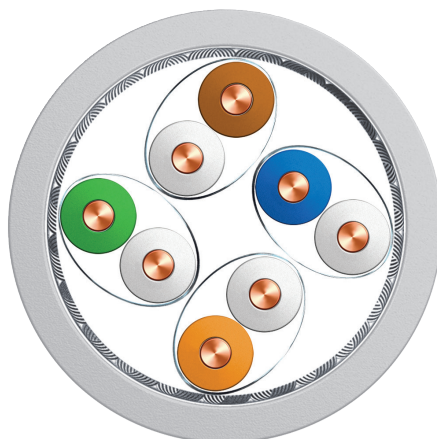


Cat.7 23/1awg S/FTP
Horizontal Cable FR-LSZH SHF1



Application

DNV Approved Cat.7 100Ω Class F for Offshore installations, Maritime Environment, High data rates, indoor/outdoor use, fixed installations, Ships, High speed & Light craft.

Cable Design

Conductor	Solid Annealed Bare Copper wire 23/1 AWG
Insulation	Skin-foam-skin polyethylene
Formation	2 cores twisted to a pair, 4 pairs total
Pair Identification	Per TIA/EIA 568-B
Pair Shield	Aluminium/polyester foil, 100% coverage
Braid Shield	Annealed Tinned Copper Wire Braid
Outer Jacket	FR-LSZH SHF1, Light Grey
Overall Diameter	8,20 ± 0,5 mm

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Standards

Applicable Standards	DNV certified, IEC 60092-360, IEC 61156-5, IEEE 802.3at PoE 802.3bt (PoE++), ISO/IEC 11801, RoHS 3 2015/863/EU
Flammability Rating	IEC 60332-1, IEC 60332-3-22, IEC 60332-3-24, IEC 60754-1/2, IEC 61034-1/2, UL 1581 VW-1

Performance

DC Resistance	$\leq 9.5 \Omega/100m$
DC Resistance Unbalance	$\leq 2.00\%$
Capacitance Unbalance (Pair to Ground)	$\leq 1600 \text{ pF/km (800~1000Hz)}$
Insulation Resistance	$\geq 5000 \text{ M}\Omega\cdot\text{m}$
Dielectric Strength	$2.5 / 2 \text{ DC kV/sec}$
Return Loss dB/100m	$\geq 20 + 5 * \log(\text{freq}) , 4 \leq f < 10\text{MHz}$
	$\geq 25 , 10 \leq f < 20\text{MHz}$
	$\geq 25 - 7 * \log(\text{freq}/20) , 20 \leq f \leq 600\text{MHz (min. 17.3dB)}$
Attenuation (Insertion Loss) dB/100m	$\leq 1.8 * \sqrt{(\text{freq})} + 0.01 * (\text{freq}) + 0.2/\sqrt{(\text{freq})} , 4 \sim 600 \text{ MHz}$
NEXT Loss dB/100m	$\geq 102.4 - 15 * \log(\text{freq}) , 4 \sim 600\text{MHz (max. 78dB)}$
Power sum NEXT Loss dB/100m	$\geq 99.4 - 15 * \log(\text{freq}) , 4 \sim 600\text{MHz (max. 75dB)}$
ACRF Loss dB/100m	$\geq 94.0 - 20 * \log(\text{freq}) , 4 \sim 600\text{MHz (max. 78dB)}$
Power sum ACRF Loss dB/100m	$\geq 91.0 - 20 * \log(\text{freq}) , 4 \sim 600\text{MHz (max. 75dB)}$
Propagation Delay ns/100m	$\leq 534 + 36 / \sqrt{(\text{Freq})} , 4 \sim 600\text{MHz}$
Propagation Delay Skew ns/100m	$\leq 25 , 4 \sim 600\text{MHz}$
Operating temperature	-20 to +60 °C
Storage temperature	-20 to +80 °C

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Electrical Properties *Cat. 7 Screened-pair Horizontal Cables **

Freq. (MHz)	Attenuation (dB/100m) Max.	NEXT (dB/100m) Min.	PS NEXT (dB/100m) Min.	ACRF (dB/100m) Min.	PS ACRF (dB/100m) Min.	RL (dB/100m) Min.	P.Delay (ns/100m) Max.
4	3.7	78.0*	75.0*	78.0*	75.0*	23.0	552
8	5.2	78.0*	75.0*	75.9	72.9	24.5	547
10	5.9	78.0*	75.0*	74.0	71.0	25.0	545
16	7.4	78.0*	75.0*	69.9	66.9	25.0	543
20	8.3	78.0*	75.0*	68.0	65.0	25.0	542
25	9.3	78.0*	75.0*	66.0	63.0	24.3	541
31,25	10.4	78.0*	75.0*	64.1	61.1	23.6	540
62,5	14.9	75.5	72.5	58.1	55.1	21.5	539
100	19.0	72.4	69.4	54.0	51.0	20.1	538
200	27.5	67.9	64.9	48.0	45.0	18.0	537
400	40.0	63.4	60.4	42.0	39.0	17.3	536
600	50.1	60.7	57.7	38.4	35.4	17.3	535

The cable performance between 1 MHz and 4MHz is achieved by design only and it is therefore not necessary to test for this performance below 4MHz. (According to the IEC 61156-5 standard)

Specification

Part Number	Type
AML7-SF23-ZF1	Armada® Cat.7 4x2x23/1 AWG S/FTP Horizontal Cable FR-LSZH SHF1 <DNV Approved TAE00004TC >