

LanMarin® Fire Cat 7 - SHF1

AWG 23/1

S/FTP

Fire resistant

SHF1, UV

DNV

Application

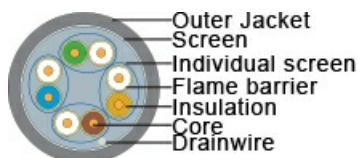
High performance offshore LAN cable with solid conductors, AWG 23/1. Also designed as fire resistant communication cable for car and railway tunnels. Compliant with the category 7 standards, requiring bandwidths up to 600 MHz. Foil screened pairs with an overall tinned copper braid. Tested for high-frequency and transmission measurements for class F-link.

Female Modular plug can be connected to this cable. IEEE 802.3at-2009 Type 4 (PoE++). This cable can be used in rough environments.



Construction

Conductor	Solid Bare Cu AWG 23/1
Insulation	Solid polyolefin
Fire barrier each conductor	Mica tape
No. of pairs	4
Colour code	Pair 1: Blue - White/Blue Pair 2: Orange - White/Orange Pair 3: Green - White/Green Pair 4: Brown - White/Brown
Individual Screen pairs	Al/Mylar tape
Drain wire	0.4mm solid Annealed Tinned Copper
Overall Screen	Tinned Cu-braid diam. of strands: $\geq 0.10\text{mm}$, density $\leq 55\%$
Jacket	Grey LSZH UV-resistant SHF1
O.D.	8.9 ± 0.5 [mm]
Weight	100 [kg/km]
Jacket marking	NEK Kabel – LanMarin Cat 7 FIRE S/FTP 4x2xAWG23/1 SHF1 – IEC 60332-3-22A – IEC 60331-23 – batch no. **** – YY/MM/DD – ****m



Specifications

Operating temperature normal	-40 – +90 [°C]
Temperature @ installation	-15 – +50 [°C]
Conductor resistance	≤ 69.5 [Ω/km]
Insulation resistance	≥ 5000 [MΩ x km]
Power over Ethernet	IEEE 802.3at-2009 Type 4 (PoE++)
Rated voltage	≥ 80 [V]
Capacitance	55 [pF/m] at 800 - 1000 Hz
Impedance	100 ± 5 [Ω] @ 100MHz
Min. bending radius installed	10 [x outer diam]
Min. bending radius @ installation	20 [x outer diam]

Norms

Halogenfree, max content corrosive and toxic gases	IEC 60754-1 & IEC 60754-2
Flame resistance	IEC 60332-3-22
Flame retardant	IEC 60332-1-2
Fire resistant	IEC 60331-23 (180min) EN 50289-4-16 (180min)
Smoke emission	IEC 61034-1 & IEC 61034-2
Oil and fuel resistant	IEC 60811-404 IRM 902
UV-resistant	ASTM D 2565 92A
Certification	DNV



Prod.no.	1089665
----------	---------

Frequency (MHz)	Attenuation (dB/100m)	NEXT (dB)	PS-NEXT (dB)	ELFEXT (dB)	PS-ELFEXT (dB)	RL (dB)
4	3.7	78.0	75.0	78.0	75.0	23.0
10	5.9	78.0	75.0	75.3	72.3	25.0
16	7.4	78.0	75.0	71.2	68.2	25.0
31.25	10.4	78.0	75.0	65.4	62.4	20.1
62.5	14.9	75.5	72.5	59.4	56.4	18.9
100	19.0	72.4	69.4	55.3	52.3	18.0
150	23.6	69.8	66.8	51.8	48.8	17.3
200	27.5	67.9	64.9	49.3	46.3	17.3
250	31.0	66.4	63.4	47.3	44.3	17.3
300	34.2	65.2	62.2	45.8	42.8	17.3
400	40.0	63.4	60.4	43.3	40.3	17.3
500	45.3	61.9	58.9	41.3	38.3	17.3
600	50.1	60.7	57.7	39.7	36.7	17.3

Updated

Date	Rev.	Description
19.01.21	1	Updated Norms
15.12.22	2	Outer diam.
03.10.2023	3	Rated voltage