



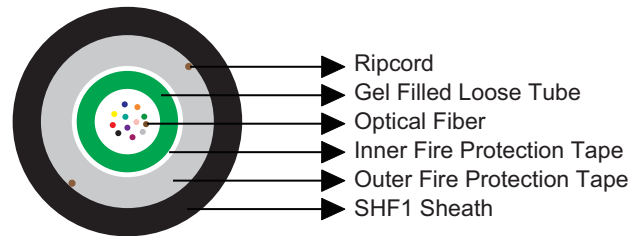
## Fire Resistant Central Loose Tube Optical Fiber Cables

### Application

These optical fiber cables are designed to data transmission in ship and specially in cruise ship where low smoke, halogen free and fire resistant cables are required to increase safety on board, suitable for flexible installation on and below deck of commercial ships without constant exposure to oil, grease and other lubricants.

### Standards

- IEC 60092-350/351/352/353/359/370/376
- IEC 60332-1-2
- IEC 60332-3-22
- IEC 60754-1/2
- IEC 61034
- IEC 60331-11 and -25



### Construction

- Optical Fiber: Loose tube, gel filled.
- Inner Tape: Fire protection tape.
- Outer Tape: Fire protection tape.
- Outer Sheath: SHF1.

### Fiber Specification

|                                  |    | G50/125  | G62.5/125 | E9/125    |
|----------------------------------|----|----------|-----------|-----------|
| Geometry/Mechanical Properties   |    |          |           |           |
| Core Diameter                    | µm | 50 ± 2.5 | 62.5 ± 3  |           |
| Mode Field Diameter (at 1310 nm) | µm |          |           | 9.2 ± 0.4 |
| Cladding Diameter                | µm | 125 ± 2  | 125 ± 1   | 125 ± 2   |
| Coating Diameter                 | µm | 245 ± 10 | 245 ± 5   | 245 ± 10  |
| Core Non-circularity             | %  | < 5      | < 5       |           |
| Cladding Non-circularity         | %  | < 1      | < 1       | < 1       |
| Core/Clad Concentricity Error    | µm | < 1.5    | < 1.5     | < 0.8     |





|                               |                        |               |       |               |       |           |               |
|-------------------------------|------------------------|---------------|-------|---------------|-------|-----------|---------------|
| Eccentricity of Coating       | μm                     | < 10          |       | < 10          |       | < 10      |               |
| Screen Test                   |                        | ≥100 kpsi     |       | ≥100 kpsi     |       | ≥100 kpsi |               |
| Transmission Properties       |                        | OM2           |       | OM1           |       | OS1       |               |
| Wavelength                    | nm                     | 850           | 1300  | 850           | 1300  | 1310      | 1550          |
| Attenuation Max.              | dB/km                  | 2.7           | 0.8   | 3.2           | 0.9   | 0.36      | 0.22          |
| Bandwidth Min.                | MHz. km                | 500           | 1000  | 250           | 600   |           |               |
| Effective Group of Refraction |                        | 1.483         | 1.478 | 1.497         | 1.493 | 1.4695    | 1.4701        |
| Numerical Aperture            |                        | 0.200 ± 0.015 |       | 0.275 ± 0.015 |       |           |               |
| Dispersion Coefficient Max.   | ps/nm.km               |               |       |               |       | 3.5       | 18            |
| Zero Dispersion Wavelength    | nm                     |               |       |               |       |           | 1300<br>-1322 |
| Dispersion Slope              | ps/nm <sup>2</sup> .km |               |       |               |       |           | ≤0.092        |
| Cutoff Wavelength (cabled)    | nm                     |               |       |               |       |           | ≤1250         |
| Polarization Mode Dispersion  | ps/km <sup>1/2</sup>   |               |       |               |       |           | ≤0.1          |

### Mechanical and Thermal Properties

Bending Radius for Fixed Installations: 20 × OD

Temperature Range: -20°C ~ +60°C

### Dimensions and Weight

| Part No.          | No. of Optical Fibers | Nominal Overall Diameter mm | Nominal Weight kg/km |
|-------------------|-----------------------|-----------------------------|----------------------|
| MLN-FCLA-X-12-H-J | 12                    | 10.0                        | 115                  |
| MLN-FCLB-X-24-H-J | 24                    | 10.5                        | 125                  |

Note: X: Fiber type (0=Fiber and copper conductors in cable 4=50/125 multi-mode fiber (OM3); 5=50/125 multi-mode fiber (OM2); 6=50/125 multi-mode fiber (OM1); 7=NZDS SM fiber per G.656.; 8=NZDS SM fiber per G.655.; 9=Standard SM fiber per G.652.D)