

LanMarin® Cat 6 Solid SHF1

F/UTP

AWG 23/1 Solid

SHF1, UV

DNV

Application

Collective screened LAN-cable for ship- and offshore for data transmission. Tested according to IEC 61156 - 5 for transmission characteristics up to 250 MHz - Horizontal floor wiring - Sectional specification. Ethernet IEEE 802.3at-2009 Type 4 (PoE++). This cable can be used in rough environments.



Construction

Conductor	Solid Bare Cu 0.573 [mm] AWG 23/1
Insulation	Foam PE Ø = 1.12 [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
Drain wire	0.4mm solid Annealed Tinned Copper
Tape	Mylar tape
Separator	PE-cross separator
Screen	AL/Mylar ≥100% coverage
Jacket	Grey SHF1
O.D.	7.8 ± 0.4 [mm]
Weight	60 [kg/km]
Jacket marking	NEK Kabel – LanMarin Cat 6 F/UTP 4 x 2 x AWG23/1 – SHF1 – DNV – IEC 60332-3-22 – <batch> – dd/mm/yyyy – ****m

Specifications

Operating temperature normal	-40 - +80
Temperature @ installation	-10 - +60 [°C]
Dielectric strength	DC 1kV for 1min.
Characteristic impedance	100 ± 5 Ω at 1 - 250MHz
Conductor resistance	≤ 95 [Ω/km]
Resistance unbalance	≤ 5 [%]
Insulation resistance	≥ 5000 [Ω x km]
Power over Ethernet	IEEE 802.3at-2009 Type 4 (PoE++)
Rated voltage	≥ 80 [V]
Capacitance unbalance	160 [pF/100m]
Velocity factor	60 [%]
Mutual capacitance	60 [nF/km]
Delay skew	≤ 45ns/100m [v/ 1 - 250MHz]
Min. bending radius	10 [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 (359) 3582
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 IRM 902 23°C / 7 days, 70°C / 4h
UV-resistant	UL 1581 (300H)
CPR classification	Dca-s2,d2,a1
Euroclass	Dca
Certification	DNV
Prod.no	1089623

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	3.83	3.70	23.0	25.0	66.3	85.0	63.3	82.0	56.0	93.0
8	5.37	5.10	24.5	26.0	61.8	80.0	58.8	77.0	49.9	87.0
10	6.00	5.70	25.0	28.0	60.3	78.0	57.3	75.0	48.0	83.0
16	7.61	7.40	25.0	28.0	57.2	75.0	54.2	72.0	43.9	83.0
20	8.53	8.10	25.0	28.0	55.8	72.0	52.8	69.0	42.0	83.0
25	9.57	9.30	24.3	27.2	54.3	70.0	51.3	67.0	40.0	78.0
31.25	10.75	10.00	23.6	27.0	52.9	69.0	49.9	66.0	38.1	73.0
62.5	15.48	14.93	21.5	25.0	48.4	65.0	45.4	62.0	32.1	70.0
100	19.92	19.00	20.1	24.0	45.3	63.0	42.3	60.0	28.0	66.0
150	25.30	23.60	18.8	22.0	42.4	60.0	39.4	57.0	24.2	63.0
200	29.14	27.70	18.0	21.0	40.8	58.0	37.8	55.0	22.0	61.0
250	33.02	31.40	17.3	20.0	39.3	55.0	36.3	52.0	20.0	58.0

Updated

Date	Rev.	Description
15.04 2019	1	DNV Approval
10.10.2023	2	Rated voltage