



LanMarin® Cat 7A Solid

AWG 23/1

S/FTP

SHF1, UV

DNV

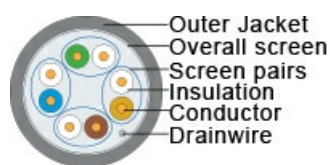
Application

Individual and collective screened lan-cable for ship and offshore, low smoke, halogenfree and UV-resistant SHF1 jacket. The cable meets the EMC requirement with proper ground connection. The cable is tested for high-frequency and transmission measurements for class F-link. Ethernet IEEE 802.3at-2009 Type 2 (PoE+). This cable can be used in rough environments.



Construction

Conductor	Solid Bare Cu 0.560 [mm]
Insulation	Foam PE $\varnothing = 1.37 \pm 0.05$ [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 ≥ 60 [% coverage]
Jacket	Black or grey SHF1
O.D.	8.0 ± 0.3 [mm]
Weight	93 [kg/km]
Jacket marking	NEK Kabel – LanMarin® Cat 7A S/FTP 4x2xAWG23/1 SHF1 – IEC 60332-3-22 – DNV – < batch no. >– DD/MM/YY – ****m





Specifications

Operating temperature normal	-40 – +80 [°C]
Temperature @ installation	-20 – +60 [°C]
Conductor DC resistance	≤ 93.8 [Ω/km]
Resistance unbalance	≤ 2 [%]
Insulation resistance	≥ 5000 [Ω x km]
Power over Ethernet	IEEE 802.3at-2009 Type 2 (PoE+)
Rated voltage	≥ 80 [V]
Capacitance unbalance	(pair to ground) ≤ 160 [pF/100m at 1kHz]
Velocity factor	70 [%]
Mutual capacitance	48 [nF/km]
Dielectric strength(conductor/conductor)	DC 1kV for 1 min.
Dielectric strength(conductor/screen)	DC 1kV for 1 min.
Min. bending radius repeated	15 [x outer diam.]
Min. bending radius installed	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
Transmission performance	IEC 61156-5
Flame resistance	IEC 60332-3-22
Flame retardant	IEC 60332-1-2
Smoke emission	IEC 61034-2 (≥ 60 %)
Oil and fuel resistant	IRM 902 4h @ 70°C
UV-resistant	UL 1581 (300H)
Certification	DNV

Part No.	Black - 2030013 Grey - 1089621
----------	-----------------------------------





Frequency (MHz)	Att. Max (dB/100m)	Return loss Min. (dB)	NEXT Min. (dB)	PS NEXT Min. (dB)	ACR-F Min. (dB)	PS ACR-F Min. (dB)
4	3.74	23.0	78.0	75.0	78.0	75.0
8	5.22	24.5	78.0	75.0	77.2	74.2
10	5.82	25.0	78.0	75.0	75.3	42.3
16	7.34	25.0	78.0	75.0	71.2	68.2
20	8.20	25.0	78.0	75.0	69.3	66.3
25	9.17	24.3	78.0	75.0	67.3	64.3
31.25	20.26	23.6	78.0	75.0	65.4	62.4
62.5	14.57	21.5	78.0	75.0	59.4	56.4
100	18.52	20.1	75.4	72.5	55.3	52.3
200	26.47	18.0	70.9	67.9	49.3	46.3
250	29.73	17.3	69.4	66.4	47.3	44.3
300	32.69	17.3	68.2	65.2	45.8	42.8
500	42.76	17.3	64.9	61.9	41.3	38.3
600	47.10	17.3	63.7	60.7	39.7	36.7
800	54.92	16.1	61.9	58.9	37.2	34.2
1000	61.93	15.1	60.4	57.4	35.3	32.3

Updated

Date	Rev.	Description
April 2019	1	DNV-GL Approval
04.06.2019	2	Added information
20.09.2023	3	Drain wire & Rated voltage