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SUMITOMO ELECTRIC
Connect with Innovation

G.652.D/G.657.A2/G.657.B2

PureAccess™[A2]

Bend Insensitive Single-Mode Optical Fiber

Sumitomo Electric Industries, Ltd. (SEI) offers a bend-insensitive single-mode optical fiber **"PureAccess™ [A2]"** 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.A2 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 access networks including last one-mile applications such as FTTH, due to 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	≤ 0.22 dB/km

Point Discontinuity (PD)

Point discontinuity at 1310/1550 nm ≤ 0.05 dB

Bending Induced Attenuation

Mandrel Radius	Number of Turns	Wavelength	Attenuation
7.5 mm	1	1550 nm	≤ 0.5 dB
7.5 mm	1	1625 nm	≤ 1.0 dB
10 mm	1	1550 nm	≤ 0.1 dB
10 mm	1	1625 nm	≤ 0.2 dB
15 mm	10	1550 nm	≤ 0.03 dB
15 mm	10	1625 nm	≤ 0.1 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)	245 ± 10 μm
Coating diameter (Colored)	250 ± 15 μm
Coating-Cladding concentricity	≤ 12 μm

Mechanical Specifications

Proof Test

Proof stress level 1.07 GPa (1.5%, 156 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™ [A2]" specification supports network design requirements for a 0.20 ps/rkm of maximum PMD link design value specified by ITU-T G.652.D and G.657.A2.

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