LanMarin® Cat 7 Flex

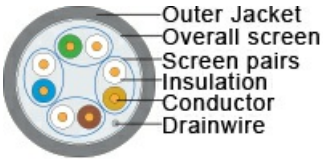
S/FTP
AWG 23/7, stranded
SHF1, UV
DNV

Application

High performance offshore LAN cable with stranded conductors, AWG 23/7. 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. Ethernet IEEE 802.3at-2009 Type 2 (PoE+).
This cable can be used in rough environments.

Construction

Conductor	Flexible tinned Cu AWG 23/7 (7x0,23mm)
Insulation	Cellular PE Ø=1,55 ± 0,05 [mm]
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/PET
Drain wire	0.4mm solid Annealed Tinned Copper
Overall Screen	Tinned Cu-braid ≥ 60% coverage
Jacket	Grey SHF1
O.D.	8.5 ± 0.30 [mm]
Weight	97 [kg/km]
Jacket marking	NEK Kabel - LanMarin CAT7 S/FTP 4x2xAWG23/7 SHF1 - 60332-3-22 - DNV-GL, RMRS - <batch no > - <DD/MM/YY> - <meter marking>



Specifications

Operating temperature normal	-40 – +80 [°C]
Temperature @ installation	-20 – +60 [°C]
Dielectric strength	DC1kV for 1min.
Characteristic impedance	100±5 [Ω @ 1MHz]
Conductor resistance	≤ 73,2 [Ω/km]
Resistance unbalance	≤ 5 [%]
Insulation resistance	≥ 5000 [MΩ x km] (IEC 61156-5)
Test voltage	1 [kV-DC 1 min.]
Capacitance unbalance	≤ 160 [pF/100m] @ 1kHz (IEC 61156-5)
Velocity factor	70 [%]
Mutual capacitance	48 [nF/km]
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
Design and testing standards	IEC 61156-5
Flame resistance	IEC 60332-3-22 Cat.A
Flame retardant	IEC 60332-1
Smoke emission	IEC 61034-2 , ≥ 60%
Oil and fuel resistant	IRM 902 4h @ 70°C
UV-resistant	UL 1581 (300H)
Certification	DNV

RoHS CE

Part No.	1089666

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	3,74	3,59	23,0	25,0	78,0	101,0	75,0	98,0	78,0	93,0
8	5,24	5,03	24,5	27,5	78,0	99,0	75,0	96,0	77,2	91,0
10	5,86	5,63	25,0	28,0	78,0	98,0	75,0	95,0	75,3	89,0
16	7,41	7,11	25,0	28,0	78,0	96,0	75,0	93,0	71,2	86,0
20	8,29	7,96	25,0	28,0	78,0	93,0	75,0	90,0	69,3	83,0
25	9,29	8,92	24,3	28,0	78,0	93,0	75,0	90,0	67,3	81,0
31,25	10,41	10,00	23,6	27,0	78,0	93,0	75,0	90,0	65,4	79,0
62,5	14,88	14,28	21,5	25,5	75,5	88,0	72,5	85,0	59,4	74,0
100	19,2	18,26	20,1	24,0	72,4	83,0	69,4	80,0	55,3	69,0
200	27,47	26,37	18,0	21,0	67,9	83,0	64,9	80,0	51,5	63,0
250	31,97	30,69	17,3	20,0	66,4	80,0	63,4	77,0	49,3	61,0
300	34,19	32,82	17,3	19,0	65,2	80,0	62,2	77,0	45,8	55,0
500	45,26	43,45	17,3	19,0	61,9	75,0	58,9	72,0	41,3	50,0
600	50,10	48,10	17,3	19,0	60,7	75,0	57,7	72,0	39,7	48,0

Updated

Date	Rev.	Description
April 2019	1	DNV-GL Approved
05.06.2019	2	Add. information
08.11.2023	3	Add. information