

LanMarin® Cat 6A Flex SHF1

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

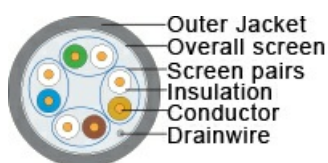
Application

Approved LAN cable, designed for ship- and offshore applications. Tested according to IEC 61156 - 5 for transmission characteristics up to 500 MHz - Horizontal floor wiring - Sectional specification, Ethernet IEEE 802.3at-2009 Type 4 (PoE++). This cable can be used in rough environments.



Construction

| | |
|-------------------------|--|
| Conductor | 0.26 [mm ²] Stranded Tinned Cu 0.22 x 7 [mm] AWG 23/7 |
| Insulation | Foam PE 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 |
| Screen | Tinned Cu-braid |
| Jacket | Grey SHF1 |
| O.D. | 8.5 ± 0.3 [mm] |
| Weight | 80 [kg/km] |
| Jacket marking | NEK Kabel – LanMarin CAT6A S/FTP 4x2x AWG23/7 – SHF1 – IEC 60332-3-22 – DNV – "batch" – YY/MM/DD – ****m |



Specifications

| | |
|-------------------------------|----------------------------------|
| Operating temperature normal | -40 – +80 [°C] |
| Temperature @ installation | -20 – +80 [°C] |
| Dielectric strength | DC 1kV for 1min. |
| Characteristic impedance | 100 ± 5 Ω |
| Conductor DC resistance | ≤ 73.2 [Ω/km] |
| Resistance unbalance | ≤ 5 [%] |
| Insulation resistance | ≥ 5000 [MΩ x km] (IEC 61156-5) |
| Power over Ethernet | IEEE 802.3at-2009 Type 4 (PoE++) |
| Rated voltage | ≥ 80 [V] |
| Tensile strength | 140 [N] |
| Capacitance unbalance | ≤ 160 [pF/100m] |
| Velocity factor | 70 [%] |
| Mutual capacitance | 48 [nF/km] |
| Min. bending radius installed | 5 [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 |
| Design and testing standards | IEC 61156-5 EN 50288-4-2 |
| Flame resistance | IEC 60332-3-22 Cat.A |
| Flame retardant | IEC 60332-1-2 |
| Smoke emission | IEC 61034-2 (≥ 60%) |
| Oil and fuel resistant | IEC 60811-2-1 IRM 902 23°C / 7 days, 70°C / 4h |
| UV-resistant | UL 1581 (300H) |
| Certification | DNV |



| | |
|---------|---------|
| Prod.no | 1089651 |
|---------|---------|

Alternative:
Prod.no. 1089687 bare Cu and DNV approved



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 | 3.8 | 3.78 | 23.0 | 25.0 | 66.3 | 98.0 | 63.3 | 95.0 | 56.0 | 76.0 |
| 8 | 5.31 | 5.22 | 24.5 | 30.0 | 61.8 | 98.0 | 58.8 | 95.0 | 49.9 | 76.0 |
| 10 | 5.93 | 5.84 | 25.0 | 30.0 | 60.3 | 98.0 | 57.3 | 95.0 | 48.0 | 68.0 |
| 16 | 7.49 | 7.47 | 25.0 | 30.0 | 57.2 | 98.0 | 54.2 | 95.0 | 43.9 | 64.0 |
| 20 | 8.38 | 8.32 | 25.0 | 28.0 | 55.8 | 93.0 | 52.8 | 90.0 | 42.0 | 62.0 |
| 25 | 9.38 | 9.30 | 24.3 | 27.0 | 54.3 | 90.0 | 51.3 | 87.0 | 40.0 | 60.0 |
| 31.25 | 10.5 | 10.40 | 23.6 | 25.0 | 52.9 | 88.0 | 49.9 | 85.0 | 38.1 | 58.4 |
| 62,5 | 14.99 | 14.91 | 21.5 | 24.0 | 48.4 | 85.0 | 45.4 | 82.0 | 32.1 | 55.0 |
| 100 | 19.14 | 19.10 | 20.1 | 24.0 | 45.3 | 83.0 | 42.3 | 80.0 | 28.0 | 48.0 |
| 200 | 27.58 | 27.50 | 18.0 | 21.0 | 40.8 | 81.0 | 37.8 | 78.0 | 22.0 | 52.0 |
| 250 | 31.07 | 30.83 | 17.3 | 20.0 | 39.3 | 78.0 | 36.3 | 75.0 | 20.0 | 40.0 |
| 300 | 34.27 | 34.09 | 17.3 | 19.0 | 38.1 | 78.0 | 35.1 | 75.0 | 18.5 | 38.5 |
| 400 | 40.05 | 39.86 | 17.3 | 19.0 | 36.3 | 73.0 | 33.3 | 70.0 | 16.0 | 36.0 |
| 500 | 45.26 | 44.72 | 17.3 | 19.0 | 34.8 | 73.0 | 31.8 | 70.0 | 14.0 | 34.0 |

Updated

| Date | Rev. | Description |
|-------------|------|------------------|
| 24.04 2019 | 1 | DNV-GL approval |
| 03.12. 2021 | 2 | Updated norms |
| 13.04.2023 | 3 | Additional info. |
| 17.10.2023 | 4 | Rated voltage |