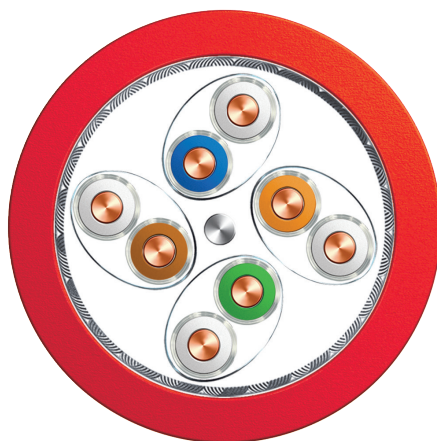


Cat.6a 4x2x23/1 AWG S/FTP Fire Resistant Horizontal Cable SHF1



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. DNVGL approved (Certificate No: TAE00002A1.)

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 (4x2x23/1 awg)
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

Outer Jacket FR-LSZH SHF-1 or XL-HFFR SHF2, Red

Diameter Ø 9,0 ± 0,5 mm

Weight 85 kg/km

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 G 154, RoHS 3 2015/863/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	
IEC 60331-23	1999-94	Tests for electric cables under fire conditions - Circuit integrity - Part 23 : Procedures and requirements - Electric data cables	180 minutes flame application + 15 minutes cooling down. Additional testing of transmission properties under fire res Table.
EN 50200 Annex E.	2015	Method of test for resistance to fire of unprotected small cables for use in emergency circuits.	Fire resistant + water spray + mechanical shocks

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Horizontal Cable SHF1*

Specification

Part Number	Construction	Shield Type	Outer Jacket
AMS6A-SF23-UAF1	4x2x23/1 awg	S/FTP	SHF1
AMS6A-SF23-UAF2	4x2x23/1 awg	S/FTP	SHF2