EZ-Bend® Single-Mode Optical Fiber
The Industry’s Best Macrobend Performance in a Solid-Core G.652.D-Compatible Fiber

Features and Benefits

• Full spectrum fiber provides a 40% increase in usable optical spectrum ready for XG-PON and NG-PON2
• Fully compliant with the ITU-T G.657.B3 recommendation; also compatible with ITU-T G.652.D
• The only G.657.B3 solid glass fiber designed to reliably support low loss even with 2.5 mm radius bends
• Tight geometry for low splice loss and improved connectorization performance
• Excellent fusion splice performance

Overview

EZ-Bend Single-Mode Optical Fiber offers outstanding bend performance to a 2.5 mm radius for the most challenging in-residence and MDU applications. The fiber, developed using OFS’ groundbreaking EZ-Bend Optical Technology, provides at least three times’ lower loss at tight bends than comparable products. Compatible with the installed base of conventional G.652.D single-mode fibers, the fiber meets and exceeds ITU-T G.657.B3 recommendations.

Product Description

Cables using EZ-Bend Optical Fiber can be routed around corners and deployed using traditional fast and easy copper wire installation processes with negligible signal loss. Ideal for aggressive routing environment where space is at a premium, EZ-Bend Fiber offers reliable support for MDU and in-home wiring applications.

EZ-Bend Fiber features solid synthetic glass construction that enables uniform macrobending loss axially and in all bending planes. This results in easy splicing to G.652.D fibers with existing core and clad alignment splicers and standard termination using conventional optical connectors and polishing techniques.

EZ-Bend Fiber retains full spectrum performance due to OFS’ patented fiber manufacturing process, which eliminates hydrogen-aging defects. Its ultra-low fiber Polarization Mode Dispersion (PMD) enables speed and distance upgrades.

Applications

EZ-Bend Fiber provides outstanding bend performance and design freedom for fiber management systems in:
• FTTH – Multi-dwelling Units (MDUs), in-building applications and drop cables
• Central office
• High power applications
• Closures
• At the customer premises

Outstanding Macrobend Performance

• 1 turn on a 5 mm radius mandrel
  ≤ 0.10 dB at 1550 nm
  ≤ 0.20 dB at 1625 nm
• 1 turn on a 2.5 mm radius mandrel
  ≤ 0.20 dB at 1550 nm
  ≤ 0.30 dB at 1625 nm
### EZ-Bend® Single-Mode Optical Fiber

#### Physical Characteristics

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clad Diameter</td>
<td>125.0 ± 0.7 μm</td>
</tr>
<tr>
<td>Clad Non-Circularity</td>
<td>≤ 0.7 %</td>
</tr>
<tr>
<td>Core/Clad Concentricity Error (Offset)</td>
<td>≤ 0.5 μm, &lt; 0.2 μm typically</td>
</tr>
<tr>
<td>Coating Diameter (Uncolored)</td>
<td>237 - 247 μm</td>
</tr>
<tr>
<td>Coating-Clad Concentricity Error (Offset)</td>
<td>≤ 12 μm</td>
</tr>
<tr>
<td>Tensile Proof Test</td>
<td>100 kpsi (0.69 GPa)</td>
</tr>
<tr>
<td>Coating Strip Force</td>
<td>Range: 1.0 N ≤ CSF ≤ 8.9 N</td>
</tr>
<tr>
<td>Standard Reel Lengths</td>
<td>up to 32 km</td>
</tr>
</tbody>
</table>

#### Optical Characteristics

- **Attenuation**
  - at 1310 nm: Maximum ≤ 0.35 dB/km
  - at 1383 nm\(^1\): ≤ 0.35 dB/km
  - at 1490 nm: ≤ 0.24 dB/km
  - at 1550 nm: ≤ 0.21 dB/km
  - at 1625 nm: ≤ 0.23 dB/km

- **Attenuation vs. Wavelength\(^2\)**
  - Range (nm) Reference (nm) \(\lambda\) \(\alpha\)
  - 1285 – 1330 1310 0.03
  - 1360 – 1480 1385 0.04
  - 1525 – 1575 1550 0.02
  - 1460 – 1625 1550 0.04

- **Attenuation Uniformity / Point Discontinuities**
  - at 1310 nm and 1550 nm: ≤ 0.05 dB

- **Chromatic Dispersion**
  - Zero Dispersion Wavelength (\(\lambda_d\)): 1250 – 1324 nm
  - Zero Dispersion Slope (\(S_d\)): ≤ 0.11 ps/nm\(^{2}\)-km

- **Cut-off Wavelength (\(\lambda_{cc}\))**: ≤ 1260 nm

- **Group Refractive Index**
  - at 1310 nm: 1.467
  - at 1550 nm: 1.468

- **Mode Field Diameter**
  - at 1310 nm: 8.3 – 9.1 μm
  - at 1550 nm: 9.2 – 10.4 μm

- **Polarization Mode Dispersion (PMD)\(^3\)**
  - Fiber PMD Link Design Value (LDV)\(^3\): ≤ 0.06 ps/√km
  - Maximum Individual Fiber: ≤ 0.1 ps/√km

- **Environmental Characteristics**
  - Temperature Cycling (-60° + 85 °C): ≤ 0.05 dB/km
  - High Temperature Aging (85 ± 2 °C): ≤ 0.05 dB/km
  - Water Immersion (23 ± 2 °C): ≤ 0.05 dB/km

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\(^1\) As measured with low mode coupling (LMC) technique in fiber form, value may change when cabled. Check with your cable manufacturer for specific PMD limits in cable form.

\(^2\) The PMD Link Design Value complies with IEC 60794-3, September 2001 (N = 20, Q = 0.01%). Details are described in IEC 61282-3 TR Ed 2, October 2006.

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