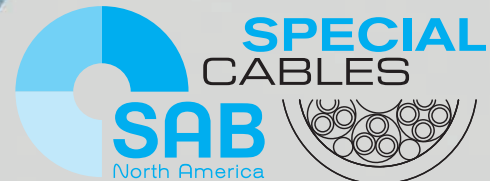


BL-LINE CABLES FOR SHIPBUILDING



DNV

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



Cables for Shipbuilding

About Us



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

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

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



As shipbuilders increasingly demand lightweight, high-efficiency components that can be installed in tight spaces, highly flexible marine cables are essential. Marine cables must be halogen-free, flame retardant and self-extinguishing and satisfy various international standards.

Our SABIX® BL marine cables fulfill these special shipbuilding requirements while also offering customers exceptional utility. These cables are DNV approved making them well-suited for use on ships, yachts and offshore equipment.

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

SAB's level of speed and service as a supplier is unmatched. SAB lives up to its name in not only flexible cable but also flexible manufacturing.



















SAB Advantage...We make it Easy

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



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Applications

Our halogen-free SABIX® BL-Line cables are designed for flexible use below deck as well as on deck of ships when they are not in permanent contact with oils and fuels. If in contact with oil and fuel, protect the cable with conduit. The flexible construction and small diameter enable a easy installation even in narrow spaces.

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

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

■ Application of CATLine BL cables for Shipbuilding

Industrial Ethernet cables CAT 5e, CAT 6A & CAT 7 with ABS Type Approval and UL approval for maritime applications.

- Halogen-free
- No flame propagation
- Low smoke halogen-free (LSHF)
- Flame retardant and self-extinguishing
- UL recognized, ABS Type Approval
- TR IEC 60092-370

■ Application of halogen-free SABIX® BL data, control and power cables for shipbuilding

All SABIX® BL types are constructed with tinned copper strands in class 5 in order to offer advantages in corrosion resistance and flexibility. Their SABIX® characteristics fulfill the highest safety-related aspects in shipbuilding with regards to both fire performance as well as being halogen-free. Data cables, type SABIX® BL Data, are available with small cross sections beginning with 26 AWG. This results in a small outer diameter which offers an outstanding advantage particularly where there is only a little space. SABIX® BL Control and SABIX® BL Power complement the new product series with control and power supply cables for electrical components. 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.

- Halogen-free
- No flame propagation
- Low smoke halogen-free (LSHF)
- Flame retardant and self-extinguishing
- Good EMC characteristics
- Good transmission rates and crosstalk attenuation

■ Applications of FEP BL cables for Shipbuilding

All SAB BL types are constructed with tinned copper strands in class 5 in order to offer advantages in corrosion resistance and flexibility. These cables are suitable for adverse conditions in engine rooms. They are both oil and fuel resistant, have very good chemical resistances and excellent fire performance.

- Ship engine rooms
- Control panels for ship diesel engines

■ Applications of DR 750 P OffShore

The DR 750 P Offshore is a reeling cable for offshore areas. The robust construction is appropriate for reeling applications with high mechanical stress. It is designed for spring loaded and motor driven cable reels in lifting and handling equipment.

- Offshore cranes
- Deck machines
- Working platform
- Lifting & conveyor on ships and offshore facilities



Cables for Shipbuilding

Selection Table



| | | Cable Type | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | | |
|---------------------------------------|---|------------|-------------------|-------------------|--------------------|---------------|----------------------|-------------------------|-------------------------|-------------------------|--------------------|----------------------|--------------------|--------------------|----------------------|--------------------|----------------------|-------------|------------------|
| | | | CATLine CAT 5e BL | CATLine CAT 6A BL | CATLine CAT 7Ae BL | SABIX® BL 405 | SABIX® BL 415 C FRNC | SABIX® BL 443 C FRNC TT | SABIX® BL 445 C FRNC TP | SABIX® BL 446 C FRNC TP | 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 Off Shore |
| Construction | Ethernet cable | | | | | | | | | | | | | | | | | | |
| | Data cable | | | | | | | | | | | | | | | | | | |
| | Control cable | | | | | | | | | | | | | | | | | | |
| | Power cable | | | | | | | | | | | | | | | | | | |
| | Shielded | | | | | | | | | | | | | | | | | | |
| | Twisted pairs | | | | | | | | | | | | | | | | | | |
| | Twisted triple | | | | | | | | | | | | | | | | | | |
| Temperature range fixed installation* | +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 | | | | | | | | | | | | | | | | | | |
| Approvals | UL recognized | | | | | | | | | | | | | | | | | | |
| | cUL recognized | | | | | | | | | | | | | | | | | | |
| | DNV | | | | | | | | | | | | | | | | | | |
| | American Bureau of Shipping | | | | | | | | | | | | | | | | | | |
| Characteristics | flexible conductor stranding | | | | | | | | | | | | | | | | | | |
| | extended cross section range | | | | | | | | | | | | | | | | | | |
| | oil resistance | | | | | | | | | | | | | | | | | | |
| | chemical resistance | | | | | | | | | | | | | | | | | | |
| | MUD resistance | | | | | | | | | | | | | | | | | | |



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

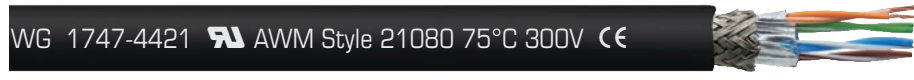
Cables for Shipbuilding



CATLine CAT 5e BL Halogen-free CAT 5e industrial Ethernet cables for maritime use

CATLine CAT 6A BL Halogen-free CAT 6A industrial Ethernet cables for maritime use

CATLine CAT 7A BL Halogen-free CAT 7A industrial Ethernet cables for maritime use



Marking for CATLine CAT 7A BL 17474421:

SAB BRÖCKSKES · D-VIERSEN · CATLine Cat.7A BL 4x2x24AWG 1747-4421 AWM Style 21080 75°C 300V CE

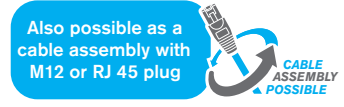


| Construction: | CATLine CAT 5e BL | | CATLine CAT 6A BL | CATLine CAT 7A BL |
|-------------------------|----------------------------------|---|---|---|
| Item numbers: | 15479001 15479002 | 15474621 | 16474621 16474421 | 17474621 17474421 |
| Dimensions: | 2 x 2 x 24 AWG 2 x 2 x 22 AWG | 4 x 2 x 26 AWG | 4 x 2 x 24 AWG 4 x 2 x 26 AWG | 4 x 2 x 24 AWG 4 x 2 x 26 AWG |
| Conductor: | bare copper strands, fine wires | | bare copper strands, fine wires | |
| Insulation: | special polymer | | special polymer | |
| Color code: | blue, yellow, white, orange | white-blue/blue, white-orange/orange, white-green/green, white-brown/brown | white-blue/blue, white-orange/orange, white-green/green, white-brown/brown | |
| Stranding: | star quad | conductors twisted to pairs, pairs together | | conductors twisted to pairs, pairs shielded with foil, pairs together |
| Wrapping: | alu foil | | alu foil | — |
| Shielding: | tinned copper braiding | | tinned copper braiding | tinned copper braiding |
| Jacket material: | special SABIX® | | special SABIX® | special SABIX® |
| Jacket color: | black | | black | black |

| Technical data: | CATLine CAT 5e BL | CATLine CAT 6A BL | CATLine CAT 7A BL |
|--|---|--|---|
| Peak operating voltage: | max. 90 V | max. 90 V | max. 90 V |
| Voltage UL: | 300 V | 300 V | 300 V |
| Testing voltage: conductor/conductor: conductor/shielding: | 2000 V 2000 V | 2000 V 2000 V | 2000 V 2000 V |
| Min. bending radius: fixed installation free movement (only 7 wires): | 5 x O.D. 10 x O.D. | 5 x O.D. 10 x O.D. | 5 x O.D. 10 x O.D. |
| Temperature range VDE: static: flexible: | UL: up to +75°C -40/+70°C -30/+70°C | UL: up to +75°C -40/+70°C -30/+70°C | UL: up to +75°C -40/+70°C -30/+70°C |
| Low smoke halogen-free (LSHF): | acc. to IEC 60754-1 + VDE 0482-754-1 | acc. to IEC 60754-1 + VDE 0482-754-1 | acc. to IEC 60754-1 + VDE 0482-754-1 |
| Burning characteristics: | flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 Cat. A, UL Horizontal Flame Test FT2, UL AWM Style 21080 | | |
| Corrosiveness of conflagration gases: | in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases | | |
| Smoke density: | acc. to IEC 61034 + VDE 0482-1034 | acc. to IEC 61034 + VDE 0482-1034 | acc. to IEC 61034 + VDE 0482-1034 |
| Characteristic impedance (100 MHz): | 100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-2-2 / CAT 5 | 100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-10-2 / CAT 6A | 100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-9-2 / CAT 7A |
| Flexibility: | good | good | good |
| UL Style: | 21080 | 21080 | 21080 |
| Absence of harmful substances: | acc. to RoHS directive of the European Union, see page O/30 | | |

| item no. | type | dimensions AWG | nominal outer-ø inch | mm | cable weight ≈lbs/mft |
|------------|-------------------|-------------------|-------------------------|------|--------------------------|
| ▶ 15479001 | CATLine CAT 5e BL | 24 (7 strand)/2pr | 0.224 | 5.7 | 32 |
| ▶ 15479002 | CATLine CAT 5e BL | 22 (7 strand)/2pr | 0.252 | 6.4 | 41 |
| ▶ 15474621 | CATLine CAT 5e BL | 26 (7 strand)/4pr | 0.287 | 7.3 | 43 |
| ▶ 16474621 | CATLine CAT 6A BL | 26 (7 strand)/4pr | 0.287 | 7.3 | 43 |
| ▶ 16474421 | CATLine CAT 6A BL | 24 (7 strand)/4pr | 0.327 | 8.3 | 54 |
| ▶ 17474621 | CATLine CAT 7A BL | 26 (7 strand)/4pr | 0.350 | 8.9 | 57 |
| ▶ 17474421 | CATLine CAT 7A BL | 24 (7 strand)/4pr | 0.413 | 10.5 | 78 |

Other dimensions and colors are available on request



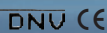
Cables for Shipbuilding

SABIX® BL 405 FRNC

SABIX® BL - Flexible data cable



FRNC 16 x 0.5mm² 60332-3-22 - 350V



Marking for SABIX® BL405 FRNC 64051650:

SAB BRÖCKSKES · D-VIERSEN · SABIX® BL 405 FRNC 16 x 0.5mm² - IEC 60332-3-22 - 350V DNV CE and current meter marking

Construction:

| | |
|-------------------------|---|
| Conductor: | tinned copper strands with reference to VDE 0812 resp. IEC 60228, VDE 0295, class 5 |
| Insulation: | special SABIX® |
| Color code: | DIN 47100, see below |
| Stranding: | in layers |
| Jacket material: | special SABIX® SHF 1 compound acc. to IEC 60092-360 |
| Jacket color: | pigeon blue (RAL 5014) |

Outstanding features:

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

Technical data:

| | |
|---------------------------------------|---|
| Peak operating voltage: | max. 350 V |
| Testing voltage: | conductor/conductor: 1500 V |
| Min. bending radius: | |
| <i>fixed installation:</i> | 5 x O.D. |
| <i>free movement:</i> | 10 x O.D. |
| Temperature range: | |
| <i>static:</i> | -40/+90°C |
| <i>flexible:</i> | -30/+90°C |
| Halogen-free: | acc. to IEC 60754-1 + VDE 0482-754-1 |
| Burning characteristics: | no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 cat. A. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 |
| Corrosivity: | in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases |
| Smoke density: | acc. to IEC 61034 + VDE 0482-1034 |
| Flexibility: | very good |
| Approvals: | DNV, CE, EAC, RoHS |
| Absence of harmful substances: | acc. to RoHS directive of the European Union see page O/30 |

| item no. | no. of conductors incl. ground | nominal outer-ø inch ±5% | mm ±5% | cable weight ≈lbs/mft |
|---|--------------------------------|--------------------------|--------|-----------------------|
| ▶ 26 AWG (≈ 18/38) • 0.14 mm² | | | | |
| 64050214 | 2 | 0.142 | 3.6 | 12 |
| 64050314 | 3 | 0.150 | 3.8 | 14 |
| 64050414 | 4 | 0.161 | 4.1 | 16 |
| 64050514 | 5 | 0.177 | 4.5 | 19 |
| 64050614 | 6 | 0.189 | 4.8 | 22 |
| 64050714 | 7 | 0.189 | 4.8 | 24 |
| 64050814 | 8 | 0.217 | 5.5 | 28 |
| 64051214 | 12 | 0.248 | 6.3 | 38 |
| 64051614 | 16 | 0.276 | 7.0 | 47 |
| ▶ 24 AWG (≈ 14/34) • 0.25 mm² | | | | |
| 64050225 | 2 | 0.154 | 3.9 | 15 |
| 64050325 | 3 | 0.161 | 4.1 | 17 |
| 64050425 | 4 | 0.177 | 4.5 | 21 |
| 64050525 | 5 | 0.193 | 4.9 | 25 |
| 64050625 | 6 | 0.209 | 5.3 | 29 |
| 64050725 | 7 | 0.209 | 5.3 | 31 |
| 64050825 | 8 | 0.244 | 6.2 | 38 |
| 64051225 | 12 | 0.276 | 7.0 | 50 |
| 64051625 | 16 | 0.303 | 7.7 | 62 |

| item no. | no. of conductors incl. ground | nominal outer-ø inch ±5% | mm ±5% | cable weight ≈lbs/mft |
|---|--------------------------------|--------------------------|--------|-----------------------|
| ▶ 22 AWG (≈ 7/30) • 1.00 mm² | | | | |
| 64050234 | 2 | 0.169 | 4.3 | 19 |
| 64050334 | 3 | 0.181 | 4.6 | 22 |
| 64050434 | 4 | 0.197 | 5.0 | 26 |
| 64050534 | 5 | 0.213 | 5.4 | 32 |
| 64050634 | 6 | 0.240 | 6.1 | 39 |
| 64050734 | 7 | 0.240 | 6.1 | 41 |
| 64050834 | 8 | 0.276 | 7.0 | 49 |
| 64051234 | 12 | 0.307 | 7.8 | 64 |
| 64051634 | 16 | 0.354 | 9.0 | 87 |
| ▶ 20 AWG (≈ 16/32) • 0.50 mm² | | | | |
| 64050250 | 2 | 0.185 | 4.7 | 24 |
| 64050350 | 3 | 0.197 | 5.0 | 28 |
| 64050450 | 4 | 0.213 | 5.4 | 34 |
| 64050550 | 5 | 0.240 | 6.1 | 43 |
| 64050650 | 6 | 0.264 | 6.7 | 50 |
| 64050750 | 7 | 0.264 | 6.7 | 53 |
| 64050850 | 8 | 0.303 | 7.7 | 64 |
| 64051250 | 12 | 0.354 | 9.0 | 89 |
| 64051650 | 16 | 0.394 | 10.0 | 114 |

| item no. | no. of conductors incl. ground | nominal outer-ø inch ±5% | mm ±5% | cable weight ≈lbs/mft |
|---|--------------------------------|--------------------------|--------|-----------------------|
| ▶ 19 AWG (≈ 23/32) • 0.75 mm² | | | | |
| 64050275 | 2 | 0.205 | 5.2 | 29 |
| 64050375 | 3 | 0.217 | 5.5 | 35 |
| 64050475 | 4 | 0.244 | 6.2 | 44 |
| 64050575 | 5 | 0.268 | 6.8 | 53 |
| 64050675 | 6 | 0.291 | 7.4 | 62 |
| 64050775 | 7 | 0.291 | 7.4 | 67 |
| 64050875 | 8 | 0.346 | 8.8 | 85 |
| 64051275 | 12 | 0.398 | 10.1 | 112 |
| 64051675 | 16 | 0.437 | 11.1 | 142 |

Other dimensions and colors are available on request

DIN 47100 color code:

#1- white, #2- brown, #3- green, #4- yellow, #5- gray, #6- pink, #7- blue, #8- red, #9- black, #10- violet, #11- gray-pink, #12- red-blue, #13- white-green, #14- brown-green, #15- white-yellow, #16- yellow-brown



Possible on request:

- bare copper strands
- alternative color code and jacket color

Cables for Shipbuilding

SABIX® BL 415 C FRNC

SABIX® BL - Flexible data cable with overall tinned copper shield



Marking for SABIX® BL 415 C FRNC 64150550:

SAB BRÖCKSKES · D-VIERSEN · SABIX® BL 415 C FRNC 5 x 0.5mm² - IEC 60332-3-22 - 350V DNV CE and current meter marking

Construction:

| | |
|-------------------------|---|
| Conductor: | tinned copper strands with reference to VDE 0812 resp. IEC 60228, VDE 0295, class 5 |
| Insulation: | special SABIX® |
| Color code: | DIN 47100, see below |
| Stranding: | in layers |
| Wrapping: | PETP foil |
| Shielding: | tinned copper braiding |
| Jacket material: | special SABIX® SHF 1 compound acc. to IEC 60092-360 |
| Jacket color: | pigeon blue (RAL 5014) |

Technical data:

| | |
|---------------------------------------|---|
| Peak operating voltage: | max. 350 V |
| Testing voltage: | conductor/conductor: 1500 V conductor/shielding: 1200 V |
| Min. bending radius: | |
| fixed installation: | 5 x O.D. |
| flexible movement: | 10 x O.D. |
| Temperature range: | |
| static: | -40/+90°C |
| flexible: | -30/+90°C |
| Halogen-free: | acc. to IEC 60754-1 + VDE 0482-754-1 |
| Burning characteristics: | no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 cat. A. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 |
| Corrosivity: | in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases |
| Smoke density: | acc. to IEC 61034 + VDE 0482-1034 |
| Flexibility: | very good |
| Approvals: | DNV, CE, EAC, RoHS |
| Absence of harmful substances: | acc. to RoHS directive of the European Union see page O/30 |

Outstanding features:

- low smoke halogen-free (LSHF)
 - asbestos-free
 - good EMC characteristics*
 - no flame propagation
 - flame retardant and self-extinguishing
 - flexible
 - for applications acc. to Hong Kong Convention ingredients tested acc. to the requirements of the Hong Kong Convention (2009) of the IMO
 - approvals: DNV
- *copper braiding should be connected circularly to optimize the EMC characteristics

Possible on request:

- bare copper strands
- alternative color code and jacket color

| item no. | no. of conductors incl. ground | nominal outer-ø inch ±5% mm ±5% | cable weight ≈lbs/mft |
|---|--------------------------------|---------------------------------------|--------------------------|
| ▶ 26 AWG (≈ 18/38) • 0.14 mm² | | | |
| 64150214 | 2 | 0.161 4.1 | 17 |
| 64150314 | 3 | 0.169 4.3 | 19 |
| 64150414 | 4 | 0.181 4.6 | 24 |
| 64150514 | 5 | 0.197 5.0 | 27 |
| 64150614 | 6 | 0.209 5.3 | 29 |
| 64150714 | 7 | 0.209 5.3 | 30 |
| 64150814 | 8 | 0.244 6.2 | 38 |
| 64151214 | 12 | 0.268 6.8 | 47 |
| 64151614 | 16 | 0.295 7.5 | 57 |
| ▶ 24 AWG (≈ 14/34) • 0.25 mm² | | | |
| 64150225 | 2 | 0.173 4.4 | 22 |
| 64150325 | 3 | 0.181 4.6 | 24 |
| 64150425 | 4 | 0.197 5.0 | 28 |
| 64150525 | 5 | 0.213 5.4 | 33 |
| 64150625 | 6 | 0.228 5.8 | 36 |
| 64150725 | 7 | 0.228 5.8 | 38 |
| 64150825 | 8 | 0.264 6.7 | 48 |
| 64151225 | 12 | 0.295 7.5 | 60 |
| 64151625 | 16 | 0.339 8.6 | 79 |

| item no. | no. of conductors incl. ground | nominal outer-ø inch ±5% mm ±5% | cable weight ≈lbs/mft |
|---|--------------------------------|---------------------------------------|--------------------------|
| ▶ 22 AWG (≈ 7/30) • 1.00 mm² | | | |
| 64150234 | 2 | 0.189 4.8 | 25 |
| 64150334 | 3 | 0.201 5.1 | 28 |
| 64150434 | 4 | 0.217 5.5 | 34 |
| 64150534 | 5 | 0.240 6.1 | 41 |
| 64150634 | 6 | 0.260 6.6 | 48 |
| 64150734 | 7 | 0.260 6.6 | 50 |
| 64150834 | 8 | 0.295 7.5 | 59 |
| 64151234 | 12 | 0.343 8.7 | 81 |
| 64151634 | 16 | 0.374 9.5 | 100 |
| ▶ 20 AWG (≈ 16/32) • 0.50 mm² | | | |
| 64150250 | 2 | 0.205 5.2 | 29 |
| 64150350 | 3 | 0.217 5.5 | 35 |
| 64150450 | 4 | 0.240 6.1 | 43 |
| 64150550 | 5 | 0.260 6.6 | 52 |
| 64150650 | 6 | 0.283 7.2 | 57 |
| 64150750 | 7 | 0.283 7.2 | 60 |
| 64150850 | 8 | 0.339 8.6 | 78 |
| 64151250 | 12 | 0.374 9.5 | 102 |
| 64151650 | 16 | 0.421 10.7 | 135 |

| item no. | no. of conductors incl. ground | nominal outer-ø inch ±5% mm ±5% | cable weight ≈lbs/mft |
|---|--------------------------------|---------------------------------------|--------------------------|
| ▶ 19 AWG (≈ 23/32) • 0.75 mm² | | | |
| 64150275 | 2 | 0.224 5.7 | 35 |
| 64150375 | 3 | 0.244 6.2 | 44 |
| 64150475 | 4 | 0.264 6.7 | 52 |
| 64150575 | 5 | 0.287 7.3 | 62 |
| 64150675 | 6 | 0.311 7.9 | 71 |
| 64150775 | 7 | 0.311 7.9 | 77 |
| 64150875 | 8 | 0.366 9.3 | 95 |
| 64151275 | 12 | 0.425 10.8 | 130 |
| 64151675 | 16 | 0.465 11.8 | 166 |

Other dimensions and colors are available on request

DIN 47100 color code:

#1- white, #2- brown, #3- green, #4- yellow, #5- gray, #6- pink, #7- blue, #8- red, #9- black, #10- violet, #11- gray-pink, #12- red-blue, #13- white-green, #14- brown-green, #15- white-yellow, #16- yellow-brown

Cables for Shipbuilding

SABIX® BL 443 C FRNC TT

SABIX® BL - Twisted triad flexible data cable, twisted triad with overall copper shield



TT 7 x 3 x 0.34 mm² - IEC 60332-3-22 - 300V DNV CE



Marking for SABIX® BL 443 C FRNC TT 64430734:

SAB BRÖCKSKES · D-VIERSEN · SABIX® BL 443 C FRNC TT 7 x 3 x 0.34 mm² - IEC 60332-3-22 - 300V DNV CE and current meter marking

Construction:

| | |
|-------------------------|---|
| Conductor: | tinned copper strands acc. to IEC 60228, VDE 0295, class 5 |
| Insulation: | special SABIX® |
| Color code: | ≤ 0.25 mm ² = DIN 47100, see below ≥ 0.34 mm ² = white, blue, red with printed triad number |
| Stranding: | conductors white, blue, red twisted to triads, triads twisted in layers |
| Wrapping: | foil |
| Shielding: | tinned copper braiding |
| Jacket material: | special SABIX® SHF 1 compound acc. to IEC 60092-360 |
| Jacket color: | pigeon blue (RAL 5014) |

Technical data:

| | |
|---------------------------------------|---|
| Peak operating voltage: | max. 300 V |
| Testing voltage: | conductor/conductor: 1500 V conductor/shielding: 1200 V |
| Min. bending radius: | <i>fixed installation:</i> 5 x O.D. <i>free movement:</i> 10 x O.D. |
| Temperature range: | <i>static:</i> -40/+90°C <i>flexible:</i> -30/+90°C |
| Halogen-free: | acc. to IEC 60754-1 + VDE 0482-754-1 |
| Burning characteristics: | no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 cat. A. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 |
| Corrosivity: | in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases |
| Smoke density: | acc. to IEC 61034 + VDE 0482-1034 |
| Flexibility: | very good |
| Approvals: | DNV, CE, EAC, RoHS |
| Absence of harmful substances: | acc. to RoHS directive of the European Union see page O/30 |

Outstanding features:

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

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

| item no. | no. of triads | nominal outer-ø inch ±10% | mm ±10% | cable weight ≈lbs/mft |
|---|---------------|---------------------------------|------------|--------------------------|
| ▶ 24 AWG (≈ 14/34) • 0.25 mm² | | | | |
| 64430225 | 2 | 0.283 | 7.2 | 46 |
| 64430425 | 4 | 0.346 | 8.8 | 69 |
| 64430725 | 7 | 0.417 | 10.6 | 108 |
| 64431025 | 10 | 0.528 | 13.4 | 158 |
| ▶ 22 AWG (≈ 7/30) • 1.00 mm² | | | | |
| 64430234 | 2 | 0.315 | 8.0 | 55 |
| 64430434 | 4 | 0.386 | 9.8 | 85 |
| 64430734 | 7 | 0.469 | 11.9 | 136 |
| 64431034 | 10 | 0.598 | 15.2 | 210 |

| item no. | no. of triads | nominal outer-ø inch ±10% | mm ±10% | cable weight ≈lbs/mft |
|---|---------------|---------------------------------|------------|--------------------------|
| ▶ 20 AWG (≈ 16/32) • 0.50 mm² | | | | |
| 64430250 | 2 | 0.354 | 9.0 | 71 |
| 64430450 | 4 | 0.421 | 10.7 | 108 |
| 64430750 | 7 | 0.520 | 13.2 | 171 |
| 64431050 | 10 | 0.665 | 16.9 | 263 |
| ▶ 19 AWG (≈ 23/32) • 0.75 mm² | | | | |
| 64430275 | 2 | 0.409 | 10.4 | 97 |
| 64430475 | 4 | 0.496 | 12.6 | 150 |
| 64430775 | 7 | 0.598 | 15.2 | 235 |
| 64431075 | 10 | 0.760 | 19.3 | 339 |

Other dimensions and colors are available on request

DIN 47100:

- #1- white/brown/green,
- #2- yellow/gray/pink,
- #3- blue/red/black,
- #4- violet/gray-pink/red-blue,
- #5- white-green/brown-green/white-yellow,
- #6- yellow-brown/white-gray/gray-brown,
- #7- white-pink/pink-brown/white-blue,
- #8- brown-blue/white-red/brown-red,
- #9- white-black/brown-black/gray-green,
- #10- yellow-gray/pink-green/yellow-pink



Possible on request:

- bare copper strands
- alternative color code and jacket color

Cables for Shipbuilding

SABIX® BL 445 C FRNC TP

SABIX® BL - Flexible paired data cable with overall tinned copper shield



Marking for SABIX® BL 445 C FRNC TP 64450325:

SAB BRÖCKSKES · D-VIERSEN · SABIX® BL 445 C FRNC TP 3 x 2 x 0.25 mm² - IEC 60332-3-22 - 350V — DNV CE and current meter marking

Construction:

| | |
|-------------------------|---|
| Conductor: | tinned copper strands with reference to VDE 0812 resp. IEC 60228, VDE 0295, class 5 |
| Insulation: | special SABIX® |
| Color code: | DIN 47100, see below |
| Stranding: | pairwise, pairs in layers |
| Wrapping: | PETP foil |
| Shielding: | tinned copper braiding |
| Jacket material: | special SABIX® SHF 1 compound acc. to IEC 60092-360 |
| Jacket color: | pigeon blue (RAL 5014) |

Technical data:

| | |
|---------------------------------------|---|
| Peak operating voltage: | max. 350 V |
| Testing voltage: | conductor/conductor: 1500 V conductor/shielding: 1200 V |
| Min. bending radius: | fixed installation: 5 x O.D. free movement: 10 x O.D. |
| Temperature range: | static: -40/+90°C flexible: -30/+90°C |
| Halogen-free: | acc. to IEC 60754-1 + VDE 0482-754-1 |
| Burning characteristics: | no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 cat. A. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 |
| Corrosivity: | in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases |
| Smoke density: | acc. to IEC 61034 + VDE 0482-1034 |
| Flexibility: | very good |
| Approvals: | DNV, CE, EAC, RoHS |
| Absence of harmful substances: | acc. to RoHS directive of the European Union see page O/30 |

Outstanding features:

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

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



Possible on request:

- bare copper strands
- alternative color code and jacket color

| item no. | no. of pairs | nominal outer-ø | | cable weight ≈lbs/mft |
|---|--------------|-----------------|--------|-----------------------|
| | | inch ±5% | mm ±5% | |
| ▶ 26 AWG (≈ 18/38) ▪ 0.14 mm² | | | | |
| 64450214 | 2 | 0.209 | 5.3 | 25 |
| 64450314 | 3 | 0.228 | 5.8 | 30 |
| 64450414 | 4 | 0.268 | 6.8 | 39 |
| 64450514 | 5 | 0.291 | 7.4 | 46 |
| 64450614 | 6 | 0.299 | 7.6 | 51 |
| 64450814 | 8 | 0.343 | 8.7 | 66 |
| 64451014 | 10 | 0.374 | 9.5 | 77 |
| 64451214 | 12 | 0.417 | 10.6 | 95 |
| 64451814 | 18 | 0.488 | 12.4 | 134 |
| ▶ 24 AWG (≈ 14/34) ▪ 0.25 mm² | | | | |
| 64450225 | 2 | 0.228 | 5.8 | 30 |
| 64450325 | 3 | 0.256 | 6.5 | 38 |
| 64450425 | 4 | 0.291 | 7.4 | 48 |
| 64450525 | 5 | 0.343 | 8.7 | 65 |
| 64450625 | 6 | 0.343 | 8.7 | 70 |
| 64450825 | 8 | 0.358 | 9.1 | 81 |
| 64451025 | 10 | 0.417 | 10.6 | 105 |
| 64451225 | 12 | 0.457 | 11.6 | 121 |
| 64451825 | 18 | 0.543 | 13.8 | 183 |
| 64452625 | 25 | 0.642 | 16.3 | 247 |

| item no. | no. of pairs | nominal outer-ø | | cable weight ≈lbs/mft |
|---|--------------|-----------------|--------|-----------------------|
| | | inch ±5% | mm ±5% | |
| ▶ 22 AWG (≈ 7/30) ▪ 1.00 mm² | | | | |
| 64450234 | 2 | 0.252 | 6.4 | 38 |
| 64450334 | 3 | 0.283 | 7.2 | 48 |
| 64450434 | 4 | 0.343 | 8.7 | 65 |
| 64450534 | 5 | 0.370 | 9.4 | 77 |
| 64450634 | 6 | 0.378 | 9.6 | 86 |
| 64450734 | 7 | 0.398 | 10.1 | 101 |
| 64450834 | 8 | 0.425 | 10.8 | 110 |
| 64451034 | 10 | 0.465 | 11.8 | 130 |
| 64451234 | 12 | 0.528 | 13.4 | 160 |
| 64451834 | 18 | 0.622 | 15.8 | 240 |
| 64451934 | 19 | 0.622 | 15.8 | 247 |
| 64452734 | 27 | 0.717 | 18.2 | 321 |
| ▶ 20 AWG (≈ 16/32) ▪ 0.50 mm² | | | | |
| 64450250 | 2 | 0.283 | 7.2 | 47 |
| 64450350 | 3 | 0.311 | 7.9 | 59 |
| 64450450 | 4 | 0.374 | 9.5 | 81 |
| 64450550 | 5 | 0.413 | 10.5 | 103 |
| 64450650 | 6 | 0.425 | 10.8 | 115 |
| 64450850 | 8 | 0.469 | 11.9 | 139 |
| 64451050 | 10 | 0.528 | 13.4 | 174 |
| 64451250 | 12 | 0.591 | 15.0 | 216 |
| 64451850 | 18 | 0.685 | 17.4 | 303 |

| item no. | no. of pairs | nominal outer-ø | | cable weight ≈lbs/mft |
|---|--------------|-----------------|--------|-----------------------|
| | | inch ±5% | mm ±5% | |
| ▶ 19 AWG (≈ 23/32) ▪ 0.75 mm² | | | | |
| 64450275 | 2 | 0.311 | 7.9 | 58 |
| 64450375 | 3 | 0.362 | 9.2 | 77 |
| 64450475 | 4 | 0.421 | 10.7 | 105 |
| 64450575 | 5 | 0.457 | 11.6 | 125 |
| 64450675 | 6 | 0.488 | 12.4 | 148 |
| 64450875 | 8 | 0.543 | 13.8 | 191 |
| 64451075 | 10 | 0.598 | 15.2 | 227 |
| 64451275 | 12 | 0.677 | 17.2 | 276 |
| 64451875 | 18 | 0.764 | 19.4 | 372 |

Other dimensions and colors are available on request

DIN 47100 color code:

#1- white, #2- brown, #3- green, #4- yellow, #5- gray, #6- pink, #7- blue, #8- red, #9- black, #10- violet, #11- gray-pink, #12- red-blue, #13- white-green, #14- brown-green, #15- white-yellow, #16- yellow-brown, #17- white-gray, #18- gray-brown

Cables for Shipbuilding

SABIX® BL 446 C FRNC TP

SABIX® BL - Flexible paired data cable with aluminum pair shield and overall copper shield



Marking for SABIX® BL 446 C FRNC FTP 64462475:

SAB BRÖCKSKES · D-VIERSEN · SABIX® BL 446 C FRNC FTP 24 x (2 x 0.75 mm²) ST - IEC 60332-3-22 - 300V DNV CE and current meter marking

Construction:

| | |
|-------------------------|---|
| Conductor: | tinned copper strands acc. to IEC 60228, VDE 0295, class 5 |
| Insulation: | special SABIX® |
| Color code: | ≤ 0.25 mm² = DIN 47100, see below ≥ 0.34 mm² = white, blue with printed pair number |
| Stranding: | white conductors, blue twisted to pairs |
| Pair screen: | alu foil |
| Stranding: | pairs together in layers |
| Wrapping: | PETP foil |
| Shielding: | tinned copper braiding |
| Wrapping: | PETP foil |
| Jacket material: | special SABIX® SHF 1 compound acc. to IEC 60092-360 |
| Jacket color: | pigeon blue (RAL 5014) |

Outstanding features:

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

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

Technical data:

| | |
|--|---|
| Peak operating voltage: | max. 300 V |
| Testing voltage: | conductor/conductor: 1500 V conductor/shielding: 1200 V |
| Min. bending radius: <i>fixed installation:</i> <i>free movement:</i> | 5 x O.D. 10 x O.D. |
| Temperature range: <i>static:</i> <i>flexible:</i> | -40/+90°C -30/+90°C |
| Halogen-free: | acc. to IEC 60754-1 + VDE 0482-754-1 |
| Burning characteristics: | no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 cat. A. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 |
| Corrosivity: | in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases |
| Smoke density: | acc. to IEC 61034 + VDE 0482-1034 |
| Flexibility: | very good |
| Approvals: | DNV, CE, EAC, RoHS |
| Absence of harmful substances: | acc. to RoHS directive of the European Union see page O/30 |



Possible on request:

- bare copper strands
- alternative color code and jacket color

| item no. | no. of pairs | nominal outer-ø inch ±10% | mm ±10% | cable weight ≈lbs/mft |
|--------------------------------------|--------------|---------------------------------|------------|--------------------------|
| ▶ 24 AWG (≈ 14/34) • 0.25 mm² | | | | |
| 64460225 | 2 | 0.244 | 6.2 | 36 |
| 64460825 | 8 | 0.398 | 10.1 | 101 |
| 64461225 | 12 | 0.500 | 12.7 | 159 |
| ▶ 22 AWG (≈ 7/30) • 1.00 mm² | | | | |
| 64460234 | 2 | 0.303 | 7.7 | 49 |
| 64460434 | 4 | 0.362 | 9.2 | 82 |
| 64460834 | 8 | 0.449 | 11.4 | 132 |
| 64461234 | 12 | 0.587 | 14.9 | 204 |

| item no. | no. of pairs | nominal outer-ø inch ±10% | mm ±10% | cable weight ≈lbs/mft |
|--------------------------------------|--------------|---------------------------------|------------|--------------------------|
| ▶ 19 AWG (≈ 23/32) • 0.75 mm² | | | | |
| 64460475 | 4 | 0.445 | 11.3 | 122 |
| 64462475 | 24 | 0.933 | 23.7 | 574 |
| ▶ 16 AWG (≈ 28/30) • 1.50 mm² | | | | |
| 64461980 | 19 | 0.988 | 25.1 | 693 |

Other dimensions and colors are available on request

DIN 47100 color code:

#1- white/brown, #2- green/yellow, #3- gray/pink, #4- blue/red, #5- black/purple, #6- gray-pink/red-blue, #7- white-green/brown-green, #8- white-yellow/yellow-brown, #9- white-gray/gray-brown, #10- white-pink/pink-brown, #11- white-blue/brown-blue, #12- white-red/brown-red, #13- white-black/brown-black, #14- gray-green/yellow-gray, #15- pink-green/yellow-pink, #16- green-blue/yellow-blue, #17- green-red/yellow-red, #18- green-black/yellow-black, #19- gray-blue/pink-blue, #20- gray-red/pink-red, #21- gray-black/pink-black, #22- blue-black, red-black, #23- white/brown, #24- green/yellow,

Cables for Shipbuilding

SABIX® BL 400 FRNC

SABIX® BL - Flexible control cable 300/500 V



Marking for SABIX® BL 400 FRNC 64001215:

SAB BRÖCKSKES · D-VIERSEN · SABIX® BL 400 FRNC 12 x 1.5 mm² - IEC 60332-3-22 - 300/500V DNV CE and current meter marking

Construction:

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

Outstanding features:

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

Technical data:

| | |
|---------------------------------------|--|
| Nominal voltage: | Uo/U 300/500 V |
| Testing voltage: | conductor/conductor: 2000 V |
| Min. bending radius: | <i>fixed installation:</i> 4 x O.D. <i>free movement:</i> 6 x O.D. |
| Temperature range: | <i>static:</i> -40/+90°C <i>flexible:</i> -30/+90°C |
| Halogen-free: | acc. to IEC 60754-1 + VDE 0482-754-1 |
| Burning characteristics: | no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 cat. A. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 |
| Corrosivity: | in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases |
| Smoke density: | acc. to IEC 61034 + VDE 0482-1034 |
| Flexibility: | very good |
| Approvals: | DNV, CE, EAC, RoHS |
| Absence of harmful substances: | acc. to RoHS directive of the European Union see page O/30 |

| item no. | no. of conductors incl. ground | nominal outer-ø inch ±5% | mm ±5% | cable weight ≈lbs/mft |
|--------------------------------------|--------------------------------|--------------------------------|-----------|--------------------------|
| ▶ 20 AWG (≈ 16/32) ▪ 0.50 mm² | | | | |
| 64000205 | 2 | 0.209 | 5.3 | 28 |
| 64000305 | 3 | 0.220 | 5.6 | 33 |
| 64000405 | 4 | 0.236 | 6.0 | 40 |
| 64000505 | 5 | 0.260 | 6.6 | 48 |
| 64000705 | 7 | 0.287 | 7.3 | 60 |
| 64001205 | 12 | 0.378 | 9.6 | 99 |
| 64001805 | 18 | 0.449 | 11.4 | 142 |
| ▶ 19 AWG (≈ 23/32) ▪ 0.75 mm² | | | | |
| 64000207 | 2 | 0.228 | 5.8 | 34 |
| 64000307 | 3 | 0.240 | 6.1 | 40 |
| 64000407 | 4 | 0.264 | 6.7 | 50 |
| 64000507 | 5 | 0.291 | 7.4 | 61 |
| 64000707 | 7 | 0.319 | 8.1 | 76 |
| 64001207 | 12 | 0.429 | 10.9 | 126 |
| 64001807 | 18 | 0.504 | 12.8 | 181 |

| item no. | no. of conductors incl. ground | nominal outer-ø inch ±5% | mm ±5% | cable weight ≈lbs/mft |
|---|--------------------------------|--------------------------------|-----------|--------------------------|
| ▶ 18 AWG (≈ 30/32) ▪ 1.00 mm² | | | | |
| 64000210 | 2 | 0.236 | 6.0 | 38 |
| 64000310 | 3 | 0.248 | 6.3 | 46 |
| 64000410 | 4 | 0.276 | 7.0 | 56 |
| 64000510 | 5 | 0.307 | 7.8 | 71 |
| 64000710 | 7 | 0.331 | 8.4 | 88 |
| 64001210 | 12 | 0.445 | 11.3 | 145 |
| 64001810 | 18 | 0.531 | 13.5 | 214 |
| ▶ 16 AWG (≈ 27-29/30) ▪ 1.50 mm² | | | | |
| 64000215 | 2 | 0.264 | 6.7 | 49 |
| 64000315 | 3 | 0.276 | 7.0 | 60 |
| 64000415 | 4 | 0.311 | 7.9 | 75 |
| 64000515 | 5 | 0.339 | 8.6 | 91 |
| 64000715 | 7 | 0.374 | 9.5 | 117 |
| 64001215 | 12 | 0.500 | 12.7 | 193 |
| 64001815 | 18 | 0.602 | 15.3 | 286 |

| item no. | no. of conductors incl. ground | nominal outer-ø inch ±5% | mm ±5% | cable weight ≈lbs/mft |
|--------------------------------------|--------------------------------|--------------------------------|-----------|--------------------------|
| ▶ 14 AWG (≈ 46/30) ▪ 2.50 mm² | | | | |
| 64000225 | 2 | 0.319 | 8.1 | 75 |
| 64000325 | 3 | 0.339 | 8.6 | 92 |
| 64000425 | 4 | 0.374 | 9.5 | 115 |
| 64000525 | 5 | 0.417 | 10.6 | 142 |
| 64000725 | 7 | 0.461 | 11.7 | 183 |
| 64001225 | 12 | 0.618 | 15.7 | 304 |
| 64001825 | 18 | 0.744 | 18.9 | 450 |

Other dimensions and colors are available on request



Possible on request:

- bare copper strands
- alternative color code and jacket color

Cables for Shipbuilding

SABIX® BL 438 C FRNC

SABIX® BL - Flexible control cable with overall tinned copper shield 300/500 V



Marking for SABIX® BL 438 C FRNC 64380515:

SAB BRÖCKSKES · D-VIERSEN · SABIX® BL 438 C FRNC 5 x 1.5 mm² - IEC 60332-3-22 - 300/500V DNV CE and current meter marking

Construction:

| | |
|-------------------------|--|
| Conductor: | tinned copper strands acc. to IEC 60228, VDE 0295, class 5 |
| Insulation: | special SABIX® |
| Color code: | black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors |
| Stranding: | in layers |
| Wrapping: | PETP foil |
| Shielding: | tinned copper braiding |
| Jacket material: | special SABIX® SHF 1 compound acc. to IEC 60092-360 |
| Jacket color: | pigeon blue (RAL 5014) |

Outstanding features:

- low smoke halogen-free (LSHF)
 - asbestos-free
 - good EMC characteristics*
 - no flame propagation
 - flame retardant and self-extinguishing
 - flexible
 - for applications
acc. to Hong Kong Convention
ingredients tested acc. to the requirements
of the Hong Kong Convention (2009) of the IMO
 - approvals:
DNV
- *copper braiding should be connected circularly to optimize
the EMC characteristics

Technical data:

| | |
|---------------------------------------|--|
| Nominal voltage: | Uo/U 300/500 V |
| Testing voltage: | conductor/conductor: 2000 V conductor/shielding: 2000 V |
| Min. bending radius: | <i>fixed installation:</i> 5 x O.D. <i>free movement:</i> 10 x O.D. |
| Temperature range: | <i>static:</i> -40/+90°C <i>flexible:</i> -30/+90°C |
| Halogen-free: | acc. to IEC 60754-1 + VDE 0482-754-1 |
| Burning characteristics: | no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 cat. A. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 |
| Corrosivity: | in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases |
| Smoke density: | acc. to IEC 61034 + VDE 0482-1034 |
| Flexibility: | very good |
| Approvals: | DNV, CE, EAC, RoHS |
| Absence of harmful substances: | acc. to RoHS directive of the European Union see page O/30 |

| item no. | no. of conductors incl. ground | nominal outer-ø inch ±5% | mm ±5% | cable weight ≈lbs/mft |
|--------------------------------------|--------------------------------------|--------------------------------|-----------|-----------------------------|
| ▶ 20 AWG (≈ 16/32) ▪ 0.50 mm² | | | | |
| 64380205 | 2 | 0.228 | 5.8 | 34 |
| 64380305 | 3 | 0.240 | 6.1 | 38 |
| 64380405 | 4 | 0.260 | 6.6 | 46 |
| 64380505 | 5 | 0.280 | 7.1 | 55 |
| 64380705 | 7 | 0.311 | 7.9 | 70 |
| 64381205 | 12 | 0.402 | 10.2 | 111 |
| 64381805 | 18 | 0.484 | 12.3 | 169 |
| ▶ 19 AWG (≈ 23/32) ▪ 0.75 mm² | | | | |
| 64380207 | 2 | 0.240 | 6.1 | 39 |
| 64380307 | 3 | 0.252 | 6.4 | 44 |
| 64380407 | 4 | 0.287 | 7.3 | 56 |
| 64380507 | 5 | 0.315 | 8.0 | 69 |
| 64380707 | 7 | 0.343 | 8.7 | 85 |
| 64381207 | 12 | 0.461 | 11.7 | 148 |
| 64381807 | 18 | 0.539 | 13.7 | 209 |

| item no. | no. of conductors incl. ground | nominal outer-ø inch ±5% | mm ±5% | cable weight ≈lbs/mft |
|---|--------------------------------------|--------------------------------|-----------|-----------------------------|
| ▶ 18 AWG (≈ 30/32) ▪ 1.00 mm² | | | | |
| 64380210 | 1 | 0.260 | 6.6 | 44 |
| 64380310 | 3 | 0.272 | 6.9 | 52 |
| 64380410 | 4 | 0.295 | 7.5 | 62 |
| 64380510 | 5 | 0.331 | 8.4 | 79 |
| 64380710 | 7 | 0.354 | 9.0 | 97 |
| 64381210 | 12 | 0.476 | 12.1 | 168 |
| 64381810 | 18 | 0.575 | 14.6 | 254 |
| ▶ 16 AWG (≈ 27-29/30) ▪ 1.50 mm² | | | | |
| 64380215 | 2 | 0.287 | 7.3 | 54 |
| 64380315 | 3 | 0.299 | 7.6 | 65 |
| 64380415 | 4 | 0.331 | 8.4 | 81 |
| 64380515 | 5 | 0.366 | 9.3 | 101 |
| 64380715 | 7 | 0.398 | 10.1 | 126 |
| 64381215 | 12 | 0.531 | 13.5 | 217 |
| 64381815 | 18 | 0.642 | 16.3 | 328 |

| item no. | no. of conductors incl. ground | nominal outer-ø inch ±5% | mm ±5% | cable weight ≈lbs/mft |
|--------------------------------------|--------------------------------------|--------------------------------|-----------|-----------------------------|
| ▶ 14 AWG (≈ 46/30) ▪ 2.50 mm² | | | | |
| 64380225 | 2 | 0.343 | 8.7 | 77 |
| 64380325 | 3 | 0.366 | 9.3 | 97 |
| 64380425 | 4 | 0.398 | 10.1 | 121 |
| 64380525 | 5 | 0.453 | 11.5 | 159 |
| 64380725 | 7 | 0.492 | 12.5 | 201 |
| 64381225 | 12 | 0.661 | 16.8 | 345 |
| 64381825 | 18 | 0.791 | 20.1 | 506 |

Other dimensions and colors are available on request



Possible on request:

- bare copper strands
- alternative color code and jacket color

Cables for Shipbuilding

SABIX® BL 402 FRNC

SABIX® BL - Halogen-free flexible wiring cable 0.6/1 kV



BL 402 FRNC 1.5 mm² - 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 mm² - IEC 60332-3-22 - 0.6/1kV DNV CE and current meter marking

Construction:

| | |
|--------------------|---|
| Conductor: | tinned copper strands acc. to IEC 60228, VDE 0295, class 5 |
| Insulation: | SABIX® |
| Color code: | black (RAL 9005) |

Outstanding features:

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

Technical data:

| | |
|---------------------------------------|---|
| Nominal voltage: | Uo/U 0.6/1 kV |
| Testing voltage: | conductor/conductor: 4000 V |
| Min. bending radius: | |
| <i>fixed installation:</i> | 4 x O.D. |
| <i>free movement:</i> | 6 x O.D. |
| Temperature range: | |
| <i>static:</i> | -40/+90°C |
| <i>flexible:</i> | -30/+90°C |
| Halogen-free: | acc. to IEC 60754-1 + VDE 0482-754-1 |
| Burning characteristics: | no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 cat. A. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 |
| Corrosivity: | in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases |
| Smoke density: | acc. to IEC 61034 + VDE 0482-1034 |
| Flexibility | very good |
| Approvals: | DNV, CE, EAC, RoHS |
| Absence of harmful substances: | acc. to RoHS directive of the European Union see page O/30 |

| item no. | mm ² | AWG | MCM | nominal outer-ø | | cable weight ≈ lbs/mft |
|------------|-----------------|-----|-------------|-----------------|-----------|---------------------------|
| | | | | inch ±5% | mm ±5% | |
| ▶ 64020175 | 0.75 | 19 | (≈ 23/32) | 0.114 | 2.9 | 10 |
| ▶ 64020180 | 1.00 | 18 | (≈ 30/32) | 0.118 | 3.0 | 12 |
| ▶ 64020182 | 1.50 | 16 | (≈ 28/30) | 0.130 | 3.3 | 15 |
| ▶ 64020184 | 2.50 | 14 | (≈ 46/30) | 0.146 | 3.7 | 22 |
| ▶ 64020186 | 4.00 | 12 | (≈ 52/28) | 0.185 | 4.7 | 35 |
| ▶ 64020187 | 6.00 | 10 | (≈ 78/28) | 0.205 | 5.2 | 48 |
| ▶ 64020188 | 10.00 | 8 | (≈ 77/26) | 0.252 | 6.4 | 81 |
| ▶ 64020189 | 16.00 | 6 | (≈ 122/26) | 0.307 | 7.8 | 122 |
| ▶ 64020190 | 25.00 | 4 | (≈ 190/26) | 0.378 | 9.6 | 187 |
| ▶ 64020191 | 35.00 | 2 | (≈ 272/26) | 0.433 | 11.0 | 257 |
| ▶ 64020192 | 50.00 | 1 | (≈ 400/26) | 0.496 | 12.6 | 363 |
| ▶ 64020193 | 70.00 | 2/0 | (≈ 543/26) | 0.587 | 14.9 | 486 |
| ▶ 64020194 | 95.00 | 3/0 | (≈ 484/24) | 0.685 | 17.4 | 658 |
| ▶ 64020195 | 120.00 | 4/0 | (≈ 589/24) | 0.760 | 19.3 | 813 |
| ▶ 64020196 | 150.00 | 250 | (≈ 740/24) | 0.835 | 21.2 | 1014 |
| ▶ 64020197 | 180.00 | 350 | (≈ 902/24) | 0.917 | 23.3 | 1228 |
| ▶ 64020198 | 240.00 | 450 | (≈ 1220/24) | 1.063 | 27.0 | 1644 |

Other dimensions and colors are available on request



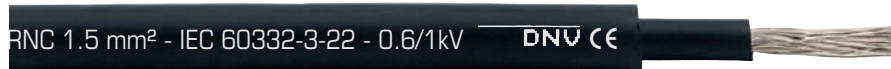
Possible on request:

- bare copper strands
- alternative color code and jacket color

Cables for Shipbuilding

SABIX® BL 408 FRNC

SABIX® BL - 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:

| | |
|-------------------------|---|
| Conductor: | tinned copper strands acc. to IEC 60228, VDE 0295, class 5 |
| Insulation: | special SABIX® |
| Color code: | black (RAL 9005) |
| Jacket material: | special SABIX® SHF 1 compound acc. to IEC 60092-360 |
| Jacket color: | black (RAL 9005) |

Outstanding features:



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

Technical data:

| | |
|---------------------------------------|--|
| Nominal voltage: | Uo/U 0.6/1 kV |
| Testing voltage: | conductor/conductor: 4000 V |
| Min. bending radius: | |
| <i>fixed installation:</i> | 4 x O.D. |
| <i>free movement:</i> | 6 x O.D. |
| Temperature range: | |
| <i>static:</i> | -40/+90°C |
| <i>flexible:</i> | -30/+90°C |
| Halogen-free: | acc. to IEC 60754-1 + VDE 0482-754-1 |
| Burning characteristics: | no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 cat. A. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 |
| Corrosivity: | in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases |
| Smoke density: | acc. to IEC 61034 + VDE 0482-1034 |
| Flexibility | very good |
| Approvals: | DNV, CE, EAC, RoHS |
| Absence of harmful substances: | acc. to RoHS directive of the European Union see page O/30 |

| item no. | mm² | AWG MCM | nominal inch ±5% | outer-ø mm ±5% | cable weight ≈lbs/mft | |
|------------|--------|------------|------------------------|----------------------|-----------------------------|------|
| ▶ 64080175 | 0.75 | 19 | (≈ 23/32) | 0.209 | 5.3 | 31 |
| ▶ 64080180 | 1.00 | 18 | (≈ 30/32) | 0.213 | 5.4 | 29 |
| ▶ 64080182 | 1.50 | 16 | (≈ 28/30) | 0.224 | 5.7 | 34 |
| ▶ 64080184 | 2.50 | 14 | (≈ 46/30) | 0.240 | 6.1 | 42 |
| ▶ 64080186 | 4.00 | 12 | (≈ 52/28) | 0.280 | 7.1 | 59 |
| ▶ 64080187 | 6.00 | 10 | (≈ 78/28) | 0.299 | 7.6 | 74 |
| ▶ 64080188 | 10.00 | 8 | (≈ 77/26) | 0.346 | 8.8 | 113 |
| ▶ 64080189 | 16.00 | 6 | (≈ 122/26) | 0.402 | 10.2 | 159 |
| ▶ 64080190 | 25.00 | 4 | (≈ 190/26) | 0.472 | 12.0 | 232 |
| ▶ 64080191 | 35.00 | 2 | (≈ 272/26) | 0.539 | 13.7 | 315 |
| ▶ 64080192 | 50.00 | 1 | (≈ 400/26) | 0.606 | 15.4 | 431 |
| ▶ 64080193 | 70.00 | 2/0 | (≈ 543/26) | 0.705 | 17.9 | 571 |
| ▶ 64080194 | 95.00 | 3/0 | (≈ 484/24) | 0.811 | 20.6 | 764 |
| ▶ 64080195 | 120.00 | 4/0 | (≈ 589/24) | 0.894 | 22.7 | 937 |
| ▶ 64080196 | 150.00 | 250 | (≈ 740/24) | 0.972 | 24.7 | 1148 |
| ▶ 64080197 | 185.00 | 350 | (≈ 902/24) | 1.063 | 27.0 | 1389 |
| ▶ 64080198 | 240.00 | 450 | (≈ 1220/24) | 1.220 | 31.0 | 1845 |

Other dimensions and colors are available on request



Possible on request:

- bare copper strands
- alternative color code and jacket color

Cables for Shipbuilding

SABIX® BL 409 C FRNC

SABIX® BL - Flexible power cable with overall copper shield 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:

| | |
|-------------------------|---|
| Conductor: | tinned copper strands acc. to IEC 60228, VDE 0295, class 5 |
| Insulation: | special SABIX® |
| Color code: | black (RAL 9005) |
| Shielding: | tinned copper braiding |
| Jacket material: | special SABIX® SHF 1 compound acc. to IEC 60092-360 |
| Jacket color: | black (RAL 9005) |

Outstanding features:

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

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

Technical data:

| | |
|---------------------------------------|---|
| Nominal voltage: | Uo/U 0.6/1 kV |
| Testing voltage: | conductor/conductor: 4000 V |
| Min. bending radius: | |
| <i>fixed installation:</i> | 5 x O.D. |
| <i>free movement:</i> | 10 x O.D. |
| Temperature range: | |
| <i>static:</i> | -40/+90°C |
| <i>flexible:</i> | -30/+90°C |
| Halogen-free: | acc. to IEC 60754-1 + VDE 0482-754-1 |
| Burning characteristics: | no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 cat. A. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 |
| Corrosivity: | in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases |
| Smoke density: | acc. to IEC 61034 + VDE 0482-1034 |
| Flexibility | very good |
| Approvals: | DNV, CE, EAC, RoHS |
| Absence of harmful substances: | acc. to RoHS directive of the European Union see page O/30 |

| item no. | mm² | AWG MCM | nominal outer-ø | | cable weight ≈ lbs/mft | |
|------------|--------|------------|-----------------|-----------|---------------------------|------|
| | | | inch ±5% | mm ±5% | | |
| ▶ 64090175 | 0.75 | 19 | (≈ 23/32) | 0.224 | 5.7 | 35 |
| ▶ 64090180 | 1.00 | 18 | (≈ 30/32) | 0.228 | 5.8 | 37 |
| ▶ 64090182 | 1.50 | 16 | (≈ 28/30) | 0.240 | 6.1 | 42 |
| ▶ 64090184 | 2.50 | 14 | (≈ 46/30) | 0.256 | 6.5 | 51 |
| ▶ 64090186 | 4.00 | 12 | (≈ 52/28) | 0.295 | 7.5 | 70 |
| ▶ 64090187 | 6.00 | 10 | (≈ 78/28) | 0.315 | 8.0 | 85 |
| ▶ 64090188 | 10.00 | 8 | (≈ 77/26) | 0.362 | 9.2 | 123 |
| ▶ 64090189 | 16.00 | 6 | (≈ 122/26) | 0.417 | 10.6 | 169 |
| ▶ 64090190 | 25.00 | 4 | (≈ 190/26) | 0.496 | 12.6 | 259 |
| ▶ 64090191 | 35.00 | 2 | (≈ 272/26) | 0.575 | 14.6 | 360 |
| ▶ 64090192 | 50.00 | 1 | (≈ 400/26) | 0.642 | 16.3 | 481 |
| ▶ 64090193 | 70.00 | 2/0 | (≈ 543/26) | 0.740 | 18.8 | 628 |
| ▶ 64090194 | 95.00 | 3/0 | (≈ 484/24) | 0.846 | 21.5 | 834 |
| ▶ 64090195 | 120.00 | 4/0 | (≈ 589/24) | 0.925 | 23.5 | 1016 |
| ▶ 64090196 | 150.00 | 250 | (≈ 740/24) | 1.008 | 25.6 | 1233 |
| ▶ 64090197 | 185.00 | 350 | (≈ 902/24) | 1.098 | 27.9 | 1478 |
| ▶ 64090198 | 240.00 | 450 | (≈ 1220/24) | 1.256 | 31.9 | 1948 |

Other dimensions and colors are available on request



Possible on request:

- bare copper strands
- alternative color code and jacket color

Cables for Shipbuilding

SABIX® BL 410 FRNC SABIX® BL - Flexible power cable 0.6/1 kV



Marking for SABIX® BL 410 FRNC 64101215:

SAB BRÖCKSKES · D-VIERSEN · SABIX® BL 410 FRNC 12 x 1.5 mm² - IEC 60332-3-22 - 300/500V — DNV CE and current meter marking

Construction:

| | |
|-------------------------|--|
| Conductor: | tinned copper strands acc. to IEC 60228, VDE 0295, class 5 |
| Insulation: | special SABIX® |
| Color code: | black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors |
| Stranding: | in layers |
| Jacket material: | special SABIX® SHF 1 compound acc. to IEC 60092-360 |
| Jacket color: | black (RAL 9005) |

Outstanding features:

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

Technical data:

| | |
|---------------------------------------|--|
| Nominal voltage: | Uo/U 0.6/1 kV |
| Testing voltage: | conductor/conductor: 4000 V |
| Min. bending radius: | <i>fixed installation:</i> 4 x O.D. <i>free movement:</i> 6 x O.D. |
| Temperature range: | <i>static:</i> -40/+90°C <i>flexible:</i> -30/+90°C |
| Halogen-free: | acc. to IEC 60754-1 + VDE 0482-754-1 |
| Burning characteristics: | no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 cat. A. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 |
| Corrosivity: | in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases |
| Smoke density: | acc. to IEC 61034 + VDE 0482-1034 |
| Flexibility: | very good |
| Approvals: | DNV, CE, EAC, RoHS |
| Absence of harmful substances: | acc. to RoHS directive of the European Union see page O/30 |

| item no. | no. of conductors incl. ground | nominal outer-ø inch ±5% mm ±5% | cable weight ≈lbs/mft |
|---|--------------------------------|---------------------------------------|--------------------------|
| ▶ 16 AWG (≈ 27-29/30) ▪ 1.50 mm² | | | |
| 64100215 | 2 | 0.350 8.9 | 81 |
| 64100315 | 3 | 0.370 9.4 | 92 |
| 64100415 | 4 | 0.402 10.2 | 110 |
| 64100515 | 5 | 0.449 11.4 | 138 |
| 64100715 | 7 | 0.488 12.4 | 168 |
| 64101015 | 10 | 0.626 15.9 | 234 |
| 64101215 | 12 | 0.654 16.6 | 273 |
| 64101415 | 14 | 0.685 17.4 | 308 |
| 64101815 | 18 | 0.768 19.5 | 396 |
| ▶ 14 AWG (≈ 46/30) ▪ 2.50 mm² | | | |
| 64100225 | 2 | 0.382 9.7 | 101 |
| 64100325 | 3 | 0.406 10.3 | 118 |
| 64100425 | 4 | 0.449 11.4 | 147 |
| 64100525 | 5 | 0.492 12.5 | 179 |
| 64100725 | 7 | 0.543 13.8 | 226 |
| 64101025 | 10 | 0.697 17.7 | 316 |
| 64101225 | 12 | 0.717 18.2 | 363 |
| 64101425 | 14 | 0.760 19.3 | 418 |
| 64101825 | 18 | 0.854 21.7 | 536 |

| item no. | no. of conductors incl. ground | nominal outer-ø inch ±5% mm ±5% | cable weight ≈lbs/mft |
|--------------------------------------|--------------------------------|---------------------------------------|--------------------------|
| ▶ 12 AWG (≈ 52/28) ▪ 4.00 mm² | | | |
| 64100240 | 2 | 0.469 11.9 | 155 |
| 64100340 | 3 | 0.496 12.6 | 181 |
| 64100440 | 4 | 0.551 14.0 | 224 |
| 64100540 | 5 | 0.606 15.4 | 275 |
| 64100740 | 7 | 0.669 17.0 | 349 |
| ▶ 10 AWG (≈ 78/28) ▪ 6.00 mm² | | | |
| 64100260 | 2 | 0.508 12.9 | 193 |
| 64100360 | 3 | 0.547 13.9 | 234 |
| 64100460 | 4 | 0.598 15.2 | 287 |
| 64100560 | 5 | 0.669 17.0 | 359 |
| 64100760 | 7 | 0.728 18.5 | 453 |
| ▶ 8 AWG (≈ 77/26) ▪ 10.00 mm² | | | |
| 64100361 | 3 | 0.661 16.8 | 359 |
| 64100461 | 4 | 0.724 18.4 | 443 |
| 64100561 | 5 | 0.807 20.5 | 554 |

| item no. | no. of conductors incl. ground | nominal outer-ø inch ±5% mm ±5% | cable weight ≈lbs/mft |
|---------------------------------------|--------------------------------|---------------------------------------|--------------------------|
| ▶ 6 AWG (≈ 122/26) ▪ 16.00 mm² | | | |
| 64100362 | 3 | 0.787 20.0 | 523 |
| 64100462 | 4 | 0.870 22.1 | 654 |
| 64100562 | 5 | 0.972 24.7 | 818 |
| ▶ 4 AWG (≈ 190/26) ▪ 25.00 mm² | | | |
| 64100363 | 3 | 0.949 24.1 | 778 |
| 64100463 | 4 | 1.051 26.7 | 976 |
| 64100563 | 5 | 1.177 29.9 | 1228 |
| ▶ 2 AWG (≈ 272/26) ▪ 35.00 mm² | | | |
| 64100364 | 3 | 1.083 27.5 | 1053 |
| 64100464 | 4 | 1.197 30.4 | 1322 |
| ▶ 1 AWG (≈ 400/26) ▪ 50.00 mm² | | | |
| 64100365 | 3 | 1.224 31.1 | 1459 |
| 64100465 | 4 | 1.350 34.3 | 1840 |

Other dimensions and colors are available on request



Possible on request:

- bare copper strands
- alternative color code and jacket color

Cables for Shipbuilding

SABIX® BL 412 C FRNC

SABIX® BL - Flexible power cable with overall tinned copper shield 0.6/1 kV

0.6/1 kV

SABBL-Line



Marking for SABIX® BL 412 C FRNC 64121215:

SAB BRÖCKSKES · D-VIERSEN · SABIX® BL 412 C FRNC 12 x 1.5mm² - IEC 60332-3-22 - 0.6/1kV — DNV CE and current meter marking

Construction:

| | |
|-------------------------|--|
| Conductor: | tinned copper strands acc. to IEC 60228, VDE 0295, class 5 |
| Insulation: | special SABIX® |
| Color code: | black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors |
| Stranding: | in layers |
| Shielding: | tinned copper braiding |
| Jacket material: | special SABIX® SHF 1 compound acc. to IEC 60092-360 |
| Jacket color: | black (RAL 9005) |

Outstanding features:

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

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

Technical data:

| | |
|--|--|
| Nominal voltage: | Uo/U 0.6/1 kV |
| Testing voltage: | conductor/conductor: 4000 V conductor/shielding: 4000 V |
| Min. bending radius: <i>fixed installation:</i> <i>free movement:</i> | 4 x O.D. 6 x O.D. |
| Temperature range: <i>static:</i> <i>flexible:</i> | -40/+90°C -30/+90°C |
| Halogen-free: | acc. to IEC 60754-1 + VDE 0482-754-1 |
| Burning characteristics: | no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 cat. A. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 |
| Corrosivity: | in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases |
| Smoke density: | acc. to IEC 61034 + VDE 0482-1034 |
| Flexibility: | very good |
| Approvals: | DNV, CE, EAC, RoHS |
| Absence of harmful substances: | acc. to RoHS directive of the European Union see page O/30 |

| item no. | no. of conductors incl. ground | nominal outer-ø inch ±5% | mm ±5% | cable weight ≈lbs/mft |
|--|--------------------------------|--------------------------|--------|-----------------------|
| ▶ 16 AWG (≈ 27-29/30) • 1.50 mm² | | | | |
| 64120215 | 2 | 0.370 | 9.4 | 83 |
| 64120315 | 3 | 0.390 | 9.9 | 94 |
| 64120415 | 4 | 0.429 | 10.9 | 122 |
| 64120515 | 5 | 0.476 | 12.1 | 152 |
| 64120715 | 7 | 0.516 | 13.1 | 185 |
| 64121015 | 10 | 0.669 | 17.0 | 280 |
| 64121215 | 12 | 0.689 | 17.5 | 312 |
| 64121415 | 14 | 0.720 | 18.3 | 347 |
| 64121815 | 18 | 0.803 | 20.4 | 439 |
| ▶ 14 AWG (≈ 46/30) • 2.50 mm² | | | | |
| 64120225 | 2 | 0.402 | 10.2 | 104 |
| 64120325 | 3 | 0.433 | 11.0 | 128 |
| 64120425 | 4 | 0.476 | 12.1 | 159 |
| 64120525 | 5 | 0.520 | 13.2 | 192 |
| 64120725 | 7 | 0.579 | 14.7 | 253 |
| 64121025 | 10 | 0.732 | 18.6 | 353 |
| 64121225 | 12 | 0.752 | 19.1 | 403 |
| 64121425 | 14 | 0.795 | 20.2 | 459 |
| 64121825 | 18 | 0.890 | 22.6 | 581 |

| item no. | no. of conductors incl. ground | nominal outer-ø inch ±5% | mm ±5% | cable weight ≈lbs/mft |
|---|--------------------------------|--------------------------|--------|-----------------------|
| ▶ 12 AWG (≈ 52/28) • 4.00 mm² | | | | |
| 64120240 | 2 | 0.496 | 12.6 | 160 |
| 64120340 | 3 | 0.524 | 13.3 | 186 |
| 64120440 | 4 | 0.587 | 14.9 | 243 |
| 64120540 | 5 | 0.642 | 16.3 | 298 |
| 64120740 | 7 | 0.705 | 17.9 | 380 |
| ▶ 10 AWG (≈ 78/28) • 6.00 mm² | | | | |
| 64120260 | 2 | 0.543 | 13.8 | 204 |
| 64120360 | 3 | 0.583 | 14.8 | 247 |
| 64120460 | 4 | 0.634 | 16.1 | 313 |
| 64120560 | 5 | 0.705 | 17.9 | 381 |
| 64120760 | 7 | 0.772 | 19.6 | 486 |
| ▶ 8 AWG (≈ 77/26) • 10.00 mm² | | | | |
| 64120361 | 3 | 0.697 | 17.7 | 364 |
| 64120461 | 4 | 0.768 | 19.5 | 492 |
| 64120561 | 5 | 0.843 | 21.4 | 573 |

| item no. | no. of conductors incl. ground | nominal outer-ø inch ±5% | mm ±5% | cable weight ≈lbs/mft |
|--|--------------------------------|--------------------------|--------|-----------------------|
| ▶ 6 AWG (≈ 122/26) • 16.00 mm² | | | | |
| 64120362 | 3 | 0.823 | 20.9 | 516 |
| 64120462 | 4 | 0.906 | 23.0 | 667 |
| 64120562 | 5 | 1.008 | 25.6 | 827 |
| ▶ 4 AWG (≈ 190/26) • 25.00 mm² | | | | |
| 64120363 | 3 | 0.992 | 25.2 | 757 |
| 64120463 | 4 | 1.094 | 27.8 | 984 |
| 64120563 | 5 | 1.213 | 30.8 | 1213 |
| ▶ 2 AWG (≈ 272/26) • 35.00 mm² | | | | |
| 64120364 | 3 | 1.118 | 28.4 | 1013 |
| 64120464 | 4 | 1.232 | 31.3 | 1329 |
| ▶ 1 AWG (≈ 400/26) • 50.00 mm² | | | | |
| 64120365 | 3 | 1.260 | 32.0 | 1370 |
| 64120465 | 4 | 1.386 | 35.2 | 1799 |

Other dimensions and colors are available on request



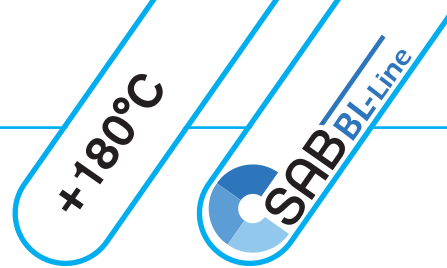
Possible on request:

- bare copper strands
- alternative color code and jacket color

Cables for Shipbuilding

BL TA 180 C

Flexible FEP connection cables with overall tinned copper shield



Marking for BL TA 180 C.37530715:

SAB BRÖCKSKES · D-VIERSEN · BL TA 180 C 7x1.5mm² - IEC 60332-3-22 -

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

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

Construction:

| | |
|-------------------------|---|
| Conductor: | tinned copper strands acc. to IEC 60228, VDE 0295, class 5 |
| Insulation: | FEP |
| Color code: | black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 and a green/yellow ground |
| Stranding: | in layers |
| Inner jacket: | Besilen® |
| Shield: | tinned copper braiding |
| Jacket material: | FEP |
| Jacket color: | black (RAL 9005) |

Outstanding features:

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

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

Technical data:

| | | |
|---------------------------------------|--|--------------------------|
| Nominal voltage: | Uo/U 300/500 V | |
| Voltage UL/cUL: | 600 V | |
| Testing voltage: | conductor/conductor: 2000 V (AC) conductor/shielding: 2000 V | |
| Min. bending radius: | fixed installation: free movement: | |
| | 5 x O.D. 10 x O.D. | |
| Radiation resistance: | 1 x 10 ⁷ cJ/kg | |
| Temperature range: | DIN VDE | UL/cUL: up to +150°C |
| | static: flexible: | -55/+180°C -55/+180°C |
| Burning characteristics: | no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 cat. A. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL FT1, FT2 | |
| Chemical resistance: | very good against acids, halogens, bases, chlorinated solvents as well as organic and inorganic compounds | |
| Oil and fuel resistance: | very good | |
| Flexibility: | good | |
| Halogen-free: | not fulfilled | |
| Approvals: | UR, cUR, DNV, CE, EAC, RoHS | |
| Absence of harmful substances: | acc. to RoHS directive of the European Union see page O/30 | |

| item no. | no. of conductors incl. ground | nominal outer-ø inch | mm | cable weight ≈lbs/mft |
|---|--------------------------------|----------------------|------|-----------------------|
| ▶ 19 AWG (≈ 23/32) ▪ 0.75 mm² | | | | |
| 37530207 | 2 | 0.224 | 5.7 | 42 |
| 37530307 | 3 | 0.236 | 6.0 | 46 |
| 37530407 | 4 | 0.244 | 6.2 | 54 |
| 37530507 | 5 | 0.280 | 7.1 | 67 |
| 37530607 | 6 | 0.303 | 7.7 | 78 |
| 37530707 | 7 | 0.303 | 7.7 | 81 |
| 37530807 | 8 | 0.350 | 8.9 | 102 |
| 37531207 | 12 | 0.402 | 10.2 | 136 |
| 37531607 | 16 | 0.449 | 11.4 | 175 |
| 37532007 | 20 | 0.504 | 12.8 | 224 |
| ▶ 18 AWG (≈ 30/32) ▪ 1.00 mm² | | | | |
| 37530210 | 2 | 0.232 | 5.9 | 43 |

| item no. | no. of conductors incl. ground | nominal outer-ø inch | mm | cable weight ≈lbs/mft |
|--|--------------------------------|----------------------|------|-----------------------|
| ▶ 16 AWG (≈ 27-29/30) ▪ 1.50 mm² | | | | |
| 37530215 | 2 | 0.260 | 6.6 | 54 |
| 37530315 | 3 | 0.272 | 6.9 | 65 |
| 37530515 | 5 | 0.323 | 8.2 | 97 |
| 37530615 | 6 | 0.354 | 9.0 | 115 |
| 37530715 | 7 | 0.354 | 9.0 | 122 |
| 37531215 | 12 | 0.472 | 12.0 | 208 |
| ▶ 15 AWG (≈ 38/30) ▪ 2.00 mm² | | | | |
| 37530220 | 2 | 0.295 | 7.5 | 72 |
| 37530320 | 3 | 0.319 | 8.1 | 87 |

Other dimensions and colors are available on request



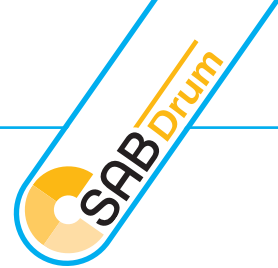
Possible on request:

- without overall copper shield
- alternative color code and jacket color

Cables for Shipbuilding

DR 750 P Offshore

Reeling cable for offshore applications



Marking for DR 750 P Offshore 07500425:

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

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

Construction:

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

Outstanding features:



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

Technical data:

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

| item no. | AWG/c | nominal outer-ø | | cable weight ≈lbs/mft | min breaking load of suspension unit N |
|------------|------------------------|-----------------|------|--------------------------|--|
| | | inch | mm | | |
| ▶ 07500210 | 18 AWG (≈ 56/34) / 2c | 0.406 | 10.3 | 79 | 500 |
| ▶ 07500410 | 18 AWG (≈ 56/34) / 4c | 0.429 | 10.9 | 94 | 1100 |
| ▶ 07501210 | 18 AWG (≈ 56/34) / 12c | 0.732 | 18.6 | 275 | 2000 |
| ▶ 07500315 | 16 AWG (≈ 84/34) / 3c | 0.429 | 10.9 | 97 | 1000 |
| ▶ 07500415 | 16 AWG (≈ 84/34) / 4c | 0.457 | 11.6 | 112 | 1340 |
| ▶ 07500715 | 16 AWG (≈ 84/34) / 7c | 0.579 | 14.7 | 183 | 2150 |
| ▶ 07501215 | 16 AWG (≈ 84/34) / 12c | 0.787 | 20.0 | 343 | 2600 |
| ▶ 07501815 | 16 AWG (≈ 84/34) / 18c | 0.787 | 20.0 | 351 | 3375 |
| ▶ 07500325 | 14 AWG (≈ 140/34) / 3c | 0.461 | 11.7 | 122 | 1200 |
| ▶ 07500425 | 14 AWG (≈ 140/34) / 4c | 0.512 | 13.0 | 148 | 1345 |

| item no. | AWG/c | nominal outer-ø | | cable weight ≈lbs/mft | min breaking load of suspension unit N |
|------------|-------------------------|-----------------|------|--------------------------|--|
| | | inch | mm | | |
| ▶ 07500440 | 12 AWG (≈ 224/34) / 4c | 0.567 | 14.4 | 199 | 2000 |
| ▶ 07500460 | 10 AWG (≈ 186/32) / 4c | 0.622 | 15.8 | 262 | 3000 |
| ▶ 07500461 | 8 AWG (≈ 320/32) / 4c | 0.748 | 19.0 | 411 | 5000 |
| ▶ 07500462 | 6 AWG (≈ 504/32) / 4c | 0.902 | 22.9 | 609 | 8000 |
| ▶ 07500463 | 4 AWG (≈ 760/32) / 4c | 1.063 | 27.0 | 915 | 12500 |
| ▶ 07500464 | 2 AWG (≈ 1083/32) / 4c | 1.213 | 30.8 | 1212 | 17500 |
| ▶ 07500465 | 1 AWG (≈ 703/28) / 4c | 1.362 | 34.6 | 1712 | 25000 |
| ▶ 07500466 | 2/0 AWG (≈ 988/28) / 4c | 1.622 | 41.2 | 2317 | 35000 |

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

HD 308 color code:

#1- nature, #2- blue-brown, #3- green/yellow - blue - brown, #4- green/yellow - brown - black - gray, #5- green/yellow - blue - brown - black - gray

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

Production possibilities

Flexible cables and wires “Made in Germany”

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

Conductor Materials:

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

Insulation and Jacketing Materials:

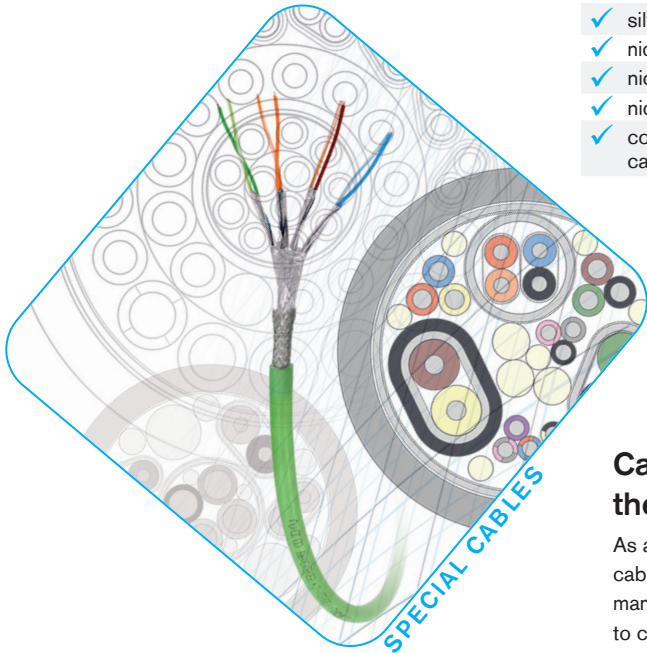
- ✓ PVC
- ✓ Polyethylene
- ✓ Polypropylene
- ✓ Polyurethane
- ✓ TPE
- ✓ SABIX® (zero halogen)
- ✓ Besilen® - Silicone
- ✓ FEP, ETFE, PFA, PTFE
- ✓ PI foil
- ✓ Fiberglass

Temperature Ranges:

- Thermoplastic Elastomers
- ✓ -50°C up to +145°C
- SABIX®
- ✓ -50°C up to +220°C
- Besilen® - Silicone
- ✓ -40°C up to +220°C
- FEP, ETFE, PFA
- ✓ -90°C up to +260°C
- Fiberglass
- ✓ up to +600°C

Conductors:

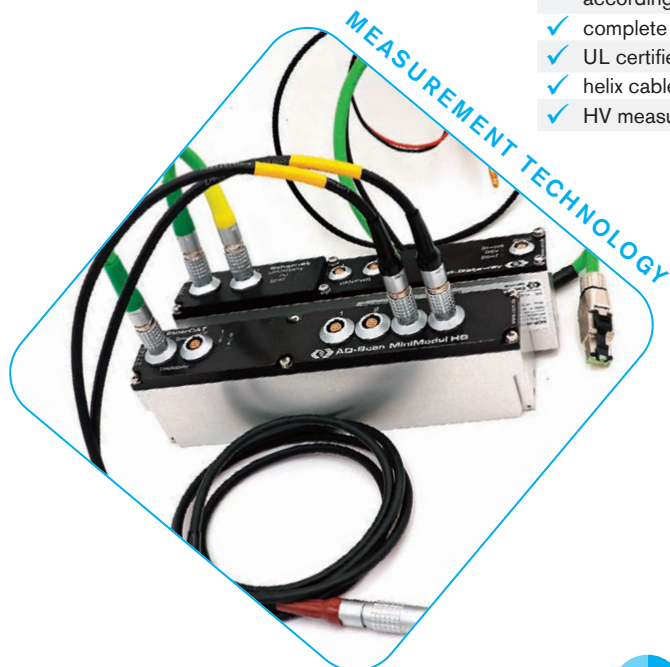
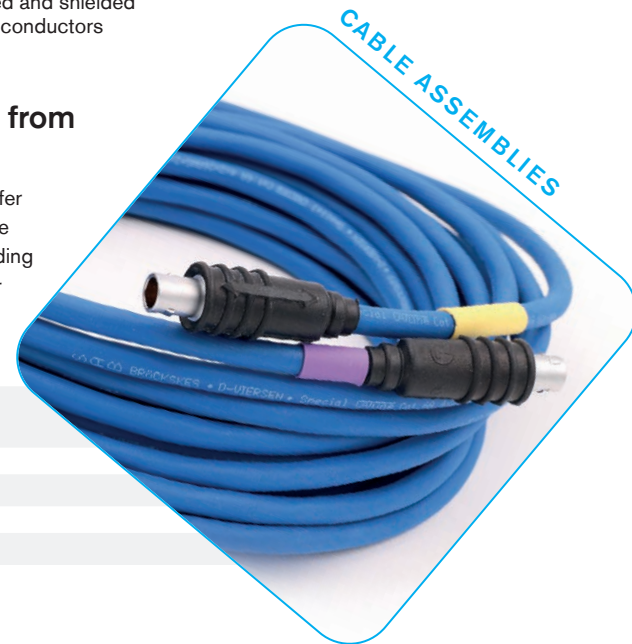
- ✓ cross sections 0.055 - 300 mm²
- ✓ unshielded and shielded over 100 conductors



Cable assemblies directly from the manufacturer SAB:

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

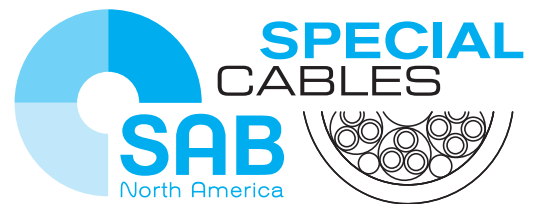
- ✓ cable assemblies according to customer's demands
- ✓ complete cable assemblies
- ✓ UL certified assemblies
- ✓ helix cables
- ✓ HV measuring assemblies



Measuring technology for industrial applications

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

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