

# LanMarin® Cat 6A Solid

S/FTP

Solid AWG 23/1

UV, SHF1

DNV

## Application

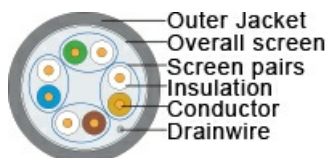
Individual and collective screened LAN-cable, designed for ship- and offshore applications. The cable is used for datatransmission with characteristic impedance for 100  $\Omega$  and 500 MHz bandwidth. Ethernet IEEE 802.3at-2009 Type 2 (PoE+).

This cable can be used in rough environments.



## Construction

|                         |  |
|-------------------------|--|
| Conductor               | Solid Bare Cu 0.56 [mm] AWG 23/1   |
| Drainwire               | Tinned Cu  |
| Dielectricum            | Cellular PE 1.34 $\pm$ 0.05 [mm]   |
| No. of pairs            | 4  |
| Colour code             | IEC  |
| Individual Screen pairs | Al/Mylar tape  |
| Screen 2                | Tinned Cu braid $\geq$ 60 [% optical coverage]   |
| Jacket                  | Grey SHF1 , other colours on request.  |
| O.D.                    | 8.0 $\pm$ 0.3 [mm]   |
| Weight                  | 60 [kg/km]   |
| Jacket marking          | NEK KABEL AS – LanMarin CAT6A 4x2xAWG23/1 SHF1 – DNV – IEC 60332-3-22 – ****m – (Batch) – YY/MM/DD |





## Specifications

|                              |                                 |
|------------------------------|---------------------------------|
| Operating temperature normal | -40 – +80 [°C]                  |
| Temperature @ installation   | -20 – +60 [°C]                  |
| Dielectric strength          | DC1kV for 1min.                 |
| Characteristic impedance     | 100 [Ω]                         |
| Conductor DC resistance      | ≤ 93.8 [Ω/km]                   |
| Tensile strength             | > 100 [N]                       |
| Resistance DC unbalance      | ≤ 5 [%]                         |
| Insulation resistance        | ≤ 5000 [MΩ x km] (IEC 61156-5)  |
| Power over Ethernet          | IEEE 802.3at-2009 Type 2 (PoE+) |
| Rated voltage                | ≥ 80 [V]                        |
| Capacitance unbalance        | ≤ 160 [pF/100m]                 |
| 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                   |
| Flame retardant                                    | IEC 60332-1-2                    |
| Smoke emission                                     | IEC 61034-2 (≥ 60)               |
| Oil and fuel resistant                             | IRM 902 23°C / 7 days, 70°C / 4h |
| UV-resistant                                       | UL 1581 (300H)                   |
| Certification                                      | DNV                              |



|          |         |
|----------|---------|
| Part No. | 1089669 |
|----------|---------|



## Attenuation

| Frequency (MHz) | Attenuation Max. (dB/100m) | Return Loss (dB/100m) | NEXT (dB/100m) | PS-NEXT (dB/100m) | ELFEXT (dB(100m)) | PS-ELFEXT (dB/100m) |
|-----------------|----------------------------|-----------------------|----------------|-------------------|-------------------|---------------------|
| 4               | 3.80                       | 23.0                  | 66.3           | 63.3              | 56.0              | 53.0                |
| 8               | 5.31                       | 24.5                  | 61.8           | 58.8              | 49.9              | 46.9                |
| 10              | 5.93                       | 25.0                  | 60.3           | 57.3              | 48.0              | 45.0                |
| 16              | 7.49                       | 25.0                  | 57.2           | 54.2              | 43.9              | 40.9                |
| 20              | 8.38                       | 25.0                  | 55.8           | 52.8              | 42.0              | 39.0                |
| 25              | 9.38                       | 24.3                  | 54.3           | 51.3              | 40.0              | 37.0                |
| 31.25           | 10.50                      | 23.6                  | 52.9           | 49.9              | 38.1              | 35.1                |
| 62.5            | 14.99                      | 21.5                  | 48.4           | 45.4              | 32.1              | 29.1                |
| 100             | 19.14                      | 20.1                  | 45.3           | 42.3              | 28.0              | 25.0                |
| 200             | 27.58                      | 18.0                  | 40.8           | 37.8              | 22.0              | 19.0                |
| 250             | 31.07                      | 17.3                  | 39.3           | 36.3              | 20.0              | 17.0                |
| 300             | 34.27                      | 17.3                  | 38.1           | 35.1              | 18.5              | 15.5                |
| 400             | 40.05                      | 17.3                  | 36.3           | 33.3              | 16.0              | 13.0                |
| 500             | 45.26                      | 17.3                  | 34.8           | 31.8              | 14.0              | 11.0                |

## Updated

| Date       | Rev. | Description                    |
|------------|------|--------------------------------|
| 21.03.2022 | 1    | Attenuation + additional info. |
| 13.04.2023 | 2    | Additional info.               |
| 17.10.2023 | 3    | Rated voltage                  |