LanMarin® Cat 7A Flex

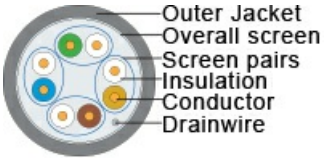
S/FTP
AWG 23/7
UV, SHF1
DNV

Application

Individual and collective screened lan-cable for ship and offshore, low smoke, halogenfree and UV-resistant SHF1 jacket. This product is suitable for use in EMC installations. The cable is tested for high-frequency and transmission measurements for class F-link. Also available with solid conductors. IEEE 802.3at-2009 Type 2 (PoE+).
This cable can be used in rough environments.

Construction

Conductor	0.26 [mm²] Stranded tinned Cu AWG 23/7
Insulation	Foamskin PE Ø=1.55 ± 0.05 [mm]
No. of pairs	4
Colour code	IEC
Individual Screen pairs	Al/PET
Drain wire	0.4mm solid Annealed Tinned Copper
Screen	Tinned Cu-braid ≥ 60 [% coverage]
Jacket	Grey SHF1 UV-resistant
O.D.	8.5 ± 0.3 [mm]
Weight	105 [kg/km]
Jacket marking	NEK Kabel LanMarin® CAT7A S/FTP 4 x 2 x AWG23/7 – SHF1 – IEC60332-3-22 – DNV – Batch no– DD/MM/YY – ****m



Specifications

Operating temperature normal	-40 – +80 [°C]
Temperature @ installation	-20 – +60 [°C]
Dielectric strength	DC1kV for 1min.
Characteristic impedance	100 ± 15 [Ω @ 100 MHz]
Conductor resistance	≤ 73.2 [Ω/km]
Resistance unbalance	≤ 5 [%]
Insulation resistance	≥ 5000 [MΩ x km]
Power over Ethernet	IEEE 802.3at-2009 Type 2 (PoE+)
Rated voltage	≥ 80 [V]
Test voltage	1 [kV-1min.]
Capacitance unbalance	≤ 160 [pF/100m] @ 1kHz (IEC 61156-5)
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 SHF1
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

RoHS √

Part No.	1089616

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	3,75	3,55	23,0	25,0	78,0	101,0	75,0	98,0	78,0	93,0
8	5,22	4,90	24,5	27,5	78,0	99,0	75,0	96,0	77,2	91,0
10	5,82	5,48	25,0	28,0	78,0	98,0	75,0	95,0	75,3	89,0
16	7,34	7,01	25,0	28,0	78,0	96,0	75,0	93,0	71,2	86,0
20	8,21	7,91	25,0	28,0	78,0	93,0	75,0	90,0	69,3	83,0
25	9,18	8,91	24,3	28,0	78,0	93,0	75,0	90,0	67,3	81,0
31,25	10,26	10,02	23,6	27,0	78,0	93,0	75,0	90,0	65,4	79,0
62,5	14,57	14,29	21,5	25,0	78,0	88,0	75,0	85,0	59,4	74,0
100	18,53	18,12	20,1	24,0	75,4	83,0	72,5	80,0	55,3	69,0
200	26,47	25,90	18,0	21,0	70,9	83,0	67,9	80,0	49,3	63,0
250	29,73	29,06	17,3	20,0	69,4	80,0	66,4	77,0	47,3	61,0
300	32,69	31,96	17,3	19,0	68,2	80,0	65,2	77,0	45,8	55,0
500	42,76	41,47	17,3	19,0	64,9	75,0	61,9	72,0	41,3	50,0
600	47,10	45,79	17,3	19,0	63,7	75,0	60,7	72,0	39,7	48,0
800	54,92	53,73	16,1	19,0	61,9	75,0	58,9	72,0	37,2	45,0
1000	61,93	60,24	15,1	19,0	60,4	75,0	57,4	72,0	35,3	42,0

Updated

Date	Rev.	Description
April 2019	1	DNV-GL Approval
20.09.2023	2	Drain wire
23.10.2023	3	Power over Ethernet