

FutureGuide™-LWP plus-200

Compliant with ITU-T G.657.A1 / G.652.D

We offer the FutureGuide™-LWP plus-200 optical fiber with a reduced coating diameter of 200 μm, thinner than conventional 250 μm fibers. It supports high-density cable designs (e.g., higher fiber count and smaller diameter), while also reducing manufacturing, transportation, and installation costs. The fiber is designed to maintain a mode field diameter (MFD) of 9.2 μm at 1310 nm, with macro-bend performance exceeding ITU-T G.657.A1. Furthermore, its MFD compatibility with conventional ITU-T G.652 fibers enable seamless deployment into existing networks without compatibility concerns. Fujikura's proven technology, backed by over 20 years of field experience, enables low water peak attenuation compliant with ITU-T G.652.D, supporting full-band transmission.

Features

- Reduced coating diameter down to 200 μm with maintaining equivalent performance as 250 μm fibers.
- Reduced attenuation characteristics compared MFD compatibility with conventional G.652 fibers.
- Improved macro-bending performance exceeding ITU-T G.657.A1.

Customer's advantages

- Enables advanced design for higher-density cable. (e.g. reduced-diameter and/or high fiber-count cables)
- Helps efficient deployment and replacement of cables within existing networks.
- Its bend-resistant design allows tighter fiber coiling, reducing space at connection areas and minimizing momentary interruption during handling.

Optical Characteristics

| Attenuation | |
|--|--------------------------|
| Attenuation coefficient at 1310 nm | ≤ 0.34 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 | |
| ∅ =50 mm, 100 turns at 1310, 1550, 1625 nm | ≤ 0.01 dB |
| ∅ =30 mm, 10 turns at 1550 nm | ≤ 0.05 dB |
| ∅ =30 mm, 10 turns at 1625 nm | ≤ 0.30 dB |
| ∅ =20 mm, 1 turn at 1550 nm | ≤ 0.50 dB |
| ∅ =20 mm, 1 turn at 1625 nm | ≤ 1.5 dB |
| Point discontinuity at 1310 nm | ≤ 0.05 dB |
| Point discontinuity at 1550 nm | ≤ 0.05 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 | ≤ 0.06 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 conditions.



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Structural Characteristics

| | |
|---------------------------------|----------------|
| Mode field diameter at 1310 nm | 9.2 ± 0.4 μm |
| Mode field diameter at 1550 nm | 10.4 ± 0.5 μm |
| Cladding diameter | 125.0 ± 0.7 μm |
| Coating diameter (colored only) | 190 - 210 μm |
| Core concentricity error | ≤ 0.5 μm |
| Cladding non-circularity | ≤ 0.7 % |
| Coating-Cladding concentricity | ≤ 10 μm |
| Fiber curl radius | ≥ 4.0 m |

Mechanical Characteristics

| | |
|---|-----------------------------|
| Proof test *4 | ≥ 1 % (100 kpsi or 0.7 GPa) |
| Dynamic stress corrosion susceptibility parameter (n _d) | ≥ 20 |
| Coating strippability F | 0.4 N ≤ F ≤ 8.9 N |
| Length (colored only) | Up to 50.4 km |

*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 |
| Temperature Humidity Cycling -10 °C to +85 °C up to 98 % R.H. | ≤ 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 |
|---|--------------------------------|
| Attenuation coefficient at 1490 nm | 0.21 dB/km |
| Zero dispersion wavelength | 1311 nm |
| Zero dispersion slope | 0.088 ps/(nm ² ·km) |
| Effective group index of refraction N _{eff} at 1310 nm | 1.4675 |
| Effective group index of refraction N _{eff} at 1550 nm | 1.4681 |
| Effective group index of refraction N _{eff} at 1625 nm | 1.4685 |

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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