

Optical Fiber Micro Module Duct Cable 12-144F 1500N

Cable Design

Micro-Module Optical Fiber Cable-Dielectric-Single Sheath-G.652D Fiber



- **Micro Module:** thermoplastic material, containing 12 fiber, with gel inside.
- **Reinforcement member:** Glass yarns.
- **Water penetration member:** Water blocking yarns
- **Strength member:** GFRP inside the outer sheath
- **Outer Sheath:** Black HDPE

Cable Specification

| Cable Cores | | 12 | 24 | 48 | 72 | 96 | 144 |
|------------------------|-------|-----|-----|-----|-----|------|------|
| No. of Module | | 1 | 2 | 4 | 6 | 8 | 12 |
| Fiber Counts in Fiber | | 12 | | | | | |
| Module- ϕ | mm | 1.3 | | | | | |
| Nominal Cable Diameter | mm | 7.0 | 8.0 | 8.5 | 9.0 | 10.5 | 11.5 |
| Nominal Cable Weight | Kg/km | 42 | 49 | 57 | 64 | 85 | 102 |

Cable Application

| Temperature Range | | Minimum Bend Radius | |
|--------------------------|-----------|---------------------|--------|
| Transportation & Storage | -25~+70°C | Load | 25×D |
| Operation | -25~+60°C | Unload | 12.5×D |

Main Mechanical and Environmental Characteristic

| Test | Test Standard | Specified Value | Acceptance Criteria |
|---------------------|------------------|---------------------------|---|
| Tensile | IEC 60794-1-2-E1 | 1500N, 10 min | $\Delta\alpha$ reversible, fiber strains \leq 0.60% |
| Crush | IEC 60794-1-2-E3 | 2000N/10cm, 1 min | $\Delta\alpha$ reversible, no damage |
| Impact | IEC 60794-1-2-E4 | 3J, R=300mm, 3 points | $\Delta\alpha$ reversible, no damage |
| Repeated Bending | IEC 60794-1-2-E6 | R=20D, 40N, 25 cycles | $\Delta\alpha$ reversible, no damage |
| Torsion | IEC 60794-1-2-E7 | 40N, 5 cycles, +/-180° | $\Delta\alpha$ reversible, no damage |
| Temperature Cycling | IEC 60794-1-2-F1 | -20~+60°C, 2 cycles, | $\Delta\alpha$ reversible, no damage |
| Water Penetration | IEC 60794-1-2-F5 | 3m sample, 1m height, 24h | No water leakage |

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Cabled Fiber Performance (G.652D)

| Characteristics | | Acceptance Value |
|---|-----------------|--------------------------------|
| Attenuation | @1310nm | ≤0.35dB/km |
| | @1383nm | ≤0.34dB/km |
| | @1550nm | ≤0.21dB/km |
| | @1625nm | ≤0.23dB/km |
| Mode Field Diameter | @1310nm | 9.2±0.4 μm |
| | @1550nm | 10.4±0.5 μm |
| Dispersion | @1300 +30/-15nm | ≤3.0ps/(nm·km) |
| | @1550nm | ≤18ps/(nm·km) |
| | @1625nm | ≤22ps/(nm·km) |
| Zero-Dispersion wavelength | | 1302nm~1322nm |
| Zero-Dispersion slope | | ≤0.092ps/(nm ² ·km) |
| Cable cutoff wavelength λ _{CC} (nm) | | ≤1260nm |
| Cladding diameter | | 125±0.7μm |
| Cladding non-circularity | | ≤0.7% |
| Core/cladding concentricity error | | ≤0.5μm |
| Proof stress | | ≥0.69GPa(100kpsi) |
| Dynamic stress corrosion susceptibility parameter (typical value) | | ≥20 |

Fiber and Tube Color

Color Identification of Fiber

| No | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------|-----|-------|--------|------|-------|-------|------|--------|-------|--------|------|------|
| Color | Red | Green | Yellow | Blue | Brown | White | Grey | Violet | Black | Orange | Aqua | Pink |

Color Identification of Tube

| No | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-------|-----|-------|--------|------|-------|-------|------|--------|-------|--------|------|------|
| Color | Red | Green | Yellow | Blue | Brown | White | Grey | Violet | Black | Orange | Aqua | Pink |

Sheath Marking, Delivery Length

The outer sheath is marked in 1 meter intervals as follows:

In Accordance with Custom's Requirement

Standard delivery length will be 2 km with -1+3% tolerance.