

## FutureGuide™-SR15E-200

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

We use an innovative coating technology in the FutureGuide™-SR15E to provide ITU-T G.657.A1 fiber with a coating diameter of 200µm. FutureGuide™-SR15E-200 maintains macro-bend properties while significantly reducing the coating diameter, and its micro-bend properties greatly exceed those of conventional optical fibers (G.652.D).

This fiber has a reduced cross-sectional area of approximately 40%, which contributes to a more effective use of the available space and also saves costs on cable production, transportation and installation.

### Features

- Reduced coating diameter down to 200µm with tolerable micro-bend performance
- Improved outstanding macro-bend performance while complying with ITU-T G.657.A1.
- Full compliance with ITU-T G.652 recommendation and Zero(low)-water peak attenuation complying with ITU-T G.652.D

### Customer's advantages

- By utilizing this fiber, it becomes possible to increase the number of optical fibers in the cable and/or design the cable with a smaller diameter.
- Helps full-band CWDM by its zero(low)-water peak technology.

### 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	
Φ=30 mm, 10 turns at 1550 nm	≤ 0.25 dB
Φ=30 mm, 10 turns at 1625 nm	≤ 1.0 dB
Φ=20 mm, 1 turn at 1550 nm	≤ 0.75 dB
Φ=20 mm, 1 turn at 1625 nm	≤ 1.5 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 <sup>2</sup> ·km)
Polarization mode dispersion (PMD) *3	
Uncabled fiber PMD coefficient	≤ 0.1 ps/√km
Link design value PMD <sub>Q</sub>	≤ 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  $\alpha$  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	8.6 ± 0.4 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	≥ 1.5 % (150 kpsi or 1.0 GPa)
Dynamic stress corrosion susceptibility parameter (n <sub>d</sub> )	≥ 20
Coating strippability F	0.4 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 <sup>2</sup> ·km)
Effective group index of refraction N <sub>eff</sub> at 1310 nm	1.4680
Effective group index of refraction N <sub>eff</sub> at 1550 nm	1.4686
Effective group index of refraction N <sub>eff</sub> at 1625 nm	1.4691

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



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