

# BL-LINE - CABLES FOR SHIPBUILDING




















 **SAB** BL-Line

**DNV**

[www.sab-cable.com](http://www.sab-cable.com)

 **SPECIAL  
CABLES**  
**SAB**  
BRÖCKSKES 



|   |   |  |
|---|---|--|
| <b>Who we are</b>                       | .....   | 3  |
| <b>Selection table</b>                  | .....   | 4  |
| <b>Cables for maritime use</b>          |   |  |
| <b>CATLine BL-Line Ethernet</b>         |   |  |
| ■ CATLine CAT 5e BL                     |    | halogen-free CAT 5e Industrial Ethernet cable ..... 5  |
| ■ CATLine CAT 6A BL                     |    | halogen-free CAT 6A Gigabit Ethernet cable ..... 5   |
| ■ CATLine CAT 7A BL                     |    | halogen-free CAT 7A Gigabit Ethernet cable ..... 5   |
| <b>SABIX® BL-Line Data</b>              |   |  |
| ■ SABIX® BL 405 FRNC                    |    | SABIX® BL-Line Data - halogen-free flexible data cable ..... 6   |
| ■ SABIX® BL 415 C FRNC                  |    | SABIX® BL-Line Data - halogen-free flexible data cable with overall copper screen ..... 7  |
| ■ SABIX® BL 443 C FRNC TT               |    | SABIX® BL-Line Data - halogen-free flexible data cable, twisted triple with overall copper screen ..... 8 <b>NEW</b>                   |
| ■ SABIX® BL 445 C FRNC TP               |    | SABIX® BL-Line Data - halogen-free flexible data cable, paired with overall copper screen ..... 9                                      |
| ■ SABIX® BL 446 C FRNC FTP              |    | SABIX® BL-Line Data - halogen-free flexible data cable, paired with aluminum pair screen and overall copper screen ..... 10 <b>NEW</b> |
| <b>SABIX® BL-Line Control</b>           |   |  |
| ■ SABIX® BL 400 FRNC                    |    | SABIX® BL-Line Control - halogen-free flexible control cable 300/500 V ..... 11  |
| ■ SABIX® BL 438 C FRNC                  |   | SABIX® BL-Line Control - halogen-free flexible control cable with overall copper screen 300/500 V ..... 12                             |
| <b>SABIX® BL-Line Power</b>             |   |  |
| ■ SABIX® BL 402 FRNC                    |    | SABIX® BL-Line Power - halogen-free flexible wiring cable 0,6/1 kV ..... 13 <b>NEW</b>   |
| ■ SABIX® BL 408 FRNC                    |    | SABIX® BL-Line Power - halogen-free flexible power cable 0,6/1 kV ..... 14 <b>NEW</b>  |
| ■ SABIX® BL 409 C FRNC                  |    | SABIX® BL-Line Power - halogen-free flexible power cable with overall copper screen 0,6/1 kV ..... 15 <b>NEW</b>                       |
| ■ SABIX® BL 410 FRNC                    |    | SABIX® BL-Line Power - halogen-free flexible power cable 0,6/1 kV ..... 16   |
| ■ SABIX® BL 412 C FRNC                  |    | SABIX® BL-Line Power - halogen-free flexible power cable with overall copper screen 0,6/1 kV ..... 17                                  |
| <b>Special shipping cables</b>          |   |  |
| ■ BL TA 180 C                           |   | flexible FEP-Connection cable with overall copper screen and UL/cUL recognition ..... 18   |
| <b>Cables for offshore applications</b> |   |  |
| ■ DR 750 P Offshore                     |   | PUR reeling cable for offshore applications ..... 19   |

## Applications

Our halogen-free SABIX® BL-Line cables are appropriate for flexible use below deck as well as on deck of ships with protected laying without being in permanent contact with oils and fuels. The flexible construction and small diameter enables a comfortable laying even in narrow spaces.

Our type BL TA 180 C is appropriate for use under extreme ambient conditions. It is applied in machine rooms on ships for example as connection cable for the control of ships diesel engines. It shows a very good resistance against high temperatures as well as against oils and chemicals.

The DR 750 P Offshore is a reeling cable for the application on ships and for offshore use. The robust construction is appropriate for reeling applications with high mechanical stress. Application fields of the DR 750 P Offshore are offshore cranes, deck machines, working platforms, lifts, lifting and conveyor technique on ships and offshore facilities.

## Family business in the third generation

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

Today, the quality of our products is known and appreciated in more than 100 countries around the world. In all product ranges, we are certified according to DIN EN ISO 9001. Furthermore, we have implemented an environmental management system for our company according to DIN EN ISO 14001, an occupational health and safety management system according to NLF/ILO-OSH and DIN ISO 45001, and an energy management system according to DIN EN ISO 50001.

And also for the future, our slogan is: **"WE CONTINUE!"**

|                             |   |
|-----------------------------|---|
| FOUNDED:                    | 1947 by Peter Bröckskes sen.<br>an independent, medium-sized company.   |
| CEO:                        | Peter Bröckskes and Sabine Bröckskes-Wetten   |
| PLANT/LOCATION:             | In Viersen (Lower Rhine) 110.000 m <sup>2</sup> company site.<br><br>Own manufacturing from copper conductor to outer sheath.<br><br>VDE proved burnchamber and laboratory within the company.  |
| EMPLOYEES/WORKERS:          | Approx. 430 at the plant in Viersen, 550 worldwide  |
| YEARLY SALES:               | Approx. 134 Mio. € worldwide  |
| PRODUCTS:                   | Special Cables<br><br>Measurement Technology<br><br>Cable Harnessing  |
| CERTIFICATES AND APPROVALS: | <div style="display: flex; align-items: flex-start;"> <div style="flex: 1;">  </div> <div style="flex: 2;"> <p>Quality management system acc. to DIN EN ISO 9001 for every manufacturing field</p> <p>Environmental management system acc. to DIN EN ISO 14001</p> <p>Occupational health and safety management acc. to NLF/ILO-OSH and DIN ISO 45001</p> <p>Energy management system acc. to DIN EN ISO 50001</p> </div> </div> |

## Selection table



|                                 |   | Cable type | CATLine CAT 5e BL | 'CATLine CAT 6A BL | CATLine CAT 7A BL | SABIX® BL 405 FRNC | SABIX® BL 415 C FRNC | SABIX® BL 443 C FRNC TT | SABIX® BL 445 C FRNC TP | SABIX® BL 446 C FRNC FTP | SABIX® BL 400 FRNC | SABIX® BL 438 C FRNC | SABIX® BL 402 FRNC | SABIX® BL 408 FRNC | SABIX® BL 409 C FRNC | SABIX® BL 410 FRNC | SABIX® BL 412 C FRNC | BL TA 180 C | DR 750 P Offshore |   |
|---------------------------------|---|------------|-------------------|--------------------|-------------------|--------------------|----------------------|-------------------------|-------------------------|--------------------------|--------------------|----------------------|--------------------|--------------------|----------------------|--------------------|----------------------|-------------|-------------------|---|
| Construction                    | Ethernet cable  |            | ●                 |                    |                   |                    |                      |                         |                         |                          |                    |                      |                    |                    |                      |                    |                      |             |                   |   |
|                                 | Data cable  |            |                   |                    |                   | ●                  | ●                    | ●                       | ●                       | ●                        |                    |                      |                    |                    |                      |                    |                      |             |                   |   |
|                                 | Control cable   |            |                   |                    |                   |                    |                      |                         |                         |                          | ●                  | ●                    |                    |                    |                      |                    |                      |             | ●                 | ● |
|                                 | Power cable   |            |                   |                    |                   |                    |                      |                         |                         |                          |                    |                      |                    | ●                  | ●                    | ●                  | ●                    | ●           |                   |   |
|                                 | screened  |            | ●                 |                    |                   |                    | ●                    | ●                       | ●                       | ●                        |                    | ●                    |                    |                    |                      | ●                  | ●                    | ●           | ●                 |   |
|                                 | twisted pairs   |            |                   |                    |                   |                    |                      |                         | ●                       | ●                        |                    |                      |                    |                    |                      |                    |                      |             |                   |   |
| Temperature range fixed laying* | +180°C  |            |                   |                    |                   |                    |                      |                         |                         |                          |                    |                      |                    |                    |                      |                    |                      |             |                   |   |
|                                 | + 90°C  |            |                   |                    |                   |                    |                      |                         |                         |                          |                    |                      |                    |                    |                      |                    |                      |             |                   |   |
|                                 | + 70°C  |            |                   |                    |                   |                    |                      |                         |                         |                          |                    |                      |                    |                    |                      |                    |                      |             |                   |   |
|                                 | - 40°C  |            | ●                 |                    |                   |                    |                      |                         |                         |                          |                    |                      |                    |                    |                      |                    |                      |             |                   |   |
|                                 | - 55°C  |            |                   |                    |                   |                    |                      |                         |                         |                          |                    |                      |                    |                    |                      |                    |                      |             |                   |   |
| Voltage range                   | Peak operating voltage max. 90 V  |            | ●                 |                    |                   |                    |                      |                         |                         |                          |                    |                      |                    |                    |                      |                    |                      |             |                   |   |
|                                 | Peak operating voltage max. 300 V   |            |                   |                    |                   |                    |                      | ●                       |                         | ●                        |                    |                      |                    |                    |                      |                    |                      |             |                   |   |
|                                 | Peak operating voltage max. 350 V   |            |                   |                    |                   | ●                  | ●                    |                         | ●                       |                          |                    |                      |                    |                    |                      |                    |                      |             |                   |   |
|                                 | Nominal voltage Uo/U 300/500 V  |            |                   |                    |                   |                    |                      |                         |                         |                          | ●                  | ●                    |                    |                    |                      |                    |                      |             | ●                 |   |
|                                 | Nominal voltage Uo/U 0,6/1 kV   |            |                   |                    |                   |                    |                      |                         |                         |                          |                    |                      | ●                  | ●                  | ●                    | ●                  | ●                    | ●           |                   | ● |
|                                 | Voltage UL 300 V  |            | ●                 |                    |                   |                    |                      |                         |                         |                          |                    |                      |                    |                    |                      |                    |                      |             |                   |   |
|                                 | Voltage UL/cUL 600 V  |            |                   |                    |                   |                    |                      |                         |                         |                          |                    |                      |                    |                    |                      |                    |                      |             | ●                 |   |
| Standards                       | Halogen-free acc. to IEC 60754-1 + VDE 0482-754-1   |            | ●                 |                    |                   | ●                  | ●                    | ●                       | ●                       | ●                        | ●                  | ●                    | ●                  | ●                  | ●                    | ●                  | ●                    | ●           |                   | ● |
|                                 | Fire performance: no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 Cat. A  |            | ●                 |                    |                   | ●                  | ●                    | ●                       | ●                       | ●                        | ●                  | ●                    | ●                  | ●                  | ●                    | ●                  | ●                    | ●           |                   |   |
|                                 | Fire performance: flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2                                       |            | ●                 |                    |                   | ●                  | ●                    | ●                       | ●                       | ●                        | ●                  | ●                    | ●                  | ●                  | ●                    | ●                  | ●                    | ●           |                   | ● |
|                                 | Corrosiveness of conflagration gases: in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases |            | ●                 |                    |                   | ●                  | ●                    | ●                       | ●                       | ●                        | ●                  | ●                    | ●                  | ●                  | ●                    | ●                  | ●                    | ●           |                   |   |
|                                 | Smoke density acc. to IEC 61034 + VDE 0482-1034   |            | ●                 |                    |                   | ●                  | ●                    | ●                       | ●                       | ●                        | ●                  | ●                    | ●                  | ●                  | ●                    | ●                  | ●                    | ●           |                   |   |
| Type approvals                  | DNV-GL  |            |                   |                    |                   | ●                  | ●                    | ●                       | ●                       | ●                        | ●                  | ●                    | ●                  | ●                  | ●                    | ●                  | ●                    | ●           | ●                 |   |
|                                 | American Bureau of Shipping   |            | ●                 |                    |                   |                    |                      |                         |                         |                          |                    |                      |                    |                    |                      |                    |                      |             |                   |   |
| Characteristics                 | UL recognized   |            | ●                 |                    |                   |                    |                      |                         |                         |                          |                    |                      |                    |                    |                      |                    |                      |             | ●                 |   |
|                                 | cUL recognized  |            |                   |                    |                   |                    |                      |                         |                         |                          |                    |                      |                    |                    |                      |                    |                      |             | ●                 |   |
|                                 | flexible conductor stranding  |            | ●                 |                    |                   | ●                  | ●                    | ●                       | ●                       | ●                        | ●                  | ●                    |                    |                    |                      |                    | ●                    | ●           | ●                 |   |
|                                 | extended cross section range  |            |                   |                    |                   | ●                  | ●                    |                         | ●                       |                          |                    |                      |                    |                    |                      |                    |                      |             |                   |   |
|                                 | oil resistance  |            |                   |                    |                   |                    |                      |                         |                         |                          |                    |                      |                    |                    |                      |                    |                      |             | ●                 |   |
|                                 | chemical resistance   |            |                   |                    |                   |                    |                      |                         |                         |                          |                    |                      |                    |                    |                      |                    |                      |             | ●                 |   |
|                                 | MUD resistance  |            |                   |                    |                   |                    |                      |                         |                         |                          |                    |                      |                    |                    |                      |                    |                      |             |                   | ● |



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

<sup>1</sup> lower temperatures on request SAB

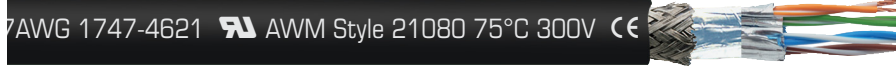


# Cables for Shipbuilding

**CATLine CAT 5e BL**

**CATLine CAT 6A BL** halogen-free Ethernet cables for maritime use

**CATLine CAT 7A BL**



Marking for CATLine CAT 7A BL 17474421:

SAB BRÖCKSKES · D-VIERSEN · CATLine Cat.7A BL 4x2x26/7AWG 1747-4621 AWM Style 21080 75°C 300V CE

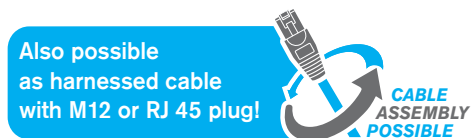


| <b>Construction:</b>    | CATLine CAT 5e BL                   |  | CATLine CAT 6A BL              | CATLine CAT 7A BL  |
|-------------------------|-------------------------------------|--|--------------------------------|--|
| <b>Dimension:</b>       | 2 x 2 x 24 AWG,<br>2 x 2 x 22 AWG   | 4 x 2 x 26 AWG   | 4 x 2 x 24 AWG, 4 x 2 x 26 AWG |  |
| <b>Conductor:</b>       | bare copper strands, fine wires     |  |                                |  |
| <b>Insulation:</b>      | special polymer                     |  |                                |  |
| <b>Colour code:</b>     | blue, yellow,<br>white, orange      | white-blue/blue, white-orange/orange, white-green/green, white-brown/brown |                                |  |
| <b>Stranding:</b>       | star quad                           | cores twisted to pairs, pairs together                                     |                                | cores twisted to pairs, pairs screened with foil, pairs together |
| <b>Screen:</b>          | alu foil and tinned copper braiding |  |                                | tinned copper braiding   |
| <b>Sheath material:</b> | special SABIX®                      |  |                                |  |
| <b>Sheath colour:</b>   | black                               |  |                                |  |

| <b>Technical data:</b>  | CATLine CAT 5e BL   |   | CATLine CAT 6A BL  | CATLine CAT 7A BL    |
|---|---|---|--|----------------------|
| <b>Item number:</b>   | 1547-9001,<br>1547-9002   | 1547-4621   | 1647-4621, 1647-4421   | 1747-4621, 1747-4421 |
| <b>Peak operating voltage:</b>  | max. 90 V   |   |  |                      |
| <b>Voltage UL:</b>  | 300 V   |   |  |                      |
| <b>Testing voltage</b><br>core/core:<br>core/screen:                                | 2000 V<br>2000 V  |   |  |                      |
| <b>Min. bending radius</b><br>fixed laying:<br>flexible application (only 7 wires): | 5 x d<br>10 x d   |   |  |                      |
| <b>Temperature range VDE</b><br>fixed laying:<br>flexible application:              | UL: up to +75 °C<br>-40/+70 °C<br>-30/+70 °C  |   |  |                      |
| <b>Halogen-free:</b>  | acc. to IEC 60754-1 + VDE 0482-754-1  |   |  |                      |
| <b>Fire performance:</b>  | flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2,<br>no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 Cat. A,<br>UL Horizontal Flame Test FT2, UL AWM Style 21080 |   |  |                      |
| <b>Corrosiveness of conflagration gases:</b>  | in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases   |   |  |                      |
| <b>Smoke density:</b>   | acc. to IEC 61034 + VDE 0482-1034   |   |  |                      |
| <b>Characteristic impedance (100 MHz):</b>  | 100Ω ± 10Ω,<br>fulfils the electrical and transmission<br>requirements with high frequency<br>with reference to<br>EN 50288-2-2 / CAT 5   | 100Ω ± 10Ω,<br>fulfils the electrical and transmission<br>requirements with high frequency<br>with reference to<br>EN 50288-10-2 / CAT 6A | 100Ω ± 10Ω,<br>fulfils the electrical and transmission<br>requirements with high frequency<br>with reference to<br>EN 50288-9-2 / CAT 7A |                      |
| <b>Flexibility:</b>   | good  |   |  |                      |
| <b>UL Style:</b>  | 21080   |   |  |                      |
| <b>Absence of harmful substances:</b>   | acc. to RoHS directive of the European Union  |   |  |                      |

| item no. | type              | dimension        | core-ø<br>mm | outer-ø<br>± 5%<br>mm | copper<br>figure<br>kg/km | cable<br>weight<br>≈kg/km |
|----------|-------------------|------------------|--------------|-----------------------|---------------------------|---------------------------|
| 15479001 | CATLine CAT 5e BL | 2 x 2 x 24/7 AWG | approx. 1,25 | 5,7                   | 22,7                      | 48                        |
| 15479002 | CATLine CAT 5e BL | 2 x 2 x 22/7 AWG | max. 1,60    | 6,4                   | 29,7                      | 61                        |
| 15474621 | CATLine CAT 5e BL | 4 x 2 x 26/7 AWG | max. 1,05    | 7,3                   | 31,9                      | 64                        |
| 16474621 | CATLine CAT 6A BL | 4 x 2 x 26/7 AWG | max. 1,05    | 7,3                   | 31,9                      | 64                        |
| 16474421 | CATLine CAT 6A BL | 4 x 2 x 24/7 AWG | approx. 1,33 | 8,3                   | 41,1                      | 81                        |
| 17474621 | CATLine CAT 7A BL | 4 x 2 x 26/7 AWG | max. 1,60    | 8,9                   | 38,5                      | 85                        |
| 17474421 | CATLine CAT 7A BL | 4 x 2 x 24/7 AWG | approx. 1,60 | 10,5                  | 65,0                      | 116                       |

Other dimensions and colours are possible on request.



# Cables for Shipbuilding

## SABIX® BL 405 FRNC

SABIX® BL-Line Data - halogen-free flexible data cable



Marking for SABIX® BL 405 FRNC 64051650:

SAB BRÖCKSKES · D-VIERSEN · SABIX® BL 405 FRNC 16 x 0,5mm² - IEC 60332-3-22 - 350V DNV CE and current meter marking

### Construction:

|                         |   |
|-------------------------|---|
| <b>Conductor:</b>       | tinned copper strands<br>with reference to VDE 0812 resp.<br>IEC 60228, VDE 0295, class 5 |
| <b>Insulation:</b>      | special SABIX®  |
| <b>Colour code:</b>     | with reference to DIN 47100   |
| <b>Stranding:</b>       | in layers   |
| <b>Sheath material:</b> | special SABIX®<br>SHF 1 compound acc. to IEC 60092-360                                    |
| <b>Sheath colour:</b>   | pigeon blue (RAL 5014)  |

### Outstanding features:



- halogen-free
- asbestos-free
- no flame propagation
- flame retardant and self-extinguishing
- flexible
- for applications  
acc. to Hong Kong Convention  
ingredients tested acc. to the requirements  
of the Hong Kong Convention (2009) of the IMO
- approvals:  
DNV

### Technical Data:

|  |  |
|--|--|
| <b>Peak operating voltage:</b>                     | max. 350 V   |
| <b>Testing voltage:</b>                            | core/core 1500 V   |
| <b>Min. bending radius</b><br><i>fixed laying:</i> | 5 x d  |
| <i>flexible application:</i>                       | 10 x d   |
| <b>Temperature range</b><br><i>fixed laying:</i>   | -40/+90 °C   |
| <i>flexible application:</i>                       | -30/+90 °C   |
| <b>Halogen-free:</b>                               | acc. to IEC 60754-1 + VDE 0482-754-1   |
| <b>Fire performance:</b>                           | no flame propagation acc. to<br>IEC 60332-3-22 + VDE 0482-332-3-22 cat. A.<br>Flame retardant and self-extinguishing<br>acc. to IEC 60332-1-2 + VDE 0482-332-1-2 |
| <b>Corrosiveness of<br/>conflagration gases:</b>   | in compliance with<br>IEC 60754-2 + VDE 0482-754-2 -<br>no development of corrosive conflagration gases  |
| <b>Smoke density:</b>                              | acc. to IEC 61034 + VDE 0482-1034  |
| <b>Flexibility:</b>                                | very good  |
| <b>Absence of<br/>harmful substances:</b>          | acc. to RoHS directive of the European Union   |

### Possible on request:



- bare copper strands
- alternative colour code  
and sheath colour

| item no. | no. of cores<br>x cross section<br>n x mm² | outer-ø<br>± 5%<br>mm | copper<br>figure<br>kg/km | cable<br>weight<br>≈ kg/km |
|----------|--|-----------------------|---------------------------|----------------------------|
| 64050214 | 2 x 0,14                                   | 3,6                   | 2,7                       | 18                         |
| 64050314 | 3 x 0,14                                   | 3,8                   | 4,0                       | 21                         |
| 64050414 | 4 x 0,14                                   | 4,1                   | 5,4                       | 24                         |
| 64050514 | 5 x 0,14                                   | 4,5                   | 6,7                       | 29                         |
| 64050614 | 6 x 0,14                                   | 4,8                   | 8,1                       | 33                         |
| 64050714 | 7 x 0,14                                   | 4,8                   | 9,4                       | 35                         |
| 64050814 | 8 x 0,14                                   | 5,5                   | 10,8                      | 42                         |
| 64051214 | 12 x 0,14                                  | 6,3                   | 16,1                      | 56                         |
| 64051614 | 16 x 0,14                                  | 7,0                   | 21,5                      | 70                         |
| 64050225 | 2 x 0,25                                   | 3,9                   | 4,8                       | 22                         |
| 64050325 | 3 x 0,25                                   | 4,1                   | 7,2                       | 26                         |
| 64050425 | 4 x 0,25                                   | 4,5                   | 9,6                       | 31                         |
| 64050525 | 5 x 0,25                                   | 4,9                   | 12,0                      | 37                         |
| 64050625 | 6 x 0,25                                   | 5,3                   | 14,4                      | 43                         |
| 64050725 | 7 x 0,25                                   | 5,3                   | 16,8                      | 46                         |
| 64050825 | 8 x 0,25                                   | 6,2                   | 19,2                      | 57                         |
| 64051225 | 12 x 0,25                                  | 7,0                   | 28,8                      | 74                         |
| 64051625 | 16 x 0,25                                  | 7,7                   | 38,4                      | 93                         |
| 64050234 | 2 x 0,34                                   | 4,3                   | 6,5                       | 28                         |
| 64050334 | 3 x 0,34                                   | 4,6                   | 9,8                       | 33                         |
| 64050434 | 4 x 0,34                                   | 5,0                   | 13,1                      | 39                         |
| 64050534 | 5 x 0,34                                   | 5,4                   | 16,3                      | 47                         |
| 64050634 | 6 x 0,34                                   | 6,1                   | 19,6                      | 58                         |

| item no. | no. of cores<br>x cross section<br>n x mm² | outer-ø<br>± 5%<br>mm | copper<br>figure<br>kg/km | cable<br>weight<br>≈ kg/km |
|----------|--|-----------------------|---------------------------|----------------------------|
| 64050734 | 7 x 0,34                                   | 6,1                   | 22,8                      | 61                         |
| 64050834 | 8 x 0,34                                   | 7,0                   | 26,1                      | 73                         |
| 64051234 | 12 x 0,34                                  | 7,8                   | 39,2                      | 95                         |
| 64051634 | 16 x 0,34                                  | 9,0                   | 52,5                      | 129                        |
| 64050250 | 2 x 0,50                                   | 4,7                   | 9,6                       | 35                         |
| 64050350 | 3 x 0,50                                   | 5,0                   | 14,4                      | 42                         |
| 64050450 | 4 x 0,50                                   | 5,4                   | 19,2                      | 50                         |
| 64050550 | 5 x 0,50                                   | 6,1                   | 24,0                      | 64                         |
| 64050650 | 6 x 0,50                                   | 6,7                   | 28,8                      | 74                         |
| 64050750 | 7 x 0,50                                   | 6,7                   | 33,6                      | 79                         |
| 64050850 | 8 x 0,50                                   | 7,7                   | 38,4                      | 95                         |
| 64051250 | 12 x 0,50                                  | 9,0                   | 57,6                      | 133                        |
| 64051650 | 16 x 0,50                                  | 10,0                  | 76,8                      | 169                        |
| 64050275 | 2 x 0,75                                   | 5,2                   | 14,4                      | 43                         |
| 64050375 | 3 x 0,75                                   | 5,5                   | 21,6                      | 52                         |
| 64050475 | 4 x 0,75                                   | 6,2                   | 28,8                      | 66                         |
| 64050575 | 5 x 0,75                                   | 6,8                   | 36,0                      | 79                         |
| 64050675 | 6 x 0,75                                   | 7,4                   | 43,2                      | 92                         |
| 64050775 | 7 x 0,75                                   | 7,4                   | 50,4                      | 99                         |
| 64050875 | 8 x 0,75                                   | 8,8                   | 57,6                      | 126                        |
| 64051275 | 12 x 0,75                                  | 10,1                  | 86,4                      | 166                        |
| 64051675 | 16 x 0,75                                  | 11,1                  | 115,2                     | 212                        |

Other dimensions and colours are possible on request.

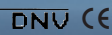
# Cables for Shipbuilding

## SABIX® BL 415 C FRNC

SABIX® BL-Line Data - halogen-free flexible data cable with overall copper screen



0,5mm<sup>2</sup> - IEC 60332-3-22 - 350V



Marking for SABIX® BL 415 C FRNC 64150550:

SAB BRÖCKSKES · D-VIERSEN · SABIX® BL 415 C FRNC 5 x 0,5mm<sup>2</sup> - IEC 60332-3-22 - 350V DNV CE and current meter marking

### Construction:

|                         |   |
|-------------------------|---|
| <b>Conductor:</b>       | tinned copper strands<br>with reference to VDE 0812 resp.<br>IEC 60228, VDE 0295, class 5 |
| <b>Insulation:</b>      | special SABIX®  |
| <b>Colour code:</b>     | with reference to DIN 47100   |
| <b>Stranding:</b>       | in layers   |
| <b>Wrapping:</b>        | foil  |
| <b>Screen:</b>          | tinned copper braiding  |
| <b>Sheath material:</b> | special SABIX®<br>SHF 1 compound acc. to IEC 60092-360                                    |
| <b>Sheath colour:</b>   | pigeon blue (RAL 5014)  |

### Outstanding features:



- halogen-free
- asbestos-free
- good EMC characteristics
- no flame propagation
- flame retardant and self-extinguishing
- flexible
- for applications  
acc. to Hong Kong Convention  
ingredients tested acc. to the requirements  
of the Hong Kong Convention (2009) of the IMO
- approvals:  
DNV

### Technical Data:

|  |  |
|--|--|
| <b>Peak operating voltage:</b>                   | max. 350 V   |
| <b>Testing voltage:</b>                          | core/core 1500 V<br>core/screen 1200 V   |
| <b>Min. bending radius</b>                       |  |
| fixed laying:                                    | 5 x d  |
| flexible application:                            | 10 x d   |
| <b>Temperature range</b>                         |  |
| fixed laying:                                    | -40/+90 °C   |
| flexible application:                            | -30/+90 °C   |
| <b>Halogen-free:</b>                             | acc. to IEC 60754-1 + VDE 0482-754-1   |
| <b>Fire performance:</b>                         | no flame propagation acc. to<br>IEC 60332-3-22 + VDE 0482-332-3-22 cat. A.<br>Flame retardant and self-extinguishing<br>acc. to IEC 60332-1-2 + VDE 0482-332-1-2 |
| <b>Corrosiveness of<br/>conflagration gases:</b> | in compliance with<br>IEC 60754-2 + VDE 0482-754-2 -<br>no development of corrosive conflagration gases  |
| <b>Smoke density:</b>                            | acc. to IEC 61034 + VDE 0482-1034  |
| <b>Flexibility:</b>                              | very good  |
| <b>Absence of<br/>harmful substances:</b>        | acc. to RoHS directive of the European Union   |

### Possible on request:



- bare copper strands
- alternative colour code  
and sheath colour

| item no. | no. of cores<br>x cross section<br>n x mm <sup>2</sup> | outer-ø<br>± 5%<br>mm | copper<br>figure<br>kg/km | cable<br>weight<br>≈ kg/km |
|----------|--|-----------------------|---------------------------|----------------------------|
| 64150214 | 2 x 0,14   | 4,1                   | 13,0                      | 25                         |
| 64150314 | 3 x 0,14   | 4,3                   | 14,4                      | 29                         |
| 64150414 | 4 x 0,14   | 4,6                   | 19,3                      | 35                         |
| 64150514 | 5 x 0,14   | 5,0                   | 20,7                      | 40                         |
| 64150614 | 6 x 0,14   | 5,3                   | 22,2                      | 43                         |
| 64150714 | 7 x 0,14   | 5,3                   | 23,5                      | 45                         |
| 64150814 | 8 x 0,14   | 6,2                   | 28,4                      | 57                         |
| 64151214 | 12 x 0,14  | 6,8                   | 35,8                      | 70                         |
| 64151614 | 16 x 0,14  | 7,5                   | 43,0                      | 85                         |
| 64150225 | 2 x 0,25   | 4,4                   | 18,6                      | 32                         |
| 64150325 | 3 x 0,25   | 4,6                   | 21,1                      | 36                         |
| 64150425 | 4 x 0,25   | 5,0                   | 23,6                      | 41                         |
| 64150525 | 5 x 0,25   | 5,4                   | 27,9                      | 49                         |
| 64150625 | 6 x 0,25   | 5,8                   | 30,5                      | 54                         |
| 64150725 | 7 x 0,25   | 5,8                   | 32,9                      | 57                         |
| 64150825 | 8 x 0,25   | 6,7                   | 38,8                      | 71                         |
| 64151225 | 12 x 0,25  | 7,5                   | 50,3                      | 89                         |
| 64151625 | 16 x 0,25  | 8,6                   | 62,2                      | 118                        |
| 64150234 | 2 x 0,34   | 4,8                   | 20,5                      | 37                         |
| 64150334 | 3 x 0,34   | 5,1                   | 23,8                      | 42                         |
| 64150434 | 4 x 0,34   | 5,5                   | 29,0                      | 50                         |
| 64150534 | 5 x 0,34   | 6,1                   | 32,4                      | 61                         |
| 64150634 | 6 x 0,34   | 6,6                   | 39,1                      | 71                         |

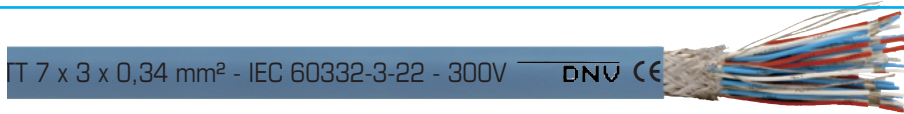
| item no. | no. of cores<br>x cross section<br>n x mm <sup>2</sup> | outer-ø<br>± 5%<br>mm | copper<br>figure<br>kg/km | cable<br>weight<br>≈ kg/km |
|----------|--|-----------------------|---------------------------|----------------------------|
| 64150734 | 7 x 0,34   | 6,6                   | 42,4                      | 75                         |
| 64150834 | 8 x 0,34   | 7,5                   | 47,6                      | 88                         |
| 64151234 | 12 x 0,34  | 8,7                   | 65,3                      | 121                        |
| 64151634 | 16 x 0,34  | 9,5                   | 81,2                      | 149                        |
| 64150250 | 2 x 0,50   | 5,2                   | 23,7                      | 43                         |
| 64150350 | 3 x 0,50   | 5,5                   | 30,3                      | 52                         |
| 64150450 | 4 x 0,50   | 6,1                   | 35,3                      | 64                         |
| 64150550 | 5 x 0,50   | 6,6                   | 43,5                      | 77                         |
| 64150650 | 6 x 0,50   | 7,2                   | 50,1                      | 85                         |
| 64150750 | 7 x 0,50   | 7,2                   | 54,9                      | 90                         |
| 64150850 | 8 x 0,50   | 8,6                   | 62,2                      | 116                        |
| 64151250 | 12 x 0,50  | 9,5                   | 86,6                      | 152                        |
| 64151650 | 16 x 0,50  | 10,7                  | 124,5                     | 201                        |
| 64150275 | 2 x 0,75   | 5,7                   | 30,4                      | 52                         |
| 64150375 | 3 x 0,75   | 6,2                   | 39,2                      | 65                         |
| 64150475 | 4 x 0,75   | 6,7                   | 48,4                      | 78                         |
| 64150575 | 5 x 0,75   | 7,3                   | 57,4                      | 93                         |
| 64150675 | 6 x 0,75   | 7,9                   | 66,9                      | 106                        |
| 64150775 | 7 x 0,75   | 7,9                   | 74,1                      | 114                        |
| 64150875 | 8 x 0,75   | 9,3                   | 83,9                      | 142                        |
| 64151275 | 12 x 0,75  | 10,8                  | 134,2                     | 194                        |
| 64151675 | 16 x 0,75  | 11,8                  | 169,6                     | 247                        |

Other dimensions and colours are possible on request.

# Cables for Shipbuilding

## SABIX® BL 443 C FRNC TT

SABIX® BL-Line Data - halogen-free flexible data cable, twisted triple with overall copper screen



Marking for SABIX® BL 443 C FRNC TT 64430734:

SAB BRÖCKSKES · D-VIERSEN · SABIX® BL 443 C FRNC TT 7 x 3 x 0,34 mm² - IEC 60332-3-22 - 300V DNV CE and current meter marking

### Construction:

|                         |   |
|-------------------------|---|
| <b>Conductor:</b>       | tinned copper strands<br>acc. to IEC 60228, VDE 0295, class 5                         |
| <b>Insulation:</b>      | special SABIX®  |
| <b>Colour code:</b>     | ≤ 0,25 mm² = DIN 47100<br>≥ 0,34 mm² = white, blue, red<br>with printed triple number |
| <b>Stranding:</b>       | cores white, blue, red twisted to triples,<br>triples twisted in layers               |
| <b>Wrapping:</b>        | foil  |
| <b>Screen:</b>          | tinned copper braiding  |
| <b>Sheath material:</b> | special SABIX®<br>SHF 1 compound acc. to IEC 60092-360                                |
| <b>Sheath colour:</b>   | pigeon blue (RAL 5014)  |

### Technical Data:

|  |  |
|--|--|
| <b>Peak operating voltage:</b>                   | max. 300 V   |
| <b>Testing voltage:</b>                          | core/core 1500 V<br>core/screen 1200 V   |
| <b>Min. bending radius</b>                       |  |
| fixed laying:                                    | 5 x d  |
| flexible application:                            | 10 x d   |
| <b>Temperature range</b>                         |  |
| fixed laying:                                    | -40/+90 °C   |
| flexible application:                            | -30/+90 °C   |
| <b>Halogen-free:</b>                             | acc. to IEC 60754-1 + VDE 0482-754-1   |
| <b>Fire performance:</b>                         | no flame propagation acc. to<br>IEC 60332-3-22 + VDE 0482-332-3-22 cat. A.<br>Flame retardant and self-extinguishing<br>acc. to IEC 60332-1-2 + VDE 0482-332-1-2 |
| <b>Corrosiveness of<br/>conflagration gases:</b> | in compliance with<br>IEC 60754-2 + VDE 0482-754-2 -<br>no development of corrosive conflagration gases  |
| <b>Smoke density:</b>                            | acc. to IEC 61034 + VDE 0482-1034  |
| <b>Flexibility:</b>                              | very good  |
| <b>Absence of<br/>harmful substances:</b>        | acc. to RoHS directive of the European Union   |

### Outstanding features:



- halogen-free
- asbestos-free
- good EMC characteristics
- no flame propagation
- flame retardant and self-extinguishing
- flexible
- for applications  
acc. to Hong Kong Convention  
ingredients tested acc. to the requirements  
of the Hong Kong Convention (2009) of the IMO
- approvals:  
DNV

### Possible on request:



- bare copper strands
- alternative colour code  
and sheath colour

| item no. | no. of triples x<br>cross section<br>n x 3 x mm² | outer-ø<br>± 10%<br>mm | copper<br>figure<br>kg/km | cable<br>weight<br>≈ kg/km |
|----------|--|------------------------|---------------------------|----------------------------|
| 64430225 | 2 x 3 x 0,25                                     | 7,2                    | 35,7                      | 68                         |
| 64430425 | 4 x 3 x 0,25                                     | 8,8                    | 55,0                      | 103                        |
| 64430725 | 7 x 3 x 0,25                                     | 10,6                   | 98,1                      | 161                        |
| 64431025 | 10 x 3 x 0,25                                    | 13,4                   | 131,9                     | 235                        |
| 64430234 | 2 x 3 x 0,34                                     | 8,0                    | 43,4                      | 82                         |
| 64430434 | 4 x 3 x 0,34                                     | 9,8                    | 68,3                      | 127                        |
| 64430734 | 7 x 3 x 0,34                                     | 11,9                   | 123,0                     | 202                        |
| 64431034 | 10 x 3 x 0,34                                    | 15,2                   | 195,5                     | 313                        |
| 64430250 | 2 x 3 x 0,50                                     | 9,0                    | 55,0                      | 105                        |
| 64430450 | 4 x 3 x 0,50                                     | 10,7                   | 105,3                     | 161                        |
| 64430750 | 7 x 3 x 0,50                                     | 13,2                   | 160,6                     | 254                        |
| 64431050 | 10 x 3 x 0,50                                    | 16,9                   | 254,0                     | 391                        |
| 64430275 | 2 x 3 x 0,75                                     | 10,4                   | 90,8                      | 144                        |
| 64430475 | 4 x 3 x 0,75                                     | 12,6                   | 145,9                     | 223                        |
| 64430775 | 7 x 3 x 0,75                                     | 15,2                   | 248,8                     | 350                        |
| 64431075 | 10 x 3 x 0,75                                    | 19,3                   | 340,6                     | 504                        |

Other dimensions and colours are possible on request.



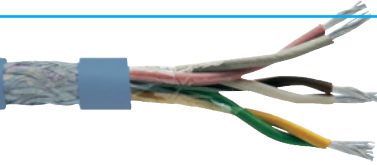
# Cables for Shipbuilding

## SABIX® BL 445 C FRNC TP

SABIX® BL-Line Data - halogen-free flexible paired data cable with overall copper screen



25 mm<sup>2</sup> - IEC 60332-3-22 - 350V



Marking for SABIX® BL 445 C FRNC TP 64450325:

SAB BRÖCKSKES · D-VIERSEN · SABIX® BL 445 C FRNC TP 3 x 2 x 0,25 mm<sup>2</sup> - IEC 60332-3-22 - 350V DNV CE and current meter marking

### Construction:

|                         |   |
|-------------------------|---|
| <b>Conductor:</b>       | tinned copper strands<br>with reference to VDE 0812 resp.<br>IEC 60228, VDE 0295, class 5 |
| <b>Insulation:</b>      | special SABIX®  |
| <b>Colour code:</b>     | with reference to DIN 47100   |
| <b>Stranding:</b>       | pairwise, pairs in layers   |
| <b>Wrapping:</b>        | foil  |
| <b>Screen:</b>          | tinned copper braiding  |
| <b>Sheath material:</b> | special SABIX®<br>SHF 1 compound acc. to IEC 60092-360                                    |
| <b>Sheath colour:</b>   | pigeon blue (RAL 5014)  |

### Outstanding features:



- halogen-free
- asbestos-free
- good EMC characteristics
- good transmission rates and crosstalk attenuation
- no flame propagation
- flame retardant and self-extinguishing
- flexible
- for applications acc. to Hong Kong Convention ingredients tested acc. to the requirements of the Hong Kong Convention (2009) of the IMO
- approvals: DNV

### Technical Data:

|  |   |
|--|---|
| <b>Peak operating voltage:</b>               | max. 350 V  |
| <b>Testing voltage:</b>                      | core/core 1500 V<br>core/screen 1200 V  |
| <b>Min. bending radius</b>                   |   |
| fixed laying:                                | 5 x d   |
| flexible application:                        | 10 x d  |
| <b>Temperature range</b>                     |   |
| fixed laying:                                | -40/+90 °C  |
| flexible application:                        | -30/+90 °C  |
| <b>Halogen-free:</b>                         | acc. to IEC 60754-1 + VDE 0482-754-1  |
| <b>Fire performance:</b>                     | no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 cat. A. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 |
| <b>Corrosiveness of conflagration gases:</b> | in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases   |
| <b>Smoke density:</b>                        | acc. to IEC 61034 + VDE 0482-1034   |
| <b>Flexibility:</b>                          | very good   |
| <b>Absence of harmful substances:</b>        | acc. to RoHS directive of the European Union  |

### Possible on request:



- bare copper strands
- alternative colour code and sheath colour

| item no. | no. of cores<br>x cross section<br>n x mm <sup>2</sup> | outer-ø<br>± 5%<br>mm | copper<br>figure<br>kg/km | cable<br>weight<br>≈ kg/km |
|----------|--|-----------------------|---------------------------|----------------------------|
| 64450214 | 2 x 2 x 0,14   | 5,3                   | 19,5                      | 37                         |
| 64450314 | 3 x 2 x 0,14   | 5,8                   | 21,4                      | 44                         |
| 64450414 | 4 x 2 x 0,14   | 6,8                   | 30,4                      | 58                         |
| 64450514 | 5 x 2 x 0,14   | 7,4                   | 34,9                      | 68                         |
| 64450614 | 6 x 2 x 0,14   | 7,6                   | 39,8                      | 76                         |
| 64450814 | 8 x 2 x 0,14   | 8,7                   | 47,6                      | 98                         |
| 64451014 | 10 x 2 x 0,14  | 9,5                   | 55,9                      | 114                        |
| 64451214 | 12 x 2 x 0,14  | 10,6                  | 79,9                      | 142                        |
| 64451814 | 18 x 2 x 0,14  | 12,4                  | 102,9                     | 200                        |
| 64450225 | 2 x 2 x 0,25   | 5,8                   | 25,7                      | 44                         |
| 64450325 | 3 x 2 x 0,25   | 6,5                   | 32,1                      | 57                         |
| 64450425 | 4 x 2 x 0,25   | 7,4                   | 40,6                      | 71                         |
| 64450525 | 5 x 2 x 0,25   | 8,7                   | 50,1                      | 96                         |
| 64450625 | 6 x 2 x 0,25   | 8,7                   | 54,9                      | 104                        |
| 64450825 | 8 x 2 x 0,25   | 9,1                   | 67,4                      | 121                        |
| 64451025 | 10 x 2 x 0,25  | 10,6                  | 95,7                      | 156                        |
| 64451225 | 12 x 2 x 0,25  | 11,6                  | 111,9                     | 180                        |
| 64451825 | 18 x 2 x 0,25  | 13,8                  | 171,9                     | 272                        |
| 64452625 | 26 x 2 x 0,25  | 16,3                  | 223,2                     | 368                        |
| 64450234 | 2 x 2 x 0,34   | 6,4                   | 30,7                      | 56                         |
| 64450334 | 3 x 2 x 0,34   | 7,2                   | 40,9                      | 71                         |
| 64450434 | 4 x 2 x 0,34   | 8,7                   | 52,3                      | 97                         |
| 64450534 | 5 x 2 x 0,34   | 9,4                   | 61,6                      | 115                        |
| 64450634 | 6 x 2 x 0,34   | 9,6                   | 68,2                      | 128                        |
| 64450734 | 7 x 2 x 0,34   | 10,1                  | 93,6                      | 151                        |

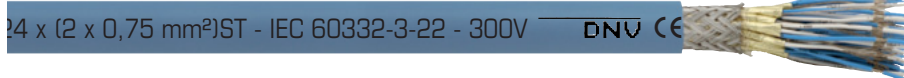
| item no. | no. of cores<br>x cross section<br>n x mm <sup>2</sup> | outer-ø<br>± 5%<br>mm | copper<br>figure<br>kg/km | cable<br>weight<br>≈ kg/km |
|----------|--|-----------------------|---------------------------|----------------------------|
| 64450834 | 8 x 2 x 0,34   | 10,8                  | 100,0                     | 164                        |
| 64451034 | 10 x 2 x 0,34  | 11,8                  | 119,7                     | 194                        |
| 64451234 | 12 x 2 x 0,34  | 13,4                  | 138,2                     | 238                        |
| 64451834 | 18 x 2 x 0,34  | 15,8                  | 215,3                     | 357                        |
| 64451934 | 19 x 2 x 0,34  | 15,8                  | 223,2                     | 367                        |
| 64452734 | 27 x 2 x 0,34  | 18,2                  | 289,0                     | 478                        |
| 64450250 | 2 x 2 x 0,50   | 7,2                   | 40,5                      | 70                         |
| 64450350 | 3 x 2 x 0,50   | 7,9                   | 52,5                      | 88                         |
| 64450450 | 4 x 2 x 0,50   | 9,5                   | 67,4                      | 120                        |
| 64450550 | 5 x 2 x 0,50   | 10,5                  | 95,6                      | 154                        |
| 64450650 | 6 x 2 x 0,50   | 10,8                  | 105,4                     | 171                        |
| 64450850 | 8 x 2 x 0,50   | 11,9                  | 131,3                     | 207                        |
| 64451050 | 10 x 2 x 0,50  | 13,4                  | 155,9                     | 259                        |
| 64451250 | 12 x 2 x 0,50  | 15,0                  | 212,6                     | 322                        |
| 64451850 | 18 x 2 x 0,50  | 17,4                  | 283,5                     | 451                        |
| 64450275 | 2 x 2 x 0,75   | 7,9                   | 52,5                      | 87                         |
| 64450375 | 3 x 2 x 0,75   | 9,2                   | 69,5                      | 115                        |
| 64450475 | 4 x 2 x 0,75   | 10,7                  | 105,3                     | 156                        |
| 64450575 | 5 x 2 x 0,75   | 11,6                  | 126,3                     | 186                        |
| 64450675 | 6 x 2 x 0,75   | 12,4                  | 141,0                     | 221                        |
| 64450875 | 8 x 2 x 0,75   | 13,8                  | 200,7                     | 284                        |
| 64451075 | 10 x 2 x 0,75  | 15,2                  | 241,6                     | 338                        |
| 64451275 | 12 x 2 x 0,75  | 17,2                  | 283,2                     | 411                        |
| 64451875 | 18 x 2 x 0,75  | 19,4                  | 384,0                     | 553                        |

Other dimensions and colours are possible on request.



## SABIX® BL 446 C FRNC FTP

SABIX® BL-Line Data - halogen-free flexible paired data cable with aluminum pair screen and overall copper screen



Marking for SABIX® BL 446 C FRNC FTP 64462475:

SAB BRÖCKSKES · D-VIERSEN · SABIX® BL 446 C FRNC FTP 24 x (2 x 0,75 mm²)ST - IEC 60332-3-22 - 300V DNV CE and current meter marking

### Construction:

|                         |  |
|-------------------------|--|
| <b>Conductor:</b>       | tinned copper strands<br>acc. to IEC 60228, VDE 0295, class 5                  |
| <b>Insulation:</b>      | special SABIX®   |
| <b>Colour code:</b>     | ≤ 0,25 mm² = DIN 47100<br>≥ 0,34 mm² = white, blue<br>with marking, pairnumber |
| <b>Stranding:</b>       | cores white, blue twisted to pairs   |
| <b>Pairscreen:</b>      | alu foil   |
| <b>Stranding:</b>       | pairs together in layers   |
| <b>Wrapping:</b>        | foil   |
| <b>Screen:</b>          | tinned copper braiding   |
| <b>Wrapping:</b>        | foil   |
| <b>Sheath material:</b> | special SABIX®<br>SHF 1 compound acc. to IEC 60092-360                         |
| <b>Sheath colour:</b>   | pigeon blue (RAL 5014)   |

### Outstanding features:



- halogen-free
- asbestos-free
- good EMC characteristics
- good transmission rates and crosstalk attenuation
- no flame propagation
- flame retardant and self-extinguishing
- flexible
- for applications acc. to Hong Kong Convention  
ingredients tested acc. to the requirements of the Hong Kong Convention (2009) of the IMO
- approvals:  
DNV

### Technical Data:

|  |  |
|--|--|
| <b>Peak operating voltage:</b>               | max. 300 V   |
| <b>Testing voltage:</b>                      | core/core 1500 V<br>core/screen 1200 V   |
| <b>Min. bending radius</b>                   |  |
| fixed laying:                                | 5 x d  |
| flexible application:                        | 10 x d   |
| <b>Temperature range</b>                     |  |
| fixed laying:                                | -40/+90 °C   |
| flexible application:                        | -30/+90 °C   |
| <b>Halogen-free:</b>                         | acc. to IEC 60754-1 + VDE 0482-754-1   |
| <b>Fire performance:</b>                     | no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 cat. A.<br>Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 |
| <b>Corrosiveness of conflagration gases:</b> | in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases  |
| <b>Smoke density:</b>                        | acc. to IEC 61034 + VDE 0482-1034  |
| <b>Flexibility:</b>                          | very good  |
| <b>Absence of harmful substances:</b>        | acc. to RoHS directive of the European Union   |

### Possible on request:



- bare copper strands
- alternative colour code and sheath colour

| item no. | no. of paires x cross section n x 2 x mm² | outer-ø ± 10% mm | copper figure kg/km | cable weight ≈ kg/km |
|----------|---|------------------|---------------------|----------------------|
| 64460225 | 2 x (2 x 0,25)ST                          | 6,2              | 27,8                | 53                   |
| 64460825 | 8 x (2 x 0,25)ST                          | 10,1             | 84,5                | 150                  |
| 64461225 | 12 x (2 x 0,25)ST                         | 12,7             | 142,4               | 236                  |
| 64460234 | 2 x (2 x 0,34)ST                          | 7,7              | 41,0                | 73                   |
| 64460434 | 4 x (2 x 0,34)ST                          | 9,2              | 61,5                | 122                  |
| 64460834 | 8 x (2 x 0,34)ST                          | 11,4             | 123,2               | 196                  |
| 64461234 | 12 x (2 x 0,34)ST                         | 14,9             | 190,8               | 303                  |
| 64460475 | 4 x (2 x 0,75)ST                          | 11,3             | 124,7               | 182                  |
| 64462475 | 24 x (2 x 0,75)ST                         | 23,7             | 591,1               | 854                  |
| 64461980 | 19 x (2 x 1,50)ST                         | 25,1             | 779,7               | 1031                 |

Other dimensions and colours are possible on request.

# Cables for Shipbuilding

## SABIX® BL 400 FRNC

SABIX® BL-Line Control - halogen-free flexible control cable 300/500 V



12 x 1,5 mm<sup>2</sup> - IEC 60332-3-22 - 300/500V — DNV CE



Marking for SABIX® BL 400 FRNC 64001215:

SAB BRÖCKSKES · D-VIERSEN · SABIX® BL 400 FRNC 12 x 1,5 mm<sup>2</sup> - IEC 60332-3-22 - 300/500V — DNV CE and current meter marking

### Construction:

|                         |  |
|-------------------------|--|
| <b>Conductor:</b>       | tinned copper strands<br>acc. to IEC 60228, VDE 0295, class 5  |
| <b>Insulation:</b>      | special SABIX®   |
| <b>Colour code:</b>     | black conductors with consecutive numbers<br>acc. to EN 50334 + VDE 0293-334,<br>green-yellow earth wire from 3 conductors |
| <b>Stranding:</b>       | in layers  |
| <b>Sheath material:</b> | special SABIX®<br>SHF 1 compound acc. to IEC 60092-360   |
| <b>Sheath colour:</b>   | pigeon blue (RAL 5014)   |

### Outstanding features:



- halogen-free
- asbestos-free
- no flame propagation
- flame retardant and self-extinguishing
- flexible
- for applications  
acc. to Hong Kong Convention  
ingredients tested acc. to the requirements  
of the Hong Kong Convention (2009) of the IMO
- approvals:  
DNV

### Technical Data:

|  |  |
|--|--|
| <b>Nominal voltage:</b>                          | U <sub>0</sub> /U 300/500 V  |
| <b>Testing voltage:</b>                          | core/core 2000 V   |
| <b>Min. bending radius</b>                       |  |
| <i>fixed laying:</i>                             | 4 x d  |
| <i>flexible application:</i>                     | 6 x d  |
| <b>Temperature range</b>                         |  |
| <i>fixed laying:</i>                             | -40/+90 °C   |
| <i>flexible application:</i>                     | -30/+90 °C   |
| <b>Halogen-free:</b>                             | acc. to IEC 60754-1 + VDE 0482-754-1   |
| <b>Fire performance:</b>                         | no flame propagation acc. to<br>IEC 60332-3-22 + VDE 0482-332-3-22 cat. A.<br>Flame retardant and self-extinguishing<br>acc. to IEC 60332-1-2 + VDE 0482-332-1-2 |
| <b>Corrosiveness of<br/>conflagration gases:</b> | in compliance with<br>IEC 60754-2 + VDE 0482-754-2 -<br>no development of corrosive conflagration gases  |
| <b>Smoke density:</b>                            | acc. to IEC 61034 + VDE 0482-1034  |
| <b>Flexibility:</b>                              | very good  |
| <b>Absence of<br/>harmful substances:</b>        | acc. to RoHS directive of the European Union   |

### Possible on request:



- bare copper strands
- alternative colour code  
and sheath colour

| item no. | no. of cores<br>x cross section<br>n x mm <sup>2</sup> | outer-ø<br>± 5%<br>mm | copper<br>figure<br>kg/km | cable<br>weight<br>≈ kg/km |
|----------|--|-----------------------|---------------------------|----------------------------|
| 64000205 | 2 x 0,50   | 5,3                   | 9,6                       | 42                         |
| 64000305 | 3 x 0,50   | 5,6                   | 14,4                      | 49                         |
| 64000405 | 4 x 0,50   | 6,0                   | 19,2                      | 59                         |
| 64000505 | 5 x 0,50   | 6,6                   | 24,0                      | 72                         |
| 64000705 | 7 x 0,50   | 7,3                   | 33,6                      | 90                         |
| 64001205 | 12 x 0,50  | 9,6                   | 57,6                      | 147                        |
| 64001805 | 18 x 0,50  | 11,4                  | 86,4                      | 212                        |
| 64000207 | 2 x 0,75   | 5,8                   | 14,4                      | 51                         |
| 64000307 | 3 x 0,75   | 6,1                   | 21,6                      | 60                         |
| 64000407 | 4 x 0,75   | 6,7                   | 28,8                      | 74                         |
| 64000507 | 5 x 0,75   | 7,4                   | 36,0                      | 91                         |
| 64000707 | 7 x 0,75   | 8,1                   | 50,4                      | 113                        |
| 64001207 | 12 x 0,75  | 10,9                  | 86,4                      | 187                        |
| 64001807 | 18 x 0,75  | 12,8                  | 129,6                     | 269                        |
| 64000210 | 2 x 1,00   | 6,0                   | 19,2                      | 57                         |
| 64000310 | 3 x 1,00   | 6,3                   | 28,8                      | 68                         |
| 64000410 | 4 x 1,00   | 7,0                   | 38,4                      | 84                         |
| 64000510 | 5 x 1,00   | 7,8                   | 48,0                      | 105                        |

| item no. | no. of cores<br>x cross section<br>n x mm <sup>2</sup> | outer-ø<br>± 5%<br>mm | copper<br>figure<br>kg/km | cable<br>weight<br>≈ kg/km |
|----------|--|-----------------------|---------------------------|----------------------------|
| 64000710 | 7 x 1,00   | 8,4                   | 67,2                      | 131                        |
| 64001210 | 12 x 1,00  | 11,3                  | 115,2                     | 216                        |
| 64001810 | 18 x 1,00  | 13,5                  | 172,8                     | 318                        |
| 64000215 | 2 x 1,50   | 6,7                   | 28,8                      | 73                         |
| 64000315 | 3 x 1,50   | 7,0                   | 43,2                      | 89                         |
| 64000415 | 4 x 1,50   | 7,9                   | 57,6                      | 112                        |
| 64000515 | 5 x 1,50   | 8,6                   | 72,0                      | 136                        |
| 64000715 | 7 x 1,50   | 9,5                   | 100,8                     | 174                        |
| 64001215 | 12 x 1,50  | 12,7                  | 172,8                     | 287                        |
| 64001815 | 18 x 1,50  | 15,3                  | 259,2                     | 426                        |
| 64000225 | 2 x 2,50   | 8,1                   | 48,0                      | 111                        |
| 64000325 | 3 x 2,50   | 8,6                   | 72,0                      | 137                        |
| 64000425 | 4 x 2,50   | 9,5                   | 96,0                      | 171                        |
| 64000525 | 5 x 2,50   | 10,6                  | 120,0                     | 212                        |
| 64000725 | 7 x 2,50   | 11,7                  | 168,0                     | 272                        |
| 64001225 | 12 x 2,50  | 15,7                  | 288,0                     | 452                        |
| 64001825 | 18 x 2,50  | 18,9                  | 432,0                     | 670                        |

Other dimensions and colours are possible on request.

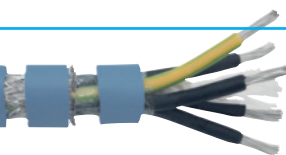
# Cables for Shipbuilding

## SABIX® BL 438 C FRNC

SABIX® BL-Line Control - halogen-free flexible control cable with overall copper screen 300/500 V



x 1,5 mm<sup>2</sup> - IEC 60332-3-22 - 300/500V



Marking for SABIX® BL 438 C FRNC 64380515:

SAB BRÖCKSKES · D-VIERSEN · SABIX® BL 438 C FRNC 5 x 1,5 mm<sup>2</sup> - IEC 60332-3-22 - 300/500V DNV CE and current meter marking

### Construction:

|                       |  |
|-----------------------|--|
| <b>Conductor:</b>     | tinned copper strands<br>acc. to IEC 60228, VDE 0295, class 5  |
| <b>Insulation:</b>    | special SABIX®   |
| <b>Colour code</b>    | black conductors with consecutive numbers<br>acc. to EN 50334 + VDE 0293-334,<br>green-yellow earth wire from 3 conductors |
| <b>Stranding:</b>     | in layers  |
| <b>Wrapping:</b>      | foil   |
| <b>Screen:</b>        | tinned copper braiding   |
| <b>Sheath:</b>        | special SABIX®<br>SHF 1 compound acc. to IEC 60092-360   |
| <b>Sheath colour:</b> | pigeon blue (RAL 5014)   |

### Technical Data:

|  |  |
|--|--|
| <b>Nominal voltage:</b>                          | U <sub>0</sub> /U 300/500 V  |
| <b>Testing voltage:</b>                          | core/core 2000 V<br>core/screen 2000 V   |
| <b>Min. bending radius</b>                       |  |
| fixed laying:                                    | 5 x d  |
| flexible application:                            | 10 x d   |
| <b>Temperature range</b>                         |  |
| fixed laying:                                    | -40/+90 °C   |
| flexible application:                            | -30/+90 °C   |
| <b>Halogen-free:</b>                             | acc. to IEC 60754-1 + VDE 0482-754-1   |
| <b>Fire performance:</b>                         | no flame propagation acc. to<br>IEC 60332-3-22 + VDE 0482-332-3-22 cat. A.<br>Flame retardant and self-extinguishing<br>acc. to IEC 60332-1-2 + VDE 0482-332-1-2 |
| <b>Corrosiveness of<br/>conflagration gases:</b> | in compliance with<br>IEC 60754-2 + VDE 0482-754-2 -<br>no development of corrosive conflagration gases  |
| <b>Smoke density:</b>                            | acc. to IEC 61034 + VDE 0482-1034  |
| <b>Flexibility:</b>                              | very good  |
| <b>Absence of<br/>harmful substances:</b>        | acc. to RoHS directive of the European Union   |

### Outstanding features:



- halogen-free
- asbestos-free
- good EMC characteristics
- no flame propagation
- flame retardant and self-extinguishing
- flexible
- for applications  
acc. to Hong Kong Convention  
ingredients tested acc. to the requirements  
of the Hong Kong Convention (2009) of the IMO
- approvals:  
DNV

### Possible on request:



- bare copper strands
- alternative colour code  
and sheath colour

| item no. | no. of cores<br>x cross section<br>n x mm <sup>2</sup> | outer-ø<br>± 5%<br>mm | copper<br>figure<br>kg/km | cable<br>weight<br>≈ kg/km |
|----------|--|-----------------------|---------------------------|----------------------------|
| 64380205 | 2 x 0,50   | 5,8                   | 25,5                      | 50                         |
| 64380305 | 3 x 0,50   | 6,1                   | 30,4                      | 57                         |
| 64380405 | 4 x 0,50   | 6,6                   | 36,9                      | 69                         |
| 64380505 | 5 x 0,50   | 7,1                   | 43,6                      | 82                         |
| 64380705 | 7 x 0,50   | 7,9                   | 55,0                      | 104                        |
| 64381205 | 12 x 0,50  | 10,2                  | 86,7                      | 165                        |
| 64381805 | 18 x 0,50  | 12,3                  | 140,7                     | 251                        |
| 64380207 | 2 x 0,75   | 6,4                   | 30,5                      | 58                         |
| 64380307 | 3 x 0,75   | 6,1                   | 39,3                      | 66                         |
| 64380407 | 4 x 0,75   | 7,3                   | 48,5                      | 84                         |
| 64380507 | 5 x 0,75   | 8,0                   | 57,5                      | 102                        |
| 64380707 | 7 x 0,75   | 8,7                   | 74,2                      | 126                        |
| 64381207 | 12 x 0,75  | 11,7                  | 140,4                     | 221                        |
| 64381807 | 18 x 0,75  | 13,7                  | 189,4                     | 311                        |
| 64380210 | 2 x 1,00   | 6,6                   | 36,9                      | 65                         |
| 64380310 | 3 x 1,00   | 6,9                   | 48,3                      | 77                         |
| 64380410 | 4 x 1,00   | 7,5                   | 59,7                      | 93                         |
| 64380510 | 5 x 1,00   | 8,4                   | 71,7                      | 118                        |

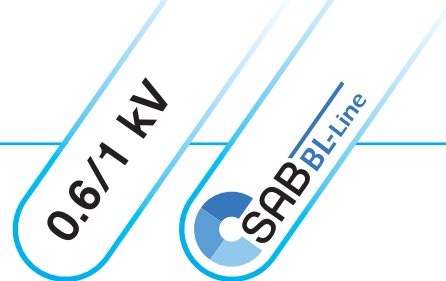
| item no. | no. of cores<br>x cross section<br>n x mm <sup>2</sup> | outer-ø<br>± 5%<br>mm | copper<br>figure<br>kg/km | cable<br>weight<br>≈ kg/km |
|----------|--|-----------------------|---------------------------|----------------------------|
| 64380710 | 7 x 1,00   | 9,0                   | 93,4                      | 145                        |
| 64381210 | 12 x 1,00  | 12,1                  | 169,4                     | 250                        |
| 64381810 | 18 x 1,00  | 14,6                  | 258,5                     | 378                        |
| 64380215 | 2 x 1,50   | 7,3                   | 48,5                      | 80                         |
| 64380315 | 3 x 1,50   | 7,6                   | 64,5                      | 97                         |
| 64380415 | 4 x 1,50   | 8,4                   | 81,3                      | 120                        |
| 64380515 | 5 x 1,50   | 9,3                   | 98,2                      | 150                        |
| 64380715 | 7 x 1,50   | 10,1                  | 129,9                     | 188                        |
| 64381215 | 12 x 1,50  | 13,5                  | 232,5                     | 323                        |
| 64381815 | 18 x 1,50  | 16,3                  | 357,1                     | 488                        |
| 64380225 | 2 x 2,50   | 8,7                   | 71,8                      | 115                        |
| 64380325 | 3 x 2,50   | 9,3                   | 98,2                      | 145                        |
| 64380425 | 4 x 2,50   | 10,1                  | 125,1                     | 180                        |
| 64380525 | 5 x 2,50   | 11,5                  | 167,9                     | 237                        |
| 64380725 | 7 x 2,50   | 12,5                  | 222,4                     | 299                        |
| 64381225 | 12 x 2,50  | 16,8                  | 386,4                     | 513                        |
| 64381825 | 18 x 2,50  | 20,1                  | 556,3                     | 753                        |

Other dimensions and colours are possible on request.

# Cables for Shipbuilding

## SABIX® BL 402 FRNC

SABIX® BL-Line Power - halogen-free flexible wiring cable 0,6/1 kV



X® BL 402 FRNC 1,5 mm<sup>2</sup> - IEC 60332-3-22 - 0,6/1kV — DNV CE



Marking for SABIX® BL 402 FRNC 64020182:

SAB BRÖCKSKES · D-VIERSEN · SABIX® BL 402 FRNC 1,5 mm<sup>2</sup> - IEC 60332-3-22 - 0,6/1kV — DNV CE and current meter marking

### Construction:

|                     |   |
|---------------------|---|
| <b>Conductor:</b>   | tinned copper strands<br>acc. to IEC 60228, VDE 0295, class 5 |
| <b>Insulation:</b>  | special SABIX®  |
| <b>Colour code:</b> | black (RAL 9005)  |

### Technical Data:

|  |   |
|--|---|
| <b>Nominal voltage:</b>                      | U <sub>0</sub> /U 0,6/1 kV  |
| <b>Testing voltage:</b>                      | core/core 4000 V  |
| <b>Min. bending radius</b>                   |   |
| <i>fixed laying:</i>                         | 4 x d   |
| <i>flexible application:</i>                 | 6 x d   |
| <b>Temperature range</b>                     |   |
| <i>fixed laying:</i>                         | -40/+90 °C  |
| <i>flexible application:</i>                 | -30/+90 °C  |
| <b>Halogen-free:</b>                         | acc. to IEC 60754-1 + VDE 0482-754-1  |
| <b>Fire performance:</b>                     | no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 cat. A. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 |
| <b>Corrosiveness of conflagration gases:</b> | in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases   |
| <b>Smoke density:</b>                        | acc. to IEC 61034 + VDE 0482-1034   |
| <b>Flexibility:</b>                          | very good   |
| <b>Absence of harmful substances:</b>        | acc. to RoHS directive of the European Union  |

### Outstanding features:



- halogen-free
- asbestos-free
- no flame propagation
- flame retardant and self-extinguishing
- flexible
- for applications acc. to Hong Kong Convention ingredients tested acc. to the requirements of the Hong Kong Convention (2009) of the IMO
- approvals: DNV



### Possible on request:

- bare copper strands
- alternative colour code

| item no. | nominal cross section mm <sup>2</sup> | outer-ø ± 5% mm | copper figure kg/km | cable weight ≈ kg/km |
|----------|---------------------------------------|-----------------|---------------------|----------------------|
| 64020175 | 0,75                                  | 2,9             | 7,2                 | 15                   |
| 64020180 | 1,00                                  | 3,0             | 9,6                 | 17                   |
| 64020182 | 1,50                                  | 3,3             | 14,4                | 23                   |
| 64020184 | 2,50                                  | 3,7             | 24,0                | 32                   |
| 64020186 | 4,00                                  | 4,7             | 38,4                | 52                   |
| 64020187 | 6,00                                  | 5,2             | 57,6                | 71                   |
| 64020188 | 10,00                                 | 6,4             | 96,0                | 121                  |
| 64020189 | 16,00                                 | 7,8             | 153,6               | 180                  |
| 64020190 | 25,00                                 | 9,6             | 240,0               | 275                  |
| 64020191 | 35,00                                 | 11,0            | 336,0               | 380                  |
| 64020192 | 50,00                                 | 12,6            | 480,0               | 536                  |
| 64020193 | 70,00                                 | 14,9            | 672,0               | 723                  |
| 64020194 | 95,00                                 | 17,4            | 912,0               | 985                  |
| 64020195 | 120,00                                | 19,3            | 1152,0              | 1219                 |
| 64020196 | 150,00                                | 21,2            | 1440,0              | 1500                 |
| 64020197 | 185,00                                | 23,3            | 1776,0              | 1849                 |
| 64020198 | 240,00                                | 27,0            | 2304,0              | 2447                 |

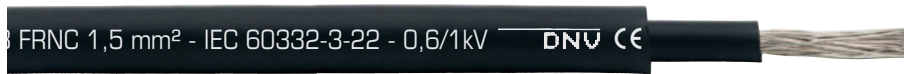
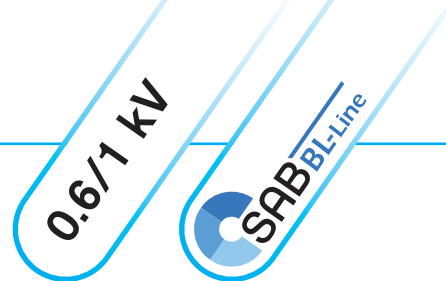
Other dimensions and colours are possible on request.



# Cables for Shipbuilding

## SABIX® BL 408 FRNC

SABIX® BL-Line Power - halogen-free flexible power cable 0.6/1 kV



Marking for SABIX® BL 408 FRNC 64080182:

SAB BRÖCKSKES · D-VIERSEN · SABIX® BL 408 FRNC 1,5 mm² - IEC 60332-3-22 - 0,6/1kV DNV CE and current meter marking

### Construction:

|                         |   |
|-------------------------|---|
| <b>Conductor:</b>       | tinned copper strands<br>acc. to IEC 60228, VDE 0295, class 5 |
| <b>Insulation:</b>      | special SABIX®  |
| <b>Colour code:</b>     | black (RAL 9005)  |
| <b>Sheath material:</b> | special SABIX®<br>SHF 1 compound acc. to IEC 60092-360        |
| <b>Sheath colour:</b>   | black (RAL 9005)  |

### Outstanding features:



- halogen-free
- asbestos-free
- no flame propagation
- flame retardant and self-extinguishing
- flexible
- for applications  
acc. to Hong Kong Convention  
ingredients tested acc. to the requirements  
of the Hong Kong Convention (2009) of the IMO
- approvals:  
DNV

### Technical Data:

|  |  |
|--|--|
| <b>Nominal voltage:</b>                          | U <sub>0</sub> /U 0,6/1 kV   |
| <b>Testing voltage:</b>                          | core/core 4000 V   |
| <b>Min. bending radius</b>                       |  |
| <i>fixed laying:</i>                             | 4 x d  |
| <i>flexible application:</i>                     | 6 x d  |
| <b>Temperature range</b>                         |  |
| <i>fixed laying:</i>                             | -40/+90 °C   |
| <i>flexible application:</i>                     | -30/+90 °C   |
| <b>Halogen-free:</b>                             | acc. to IEC 60754-1 + VDE 0482-754-1   |
| <b>Fire performance:</b>                         | no flame propagation acc. to<br>IEC 60332-3-22 + VDE 0482-332-3-22 cat. A.<br>Flame retardant and self-extinguishing<br>acc. to IEC 60332-1-2 + VDE 0482-332-1-2 |
| <b>Corrosiveness of<br/>conflagration gases:</b> | in compliance with<br>IEC 60754-2 + VDE 0482-754-2 -<br>no development of corrosive conflagration gases  |
| <b>Smoke density:</b>                            | acc. to IEC 61034 + VDE 0482-1034  |
| <b>Flexibility:</b>                              | very good  |
| <b>Absence of<br/>harmful substances:</b>        | acc. to RoHS directive of the European Union   |

### Possible on request:



- bare copper strands
- alternative colour code  
and sheath colour

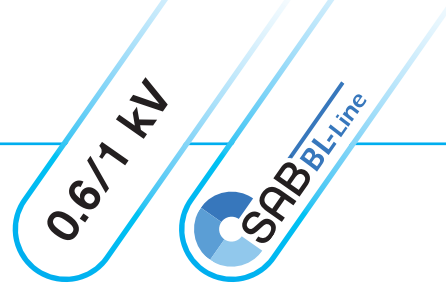
| item no. | nominal<br>cross section<br>mm <sup>2</sup> | outer-ø<br>± 5%<br>mm | copper<br>figure<br>kg/km | cable<br>weight<br>≈ kg/km |
|----------|---|-----------------------|---------------------------|----------------------------|
| 64080175 | 0,75  | 5,3                   | 7,2                       | 46                         |
| 64080180 | 1,00  | 5,4                   | 9,6                       | 43                         |
| 64080182 | 1,50  | 5,7                   | 14,4                      | 50                         |
| 64080184 | 2,50  | 6,1                   | 24,0                      | 62                         |
| 64080186 | 4,00  | 7,1                   | 38,4                      | 88                         |
| 64080187 | 6,00  | 7,6                   | 57,6                      | 110                        |
| 64080188 | 10,0  | 8,8                   | 96,0                      | 168                        |
| 64080189 | 16,0  | 10,2                  | 153,6                     | 236                        |
| 64080190 | 25,0  | 12,0                  | 240,0                     | 345                        |
| 64080191 | 35,0  | 13,7                  | 336,0                     | 469                        |
| 64080192 | 50,0  | 15,4                  | 480,0                     | 641                        |
| 64080193 | 70,0  | 17,9                  | 672,0                     | 850                        |
| 64080194 | 95,0  | 20,6                  | 912,0                     | 1137                       |
| 64080195 | 120,0                                       | 22,7                  | 1152,0                    | 1394                       |
| 64080196 | 150,0                                       | 24,7                  | 1440,0                    | 1708                       |
| 64080197 | 185,0                                       | 27,0                  | 1776,0                    | 2067                       |
| 64080198 | 240,0                                       | 31,0                  | 2304,0                    | 2746                       |

Other dimensions and colours are possible on request.

# Cables for Shipbuilding

## SABIX® BL 409 C FRNC

SABIX® BL-Line Power - halogen-free flexible power cable with overall copper screen 0.6/1 kV



Marking for SABIX® BL 409 C FRNC 64090186:

SAB BRÖCKSKES · D-VIERSEN · SABIX® BL 409 C FRNC 4,0 mm² - IEC 60332-3-22 - 0,6/1kV DNV CE and current meter marking

### Construction:

|                         |   |
|-------------------------|---|
| <b>Conductor:</b>       | tinned copper strands<br>acc. to IEC 60228, VDE 0295, class 5 |
| <b>Insulation:</b>      | special SABIX®  |
| <b>Colour code:</b>     | black (RAL 9005)  |
| <b>Screen:</b>          | tinned copper braiding  |
| <b>Sheath material:</b> | special SABIX®<br>SHF 1 compound acc. to IEC 60092-360        |
| <b>Sheath colour:</b>   | black (RAL 9005)  |

### Technical Data:

|  |   |
|--|---|
| <b>Nominal voltage:</b>                      | U <sub>0</sub> /U 0,6/1 kV  |
| <b>Testing voltage:</b>                      | core/core 4000 V  |
| <b>Min. bending radius</b>                   |   |
| <i>fixed laying:</i>                         | 5 x d   |
| <i>flexible application:</i>                 | 10 x d  |
| <b>Temperature range</b>                     |   |
| <i>fixed laying:</i>                         | -40/+90 °C  |
| <i>flexible application:</i>                 | -30/+90 °C  |
| <b>Halogen-free:</b>                         | acc. to IEC 60754-1 + VDE 0482-754-1  |
| <b>Fire performance:</b>                     | no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 cat. A. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 |
| <b>Corrosiveness of conflagration gases:</b> | in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases   |
| <b>Smoke density:</b>                        | acc. to IEC 61034 + VDE 0482-1034   |
| <b>Flexibility:</b>                          | very good   |
| <b>Absence of harmful substances:</b>        | acc. to RoHS directive of the European Union  |

### Outstanding features:



- halogen-free
- asbestos-free
- good EMC characteristics
- no flame propagation
- flame retardant and self-extinguishing
- flexible
- for applications acc. to Hong Kong Convention ingredients tested acc. to the requirements of the Hong Kong Convention (2009) of the IMO
- approvals: DNV

### Possible on request:



- bare copper strands
- alternative colour code and sheath colour

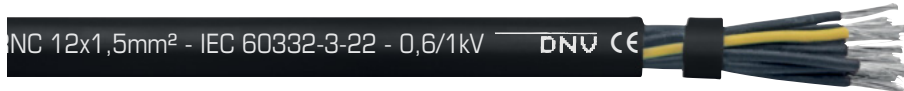
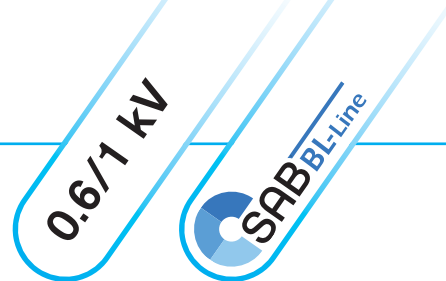
| item no. | nominal cross section mm <sup>2</sup> | outer-ø ± 5% mm | copper figure kg/km | cable weight ≈ kg/km |
|----------|---------------------------------------|-----------------|---------------------|----------------------|
| 64090175 | 0,75                                  | 5,7             | 21,1                | 52                   |
| 64090180 | 1,00                                  | 5,8             | 23,5                | 55                   |
| 64090182 | 1,50                                  | 6,1             | 28,4                | 63                   |
| 64090184 | 2,50                                  | 6,5             | 39,9                | 76                   |
| 64090186 | 4,00                                  | 7,5             | 57,9                | 104                  |
| 64090187 | 6,00                                  | 8,0             | 77,4                | 126                  |
| 64090188 | 10,00                                 | 9,2             | 122,1               | 183                  |
| 64090189 | 16,00                                 | 10,6            | 182,8               | 252                  |
| 64090190 | 25,00                                 | 12,6            | 294,6               | 385                  |
| 64090191 | 35,00                                 | 14,6            | 421,8               | 536                  |
| 64090192 | 50,00                                 | 16,3            | 578,1               | 716                  |
| 64090193 | 70,00                                 | 18,8            | 784,0               | 935                  |
| 64090194 | 95,00                                 | 21,5            | 1050,8              | 1241                 |
| 64090195 | 120,00                                | 23,5            | 1318,2              | 1512                 |
| 64090196 | 150,00                                | 25,6            | 1610,8              | 1835                 |
| 64090197 | 185,00                                | 27,9            | 1352,1              | 2200                 |
| 64090198 | 240,00                                | 31,9            | 2508,6              | 2899                 |

Other dimensions and colours are possible on request.

# Cables for Shipbuilding

## SABIX® BL 410 FRNC

SABIX® BL-Line Power - halogen-free flexible power cable 0.6/1 kV



Marking for SABIX® BL 410 FRNC 64101215:

SAB BRÖCKSKES · D-VIERSEN · SABIX® BL 410 FRNC 12x1,5mm² - IEC 60332-3-22 - 0,6/1kV DNV CE and current meter marking

### Construction:

|                       |  |
|-----------------------|--|
| <b>Conductor:</b>     | tinned copper strands<br>acc. to IEC 60228, VDE 0295, class 5  |
| <b>Insulation:</b>    | special SABIX®   |
| <b>Colour code</b>    | black conductors with consecutive numbers<br>acc. to EN 50334 + VDE 0293-334,<br>green-yellow earth wire from 3 conductors |
| <b>Stranding:</b>     | in layers  |
| <b>Sheath:</b>        | special SABIX®<br>SHF 1 compound acc. to IEC 60092-360   |
| <b>Sheath colour:</b> | black (RAL 9005)   |

### Outstanding features:



- halogen-free
- asbestos-free
- no flame propagation
- flame retardant and self-extinguishing
- flexible
- for applications  
acc. to Hong Kong Convention  
ingredients tested acc. to the requirements  
of the Hong Kong Convention (2009) of the IMO
- approvals:  
DNV

### Technical Data:

|  |  |
|--|--|
| <b>Nominal voltage:</b>                          | U <sub>0</sub> /U 0,6/1 kV   |
| <b>Testing voltage:</b>                          | core/core 4000 V   |
| <b>Min. bending radius</b>                       |  |
| <i>fixed laying:</i>                             | 4 x d  |
| <i>flexible application:</i>                     | 6 x d  |
| <b>Temperature range</b>                         |  |
| <i>fixed laying:</i>                             | -40/+90 °C   |
| <i>flexible application:</i>                     | -30/+90 °C   |
| <b>Halogen-free:</b>                             | acc. to IEC 60754-1 + VDE 0482-754-1   |
| <b>Fire performance:</b>                         | no flame propagation acc. to<br>IEC 60332-3-22 + VDE 0482-332-3-22 cat. A.<br>Flame retardant and self-extinguishing<br>acc. to IEC 60332-1-2 + VDE 0482-332-1-2 |
| <b>Corrosiveness of<br/>conflagration gases:</b> | in compliance with<br>IEC 60754-2 + VDE 0482-754-2 -<br>no development of corrosive conflagration gases  |
| <b>Smoke density:</b>                            | acc. to IEC 61034 + VDE 0482-1034  |
| <b>Flexibility:</b>                              | very good  |
| <b>Absence of<br/>harmful substances:</b>        | acc. to RoHS directive of the European Union   |

### Possible on request:



- bare copper strands
- alternative colour code  
and sheath colour

| item no. | no. of cores<br>x cross section<br>n x mm <sup>2</sup> | outer-ø<br>± 5%<br>mm | copper<br>figure<br>kg/km | cable<br>weight<br>≈ kg/km |
|----------|--|-----------------------|---------------------------|----------------------------|
| 64100215 | 2 x 1,50   | 8,9                   | 28,8                      | 120                        |
| 64100315 | 3 x 1,50   | 9,4                   | 43,2                      | 137                        |
| 64100415 | 4 x 1,50   | 10,2                  | 57,6                      | 164                        |
| 64100515 | 5 x 1,50   | 11,4                  | 72,0                      | 205                        |
| 64100715 | 7 x 1,50   | 12,4                  | 100,8                     | 250                        |
| 64101015 | 10 x 1,50  | 15,9                  | 144,0                     | 349                        |
| 64101215 | 12 x 1,50  | 16,6                  | 172,8                     | 407                        |
| 64101415 | 14 x 1,50  | 17,4                  | 201,6                     | 459                        |
| 64101815 | 18 x 1,50  | 19,5                  | 259,2                     | 589                        |
| 64100225 | 2 x 2,50   | 9,7                   | 48,0                      | 151                        |
| 64100325 | 3 x 2,50   | 10,3                  | 72,0                      | 176                        |
| 64100425 | 4 x 2,50   | 11,4                  | 96,0                      | 219                        |
| 64100525 | 5 x 2,50   | 12,5                  | 120,0                     | 266                        |
| 64100725 | 7 x 2,50   | 13,8                  | 168,0                     | 337                        |
| 64101025 | 10 x 2,50  | 17,7                  | 240,0                     | 471                        |
| 64101225 | 12 x 2,50  | 18,2                  | 288,0                     | 540                        |
| 64101425 | 14 x 2,50  | 19,3                  | 336,0                     | 622                        |
| 64101825 | 18 x 2,50  | 21,7                  | 432,0                     | 797                        |
| 64100240 | 2 x 4,00   | 11,9                  | 76,8                      | 230                        |
| 64100340 | 3 x 4,00   | 12,6                  | 115,2                     | 269                        |
| 64100440 | 4 x 4,00   | 14,0                  | 153,6                     | 334                        |

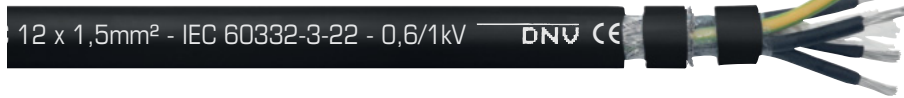
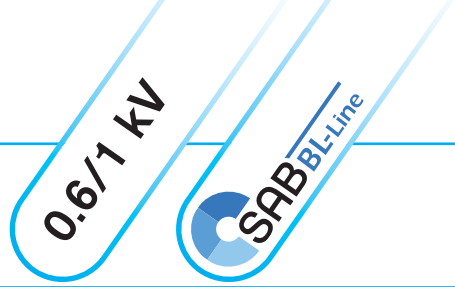
| item no. | no. of cores<br>x cross section<br>n x mm <sup>2</sup> | outer-ø<br>± 5%<br>mm | copper<br>figure<br>kg/km | cable<br>weight<br>≈ kg/km |
|----------|--|-----------------------|---------------------------|----------------------------|
| 64100540 | 5 x 4,00   | 15,4                  | 192,0                     | 410                        |
| 64100740 | 7 x 4,00   | 17,0                  | 268,8                     | 520                        |
| 64100260 | 2 x 6,00   | 12,9                  | 115,2                     | 287                        |
| 64100360 | 3 x 6,00   | 13,9                  | 172,8                     | 349                        |
| 64100460 | 4 x 6,00   | 15,2                  | 230,4                     | 427                        |
| 64100560 | 5 x 6,00   | 17,0                  | 288,0                     | 535                        |
| 64100760 | 7 x 6,00   | 18,5                  | 403,2                     | 674                        |
| 64100361 | 3 x 10,0   | 16,8                  | 288,0                     | 535                        |
| 64100461 | 4 x 10,0   | 18,4                  | 384,0                     | 659                        |
| 64100561 | 5 x 10,0   | 20,5                  | 480,0                     | 825                        |
| 64100362 | 3 x 16,0   | 20,0                  | 460,8                     | 778                        |
| 64100462 | 4 x 16,0   | 22,1                  | 614,4                     | 974                        |
| 64100562 | 5 x 16,0   | 24,7                  | 768,0                     | 1218                       |
| 64100363 | 3 x 25,0   | 24,1                  | 720,0                     | 1158                       |
| 64100463 | 4 x 25,0   | 26,7                  | 960,0                     | 1453                       |
| 64100563 | 5 x 25,0   | 29,9                  | 1200,0                    | 1828                       |
| 64100364 | 3 x 35,0   | 27,5                  | 1008,0                    | 1567                       |
| 64100464 | 4 x 35,0   | 30,4                  | 1344,0                    | 1968                       |
| 64100365 | 3 x 50,0   | 31,1                  | 1440,0                    | 2171                       |
| 64100465 | 4 x 50,0   | 34,3                  | 1920,0                    | 2738                       |

Other dimensions and colours are possible on request.

# Cables for Shipbuilding

## SABIX® BL 412 C FRNC

SABIX® BL-Line Power - halogen-free flexible power cable with overall copper screen 0.6/1 kV



Marking for SABIX® BL 412 C FRNC 6412121:

SAB BRÖCKSKES · D-VIERSEN · SABIX® BL 412 C FRNC 12 x 1,5mm² - IEC 60332-3-22 - 0,6/1kV DNV CE and current meter marking

### Construction:

|                       |  |
|-----------------------|--|
| <b>Conductor:</b>     | tinned copper strands<br>acc. to IEC 60228, VDE 0295, class 5  |
| <b>Insulation:</b>    | special SABIX®   |
| <b>Colour code</b>    | black conductors with consecutive numbers<br>acc. to EN 50334 + VDE 0293-334,<br>green-yellow earth wire from 3 conductors |
| <b>Stranding:</b>     | in layers  |
| <b>Screen:</b>        | tinned copper braiding   |
| <b>Sheath:</b>        | special SABIX®<br>SHF 1 compound acc. to IEC 60092-360   |
| <b>Sheath colour:</b> | black (RAL 9005)   |

### Technical Data:

|  |  |
|--|--|
| <b>Nominal voltage:</b>                          | U <sub>0</sub> /U 0,6/1 kV   |
| <b>Testing voltage:</b>                          | core/core 4000 V<br>core/screen 4000 V   |
| <b>Min. bending radius</b>                       |  |
| fixed laying:                                    | 4 x d  |
| flexible application:                            | 6 x d  |
| <b>Temperature range</b>                         |  |
| fixed laying:                                    | -40/+90 °C   |
| flexible application:                            | -30/+90 °C   |
| <b>Halogen-free:</b>                             | acc. to IEC 60754-1 + VDE 0482-754-1   |
| <b>Fire performance:</b>                         | no flame propagation acc. to<br>IEC 60332-3-22 + VDE 0482-332-3-22 cat. A.<br>Flame retardant and self-extinguishing<br>acc. to IEC 60332-1-2 + VDE 0482-332-1-2 |
| <b>Corrosiveness of<br/>conflagration gases:</b> | in compliance with<br>IEC 60754-2 + VDE 0482-754-2 -<br>no development of corrosive conflagration gases  |
| <b>Smoke density:</b>                            | acc. to IEC 61034 + VDE 0482-1034  |
| <b>Flexibility:</b>                              | very good  |
| <b>Absence of<br/>harmful substances:</b>        | acc. to RoHS directive of the European Union   |

### Outstanding features:



- halogen-free
- asbestos-free
- good EMC characteristics
- no flame propagation
- flame retardant and self-extinguishing
- flexible
- for applications  
acc. to Hong Kong Convention  
ingredients tested acc. to the requirements  
of the Hong Kong Convention (2009) of the IMO
- approvals:  
DNV

### Possible on request:



- bare copper strands
- alternative colour code  
and sheath colour

| item no. | no. of cores<br>x cross section<br>n x mm <sup>2</sup> | outer-ø<br>± 5%<br>mm | copper<br>figure<br>kg/km | cable<br>weight<br>≈ kg/km |
|----------|--|-----------------------|---------------------------|----------------------------|
| 64120215 | 2 x 1,50   | 9,4                   | 55,0                      | 123                        |
| 64120315 | 3 x 1,50   | 9,9                   | 72,2                      | 140                        |
| 64120415 | 4 x 1,50   | 10,9                  | 105,2                     | 181                        |
| 64120515 | 5 x 1,50   | 12,1                  | 126,2                     | 226                        |
| 64120715 | 7 x 1,50   | 13,1                  | 160,4                     | 275                        |
| 64121015 | 10 x 1,50  | 17,0                  | 253,8                     | 417                        |
| 64121215 | 12 x 1,50  | 17,5                  | 283,2                     | 465                        |
| 64121415 | 14 x 1,50  | 18,3                  | 313,1                     | 516                        |
| 64121815 | 18 x 1,50  | 20,4                  | 384,8                     | 654                        |
| 64120225 | 2 x 2,50   | 10,2                  | 77,1                      | 155                        |
| 64120325 | 3 x 2,50   | 11,0                  | 119,6                     | 190                        |
| 64120425 | 4 x 2,50   | 12,1                  | 150,2                     | 236                        |
| 64120525 | 5 x 2,50   | 13,2                  | 179,6                     | 286                        |
| 64120725 | 7 x 2,50   | 14,7                  | 253,9                     | 376                        |
| 64121025 | 10 x 2,50  | 18,6                  | 351,9                     | 525                        |
| 64121225 | 12 x 2,50  | 19,1                  | 411,8                     | 600                        |
| 64121425 | 14 x 2,50  | 20,2                  | 461,2                     | 683                        |
| 64121825 | 18 x 2,50  | 22,6                  | 572,7                     | 865                        |
| 64120240 | 2 x 4,00   | 12,6                  | 131,3                     | 238                        |
| 64120340 | 3 x 4,00   | 13,3                  | 174,9                     | 277                        |
| 64120440 | 4 x 4,00   | 14,9                  | 239,6                     | 361                        |

| item no. | no. of cores<br>x cross section<br>n x mm <sup>2</sup> | outer-ø<br>± 5%<br>mm | copper<br>figure<br>kg/km | cable<br>weight<br>≈ kg/km |
|----------|--|-----------------------|---------------------------|----------------------------|
| 64120540 | 5 x 4,00   | 16,3                  | 290,3                     | 443                        |
| 64120740 | 7 x 4,00   | 17,9                  | 379,7                     | 566                        |
| 64120260 | 2 x 6,00   | 13,8                  | 175,0                     | 303                        |
| 64120360 | 3 x 6,00   | 14,8                  | 258,8                     | 368                        |
| 64120460 | 4 x 6,00   | 16,1                  | 328,4                     | 466                        |
| 64120560 | 5 x 6,00   | 17,9                  | 398,9                     | 567                        |
| 64120760 | 7 x 6,00   | 19,6                  | 527,5                     | 723                        |
| 64120361 | 3 x 10,0   | 17,7                  | 398,7                     | 542                        |
| 64120461 | 4 x 10,0   | 19,5                  | 508,1                     | 732                        |
| 64120561 | 5 x 10,0   | 21,4                  | 618,8                     | 853                        |
| 64120362 | 3 x 16,0   | 20,9                  | 598,7                     | 768                        |
| 64120462 | 4 x 16,0   | 23,0                  | 755,9                     | 992                        |
| 64120562 | 5 x 16,0   | 25,6                  | 938,8                     | 1231                       |
| 64120363 | 3 x 25,0   | 25,2                  | 889,8                     | 1126                       |
| 64120463 | 4 x 25,0   | 27,8                  | 1135,9                    | 1465                       |
| 64120563 | 5 x 25,0   | 30,8                  | 1400,7                    | 1805                       |
| 64120364 | 3 x 35,0   | 28,4                  | 1185,4                    | 1508                       |
| 64120464 | 4 x 35,0   | 31,3                  | 1546,6                    | 1978                       |
| 64120365 | 3 x 50,0   | 32,0                  | 1645,3                    | 2039                       |
| 64120465 | 4 x 50,0   | 35,2                  | 2149,1                    | 2678                       |

Other dimensions and colours are possible on request.

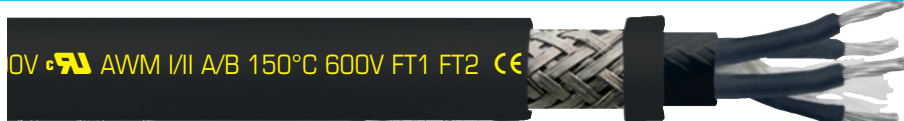
# Cables for Shipbuilding

## BL TA 180 C

flexible FEP connection cable with overall copper screen

+180 °C

SAB BL-Line



OV AWM I/II A/B 150°C 600V FT1 FT2



Marking for BL TA 180 C 37530715:

SAB BRÖCKSKES · D-VIERSEN · BL TA 180 C 7x1,5mm<sup>2</sup> - IEC 60332-3-22 -

300/500V AWM Style 21618 150°C 600V AWM I/II A/B 150°C 600V FT1 FT2

**Application:** e.g. as connection cable for the control of marine diesel engines.

### Construction:

|                         |   |
|-------------------------|---|
| <b>Conductor:</b>       | tinned copper strands<br>acc. to IEC 60228, VDE 0295, class 5   |
| <b>Insulation:</b>      | FEP   |
| <b>Colour code:</b>     | black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 without green-yellow earth wire |
| <b>Stranding:</b>       | in layers   |
| <b>Inner sheath:</b>    | Besilen®  |
| <b>Screen:</b>          | tinned copper braiding  |
| <b>Sheath material:</b> | FEP   |
| <b>Sheath colour:</b>   | black (RAL 9005)  |

### Technical data:

|                                       |  |
|---------------------------------------|--|
| <b>Nominal voltage:</b>               | U <sub>0</sub> /U 300/500 V  |
| <b>Voltage UL/cUL:</b>                | 600 V  |
| <b>Testing voltage:</b>               | core/core 2000 V (AC)<br>core/screen 2000 V  |
| <b>Min. bending radius</b>            |  |
| fixed laying                          | 5 x d  |
| flexible application:                 | 10 x d   |
| <b>Radiation resistance:</b>          | 1 x 10 <sup>7</sup> cJ/kg  |
| <b>Temperature range</b>              | <b>DIN VDE</b> UL/cUL: up to +150 °C   |
| fixed laying:                         | -55/+180 °C  |
| flexible application:                 | -55/+180 °C  |
| <b>Fire performance:</b>              | no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 cat. A. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL FT1, FT2 |
| <b>Chem. resistance:</b>              | very good against acids, halogens, bases, chlorinated solvents as well as organic and inorganic compounds  |
| <b>Oil and fuel resistance:</b>       | very good  |
| <b>Flexibility:</b>                   | good   |
| <b>Halogen-free:</b>                  | not fulfilled  |
| <b>Absence of harmful substances:</b> | acc. to RoHS directive of the European Union   |

### Outstanding features:



- no flame propagation
- flame retardant and self-extinguishing
- good EMC characteristics
- oil and fuel resistant
- good chemical resistance
- high cold and heat resistance
- asbestos-free
- approvals:  
DNV  
UL/cUL recognized

| item no. | no. of cores<br>x cross section<br>n x mm <sup>2</sup> | outer-ø<br>approx. mm | copper<br>figure<br>kg/km | cable<br>weight<br>≈ kg/km |
|----------|--|-----------------------|---------------------------|----------------------------|
| 37530207 | 2 x 0,75   | 5,7                   | 32,9                      | 63                         |
| 37530307 | 3 x 0,75   | 6,0                   | 40,2                      | 68                         |
| 37530407 | 4 x 0,75   | 6,2                   | 50,3                      | 81                         |
| 37530507 | 5 x 0,75   | 7,1                   | 59,6                      | 99                         |
| 37530607 | 6 x 0,75   | 7,7                   | 67,0                      | 116                        |
| 37530707 | 7 x 0,75   | 7,7                   | 74,2                      | 121                        |
| 37530807 | 8 x 0,75   | 8,9                   | 86,7                      | 152                        |
| 37531207 | 12 x 0,75  | 10,2                  | 134,3                     | 203                        |
| 37531607 | 16 x 0,75  | 11,4                  | 169,8                     | 261                        |
| 37532007 | 20 x 0,75  | 12,8                  | 229,5                     | 334                        |
| 37530210 | 2 x 1,00   | 5,9                   | 37,8                      | 64                         |
| 37530215 | 2 x 1,50   | 6,6                   | 50,4                      | 81                         |
| 37530315 | 3 x 1,50   | 6,9                   | 64,6                      | 97                         |
| 37530515 | 5 x 1,50   | 8,2                   | 98,2                      | 145                        |
| 37530615 | 6 x 1,50   | 9,0                   | 115,5                     | 171                        |
| 37530715 | 7 x 1,50   | 9,0                   | 129,9                     | 182                        |
| 37531215 | 12 x 1,50  | 12,0                  | 232,5                     | 309                        |
| 37530220 | 2 x 2,00   | 7,5                   | 62,2                      | 107                        |
| 37530320 | 3 x 2,00   | 8,1                   | 83,8                      | 130                        |

Other dimensions and colours are possible on request.



### Possible on request:

- without overall copper screen
- alternative colour code and sheath colour



# Cables for Shipbuilding

## DR 750 P Offshore

PUR reeling cable for offshore applications



Marking for DR 750 P Offshore 07500425:  
SAB BRÖCKSKES · D-VIERSEN · DR 750 P Offshore 4 G 2,5 mm<sup>2</sup> 0,6/1 kV CE

**Application:** The DR 750 P Offshore is used as reeling cable in offshore areas, for spring and motor cable reels in lifting and handling equipment on offshore platforms or ships.

### Construction:

|                           |   |
|---------------------------|---|
| <b>Conductor:</b>         | tinned copper strands<br>acc. to IEC 60228, VDE 0295, class 5   |
| <b>Insulation:</b>        | special polymer   |
| <b>Colour code:</b>       | coloured acc. to HD 308 (VDE 0293-308),<br>from 6 cores black cores<br>with consecutive numbers<br>acc. to EN 50334 + VDE 0293-334,<br>from 3 cores a green-yellow earth wire |
| <b>Stranding:</b>         | specially adjusted layering   |
| <b>Inner sheath:</b>      | PUR, TPU acc. to<br>EN 50363-10-2 + VDE 0207-363-10-2   |
| <b>Supporting screen:</b> | high-tech yarn  |
| <b>Sheath material:</b>   | PUR, TPU acc. to<br>EN 50363-10-2 + VDE 0207-363-10-2   |
| <b>Sheath colour:</b>     | black (RAL 9005) mat  |

### Technical data:

|                                       |  |
|---------------------------------------|--|
| <b>Nominal voltage:</b>               | U <sub>o</sub> /U 0,6/1 kV   |
| <b>Testing voltage:</b>               | core/core 4000 V   |
| <b>Min. bending radius</b>            |  |
| <i>fixed laying:</i>                  | 5 x d  |
| <i>flexible:</i>                      | 10 x d   |
| <i>for repeated winding action</i>    |  |
| <i>(flexible):</i>                    | 10 x d   |
| <i>guided on pulleys</i>              |  |
| <i>(flexible):</i>                    | 15 x d   |
| <b>Temperature range</b>              |  |
| <i>flexible:</i>                      | -40/+90 °C<br>lower temperatures on request SAB                                      |
| <b>Halogen and fluorine content:</b>  | acc. to IEC 60754-1 + EN 60754-1   |
| <b>Fire performance:</b>              | flame retardant and self-extinguishing<br>acc. to IEC 60332-1-2 + VDE 0482-332-1-2   |
| <b>Oil resistance:</b>                | very good - TPU<br>acc. to EN 50363-10-2 + VDE 0207-363-10-2                         |
| <b>MUD resistance:</b>                | very good - acc. to<br>IEC 60092-350, IEC 61892-4, NEK TS 606                        |
| <b>Chemical resistance:</b>           | very good against acids, alkaline solutions,<br>solvents and hydraulic liquids, etc. |
| <b>Weather resistance:</b>            | very good  |
| <b>Sunlight resistance:</b>           | very good -<br>enhanced due to black sheath colour                                   |
| <b>Absence of harmful substances:</b> | acc. to RoHS directive of the European Union   |

### Outstanding features:

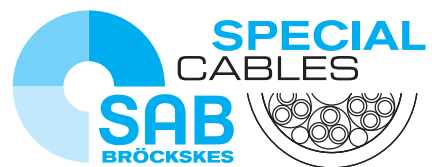


- suitable for offshore applications
- extrem highly winding and unwinding strength
- small outer diameter
- small cable weight
- flame retardant and self-extinguishing
- asbestos-free

| item no. | no. of cores x<br>cross section<br>n x mm <sup>2</sup> | outer-ø<br>± 5%<br>mm | copper<br>figure<br>kg/km | cable<br>weight<br>≈ kg/km | min breaking<br>load of<br>suspension unit N |
|----------|--|-----------------------|---------------------------|----------------------------|--|
| 07500210 | 2 x 1,00   | 10,3                  | 19,2                      | 118                        | 500  |
| 07500410 | 4 G 1,00   | 10,9                  | 38,4                      | 140                        | 1100   |
| 07501210 | 12 G 1,00  | 18,6                  | 115,2                     | 410                        | 2000   |
| 07500315 | 3 G 1,50   | 10,9                  | 43,2                      | 144                        | 1000   |
| 07500415 | 4 G 1,50   | 11,6                  | 57,6                      | 167                        | 1340   |
| 07500715 | 7 G 1,50   | 14,7                  | 100,8                     | 273                        | 2150   |
| 07501215 | 12 G 1,50  | 20,0                  | 172,8                     | 510                        | 2600   |
| 07501815 | 18 G 1,50  | 20,0                  | 259,2                     | 523                        | 3375   |
| 07500325 | 3 G 2,50   | 11,7                  | 72,0                      | 181                        | 1200   |
| 07500425 | 4 G 2,50   | 13,0                  | 96,0                      | 220                        | 1345   |
| 07500440 | 4 G 4,00   | 14,4                  | 153,6                     | 296                        | 2000   |
| 07500460 | 4 G 6,00   | 15,8                  | 230,4                     | 390                        | 3000   |
| 07500461 | 4 G 10,0   | 19,0                  | 384,0                     | 611                        | 5000   |
| 07500462 | 4 G 16,0   | 22,9                  | 614,4                     | 907                        | 8000   |
| 07500463 | 4 G 25,0   | 27,0                  | 960,0                     | 1362                       | 12500  |
| 07500464 | 4 G 35,0   | 30,8                  | 1344,0                    | 1804                       | 17500  |
| 07500465 | 4 G 50,0   | 34,6                  | 1920,0                    | 2548                       | 25000  |
| 07500466 | 4 G 70,0   | 41,2                  | 2688,0                    | 3449                       | 35000  |

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

● Please pay attention to the installation instructions



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