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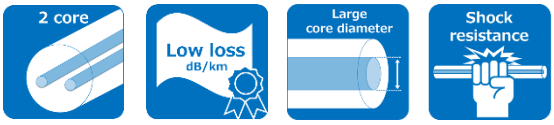
SUMITOMO ELECTRIC
Connect with Innovation

Multi core fiber

2C Z-PLUS Fiber™ ULL

2-Core Ultra-Low Loss A_{eff}-Enlarged Pure Silica Core Optical Fiber



- **World's first mass-produced ultra-low loss*1) multi core fiber**
- **Ultra-low attenuation of 0.158 dB/km and large effective area of 112 μm² with standard 125 μm cladding diameter**
- **Innovation for emerging SDM submarine and terrestrial systems**

General

Number of Cores

Number of Cores	2

Effective Area

Typical effective area at 1550 nm	112 μm²

Attenuation

Typical attenuation at 1550 nm	0.158 dB/km

Core glass

	Pure Silica

Optical Characteristics

Attenuation

Attenuation at 1550 nm (Individual)	≤ 0.166 dB/km
Attenuation at 1550 nm (Average in total quantity) *2)	≤ 0.162 dB/km
Point discontinuity at 1550 nm	≤ 0.05 dB

Effective Area

Effective area at 1550 nm	112 ± 12 μm²

Chromatic Dispersion

Chromatic dispersion at 1550 nm	≤ 23 ps/nm/km
Chromatic dispersion slope at 1550 nm	≤ 0.070 ps/nm²/km

Cable Cutoff Wavelength (λcc)

λcc	≤ 1525 nm

Polarization Mode Dispersion (PMD)

Individual fiber PMD *3)	≤ 0.2 ps/r-km

Crosstalk

Crosstalk in counter-propagation at C-band *4)	≤ -43 dB

Geometrical Characteristics

Glass Geometry

Core-cladding concentricity error	≤ 0.8 μm
Cladding diameter	125.0 ± 1.0 μm
Cladding non-circularity	≤ 2.0 %

Coating Geometry

Coating diameter (Natural)	245 ± 10 μm
Coating diameter (Colored)	250 ± 15 μm
Coating-cladding concentricity error	≤ 12 μm

Mechanical Characteristics

Proof Test

Proof stress level	2.0% (200 kpsi = 1.43 GPa)

Macrobending Loss

Bending radius	Number of turns	Wavelength	Induced Attenuation
30 mm	100	1625 nm	≤ 0.50 dB

Packaging

Delivery Length

	5 – 100 km

*1) 0.16 dB/km or under, to be applicable to transoceanic submarine systems.
*2) Average attenuation will be applied only to a batch with the total quantity of 4,000 km or more.
*3) Measured on fiber with free tension. PMD values may change when fiber is cabled. This PMD value will be achieved when cabled properly.
*4) Measured at supplying length wound on a shipping spool.

This document states a standard specification. Upon request, alternative value offerings will be available.

SUMITOMO ELECTRIC GROUP