

FutureGuide™-BIS-B

Compliant with ITU-T G.657.A2 / G.652.D

FutureGuide™-BIS-B is an optical fiber fully compliant with ITU-T G.657.A2, offering excellent macro-bend performance. Fujikura’s optimized VAD (Vapor-phase Axial Deposition) process minimizes hydroxyl (OH) ions, which cause attenuation near 1383 nm (“water peak”), enabling low water peak attenuation compliant with ITU-T G.652.D. Fujikura’s proprietary refractive index profile control technology enhances bending performance. In addition, our coating technology—refined over many years—contributes not only to environmental durability but also to improved bending characteristics. FutureGuide™-BIS-B is suitable for various FTTx applications—including drop cables and patch cords—as well as for high-density cabling in data centers and other space-constrained environments.

Features

- Superior macro-bend performance complying with ITU-T G.657.A2 performance.
- Maintains full compatibility with G.652.D, making it suitable for a wide range of network applications.
- For customers requiring reduced cable diameter, a 200 μm coating option is also available.

Customer’s advantages

- Enables compact and flexible cable routing in tight spaces, reducing installation time and labor.
- Supports high-density cabling with reduced outer diameter, ideal for data center and other space-constrained environments.
- Facilitates efficient splicing and connectorization with tight geometric tolerances.

Optical Characteristics

Attenuation	
Attenuation coefficient at 1310 nm	≤ 0.35 dB/km
Attenuation coefficient at 1383 nm	≤ 0.34 dB/km *1
Attenuation coefficient at 1550 nm	≤ 0.20 dB/km
Attenuation coefficient at 1625 nm	≤ 0.22 dB/km
Attenuation vs. wavelength *2	
1285 – 1330 nm ref. λ of 1310 nm	$\alpha \leq 0.03$ dB/km
1525 – 1575 nm ref. λ of 1550 nm	$\alpha \leq 0.02$ dB/km
Macro-bending loss	
Ø =30 mm, 10 turns at 1550 nm	≤ 0.03 dB
Ø =30 mm, 10 turns at 1625 nm	≤ 0.1 dB
Ø =20 mm, 1 turn at 1550 nm	≤ 0.1 dB
Ø =20 mm, 1 turn at 1625 nm	≤ 0.2 dB
Ø =15 mm, 1 turn at 1550 nm	≤ 0.5 dB
Ø =15 mm, 1 turn at 1625 nm	≤ 1.0 dB

Cut off wavelength	
Cable cut-off wavelength	≤ 1260 nm
Chromatic dispersion	
Chromatic dispersion coefficient at 1285-1330 nm	≤ 3.5 ps/(nm·km)
Chromatic dispersion coefficient at 1550 nm	13.3 - 18 ps/(nm·km)
Chromatic dispersion coefficient at 1625 nm	17.2 - 22 ps/(nm·km)
Zero-dispersion wavelength	1300 - 1324 nm
Zero-dispersion slope	0.073 - 0.092 ps/(nm ² ·km)
Polarization mode dispersion (PMD) *3	
Uncabled fiber PMD coefficient	≤ 0.1 ps/√km
Link design value PMD _Q	≤ 0.08 ps/√km

*1. The attenuation at 1383nm after hydrogen aging in accordance with IEC60793-2-50

*2. The attenuation within the specified wavelength range is limited to a difference of α or less compared to the reference wavelength (ref. λ).

*3. This characteristic is guaranteed only under virtually tension-free condition.



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Structural Characteristics

Mode field diameter at 1310 nm	8.6 ± 0.4 μm
Cladding diameter	125.0 ± 0.7 μm
Coating diameter (uncolored)	240 ± 5 μm
Coating diameter (colored)	250 ± 10 μm
Core concentricity error	≤ 0.5 μm
Cladding non-circularity	≤ 1.0 %
Coating-Cladding concentricity	≤ 12 μm
Fiber curl radius	≥ 4.0 m

Mechanical Characteristics

Proof test *4	≥ 1.5 % (150 kpsi or 1.0 GPa)
Dynamic stress corrosion susceptibility parameter (n _d)	≥ 20
Coating strippability F	1.3 N ≤ F ≤ 8.9 N

*4. The product is subjected to tensile testing throughout its entire length.

Environmental Characteristics

	Attenuation Change at 1310, 1550, 1625 nm
Temperature dependence -60 to 85 °C	≤ 0.05 dB/km Ref. temp. 23 °C
Water immersion at 23 °C ± 2 °C	≤ 0.05 dB/km
Dry heat at 85 °C ± 2 °C	≤ 0.05 dB/km Ref. temp. 23 °C
Damp Heat 85 °C at 85 %R.H.	≤ 0.05 dB/km Ref. temp. 23 °C

Performance Characteristics

	Typical value
Zero dispersion wavelength	1315 nm
Zero dispersion slope	0.086 ps/(nm ² ·km)
Effective group index of refraction N _{eff} at 1310 nm	1.4681
Effective group index of refraction N _{eff} at 1550 nm	1.4687
Effective group index of refraction N _{eff} at 1625 nm	1.4691

Note: This document is published for your reference purpose only and the specifications for commercial purpose will be issued upon agreement with customers.

Note: If you require more detailed information, please contact us by scanning the QR code below.



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