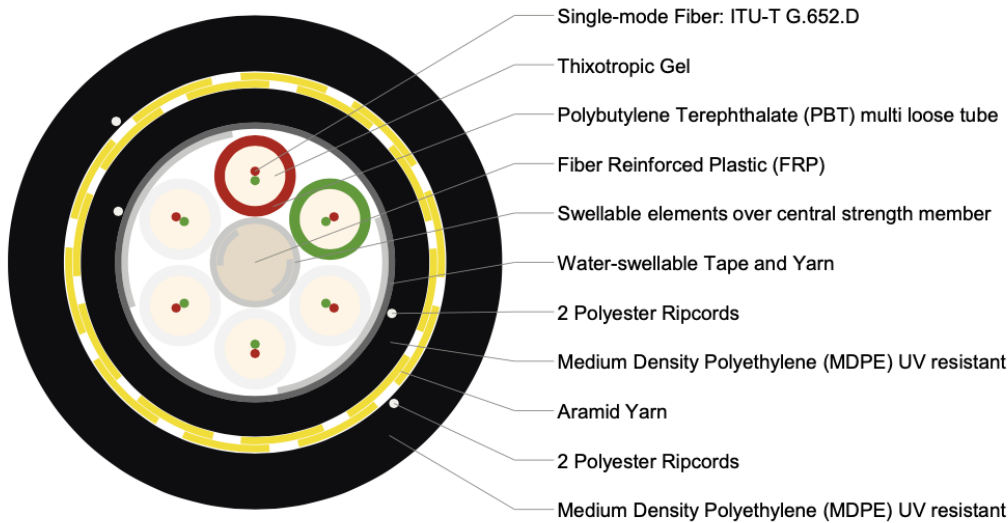


SM-MLT-NMA-DJ-ADSS-(AY60)-12FO(6x2)-(D) Mardal

Multi loose tube, non-metallic armor, aerial, double polyethylene jacket, all-dielectric self-supported, fiber optic cable

Fiber Optic Cable Drawing



• Not to scale.

Fiber Optic Cable Tube and Fiber Core Colors

Tube Color Scheme

| 1 | 2 | 3 | 4 | 5 | 6 |
|-----|-------|---------|---------|---------|---------|
| Red | Green | Natural | Natural | Natural | Natural |

Fiber Optic Core Color Scheme

| 1 | 2 |
|-----|-------|
| Red | Green |

SM-MLT-NMA-DJ-ADSS-(AY60)-12FO(6x2)-(D) Mardal

Multi loose tube, non-metallic armor, aerial, double polyethylene jacket, all-dielectric self-supported, fiber optic cable

| Characteristics | |
|------------------------------------|---|
| Cable Part Number | 3.220AO.6.0.1.1 1.a60.0920.0012.-MDL |
| Optical Fiber Type | Single-mode Fiber: ITU-T G.652.D |
| Optical Fiber Dimensions | 9/125/245/260 μm |
| Optical Fiber Count | 12 |
| Cable Type | Multi Loose Tube |
| Tube Material | Polybutylene Terephthalate (PBT) |
| Tube Diameter | 2,26 mm |
| Tube Filling Compound Material | Thixotropic Gel |
| Active Tube Count | 6 |
| Optical Fibers per Tube | 2 |
| Central Strength Member Material | Fiber Reinforced Plastic (FRP) |
| Central Strength Member Diameter | 2,5 mm |
| Water Blocking Method | Water-swellaable Elements |
| Cable Core Binder | Water-swellaable Yarn |
| Cable Core Wrapping | Water-swellaable Tape |
| Tensile Strength | 6000 N |
| 1st Jacket Strip Method | 2 Polyester Ripcords |
| 1st Jacket Material | Medium Density Polyethylene (MDPE) UV resistant |
| 1st Jacket Color | Black |
| 1st Jacket Wall Thickness | 0,95 mm |
| Dielectric Tensile Strength Member | Aramid Yarn |
| 2nd Jacket Strip Method | 2 Polyester Ripcords |
| 2nd Jacket Material | Medium Density Polyethylene (MDPE) UV resistant |
| 2nd Jacket Color | Black |
| 2nd Jacket Wall Thickness | 1,55 mm |
| Outer Jacket Marking Method | Hot foil stamping |
| Outer Jacket Marking Area | One side |
| Outer Jacket Marking Application | Applied in one meter intervals |
| Nominal Cable Diameter | 12,8 mm |
| Net Cable Weight | 130 kg/km |
| Reel Length | 2000 meters %±5 |

ETK Kablo 2025 SM-MLT-NMA-DJ-ADSS-(AY60)-12FO(6x2)-(D) Mardal Fiber Optic Cable <Length marking in meters>

SM-MLT-NMA-DJ-ADSS-(AY60)-12FO(6x2)-(D) Mardal

Multi loose tube, non-metallic armor, aerial, double polyethylene jacket, all-dielectric self-supported, fiber optic cable

| Mechanical Characteristics (Cabled) | | |
|--|---------------------------|----------------------------|
| Test | Reference Standard | Specified Value |
| Maximum Tensile Strength | IEC 60794-1-21-E1 | ≥ 6000 N |
| Crush Resistance | IEC 60794-1-21-E3 | 3000 N/100 mm (15 minutes) |

| Chemical Characteristics | |
|---------------------------------|--|
| RoHS | Free of hazardous substances according to RoHS regulation. |
| REACH | Safe to use according to REACH regulation. |

| Temperature Range (Cabled) | |
|-----------------------------------|-----------------|
| Transportation | -40 °C to 70 °C |
| Storage | -40 °C to 70 °C |
| Installation | -30 °C to 60 °C |
| Operation | -40 °C to 70 °C |

| Optical Fiber Attenuations (Cabled) | | |
|--|--------------------------------|--------------------------------|
| ITU-T G.652.D | Property | Value |
| | | Maximum attenuation at 1310 nm |
| | Maximum attenuation at 1550 nm | 0.22 dB/km |

SM-MLT-NMA-DJ-ADSS-(AY60)-12FO(6x2)-(D) Mardal

Optical Fiber Core Specification Low Water Peak Single-Mode Optical Fiber Standard, ITU-T G.652.D (Uncolored Fiber)

Low water peak single-mode optical fiber, made by the vapor phase axial deposition (VAD) method, which enables customer to construct high performance wired network for voice, video and/or data transmission. The fiber, made of a germanium doped silica core and a silica cladding, is in compliance with ITU-T G.652 A, B, C and D.

| Structural Specifications | | |
|--|-------------------------------|---|
| Fiber Materials | | |
| Core Material | | Silica (SiO ₂) Doped with Germanium Dioxide (GeO ₂) |
| Cladding Material | | Pure silica (SiO ₂) |
| Coating Material | | Dual layers of UV-cured acrylate. |
| Dimensions | | |
| Mode Field Diameter | at 1310 nm | 9.2 ± 0.4 μm |
| | at 1550 nm | 10.3 ± 0.5 μm |
| Cladding Diameter | | 125.0 ± 0.5 μm |
| Coating Diameter (Uncolored) | | 245 ± 5 μm |
| Core/Cladding Concentricity Error | | ≤ 0.4 μm |
| Cladding Non-circularity | | ≤ 0.5 % |
| Coating - Cladding Concentricity Error | | ≤ 12 μm |
| Fiber Curl Radius | | ≥ 4.0 m |
| Optical Characteristics | | |
| Attenuation Coefficient | at 1310 nm | ≤ 0.334 dB/km |
| | at 1383 nm | ≤ 0.314 dB/km ¹ |
| | at 1550 nm | ≤ 0.194 dB/km |
| | at 1625 nm | ≤ 0.224 dB/km |
| Point Discontinuity | at 1310 nm / 1550 nm | ≤ 0.05 dB |
| Cable Cut-off Wavelength (λ _{cc}) | | < 1260 nm |
| Zero-dispersion Wavelength (λ ₀) | | 1300nm ≤ λ ₀ ≤ 1324 nm |
| Zero-dispersion Slope (S ₀) | | ≤ 0.09 ps/(nm ² ·km) |
| Chromatic Dispersion Coefficient | at 1310 nm | ≤ 3.5 ps/(nm·km) |
| | at 1550 nm | ≤ 17 ps/(nm·km) |
| | at 1625 nm | ≤ 22 ps/(nm·km) |
| Maximum Individual Fiber PMD | | ≤ 0.2 ps/√km |
| Fiber PMD Link Design Value | | ≤ 0.08 ps/√km |
| Mechanical Characteristics | | |
| Proof Stress Level | | 0.86 GPa (1.2%, 120 kpsi) |
| Bending Induced Attenuation | Ø=32 mm, 1 turn at 1550 nm | ≤ 0.05 dB |
| | Ø=50 mm, 100 turns at 1310 nm | ≤ 0.05 dB |
| | Ø=50 mm, 100 turns at 1550 nm | ≤ 0.05 dB |
| | Ø=60 mm, 100 turns at 1625 nm | ≤ 0.05 dB |
| Coating Strip Force (F) | peak | 1.3 N ≤ F ≤ 8.9 N |
| | average | 1.0 N ≤ F ≤ 5.0 N |
| Dynamic Tensile Strength | median; 0.5 m, unaged | ≥ 3.8 Gpa (550 kpsi) |
| | median; 0.5 m, aged | ≥ 3.0 Gpa (440 kpsi) |
| Fatigue | nominal value | 20 |
| Environmental Characteristics ² | | |
| Temperature Cycling | -60 °C to 85 °C | ≤ 0.05 dB/km |
| Temperature Humidity Cycling | -10 °C to 85 °C at 85% R. H. | ≤ 0.05 dB/km |
| Water Immersion | at 23 °C ± 2 °C | ≤ 0.05 dB/km |
| Heat Aging | at 85 °C ± 2 °C | ≤ 0.05 dB/km |
| Damp Heat | 85 °C at 85% R. H. | ≤ 0.05 dB/km |
| Performance Characteristics | | |
| Effective Group Index of Refraction N _{eff} | at 1310 nm / 1383 nm | 1.466 |
| | at 1550 nm | 1.467 |
| | at 1625 nm | 1.470 |

1. Attenuation increase due to hydrogen aging at this wavelength will be 0.01 db/km or less in accordance with IEC IEC60793-2-50 test procedure.
2. Induced attenuation at 1310 nm, 1550 nm and 1625 nm

• The images are for illustrative purposes only.