







Sumitomo Electric Industries, Ltd. (SEI) offers a bend-insensitive single-mode optical fiber "PureAccess™" 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	\leq 0.35 dB/km
Attenuation at 1383 nm*	\leq 0.35 dB/km
Attenuation at 1550 nm	\leq 0.21 dB/km
Attenuation at 1625 nm	\leq 0.22 dB/km

Point Discontinuity (PD)

Point discontinuity at 1310/1550 nm \leq 0.05 dB Coating diameter (Uncolored)245 ± 10 μ m

Bending Induced Attenuation

Mandrel Radius	Number of Turns	Wavelength	Attenuation
10 mm	1	1550 nm	\leq 0.75 dB
10 mm	1	1625 nm	\leq 1.5 dB
15 mm	10	1550 nm	\leq 0.25 dB
15 mm	10	1625 nm	\leq 1.0 dB
16 mm	1	1550 nm	\leq 0.03 dB
25 mm	100	1310 nm	\leq 0.03 dB
25 mm	100	1550 nm	\leq 0.03 dB
30 mm	100	1625 nm	≤ 0.03 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

MFD at 1310 nm

Chromatic Dispersion (CD)

Zero dispersion w	avelength	1300–1324 nm
Zero dispersion sl	lope ≤	0.092 ps/nm ² /km
CD at 1550 nm	\leq	18 ps/nm/km

Polarization Mode Dispersion (PMD)

Max. individual fiber PMD** $\leq 0.1 \text{ ps/rkm}$ PMD link design value*** \leq 0.06 ps/rkm

* After H₂-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™" 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.A1.

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Geometrical Specifications

Glass Geometry

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

Coating Geometry

Coating diameter (Colored) $250 \pm 15 \,\mu\text{m}$ Coating-Cladding concentricity $\leq 12 \ \mu m$

Mechanical Specifications

Р	ro	01	-	est

Fatigue

Fatique

Proof stress level	1.07 GPa (1.5%, 156 kpsi)
Coating Strip Force (F)	
F (peak)	$1.3 \text{ N} \leq F \leq 8.9 \text{ N}$
F (average)	$1 \text{ N} \leq F \leq 5 \text{ N}$
Dynamic Tensile Strength	
Unaged (median; 0.5 m)	≥ 3.8 GPa (≥ 550 kpsi)

Aged (median; 0.5 m)

 \geq 3.0 GPa (\geq 440 kpsi)

20 (nominal value)

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Environmental Specifications

Environmental Test	Conditions	Induced Attenuation at 1310, 1550, 1625 nm	
Temperature cycling	-60°C to +85°C	$C \le 0.05 \text{ dB/km}$	
Temperature Humidity cyc	cling -10°C to +85°C	C/98%RH ≤ 0.05 dB/km	n
Water immersion	+23°C	≤ 0.05 dB/km	
Dry heat	+85°C	≤ 0.05 dB/km	
Damp heat	+85°C/85%RH	≤ 0.05 dB/km	