LanMarin® Cat 6A Flex SHF1

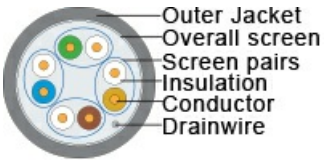
S/FTP
AWG 23/7 Flexible
SHF1, UV
DNV

Application

Approved LAN cable, designed for ship- and offshore applications. Tested according to IEC 61156 - 5 for transmission characteristics up to 500 MHz - Horizontal floor wiring - Sectional specification, Ethernet IEEE 802.3at-2009 Type 4 (PoE++). This cable can be used in rough environments.

Construction

Conductor	0.26 [mm²] Stranded Tinned Cu 0.22 x 7 [mm] AWG 23/7
Insulation	Foam PE 1.55 ± 0.05 [mm]
No. of pairs	4
Colour code	pair 1: white/blue - blue pair 2: white/orange - orange pair 3: white/green - green pair 4: white/brown - brown
Individual Screen pairs	Al/Mylar tape
Drain wire	0.4mm solid Annealed Tinned Copper
Screen	Tinned Cu-braid
Jacket	Grey SHF1
O.D.	8.5 ± 0.3 [mm]
Weight	80 [kg/km]
Jacket marking	NEK Kabel – LanMarin CAT6A S/FTP 4x2x AWG23/7 – SHF1 – IEC 60332-3-22 – DNV – "batch" – YY/MM/DD – ****m



Specifications

Operating temperature normal	-40 – +80 [°C]
Temperature @ installation	-20 – +80 [°C]
Dielectric strength	DC 1kV for 1min.
Characteristic impedance	100 ± 5 Ω
Conductor DC resistance	≤ 73.2 [Ω/km]
Resistance unbalance	≤ 5 [%]
Insulation resistance	≥ 5000 [MΩ x km] (IEC 61156-5)
Power over Ethernet	IEEE 802.3at-2009 Type 4 (PoE++)
Rated voltage	≥ 80 [V]
Tensile strength	140 [N]
Capacitance unbalance	≤ 160 [pF/100m]
Velocity factor	70 [%]
Mutual capacitance	48 [nF/km]
Min. bending radius installed	5 [x outer diam]

Norms

Halogenfree, max content corrosive and toxic gases	IEC 60754-1 & IEC 60754-2
Material properties, insulation and sheath	IEC 60092-360
Transmission performance	IEC 61156-5
Design and testing standards	IEC 61156-5 EN 50288-4-2
Flame resistance	IEC 60332-3-22 Cat.A
Flame retardant	IEC 60332-1-2
Smoke emission	IEC 61034-2 (≥ 60%)
Oil and fuel resistant	IEC 60811-2-1 IRM 902 23ºC / 7 days, 70°C / 4h
UV-resistant	UL 1581 (300H)
Certification	DNV

RoHS CE

Prod.no	1089651

Tips

Alternative:
Prod.no. 1089687 bare Cu and DNV approved

Attenuation

Freq. [MHz]	Att. std [dB]	Att.typ [dB]	RL std [dB]	RLtyp [dB]	NEXTst [dB]	NEXTtyp [dB]	PSNEXTstd [dB]	PSNEXT typ [dB]	ELFEXT std [dB]	ELFEXT typ [dB]
4	3.8	3.78	23.0	25.0	66.3	98.0	63.3	95.0	56.0	76.0
8	5.31	5.22	24.5	30.0	61.8	98.0	58.8	95.0	49.9	76.0
10	5.93	5.84	25.0	30.0	60.3	98.0	57.3	95.0	48.0	68.0
16	7.49	7.47	25.0	30.0	57.2	98.0	54.2	95.0	43.9	64.0
20	8.38	8.32	25.0	28.0	55.8	93.0	52.8	90.0	42.0	62.0
25	9.38	9.30	24.3	27.0	54.3	90.0	51.3	87.0	40.0	60.0
31.25	10.5	10.40	23.6	25.0	52.9	88.0	49.9	85.0	38.1	58.4
62,5	14.99	14.91	21.5	24.0	48.4	85.0	45.4	82.0	32.1	55.0
100	19.14	19.10	20.1	24.0	45.3	83.0	42.3	80.0	28.0	48.0
200	27.58	27.50	18.0	21.0	40.8	81.0	37.8	78.0	22.0	52.0
250	31.07	30.83	17.3	20.0	39.3	78.0	36.3	75.0	20.0	40.0
300	34.27	34.09	17.3	19.0	38.1	78.0	35.1	75.0	18.5	38.5
400	40.05	39.86	17.3	19.0	36.3	73.0	33.3	70.0	16.0	36.0
500	45.26	44.72	17.3	19.0	34.8	73.0	31.8	70.0	14.0	34.0

Updated

Date	Rev.	Description
24.04 2019	1	DNV-GL approval
03.12. 2021	2	Updated norms
13.04.2023	3	Additional info.
17.10.2023	4	Rated voltage