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SUMITOMO ELECTRIC
Connect with Innovation

G.652.D/G.657.A1

PureAccess™ 200μm

Bend Insensitive Single-Mode Optical Fiber

Sumitomo Electric Industries, Ltd. (SEI) offers a bend-insensitive single-mode optical fiber "**PureAccess™ 200μm**" made by the Vapor Phase Axial Deposition (VAD) method, enabling customers to construct simple and attractive wiring with superior bending performance. The fiber, made of a germanium doped silica core and a silica cladding, complies with ITU-T G.657.A1 and ITU-T G.652.B and D. A dual-layer acrylate is coated over the cladding to provide high product reliability and allows easy splicing. The fiber supports FTTH because of its excellent bending performance while maintaining compatibility with conventional SMF.

Fiber Optical Specifications

Attenuation

Attenuation at 1310 nm	≤ 0.35 dB/km
Attenuation at 1383 nm*	≤ 0.35 dB/km
Attenuation at 1550 nm	≤ 0.21 dB/km
Attenuation at 1625 nm	≤ 0.23 dB/km

Point Discontinuity (PD)

Point discontinuity at 1310/1550 nm	≤ 0.05 dB

Bending Induced Attenuation

Mandrel Radius	Number of Turns	Wavelength	Attenuation
10 mm	1	1550 nm	≤ 0.75 dB
10 mm	1	1625 nm	≤ 1.5 dB
15 mm	10	1550 nm	≤ 0.25 dB
15 mm	10	1625 nm	≤ 1.0 dB

Cut-off Wavelength

Cable cut-off wavelength (λ_{cc})	≤ 1260 nm

Mode Field Diameter (MFD)

MFD at 1310 nm	8.6 ± 0.4 μm

Chromatic Dispersion (CD)

Zero dispersion wavelength	1300–1324 nm
Zero dispersion slope	≤ 0.092 ps/nm^2/km
CD at 1550 nm	≤ 18 ps/nm/km

Polarization Mode Dispersion (PMD)

Max. individual fiber PMD**	≤ 0.1 ps/rkm
PMD link design value***	≤ 0.06 ps/rkm

Geometrical Specifications

Glass Geometry

Core/Clad concentricity error	≤ 0.5 μm
Cladding diameter	125.0 ± 0.7 μm
Cladding non-circularity	≤ 0.7%
Fiber curl radius	≥ 4.0 m

Coating Geometry

Coating diameter (Uncolored)	193 ± 7 μm
Coating diameter (Colored)	205 ± 7 μm
Coating-Cladding concentricity	≤ 10 μm

Mechanical Specifications

Proof Test

Proof stress level	0.86 GPa (1.2%, 120 kpsi)

Coating Strip Force (F)

F (peak)	1.3 N ≤ F ≤ 8.9 N
F (average)	1 N ≤ F ≤ 5 N

Dynamic Tensile Strength

Unaged (median; 0.5 m)	≥ 3.8 GPa (≥ 550 kpsi)
Aged (median; 0.5 m)	≥ 3.0 GPa (≥ 440 kpsi)

Fatigue

Fatigue	20 (nominal value)

Environmental Specifications

Environmental Test	Conditions	Induced Attenuation at 1310, 1550, 1625 nm
Temperature cycling	-60ºC to +85ºC	≤ 0.05 dB/km
Temperature Humidity cycling	-10ºC to +85ºC/98%RH	≤ 0.05 dB/km
Water immersion	+23ºC	≤ 0.05 dB/km
Dry heat	+85ºC	≤ 0.05 dB/km
Damp heat	+85ºC/85%RH	≤ 0.05 dB/km

* After H_2-aging in accordance with IEC 60793-2-50
** Measured by loosely coiled fiber
*** Since PMD value may change when fiber is cabled, actual individual fiber PMD and actual PMD link design value in a cable shall be confirmed by cable manufacturer. Under appropriate cable design, SEI's "PureAccess™ 200μm" specification supports network design requirements for a 0.20 ps/rkm of maximum PMD link design value specified by ITU-T G.657.A1.

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