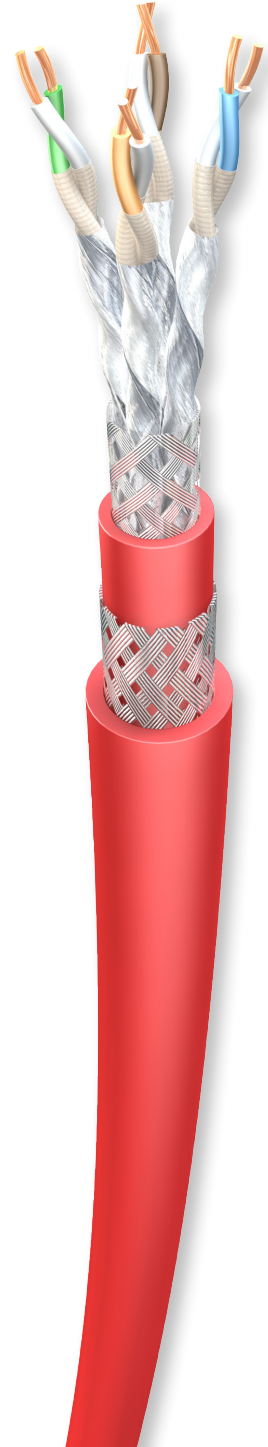


Armoured (GSWB) Cat.6a 4x2x23/1 AWG S/FTP
Fire Resistant Horizontal Cable SHF1



Application

Offshore installations, Maritime Environment, Optimized for IEEE 802.3at PoE+, High bandwidth digital applications with low BER. The cable design and structure comply with the circuit integrity performance during a fire of the relevant requirements of IEC 60331-23 FE180 and allows data transmission during the fire. Available with SHF1, SHF2 and MUD-Resistant options. DNVGL approved (Certificate No: TAE00003EM.)

Cable Design

| | |
|----------------------|---|
| Conductor | Solid annealed bare copper wire (23awg) |
| Insulation | PO |
| Fire Barrier | FFCi™ Fire resistant tape wrapped |
| Diameter | Ø 1,25 ± 0,05 mm |
| Screened Pair | 2 cores twisted to a pair + Aluminium/polyester foil, |
| 100% coverage | |
| Formation | 4 screened pairs (4x2x23/1awg) |
| Pair Identification | Colour coded pairs |
| Braid | Tinned copper wire braid |
| Coverage | 55% nom. |

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| | |
|--------------|--|
| Drain Wire | Solid tinned copper wire 0,41 ± 0,03 mm |
| Inner Jacket | FR-LSZH SHF-1 |
| Diameter | Ø 9,0 ± 0,5 mm |
| Armour | DataGuard® Galvanised Steel Wire Braid (GSWB) |
| Outer Jacket | FR-LSZH SHF-1 or XL-HFFR SHF2 or XL-HFFR MUD-Resistant |
| Colour | Red or Black |
| Diameter | Ø 12,80 mm nom. |

Performance

| | | |
|-------------------------------|---------|----------------|
| Frequency Range | 1-500 | MHz |
| Impedance | 100 | Ohm |
| Transfer Impedance | Grade 1 | |
| Coupling Attenuation | Type I | |
| Max. DC Resistance | 78 | Ohm/km @ 20 °C |
| Max. Resistance Unbalance | 2 | % |
| Capacitance | 47 | pF/m |
| Capacitance Unbalance | 1,6 | pF/m max. |
| Velocity of Propagation | 65 | % nom. |
| Dielectric Strength | 700 | V/minute |
| Dielectric Strength to Shield | 700 | V/minute |
| Min. Insulation Resistance | 4 | GOhm • km |
| Max. Operating Temperature | +65 | °C |
| Min. Operating Temperature | -30 | °C |
| UV resistance | Yes | |

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Transmission Properties

| Frequency (MHz) | Attenuation (dB/100m) 20 °C | | PS NEXT Loss (dB) | | NEXT Loss (dB) | | RL (dB) | | PS ANEXT (dB) | | PS ELFEXT (dB) | |
|-----------------|-----------------------------|--------|-------------------|--------|----------------|--------|---------|--------|---------------|--------|----------------|--------|
| | Typ. | Cat.6A | Typ. | Cat.6A | Typ. | Cat.6A | Typ. | Cat.6A | Typ. | Cat.6A | Typ. | Cat.6A |
| 1 | 2,0 | 2,0 | 95 | 72,3 | 98 | 75,3 | 22 | 20 | 70 | 67 | 85 | 65 |
| 4 | 3,7 | 3,8 | 95 | 63,3 | 98 | 66,3 | 25 | 23 | 70 | 67 | 73 | 53 |
| 10 | 5,6 | 5,9 | 95 | 57,3 | 98 | 60,3 | 28 | 25 | 70 | 67 | 65 | 45 |
| 20 | 7,9 | 8,4 | 90 | 52,8 | 93 | 55,8 | 28 | 25 | 70 | 67 | 59 | 39 |
| 30 | 9,7 | 10,3 | 85 | 50,1 | 88 | 53,1 | 27 | 23,8 | 70 | 67 | 55,4 | 35,4 |
| 100 | 18,0 | 19,1 | 80 | 42,3 | 83 | 45,3 | 24 | 21,1 | 67 | 62,5 | 45 | 25 |
| 150 | 22,4 | 23,6 | 78 | 39,7 | 81 | 42,7 | 22 | 18,8 | 66 | 59,8 | 41,5 | 21,5 |
| 200 | 26,0 | 27,6 | 78 | 37,8 | 81 | 40,8 | 21 | 18,0 | 65 | 58 | 49 | 19 |
| 250 | 29,4 | 31,0 | 75 | 36,3 | 78 | 39,3 | 20 | 17,3 | 63 | 56,5 | 37 | 17 |
| 300 | 32,5 | 34,3 | 75 | 35,1 | 78 | 38,1 | 19 | 17,3 | 62 | 55,3 | 35,5 | 15,5 |
| 400 | 38,0 | 40,0 | 70 | 33,3 | 73 | 36,3 | 19 | 17,3 | 61 | 53,4 | 33 | 13 |
| 500 | 43,0 | 45,2 | 70 | 31,8 | 73 | 34,8 | 19 | 17,3 | 59 | 52 | 31 | 11 |

Transmission data during fire - 100 Base-T

Standards

Applicable Standards

DNV-GL certified, ABS certified, IEC 61156-5, ISO/IEC 11801, TIA/EIA-568, IEEE 802.3at PoE+, ASTM G154, RoHS-2 2011/65/EU

Flammability Rating

IEC 60331-23 FE180, IEC 60332-1, IEC 60332-3, IEC 60754-1/2, IEC 61034-1/2, UL 1581 VW-1

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Specification

| Part Number | Construction | Shield Type | Armour | Outer Jacket | Colour |
|-----------------|--------------|-------------|--------|---------------|--------|
| AMS6A-SF23-DGF1 | 4x2x23/1 awg | S/FTP | GSWB | SHF1 | Red |
| AMS6A-SF23-DGF2 | 4x2x23/1 awg | S/FTP | GSWB | SHF2 | Red |
| AMS6A-SF23-DGFM | 4x2x23/1 awg | S/FTP | GSWB | MUD Resistant | Black |