LanMarin® Cat 6A ARM SHF1

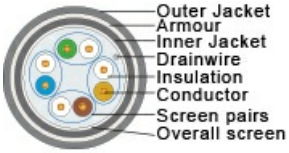
S/FTP
AWG 23/7 Flexible
Armoured
SHF1, UV
DNV

Application

Reinforced cable for ship- and offshore LAN installations. The product is approved and available in alternative designs. Galvanized steel braid or tinned Cu-braid armour. This product is suitable for use in EMC-installations. Cable for transmission characteristics up to 1 000 MHz - horizontal floor wiring - Sectional specification, Ethernet IEEE 802.3at-2009 Type 2 (PoE+). This cable can be used in rough environments.

Construction

Conductor	Stranded tinned Cu AWG 23/7
Insulation	Foam PE Ø = 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
Overall Screen	Tinned Cu-braid ≥ 60 [% coverage]
Inner jacket	SHF1 Ø = 8.5 ± 0.3 [mm]
Armour alt.1	Galvanised steel wire braid ≥ 60 [% coverage]
Armour alt.2	Tinned Cu-braid
Outer Jacket	Grey SHF1 , other colours on request
O.D.	11.5 ± 0.6 [mm]
Weight	175 [kg/km]
Jacket marking	Nek Kabel - LanMarin Cat 6A S/FTP 4x2xAWG23/7 SHF1 GSWB - DNV - IEC 60332-3-22 - <batch no.> - <year> - <meter mrk.>



Specifications

Operating temperature normal	-40 – +80 [°C]
Temperature @ installation	-20 – +60 [°C]
Dielectric strength	DC 1kV for 1min.
Impedance at 100MHz	100 ± 5 [Ω]
Conductor DC resistance	≥ 73.2 [Ω/km]
Resistance DC unbalance	≥ 5 [%]
Insulation resistance	≥ 5000 [Ω x km] (IEC 60189-1)
Power over Ethernet	IEEE 802.3at-2009 Type 2 (PoE+)
Rated voltage	≥ 80 [V]
Capacitance unbalance	≤ 160 [pF/100m at 1kHz] (IEC 60189-1)
Velocity factor	70 [%]
Mutual capacitance	48 [nF/km]
Min. bending radius installed	5 [x outer diam]
Min. bending radius @ installation	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
Design and testing standards	IEC 61156-5
Flame resistance	IEC 60332-3-22 Cat.A
Flame retardant	IEC 60332-1-2
Smoke emission	IEC 61034-2 ≥ 60%
Oil and fuel resistant	IRM 902 23ºC / 7 days, 70°C / 4h
UV-resistant	UL 1581 (300H)
Certification	DNV

CE RoHS

Prod.no.	GSWB: 1089656 TCWB: 1089690

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	3.80	3.50	23.0	25.0	66.3	98.0	63.3	95.0	56.0	76.0
8	5.31	4.83	24.5	30.0	61.8	98.0	58.8	95.0	49.9	76.0
10	5.93	5.40	25.0	30.0	60.3	98.0	57.3	95.0	48.0	68.0
16	7.49	6.92	25.0	30.0	57.2	98.0	54.2	96.0	43.9	64.0
20	8.38	7.80	25.0	28.0	55.8	93.0	52.8	90.0	42.0	62.0
25	9.38	8.80	24.3	27.0	54.3	90.0	51.3	87.0	40.0	60.0
31,25	10.50	9.90	23.6	35.0	52.9	88.0	49.9	85.0	38.1	58.4
62,5	14.99	14.11	21.5	24.0	48.4	85.0	45.4	82.0	32.1	55.0
100	19.14	17.90	20.1	24.0	45.3	83.0	42.3	80.0	28.0	48.0
200	27.58	25.67	18.0	21.0	40.8	81.0	37.8	78.0	22.0	52.0
250	31.07	28.83	17.3	20.0	39.3	78.0	36.3	75.0	20.0	40.0
300	34.27	31.69	17.3	19.0	38.1	78.0	35.1	75.0	18.5	38.5
400	40.05	36.96	17.3	19.0	36.3	73.0	33.3	70.0	16.0	36.0
500	45.26	41.72	17.3	19.0	34.8	73.0	31.8	70.0	14.0	34.0

Updated

Date	Rev.	Description
April 2019	1	Renewal DNV-GL
16.02.2022	2	Weight, dimension
16.10.2023	3	Rated voltage