21	5,6	19,2	45
01450310	3 x 1,00	0,21	5,9	28,8	56
01450410	4 x 1,00	0,21	6,5	38,4	69
01450510	5 x 1,00	0,21	7,1	48,0	83
01450710	7 x 1,00	0,21	8,0	67,2	112
01451210	12 x 1,00	0,21	10,7	115,2	185
01450215	2 x 1,50	0,26	6,6	28,8	64
01450315	3 x 1,50	0,26	7,0	43,2	79
01450415	4 x 1,50	0,26	7,8	57,6	101
01450515	5 x 1,50	0,26	8,6	72,0	121
01450715	7 x 1,50	0,26	9,4	100,8	158
01451215	12 x 1,50	0,26	12,8	172,8	265
01451815	18 x 1,50	0,26	15,4	259,2	391
01452415	24 x 1,50	0,26	18,2	345,6	521
01452515	25 x 1,50	0,26	18,6	360,0	540
01450225	2 x 2,50	0,26	8,0	48,0	97
01450325	3 x 2,50	0,26	8,5	72,0	122
01450425	4 x 2,50	0,26	9,3	96,0	151
01450525	5 x 2,50	0,26	10,6	120,0	191
01450625	6 x 2,50	0,26	11,6	144,0	223
01450725	7 x 2,50	0,26	11,6	168,0	250
01450340	3 x 4,00	0,31	10,2	115,2	184
01450440	4 x 4,00	0,31	11,1	153,6	228
01450540	5 x 4,00	0,31	12,5	192,0	280
01450740	7 x 4,00	0,31	13,6	268,8	369
01450360	3 x 6,00	0,31	11,4	172,8	251
01450460	4 x 6,00	0,31	12,5	230,4	315
01450560	5 x 6,00	0,31	13,8	288,0	381

Other dimensions and colours are possible on request.

BiHFP-J BiHF with steel wire armouring for mechanical protection

RoHS

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	Besilen® EI2 acc. to DIN VDE 0282 part 1 and HD 22.1
Colour code:	up to 5 cores coloured acc. to HD 308 (VDE 0293 part 308); from 6 cores black cores with consecutive numbers acc. to EN 50334; from 3 cores a green-yellow earth wire
Stranding:	in layers
Sheath material:	Besilen® EM9 acc. to DIN VDE 0282 part 1 + HD 22.1
Sheath colour:	reddish brown (similar RAL 3016)
Armour:	galvanized steel wire braiding

Outstanding features:

- **halogen-free**
- **flexible at low temperatures**
- **heat resistant**
- **protection against mechanical damage**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	2000 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:* *short-time use:*	 -40/+180 °C -25/+180 °C +250 °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
Corrosiveness of conflagration gases:	IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2 – no development of corrosive conflagration gases
Chem. resistance:	see page N/9
Weather resistance:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

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
01430207	2 x 0,75	0,21	6,4	14,4	69
01430307	3 x 0,75	0,21	6,7	21,6	79
01430407	4 x 0,75	0,21	7,2	28,8	90
01430507	5 x 0,75	0,21	7,9	36,0	108
01430607	6 x 0,75	0,21	8,7	43,2	132
01430707	7 x 0,75	0,21	8,7	50,4	136
01430210	2 x 1,00	0,21	6,6	19,2	76
01430310	3 x 1,00	0,21	6,9	28,8	87
01430410	4 x 1,00	0,21	7,5	38,4	102
01430510	5 x 1,00	0,21	8,1	48,0	120
01430610	6 x 1,00	0,21	9,0	57,6	148
01430710	7 x 1,00	0,21	9,0	67,2	154
01430215	2 x 1,50	0,26	7,5	28,8	95
01430315	3 x 1,50	0,26	7,9	43,2	111
01430415	4 x 1,50	0,26	8,7	57,6	139
01430515	5 x 1,50	0,26	9,6	72,0	168
01430615	6 x 1,50	0,26	10,4	86,4	198
01430715	7 x 1,50	0,26	10,4	100,8	207
01430225	2 x 2,50	0,26	9,0	48,0	140
01430325	3 x 2,50	0,26	9,5	72,0	166
01430425	4 x 2,50	0,26	10,3	96,0	197
01430525	5 x 2,50	0,26	11,6	120,0	253
01430625	6 x 2,50	0,26	12,8	144,0	314
01430725	7 x 2,50	0,26	12,8	168,0	330
01430240	2 x 4,00	0,31	10,6	76,8	197
01430340	3 x 4,00	0,31	11,2	115,2	236
01430440	4 x 4,00	0,31	12,1	153,6	288
01430540	5 x 4,00	0,31	13,7	192,0	373
01430640	6 x 4,00	0,31	14,8	230,4	433
01430740	7 x 4,00	0,31	14,8	268,8	458
01430260	2 x 6,00	0,31	11,8	115,2	256
01430360	3 x 6,00	0,31	12,6	172,8	333
01430460	4 x 6,00	0,31	13,7	230,4	401
01430560	5 x 6,00	0,31	15,4	288,0	495

Other dimensions and colours are possible on request.

SAB BRÖCKSKES

BiHFGLP-J BiHF with fibre-glass tape and steel wire armouring for mechanical protection

RoHS

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	Besilen® EI2 acc. to DIN VDE 0282 part 1 and HD 22.1
Colour code:	up to 5 cores coloured acc. to HD 308 (VDE 0293 part 308); from 6 cores black cores with consecutive numbers acc. to EN 50334; from 3 cores a green-yellow earth wire
Stranding:	in layers
Sheath material:	Besilen® EM9 acc. to DIN VDE 0282 part 1 + HD 22.1
Sheath colour:	reddish brown (similar RAL 3016)
Wrapping:	fibre-glass tape
Armour:	galvanized steel wire braiding

Outstanding features:

- halogen-free
- flexible at low temperatures
- heat resistant
- protection against mechanical damage

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage:	2000 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:* *short-time use:*	 -40/+180 °C -25/+180 °C +250 °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
Corrosiveness of conflagration gases:	IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2 – no development of corrosive conflagration gases
Chem. resistance:	see page N/9
Weather resistance:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
01460207	2 x 0,75	0,21	6,8	14,4	72,9
01460307	3 x 0,75	0,21	7,1	21,6	82,2
01460407	4 x 0,75	0,21	7,6	28,8	95,5
01460507	5 x 0,75	0,21	8,3	36,0	112,2
01460607	6 x 0,75	0,21	9,1	43,2	137,6
01460707	7 x 0,75	0,21	9,1	50,4	142,0
01460210	2 x 1,00	0,21	7,0	19,2	79,2
01460310	3 x 1,00	0,21	7,3	28,8	90,4
01460410	4 x 1,00	0,21	7,9	38,4	106,7
01460510	5 x 1,00	0,21	8,5	48,0	131,0
01460610	6 x 1,00	0,21	9,4	57,6	153,8
01460710	7 x 1,00	0,21	9,4	67,2	160,0
01460215	2 x 1,50	0,26	7,9	28,8	99,4
01460315	3 x 1,50	0,26	8,3	43,2	115,5
01460415	4 x 1,50	0,26	9,1	57,6	144,8
01460515	5 x 1,50	0,26	10,0	72,0	174,5
01460615	6 x 1,50	0,26	10,8	86,4	205,1

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
01460715	7 x 1,50	0,26	10,8	100,8	214,2
01460225	2 x 2,50	0,26	9,4	48,0	145,8
01460325	3 x 2,50	0,26	9,9	72,0	172,1
01460425	4 x 2,50	0,26	10,7	96,0	207,9
01460525	5 x 2,50	0,26	12,0	120,0	260,0
01460625	6 x 2,50	0,26	13,2	144,0	323,0
01460725	7 x 2,50	0,26	13,2	168,0	338,6
01460240	2 x 4,00	0,31	11,0	76,8	203,8
01460340	3 x 4,00	0,31	11,6	115,2	248,2
01460440	4 x 4,00	0,31	12,7	153,6	316,2
01460540	5 x 4,00	0,31	14,1	192,0	383,0
01460640	6 x 4,00	0,31	15,2	230,4	443,3
01460740	7 x 4,00	0,31	15,2	268,8	468,9
01460260	2 x 6,00	0,31	12,2	115,2	264,8
01460360	3 x 6,00	0,31	13,0	172,8	341,9
01460460	4 x 6,00	0,31	14,1	230,4	410,6
01460560	5 x 6,00	0,31	15,4	288,0	493,2

Other dimensions and colours are possible on request.

BiAF/Cu/Bi-J Besilen® insulated strands with overall copper screen and Besilen® outer sheath

RoHS

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	Besilen® EI2 acc. to DIN VDE 0282 part 1 and HD 22.1
Colour code:	up to 5 cores coloured acc. to HD 308 (VDE 0293 part 308); from 6 cores black cores with consecutive numbers acc. to EN 50334; from 3 cores a green-yellow earth wire
Stranding:	in layers
Wrapping:	PETP foli
Screen:	tinned copper braiding
Sheath material:	Besilen® EM9 acc. to DIN VDE 0282 part 1 + HD 22.1
Sheath colour:	reddish brown (similar RAL 3016)

Outstanding features:

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

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage U:	2000 V core/screen 1000 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 12 x d
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:* *short-time use:*	 -40/+180 °C -25/+180 °C +250 °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
Corrosiveness of conflagration gases:	IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2 – no development of corrosive conflagration gases
Chem. resistance:	see page N/9
Weather resistance:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
01880205	2 x 0,50	0,21	6,4	25,7	53
01880305	3 x 0,50	0,21	6,7	31,7	61
01880405	4 x 0,50	0,21	7,1	36,9	70
01880505	5 x 0,50	0,21	7,7	44,4	82
01880705	7 x 0,50	0,21	8,2	56,2	100
01881005	10 x 0,50	0,21	10,2	93,9	145
01881205	12 x 0,50	0,21	10,5	104,0	161
01881605	16 x 0,50	0,21	11,5	129,0	197
01881805	18 x 0,50	0,21	12,0	139,3	214
01880207	2 x 0,75	0,21	7,0	32,0	64
01880307	3 x 0,75	0,21	7,5	41,5	75
01880407	4 x 0,75	0,21	7,8	49,3	88
01880507	5 x 0,75	0,21	8,5	58,8	102
01880707	7 x 0,75	0,21	9,1	76,6	127
01881007	10 x 0,75	0,21	11,4	124,1	185
01881207	12 x 0,75	0,21	11,7	138,9	206
01881607	16 x 0,75	0,21	13,3	176,2	268
01881807	18 x 0,75	0,21	13,9	191,7	292
01880210	2 x 1,00	0,21	7,2	37,0	70
01880310	3 x 1,00	0,21	7,5	49,0	83
01880410	4 x 1,00	0,21	8,1	60,9	99
01880510	5 x 1,00	0,21	8,7	73,9	117
01880710	7 x 1,00	0,21	9,4	93,7	144
01881010	10 x 1,00	0,21	11,8	148,6	209
01881210	12 x 1,00	0,21	12,1	168,3	235
01881610	16 x 1,00	0,21	13,7	215,3	306
01881810	18 x 1,00	0,21	14,4	240,0	337
01880215	2 x 1,50	0,26	8,0	49,6	87
01880315	3 x 1,50	0,26	8,2	65,8	105
01880415	4 x 1,50	0,26	9,0	83,8	128
01880515	5 x 1,50	0,26	10,0	117,6	162
01880715	7 x 1,50	0,26	10,8	147,6	201
01881015	10 x 1,50	0,26	13,8	205,9	287
01881215	12 x 1,50	0,26	14,2	235,4	323
01881615	16 x 1,50	0,26	15,6	302,9	406
01881815	18 x 1,50	0,26	16,6	360,3	465
01880225	2 x 2,50	0,26	9,2	74,3	121
01880325	3 x 2,50	0,26	9,7	98,9	148
01880425	4 x 2,50	0,26	10,7	142,7	193
01880525	5 x 2,50	0,26	11,6	172,3	232
01880725	7 x 2,50	0,26	13,0	228,5	309

Other dimensions and colours are possible on request.

also possible with extremely notch resistant sheath

BiHF/Cu/Bi-J BiHF with overall copper screen and Besilen® outer sheath

RoHS

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	Besilen® EI2 acc. to DIN VDE 0282 part 1 and HD 22.1
Colour code:	up to 5 cores coloured acc. to HD 308 (VDE 0293 part 308); from 6 cores black cores with consecutive numbers acc. to EN 50334; from 3 cores a green-yellow earth wire
Stranding:	in layers
Inner sheath:	Besilen® EM9 acc. to DIN VDE 0282 part 1 + HD 22.1
Screen:	tinned copper braiding
Sheath material:	Besilen® EM9 acc. to DIN VDE 0282 part 1 + HD 22.1
Sheath colour:	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 U:	2000 V core/screen 1000 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:* *short-time use:*	 -40/+180 °C -25/+180 °C +250 °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
Corrosiveness of conflagration gases:	IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2 – no development of corrosive conflagration gases
Chem. resistance:	see page N/9
Weather resistance:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
01900205	2 x 0,50	0,21	7,6	29,9	83
01900305	3 x 0,50	0,21	7,9	35,0	90
01900405	4 x 0,50	0,21	8,3	41,9	100
01900505	5 x 0,50	0,21	8,9	50,1	115
01900705	7 x 0,50	0,21	9,4	60,1	132
01901005	10 x 0,50	0,21	11,6	100,3	190
01901205	12 x 0,50	0,21	11,9	110,4	211
01901605	16 x 0,50	0,21	13,5	138,2	266
01901805	18 x 0,50	0,21	14,0	148,7	291
01900207	2 x 0,75	0,21	8,2	37,0	99
01900307	3 x 0,75	0,21	8,5	44,4	108
01900407	4 x 0,75	0,21	9,0	55,0	123
01900507	5 x 0,75	0,21	9,7	62,9	139
01900707	7 x 0,75	0,21	10,7	97,1	181
01901007	10 x 0,75	0,21	13,4	133,2	254
01901207	12 x 0,75	0,21	13,7	148,1	281
01901607	16 x 0,75	0,21	14,9	183,2	334
01901807	18 x 0,75	0,21	16,3	228,8	401
01900210	2 x 1,00	0,21	8,4	42,0	107
01900310	3 x 1,00	0,21	8,7	54,7	119
01900410	4 x 1,00	0,21	9,3	64,8	135
01900510	5 x 1,00	0,21	10,1	93,8	158
01900710	7 x 1,00	0,21	11,0	114,3	201
01901010	10 x 1,00	0,21	14,0	157,9	283
01901210	12 x 1,00	0,21	14,1	177,6	310
01901610	16 x 1,00	0,21	16,1	252,3	404
01901810	18 x 1,00	0,21	16,8	273,3	448
01900215	2 x 1,50	0,26	9,4	55,3	137
01900315	3 x 1,50	0,26	10,1	88,8	165
01900415	4 x 1,50	0,26	10,8	104,4	191
01900515	5 x 1,50	0,26	11,6	124,3	219
01900715	7 x 1,50	0,26	12,8	154,3	271
01901015	10 x 1,50	0,26	16,4	243,5	406
01901215	12 x 1,50	0,26	16,8	273,3	446
01901615	16 x 1,50	0,26	18,6	344,5	539
01901815	18 x 1,50	0,26	19,4	375,5	601
01900225	2 x 2,50	0,26	11,0	95,1	200
01900325	3 x 2,50	0,26	11,5	124,2	226
01900425	4 x 2,50	0,26	12,7	156,0	274
01900525	5 x 2,50	0,26	14,0	182,3	327
01900725	7 x 2,50	0,26	15,0	236,2	392

Other dimensions and colours are possible on request.

SAB BRÖCKSKES

EWKF

BiHF/Cu/Bi(K)-J

BiHF with overall copper screen and extremely notch resistant Besilen® outer sheath

RoHS

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	Besilen® EI2 acc. to DIN VDE 0282 part 1 and HD 22.1
Colour code:	up to 5 cores coloured acc. to HD 308 (VDE 0293 part 308); from 6 cores black cores with consecutive numbers acc. to EN 50334; from 3 cores a green-yellow earth wire
Stranding:	in layers
Inner sheath:	Besilen® EM9 acc. to DIN VDE 0282 part 1 + HD 22.1
Screen:	tinned copper braiding
Sheath material:	Besilen® notch resistant
Sheath colour:	black (similar RAL 9011)

Outstanding features:

- improved tear resistance
- extremely notch resistant
- good sunlight resistance
- good EMC characteristics
- halogen-free
- flexible at low temperatures
- heat resistant
- increased mechanical protection

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage U:	2000 V core/screen 1000 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:* *short-time use:*	 -40/+180 °C -25/+180 °C +250 °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
Corrosiveness of conflagration gases:	IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2 – no development of corrosive conflagration gases
Chem. resistance:	see page N/9
Weather resistance:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

Possible on request without inner sheath!

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
01950207	2 x 0,75	0,21	8,2	37,0	100
01950307	3 x 0,75	0,21	8,5	44,4	109
01950407	4 x 0,75	0,21	9,0	55,0	124
01950507	5 x 0,75	0,21	9,7	62,9	140
01950707	7 x 0,75	0,21	10,7	97,1	184
01951207	12 x 0,75	0,21	13,7	148,1	285
01950210	2 x 1,00	0,21	8,4	42,0	108
01950310	3 x 1,00	0,21	8,7	54,7	120
01950410	4 x 1,00	0,21	9,3	64,8	137
01950510	5 x 1,00	0,21	10,1	93,8	159
01950710	7 x 1,00	0,21	11,0	114,3	203
01951210	12 x 1,00	0,21	14,1	177,6	314
01950215	2 x 1,50	0,26	9,4	55,3	138
01950315	3 x 1,50	0,26	10,0	88,8	166
01950415	4 x 1,50	0,26	10,8	104,4	193
01950515	5 x 1,50	0,26	11,6	124,3	221
01950715	7 x 1,50	0,26	12,8	154,3	274
01951215	12 x 1,50	0,26	16,8	273,3	452
01951815	18 x 1,50	0,26	19,4	375,5	610
01952415	24 x 1,50	0,26	22,4	483,2	786
01952515	25 x 1,50	0,26	22,8	512,9	818
01950225	2 x 2,50	0,26	11,0	95,1	201
01950325	3 x 2,50	0,26	11,5	124,2	227
01950425	4 x 2,50	0,26	12,7	156,0	276
01950525	5 x 2,50	0,26	13,8	181,9	320
01950625	6 x 2,50	0,26	15,0	212,2	370
01950725	7 x 2,50	0,26	15,0	236,2	397
01950340	3 x 4,00	0,31	13,6	176,8	302
01950440	4 x 4,00	0,31	14,5	221,0	377
01950540	5 x 4,00	0,31	15,9	291,2	454
01950740	7 x 4,00	0,31	17,4	379,7	573
01950360	3 x 6,00	0,31	15,7	241,5	447
01950460	4 x 6,00	0,31	17,0	329,1	542
01950560	5 x 6,00	0,31	18,6	402,1	643

Other dimensions and colours are possible on request.

SAB BRÖCKSKES

SC 500 HDTR Besilen® insulated strands with Besilen® outer sheath

Marking for SC 500 HDTR 01370410:
SAB BRÖCKSKES · D-VIERSEN · SC 500 HDTR UL AWM Style 4535 150°C 600V CSA AWM I/II A 150°C 600V FT1 FT2 CE

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	Besilen® EI2 acc. to DIN VDE 0282 part 1 and HD 22.1
Colour code:	up to 5 cores coloured acc. to HD 308 (VDE 0293 part 308); from 6 cores black cores with consecutive numbers acc. to EN 50334; from 3 cores a green-yellow earth wire
Stranding:	in layers
Sheath material:	Besilen® EM9 acc. to DIN VDE 0282 part 1 + HD 22.1
Sheath colour:	reddish brown (similar RAL 3016)

Outstanding features:

- **halogen-free**
- **flexible at low temperatures**
- **heat resistant**

Technical data:

Voltage:	UL + CSA: 600 V
Nominal voltage:	DIN VDE: Uo/U 300/500 V
Testing voltage:	2000 V acc. to DIN VDE 0282 part 2 + HD 22.2
Min. bending radius *fixed laying:* *flexible application:*	 4 x d 6 x d
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:* *short-time use:*	**UL:** up to +150 °C **CSA:** up to +150 °C **DIN VDE:** -40/+180 °C -25/+180 °C +250 °C
Halogen-free:	acc. to DIN VDE 0472 part 815 + IEC 60754-1
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2 + CSA FT1 + FT2
Corrosiveness of conflagration gases:	IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2 – no development of corrosive conflagration gases
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
01370205	2 x 0,50	0,21	5,4	10,3	39
01370305	3 x 0,50	0,21	5,7	15,4	46
01370405	4 x 0,50	0,21	6,1	20,5	55
01370505	5 x 0,50	0,21	6,7	25,6	67
01370705	7 x 0,50	0,21	7,3	35,9	83
01370805	8 x 0,50	0,21	8,4	41,0	106
01371005	10 x 0,50	0,21	9,1	51,3	113
01371205	12 x 0,50	0,21	9,4	61,5	129
01371605	16 x 0,50	0,21	10,5	82,0	169
01371805	18 x 0,50	0,21	11,1	92,3	188
01372405	24 x 0,50	0,21	13,1	123,1	242
01370207	2 x 0,75	0,21	5,9	14,4	47
01370307	3 x 0,75	0,21	6,2	21,6	56
01370407	4 x 0,75	0,21	6,7	28,8	67
01370507	5 x 0,75	0,21	7,4	36,0	83
01370707	7 x 0,75	0,21	8,0	50,4	103
01370807	8 x 0,75	0,21	9,3	57,6	132
01371007	10 x 0,75	0,21	10,2	72,0	143
01371207	12 x 0,75	0,21	10,5	86,4	164
01371607	16 x 0,75	0,21	11,7	115,2	212
01371807	18 x 0,75	0,21	12,5	129,6	241
01372407	24 x 0,75	0,21	14,8	172,8	311
01370210	2 x 1,00	0,21	6,1	19,2	53
01370310	3 x 1,00	0,21	6,4	28,8	64
01370410	4 x 1,00	0,21	7,0	38,4	78
01370510	5 x 1,00	0,21	7,6	48,0	96
01370710	7 x 1,00	0,21	8,3	67,2	120
01370810	8 x 1,00	0,21	9,6	76,8	152
01371010	10 x 1,00	0,21	10,6	96,0	173
01371210	12 x 1,00	0,21	10,9	115,2	193
01371610	16 x 1,00	0,21	12,3	153,6	264
01371810	18 x 1,00	0,21	13,0	172,8	285
01372410	24 x 1,00	0,21	15,4	230,4	368
01370215	2 x 1,50	0,26	6,8	28,8	68
01370315	3 x 1,50	0,26	7,2	43,2	84
01370415	4 x 1,50	0,26	7,9	57,6	104
01370515	5 x 1,50	0,26	8,8	72,0	132
01370715	7 x 1,50	0,26	9,6	100,8	166
01370815	8 x 1,50	0,26	11,4	115,2	216
01371015	10 x 1,50	0,26	12,6	144,0	239
01371215	12 x 1,50	0,26	13,0	172,8	276

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
01371615	16 x 1,50	0,26	14,8	230,4	368
01371815	18 x 1,50	0,26	15,6	259,2	411
01372415	24 x 1,50	0,26	18,4	345,6	536
01370225	2 x 2,50	0,26	8,2	48,0	104
01370325	3 x 2,50	0,26	8,7	72,0	129
01370425	4 x 2,50	0,26	9,5	96,0	160
01370525	5 x 2,50	0,26	10,8	120,0	206
01370725	7 x 2,50	0,26	11,8	168,0	261
01370825	8 x 2,50	0,26	13,9	192,0	335
01371025	10 x 2,50	0,26	15,4	240,0	374
01371225	12 x 2,50	0,26	15,9	288,0	432
01371625	16 x 2,50	0,26	17,6	384,0	559
01371825	18 x 2,50	0,26	18,8	432,0	633
01372425	24 x 2,50	0,26	22,6	576,0	835
01370240	2 x 4,00	0,31	9,8	76,8	155
01370340	3 x 4,00	0,31	10,2	115,2	194
01370440	4 x 4,00	0,31	11,1	153,6	240
01370540	5 x 4,00	0,31	12,7	192,0	303
01370740	7 x 4,00	0,31	13,8	268,8	386
01370260	2 x 6,00	0,31	11,0	115,2	209
01370360	3 x 6,00	0,31	11,6	172,8	265
01370460	4 x 6,00	0,31	12,7	230,4	330
01370560	5 x 6,00	0,31	14,0	288,0	409
01370760	7 x 6,00	0,31	15,7	403,2	542
01370261	2 x 10,00	0,41	16,0	192,0	404
01370361	3 x 10,00	0,41	17,0	288,0	506
01370461	4 x 10,00	0,41	18,8	384,0	634
01370561	5 x 10,00	0,41	20,8	480,0	788
01370761	7 x 10,00	0,41	23,2	672,0	1052
01370262	2 x 16,00	0,41	18,2	307,2	585
01370362	3 x 16,00	0,41	19,3	460,8	747
01370462	4 x 16,00	0,41	21,6	614,4	954
01370562	5 x 16,00	0,41	24,3	768,0	1206
01370762	7 x 16,00	0,41	26,6	1075,2	1558
01370263	2 x 25,00	0,41	22,4	480,0	894
01370363	3 x 25,00	0,41	24,2	720,0	1165
01370463	4 x 25,00	0,41	26,6	960,0	1460
01370264	2 x 35,00	0,41	25,2	672,0	1174
01370364	3 x 35,00	0,41	26,8	1008,0	1513
01370464	4 x 35,00	0,41	29,5	1344,0	1905

Other dimensions and colours are possible on request.

SC 500 C HDTR

Besilen® insulated strands with overall copper screen and Besilen® outer sheath

RoHS

Marking for SC 500 C HDTR 01340410:
SAB BRÖCKSKES · D-VIERSEN · SC 500 C HDTR UL AWM Style 4535 150°C 600V CSA AWM I/II A 150°C 600V FT1 FT2 CE

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	Besilen® EI2 acc. to DIN VDE 0282 part 1 and HD 22.1
Colour code:	up to 5 cores coloured acc. to HD 308 (VDE 0293 part 308); from 6 cores black cores with consecutive numbers acc. to EN 50334; from 3 cores a green-yellow earth wire
Stranding:	in layers
Inner sheath:	Besilen® EM9 acc. to DIN VDE 0282 part 1 + HD 22.1
Screen:	tinned copper braiding
Sheath material:	Besilen® EM9 acc. to DIN VDE 0282 part 1 + HD 22.1
Sheath colour:	black (similar RAL 9011)

Outstanding features:

- **good EMC characteristics**
- **halogen-free**
- **flexible at low temperatures**
- **heat resistant**
- **protection against mechanical damage**

Technical data:

Voltage:	UL + CSA: 600 V
Nominal voltage:	DIN VDE: Uo/U 300/500 V
Testing voltage:	2000 V acc. to DIN VDE 0282 part 2 + HD 22.2 core/screen 2000 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:* *short-time use:*	**UL:** up to +150 °C **CSA:** up to +150 °C **DIN VDE:** -40/+180 °C -25/+180 °C +250 °C
Halogen-free:	acc. to DIN VDE 0472 part 815 + IEC 60754-1
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2 + CSA FT1 + FT2
Corrosiveness of conflagration gases:	IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2 – no development of corrosive conflagration gases
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
01340207	2 x 0,75	0,21	8,6	45,1	122
01340307	3 x 0,75	0,21	8,9	52,7	130
01340407	4 x 0,75	0,21	9,4	60,5	144
01340507	5 x 0,75	0,21	10,1	74,7	169
01340210	2 x 1,00	0,21	8,8	50,1	130
01340310	3 x 1,00	0,21	8,9	60,1	140
01340410	4 x 1,00	0,21	9,7	76,6	163
01340510	5 x 1,00	0,21	10,1	87,0	184
01340710	7 x 1,00	0,21	11,2	107,4	217
01340215	2 x 1,50	0,26	9,8	67,1	166
01340315	3 x 1,50	0,26	10,2	82,0	180
01340415	4 x 1,50	0,26	11,0	97,5	206
01340515	5 x 1,50	0,26	11,8	121,3	245
01340715	7 x 1,50	0,26	13,0	159,5	295
01340225	2 x 2,50	0,26	11,2	88,2	217
01340325	3 x 2,50	0,26	11,7	121,1	248
01340425	4 x 2,50	0,26	12,9	146,5	293
01340525	5 x 2,50	0,26	14,3	182,0	358
01340340	3 x 4,00	0,31	13,8	167,5	342
01340440	4 x 4,00	0,31	14,8	216,3	401
01340540	5 x 4,00	0,31	16,7	256,8	487
01340360	3 x 6,00	0,31	15,1	235,9	435
01340460	4 x 6,00	0,31	16,8	295,2	520
01340560	5 x 6,00	0,31	18,1	371,5	625

Other dimensions and colours are possible on request.

SC 500 HDTRS

Besilen® insulated strands with Besilen® outer sheath and steel wire armouring for mechanical protection

Marking for SC 500 HDTRS 01380310:
SAB BRÖCKSKES · D-VIERSEN · SC 500 HDTRS AWM Style 4535 150°C 600V CSA AWM I/II A 150°C 600V FT1 FT2 CE

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	Besilen® EI2 acc. to DIN VDE 0282 part 1 and HD 22.1
Colour code:	up to 5 cores coloured acc. to HD 308 (VDE 0293 part 308); from 6 cores black cores with consecutive numbers acc. to EN 50334; from 3 cores a green-yellow earth wire
Stranding:	in layers
Sheath material:	Besilen® EM9 acc. to DIN VDE 0282 part 1 + HD 22.1
Sheath colour:	reddish brown (similar RAL 3016)
Armour:	galvanized steel wire braiding

Outstanding features:

- **halogen-free**
- **flexible at low temperatures**
- **heat resistant**
- **protection against mechanical damage**

Technical data:

Voltage:	UL + CSA: 600 V
Nominal voltage:	DIN VDE: Uo/U 300/500 V
Testing voltage:	2000 V acc. to DIN VDE 0282 part 2 + HD 22.2
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:* *short-time use:*	**UL:** up to +150 °C **CSA:** up to +150 °C **DIN VDE:** -40/+180 °C -25/+180 °C +250 °C
Halogen-free:	acc. to DIN VDE 0472 part 815 + IEC 60754-1
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2 + CSA FT1 + FT2
Corrosiveness of conflagration gases:	IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2 – no development of corrosive conflagration gases
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
01380207	2 x 0,75	0,21	6,7	14,4	73
01380307	3 x 0,75	0,21	7,0	21,6	83
01380407	4 x 0,75	0,21	7,5	28,8	96
01380507	5 x 0,75	0,21	8,2	36,0	113
01380607	6 x 0,75	0,21	8,8	43,2	133
01380707	7 x 0,75	0,21	8,8	50,4	138
01380210	2 x 1,00	0,21	6,9	19,2	80
01380310	3 x 1,00	0,21	7,2	28,8	91
01380410	4 x 1,00	0,21	7,8	38,4	107
01380510	5 x 1,00	0,21	8,4	48,0	130
01380610	6 x 1,00	0,21	9,1	57,6	149
01380710	7 x 1,00	0,21	9,1	67,2	156
01380215	2 x 1,50	0,26	7,6	28,8	97
01380315	3 x 1,50	0,26	8,0	43,2	113
01380415	4 x 1,50	0,26	8,7	57,6	139
01380515	5 x 1,50	0,26	9,6	72,0	168
01380615	6 x 1,50	0,26	10,4	86,4	198
01380715	7 x 1,50	0,26	10,4	100,8	207
01380225	2 x 2,50	0,26	9,2	48,0	140
01380325	3 x 2,50	0,26	9,7	72,0	166
01380425	4 x 2,50	0,26	10,5	96,0	197
01380525	5 x 2,50	0,26	11,6	120,0	253
01380625	6 x 2,50	0,26	12,8	144,0	314
01380725	7 x 2,50	0,26	12,8	168,0	330
01380240	2 x 4,00	0,31	10,6	76,8	197
01380340	3 x 4,00	0,31	11,2	115,2	236
01380440	4 x 4,00	0,31	12,1	153,6	288
01380540	5 x 4,00	0,31	13,7	192,0	373
01380640	6 x 4,00	0,31	14,8	230,4	428
01380740	7 x 4,00	0,31	14,8	268,8	458
01380260	2 x 6,00	0,31	11,8	115,2	256
01380360	3 x 6,00	0,31	12,6	172,8	333
01380460	4 x 6,00	0,31	13,7	230,4	401
01380560	5 x 6,00	0,31	15,0	288,0	483

Other dimensions and colours are possible on request.

Temperature range up to +200°C

SC 600 HDTR SABIX® 722 insulated strands with Besilen® outer sheath

RoHS

Marking for SC 600 HDTR 01270410:
SAB BRÖCKSKES · D-VIERSEN · SC 600 HDTR AWM Style 4511 200°C 600V c AWM I/II A/B 200°C 600V FT1 FT2 CE

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	SABIX® 722
Colour code:	up to 5 cores coloured acc. to HD 308 (VDE 0293 part 308); from 6 cores black cores with consecutive numbers acc. to EN 50334; from 3 cores a green-yellow earth wire
Stranding:	in layers
Sheath material:	Besilen® better than EM9 acc. to DIN VDE 0282 part 1 + HD 22.1
Sheath colour:	reddish brown (similar RAL 3016)

Outstanding features:

- halogen-free
- flexible at low temperatures
- heat resistant

Technical data:

Voltage:	UL + cUL: 600 V
Nominal voltage:	DIN VDE: Uo/U 300/500 V
Testing voltage:	2000 V acc. to DIN VDE 0282 part 2 + HD 22.2
Min. bending radius *fixed laying:* *flexible application:*	 4 x d 6 x d
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:* *short-time use:*	**UL:** up to +200 °C **cUL:** up to +200 °C **DIN VDE:** -40/+180 °C -25/+180 °C +250 °C
Halogen-free:	acc. to DIN VDE 0472 part 815 + IEC 60754-1
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2 + cUL FT1 + FT2
Corrosiveness of conflagration gases:	IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2 – no development of corrosive conflagration gases
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
01270205	2 x 0,50	0,21	5,6	10,3	38
01270305	3 x 0,50	0,21	5,9	15,4	45
01270405	4 x 0,50	0,21	6,3	20,5	53
01270505	5 x 0,50	0,21	6,9	25,6	63
01270705	7 x 0,50	0,21	7,5	35,9	79
01270805	8 x 0,50	0,21	8,6	41,0	91
01271005	10 x 0,50	0,21	9,3	51,3	108
01271205	12 x 0,50	0,21	9,6	61,5	124
01271605	16 x 0,50	0,21	10,6	82,0	157
01271805	18 x 0,50	0,21	11,2	92,3	174
01272405	24 x 0,50	0,21	13,1	123,1	240
01270207	2 x 0,75	0,21	5,9	14,4	46
01270307	3 x 0,75	0,21	6,4	21,6	54
01270407	4 x 0,75	0,21	6,9	28,8	65
01270507	5 x 0,75	0,21	7,6	36,0	77
01270707	7 x 0,75	0,21	8,2	50,4	98
01270807	8 x 0,75	0,21	9,5	57,6	113
01271007	10 x 0,75	0,21	10,3	72,0	135
01271207	12 x 0,75	0,21	10,6	86,4	155
01271607	16 x 0,75	0,21	11,8	115,2	197
01271807	18 x 0,75	0,21	12,5	129,6	221
01272407	24 x 0,75	0,21	14,8	172,8	307
01270210	2 x 1,00	0,21	6,3	19,2	51
01270310	3 x 1,00	0,21	6,6	28,8	62
01270410	4 x 1,00	0,21	7,2	38,4	75
01270510	5 x 1,00	0,21	7,8	48,0	89
01270710	7 x 1,00	0,21	8,5	67,2	115
01270810	8 x 1,00	0,21	9,8	76,8	132
01271010	10 x 1,00	0,21	10,7	96,0	158
01271210	12 x 1,00	0,21	11,0	115,2	182
01271610	16 x 1,00	0,21	12,2	153,6	234
01271810	18 x 1,00	0,21	13,0	172,8	262
01272410	24 x 1,00	0,21	15,9	230,4	379
01270215	2 x 1,50	0,26	7,1	28,8	68
01270315	3 x 1,50	0,26	7,5	43,2	83
01270415	4 x 1,50	0,26	8,0	57,6	99
01270515	5 x 1,50	0,26	8,9	72,0	120
01270715	7 x 1,50	0,26	9,7	100,8	156
01270815	8 x 1,50	0,26	11,4	115,2	182
01271015	10 x 1,50	0,26	12,6	144,0	223
01271215	12 x 1,50	0,26	13,0	172,8	258

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
01271615	16 x 1,50	0,26	14,8	230,4	341
01271815	18 x 1,50	0,26	15,6	259,2	379
01272415	24 x 1,50	0,26	18,4	345,6	504
01270225	2 x 2,50	0,26	8,5	48,0	101
01270325	3 x 2,50	0,26	9,0	72,0	126
01270425	4 x 2,50	0,26	9,8	96,0	155
01270525	5 x 2,50	0,26	11,1	120,0	192
01270725	7 x 2,50	0,26	12,1	168,0	250
01270825	8 x 2,50	0,26	14,3	192,0	293
01271025	10 x 2,50	0,26	15,8	240,0	358
01271225	12 x 2,50	0,26	16,3	288,0	415
01271625	16 x 2,50	0,26	18,3	384,0	540
01271825	18 x 2,50	0,26	19,3	432,0	600
01272425	24 x 2,50	0,26	23,2	576,0	889
01270240	2 x 4,00	0,31	9,7	76,8	136
01270340	3 x 4,00	0,31	10,6	115,2	185
01270440	4 x 4,00	0,31	11,6	153,6	230
01270540	5 x 4,00	0,31	12,9	192,0	281
01270740	7 x 4,00	0,31	14,1	268,8	369
01270260	2 x 6,00	0,31	11,2	115,2	199
01270360	3 x 6,00	0,31	11,7	172,8	249
01270460	4 x 6,00	0,31	13,0	230,4	316
01270560	5 x 6,00	0,31	14,3	288,0	381
01270760	7 x 6,00	0,31	16,0	403,2	518
01270261	2 x 10,00	0,41	14,6	192,0	340
01270361	3 x 10,00	0,41	15,5	288,0	433
01270461	4 x 10,00	0,41	17,0	384,0	541
01270561	5 x 10,00	0,41	18,9	480,0	659
01270761	7 x 10,00	0,41	21,1	672,0	894
01270262	2 x 16,00	0,41	17,0	307,2	489
01270362	3 x 16,00	0,41	18,7	460,8	638
01270462	4 x 16,00	0,41	20,5	614,4	799
01270562	5 x 16,00	0,41	20,9	768,0	968
01270762	7 x 16,00	0,41	25,7	1075,2	1329
01270263	2 x 25,00	0,41	21,6	480,0	771
01270363	3 x 25,00	0,41	23,0	720,0	990
01270463	4 x 25,00	0,41	25,6	960,0	1263
01270264	2 x 35,00	0,41	24,8	672,0	1074
01270364	3 x 35,00	0,41	26,4	1008,0	1392
01270464	4 x 35,00	0,41	29,0	1344,0	1757

Other dimensions and colours are possible on request.

Temperature range up to +200°C

SC 600 C HDTR

SABIX® 722 insulated strands with overall copper screen and Besilen® outer sheath

RoHS

Marking for SC 600 C HDTR 01240410:
SAB BRÖCKSKES · D-VIERSEN · SC 600 C HDTR AWM Style 4511 200°C 600V c AWM I/II A/B 200°C 600V FT1 FT2

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	SABIX® 722
Colour code:	up to 5 cores coloured acc. to HD 308 (VDE 0293 part 308); from 6 cores black cores with consecutive numbers acc. to EN 50334; from 3 cores a green-yellow earth wire
Stranding:	in layers
Inner sheath:	Besilen® EM9 acc. to DIN VDE 0282 part 1 + HD 22.1
Screen:	tinned copper braiding
Sheath material:	Besilen® better than EM9 acc. to DIN VDE 0282 part 1 + HD 22.1
Sheath colour:	black (similar RAL 9011)

Outstanding features:

- good EMC characteristics
- halogen-free
- flexible at low temperatures
- heat resistant
- protection against mechanical damage

Technical data:

Voltage:	UL + cUL: 600 V
Nominal voltage:	DIN VDE: Uo/U 300/500 V
Testing voltage:	2000 V acc. to DIN VDE 0282 part 2 + HD 22.2 core/screen 2000 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:* *short-time use:*	**UL:** up to +200 °C **cUL:** up to +200 °C **DIN VDE:** -40/+180 °C -25/+180 °C +250 °C
Halogen-free:	acc. to DIN VDE 0472 part 815 + IEC 60754-1
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2 + cUL FT1 + FT2
Corrosiveness of conflagration gases:	IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2 – no development of corrosive conflagration gases
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
01240207	2 x 0,75	0,21	8,2	37,0	93
01240307	3 x 0,75	0,21	8,5	44,4	101
01240407	4 x 0,75	0,21	9,0	55,0	123
01240507	5 x 0,75	0,21	9,7	62,9	139
01240210	2 x 1,00	0,21	8,4	42,0	101
01240310	3 x 1,00	0,21	8,7	54,7	120
01240410	4 x 1,00	0,21	9,3	64,8	136
01240510	5 x 1,00	0,21	10,1	93,8	167
01240710	7 x 1,00	0,21	11,0	114,3	202
01240215	2 x 1,50	0,26	9,4	55,3	129
01240315	3 x 1,50	0,26	10,0	88,8	164
01240415	4 x 1,50	0,26	10,8	104,4	192
01240515	5 x 1,50	0,26	11,6	125,5	235
01240715	7 x 1,50	0,26	12,8	161,0	277
01240225	2 x 2,50	0,26	11,2	99,8	210
01240325	3 x 2,50	0,26	11,7	124,5	233
01240425	4 x 2,50	0,26	12,9	156,3	282
01240525	5 x 2,50	0,26	14,3	187,0	336
01240340	3 x 4,00	0,31	13,8	177,1	329
01240440	4 x 4,00	0,31	14,8	221,5	384
01240540	5 x 4,00	0,31	16,7	292,3	481
01240360	3 x 6,00	0,31	15,1	241,2	396
01240460	4 x 6,00	0,31	16,8	330,9	524
01240560	5 x 6,00	0,31	18,1	400,8	581

Other dimensions and colours are possible on request.

Temperature range up to +200°C

SC 600 HDTRS

SABIX® 722 insulated strands with Besilen® outer sheath and steel wire armouring for mechanical protection

RoHS

Marking for SC 600 HDTRS 01280310:
SAB BRÖCKSKES · D-VIERSEN · SC 600 HDTR AWM Style 4511 200°C 600V c AWM I/II A/B 200°C 600V FT1 FT2 CE

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	SABIX® 722
Colour code:	up to 5 cores coloured acc. to HD 308 (VDE 0293 part 308); from 6 cores black cores with consecutive numbers acc. to EN 50334; from 3 cores a green-yellow earth wire
Stranding:	in layers
Sheath material:	Besilen® better than EM9 acc. to DIN VDE 0282 part 1 + HD 22.1
Sheath colour:	reddish brown (similar RAL 3016)
Armour:	galvanized steel wire braiding

Outstanding features:

- **halogen-free**
- **flexible at low temperatures**
- **heat resistant**
- **protection against mechanical damage**

Technical data:

Voltage:	UL + cUL: 600 V
Nominal voltage:	DIN VDE: Uo/U 300/500 V
Testing voltage:	2000 V acc. to DIN VDE 0282 part 2 + HD 22.2
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:* *short-time use:*	**UL:** up to +200 °C **cUL:** up to +200 °C **DIN VDE:** -40/+180 °C -25/+180 °C +250 °C
Halogen-free:	acc. to DIN VDE 0472 part 815 + IEC 60754-1
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2 + cUL FT1 + FT2
Corrosiveness of conflagration gases:	IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2 – no development of corrosive conflagration gases
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of cores x cross section n x mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
01280207	2 x 0,75	0,21	6,9	14,4	66
01280307	3 x 0,75	0,21	7,2	21,6	75
01280407	4 x 0,75	0,21	7,7	28,8	86
01280507	5 x 0,75	0,21	8,4	36,0	104
01280607	6 x 0,75	0,21	9,0	43,2	116
01280707	7 x 0,75	0,21	9,0	50,4	125
01280210	2 x 1,00	0,21	7,1	19,2	72
01280310	3 x 1,00	0,21	7,4	28,8	83
01280410	4 x 1,00	0,21	8,0	38,4	97
01280510	5 x 1,00	0,21	8,6	48,0	116
01280610	6 x 1,00	0,21	9,3	57,6	131
01280710	7 x 1,00	0,21	9,3	67,2	142
01280215	2 x 1,50	0,26	7,9	28,8	89
01280315	3 x 1,50	0,26	8,3	43,2	109
01280415	4 x 1,50	0,26	8,8	57,6	126
01280515	5 x 1,50	0,26	9,7	72,0	148
01280615	6 x 1,50	0,26	10,5	86,4	173
01280715	7 x 1,50	0,26	10,5	100,8	190
01280225	2 x 2,50	0,26	9,3	48,0	128
01280325	3 x 2,50	0,26	9,8	72,0	153
01280425	4 x 2,50	0,26	10,6	96,0	188
01280525	5 x 2,50	0,26	11,9	120,0	226
01280625	6 x 2,50	0,26	12,9	144,0	259
01280725	7 x 2,50	0,26	12,9	168,0	286
01280240	2 x 4,00	0,31	10,5	76,8	170
01280340	3 x 4,00	0,31	11,4	115,2	219
01280440	4 x 4,00	0,31	12,4	153,6	264
01280540	5 x 4,00	0,31	13,7	192,0	327
01280640	6 x 4,00	0,31	14,9	230,4	376
01280740	7 x 4,00	0,31	14,9	268,8	417
01280260	2 x 6,00	0,31	12,0	115,2	234
01280360	3 x 6,00	0,31	12,7	172,8	288
01280460	4 x 6,00	0,31	13,8	230,4	363
01280560	5 x 6,00	0,31	15,1	288,0	429

Other dimensions and colours are possible on request.

N2GFA/2GFA Besilen® insulated wire acc. to DIN VDE 0250

RoHS

Construction:

Conductor:	solid tinned copper wire acc. to IEC 60228, EN 60228, VDE 0295, class 1
Insulation:	Besilen® EI2 acc. to DIN VDE 0282 part 1 and HD 22.1

Outstanding features:

- **halogen-free**
- **0,75 mm² DIN VDE standardized**
- **flexible at low temperatures**
- **heat resistant**

Technical data:

Nominal voltage:	Uo/U 300/300 V
Testing voltage U:	2000 V
Min. bending radius:	7.5 x d
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:* *short-time use:*	 -40/+180 °C -25/+180 °C +250 °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
Corrosiveness of conflagration gases:	IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2 – no development of corrosive conflagration gases
Chem. resistance:	see page N/9
Weather resistance:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	nominal cross section mm²	nominal wire-ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
0157005…*	0,50	0,80	2,1	4,8	9
0151007…*	0,75**	0,98	2,2	7,2	11
0157010…*	1,00	1,13	2,4	9,6	14
0157015…*	1,50	1,38	2,8	14,4	21
0157025…*	2,50	1,78	3,4	24,0	33

Other dimensions and colours are possible on request.

*** Colour code for single conductors:**

…0 = green-yellow
…1 = blue
…2 = black
…3 = brown
…4 = grey
…5 = white
…6 = reddish brown
…7 = red
…9 = nature

** N2GFA 0,75 mm²
according to DIN VDE 0250 part 502.
Other cross sections with reference to DIN VDE 0250 part 502.

SAB BRÖCKSKES

N2GFAF/2GFAF Besilen® insulated strands acc. to DIN VDE 0250

RoHS

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	Besilen® EI2 acc. to DIN VDE 0282 part 1 and HD 22.1

Outstanding features:

- **flexible**
- **halogen-free**
- **0,75 mm² DIN VDE standardized**
- **flexible at low temperatures**
- **heat resistant**

Technical data:

Nominal voltage:	Uo/U 300/300 V
Testing voltage U:	2000 V
Min. bending radius:	7.5 x d
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:* *short-time use:*	 -40/+180 °C -25/+180 °C +250 °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
Corrosiveness of conflagration gases:	IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2 – no development of corrosive conflagration gases
Chem. resistance:	see page N/9
Weather resistance:	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	nominal cross section mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
0158002…*	0,25	0,16	1,9	2,4	6
0158003…*	0,34	0,26	2,0	3,3	7
0158005…*	0,50	0,21	2,1	4,8	9
0152007…*	0,75**	0,21	2,4	7,2	12
0158010…*	1,00	0,21	2,5	9,6	14
0158015…*	1,50	0,26	3,0	14,4	19
0158025…*	2,50	0,26	3,6	24,0	31

Other dimensions and colours are possible on request.

*** Colour code for single conductors:**

…0 = green-yellow	…4 = grey
…1 = blue	…5 = white
…2 = black	…6 = reddish brown
…3 = brown	…7 = red
	…9 = nature

** N2GFAF 0,75 mm² according to DIN VDE 0250 part 502. Other cross sections with reference to DIN VDE 0250 part 502.

A05SJ-U Besilen® insulated wire with fibre-glass braiding acc. to DIN VDE 0282

RoHS

Construction:

Conductor:	solid tinned copper wire acc. to DIN VDE 0295 class 1 + IEC 60228 class 1
Insulation:	Besilen® EI2 acc. to DIN VDE 0282 part 1 and HD 22.1
Standard colour:	nature
Braiding:	fibre-glass
Impregnation:	impregnating lacquer

Outstanding features:

- **halogen-free**
- **flexible at low temperatures**
- **heat resistant**

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage U:	2000 V
Min. bending radius:	7.5 x d
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:* *short-time use:*	 -40/+180 °C -25/+180 °C +250 °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
Corrosiveness of conflagration gases:	IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2 – no development of corrosive conflagration gases
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	nominal cross section mm²	nominal wire-ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
01540109	1,00	1,13	3,0	9,6	19
01540159	1,50	1,38	3,4	14,4	26
01540259	2,50	1,78	4,0	24,0	38
01540409	4,00	2,26	4,5	38,4	55
01540609	6,00	2,76	5,0	57,6	75
01541009	10,00	3,57	6,2	96,0	125

Other dimensions and colours are possible on request.

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H05SJ-K Besilen® insulated strands with fibre-glass braiding acc. to DIN VDE 0282

RoHS

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	Besilen® EI2 acc. to DIN VDE 0282 part 1 and HD 22.1
Standard colour:	nature
Braiding:	fibre-glass
Impregnation:	impregnating lacquer

Outstanding features:

- flexible
- halogen-free
- flexible at low temperatures
- heat resistant
- harmonized

Technical data:

Nominal voltage:	Uo/U 300/500 V
Testing voltage U:	2000 V
Min. bending radius:	7.5 x d
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:* *short-time use:*	 -40/+180 °C -25/+180 °C +250 °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
Corrosiveness of conflagration gases:	IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2 – no development of corrosive conflagration gases
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	nominal cross section mm²	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
01550059	0,50	0,21	2,7	4,8	14
01550079	0,75	0,21	3,0	7,2	17
01550109	1,00	0,21	3,1	9,6	19
01550159	1,50	0,26	3,5	14,4	25
01550259	2,50	0,26	4,2	24,0	35
01550409	4,00	0,31	4,8	38,4	50
01550609	6,00	0,31	5,3	57,6	60
01551009	10,00	0,41	6,4	96,0	120
01551609	16,00	0,41	8,3	153,6	178
01552509	25,00	0,41	10,1	240,0	281
01553509	35,00	0,41	11,5	336,0	388
01555009	50,00	0,41	13,1	480,0	537
01557009	70,00	0,41	15,4	672,0	721
01559509	95,00	0,51	18,0	912,0	963

Other dimensions and colours are possible on request.

BiAF/YW low-voltage connection cable for halogen lamps

RoHS

Marking for BiAF/YW 01352151:
SAB BRÖCKSKES · D-VIERSEN · BIAF/YW

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	Besilen® EI2 acc. to DIN VDE 0282 part 1 and HD 22.1
Colour code:	blue, red
Stranding:	2 cores parallel
Sheath material:	PVC, YW4 acc. to DIN VDE 0207, part 5
Sheath colour:	black (similar RAL 9005)
Shape:	flat

Outstanding features:

- due to silicone core isolation suitable for temperatures up to 180°C at conductors
- heat resistant PVC outer sheath for ambient temperatures up to 105°C for short-time use
- due to flat construction space-saving
- simplified connecting possibilities
- no wiring with single conductors

Technical data:

Nominal voltage:	24 V
Testing voltage U:	500 V
Min. bending radius:	7.5 x d
Radiation resistance:	8 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:* *short-time use:* *at the conductor:*	 -40/+90 °C +5/+90 °C +105 °C +180 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
Chem. resistance:	see page N/9
Absence of harmful substances:	acc. to RoHS directive of the European Union see page N/14

item no.	no. of s x cross section n x mm²	largest single wire ø mm	dimen-sions mm x mm	copper figure kg/km	cable weight ≈ kg/km
01352151	2 x 1,50	0,26	5,8 x 3,5	28,8	44
01352251	2 x 2,50	0,26	6,8 x 4,0	48,0	66
01352401	2 x 4,00	0,31	7,8 x 4,4	76,8	96

Other dimensions and colours are possible on request.

SAB BRÖCKSKES

Cables for wind power plant

www.sab-worldwide.com

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CONTENT

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 ISO 16001. 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 m^2 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 ISO 16001

JET

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

Data / POF Cables POF-LWL and hybrid cables for data transmission

Construction:	2 x POF + 10 x 0,50 mm²	4 x POF + 19 x 1,00 mm²	6 x POF black	6 x POF coloured	8 x POF
Conductor:	bare copper strands, extra fine wires, acc. to EN 60228		---		
POF:	blue, red	black cores with consecutive numbers in white 1-4	black cores with consecutive numbers in white 1-6	black, blue, red, white, green, orange	black cores with consecutive numbers in white 1-8
Insulation (copper conductor):	YA, thermoplastic material, TI2 acc. to DIN VDE 0281 part 1		---		
Colour code (copper conductor):	0,50 mm²: black cores with consecutive numbers in white 1-10 without a green-yellow earth wire	1,00 mm²: black cores with consecutive numbers in white 1-18 without a green-yellow earth wire	---		
Stranding:	POF and cores in layers		POF in layers with non-woven tape wrapping		
Wrapping:	---	non-woven tape	---		
Sheath material:	YM, thermoplastic material, TM2 acc. to DIN VDE 0281 part 1				thermoplastic material
Sheath colour:	black (RAL 9005)				

Technical data	2 x POF + 10 x 0,50 mm²	4 x POF + 19 x 1,00 mm²	6 x POF black	6 x POF coloured	8 x POF
Voltage:	max. 350 V		---		
Testing voltage:	core / core 1500 V		---		
Temperature range *fixed laying:* *flexible application:*	- 30°C / + 70°C - 5°C / + 70°C		- 30°C / + 70°C - 5°C / + 70°C		
Min. bending radius:	7,5 x d				
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2				
Oil resistance:	acc. to internal standard				
Absence of harmful substances:	acc. to RoHS-guideline 2002/95/EG as well as GefStoffV appendix IV-no. 24				

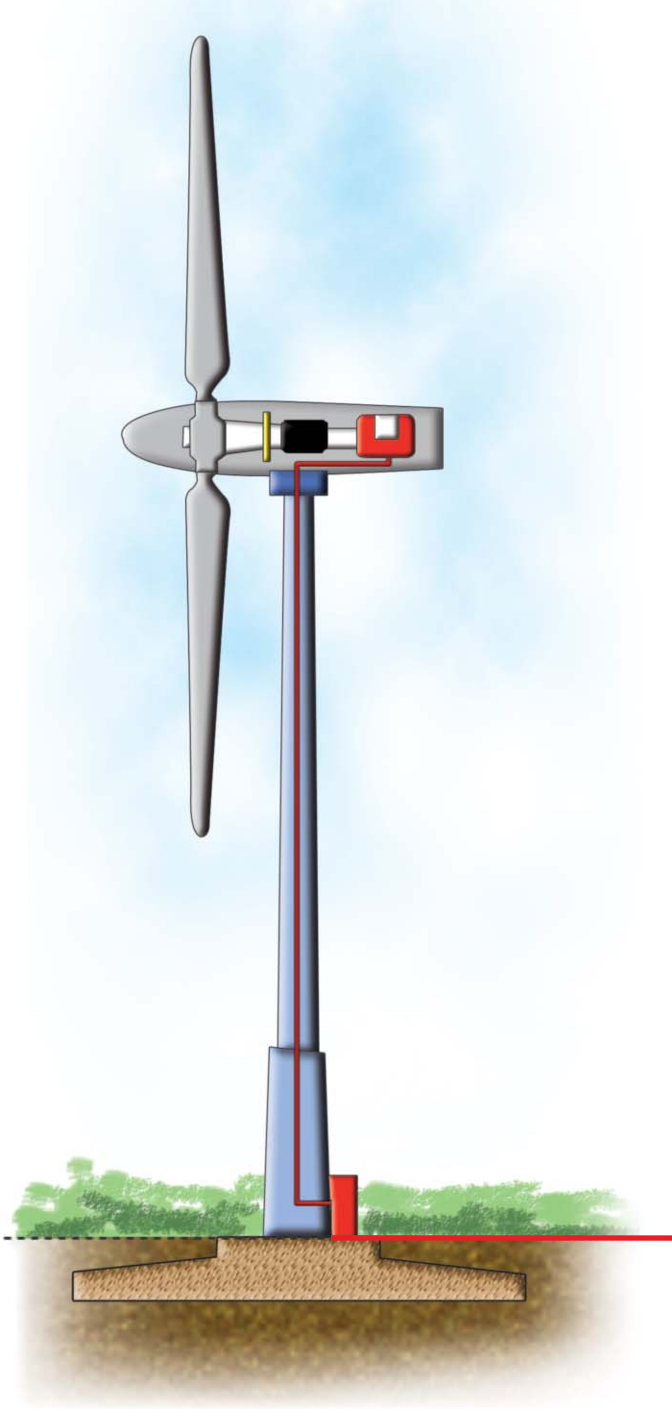
item no.	no. of cores	no. of POF	nominal cross-section mm²	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈kg/km	ohmic resistance at 20°C acc. to VDE 0812 max.Ω/km
	10	2	0,50	9,5	48,0	121	39,0
	19	4	1,00	14,9	182,4	293	19,5
on request		6		8,7		70	
		6		8,7		70	
		8		10,1		93	

Other dimensions and colours are possible on request.

Data / POF Cables POF-LWL and hybrid cables for data transmission

Example of use:

➤ Good electromagnetic characteristics signal transmission for installation in switch boxes and wind energy plants. The copper cable is used for the transmission of the temperature signals that are used for the control of the operating temperature with the help of a resistance thermometer.



Sensor cable

continuously flexible TPE/PUR data cable with coloured core
3 x (1 x 0,14 mm²)D + 12 x 0,14 mm²

Marking for Sensor cable:
SAB BRÖCKSKES · D-VIERSEN · Special Cable UL AWM Style 21198 80°C 300V CSA AWM I A/B 80°C 300V FT2 CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	TPE
Colour code:	with reference to DIN 47100
Stranding:	specially adjusted layering with non-woven tape over each layer
Screen:	wrapped with tinned copper
Wrapping:	non-woven tape
Sheath material:	PUR
Sheath colour:	black (RAL 9005)

Technical data

Peak operating voltage:	**DIN VDE:** max. 150 V **UL/CSA:** 300 V
Testing voltage:	core/core 2000 V core/screen 2000 V
Min. bending radius *fixed laying:* *flexible application:* *individual bending:*	 5 x d 10 x d 90° for a length of 7 cm
Temperature range *fixed laying:* *flexible application:* *high temperature:*	**DIN VDE** **UL/CSA:** up to +80°C -40/+80°C -30/+70°C up to +90°C
Halogen-free:	acc. to DIN VDE 0472 part 815 + IEC 60754-1
Resistance:	very good against water, glycol and frost
Absence of harmful substances:	acc. to RoHS-guideline 2002/95/EG as well as GefStoffV appendix IV-no. 24

item no.	no. of cores x cross section n x mm²	outer-ø ± 5% ca. mm	copper figure kg/km	cable weight ≈ kg/km	ohmic resistance at 20°C max.Ω/km
on request	3 x (1 x 0,14 mm²)D + 12 x 0,14 mm²	7,2	45,1	74	139,3

Other dimensions and colours are possible on request.

Sensor cable

continuously flexible TPE/PUR data cable with coloured core
3 x (1 x 0,14 mm²)D + 12 x 0,14 mm²

Example of use:

➤ Highly flexible sensor cable for the transmission of measured values of a weather station for the control of the yaw mechanism in wind energy plants. The highly flexible construction makes the cable resistant against the existing vibration of the rotor system.

SL 859 C PVC servo cable with overall copper screen

Marking for SL 859 C:
SAB BRÖCKSKES · D-VIERSEN · SL 859 C 4 x 10,0 mm² + 4 x (2 x 1,0 mm²) AWM Style 2587 90°C 600V E172204
CSA AWM I/II A/B 90°C 600V FT1 FT2 LL104758

Construction:

Conductor:	tinned copper strands
Insulation:	PVC
Colour code:	black cores with consecutive numbers and a green-yellow earth wire
Stranding:	1,0 mm² twisted to pairs
Screen:	pairs wrapped with tinned copper braid
Inner sheath:	pairs with PVC, colour: grey (RAL 7000)
Stranding:	specially adjusted layering
Wrapping:	foil
Screen:	tinned copper braiding
Sheath material:	PVC
Sheath colour:	grey (RAL 7000)

Technische Daten:

Peak operating voltage:	**DIN VDE:** 300/500 V **UL/CSA:** 600 V
Testing voltage:	core/core 2000 V core/screen 1000 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** **UL/CSA:** up to +90°C -30/+70°C - 5/+70°C
Absence of harmful substances:	acc. to RoHS-guideline 2002/95/EG as well as GefStoffV appendix IV-no. 24

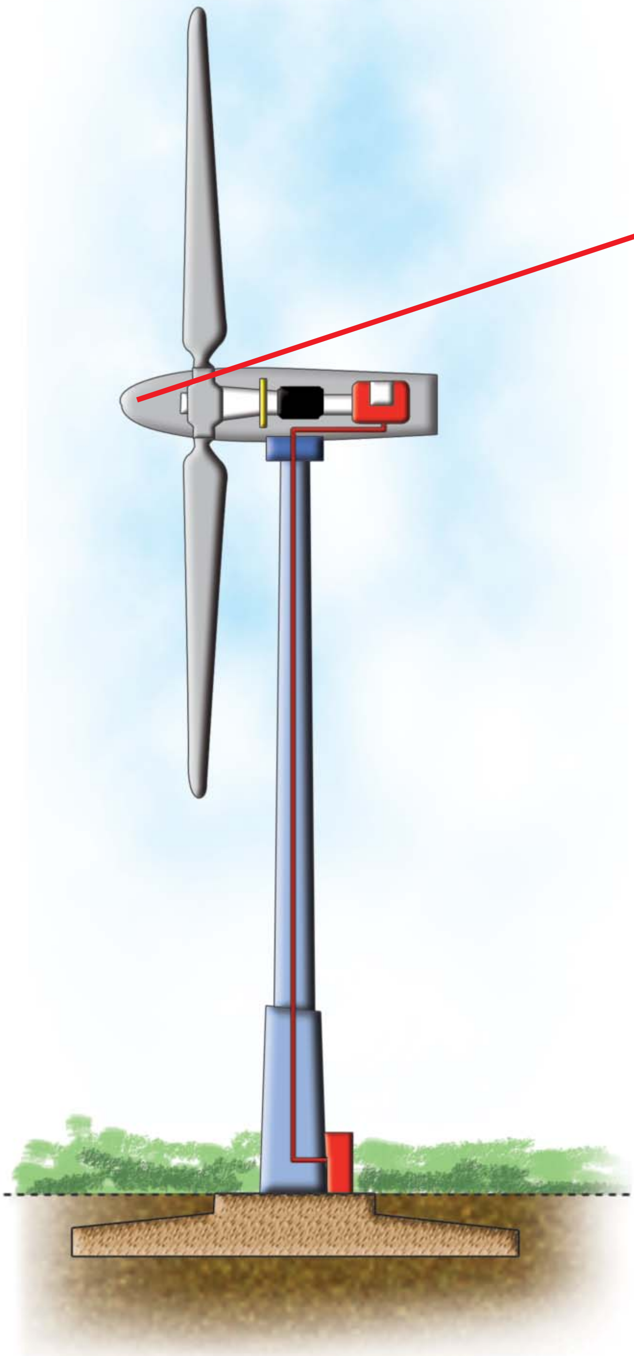
item no.	no. of cores x cross section n x mm²	outer-ø ± 5% ca. mm	copper figure kg/km	cable weight ≈ kg/km	ohmic resistance at 20°C max.Ω/km
on request	4 x (2 x 1,0 mm²) + 4 x 10,0 mm²	23,9	671,9	945	20,0 1,95

Other dimensions and colours are possible on request.

SL 859 C PVC servo cable with overall copper screen

Example of use:

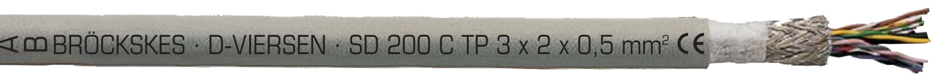
- for example as motor connection cable of pitch drives.



SD 200 C TP

continuously flexible TPE/PUR paired data cable with coloured cores and overall copper screen

RoHS



Marking for SD 200 C TP 07890350:
SAB BRÖCKSKES · D-VIERSEN · SD 200 C TP 3 x 2 x 0,5 mm² CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	TPE 510
Colour code:	with reference to DIN 47100
Stranding:	cores twisted to pairs, pairs twisted in specially adjusted layering with non-woven tape over each layer
Wrapping:	non-woven tape
Screen:	tinned copper braiding
Wrapping:	non-woven tape
Sheath material:	PUR, TMPU acc. to DIN VDE 0282 part 10 + HD 22.10 with mat surface
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **labs uncritical**
  (labs = enamel moisturing interfering substances)
- **flexible at low temperatures**
- **halogen-free**
- **travel > 10 m is possible**
- **good EMC characteristics**
- **high abrasion resistance**

Technical data:

Peak operating voltage:	max. 350 V acc. to DIN VDE
Testing voltage:	1500 V acc. to DIN VDE 0472 part 509 core/screen 1200 V
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	-50/+90 °C -40/+90 °C
Halogen-free:	acc. to DIN VDE 0472 part 815 + IEC 60754-1
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.
Continuous flexibility:	very good
Weather resistance:	very good
Absence of harmful substances:	acc. to RoHS-guideline 2002/95/EG as well as GefStoffV appendix IV-no. 24

item no.	no. of pairs x cross section n x 2 x mm²	largest single wire ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
07890214	2 x 2 x 0,14	0,11	4,6	17,4	28
07890314	3 x 2 x 0,14	0,11	5,1	20,2	32
07890414	4 x 2 x 0,14	0,11	5,8	24,7	39
07890514	5 x 2 x 0,14	0,11	6,2	28,8	46
07890614	6 x 2 x 0,14	0,11	6,4	31,5	53
07890714	7 x 2 x 0,14	0,11	6,7	35,9	59
07891014	10 x 2 x 0,14	0,11	7,9	47,5	72
07891414	14 x 2 x 0,14	0,11	9,0	62,7	96
07891814	18 x 2 x 0,14	0,11	10,0	89,6	129
07892514	25 x 2 x 0,14	0,11	11,7	114,3	170
07890225	2 x 2 x 0,25	0,11	5,1	21,8	35
07890325	3 x 2 x 0,25	0,11	5,7	28,3	44
07890425	4 x 2 x 0,25	0,11	6,4	36,1	52
07890525	5 x 2 x 0,25	0,11	6,9	41,1	61
07890625	6 x 2 x 0,25	0,11	7,1	47,3	69
07890725	7 x 2 x 0,25	0,11	7,4	54,1	82
07891025	10 x 2 x 0,25	0,11	8,9	70,8	101
07891425	14 x 2 x 0,25	0,11	10,9	108,7	153
07891825	18 x 2 x 0,25	0,11	11,6	133,4	189
07892525	25 x 2 x 0,25	0,11	13,8	171,9	262
07890234	2 x 2 x 0,34	0,11	5,4	20,3	40
07890334	3 x 2 x 0,34	0,11	6,0	34,9	52
07890434	4 x 2 x 0,34	0,11	6,9	43,2	63
07890534	5 x 2 x 0,34	0,11	7,4	53,1	73
07890734	7 x 2 x 0,34	0,11	8,0	66,4	94
07891034	10 x 2 x 0,34	0,11	9,6	90,5	121
07891434	14 x 2 x 0,34	0,11	11,6	138,3	181
07891834	18 x 2 x 0,34	0,11	12,5	169,2	223
07892534	25 x 2 x 0,34	0,11	14,7	247,3	313
07890250	2 x 2 x 0,50	0,11	6,3	34,6	52
07890350	3 x 2 x 0,50	0,11	7,1	47,3	69
07890450	4 x 2 x 0,50	0,11	8,2	61,4	87
07890550	5 x 2 x 0,50	0,11	9,1	73,1	105
07890750	7 x 2 x 0,50	0,11	10,0	108,4	151
07891050	10 x 2 x 0,50	0,11	12,1	143,3	192
07891450	14 x 2 x 0,50	0,11	14,3	191,7	276
07891850	18 x 2 x 0,50	0,11	15,8	257,8	345
07892550	25 x 2 x 0,50	0,11	17,9	336,5	446
07890275	2 x 2 x 0,75	0,11	7,2	47,4	69
07890375	3 x 2 x 0,75	0,11	8,3	66,2	87
07890475	4 x 2 x 0,75	0,11	9,6	101,0	112
07890575	5 x 2 x 0,75	0,11	11,1	118,8	163
07890775	7 x 2 x 0,75	0,11	11,9	148,0	212
07891075	10 x 2 x 0,75	0,11	14,7	228,0	296
07891475	14 x 2 x 0,75	0,11	17,2	296,9	390
07891875	18 x 2 x 0,75	0,11	18,5	366,1	482
07892575	25 x 2 x 0,75	0,11	21,2	480,5	620

Other dimensions and colours are possible on request.

SAB BRÖCKSKES

SD 980 CP TP continuously flexible TPE/PUR paired data cable with coloured cores and overall copper screen

Marking for SD 980 CP TP 77890725:
SAB BRÖCKSKES · D-VIERSEN · 77890725 7 x 2 x 0,25 mm² SD 980 CP TP 24 AWG/7pr 77892407
AWM Style 21198 80°C 300V CSA AWM I/II A/B 80°C 300V FT1 FT2 CE

Construction:

Conductor:	bare copper strands, extra fine wires
Insulation:	TPE
Colour code:	with reference to DIN 47100
Stranding:	cores twisted to pairs, pairs twisted in specially adjusted layering with netting tape over each layer
Screen:	tinned copper braiding
Wrapping:	non-woven tape
Sheath material:	TMPU acc. to DIN VDE 0282 part 10 + HD 22.10 with mat surface
Sheath colour:	grey (RAL 7032)

Outstanding features:

- **labs uncritical**
  (labs = enamel moisturing interfering substances)
- **flexible at low temperatures**
- **halogen-free**
- **travel > 10 m is possible**
- **good EMC characteristics**
- **high abrasion resistance**

Technical data:

Peak operating voltage:	**DIN VDE:** max. 350 V **UL/CSA:** 300 V
Testing voltage U:	1500 V acc. to DIN VDE 0472 part 509 core/screen 1200V
Min. bending radius *continuously flexible:*	7,5 x d
Radiation resistance:	5 x 10⁷ cJ/kg
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** **UL/CSA:** up to +80°C -50/+90°C -40/+90°C
Halogen-free:	acc. to DIN VDE 0472 part 815 + IEC 60754-1
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2 UL VW-1 + CSA FT1 FT2
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.
Continuous flexibility:	very good
Absence of harmful substances:	acc. to RoHS-guideline 2002/95/EG as well as GefStoffV appendix IV-no. 24

Possible on request!

- with coloured cores acc. to colour code US 3

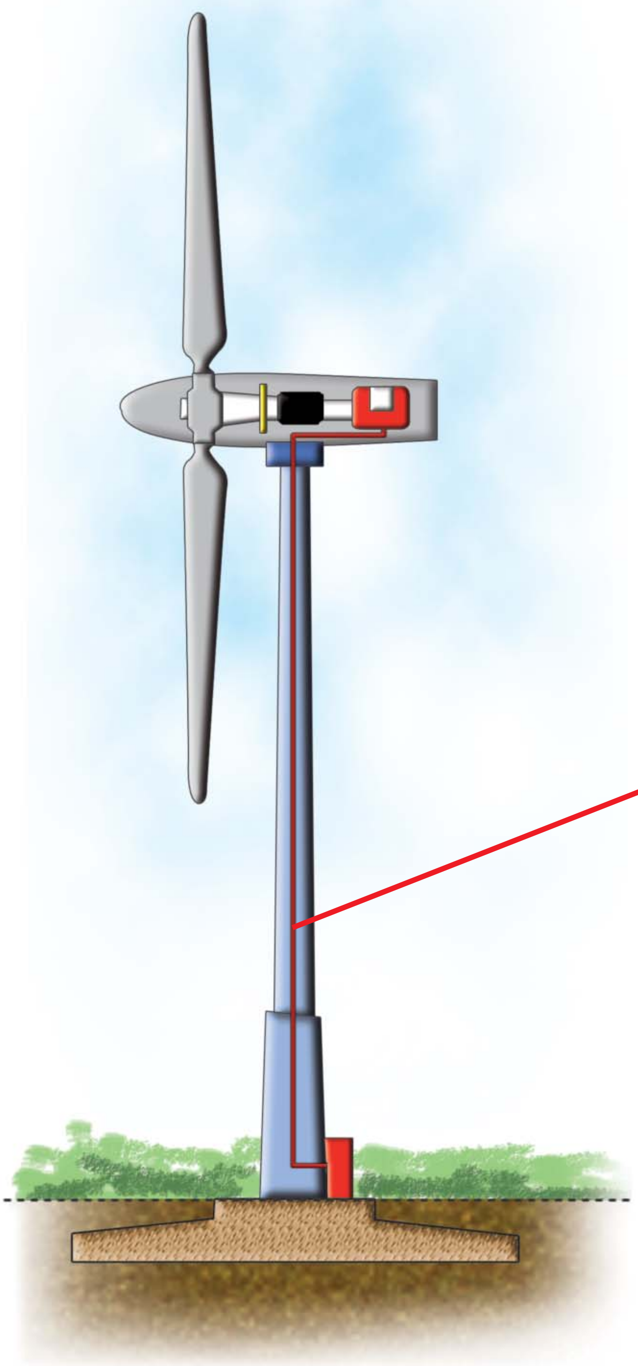
item no.	no. of pairs x cross section n x 2 x mm²	largest single wire ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
77890214	2 x 2 x 0,14	0,11	5,1	19,3	34
77890314	3 x 2 x 0,14	0,11	5,6	22,1	39
77890414	4 x 2 x 0,14	0,11	6,3	26,8	47
77890514	5 x 2 x 0,14	0,11	6,7	31,1	53
77890714	7 x 2 x 0,14	0,11	7,2	38,5	64
77891014	10 x 2 x 0,14	0,11	8,4	50,7	83
77891414	14 x 2 x 0,14	0,11	9,3	66,6	105
77891814	18 x 2 x 0,14	0,11	10,3	96,0	136
77892514	25 x 2 x 0,14	0,11	11,7	121,6	174
77890225	2 x 2 x 0,25	0,11	5,6	23,6	42
77890325	3 x 2 x 0,25	0,11	6,2	30,4	52
77890425	4 x 2 x 0,25	0,11	6,9	38,7	60
77890525	5 x 2 x 0,25	0,11	7,4	43,8	68
77890725	7 x 2 x 0,25	0,11	7,9	57,2	85
77891025	10 x 2 x 0,25	0,11	9,2	74,3	110
77891425	14 x 2 x 0,25	0,11	10,9	115,1	157
77891825	18 x 2 x 0,25	0,11	11,6	140,7	188
77892525	25 x 2 x 0,25	0,11	14,0	205,5	275
77890234	2 x 2 x 0,34	0,11	5,9	29,0	48
77890334	3 x 2 x 0,34	0,11	6,5	37,2	60
77890434	4 x 2 x 0,34	0,11	7,4	45,9	72
77890534	5 x 2 x 0,34	0,11	7,9	56,3	81
77890734	7 x 2 x 0,34	0,11	8,5	69,5	98
77891034	10 x 2 x 0,34	0,11	9,9	94,5	130
77891434	14 x 2 x 0,25	0,11	11,6	145,7	186
77891834	18 x 2 x 0,34	0,11	12,5	177,1	223
77892534	25 x 2 x 0,34	0,11	14,7	260,3	320
77890250	2 x 2 x 0,50	0,11	6,8	36,9	60
77890350	3 x 2 x 0,50	0,11	7,6	50,2	79
77890450	4 x 2 x 0,50	0,11	8,7	64,6	98
77890550	5 x 2 x 0,50	0,11	9,4	77,0	113
77890750	7 x 2 x 0,50	0,11	10,3	114,8	148
77891050	10 x 2 x 0,50	0,11	12,1	150,6	197
77891450	14 x 2 x 0,50	0,11	14,3	220,4	282
77891850	18 x 2 x 0,50	0,11	16,1	270,8	363
77892550	25 x 2 x 0,50	0,11	18,0	351,3	460
77890275	2 x 2 x 0,75	0,11	7,7	50,2	79
77890375	3 x 2 x 0,75	0,11	8,8	69,4	98
77890475	4 x 2 x 0,75	0,11	9,9	86,8	121
77890575	5 x 2 x 0,75	0,11	11,1	126,0	161
77890775	7 x 2 x 0,75	0,11	11,9	155,3	189
77891075	10 x 2 x 0,75	0,11	14,7	241,1	303
77891475	14 x 2 x 0,75	0,11	17,3	312,0	403
77891875	18 x 2 x 0,75	0,11	18,6	382,6	486
77892575	25 x 2 x 0,75	0,11	22,7	499,0	704

Other dimensions and colours are possible on request.

SD 200 C TP
SD 980 CP TP (UL/CSA)

Example of use:

- Our data cables fulfill the requirements of our customers for a highly flexible cable for the installation from the housing to the base of a wind energy system. During operation they have proved their resistance against vibrations effectively.



New with WTTC approval

TR 600 black

Type TC, MTW and WTTC

UV and oil resistant, flexible Tray Cable and Machine-Tool Cable with black cores

NFPA 79 for industrial machinery

c(UL) (UL) us CE

RoHS

Marking for TR 600 black 02841637:
SAB BRÖCKSKES · D-VIERSEN · TR 600 black 16 AWG/37c 02841637 TFFN (UL) Type TC-ER 90°C 600V, Oil Resistant I, Sunlight Resistant, Direct Burial, FT4 (UL) WTTC 90°C 1000V (UL) MTW 16 AWG/37c 600V flexing AWM Style 21179 600V c(UL) Type CIC 90°C dry 600V FT1 FT2 FT4 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228 class 5 and UL standard 758 table 5.1 + UL 1581 table 20.1
Insulation:	special formulated PVC/Nylon
Color code:	black cores with consecutive white numbers; green-yellow earth wire from 3 cores
Stranding:	in layers
Sheath material:	special sunlight and oil resistant PVC
Sheath color:	black (RAL 9005)

Outstanding features:

- **Flexible cable for cable tray use**
- **Oil resistance**
- **Sunlight resistance**
- **NFPA 79 for industrial machinery**
- **New: Improved with WTTC approval**
- **WTTC: UL Subject 2277**
- **TC: UL Standard 1277**
- **(UL)/(cUL) listed**

Technical data:

Voltage:	**UL-AWM / (UL) / c(UL):** 600 V **(UL) WTTC:** 1000 V	
Testing voltage:	4000 V	
Min. bending radius *fixed laying:* *flexible application:*	< 12 mm = 3 x d > 12 mm = 4 x d < 12 mm = 5 x d > 12 mm = 6 x d	
Radiation resistance:	8 x 10^7 cJ/kg	
Temperature : *fixed laying:*	**UL-AWM:** up to +105°C -25°C	**(UL) / c(UL):** up to +90°C
Burning characteristics:	(UL) FT4 and c(UL) FT1, FT2, FT4	
Oil resistance I:	yes	
Sunlight resistance:	yes	
Exposed Runs:	yes	
Direct Burial:	yes	
Machinery Area:	yes	
Absence of harmful substances:	acc. to RoHS-guideline 2002/95/EG as well as GefStoffV appendix IV-no. 24	

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02841803	3 x 18	0,21	7,7	28,8	83
02841804	4 x 18	0,21	8,3	38,4	99
02841805	5 x 18	0,21	9,0	48,0	118
02841807	7 x 18	0,21	9,8	67,2	146
02841809	9 x 18	0,21	11,9	86,4	194
02841812	12 x 18	0,21	12,5	115,2	227
02841816	16 x 18	0,21	14,6	153,6	310
02841818	18 x 18	0,21	15,3	172,8	343
02841819	19 x 18	0,21	15,3	182,4	352
02841825	25 x 18	0,21	18,1	240,0	450
02841827	27 x 18	0,21	18,1	259,2	476
02841837	37 x 18	0,21	20,1	355,2	620
02841850	50 x 18	0,21	24,6	480,0	868
02841603	3 x 16	0,26	8,3	43,2	103
02841604	4 x 16	0,26	9,0	57,6	123
02841605	5 x 16	0,26	9,8	72,0	148
02841607	7 x 16	0,26	10,7	100,8	186
02841608	8 x 16	0,26	12,3	115,2	222
02841609	9 x 16	0,26	13,1	129,6	248
02841612	12 x 16	0,26	14,5	172,8	313
02841616	16 x 16	0,26	16,0	230,4	397
02841618	18 x 16	0,26	16,8	259,2	439
02841619	19 x 16	0,26	16,8	273,6	453
02841625	25 x 16	0,26	19,9	360,0	581
02841627	27 x 16	0,26	19,9	388,8	616
02841637	37 x 16	0,26	23,3	532,8	862
02841641	41 x 16	0,26	25,0	590,4	957
02841650	50 x 16	0,26	27,1	720,0	1126
02841661	61 x 16	0,26	28,8	878,4	1336
02841403	3 x 14	0,26	9,2	72,0	138
02841404	4 x 14	0,26	10,0	96,0	168
02841405	5 x 14	0,26	10,9	120,0	202
02841407	7 x 14	0,26	11,9	168,0	258
02841409	9 x 14	0,26	15,4	216,0	362
02841412	12 x 14	0,26	16,1	288,0	434
02841418	18 x 14	0,26	18,8	432,0	613
02841425	25 x 14	0,26	23,5	600,0	878
02841203	3 x 12	0,31	10,5	115,2	194
02841204	4 x 12	0,31	11,4	153,6	238
02841205	5 x 12	0,31	12,5	192,0	289
02841207	7 x 12	0,31	14,4	268,8	394
02841003	3 x 10	0,31	12,4	172,8	279
02841004	4 x 10	0,31	14,2	230,4	366
02841005	5 x 10	0,31	15,6	288,0	443
02841007	7 x 10	0,31	17,0	403,2	573
02840804	4 x 8	0,41	18,1	337,9	579
02840805	5 x 8	0,41	19,9	422,4	716
02840604	4 x 6	0,41	22,8	541,4	908
02840605	5 x 6	0,41	25,1	676,8	1099
02840404	4 x 4	0,41	27,4	844,8	1361
02840405	5 x 4	0,41	30,3	1056,0	1656
02840204	4 x 2	0,41	31,5	1305,6	1928
02840205	5 x 2	0,41	34,9	1632,0	2344

Other dimensions and colours are possible on request.

Possible on request!

➤ **also available with blue, red, yellow or other color cores**

New with WTTC approval

TR 600 CY black

Type TC, MTW and WTTC

UV and oil resistant, flexible
Tray Cable and Machine-Tool Cable
with black cores and overall copper screen

NFPA 79 for industrial machinery

RoHS

Marking for TR 600 CY black 32231612:
SAB BRÖCKSKES · D-VIERSEN · TR 600 CY black 16 AWG/12c 32231612 TFFN (UL) Type TC-ER 90°C 600V, Oil Resistant I, Sunlight Resistant, Direct Burial, FT4 (UL) WTTC 90°C 1000V (UL) MTW 16 AWG/12c 600V flexing AWM Style 21179 600V c(UL) Type CIC SHIELDED 90°C dry 600V FT1 FT2 FT4 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228 class 5 and UL standard 758 table 5.1 + UL 1581 table 20.1
Insulation:	special formulated PVC/Nylon
Color code:	black cores with consecutive white numbers; green-yellow earth wire from 3 cores
Stranding:	in layers
Inner sheath:	special formulated PVC
Screen:	tinned copper braiding
Sheath material:	special sunlight and oil resistant PVC
Sheath color:	black (RAL 9005)

Outstanding features:

- **Flexible cable for cable tray use**
- **Oil resistance**
- **Sunlight resistance**
- **NFPA 79 for industrial machinery**
- **New: Improved with WTTC approval**
- **WTTC: UL Subject 2277**
- **TC: UL Standard 1277**
- **(UL)/(cUL) listed**

Technical data:

Voltage:	**UL-AWM / (UL) / c(UL):** 600 V **(UL) WTTC:** 1000 V	
Testing voltage:	4000 V	
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d	
Radiation resistance:	8 x 10^7 cJ/kg	
Temperature : *fixed laying:*	**UL-AWM:** up to +105°C -25°C	**(UL) / c(UL):** up to +90°C
Burning characteristics:	(UL) FT4 and c(UL) FT1, FT2, FT4	
Oil resistance I:	yes	
Sunlight resistance:	yes	
Exposed Runs:	yes	
Direct Burial:	yes	
Machinery Area:	yes	
Absence of harmful substances:	acc. to RoHS-guideline 2002/95/EG as well as GefStoffV appendix IV-no. 24	

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
32231803	3 x 18	0,21	9,1	52,6	118
32231804	4 x 18	0,21	9,7	64,7	137
32231805	5 x 18	0,21	10,4	77,1	159
32231807	7 x 18	0,21	11,4	115,0	203
32231809	9 x 18	0,21	14,2	146,2	280
32231812	12 x 18	0,21	15,0	201,0	337
32231816	16 x 18	0,21	17,2	263,4	444
32231818	18 x 18	0,21	17,9	283,5	483
32231819	19 x 18	0,21	17,9	293,1	492
32231825	25 x 18	0,21	20,7	366,1	611
32231827	27 x 18	0,21	20,7	385,3	633
32231837	37 x 18	0,21	23,8	496,5	853
32231850	50 x 18	0,21	27,9	654,8	1128
32231603	3 x 16	0,26	9,7	69,5	141
32231604	4 x 16	0,26	10,4	86,7	165
32231605	5 x 16	0,26	11,4	119,8	205
32231607	7 x 16	0,26	12,3	155,2	249
32231608	8 x 16	0,26	14,8	200,8	330
32231609	9 x 16	0,26	15,6	226,7	368
32231612	12 x 16	0,26	17,1	282,5	450
32231616	16 x 16	0,26	18,6	342,0	541
32231618	18 x 16	0,26	19,4	383,2	595
32231619	19 x 16	0,26	19,4	397,6	608
32231625	25 x 16	0,26	23,6	500,9	812
32231627	27 x 16	0,26	23,6	529,7	848
32231637	37 x 16	0,26	26,6	704,3	1113
32231641	41 x 16	0,26	28,3	766,3	1214

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
32231650	50 x 16	0,26	30,4	918,1	1408
32231661	61 x 16	0,26	32,1	1038,0	1637
32231403	3 x 14	0,26	10,6	101,2	180
32231404	4 x 14	0,26	11,6	149,9	229
32231405	5 x 14	0,26	12,5	174,5	266
32231407	7 x 14	0,26	14,2	227,8	348
32231409	9 x 14	0,26	18,0	326,8	504
32231412	12 x 14	0,26	18,7	399,7	579
32231418	18 x 14	0,26	22,5	570,8	842
32231425	25 x 14	0,26	26,8	772,0	1131
32231203	3 x 12	0,31	12,1	169,4	256
32231204	4 x 12	0,31	13,0	213,2	306
32231205	5 x 12	0,31	15,0	277,8	400
32231207	7 x 12	0,31	17,0	367,4	524
32231003	3 x 10	0,31	14,9	258,5	390
32231004	4 x 10	0,31	16,8	328,8	495
32231005	5 x 10	0,31	18,2	399,1	585
32231007	7 x 10	0,31	19,6	527,5	730
32230804	4 x 8	0,41	20,7	464,0	741
32230805	5 x 8	0,41	23,6	563,3	933
32230604	4 x 6	0,41	26,1	711,7	1156
32230605	5 x 6	0,41	28,4	852,9	1365
32230404	4 x 4	0,41	30,7	1044,0	1653
32230405	5 x 4	0,41	33,6	1277,3	1974
32230204	4 x 2	0,41	34,8	1532,4	2261
32230205	5 x 2	0,41	38,2	1879,0	2713

Other dimensions and colours are possible on request.

Possible on request!

- also available with blue, red or other color cores

SAB BRÖCKSKES

CC 600 PVC control cable with numbered black cores, AWG 20 - AWG 10

RoHS

Marking for CC 600 02041840:
SAB BRÖCKSKES · D-VIERSEN · 40 x 1,0 mm² CC 600 18 AWG/40c 02041840
AWM Style 21216 90°C Oil 60°C 600V CSA AWM I/II A/B 90°C F 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	special PVC acc. to DIN VDE and UL/CSA
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	in layers
Sheath material:	special oil resistant PVC acc. to DIN VDE and UL/CSA
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **UL and CSA approved**
- **high mechanical loading capacity**
- **oil resistant**

Technical data:

Nominal voltage:	**DIN VDE** Uo/U 300/500 V	**UL/CSA** 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2	
Min. bending radius *fixed laying:* *flexible application:*	4 x d 6 x d	
Radiation resistance:	8 x 10^7 cJ/kg	
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** -40/+70 °C +5/+70 °C	**UL/CSA** up to +90°C up to +90°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1, CSA FT1 and FT2	
Oil resistance:	very good - TM5 acc. to DIN VDE 0281 part 1 + HD 21.1, Oil 60 °C acc. to UL 758, Fuel Oil acc. to CSA-C 22.2 No. 210-05	
Chem. resistance:	good	
Absence of harmful substances:	acc. to RoHS-guideline 2002/95/EG as well as GefStoffV appendix IV-no. 24	

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02042002	2 x 20	0,21	5,3	9,6	41
02042003	3 x 20	0,21	5,6	14,4	48
02042004	4 x 20	0,21	6,0	19,2	57
02042005	5 x 20	0,21	6,7	24,0	70
02042007	7 x 20	0,21	7,2	33,6	86
02042008	8 x 20	0,21	8,5	38,4	108
02042010	10 x 20	0,21	9,4	48,0	126
02042012	12 x 20	0,21	9,7	57,6	143
02042014	14 x 20	0,21	10,1	67,2	161
02042016	16 x 20	0,21	10,9	76,8	186
02042018	18 x 20	0,21	11,4	86,4	205
02042025	25 x 20	0,21	13,9	120,0	282
02042030	30 x 20	0,21	14,3	144,0	232
02042034	34 x 20	0,21	15,6	163,2	370
02042040	40 x 20	0,21	16,9	192,0	435
02042061	61 x 20	0,21	19,8	292,8	628
02041903	3 x 19	0,21	6,2	21,6	60
02041904	4 x 19	0,21	6,7	28,8	71
02041905	5 x 19	0,21	7,5	36,0	89
02041907	7 x 19	0,21	8,2	50,4	111
02041908	8 x 19	0,21	9,6	57,6	136
02041910	10 x 19	0,21	10,6	72,0	161
02041912	12 x 19	0,21	10,9	86,4	182
02041914	14 x 19	0,21	11,4	100,8	205
02041916	16 x 19	0,21	12,0	115,2	228
02041918	18 x 19	0,21	12,9	129,6	261
02041925	25 x 19	0,21	15,6	180,0	357
02041930	30 x 19	0,21	16,1	216,0	410
02041934	34 x 19	0,21	17,8	244,8	478
02041940	40 x 19	0,21	19,0	288,0	549
02041961	61 x 19	0,21	22,8	439,2	824
02041802	2 x 18	0,21	6,0	19,2	55
02041803	3 x 18	0,21	6,4	28,8	68
02041804	4 x 18	0,21	7,0	38,4	82
02041805	5 x 18	0,21	7,8	48,0	102
02041807	7 x 18	0,21	8,5	67,2	128
02041808	8 x 18	0,21	9,9	76,8	157
02041812	12 x 18	0,21	11,3	115,2	211
02041814	14 x 18	0,21	12,1	134,4	245

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02041818	18 x 18	0,21	13,6	172,8	311
02041825	25 x 18	0,21	16,4	240,0	424
02041830	30 x 18	0,21	17,0	288,0	489
02041834	34 x 18	0,21	18,5	326,4	559
02041840	40 x 18	0,21	19,9	384,0	650
02041861	61 x 18	0,21	23,7	585,6	966
02041602	2 x 16	0,26	6,7	28,8	71
02041603	3 x 16	0,26	7,1	43,2	87
02041604	4 x 16	0,26	7,9	57,6	109
02041605	5 x 16	0,26	8,6	72,0	131
02041607	7 x 16	0,26	9,6	100,8	171
02041608	8 x 16	0,26	11,2	115,2	208
02041610	10 x 16	0,26	12,4	144,0	245
02041612	12 x 16	0,26	12,8	172,8	281
02041614	14 x 16	0,26	13,6	201,6	325
02041616	16 x 16	0,26	14,3	230,4	365
02041618	18 x 16	0,26	15,3	259,2	413
02041625	25 x 16	0,26	18,5	360,0	569
02041630	30 x 16	0,26	19,3	432,0	667
02041634	34 x 16	0,26	21,0	489,6	760
02041640	40 x 16	0,26	22,9	576,0	916
02041661	61 x 16	0,26	26,7	878,4	1309
02041402	2 x 14	0,26	8,1	48,0	108
02041403	3 x 14	0,26	8,6	72,0	132
02041404	4 x 14	0,26	9,5	96,0	166
02041405	5 x 14	0,26	10,6	120,0	208
02041407	7 x 14	0,26	11,6	168,0	263
02041408	8 x 14	0,26	13,8	192,0	322
02041410	10 x 14	0,26	15,2	240,0	383
02041412	12 x 14	0,26	15,7	288,0	440
02041418	18 x 14	0,26	18,7	432,0	643
02041425	25 x 14	0,26	23,1	600,0	904
02041203	3 x 12	0,31	10,2	115,2	196
02041204	4 x 12	0,31	11,3	153,6	246
02041205	5 x 12	0,31	12,6	192,0	304
02041207	7 x 12	0,31	13,9	268,8	397
02041003	3 x 10	0,31	12,1	172,8	284
02041004	4 x 10	0,31	13,2	230,4	351
02041005	5 x 10	0,31	14,9	288,0	440

Continued on next page

CC 600 PVC control cable with numbered black cores, AWG 8 - AWG 2

Marking for CC 600 02040805:
SAB BRÖCKSKES · D-VIERSEN · CC 600 8 AWG/5c 02040805 UL AWM Style 21216 90°C Oil 60°C 600V CSA AWM I/II A/B 90°C F 600V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to UL/CSA
Insulation:	special PVC acc. to DIN VDE and UL/CSA
Colour code:	black cores with consecutive numbers; green-yellow earth wire from 3 cores
Stranding:	in layers
Sheath material:	special oil resistant PVC acc. to DIN VDE and UL/CSA
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **UL and CSA approved**
- **high mechanical loading capacity**
- **oil resistant**
- **on request construction with metric conductor stranding and VDE-Reg. no.**

Technical data:

Nominal voltage:	**DIN VDE** Uo/U 300/500 V	**UL/CSA** 600 V
Testing voltage U:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2	
Min. bending radius *fixed laying:* *flexible application:*	 4 x d 6 x d	
Radiation resistance:	8 x 10^7 cJ/kg	
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** -40/+70 °C +5/+70 °C	**UL/CSA** up to +90°C up to +90°C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, UL VW-1, CSA FT1 and FT2	
Oil resistance:	very good - TM5 acc. to DIN VDE 0281 part 1 + HD 21.1, Oil 60 °C acc. to UL 758, Fuel Oil acc. to CSA-C 22.2 No. 210-05	
Chem. resistance:	good	
Absence of harmful substances:	acc. to RoHS-guideline 2002/95/EG as well as GefStoffV appendix IV-no. 24	

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02040804	4 x 8	0,41	17,0	337,9	567
02040805	5 x 8	0,41	18,9	422,4	696
02040604	4 x 6	0,41	20,9	541,4	768
02040605	5 x 6	0,41	23,6	676,8	969
02040404	4 x 4	0,41	25,6	844,8	1355
02040204	4 x 2	0,41	30,4	1344,0	1998

Other dimensions and colours are possible on request.

SRY D 321 C Semi rigid PVC data cables with overall copper screen

RoHS

Marking for SRY D 321 C 03210722:
SAB BRÖCKSKES · D-VIERSEN · 03210722 SRY D 321 C 22 AWG/7c 03212207
AWM Style 2464 80°C 300V CSA AWM I/II A/B 80°C 300V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to. ASTM B 286
Insulation:	semi-rigid PVC
Colour code:	colour code US 2
Stranding:	in layers
Wrapping:	PETP foil
Screen:	tinned copper braiding
Sheath material:	PVC, YM1 acc. to DIN VDE 0207 part 5
Sheath colour:	grey (RAL 7032)

Technical data:

Voltage UL/CSA:	300 V	
Testing voltage:	1500 V	
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d	
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** -30/+70 °C - 5/+70 °C	**UL/CSA** up to + 80 °C up to + 80 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, CSA FT1 FT2	
Oil resistance:	acc. to internal standard	
Chem. resistance:	good	
Absence of harmful substances:	acc. to RoHS-guideline 2002/95/EG as well as GefStoffV appendix IV-no. 24	

Outstanding features:

- good EMC characteristic
- flexible
- small outer diameter
- small bending radius

On request also possible with colour code

DIN 47100

item no.	no. of cores x cross section n x AWG	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
03210226	2 x 26	4,1	9,5	22
03210326	3 x 26	4,3	10,8	24
03210426	4 x 26	4,5	12,2	26
03210526	5 x 26	4,8	15,3	31
03210726	7 x 26	5,1	18,0	36
03210826	8 x 26	5,7	21,2	44
03211226	12 x 26	6,2	26,6	52
03211626	16 x 26	6,8	33,9	64
03211826	18 x 26	7,1	38,4	71
03212526	25 x 26	8,2	50,0	91
03210224	2 x 24	4,4	11,2	25
03210324	3 x 24	4,6	13,4	28
03210424	4 x 24	4,9	17,4	33
03210524	5 x 24	5,2	19,6	38
03210724	7 x 24	5,5	25,8	46
03210824	8 x 24	6,2	28,2	55
03211024	10 x 24	6,6	34,4	60
03211224	12 x 24	6,8	38,9	67
03211624	16 x 24	7,4	49,7	84
03211824	18 x 24	7,8	54,2	92
03212524	25 x 24	9,2	73,8	123
03210222	2 x 22	4,7	13,7	28
03210322	3 x 22	4,9	18,9	34
03210422	4 x 22	5,2	22,4	40
03210522	5 x 22	5,6	27,7	47
03210722	7 x 22	6,0	34,6	57
03210822	8 x 22	6,7	40,0	68
03211022	10 x 22	7,2	48,8	78
03211222	12 x 22	7,4	55,8	87

item no.	no. of cores x cross section n x AWG	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
03211622	16 x 22	8,1	71,7	110
03211822	18 x 22	8,7	78,8	124
03212522	25 x 22	10,1	107,4	136
03210220	2 x 20	5,2	20,5	37
03210320	3 x 20	5,4	26,5	44
03210420	4 x 20	5,8	34,2	54
03210520	5 x 20	6,2	40,3	63
03210620	6 x 20	6,7	48,1	74
03210720	7 x 20	6,7	54,0	80
03211020	10 x 20	8,2	76,0	109
03211220	12 x 20	8,5	87,9	127
03211820	18 x 20	9,9	126,1	179
03212520	25 x 20	11,6	172,8	238
03210218	2 x 18	5,6	28,8	47
03210318	3 x 18	5,9	38,1	57
03210418	4 x 18	6,3	49,1	71
03210518	5 x 18	6,9	60,3	86
03210718	7 x 18	7,4	78,8	108
03210818	8 x 18	8,6	90,2	131
03211218	12 x 18	9,6	129,4	176
03211818	18 x 18	11,1	189,5	251
03212518	25 x 18	13,4	258,9	346
03210216	2 x 16	6,0	34,1	54
03210316	3 x 16	6,2	45,9	67
03210416	4 x 16	6,7	59,6	83
03210516	5 x 16	7,3	73,3	101
03210716	7 x 16	7,9	99,0	130
03210816	8 x 16	9,1	113,1	157
03211216	12 x 16	10,2	162,8	212

Other dimensions and colours are possible on request.

SRY D 351 C (B) TP

Semi rigid PVC paired data cables
with overall copper screen

RoHS

Marking for SRY D 351 C (B) TP 03510322:
SAB BRÖCKSKES · D-VIERSEN · 03510322 SRY D 351 C (B) TP 22 AWG/3pr 03512203
UL AWM Style 2464 80°C 300V CSA AWM I/II A/B 80°C 300V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to. ASTM B 286
Insulation:	semi-rigid PVC
Colour code:	colour code US 3
Stranding:	cores twisted to pairs, pairs twisted in layers
Wrapping:	PETP foil
Screen:	tinned copper braiding with a tinned copper drain wire ≙ (0,22 mm²)
Sheath material:	PVC, YM1 acc. to DIN VDE 0207 part 5
Sheath colour:	grey (RAL 7032)

Technical data:

Voltage UL/CSA:	300 V	
Testing voltage:	1500 V	
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d	
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** -30/+70 °C - 5/+70 °C	**UL/CSA** up to + 80 °C up to + 80 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, CSA FT1 FT2	
Oil resistance:	acc. to internal standard	
Chem. resistance:	good	
Absence of harmful substances:	acc. to RoHS-guideline 2002/95/EG as well as GefStoffV appendix IV-no. 24	

Outstanding features:

- **good EMC characteristic**
- **flexible**
- **small outer diameter**
- **small bending radius**

On request
also possible with
colour code
DIN 47100

item no.	no. of pairs x cross section n x 2 x AWG	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
03510226	2 x 2 x 26	5,5	14,9	34
03510326	3 x 2 x 26	6,1	19,2	43
03510426	4 x 2 x 26	6,8	23,5	49
03510526	5 x 2 x 26	7,3	26,3	56
03510726	7 x 2 x 26	7,6	33,3	66
03510826	8 x 2 x 26	8,1	36,1	72
03511026	10 x 2 x 26	9,0	43,3	89
03511226	12 x 2 x 26	9,8	50,6	102
03511626	16 x 2 x 26	10,6	63,4	125
03511826	18 x 2 x 26	10,9	70,6	136
03512526	25 x 2 x 26	12,7	90,3	182
03512626	26 x 2 x 26	12,6	92,9	185
03510224	2 x 2 x 24	5,9	19,9	42
03510324	3 x 2 x 24	6,6	24,4	51
03510424	4 x 2 x 24	7,4	30,5	59
03510524	5 x 2 x 24	7,9	36,6	69
03510724	7 x 2 x 24	8,5	47,2	87
03510824	8 x 2 x 24	9,0	51,7	95
03511024	10 x 2 x 24	9,8	62,5	113
03511224	12 x 2 x 24	10,7	73,4	130
03511624	16 x 2 x 24	11,6	93,3	161
03511824	18 x 2 x 24	12,4	102,4	189
03512524	25 x 2 x 24	14,0	137,3	239
03512624	26 x 2 x 24	14,3	141,9	247
03510222	2 x 2 x 22	6,4	25,0	50
03510322	3 x 2 x 22	7,1	33,5	62
03510422	4 x 2 x 22	8,0	42,2	74
03510522	5 x 2 x 22	8,8	50,9	91
03510722	7 x 2 x 22	9,3	64,9	110
03511222	12 x 2 x 22	11,8	105,7	170
03511822	18 x 2 x 22	13,7	151,2	246
03512522	25 x 2 x 22	15,8	203,0	332
03510220	2 x 2 x 20	7,0	36,6	64
03510320	3 x 2 x 20	7,6	50,3	80
03510420	4 x 2 x 20	9,2	64,1	104
03510520	5 x 2 x 20	9,9	77,9	124
03510720	7 x 2 x 20	10,4	103,6	155
03511220	12 x 2 x 20	13,9	169,7	255
03511820	18 x 2 x 20	16,0	244,6	368
03512520	25 x 2 x 20	18,1	336,9	484
03510218	2 x 2 x 18	7,8	51,4	81
03510318	3 x 2 x 18	9,0	71,7	114
03510418	4 x 2 x 18	10,2	92,3	138
03510518	5 x 2 x 18	11,1	112,8	166
03510718	7 x 2 x 18	11,7	151,7	211
03511218	12 x 2 x 18	16,0	251,6	365
03511818	18 x 2 x 18	18,0	366,1	511
03512518	25 x 2 x 18	20,6	521,4	692
03510216	2 x 2 x 16	8,2	61,9	96
03510316	3 x 2 x 16	9,6	89,1	133
03510416	4 x 2 x 16	10,9	115,0	164
03510516	5 x 2 x 16	11,8	140,8	198
03510716	7 x 2 x 16	12,9	188,5	264
03510816	8 x 2 x 16	13,8	215,8	297

Other dimensions and colours are possible on request.

S CB 628 Halogen-free, highly flexible CAN-bus cable with UL approval
SABIX® CB 620 FRNC Halogen-free, flame retardant CAN-Bus cable

RoHS

Marking for S CB 628 06282251:
SAB BRÖCKSKES · D-VIERSEN · S CB 628 2 x 0.25 mm² AWM Style 20235 80°C 300 V CE

Construction:

	S CB 628	SABIX® CB 620 FRNC
Conductor:	bare copper strands, extra fine wires	bare copper strands acc. to DIN VDE 0812
Core insulation:	PE 2YI1 acc. to DIN VDE 0207 part 2	SABIX® 336
Colour code:	acc. to DIN VDE 47100	
Wrapping:	non-woven tape	PETP foil
Inner sheath (nature):	SABIX®	---
Screen:	tinned copper braiding	
Sheath material:	TMPU acc. to DIN VDE 0282 part 10 with rough surface	SABIX® 230
Sheath colour:	redlilac (RAL 4001)	

Technical data:

	S CB 628	SABIX® CB 620 FRNC
Peak operating voltage:	max. 350 V	
Voltage:	**UL:** 300 V	---
Testing voltage:	1500 V	
Min. bending radius:	7,5 x d	
Radiation resistance:	5 x 10^7 cJ/kg	---
Temperature range *fixed laying:* *flexible application:*	**UL:** up to +80°C - 50°C / + 70°C - 40°C / + 70°C	 - 40°C / + 85°C - 30°C / + 85°C
Halogen-free:	acc. to DIN VDE 0472 part 815 + IEC 60754-1	
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 and EN 60332-1-2	no flame propagation acc. to IEC 60332-3 + EN 60332-3 Cat. C resp. D
Corrosiveness of conflagration gases:	---	in compliance with IEC 60754-2 and EN 50267-2-2 + VDE 0482 part 267-2-2 - no development of corrosive conflagration gases
Smoke density:	---	acc. to IEC 61034 +EN 61034
Oil resistance:	very good - TMPU acc. to DIN VDE 0282 part 10	---
Flexibility:	very good	good
Application in cable tracks:	recommended	not recommended
Chemichal resistance:	good against acids, alkalines, solvents, hydraulic liquids etc.	---
Weather resistance:	very good	good
Characteristic impedance at 1 MHz:	120 Ω (95 - 140 Ω)	
Absence of harmful substances:	acc. to RoHS-guideline 2002/95/EG as well as GefStoffV appendix IV-no. 24	

item no.	type	no. of pairs x cross section mm²	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
06282251	S CB 628	2 x 0,25	7,9	20,2	71
06282341	S CB 628	2 x 0,34	8,3	22,9	77
06282501	S CB 628	2 x 0,50	8,7	29,0	74
06284251	S CB 628	2 x 2 x 0,25	9,1	27,9	90
06284341	S CB 628	2 x 2 x 0,34	9,6	32,7	97
06284501	S CB 628	2 x 2 x 0,50	10,6	44,9	94
66202251	SABIX® CB 620 FRNC	2 x 0,25	5,7	19,0	41

Other dimensions and colours are possible on request.

S PB 640 UL with „Fast Connect" construction

SABIX® PB 630 FRNC Halogen-free, flame retardant Profibus-DP cable

S PB 640 UL Highly flexible PUR Profibus-DP cable with UL approval

RoHS

Marking for SABIX PB 630 FRNC 66302341:
SAB BRÖCKSKES · D-VIERSEN · SABIX PB 630 FRNC 2 x 0,34 mm² CE

Construction:	SABIX® PB 630 FRNC	S PB 640 UL
Conductor:	bare copper strands acc. to DIN VDE 0812	bare copper strands AWG 24
Core insulation:	acc. to DIN VDE 0819 part 103 (02YI1)	
Colour code:	red, green	
Stranding:	in layers	
Wrapping:	alu foil	alu foil and tinned copper braiding
Screen:	tinned copper braiding	---
Inner sheath (nature):	---	SABIX®
Sheath material:	SABIX® 230	PUR, TMPU acc. to DIN VDE 0282 part 10 with rough surface
Sheath colour:	redlilac (RAL 4001)	

Technical data:	SABIX® PB 630 FRNC	S PB 640 UL
Peak operating voltage:	max. 350 V	
Voltage:	---	**UL:** 30 V
Testing voltage:	1500 V	
Min. bending radius:	12 x d	
Temperature range *fixed laying:* *flexible application:*	- 40°C / + 80°C - 30°C / + 80°C	**UL:** up to +60°C - 40°C / + 80°C - 30°C / + 80°C
Halogen-free:	acc. to DIN VDE 0472 part 815 + IEC 60754-1	
Fire performance :	no flame propagation acc. to IEC60332-3 + EN 60332-3 Cat. C resp. D. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 and EN 60332-1-2	flame retardant and self-extinguishing acc. to IEC 60332-1-2 and EN 60332-1-2
Corrosiveness of conflagration gases:	in compliance with IEC 60754-2 and EN 50267-2-2 + VDE 0482 part 267-2-2 - no development of corrosive conflagration gases	---
Smoke density:	sehr gering	---
Oil resistance:	---	very good - TMPU acc. to DIN VDE 0282 part 10
For fixed installation:	X	
For flexible application:	---	X
Suitable for cable tracks:	---	X
Weather resistance:	good	---
UL Style:	---	X
Characteristic impedance 3 - 20 MHz:	120 Ω (95 - 140 Ω)	150 Ω ± 10%
Absence of harmful substances:	acc. to RoHS-guideline 2002/95/EG as well as GefStoffV appendix IV-no. 24	

item no.	type	no. of cores x cross section mm²	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
66302341	SABIX® PB 630 FRNC	2 x 0,34	7,5	30,4	62
06402611	S PB 640 UL	2 x AWG 24	8,0 ± 0,4	31,2	62

Other dimensions and colours are possible on request.

Profibus-DP and **Profibus-FMS** apply the same transmission technology and a uniform bus access log. Therefore, both types can be used simultaneously on one cable.

Outstanding features S PB 640 UL:

- short assembling time
- avoidance of connection errors

RT PN 668 Torsion Profinet cable

RoHS

Marking for RT PN 668:
SAB BRÖCKSKES · D-VIERSEN · RT PN 668 Profinet 2x2x22 AWG

Construction:

Conductor:	tinned copper strands, extra fine wires
Core insulation:	PE
Colour code:	blue, yellow, white, orange
Stranding:	in layers
Wrapping:	netting tape, alu foil
Screen:	tinned copper braiding
Wrapping:	non-woven tape
Sheath material:	PUR
Sheath colour:	green (similar RAL 6018)

Technical data:

Peak operating voltage VDE:	max. 350 V
Testing voltage:	core/core 1500 V - core/screen 1200 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d
Torsion angle:	± 180°/m
Temperature range *fixed laying:* *flexible applicatio:*	 -40/+70 °C -30/+70 °C
Halogen-free:	acc. to DIN VDE 0472 part 815 + IEC 60754-1
Characteristic impedance:	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-2-2 (CAT 5 acc. to EN 50173-1)
Oil resistance:	TMPU acc. to DIN VDE 0282 part 10 + HD 22.10
Absence of harmful substances:	acc. to RoHS-guideline 2002/95/EG as well as GefStoffV appendix IV-no. 24

item no.	type	no. of cores	cross section AWG	approx. core-ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈kg/km	ohmic resistance at 20°C acc. to VDE 0812 max.Ω/km
06689001	RT PN 668, torsion cable	4	22	1,50	7,0	36,3	62	58,0

Other dimensions and colours are possible on request.

SL 839 C PUR transmission cable with overall copper screen

RoHS

Marking for SL 839 C 08390138:
SAB BRÖCKSKES · D-VIERSEN · 08390138 SL 839 C 4 x 2 x 0,38 mm² + 4 x 0,50 mm² DESINA AWM Style 20236 80°C 30V

Construction:

Conductor:	tinned copper strands acc. to DIN VDE 0812
Insulation:	special Polymer
Colour code:	coloured
	acc. to dimension:
Screen:	pairs wrapped with tinned copper braid
Inner sheath:	special Polymer
Stranding:	cores or pairs
Stranding:	cores/pairs twisted together in layers
Wrapping:	one non-woven tape or non-woven tape and PETP foil
Screen:	tinned copper braiding
Wrapping:	non-woven tape
Sheath material:	TMPU acc. to DIN VDE 0282 part 10 + HD 22.10 with mat surface or PU acc. to UL 758
Sheath colour:	green (RAL 6018)

Technical data:

Peak operating voltage:	max. 30 V	
Voltage UL:	30 V	
Testing voltage U:	750 V	
Min. bending radius		
fixed laying:	5 x d	
flexible application:	10 x d	
continuously flexible:	12 x d	
Radiation resistance:	5 x 10^7 cJ/kg	
Temperature range	**DIN VDE**	**UL:** up to +80°C
fixed laying:	-40/+70 °C	
flexible application:	-20/+70 °C	
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. or oilrating 60°C acc. to UL 758	
Weather resistance:	very good	
Absence of harmful substances:	acc. to RoHS-guideline 2002/95/EG as well as GefStoffV appendix IV-no. 24	

Outstanding features:

- **good EMC characteristics**
- **flexible installation**
- **oil resistant**
- **long service life**
- **adhesion-free installation**
- **halogen-free**
- **labs uncritical**
  (labs = enamel moisturing interfering substances)
- **DESINA® colours** (page C/4)

suitable for resolvers and shaft encoders

Sheath material TMPU acc. to DIN VDE 0282

item no.	dimensions	sheath colour	largest single wire ø mm	outer-ø mm	copper figure kg/km	cable weight ≈ kg/km
08390114	3 x (2 x 0,14) D + 2 x (0,50) D	green	0,11/0,16	9,0 ± 0,4	71,4	96
08390214	3 x (2 x 0,14) D + 4 x 0,14 + 2 x 0,50	green	0,11/0,16	8,8 ± 0,4	63,7	97
08391050	3 x (2 x 0,14) D + 4 x 0,14 + 4 x 0,22 + 2 x 0,50	green	0,11/0,16	9,5 ± 0,4	79,0	111
08390138	4 x 2 x 0,38 + 4 x 0,50	green	0,11/0,16	8,9 ± 0,4	76,3	106
08390318	8 x 2 x 0,18	green	0,11	7,8 ± 0,4	48,0	74
08390122	12 x 0,22	green	0,11	6,9 ± 0,4	42,5	63

Other dimensions and colours are possible on request.

Sheath material PU acc. to UL 758

item no.	dimensions	sheath colour	largest single wire ø mm	outer-ø mm	copper figure kg/km	cable weight ≈ kg/km
08390118	4 x 0,18	green	0,11	4,9 ± 0,4	18,9	28
08390218	4 x 2 x 0,18	green	0,11	6,3 ± 0,4	30,8	47
08390115	2 x 2 x 0,15 + 2 x 0,38	green	0,11/0,16	6,9 ± 0,3	28,1	52

Other dimensions and colours are possible on request.

SL 841 C Combined TPE/PUR motor connection cable with overall copper screen 0,6/1 kV

RoHS

Marking for SL 841 C 08410407: SAB BRÖCKSKES · D-VIERSEN · 08410407 SL 841 C 4 x 0,75 mm² (1000V) + 2 x (2 x 0,34 mm²) (300V) DESINA AWM Style 20235 80°C CSA AWM I/II A/B 80°C 300V FT1 FT2 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 6 < 0,50 mm² with reference to DIN VDE 0812
Insulation:	TPE 510
Colour code:	black cores with consecutive numbers acc. to EN 50334 (except 0,34 mm² = coloured) and a green-yellow earth wire
from item no. 08411415:	supply cores: * U1, V2, W3 and a green-yellow earth wire control cores: ** BR1 and BR2
Stranding:	control cores 0,34 mm² - 2,5 mm² twisted to pairs
Screen:	pairs wrapped with Alu-foil, tinned copper braid
Wrapping:	pairs with PETP foil
Stranding:	screened control pairs and supply cores twisted together in layers
Wrapping:	two layers non-woven tape
Screen:	overall copper screen
Wrapping:	non-woven tape
Sheath material:	TMPU acc. to DIN VDE 0282 part 10 + HD 22.10 with mat surface
Sheath colour:	orange (RAL 2003)

Technical data:

Nominal voltage:	**DIN VDE:** supply cores Uo/U 0.6/1 kV
Voltage:	**UL/CSA:** supply cores 1000 V
Peak operating voltage:	**DIN VDE:** control cores max. 350 V
Voltage:	**UL/CSA:** control cores 300 V
Testing voltage U:	supply cores 4000 V control cores 1500 V
Min. bending radius *fixed laying:* *flexible application:* *continuously flexible:*	 5 x d 10 x d 12 x d
Radiation resistance:	5 x 10^7 cJ/kg
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** **UL/CSA:** up to +80°C -50/+90 °C -40/+90 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2, EN 60332-1-2, CSA FT1 FT2 and UL FT1
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.
Weather resistance:	very good
Absence of harmful substances:	acc. to RoHS-guideline 2002/95/EG as well as GefStoffV appendix IV-no. 24

Outstanding features:

- **very good EMC characteristics**
- **long service life**
- **adhesion-free installation**
- **high flexibility**
- **suitable for cable tracks**
- **halogen-free**
- **labs uncritical**
  (labs = enamel moisturing interfering substances)
- **flexible at low temperatures**
- **DESINA® colours**

Cable harnessing possible on request

	item no.	dimensions	AWG supply cores	AWG control cores (pairs)	largest single wire ø mm	outer-ø mm	copper figure kg/km	cable weight ≈ kg/km
DESINA INDRAMAT	08410407	4 x 0,75 + 2 x (2 x 0,34)	19 / 4c	22 / 2pr	0,16/0,11	11,6 ± 0,5	117,1	168
	08410410	4 x 1,00 + 2 x (2 x 0,75)	18 / 4c	19 / 2pr	0,16	11,8 ± 0,5	150,1	201
	08410415	4 x 1,50 + 2 x (2 x 0,75)	16 / 4c	19 / 2pr	0,16	12,3 ± 0,5	170,1	228
	08410425	4 x 2,50 + 2 x (2 x 1,00)	14 / 4c	18 / 2pr	0,16	14,5 ± 0,8	231,8	320
	08410441	4 x 4,00 + (2 x 1,00) + (2 x 1,50)	12 / 4c	18 / 1pr + 16 / 1pr	0,16	17,4 ± 0,6	343,0	458
	08410461	4 x 6,00 + (2 x 1,00) + (2 x 1,50)	10 / 4c	18 / 1pr + 16 / 1pr	0,21/0,16	18,9 ± 0,8	432,8	557
	08410471	4 x 10,00 + (2 x 1,00) + (2 x 1,50)	8 / 4c	18 / 1pr + 16 / 1pr	0,21/0,16	20,4 ± 1,0	603,7	736
	08410485	4 x 16,00 + 2 x (2 x 1,50)	6 / 4c	16 / 2pr	0,21/0,16	26,0 ± 0,8	875,7	1111
	08410490	4 x 25,00 + 2 x (2 x 1,50)	4 / 4c	16 / 2pr	0,21/0,16	29,4 ± 0,8	1251,1	1517
	08410495	4 x 35,00 + 2 x (2 x 1,50)	2 / 4c	16 / 2pr	0,21/0,16	31,3 ± 0,8	1644,6	1882
	08410496	4 x 50,00 + 2 x (2 x 2,50)	1 / 4c	14 / 2pr	0,31/0,16	38,2 ± 0,8	2317,6	2659
SIEMENS	08411415	4 x 1,50 + (2 x 1,50)	16 / 4c	16 / 1pr	0,16	12,5 ± 0,3	159,9	222
	08411425	4 x 2,50 + (2 x 1,50)	14 / 4c	16 / 1pr	0,16	13,3 ± 0,4	204,8	285
	08411440	4 x 4,00 + (2 x 1,50)	12 / 4c	16 / 1pr	0,16	15,2 ± 0,4	268,8	369
	08411460	4 x 6,00 + (2 x 1,50)	10 / 4c	16 / 1pr	0,21/0,16	16,6 ± 1,1	377,5	485
	08411470	4 x 10,00 + (2 x 1,50)	8 / 4c	16 / 1pr	0,21/0,16	19,5 ± 1,6	555,8	677
	08411480	4 x 16,00 + (2 x 1,50)	6 / 4c	16 / 1pr	0,21/0,16	23,7 ± 1,0	814,8	1019
	08411490	4 x 25,00 + (2 x 1,50)	4 / 4c	16 / 1pr	0,21/0,16	27,2 ± 0,7	1175,6	1418
	08411495	4 x 35,00 + (2 x 1,50)	2 / 4c	16 / 1pr	0,21/0,16	30,1 ± 1,0	1586,4	1810
	08411496	4 x 50,00 + (2 x 1,50)	1 / 4c	16 / 1pr	0,31/0,16	34,4 ± 1,0	2192,4	2463

Other dimensions and colours are possible on request.

SABIX® A 147 FRNC Wiring cable 600 V
SABIX® A 157 FRNC Wiring cable 1000 V

Marking for SABIX A 147 FRNC 61470150:
SAB BRÖCKSKES · D-VIERSEN · SABIX A 147 FRNC 300/500V 0,5 mm² 20 AWG AWM Style 10528 75°C 600V CE

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	SABIX® 231
Colour code:	coloured

Outstanding features:

- halogen-free
- no flame propagation
- flame retardant and self-extinguishing
- approval for US-market

Technical data:

Voltage UL:	**SABIX® A147 FRNC:** 20 - 18 AWG: 600 V	**SABIX® A157 FRNC:** 16 AWG - 550 MCM: 1000 V
Nominal voltage Uo/U:	**SABIX® A147 FRNC:** 0,50 - 1,0 mm²: 300/500 V	**SABIX® A157 FRNC:** 1,50 - 300,0 mm²: 450/750 V
Testing voltage:	**SABIX® A147 FRNC:** 2000 V	**SABIX® A157 FRNC:** 2500 V
Min. bending radius: **For one single bend:**	7.5 x d 5 x d	
Temperature range *fixed laying:* *flexible application:*	**DIN/VDE:** -40/+90 °C -30/+90 °C	**UL:** up to +75 °C
Halogen-free:	acc. to DIN VDE 0472 part 815 and IEC 60754-1	
Fire performance:	no flame propagation acc. to IEC 60332 + EN 60332 cat. C resp. D 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 and EN 50267-2-2 + VDE 0482 part 267-2-2 - no development of corrosive conflagration gases	
Smoke density:	acc. to IEC 61034 + EN 61034	
Flexibility:	good	
Weather resistance:	good	
Absence of harmful substances:	acc. to RoHS-guideline 2002/95/EG as well as GefStoffV appendix IV-no. 24	

SABIX® A 147 FRNC

item no.	nominal cross-section mm²	AWG/ MCM	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
6147 .. 50*	0,50	20 (15/32)	0,21	2,1	4,8	9
6147 .. 75*	0,75	19 (23/32)	0,21	2,4	7,2	12
6147 .. 80*	1,00	18 (30/32)	0,21	2,5	9,6	15

Other dimensions and colours are possible on request.

SABIX® A 157 FRNC

item no.	nominal cross-section mm²	AWG/ MCM	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
6157 .. 82*	1,50	16 (27/30)	0,26	3,0	14,4	20
6157 .. 84*	2,50	14 (46/30)	0,26	3,6	24,0	32
6157 .. 86*	4,00	12 (52/28)	0,31	4,2	38,4	48
6157 .. 87*	6,00	10 (70/20)	0,31	4,7	57,6	67
6157 .. 88*	10,00	8 (77/26)	0,41	6,3	96,0	117
6157 .. 89*	16,00	6 (119/26)	0,41	8,0	153,6	181
6157 .. 90*	25,00	4 (196/26)	0,41	9,9	240,0	292
6157 .. 91*	35,00	2 (280/26)	0,41	11,1	336,0	394
6157 .. 92*	50,00	1 (400/26)	0,41	13,8	480,0	563
6157 .. 93*	70,00	2/0 (554/26)	0,41	14,8	672,0	751
6157 .. 94*	95,00	3/0 (484/24)	0,51	18,2	912,0	1034
6157 .. 95*	120,00	4/0 (589/24)	0,51	19,7	1152,0	1241
6157 .. 96*	150,00	250 MCM (740/24)	0,51	21,8	1440,0	1544
6157 .. 97*	185,00	350 MCM (899/24)	0,51	23,2	1776,0	1866
6157 .. 98*	240,00	450 MCM (1220/24)	0,51	26,9	2304,0	2507
6157 .. 99*	300,00		0,51	30,0	2880,0	3125

Other dimensions and colours are possible on request.

*** Colour code for single conductors:**

01 = black	06 = green
02 = blue	07 = violet
03 = brown	08 = white
04 = grey	16 = gentian blue
05 = yellow	27 = green-yellow

On request as multi-core cable possible

SABIX® CC 625 FRNC M Control cable with numbered cores

Marking for SABIX CC 625 FRNC M 62521215:
SAB BRÖCKSKES · D-VIERSEN · 62521215 12 x 1,5 mm² SABIX CC 625 FRNC M 16 AWG/12c 62521612
AWM Style 21089 75°C 600V CSA AWM I/II A/B 80°C 600V FT1 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	FRNC
Colour code:	black cores with consecutive numbers acc. to EN 50334; green-yellow earth wire from 3 cores
Stranding:	in layers
Sheath material:	FRNC
Sheath colour:	grey (RAL 7000)

Outstanding features:

- halogen-free
- UL/CSA approved
- no flame propagation
- flame retardant and self-extinguishing
- flexible

Technical data:

Nominal voltage:	**UL/CSA:** 600 V **DIN VDE:** Uo/U 300/500 V
Testing voltage:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2
Min. bending radius *fixed laying:* *flexible application:*	 4 x d 6 x d
Temperature range *fixed laying:* *flexible application:*	**UL:** up to +75 °C **CSA:** up to + 80 °C **DIN VDE:** -40/+90 °C -30/+90 °C
Halogen-free:	acc. to DIN VDE 0472 part 815 and IEC 60754-1
Fire performance:	no flame propagation acc. to IEC 60332 + EN 60332 cat. C resp. D flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, CSA FT1.
Corrosiveness of conflagration gases:	in compliance with IEC 60754-2 and EN 50267-2-2 + VDE 0472 part 267-2-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + EN 61034
Flexibility:	good
Absence of harmful substances:	acc. to RoHS-guideline 2002/95/EG as well as GefStoffV appendix IV-no. 24

item no.	no. of cores	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
► 20 AWG (15/32) ▪ 0,50 mm²				
62520205	2	5,2	10,3	40
62520305	3	5,5	15,4	47
62520405	4	5,9	20,5	56
62520505	5	6,4	25,6	65
62520705	7	7,0	35,9	83
62520805	8	8,2	41,0	104
62520905	9	8,9	46,1	118
62521005	10	9,1	51,3	120
62521205	12	9,3	61,5	136
62521405	14	9,8	71,8	154
62521605	16	10,5	82,0	177
62521805	18	11,1	92,3	196
62522505	25	13,5	128,2	270
62523005	30	13,9	153,8	310
62523405	34	15,2	174,3	355
62524005	40	16,5	205,1	421
62524105	41	16,5	210,2	428
62526105	61	19,3	312,8	608
► 19 AWG (23/32) ▪ 0,75 mm²				
62520207	2	5,7	14,4	48
62520307	3	6,0	21,6	57
62520407	4	6,5	28,8	69
62520507	5	7,1	36,0	81
62520707	7	7,9	50,4	106
62520807	8	9,3	57,6	132
62520907	9	9,9	64,8	145
62521007	10	10,1	72,0	149
62521207	12	10,6	86,4	175
62521407	14	11,1	100,8	197
62521607	16	11,9	115,2	226
62521807	18	12,5	129,6	250
62522507	25	15,2	180,0	344
62523007	30	15,7	216,0	397
62523407	34	17,1	244,8	453
62524007	40	18,6	288,0	535
62524107	41	18,6	295,2	545
62526107	61	22,0	439,2	786

item no.	no. of cores	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
► 18 AWG (30/32) ▪ 1,00 mm²				
62520210	2	5,9	19,2	54
62520310	3	6,3	28,8	66
62520410	4	6,8	38,4	80
62520510	5	7,5	48,0	97
62520710	7	8,2	67,2	124
62520810	8	9,6	76,8	152
62520910	9	10,5	86,4	173
62521010	10	10,7	96,0	179
62521210	12	11,0	115,2	204
62521410	14	11,5	134,4	231
62521810	18	13,0	172,8	294
62522510	25	15,8	240,0	404
62523010	30	16,6	288,0	477
62523410	34	18,0	326,4	543
62524010	40	19,5	384,0	639
62524110	41	19,5	393,6	675
62526110	61	22,9	585,6	931
► 16 AWG (27-29/30) ▪ 1,50 mm²				
62520215	2	6,5	28,8	69
62520315	3	6,9	43,2	85
62520415	4	7,6	57,6	105
62520515	5	8,3	72,0	129
62520715	7	9,3	100,8	166
62520815	8	10,9	115,2	202
62520915	9	11,8	129,6	228
62521015	10	12,1	144,0	240
62521215	12	12,4	172,8	274
62521415	14	13,0	201,6	311
62521815	18	14,9	259,2	404
62522515	25	18,1	360,0	558
62523015	30	18,7	432,0	647
62523415	34	20,5	489,6	747
62524015	40	22,2	576,0	874
62524115	41	22,2	590,4	883
62526115	61	26,0	878,4	1281

item no.	no. of cores	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
► 14 AWG (46/30) ▪ 2,50 mm²				
62520225	2	7,8	48,0	104
62520325	3	8,3	72,0	128
62520425	4	9,2	96,0	161
62520525	5	10,1	120,0	195
62520725	7	11,2	168,0	257
62520825	8	13,4	192,0	316
62520925	9	14,3	216,0	348
62521025	10	14,8	240,0	375
62521225	12	15,3	288,0	431
62521825	18	18,2	432,0	632
62522525	25	22,3	600,0	871
► 12 AWG (52/28) ▪ 4,00 mm²				
62520340	3	9,7	115,2	188
62520440	4	10,8	153,6	238
62520540	5	12,1	192,0	295
62520740	7	13,4	268,8	388
► 10 AWG (78/28) ▪ 6,00 mm²				
62520360	3	11,4	172,8	271
62520460	4	12,7	230,4	343
62520560	5	14,2	288,0	425
► 8 AWG (77/26) ▪ 10,00 mm²				
62520461	4	17,2	384,0	608
62520561	5	19,3	480,0	756
► 6 AWG (119/26) ▪ 16,00 mm²				
62520462	4	21,1	614,4	909
► 4 AWG (196/26) ▪ 25,00 mm²				
62520463	4	26,5	960,0	1475
► 2 AWG (280/26) ▪ 35,00 mm²				
62520464	4	30,2	1344,0	2004

Other dimensions and colours are possible on request.

SABIX® CC 625 S FRNC M

Control cable with numbered cores and overall copper screen

Marking for SABIX CC 625 S FRNC M 62341215:
SAB BRÖCKSKES · D-VIERSEN · 62341215 12 x 1,5 mm² SABIX CC 625 S FRNC M 16 AWG/12c 62341612
UL AWM Style 21089 75°C 600V CSA AWM I/II A/B 80°C 600V FT1 CE

Construction:

Conductor:	bare copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Insulation:	FRNC
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:	FRNC
Sheath colour:	grey (RAL 7000)

Outstanding features:

- **halogen-free**
- **UL/CSA approved**
- **no flame propagation**
- **good EMC characteristics***
- **flame retardant and self-extinguishing**
- **flexible**

* Copper braiding should be connected circularly to optimize the EMC characteristics

Technical data:

Nominal voltage:	**UL/CSA:** 600 V **DIN VDE:** Uo/U 300/500 V
Testing voltage:	3000 V acc. to DIN VDE 0281 part 2 + HD 21.2 core/screen 1000 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d
Temperature range *fixed laying:* *flexible application:*	**UL:** up to +75 °C **CSA:** up to + 80 °C **DIN VDE:** -40/+90 °C -30/+90 °C
Halogen-free:	acc. to DIN VDE 0472 part 815 and IEC 60754-1
Fire performance:	no flame propagation acc. to IEC 60332 + EN 60332 cat. C resp. D flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2, CSA FT1.
Corrosiveness of conflagration gases:	in compliance with IEC 60754-2 and EN 50267-2-2 + VDE 047 2 part 267-2-2 - no development of corrosive conflagration gases
Smoke density:	acc. to IEC 61034 + EN 61034
Flexibility:	good
Absence of harmful substances:	acc. to RoHS-guideline 2002/95/EG as well as GefStoffV appendix IV-no. 24

item no.	no. of cores	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
► 20 AWG (17/32) · 0,50 mm²				
62340205	2	5,7	20,8	45
62340305	3	6,0	26,0	54
62340405	4	6,4	32,2	64
62340505	5	7,0	38,7	76
62340705	7	7,6	50,3	96
62340805	8	8,9	58,4	121
62340905	9	9,4	63,6	131
62341005	10	9,6	70,6	136
62341205	12	9,8	80,9	152
62341405	14	10,7	103,4	188
62341605	16	11,2	113,8	206
62341805	18	12,0	128,3	234
62342505	25	13,8	168,2	306
62343005	30	15,0	198,0	361
62343405	34	16,3	239,4	429
62344005	40	17,6	278,3	503
62344105	41	17,6	283,4	514
62346105	61	20,2	395,6	693
► 19 AWG (23/32) · 0,75 mm²				
62340207	2	6,2	25,1	52
62340307	3	6,5	33,3	64
62340407	4	7,0	41,8	77
62340507	5	7,8	50,4	94
62340707	7	8,4	67,8	118
62340807	8	9,8	76,9	145
62340907	9	10,8	100,4	181
62341007	10	11,0	103,7	182
62341207	12	11,3	122,2	207
62341407	14	12,0	136,8	235
62341607	16	12,6	151,5	259
62341807	18	13,2	169,3	286
62342507	25	16,3	245,1	416
62343007	30	16,8	281,4	468
62343407	34	18,2	318,5	534
62344007	40	19,7	370,3	625
62344107	41	19,7	377,5	635
62346107	61	22,9	532,4	879
► 18 AWG (30/32) · 1,00 mm²				
62340210	2	6,4	30,9	58
62340310	3	6,8	41,8	73
62340410	4	7,3	51,5	87
62340510	5	8,0	63,7	107
62340710	7	8,9	84,6	139
62340810	8	10,1	96,2	165
62340910	9	11,2	118,2	200
62341010	10	11,4	131,8	210
62341210	12	11,9	151,2	241
62341410	14	12,4	170,6	268
62341810	18	13,9	216,7	340
62342510	25	16,9	312,8	483
62343010	30	17,7	361,3	556
62343410	34	19,1	400,7	629
62344010	40	20,6	467,1	730
62344110	41	20,6	476,7	742
62346110	61	24,0	687,8	1042
► 16 AWG (27-29/30) · 1,50 mm²				
62340215	2	7,0	41,8	71
62340315	3	7,5	57,5	92
62340415	4	8,1	73,4	113
62340515	5	9,0	89,4	139
62340715	7	9,8	120,1	178
62340815	8	11,8	151,1	236
62340915	9	12,5	165,8	259
62341015	10	12,8	183,6	272
62341215	12	13,3	212,5	313
62341415	14	13,9	245,5	354
62341815	18	15,8	324,1	464
62342515	25	19,2	441,8	644
62343015	30	19,8	514,5	734
62343415	34	21,4	581,2	835
62344015	40	23,1	669,4	963
62344115	41	23,1	683,8	972
62346115	61	27,1	992,6	1403
► 14 AWG (46/36) · 2,50 mm²				
62340225	2	8,3	63,8	101
62340325	3	9,0	89,4	136
62340425	4	9,7	115,3	168
62340525	5	11,0	151,7	220
62340725	7	12,1	204,1	286
62340825	8	14,1	236,0	346
62340925	9	15,2	260,4	386
62341025	10	15,7	304,8	428
62341225	12	16,4	353,1	493
62341825	18	19,3	513,9	712
62342525	25	23,4	693,5	965
► 12 AWG (52/28) · 4,00 mm²				
62340340	3	10,6	146,8	205
62340440	4	11,5	189,5	256
62340540	5	12,8	231,6	316
62340740	7	14,1	312,8	412
► 10 AWG (78/28) · 6,00 mm²				
62340360	3	12,3	208,9	284
62340460	4	13,6	270,2	362
62340560	5	15,1	332,3	449
► 8 AWG (77/26) · 10,00 mm²				
62340461	4	18,3	457,8	636
62340561	5	20,2	562,9	783
► 6 AWG (119/26) · 16,00 mm²				
62340462	4	22,2	706,7	927
► 4 AWG (196/26) · 25,00 mm²				
62340463	4	27,4	1074,8	1450
► 2 AWG (280/26) · 35,00 mm²				
62340464	4	31,3	1471,8	1959

Other dimensions and colours are possible on request.

Generator connection cable with Silicone impregnated fibre-glass braiding

RoHS

Construction:

Conductor:	tinned copper strands acc. to IEC 60228, EN 60228, VDE 0295, class 5
Wrapping:	non-woven tape
Insulation:	special silicone
Colour code	
450/750 V:	white
3,8/6,6 kV:	grey
8,0/13,8 kV:	black
Braiding:	fibre-glass
Impregnation:	special silicon

Outstanding features:

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

Example of use:

- **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.**

Technical data:

Nominal voltag Uo/U:	450/750 V 3,8/6,6 kV 8,0/13,8 kV
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 d
Radiation resistance:	2 x 10^7 cJ/kg
Temperature range	
fixed laying:	-40/+180 °C
flexible application:	-25/+180 °C
short-time use:	+250 °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
Corrosiveness of conflagration gases:	IEC 60754-2 + EN 50267-2-2 + VDE 0482 part 267-2-2 – no development of corrosive conflagration gases
Absence of harmful substances:	acc. to RoHS-guideline 2002/95/EG as well as GefStoffV appendix IV-no. 24

450/750 V

item no.	nominal cross section mm^2	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
item group 0123	6,00	0,31	5,3	57,6	71
	10,00	0,41	6,9	96,0	125
	16,00	0,41	7,9	153,6	179
	25,00	0,41	10,1	240,0	279
	35,00	0,41	11,5	336,0	381
item no. on request	50,00	0,41	13,1	480,0	548
	70,00	0,41	15,4	672,0	722
	95,00	0,51	18,3	912,0	1004
	120,00	0,51	20,2	1152,0	1221

Other dimensions and colours are possible on request.

3,8/6,6 kV

item no.	nominal cross section mm^2	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
item group 0123	16,00	0,41	10,3	153,6	224
	25,00	0,41	12,1	240,0	325
	35,00	0,41	13,5	336,0	434
	50,00	0,41	15,1	480,0	596
item no. on request	70,00	0,41	17,4	672,0	798
	95,00	0,51	19,5	912,0	1032
	120,00	0,51	21,4	1152,0	1250

Other dimensions and colours are possible on request.

8,0/13,8 kV

item no.	nominal cross section mm^2	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
item group 0123	10,00	0,41	11,9	96,0	224
	16,00	0,41	12,9	153,6	286
	25,00	0,41	14,7	240,0	386
item no. on request	50,00	0,41	17,3	480,0	663
	70,00	0,41	19,6	672,0	870
	95,00	0,51	21,7	912,0	1109

Other dimensions and colours are possible on request.

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

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Technical Data

■ Please note that all technical data are not binding and can be modified due to new developments.

General

This material has several outstanding characteristics. As registered trademark of SAB BRÖCKSKES GmbH & Co. KG, SABIX® combines progressive cable technology with highest security for the user. When used properly, there is no health risk associated with SABIX®. SABIX® products are completely recyclable and can be reused after decomposition.

Standard halogen-free cables offer a large degree of safety to humans, nature, buildings and machinery, but do have a large disadvantage - they are often too unflexible to compete with PVC in all applications. This is not the case with SABIX®. SABIX® possesses several technical advantages compared with PVC.

The outstanding characteristics of the SABIX® - material types depending on the modifications are:

- oil resistant acc. to DIN VDE + EN
- flexible at low temperatures up to -40°C
- heat resistant up to +90°C
- suitable for outdoor application
- extremely flexible
- very good capacitance values
- increased abrasion resistance
- fully recyclable
- low smoke density acc. to DIN VDE, IEC, BS + EN
- flame retardant and self-extinguishing acc. to DIN VDE, IEC + EN
- halogen-free acc. to DIN VDE + IEC

Materials

1. SABIX® 336 This material has excellent characteristics as a flexible core insulation. Besides being halogen-free according to DIN VDE, this material is also described as being/having: highly flexible, highly weather resistant, very good capacitance, increased abrasion resistance, fully recyclable, oil resistant acc. to DIN VDE.
The temperature range is as follows:

Fixed laying: -50° up to +90°C
Flexible application: -40° up to +90°C

2. SABIX® 322 This material has excellent characteristics as a flexible sheath material. Besides being halogen-free according to DIN VDE, this material is also described as being/having: highly flexible, highly weather resistant, increased abrasion resistance, fully recyclable, oil resistant acc. to DIN VDE.
The temperature range is as follows:

Fixed laying: -50° up to +90°C
Flexible application: -40° up to +90°C

3. SABIX® 230 FRNC This material has excellent characteristics as a flexible sheath material. The abbreviation FRNC stands for **F**lame **R**etardant, **N**on-**C**orrosive. SABIX® 230 FRNC fulfills the burning characteristics according to DIN VDE and IEC. It also is/has: halogen-free according to DIN VDE and IEC, low smoke-density according to DIN VDE, IEC and BS, high flexibility and is/has fully recyclable.
The temperature range is as follows:

Fixed laying: -40° up to +85°C
Flexible application: -30° up to +85°C

4. SABIX® 233 FRNC This material has excellent characteristics as core isolation and sheath material. The abbreviation FRNC stands for **F**lame **R**etardant, **N**on-**C**orrosive. SABIX® 233 FRNC fulfills the burning characteristics according to DIN VDE and IEC. It also is/has: halogen-free according to DIN VDE and IEC, low smoke-density according to DIN VDE, IEC and BS and is/has fully recyclable.
The temperature range is as follows:

Fixed laying: -30° up to +90°C
Flexible application: -20° up to +90°C

General

Polyurethane has become increasingly important in the cable industry over the past years. This material shows at certain temperatures mechanical characteristics similar to rubber. The combination of thermoplastic and elastic characteristics has led to the description TPE thermoplastic elastomere. Here at SAB BRÖCKSKES GmbH & Co KG, we use PUR on a Polyether base as sheath material. In addition to standard Polyurethane, thanks to constant development between SAB BRÖCKSKES and the plastic industry, the following types of PUR are also available:

- PUR semi-mat (low adhesion)
- PUR mat (rough surface, low adhesion)
- PUR flame protected
- PUR halogen-free and flame protected

Mechanical characteristics

The insulation materials of the cables are usually not subject to high mechanical stress. Sheaths, on the other hand are heavily used. This is especially true for flexible control and connection cables which are often pulled over sharp corners and rough surfaces. This can lead to cuts which are accentuated when the cable is stretched during flexible use. Compressive stress caused by squashing and impacting from tools and machines can also occur. The most important mechanical characteristics of PUR are:

- high tensile strength
- high tear resistance
- notch resistance
- abrasion resistance
- alternate bending resistance
- impact resistance
- flexibility at low temperatures

Chemical characteristics

The chemical resistance depends upon many factors such as chemical type, reaction time, temperature, volume, concentration and of course the type of Polyurethane used. In comparison with many other materials, such as rubber or PVC, PUR has a better resistance against chemical reaction. The outstanding chemical characteristics are:

- very good resistance against mineral oils
- good resistance against alcohol-free benzine
- good resistance during storage in water
- good resistance against many solvents

The danger of decomposition through microbes exists with Polyurethane on a Polyester base after prolonged exposure to dampness and warmth. The Polyurethane on a Polyether base used by SAB is resistant to microbic decomposition. Etherpolyurethane and Esterpolyurethane can be differentiated by the saponification value (VZ).

- Etherpolyurethane (resistant) - VZ $\leq$ 200
- Esterpolyurethane (non-resistant) - VZ $\geq$ 350

After prolonged exposure to warm water or tropical climates, Polyurethane on a Polyester base will undergo a chemical reaction. The result is a weakening of mechanical strength. SAB Polyurethane on a Polyether base is relatively more resistant to hydrological break-down.

Etherpolyurethane is weather and ozone resistant in all climates. Discolouration by sunlight is possible, but this will not affect performance.

General

The application areas for this thermoplast in the plastics industry are diverse. There are various types of PVC used in the wire and cable industry. National (DIN VDE) and International (IEC) Standards Authorities have specified PVC parameters for the different PVC mixtures. The characteristics of standardized PVC mixtures for the cable industry are defined under the following DIN VDE standards, for example:

- PVC - insulation mixture DIN VDE 0207 part 4, HD21.1
- PVC - sheath mixture DIN VDE 0207 part 5, HD21.1

PVC that hardens after polymerisation is not suitable for insulating and protecting wires and cables. The necessary mechanical, thermal and electrical levels can only be reached with the addition of complements such as:

► softeners ► stabilisers ► filler materials ► slip additives

Materials

1. SAB special PVC (Y)

Our special PVC (YA and YM) are used for insulation and sheathing purposes. PVC type YA is used for core insulation and is particularly flexible and has very good electrical characteristics. PVC type YM sheath material has good mechanical characteristics and high flexibility.

The temperature range is as follows:

Fixed laying: -40° up to +70°C
Flexible application: + 5° up to +70°C

2. SAB cold resistant PVC (YK)

Cold resistant PVC shows good flexibility and mechanical strength even at sub-zero temperatures. It can also be exposed to various weather influences.

The temperature range is as follows:

Fixed laying: -40° up to +70°C
Flexible application: -20° up to +70°C

3. SAB heat resistant PVC (YW)

Heat resistant PVC can resist temperatures up to +105°C. The insulation and sheath materials possess good electrical and mechanical values and have very good heat resistance. The highest valid operational temperature on the conductor itself according to DIN VDE 0207 is +90 °C. Any application above this temperature reduces the usable life.

The temperature range is as follows:

Fixed laying: -40° up to +90°C
Flexible application: + 5° up to +90°C
Short time use: up to +105°C

4. SAB oil resistant PVC (YOE)

Our YOE PVC mixtures are oil resistant according to DIN VDE 0281 part 1, mixture TM5. Usually used as a sheath material, it can also be used as insulation.

The temperature range is as follows:

Fixed laying: -40° up to +70°C
Flexible application: + 5° up to +70°C

PVC can be classified as inflammable due to its chemical composition. SAB PVC compounds fulfil the criteria regarding burning characteristics according to EN 60332-1-2 (IEC 60332-1-2), UL, VW1, CSA FT1 and FT2. Halogen is however released during a fire, which is a danger to humans, nature, buildings and machines. In addition, PVC control and data cables are not designed for outdoor use.

General

Besilen® is a registered trademark of SAB BRÖCKSKES GmbH & Co KG. It is a specially developed Silicone rubber-based material with good electrical characteristics and heat resistance. In addition to our standard Besilen® product range, we also produce specialised products that meet requirements such as:

- notch resistance for better mechanical strength
- higher temperature resistance + 250 °C
- Besilen® mixture compatible for the food industry
- conductive Besilen® for antistatic conductance

Mechanical characteristics

Vulcanised Besilen®, produced with a 50-60 A shore hardness is particularly elastic with excellent mechanical strength. A further interesting characteristic of Besilen® is that it does not stick to adhesive surfaces.

- non-adhesive
- hydrophobic

If Besilen® cables are used in tube systems it is important that these are ventilated and open, otherwise the mechanical strength of Besilen® will be reduced.

Chemical characteristics

The chemical composition of Besilen®, which deviates from standard rubber types, gives our product several outstanding characteristics including for example:

- outstanding hot air resistance
- extreme flexibility at low temperatures (down to -40 °C)
- resistant to decompostion from substances such as alcohol and high molecular oils, plant and animal fats, diluted acids, softeners, chlophen, alkalis and salt solutions
- oxygen resistant
- ozone-proof
- halogen-free
- weather resistant

Electrical characteristics

The electrical characteristics of Besilen® even at room temperature lie alongside the best known elastic insulation materials. Because of its heat resistance, Besilen® insulated cables and wires can withstand approx. 50% more electric pressure under continuous use than regular rubber insulation. This allows weight and room-saving cable construction. An outstanding safety feature of Besilen® insulation is the insulating layer of silicic acid (SiO2) during fire.

Dielectric constant: approx. 3.2 (at 800 Hz)
Specific volume resistance: min. 10^{12} Ω x cm
Breakdown voltage: 20 kV/mm

Current-carrying capacity (Iz) of cables with increased heat resistance in ambient temperatures above 50 °C

Ambient temperature up to °C	150	155	160	165	170	175
Current-carrying capacity (Iz) of the values in below-shown table	100 %	91 %	82 %	71 %	58 %	41 %

In ambient temperatures up to 150 °C Besilen® insulated cables can be charged acc. to DIN VDE 0298 part 4 as shown in the table:

nominal cross section mm²	multi core cables on or up surfaces permitted load in amps	single cores, open-air laid cables, distance between two cores equal to or greater than cable diameter permitted load in amps
0,75	12	15
1,00	15	19
1,50	18	24
2,50	26	32
4,00	34	42
6,00	44	54
10,00	61	73
16,00	82	98
25,00	108	129
35,00	135	158
50,00	168	198
70,00	207	245
95,00	250	292
120,00	292	344
150,00	335	391
185,00	382	448
240,00	453	528
300,00	523	608

Abbreviations key for harmonized/international cables

Fundamental type

H = harmonized type
A = nationally recognised type

Nominal voltage

01 = 100 Volts
03 = 300/300 Volts
05 = 300/500 Volts
07 = 450/750 Volts

Materials

B = Ethylene propylene rubber
E = PE Polyethylene
J = Fibre-glass braiding
N = Chloroprene rubber
Q = Polyurethane
R = Rubber
S = Silicone rubber
T = Textile braiding
V = PVC
V2 = PVC +90°C
V3 = PVC flexible at low temperatures
V5 = PVC increased oil resistant
X = XPE, cross linked PE

Additions

C4 = copper wire braiding
H = divisible flat cable
H2 = non-divisible flat cable
H6 = non-divisible flat cable for elevators
H8 = helix cable

Types of conductor

U = single wire
R = multi wire
K = fine strands (fixed laying)
F = fine strands (flexible use)
H = extra fine strands (flexible use)
D = fine strands for welding cable
E = extra fine strands for welding cable

Earth wire

X = without green-yellow earth wire
G = with green-yellow earth wire

Abbreviations key according to DIN VDE and with reference to DIN VDE (SAB BRÖCKSKES standard)

Fundamental type

N = national standard
Bi = Besilen® (Silicone)
Ö = PVC control cable
S = Cable track cable
SL = Servo cable
SABIX® = halogen-free material on a Polyolefin base
Li = strands (data cable)
AGL = Compensating cable
ThL = Extension cable

Insulation

Y = PVC
YK = cold resistant PVC
2G (Bi) = Besilen® (Silicone)
12Y = mod. TPE
G = Rubber
2Y = PE (Polyethylene)
GL = Fibre-glass
SABIX® 336 = halogen-free material

Screening/Armouring

P = steel wire protection
S = steel wire braiding
C = copper braiding
V = stainless steel braiding
D = copper wrapping
ST = static screen

Specials

Z = numbered control cable
A = single core
F = flexible
(E) = intrinsically safe (blue)
(TR) = transparent outer sheath
(B) = drain wire
PU = Polyurethane

Sheath materials

YOE = oil resistant PVC
YW = heat resistant PVC
11Y = PUR (Polyurethane)
HM2 = halogen-free thermoplast (Begum)
SABIX® 322 = halogen-free material
SABIX® FRNC = halogen-free, flame protected material
Other materials as mentioned under insulation

Earth wire

J = with green-yellow earth wire
0 = without green-yellow earth wire

Material	Abbre-viation	Temperature range/ flexible	Flame retar-dance	Tensile strength N/mm^2	Elon - gation at break %	Abrasion resist-ance	Dielectric constant at 800 Hz approx.	Specific resist-ance Ω x cm	Break-down voltage kV/mm	Radiation resist-ance cJ/kg
PVC special	Y	+5/+70 °C	good	15	250	medium	4,0	10^{13}	12	8 x 10^7
PVC cold resistant	Y K	-20/+70 °C	good	15	250	medium	4,0	10^{13}	12	8 x 10^7
PVC heat resistant	Y W	+5/+105 °C	good	18	200	medium	3,5	10^{13}	18	8 x 10^7
PVC oil resistant	YOE	+5/+70 °C	good	15	250	medium	4,0	10^{13}	12	8 x 10^7
PUR halogen-free	11 Y	-40/+90 °C	moderate	30	400	very good	6,0	10^{12}	20	5 x 10^7
PE	2 Y	-40/+70 °C	moderate	20	500	good	2,4	10^{17}	100	7 x 10^6
TPE	12 Y	-40/+90 °C (up to +135 °C)	moderate	30	500	good	3,3	10^{14}	30	1 x 10^7
Besilen®	2 G	+180 °C	good	7	200	medium	3,2	10^{15}	20	2 x 10^7
FEP	6 Y	+ 180 °C	very good	20	250	good	2,1	10^{18}	20	5 x 10^6
PFA	–	+ 250 °C	very good	20	250	good	2,1	10^{18}	20	2 x 10^6
ETFE	7 Y	+150 °C	very good	45	250	good	2,6	10^{16}	30	5 x 10^7
SABIX® 336	–	-40/+90 °C	moderate	12	500	good	2,6	10^{18}	19	5 x 10^6
SABIX® 322	–	-40/+90 °C	moderate	9	500	good	2,6	10^{18}	19	5 x 10^6
SABIX® 230 FRNC	–	-40/+85 °C	very good	10	150	medium	3,7	10^{14}	25	–

The values in this table are approximates and are not complete (technical modification subject to alteration).

Data cables – electrical characteristics

Cross-section in mm²	0,14	0,25	0,34	0,50	0,75	1,00	1,50
max. conductor resistance at 20 °C in Ω/ km acc. to DIN VDE 0812	148,0	79,9	58,0	38,9	26,0	19,5	13,3
Capacitance core/core approx. nF/km for…							
…PVC	120	120	130	140	150	170	190
…TPE-E	100	100	120	120	150	150	170
…PE	60	60	80	90	90	100	110
…SABIX® 336	70	70	70	80	90	100	110

Screened data cables – electrical characteristics

Cross-section in mm²	0,14	0,25	0,34	0,50	0,75	1,00	1,50
max. conductor resistance at 20 °C in Ω/ km acc. to DIN VDE 0812	148,0	79,9	58,0	38,9	26,0	19,5	13,3
Capacitance core/core approx. nF/km for…							
…PVC	50	50	55	55	60	60	60
…TPE-E	40	50	50	50	60	70	70
…PE	20	20	20	20	20	20	20
…SABIX® 336	30	30	30	30	30	30	35

The mentioned values are approximate values. Capacitance is dependent on cable constructions, screenings and wall thickness of the insulation and, therefore, can be different from above mentioned data.

Data cables – construction of strands

For example, item groups 0305, 0315, 0345, 5305, 5315, 5345, 6305, 6315, 6345, …

nominal cross section	no. of wires x diameter of wires
0,14 mm²	≈ 18 x 0,10 mm Ø
0,25 mm²	≈ 14 x 0,15 mm Ø
0,34 mm²	≈ 7 x 0,25 mm Ø
0,50 mm²	≈ 15 x 0,20 mm Ø
0,75 mm²	≈ 23 x 0,20 mm Ø
1,00 mm²	≈ 30 x 0,20 mm Ø
1,50 mm²	≈ 28 x 0,25 mm Ø

Substance	Concentr. %	Temp. degree °C	PVC	SABIX® 322 + 336	SABIX® 231	SABIX® 722	PUR	PE	Besilen®	FEP	PFA	ETFE
Acetone		20	–	+	–	o	–	+	o	+	+	+
Äthylenchlorid		50	–	n.e.	–	o	–	+	o	+	+	+
Äthylenglykol		100	o	+	–	+	–	n.e.	+	+	+	+
Alum		20	+	+	n.e.	–	+	+	–	+	+	+
Ammonia	25	20	+	+	n.e.	+	o	+	+	+	+	+
Aniline		50	–	+	–	+	–	+	+	+	+	+
Benzine		20	–	–	o	o	+	–	o	+	+	+
Benzol	100	50	–	+	–	–	–	–	–	+	+	+
Boric acid	sat.	20	+	+	n.e.	+	+	+	+	+	+	+
Break fluid		100	o	o	–	+	–	n.e.	+	+	+	+
Butter		50	+	o	o	+	o	+	+	+	+	+
Chlorobenzine		30	–	n.e.	–	–	–	o	–	+	+	+
Diethyl ether		20	o	+	o	–	+	+	–	+	+	+
Diethylene glycol		50	+	+	o	+	+	+	+	+	+	+
Pure acetic acid	concentr.	50	–	+	–	+	–	+	+	n.e.	n.e.	n.e.
Freon		20	–	n.e.	o	–	+	o	–	+	+	+
Gear oil		100	+	o	–	o	o	–	o	+	+	+
Glycerine	all	50	+	+	o	+	+	+	+	+	+	+
Hydraulic oil		20	+	+	+	–	+	–	–	+	+	+
Potassium chloride	sat.	20	+	+	+	+	n.e.	+	+	+	n.e.	n.e.
Potassium nitrate		20	+	+	+	+	o	+	+	+	+	+
Copper salt		20	+	+	+	+	+	+	+	+	+	+
Machine oil		20	–	o	+	+	+	–	+	+	+	+
Methanol		50	+	+	o	+	–	+	+	+	+	+
Dichlormethane	100	20	–	n.e.	–	–	–	+	–	+	+	+
Motor oil		120	–	o	–	+	–	–	+	+	+	+
Sodium chloride	50	20	+	+	+	+	+	+	+	+	+	+
Caustic soda	50	50	+	+	o	–	+	+	–	+	+	+
Nitrobenzene	100	50	–	+	–	+	–	+	+	+	+	+
Olive oil		50	+	+	–	+	+	+	+	+	+	+
Mercury salt		20	–	+	+	+	–	+	+	+	+	+
Nitric acid		20	–	+	+	–	–	+	–	+	+	+
Hydrochloric acid	concentr.	20	–	+	+	–	–	+	–	+	+	+
Sulphuric acid	50	50	+	+	–	–	–	+	–	+	+	+
Silver salts		20	+	+	+	+	+	+	+	+	+	+
Phenol from tar (Tectal)		20	+	+	o	–	–	n.e.	–	+	+	+
Carbon tetrachloride	100	20	+	–	–	–	–	–	–	+	+	+
Trichlorethylene	100	50	–	–	–	+	–	–	+	+	+	+
Detergent lye	2	100	–	+	o	–	–	n.e.	–	+	+	+
Destilled water		100	o	+	o	–	o	+	–	+	+	+
Destilled water		20	+	+	+	+	+	+	+	+	+	+
Tartaric acid	sat.	20	+	+	+	+	n.e.	+	+	+	+	+
Citric acid		20	+	+	+	+	o	+	+	+	+	+

Reference:
This information is the result of our many years of experience and has been compiled to the best of our knowledge. However, we would like to point out that they are not binding and a final assessment can only be made under normal working conditions.

– = poor resistance
o = average resistance
+ = good resistance
n.e. = not existing

Colour code with reference to DIN 47100

core no.	basic colour	1st ring	2nd ring	core no.	basic colour	1st ring	2nd ring
1	white			32	yellow	blue	
2	brown			33	green	red	
3	green			34	yellow	red	
4	yellow			35	green	black	
5	grey			36	yellow	black	
6	pink			37	grey	blue	
7	blue			38	pink	blue	
8	red			39	grey	red	
9	black			40	pink	red	
10	violet			41	grey	black	
11	grey	pink		42	pink	black	
12	red	blue		43	blue	black	
13	white	green		44	red	black	
14	brown	green		45	white	brown	black
15	white	yellow		46	yellow	green	black
16	yellow	brown		47	grey	pink	black
17	white	grey		48	red	blue	black
18	grey	brown		49	white	green	black
19	white	pink		50	brown	green	black
20	pink	brown		51	white	yellow	black
21	white	blue		52	yellow	brown	black
22	brown	blue		53	white	grey	black
23	white	red		54	grey	brown	black
24	brown	red		55	white	pink	black
25	white	black		56	pink	brown	black
26	brown	black		57	white	blue	black
27	grey	green		58	brown	blue	black
28	yellow	grey		59	white	red	black
29	pink	green		60	brown	red	black
30	yellow	pink		61	black	white	
31	green	blue					

Core identification acc. to HD 308

Identification of cores in cables and flexible cords by colours

no. of cores	cables with green-yellow earth wire	cables without green-yellow earth wire
2-cores	–	blue - brown
3-cores	green-yellow - blue - brown	brown - black - grey
4-cores	green-yellow - brown - black - grey	blue - brown - black - grey
5-cores	green-yellow - blue - brown - black - grey	blue - brown - black - grey - black

Core indentification with numbers acc. to EN 50334

Marking inscription for identification of cores of electric cables (number printing).
Other core colours are allowed except green and yellow.

SAB colour code for RTD connection cables

2-cores	red - white
3-cores	red - red - white
4-cores	red - red - white - white
6-cores	red - red - white - white - black - black

(4 cores acc. to DIN IEC 60751, 6 cores are not standardized)

Colour-coding to customer specification is also possible!

Colour code US 1

core no.	basic colour	1st ring	2nd ring	core no.	basic colour	1st ring	2nd ring
1	black			7	orange		
2	white			8	yellow		
3	red			9	violet		
4	green			10	grey		
5	brown			11	pink		
6	blue			12	beige		

Colour code US 2

core no.	basic colour	1st ring	2nd ring	core no.	basic colour	1st ring	2nd ring
1	black			26	orange	black	white
2	white			27	blue	black	white
3	red			28	black	red	green
4	green			29	white	red	green
5	orange			30	red	black	green
6	blue			31	green	black	orange
7	white	black		32	orange	black	green
8	red	black		33	blue	white	orange
9	green	black		34	black	white	orange
10	orange	black		35	white	red	orange
11	blue	black		36	orange	white	blue
12	black	white		37	white	red	blue
13	red	white		38	black	white	green
14	green	white		39	white	black	green
15	blue	white		40	red	white	green
16	black	red		41	green	white	blue
17	white	red		42	orange	red	green
18	orange	red		43	blue	red	green
19	blue	red		44	black	white	blue
20	red	green		45	white	black	blue
21	orange	green		46	red	white	blue
22	black	white	red	47	green	orange	red
23	white	black	red	48	orange	red	blue
24	red	black	white	49	blue	red	orange
25	green	black	white	50	black	orange	red

Colour code US 3

pair no.	colour combination			pair no.	colour combination		
1	black	paired with	red	20	white	paired with	yellow
2	black	paired with	white	21	white	paired with	brown
3	black	paired with	green	22	white	paired with	orange
4	black	paired with	blue	23	blue	paired with	yellow
5	black	paired with	yellow	24	blue	paired with	brown
6	black	paired with	brown	25	blue	paired with	orange
7	black	paired with	orange	26	brown	paired with	yellow
8	red	paired with	white	27	brown	paired with	orange
9	red	paired with	green	28	orange	paired with	yellow
10	red	paired with	blue	29	violet	paired with	orange
11	red	paired with	yellow	30	violet	paired with	red
12	red	paired with	brown	31	violet	paired with	white
13	red	paired with	orange	32	violet	paired with	green
14	green	paired with	white	33	violet	paired with	blue
15	green	paired with	blue	34	violet	paired with	yellow
16	green	paired with	yellow	35	violet	paired with	brown
17	green	paired with	brown	36	violet	paired with	black
18	green	paired with	orange	37	grey	paired with	white
19	white	paired with	blue				

Colour code US 4

core no.	basic colour	1st ring	2nd ring	core no.	basic colour	1st ring	2nd ring
1	black			29	white	brown	orange
2	brown			30	white	baun	yellow
3	red			31	white	brown	green
4	orange			32	white	brown	blue
5	yellow			33	white	brown	violet
6	green			34	white	brown	grey
7	blue			35	white	red	orange
8	violet			36	white	red	yellow
9	grey			37	white	red	green
10	white			38	white	red	blue
11	white	black		39	white	red	violet
12	white	brown		40	white	red	grey
13	white	red		41	white	orange	yellow
14	white	orange		42	white	orange	green
15	white	yellow		43	white	orange	blue
16	white	green		44	white	orange	violet
17	white	blue		45	white	orange	grey
18	white	violet		46	white	yellow	green
19	white	grey		47	white	yellow	blue
20	white	black	brown	48	white	yellow	violet
21	white	black	red	49	white	yellow	grey
22	white	black	orange	50	white	green	blue
23	white	black	yellow	51	white	green	violet
24	white	black	green	52	white	green	grey
25	white	black	blue	53	white	blue	violet
26	white	black	violet	54	white	blue	grey
27	white	black	grey	55	white	violet	grey
28	white	brown	red				

Colour code US 5

pair no.	colour combination	pair no.	colour combination
1	black paired with red	27	brown paired with yellow
2	black paired with white	28	violet paired with red
3	black paired with green	29	violet paired with white
4	black paired with blue	30	violet paired with green
5	black paired with brown	31	violet paired with blue
6	black paired with yellow	32	violet paired with brown
7	black paired with orange	33	violet paired with yellow
8	red paired with green	34	violet paired with orange
9	red paired with white	35	violet paired with grey
10	red paired with blue	36	violet paired with black
11	red paired with yellow	37	grey paired with red
12	red paired with brown	38	grey paired with white
13	red paired with orange	39	grey paired with green
14	green paired with blue	40	grey paired with blue
15	green paired with white	41	grey paired with brown
16	green paired with brown	42	grey paired with yellow
17	green paired with orange	43	grey paired with orange
18	green paired with yellow	44	grey paired with black
19	white paired with blue	45	white/black paired with red
20	white paired with brown	46	white/black paired with green
21	white paired with orange	47	white/black paired with blue
22	white paired with yellow	48	white/black paired with brown
23	blue paired with brown	49	white/black paired with yellow
24	blue paired with orange	50	white/black paired with orange
25	blue paired with yellow	51	white/black paired with violet
26	brown paired with orange		

1. Test method

- acc. to DIN VDE 0473 part 811-2-1
- corresponds to EN 60811-2-1
- corresponds to IEC 60811-2-1

2. Requirements

	TMPU acc. to DIN VDE 0282 part 10 (HD22.10S1)	acc. to SAB internal standard	TM5 acc. to DIN VDE 0281 part 1 (HD21.1S3)
Characteristics after storage in mineral oil IRM 902 (ASTM No. 2)			
Test temperature	100°C	70°C	90°C
Period of storage in oil	7 days	7 days	7 days
Mechanical values after storage in oil			
max. deviation of tensile strength	± 40%	± 40%	± 30%
max. deviation of elongation at tear	± 30% (min. 300% effective)	± 40%	± 30%

Information about SAB drums

Cable diameter [mm]	Disposable spool Flange material Barrel material Spool Ø [mm]	x K K 200	– wood wood 500	– wood wood 710	– wood wood 800	– wood wood 1000	– wood wood 1200	– wood wood 1400	– wood wood 1600
	Barrel Ø [mm]	110	200	350	400	500	600	700	800
	Width Ø [mm]	163	440	400	400	560	700	660	850
	Winding Height	40	150	180	200	250	300	350	400
	Volume (tot.) [L]	3,50	72,50	119,80	150,70	329,80	593,70	761,90	1281,70
	Security dist. [mm]	10	30	40	40	50	50	100	100
	Volume [L]	2,50	53,00	86,20	112,50	246,30	467,30	492,40	881,20
1,50		690	–	–	–	–	–	–	–
1,70		570	11560	–	–	–	–	–	–
1,90		470	9630	–	–	–	–	–	–
2,20		370	7540	–	–	–	–	–	–
2,50		300	6070	–	–	–	–	–	–
3		220	4420	7180	–	–	–	–	–
4		130	2650	4310	–	–	–	–	–
5		90	1770	2870	3750	–	–	–	–
6		–	1470	2390	3130	–	–	–	–
7		–	1080	1760	2300	5030	–	–	–
8		–	830	1350	1760	3850	–	–	–
9		–	660	1060	1390	3040	–	–	–
10		–	480	780	1020	2240	4250	–	–
11		–	400	650	850	1870	3540	–	–
12		–	340	550	720	1580	3000	–	–
13		–	290	470	620	1350	2570	–	–
14		–	250	410	540	1170	2220	–	–
15		–	220	360	470	1030	1950	2050	–
16		–	–	320	410	910	1720	1810	–
17		–	–	280	370	800	1530	1610	–
18		–	–	250	330	720	1370	1440	–
19		–	–	230	300	650	1230	1300	–
20		–	–	210	270	590	1110	1170	2100
21		–	–	–	240	530	1010	1070	1910
22		–	–	–	220	490	920	970	1740
23		–	–	–	200	450	850	890	1600
24		–	–	–	190	410	780	820	1470
25		–	–	–	170	380	720	760	1360
26		–	–	–	–	340	650	690	1230
27		–	–	–	–	320	600	640	1140
28		–	–	–	–	300	560	590	1060
29		–	–	–	–	280	520	550	990
30		–	–	–	–	260	490	520	920
32		–	–	–	–	–	–	450	810
34		–	–	–	–	–	–	400	720
36		–	–	–	–	–	–	360	640
38		–	–	–	–	–	–	320	580
40		–	–	–	–	–	–	290	520
45		–	–	–	–	–	–	230	410

Information about RoHS
Absence of harmful substances acc. to RoHS directive 2002/95/EG as well as the recast of RoHS directive 2011/65/EU and GefStoffV appendix IV-no. 24

The materials that are to be found in the indicated items are free of harmful substances according to directive 2002/95/EG as well as the recast of directive 2011/65/EU and according to the dangerous material regulation (GefStoffV) appendix IV no. 24 medium of flame protection. This means that for the following substances based on the guidelines as well as on the customers' requirements of SAB Bröckskes GmbH & Co. KG, the following quantity and content limits were specified, below which a declaration can be dropped:

► lead	< 0,1 %
► mercury	< 0,1 %
► cadmium	< 0,01 %
► hexavalent chromium	< 0,1 %
► polybrominated biphenyl (PBB)	< 0,1 %
► polybrominated diphenyl ether (PBDE)	< 0,1 %
► decabromo diphenyl ether (DecaBDE)	< 0,1 %
► pentabrominated diphenyl ether	< 0,1 %
► octabrominated diphenyl ether	< 0,1 %

Information about REACH
European regulation for the registration, assessment, admission and limitation of chemical substances (regulation (EC) no. 1907/2006)

With the help of this regulation for chemicals REACH, it is controlled how and why manufacturers, importing companies, final users and retailers have to examine, assess, declare and register chemical substances. The European Chemicals Agency (ECHA) published a list of especially harmful substances that is subject to a current updating.

The REACH regulation affects mainly manufacturers of raw materials and retailers of chemicals. The company SAB Bröckskes GmbH & Co. KG is as manufacturer of cables and temperature measuring sensors except from a registration acc. to REACH.

After intensive discussions with our raw material suppliers, we can assume acc. to our present state of knowledge that there are no chemicals in our products that are listed as harmful substances (Substances of Very High Concern) in a concentration of more than 0,1% acc. to the current EC list (ECHA-list).

Furthermore, we dispose of safety data sheets for all raw materials and additives that are contained in our products and from which dangers could arise. Those safety data sheets are continuously updated and controlled regarding the adherence to the REACH regulation.

If a substance acc. to REACH is identified that gives reason for concern, we will immediately initiate appropriate measures in order to substitute the material in question.

Information about GADSL
Global Automotive Declarable Substance List

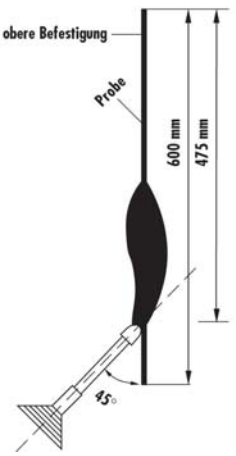
The global Automotive Declarable Substance List (GADSL) is a list containing possible harmful substances and defining those by limit values. Thus the GADSL is more extensive than the regulation on forbidden chemicals or the REACH regulation, describing substances that have to be declared or have already been forbidden.

The GADSL is the result of worldwide efforts of industry to harmonize the communication and exchange of information regarding the application of harmful substances with regard to the coming decades. The GADSL aims at simplifying the recycling of the product after its service life.

The Global Automotive Declarable Substance List (GADSL) is a list including substances used in automotive parts. It is the result of the worldwide and long lasting efforts of representatives in automobile industry to simplify communication and information exchange regarding the use of certain chemical pure substances in automotive parts. The GADSL contains forbidden substances as well as those that have to be declared and is a medium to realize further measurements for example the later material recycling of old cars in the EC including the guideline 2000/53/EG.

Tests on electric and optical fibre cables under fire conditions

Description	EN 60332-1-2 acc. to IEC 60332-1-2	EN 60332-2-2 acc. to IEC 60332-2-2
	Tests for vertical flame propagation for a single insulated wire or cable - procedure for 1-kW pre-mixed flame	Tests for vertical flame propagation for a single small insulated wire or cable - procedure for diffusion flame
Length of specimen	600 mm	600 mm
Burner	acc. to IEC 60332-1-1	acc. to IEC 60332-2-1
Test temperature	1 kW flame	defined by the stipulated setting of the flame length
Position of specimen	vertical	vertical
Position of flame	45° to vertical specimen	45° to vertical specimen
Duration of flame	see table 1	20 seconds
Conditions	Cable must be self-extinguishing. The damage or carbonization may only reach max. 50 mm under the upper fixing clamp.	Cable must be self-extinguishing. The damage or carbonization may only reach max. 50 mm under the upper fixing clamp.



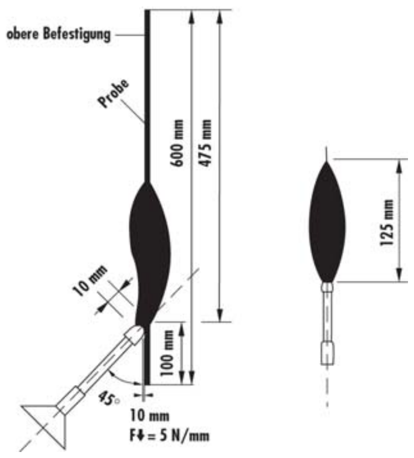
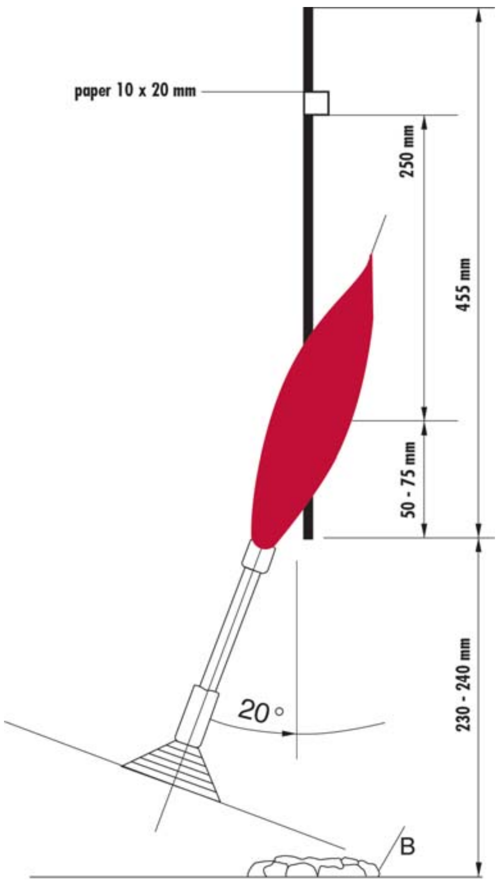


Table 1

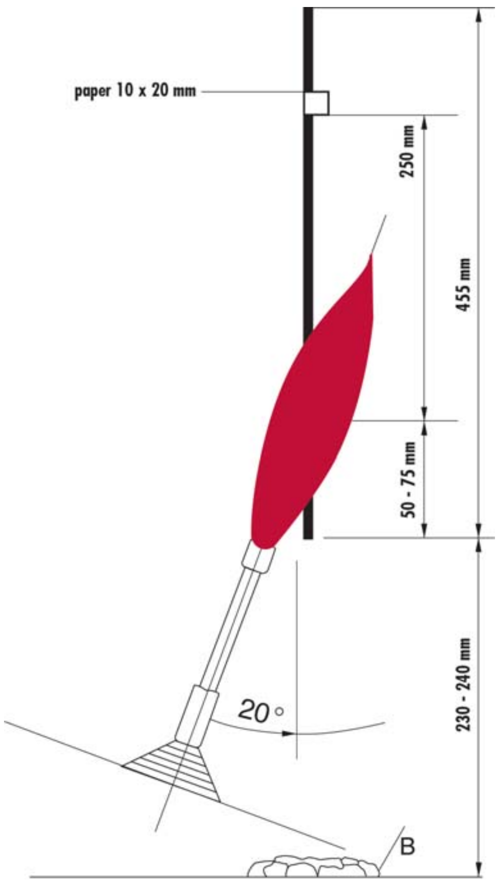
outer diameter *) of specimen in mm	Duration of flaming in seconds
D ≤ 25	60
25 < D ≤ 50	120
50 < D ≤ 75	240
D > 75	480

*) If cables or insulated cables are tested that are not round (e.g. flat twin cables) their dimensions is to be measured and an equivalent diameter must be calculated from this.

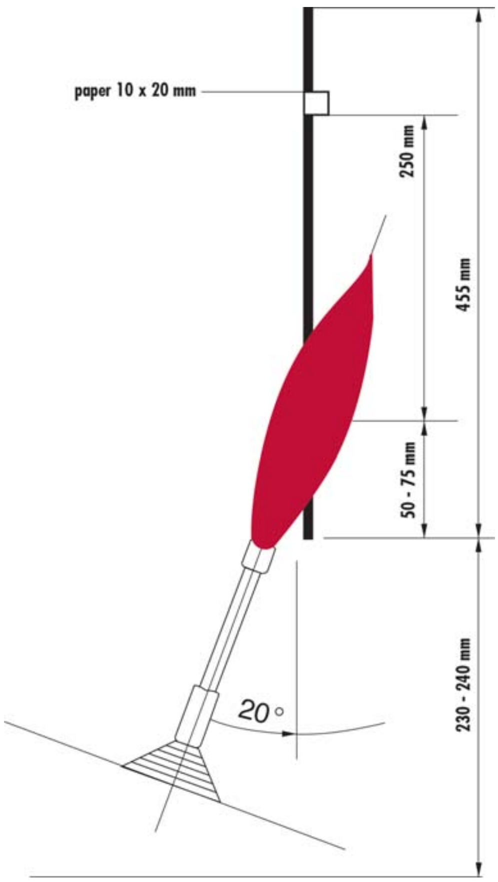
Description	UL 1581 section 1080 (VW-1 Flame Test)
Length of specimen	455 mm
Burner	Bunsen burner with additional air supply (Tirril gas burner) ø 9.5 mm
Test temperature	500 W flame
Position of specimen	vertical
Position of flame	20° to vertical specimen
Duration of flaming	5 x 15 seconds with at least 15 seconds flaming break
Conditions	Paper max. 25% carbonized. The specimen may keep on burning for max. 1 minute after any application. Material dropping must not ignite the cotton (B) lying under the specimen.



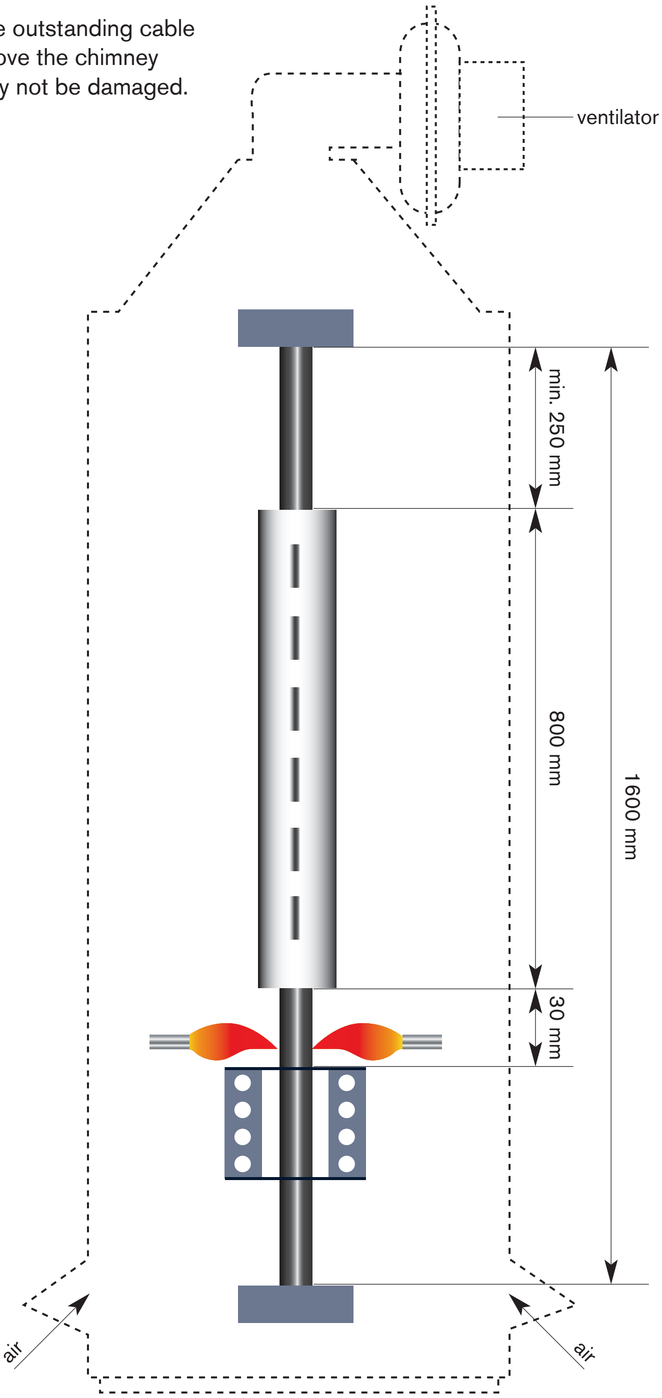
Description	**UL 1581 section 1061 (Cable Flame Test)**
Length of specimen	455 mm
Burner	Bunsen burner with additional air supply (Tirril gas burner) ø 9.5 mm
Test temperature	500 W flame
Position of specimen	vertical
Position of flame	20° to vertical specimen
Duration of flaming	3 x 60 seconds with 30 seconds between each flaming
Conditions	Paper max. 25% carbonized. The specimen may keep on burning for max. 1 minute after the last application. Material dropping must not ignite the cotton (B) lying under the specimen.



Description	UL 1581 section 1060 (Vertical Flame and FT1 Test)
Length of specimen	455 mm
Burner	Bunsen burner with additional air supply (Tirril gas burner) ø 9.5 mm
Test temperature	500 W flame
Position of specimen	vertical
Position of flame	20° to vertical specimen
Duration of flaming	5 x 15 seconds with each 15 seconds flaming break
Conditions	Paper max. 25% carbonized. The specimen may keep on burning for max. 1 minute after the last application.



Description	NF C 32-070 »C1«
Length of specimen	1600 mm
Test temperature	+830 °C ±50 °C
Position of specimen	vertical in the chimney
Duration of test	30 minutes
Conditions	The outstanding cable above the chimney may not be damaged.

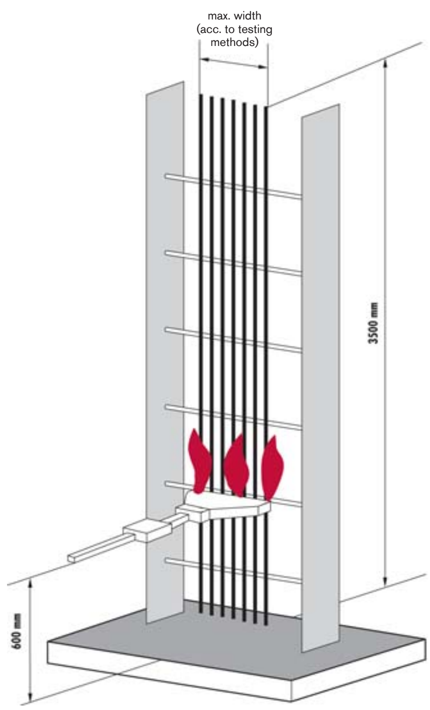


Examination of the vertical flame length of vertical extended bundle of wires and insulated cables

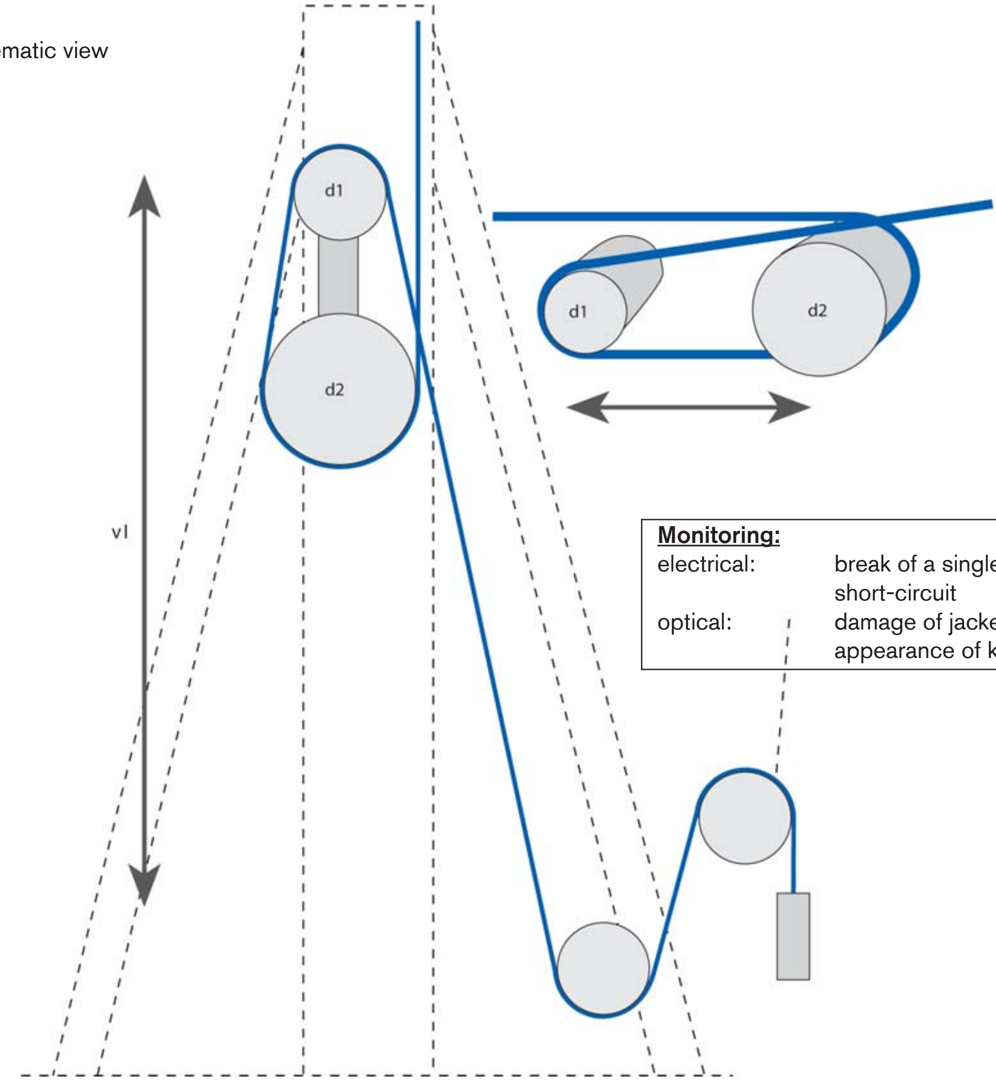
Description	**IEC 60332-3-..., EN 60332-3-...**
Length of specimen	3500 mm
Burner	Flat burner (Ribbon gas burner of American Gas Furnace Co.)
Test temperature	defined by stipulated flow of gas and air
Position of specimen	vertical
Position of flame	horizontal
Duration of flaming	Category A, B: 40 minutes Category C, D: 20 minutes
Conditions	The burned portion of the sample must not be longer than 2.5 m measured from the bottom edge of the burner, as far as not otherwise specified in the relevant standards.

	EN 60332-	IEC 60332-
Category A – 7 l/m	3 - 22	3 - 22
Category B – 3,5 l/m	3 - 23	3 - 23
Category C – 1,5 l/m > 12 mm cable-ø	3 - 24	3 - 24
Category D – 0,5 l/m ≤ 12 mm cable-ø	3 - 25	3 - 25

Volume percent of non metallic material per meter.



schematic view



Monitoring:

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

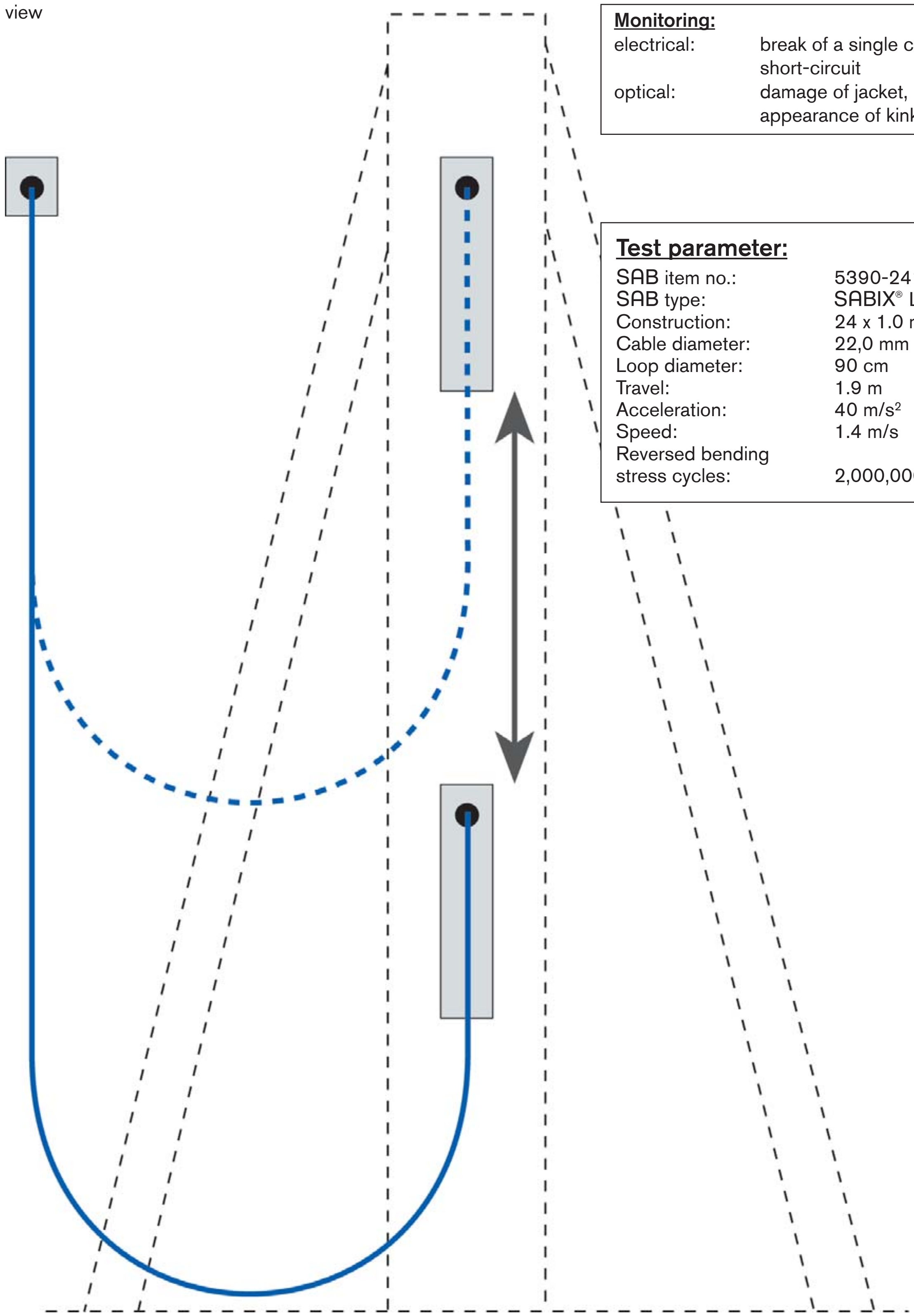
Test parameter:

Acceleration:	40 m/s²	Bending radius:	variable
Travel vl:	1900 mm	Load:	variable
Cable length in motion:	2700 mm	Roll-ø d1:	variable
Speed:	1.4 m/s	Roll-ø d2:	variable
No. of bendings:	18 per min		

Test findings	**S 200** (12 x 1.0 mm²)	**S 90** (12 x 1.0 mm²)	**S 86** (12 x 1.0 mm²)
Bending radius during test:	4.3 x d	3.6 x d	3.5 x d
Travel :	1.9 m	1.9 m	1.9 m
Acceleration :	40 m/s²	40 m/s²	40 m/s²
Temperature during test:	+10°C up to +22°C	+10°C up to +22°C	+10°C up to +22°C
Speed :	1.4 m/s	1.4 m/s	1.4 m/s
Dimension :	10.4 mm	12.5 mm	12.9 mm
Roll diameter d1:	90 mm	90 mm	90 mm
Roll diameter d2:	125 mm	125 mm	125 mm
No. of bendings:	**17.438.485**	**2.929.730**	**2.508.904**

Life cycle test SABIX® Lift

schematic view



Monitoring:

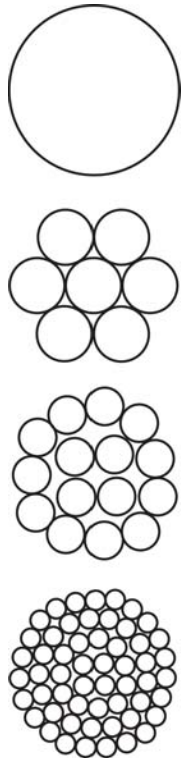
electrical:	break of a single core short-circuit
optical:	damage of jacket, appearance of kinks

Test parameter:

SAB item no.:	5390-2410
SAB type:	SABIX® Lift
Construction:	24 x 1.0 mm^2
Cable diameter:	22,0 mm
Loop diameter:	90 cm
Travel:	1.9 m
Acceleration:	40 m/s^2
Speed:	1.4 m/s
Reversed bending stress cycles:	2,000,000

European conductor stranding acc. to VDE 0295, IEC 60228, EN 60228

cross-section mm²	DIN VDE 0295 class 5/IEC 60228 No. of wires x max. wire-ø mm/mil	DIN VDE 0295 class 6/IEC 60228 No. of wires x max. wire-ø mm/mil
0.14*		≈ 18 x 0.11
0.25*	≈ 14 x 0.16	≈ 32 x 0.11
0.34*	≈ 7 x 0.26	≈ 42 x 0.11
0.50	≈ 15/17 x 0.21	≈ 28 x 0.16
0.75	≈ 23 x 0.21	≈ 42 x 0.16
1.00	≈ 30 x 0.21	≈ 56 x 0.16
1.50	≈ 27-29 x 0.26	≈ 84 x 0.16
2.50	≈ 46 x 0.26	≈ 140 x 0.16
4.00	≈ 52 x 0.31	≈ 224 x 0.16
6.00	≈ 78 x 0.31	≈ 186 x 0.21
10.00	≈ 77 x 0.41	≈ 320 x 0.21
16.00	≈ 122 x 0.41	≈ 504 x 0.21
25.00	≈ 190 x 0.41	≈ 760 x 0.21
35.00	≈ 272 x 0.41	≈ 1083 x 0.21
50.00	≈ 400 x 0.41	≈ 703 x 0.31
70.00	≈ 543 x 0.41	≈ 988 x 0.31
95.00	≈ 484 x 0.51	≈ 1340 x 0.31
120.00	≈ 589 x 0.51	≈ 1680 x 0.31
150.00	≈ 740 x 0.51	≈ 2122 x 0.31
185.00	≈ 902 x 0.51	≈ 1472 x 0.41
240.00	≈ 1220 x 0.51	≈ 1910 x 0.41
300.00	≈ 1525 x 0.51	



* with reference to IEC 60228

Comparsion of European and American conductor sizes

Nominal cross section of copper conductors

mm²	AWG/ MCM	mm²	AWG/ MCM	mm²	AWG/ MCM	mm²	AWG/ MCM	mm²	AWG/ MCM	mm²	AWG/ MCM
0.08	= 28	0.50	= 20	2.50	= 14	16.00	= 6	70.00	= 2/0	185.00	= 350
0.14	= 26	0.75	= 19	4.00	= 12	25.00	= 4	95.00	= 3/0	240.00	= 450
0.25	= 24	1.00	= 18	6.00	= 10	35.00	= 2	120.00	= 4/0	300.00	= 550
0.34	= 22	1.50	= 16	10.00	= 8	50.00	= 1	150.00	= 250		

General conversion table

Length

from	to	formula
zoll/inch(in)	millimeter(mm)	in x 25,4 = mm
millimeter(mm)	zoll/inch(in)	mm x 0,03937 = in
foot(ft)	meter(m)	ft x 0,3048 = m
meter(m)	foot(ft)	m x 3,218 = ft
mile(mi)	kilometer(km)	mi x 1,609 = km
kilometer(km)	mile(mi)	km x 0,662 = mi

Temperature

from	to	formula
Fahrenheit(F)	Celsius(C)	(F-32) x 0,56 = C
Celsius(C)	Fahrenheit(F)	C x 1,8 + 32 = F

Weights

from	to	formula
pound(lb)	kilogram(kg)	lb x 2,205 = kg
kilogram(kg)	pound(lb)	kg : 2,205 = lb

American conductor stranding

AWG = actual cross section in mm² and conductor resistance

AWG is shown below with its exact equivalent value in mm² and diameter (mm).
The table on the previous page shows commercially used equivalent values, which are approximations.

AWG Number	Cross Section mm²	Ø mm	Conductor resistance Ω/km
1000 MCM	507	29.3	0.036
900	456	27.8	0.04
750	380	25.4	0.048
600	304	22.7	0.061
550	279	21.7	0.066
500	253	20.7	0.07
450	228	19.6	0.08
400	203	18.5	0.09
350	177	17.3	0.10
300	152	16.0	0.12
250	127	14.6	0.14
4/0	107.2	11.68	0.18
3/0	85.0	10.40	0.23
2/0	67.4	9.27	0.29
0	53.4	8.25	0.37
1	42.4	7.35	0.47
2	33.6	6.54	0.57
3	26.7	5.83	0.71
4	21.2	5.19	0.91
5	16.8	4.62	1.12
6	13.3	4.11	1.44
7	10.6	3.67	1.78
8	8.34	3.26	2.36
9	6.62	2.91	2.77
10	5.26	2.59	3.64
11	4.15	2.30	4.44
12	3.31	2.05	5.41
13	2.63	1.83	7.02

4/0 is also known as 0000; 1 mil = inch = 0.0254 mm
*Shown in MCM (circular mills) for bigger cross sections

AWG Number	Cross Section mm²	Ø mm	Conductor resistance Ω/km
14	2.08	1.63	8.79
15	1.65	1.45	11.2
16	1.31	1.29	14.7
17	1.04	1.15	17.8
18	0.8230	1.0240	23.0
19	0.6530	0.9120	28.3
20	0.5190	0.8120	34.5
21	0.4120	0.7230	44.0
22	0.3240	0.6440	54.8
23	0.2590	0.5730	70.1
24	0.2050	0.5110	89.2
25	0.1630	0.4550	111.0
26	0.1280	0.4050	146.0
27	0.1020	0.3610	176.0
28	0.0804	0.3210	232.0
29	0.0646	0.2860	282.0
30	0.0503	0.2550	350.0
31	0.0400	0.2270	446.0
32	0.0320	0.2020	578.0
33	0.0252	0.1800	710.0
34	0.0200	0.1600	899.0
35	0.0161	0.1430	1125.0
36	0.0123	0.1270	1426.0
37	0.0100	0.1130	1800.0
38	0.00795	0.1010	2255.0
39	0.00632	0.0897	2860.0

1 CM = 1 Circ. mil = 0.0005067 mm²
1 MCM = 1000 Circ. mils = 0.5067 mm²

UL/CSA current-carrying capacity for flexible cables

Hook-up wire at ambient temperature up to 30 °C

AWG	cross section mm²	current-carring capacity
24	0.21	3.5
22	0.33	5.0
20	0.52	6.0
18	0.82	9.5
16	1.31	20
14	2.08	24
12	3.32	34

AWG	cross section mm²	current-carring capacity
10	5.26	52
8	8.35	75
6	13.29	95
4	21.14	120
3	26.65	154
2	33.61	170
1	42.38	180

Correction-factors at ambient temperature over 30°C

For temperatures over 30 °C, multiply the current-carring capacity in the tables times correction-factor (f) to obtain the allowable current.

Ambient temperature °C	current-carring capacity values of tables correction-factors (f)
31 - 35	0.91
36 - 40	0.82
41 - 45	0.71
46 - 50	0.58

Multi conductor cables at ambient temperature up to 30°C

AWG	cross section mm²	current-carring capacity A (no. of cores)				
		up to 3	4 -6	7 - 24	25 - 42	43 & above
24	0.21	2	1.6	1.4	1.2	1.0
22	0.33	3	2.4	2.1	1.8	1.5
20	0.52	5	4.0	3.5	3.0	2.5
18	0.82	7	5.6	4.9	4.2	3.5
16	1.31	10	8.0	7.0	6.0	5.0
14	2.08	15	12.0	10.5	9.0	7.5
12	3.32	20	16.0	14.0	12.0	10.0

AWG	cross section mm²	current-carring capacity A (no. of cores)				
		up to 3	4 -6	7 - 24	25 - 42	43 & above
10	5.26	30	24	21	18	15
8	8.35	40	32	28	24	20
6	13.29	55	44	38	33	27
4	21.14	70	56	49	42	35
3	26.65	80	64	56	48	40
2	33.61	95	76	66	57	47
1	42.38	110	88	77	66	55

The laying of cables in cable tracks has to be done carefully. In general the following points have to be considered:

1. It is recommended to lay the cables separately side by side. In case that cables with different diameters are laid on top of each other or side by side, we recommend the use of separators. For big and heavy cables (for example 4 x 35 mm²) multi core cables are not suitable for many applications and single cores are recommended.

2. The cables should be movable in the track. There must be at least 10%- 20% of the cable diameter as free space between the cables and the internal dimensions of the cable track for safety reasons.

3. Please observe that the cables pass the bend radius without being forced. In case of several cable layers, the cables need a corresponding clearance among each other in the bend so that relative movements of the cables among each other and in the chain are possible. In principle the cables must be able to move freely lengthwise at any time and there shall be no tensile force on the cable in the radius. After a short operating time it is recommended to control in regular intervals the position of the cable - particular with long travel paths (control must be executed in push and pull direction). Furthermore, it has to be paid attention to an efficient installation and aspects of wear.

4. A torsion-free laying of the cables in the cable track has to be observed (non-rotational). Therefore, the cables have to be unwound from reels before being installed. (Do not lift off the cables in loops). The ideal case is to take the cable directly from the drum. The cable imprint can't be used for a torsion free adjustment of the cable, as the imprint runs slightly helical around the cable due to production reasons.

5. The weight arrangement in the cable track or in the links has to be done symmetrically. Heavy cables have to be laid towards the outside of the cable track and the smaller ones in the middle. After the rupture of the chain, all cables have to be exchanged due to excessive elongation.

6. All cables have to be strain-relieved at the fixed point and at the driver, at least at the movable end of the chain. For use in long chains (sliding application), please contact our staff as there are no general regulations. It has to be observed with clamping that there is only large-surface pressure on the outer jacket. Careful clamping avoids any squeezing of the conductors and at the same time any displacement of the cable. It has to be avoided to move the cable up to the fixing point. The distance between the final point of the flexion to the fixing point should be as large as possible (10 - 20 x cable diameter are taken as relaxation zone).

7. In general only cable track cables should be used. The allowed bending radius of SAB BRÖCKSKES cables has to be strictly observed. The information on the minimum bending radius for the cables are based on the application at normal temperatures (approx. 20°C). Under circumstances other bending radii can be recommended. The choice of a bigger radius as the minimum radius will have a positive effect on the service life.

The trouble-free and long service life of reeling cables requires the adherence to certain installation guidelines.

The cable shall be wound directly from the supplied drum to the reeling drum. The complete unwinding of the cable isn' t necessary. A straight torsion-free guiding has to be observed. Equally the cable has to be fixed and connected torsion-free. The indicated min. bending radius has to be adhered to.

In case of complete extension of the cable at least 2 windings shall remain on the reeling drum. For fixing the other cable end Kellem grips or large surface clamp connections can be used.

The installation of reeling cables has to be done carefully. They have to be protected against external damage during installation and operation.

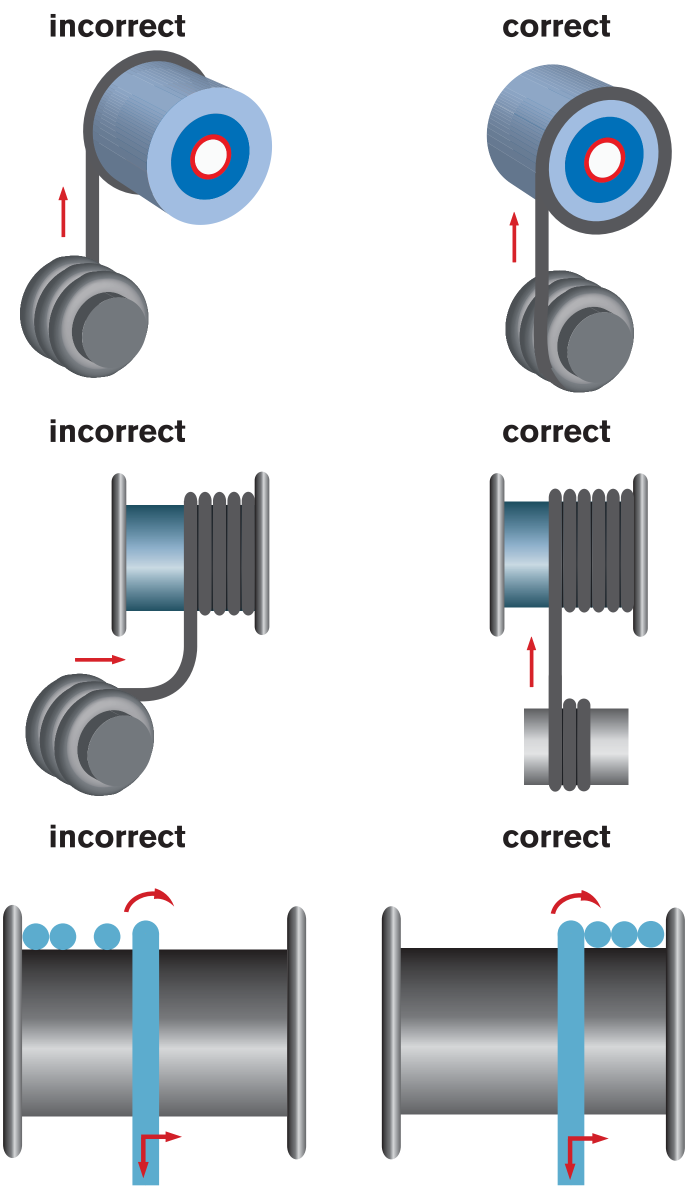
The start of winding of reeling cables on cylinder drums shall be made in stranding direction. Cables with right stranding direction (Z-lay) shall be operated to the right side and vice versa. If the stranding direction isn't known, please contact our technical support for any information.

Without special notice in our catalogue, the tensile stress of the copper conductors shall not exceed 15 N/mm2 (DIN VDE 0298 part 3). In case of higher tensile stress, we recommend to contact our technical support to align the cable construction to the requirements. The max. allowed limit deviations of the tensile stress are to be understood as the sum of the static and dynamic stress.

Reeling cables are generally not appropriate for torsion stress. During operation, however, torsion stress can't be avoided. As a consequence the exceeding of the limit values (generally >± 25°/m) lead to a considerable reduction of service life.

In case of undercutting the smallest allowed min. bending radius, the service life of the cable is reduced.

You will find further information to this subject under „Guidelines for the laying of cables in cable tracks“ (page N/24) sowie in den „Installation instructions of lift control cables“ (page N/26).



Installation instructions of lift control cables SABIX® Lift and SABIX® Lift ST

Application and use in buildings

1. In case that the cables are placed in shafts, two different methods are recommended:

   – *Placement of cables from machine room*
   The placement of the cables from the machine room has to be executed in a way that the cable is led into the shaft in winding direction. In order to avoid upsetting deformation, it is advisable that a second person is in the pit and enables a perfect installation with the help of a cord.

   – *Placement of the cables from the shank pit or the first stop*
   Herewith, the winding direction for unwinding has to be observed.
   Note: With both methods the pulling-in of the cables has to be done with a minimum of bend. In order to avoid torsion or buckling, the placement of the cable has to be done carefully.

2. In order to guarantee a torsion-free installation, the cable has to be suspended freely for 12 h in the shaft before being finally fixed. The lower cable end is not allowed to lie on or to be in contact with the pit sole. If the cable is longer, the lower cable end (min. 0.3 m above the sole) must be looped or put up with a weight. Any material can be used as weight but it should not come to more than 15 % of the cable weight. After having been suspended the cables shall be marked parallel towards the shaft wall and on the same side. Thus a twist-free fixing of the cable is afterwards possible.

Hanging up of the cable

1. If the cables are pulled into the shaft, they have to be unwound tangentially from the drum. An axial unwinding from the drum causes torsions of the cable and finally can lead to operational disturbances.
2. The free space between lift cabin and shaft bottom shall be big enough and has to be fully used for the loop height of the cable. The cables have to be suspended at the lift cabin in the course of the natural bow.
3. A natural hanging diameter of the loop has to be guaranteed.

Fixing of the cables

1. At any rate large-surface clamps have to be used for the fixing of the cable. The sheath shall not be squeezed , the clamp must be seated firmly on a large surface. There should be at least one suspension at the shaft head and at the lift cabin. Additionally the carrying element has to be supported separately (at both cable ends). In case that the suspended cable length is more than 40 m, an additional suspension should be in the middle of the shaft.
2. The fixing point at the shaft wall has to be at least 2 m above the middle of the travel. At the same time the fixing points of the cables at the lift or at the shaft wall have to be arranged rectangular towards the runoff plane of the cable and with the same distance parallel to the rail axis.
3. With unsteady running behaviour that means the cable moves out of the fall line during operation, the control cable has to be slightly twisted at one of the fixing points until a perfect run of the cable is given.
   Note: Additionally the run of the cable has to be controlled again after the initial operation of the lift.
4. If the lift installation requires the installation of several control cables, it is recommended due to operational reasons that the individual cables have to be hanged up in a way that the different loops have a level difference of approx. 15 cm (hang up step-by-step).
5. The cables are not allowed to be tied up over their suspended length, as otherwise their free run is impeded.

General notes

1. The cables are only allowed to be applied with temperature ranges mentioned in their specifications.
2. The inner bending radius is not allowed to be lower than the cable diameter mentioned in the specification. Furthermore, the given bending radius of the cable (equally mentioned in the cable specification) has to be kept.
3. The max. hang up length is dependant on the corresponding carrying element in the cable (mentioned in the cable specification) and is not allowed to be exceeded.
4. In order to reach a perfect and long service life of the lift control cables, they have to be treated and installed with the utmost care.

The cables manufactured by SAB BRÖCKSKES are only appropriate for the transmission of electric energy for supply and signalling purposes.

First of all the valid construction and installation prescriptions for the corresponding machine or equipment has to be observed. The valid VDE prescription 0100 can be regarded as base. Furthermore, the following security advice has to be observed for the use of cables.

■ **For each cable type you can find under "technical data" information on fields that can also be found under the following standards. Among others these are**:

► Nominal voltage, Peak operating voltage	HD 516 S2 + A1: 2003
► Test voltage	DIN VDE 0250 T1 10.81 ; HD 21.1 S 4:2002; HD 22.1 S 4:2002 as well as relevant cable standards
► Minimum bending radius	HD 516 S 2 + A1:2003
► Temperature range	HD 516 S 2 + A1:2003
► Fire performance	IEC 60332 as well as relevant cable standards
► Resistances	EN 60811-2-1 + A1: 2001 as well as relevant cable standards
► Further special technical data	

The safe application is described under "security requirements" and " boundary conditions".

■ **Under "security requirements" you will find information on fields that can also be found under the following standards. Among others these are:**

► Basic requirements	HD 516 S2 + A1:2003 pos.4.1
► General requirements	HD 516 S2 + A1:2003 pos.4.2
► Current-carrying capacity for undisturbed service	DIN VDE 0298 T4 08/03 pos.5
► Operating conditions	DIN VDE 0298 T4 08/03 pos.5.3.1
► Ambient conditions	DIN VDE 0298 T4 08/03 pos.5.3.3
► Requirements for fixed laying	HD 516 S2 + A1:2003 pos.4.3
► Requirements for flexible cables	HD 516 S2 + A1:2003 pos.4.4

■ **Under "boundary conditions" you will find information on fields that can also be found under the following standards. Among others these are:**

► Operating conditions	HD 516 S2 + A1:2003 pos.5
► Voltage	HD 516 S2 + A1:2003 pos.5.1
► Current-carrying capacity	HD 516 S2 + A1:2003 pos.5.2
► Current-carrying capacity: tables:	
Capacity, cables with a nominal voltage up to 1000 V and heat resistant cables	DIN VDE 0298 T4 08/03 table 11
Conversion factors for deviating ambient temperatures	DIN VDE 0298 T4 08/03 table 17+18

Conversion factors for the accumulation on walls, in tubes and conduits, on the floor and at the ceiling	DIN VDE 0298 T4 08/03 table 21
Conversion factors for multi-core cables with conductor cross sections up to 10 mm²	DIN VDE 0298 T4 08/03 table 26
► Thermal influences	HD 516 S2 + A1:2003 pos.5.3
► Mechanical stress	HD 516 S2 + A1:2003 pos.5.4
► Tensile load	HD 516 S2 + A1:2003 pos.5.4.1
► Bending load	HD 516 S2 + A1:2003 pos.5.4.2
► Compression stress	HD 516 S2 + A1:2003 pos.5.4.3
► Torsional stress	HD 516 S2 + A1:2003 pos.5.4.4
► Compatibility	HD 516 S2 + A1:2003 pos.5.5
► Types of rooms	DIN VDE 0100 -200 06/98 appendix A Pos.A.6
► Applicatcion in rooms and in the open air	HD 516 S2 + A1:2003 appendix A
► Stress classification	HD 516 S2 + A1:2003 appendix B
► Construction of strands	EN 60228:2005 + IEC 60228:2004

■ **Besides the generally known technical rules, please consider especially the following prescriptions for the application of our products:**

VDE…
0100, 0105, 0106, 0108, 0110, 0113, 0116,
0165, 0166, 0170, 0171, 0271, 0298, 0700,
0720, 0727, 0730, 0737, 0740, 0745, 0750,
0800, 0804, 0805, 0839, 0860, 0891, 1000, etc.

► You will find under the individual item groups further instructions and the description of the special application possibilities of our cables.

Security requirements

Basic requirements

Cables can be regarded to be safe in case that they are used for their intended purpose and don't mean any unaccep-table risk for life and real values. If not otherwise specified, insulated cables shall only be used for the transmission and division of electric energy.

General requirements

Cables have to be chosen in a way that they meet the existing voltages and currents occuring in the machines, equipment of appliances or in their parts for which they are applied under any expected operating condition. Cables should be constructed, installed, protected and maintained to avoid any risks and harms.

Carrying capacity for undisturbed service (general info)

The cable section has to be chosen in a way that the given current-carrying capacity never leads to a heating of the conductor over the allowed service temperature. The heating resp. carrying-capacity of a cable depends on the construction, material characteristics and the operating conditions. Additional heating due to a cable accumulation, heating flues, solar radiation, etc. have to considered resp. avoided. The use of covers requires an undisturbed air circulation.

Operating conditions

The temporary flow of current describes the operating conditions. Continuous operation means a constant current which is at least sufficient to reach the thermal equilibrium of the electrical equipment without any other time limit. The capacity values of cables are based on continuous service reaching the allowed operating temperature of the conductor.

Environmental conditions

Environmental conditions are among others characterized by the ambient temperature, heat loss and heat radiation. The ambient temperature is the temperature of the surrounding air, without any load on the respective cable. The reference point is a temperature of + 30°C. The operating conditions of cables can change by heat loss for example in closed rooms, cable ducts or similar, as well as by heat radiation (e. g. solar radiation).

Conditions and requirements for fixed laying

The fixed laying of cables requires among others:

- The cable shall not be installed in direct or close contact with hot surfaces if they are not suitable for this application.
- Cables are not suitable for direct underground laying.
- Cables have to be fixed properly. The weight of the cable is important for the choice of the fixing distance.
- The used mechanical fixing devices shall not damage the cable.
- Cables that have been used for a long time may be damaged in case of removal. This can be a natural effect due to the ageing of the physical characteristics of insulation and sheath material - they become brittle.

Requirements for flexible cables

- Flexible cables should be used for mobile electrical equipment.
- The length of the connection cable has to be chosen in a way that the reaction of short-circuit protective equipment is ensured.
- For mobile electrical equipment the cable should be as short as possible.
- Elevated stress due to tension, pressure, abraison, torsion or knicking has to be avoided.
- The cables shall not be damaged by strain relief or connection devices.
- The cables shall not be layed under carpets or other devices. There is a risk due to elevated thermal covering and mechanical damage due to walking, furniture or operating material.
- The cables shall not be in direct or close contact with hot surfaces.

For further requirements please see HD 516 S2 + A1: 2003 pos.4.4

Boundary conditions

Operating conditions

The used cables have to be appropriate for the corresponding operating conditions as well as for the device protection class.

Operating conditions are among others:

- Voltage
- Current
- Safety apparatus
- Cable accumulation
- Type of laying
- Accessibility

The used cables have to be appropriate for all possible external impacts.

External impacts are among others:

- Ambient temperature
- Rain
- Steam or water
- Presence of corrosive, polluting or other chemical bodies
- Mechanical stress (e.g. sharp edges of metal constructions)
- Animals (e.g. rodents)
- Plants (e.g. mould fungus)
- Radiation (e.g. solar radiation)

Note: In this connection it has to be considered that the colour is of greatest importance. The colour black offers much more protection at radiation than all other colours.

Voltages

The nominal voltage of a cable means the voltage for which the cable has been constructed and defines the electrical tests. The nominal voltage is expressed in Volt by the relation of two values Uo/U; Uo is the r.m.s. value of the voltage between external conductor and earth (metal sheathing of the cable or surrounding medium). U is the r.m.s. value between two external conductors of a multi-core cable or of a system of mono-conductor cables. In a system of alternating current (a.c.), the nominal voltage of a cable has to be at least equal to the values Uo and U of the system. In a system of direct-current (d.c.) the nominal voltage of the system shall not be higher than 1.5 times of the nominal voltage of the cable.

Note: The operating voltage of a system is allowed to be continuously 10 % higher than the nominal voltage of the system.

Current-carrying capacity

The nominal cross section of each conductor has to be chosen that the current-carrying capacity is not smaller than the max. constant current, passing the conductor under normal conditions. The limit temperatures to which the current-carrying capacity refers to, shall not be exceeded for the insulation and sheath of the corresponding cable types. A defined condition is also the type of laying of the used cable. This has to be considered for the determination of the allowed load currents. Conditions that have to be considered are among others:

- Ambient temperature
- Cable accumulation
- Type of excess-current protection
- Heat insulation
- Wound up cables
- Current frequency (deviating from 50 Hz)
- Effects of harmonic waves

The current-carrying capacity is not the only criteria for choosing the cable section; furthermore, the requirements for the protection against harmful body currents, overload, short-circuit currents and voltage drop have to be considered. In case that cables are used for a longer period with temperatures exceeding the allowed values, they can be damaged considerably leading to an early failure and an important deterioration of its characteristics.

Current-carrying capacity: Tables

(Extract from VDE 0298 T4 08/03 table: 11, 17, 18, 21, 26 and 27)

Current-carrying capacity, cables with a nominal voltage up to 1000 V and heat resistant cables VDE 0298 T4 08/03 table 11, column 2 and 5

	column 2	column 5
way of laying	in air	on or at surfaces
	mono conductors - rubber insulated - PVC insulated - heat resistant	multi conductor cables (except for house or handheld units) - rubber insulated - PVC insulated - heat resistant
number of charged conductors	1	2 or 3
Nominal section	Capacity	
0,75 mm^2	15 A	12 A
1,00 mm^2	19 A	15 A
1,50 mm^2	24 A	18 A
2,50 mm^2	32 A	26 A
4,00 mm^2	42 A	34 A
6,00 mm^2	54 A	44 A
10,00 mm^2	73 A	61 A
16,00 mm^2	98 A	82 A
25,00 mm^2	129 A	108 A
35,00 mm^2	158 A	135 A
50,00 mm^2	198 A	168 A
70,00 mm^2	245 A	207 A
95,00 mm^2	292 A	250 A
120,00 mm^2	344 A	292 A
150,00 mm^2	391 A	335 A
185,00 mm^2	448 A	382 A
240,00 mm^2	528 A	453 A
300,00 mm^2	608 A	523 A

Conversion factors for deviating ambient temperatures VDE 0298 T4 08/03 table 15, column 4 [1)]

Ambient temperature	Factor
10 °C	1,22
15 °C	1,17
20 °C	1,12
25 °C	1,06
30 °C	1,00
35 °C	0,94
40 °C	0,87
45 °C	0,79
50 °C	0,71
55 °C	0,61
60 °C	0,50
65 °C	0,35

[1)] for cables with a service temperature of max. 70°C at the conductor

Conversion factors for multi-core cables with a nominal section up to 10 mm² VDE 0298 T4 08/03 table 26.
With installation in the open air.

No.of the loaded cores	Factor
5	0,75
7	0,65
10	0,55
14	0,50
19	0,45
24	0,40
40	0,35
61	0,30

Conversion factors for deviating ambient temperatures for heat resistant cables VDE 0298 T4 08/03 table 18, column 3 - 6

	column 3	column 4	column 5	column 6
	allowed operating temperature			
	90°C	110°C	135°C	180°C
ambient-temperature	conversion factors, to apply to the capacity of heat resistant cables in table 11, column 2 and 5.			
up to 50 °C	1,00	1,00	1,00	1,00
55 °C	0,94	1,00	1,00	1,00
60 °C	0,87	1,00	1,00	1,00
65 °C	0,79	1,00	1,00	1,00
70 °C	0,71	1,00	1,00	1,00
75 °C	0,61	1,00	1,00	1,00
80 °C	0,50	1,00	1,00	1,00
85 °C	0,35	0,91	1,00	1,00
90 °C	—	0,82	1,00	1,00
95 °C	—	0,71	1,00	1,00
100 °C	—	0,58	0,94	1,00
105 °C	—	0,41	0,87	1,00
110 °C	—	—	0,79	1,00
115 °C	—	—	0,71	1,00
120 °C	—	—	0,61	1,00
125 °C	—	—	0,50	1,00
130 °C	—	—	0,35	1,00
135 °C	—	—	—	1,00
140 °C	—	—	—	1,00
145 °C	—	—	—	1,00
150 °C	—	—	—	1,00
155 °C	—	—	—	0,91
160 °C	—	—	—	0,82
165 °C	—	—	—	0,71
170 °C	—	—	—	0,58
175 °C	—	—	—	0,41

Conversion factors for the accumulation on walls, in tubes and conduits, on the floor and at the ceiling VDE 0298 T4 08/03 table 21	
No. of multi-core cables (2 or 3 current-carrying cores)	Factor
1	1,00
2	0,80
3	0,70
4	0,65
5	0,60
6	0,57
7	0,54
8	0,52
9	0,50
10	0,48
12	0,45
14	0,43
16	0,41
18	0,39
20	0,38

The maximum current-carrying capacity acc. to DIN VDE 0891 part 1, point 7 has to be considered for the application of insulated cables in telecommunications systems and data processing units.

Conversion factors for wound up cables VDE 0298 T4 08/03 table 27					
1	**2**	**3**	**4**	**5**	**6**
no. of layers on one drum	1	2	3	4	5
conversion factors	0,80	0,61	0,49	0,42	0,38
NOTE: for spiral winding the conversion factor of 0,80 is valid.					

Thermal influences

Cables have to be chosen, layed or installed in a way that the expected current heat emission is not impeded and thus does not create any fire risk for adjacent materials. The limit temperatures of the individual cable types are shown in the catalogue. The indicated values shall not be exceeded by the combined effects of internal current heat and environmental conditions.

Mechanical stress

Any possible mechanical stress which could lead to a mechanical damage of the layed cable has to be considered before installation.

Tensile load

The following values for the tensile load of each conductor shall not be exceeded. This is valid for a max. value of 1000 N for the tensile load of each conductor, as far as no other deviating values have been accepted by SAB BRÖCKSKES. 50 N/mm² for the installation of cables for fixed laying. 15 N/mm² static tensile load for flexible cables and for fixed laying in case that the cables are used for fixed installed electric circuits. Wherever those values are exceeded, it is recommended to use separate strain relief elements or similar. The connection of such a strain relief element with the cable has to be executed without damaging the cable. In case that flexible cables are exposed to dynamic tensile load (including tensile load due to mass reactance, for example on unwinding spools), the allowed tensile load or the duration of wear of the cable have to be agreed upon by the user and SAB BRÖCKSKES. Instructions for the vertical laying of cables without any intermediate fixing are shown under HD 516 S2 + A1:2003 pos.5.4.1.

Bending load

The inner bending radius of a cable has to be chosen in a way that any damage of the cable is avoided. The inner bending radii for the different cable constructions are indicated in table 6 of HD 516. The choice of smaller bending radii than indicated in the cable catalogue has to be agreed upon with SAB BRÖCKSKES.

The stripping of the cable sheath shall not cause any damage to the conductor as otherwise there will be a considerable deterioration of the bending characteristics.

The indicated bending radii are valid for ambient temperatures of (20 ± 10) °C. For other ambient temperatures please contact SAB BRÖCKSKES.

Bendings directly beside external of internal fixing points have to be avoided.

Pressure stress

Any pressure causing a cable damage has to be avoided.

Torsional stress

Flexible cables are generally not appropriate for torsional stress. In cases where torsional stress cannot be avoided, the construction of the cable and the way of laying have to be agreed upon between the user and SAB BRÖCKSKES.

Compatibility

For the choice and laying of cables the following points have to be considered:

- Mechanical and electrical impacts between adjacent electric circuits have to be avoided.
- Heat loss of cables or chemical/physical influences of the cable materials on adjacent materials, for example construction or decoration materials, insulating tubes and fixing devices.
- The influence of the current heat on the conductor material and connections has to be considered.

For further indications please see tables 3A, 3B, 4A and 4B of HD 516 S2 + A1:2003.

Room types

- Electric shops of the factory are rooms which are generally used for the operation of electric equipment and the access is only allowed to instructed staff members, for example switch rooms.
- Closed electric shops are rooms which are only used for the operation of electric equipment and are generally locked up. The access is only allowed for instructed staff members, for example closed switch and distribution systems.
- Dry rooms are rooms without any condensation water in which the air is not saturated with humidity, for example living rooms and hotel rooms.
- Damp rooms are rooms in which the safety of the operational devices is affected by humidity, condensation water, chemical or similar influences, for example in large kitchens.

General notes:

Rooms can only be classified in one of the above mentioned types by a careful inspection of the rooms and operational conditions. If there is only much humidity in a certain area of a room but the room is nevertheless dry due to good ventilation, there is no need to classify the room as a damp one.

Application in rooms and in the open air

General:

These terms have to be understood in connection with the boundary conditions (for example min. and max. operating temperatures, influence of ambient temperatures) defined by the construction and the intended application. Terms for application types:

Application in rooms:

The cable is installed or connected to a device which is normally located in a building within "a planned surrounding". The building can be used for business, industrial or living purposes.

Limited application in the open air:

The cable is appropriate for a short-time use in the open air, "planned surrounding" for example lawn mower.

Permanent application in the open air:

The cable has been constructed for different conditions which can occur in the open air "planned surrounding" (including different weather conditions).

Stress classification

The term "stress" describes the use of cables in certain areas, connected to or installed in devices and for certain combinations of external influences which can occur in those areas. On the base of mechanical influences and general expressions the term "stress" has been divided into four categories:

1. **Very light stress**
   Application areas, in which the risk of mechanical damage and stress is very small, for example electric razor

2. **Light stress**
   Application areas, in which the risk of mechanical damage and stress is small, for example hair dryer.

3. **Normal stress**
   Application areas, in which the cables are exposed to small mechanical stress and the risk for mechanical damage is small, for example small stoves.

4. **Heavy stress**
   Application areas, in which the risk of mechanical damage or mechanical stress is of medium impact, for example machines on construction sites.

4a. **Heavy stress** (only multi-core cables)
   Application as before, however in connection with parts of production systems including machine tools and manual mechanical devices, for example in connection with switch boards of a production machine.

Transport and storage

Cable and cords that are not intended for outdoor use must be stored in dry indoor rooms and must also be protected from exposure to direct sunglight there. With outdoor stroage, the ends of cables and cords must be be closed off to prevent the entry of moisture. The ambient temperature during transport and storage is to be in the range from -25°C to +55°C (max. +70°C for not longer than 24 hours). Furthermore, the temperatures indicated in the tables of HD 516, S2 have be considered for storage. Especially in the range of low temperatures, mechanical loading by vibration, shock, bending and twisting is to be avoided.

Construction of strands acc. to EN 60228:2005, IEC 60228:2004

- Fine copper strands for mono- or multi-core cables (class 5)
- Fine copper strands for mono- or multi-core cables (class 6)

table 3
Fine copper strands for mono- or multi-core cables (class 5)

1	2	3	4
Nominal cross section	largest diameter of single wires	Conductor resistance at 20 °C max. value	
		bare single wires	metal sheathed single wires
mm²	mm	Ω/km	Ω/km
0.5	0.21	39.0000	40.1000
0.75	0.21	26.0000	26.7000
1	0.21	19.5000	20.0000
1.5	0.26	13.3000	13.7000
2.5	0.26	7.9800	8.2100
4	0.31	4.9500	5.0900
6	0.31	3.3000	3.3900
10	0.41	1.9100	1.9500
16	0.41	1.2100	1.2400
25	0.41	0.7800	0.7950
35	0.41	0.5540	0.5650
50	0.41	0.3860	0.3930
70	0.51	0.2720	0.2770
95	0.51	0.2060	0.2100
120	0.51	0.1610	0.1640
150	0.51	0.1290	0.1320
185	0.51	0.1060	0.1080
240	0.51	0.0801	0.0817
300	0.51	0.0641	0.0654
400	0.51	0.0486	0.0495

table 4
Fine copper strands for mono- or multi-core cables (class 6)

1	2	3	3
Nominal cross section	largest diameter of single wires	Conductor resistance at 20 °C max. value	
		bare single wires	metal sheathed single wires
mm²	mm	Ω/km	Ω/km
0.5	0.16	39.0000	40.1000
0.75	0.16	26.0000	26.7000
1	0.16	19.5000	20.0000
1.5	0.16	13.3000	13.7000
2.5	0.16	7.9800	8.2100
4	0.16	4.9500	5.0900
6	0.21	3.3000	3.3900
10	0.21	1.9100	1.9500
16	0.21	1.2100	1.2400
25	0.21	0.7800	0.7950
35	0.21	0.5540	0.5650
50	0.31	0.3860	0.3930
70	0.31	0.2720	0.2770
95	0.31	0.2060	0.2100
120	0.31	0.1610	0.1640
150	0.31	0.1290	0.1320
185	0.41	0.1060	0.1080
240	0.41	0.0801	0.0817
300	0.41	0.0641	0.0654

Note:
The above mentioned information and tables for the ”safe application of cables“ are extracts from the indicated standards and do not claim to be complete. It is the responsibility of the user to be careful in the laying and installing of cables.