

1409 Fiber Spool

SMF3000



SMF-28 Fiber

The SMF-28 single-mode fiber is the industry leader in comprehensive single-mode fiber performance for metro and access networks. It is ITU-T G.652.D-compliant and fully backward compatible with legacy standard single-mode fibers.

Maximum Attenuation

Wavelength	Maximum Value
1310 nm	0.33 dB/km-0.35 dB/km
1383±3 nm	0.31 dB/km-0.35 dB/km
1490 nm	0.21 dB/km-0.24 dB/km
1550 nm	0.19 dB/km- 0.20 dB/km
1625 nm	0.20 dB/km-0.23 dB/km

Cable Cutoff Wavelength

$$\lambda_{cc} \leq 1260 \text{ nm}$$

Mode-Field Diameter

Wavelength	MFD
1310 nm	9.2±0.4 μm
1550 nm	10.4±0.5 μm

Attenuation vs. Wavelength

Range	Ref. λ	Max. α Difference
1285 nm-1330 nm	1310 nm	0.03 dB/km
1525 nm-1575 nm	1550 nm	0.02 dB/km

Dispersion

Wavelength	MFD
1550 nm	18 ps/(nm • km) max.
1625 nm	22 ps/(nm • km) max.

Macrobend Loss

Mandrel Diameter	Number of Turns	Wavelength	Induced Attenuation
32 mm	1	1550 nm	0.03 dB max.
50 mm	100	1310 nm	0.03 dB max.
50 mm	100	1550 nm	0.03 dB max.
60 mm	100	1625 nm	0.03 dB max.

Zero Dispersion Wavelength (λ_0):

$$1310 \text{ nm} \leq \lambda_0 \leq 1324 \text{ nm}$$

Zero Dispersion Slope (S_0):

$$\leq 0.092 \text{ ps}/(\text{nm}^2 \cdot \text{Km})$$

Point Discontinuity

Wavelength	Point Discontinuity
1310 nm	0.05 dB max.
1550 nm	0.05 dB max.

Polarization Mode Dispersion

PMD Link Design Value	0.06 ps/√km max.
Individual Fiber PMD	0.1 ps/√km max.

Order notes to our customers: The default parameters are as follows. For special needs, please contact sales.

1) Connector FC/APC, 900 μm, 1 m by default for all devices except for high power devices.

2) Slow axis working, fast axis blocked, connector key is aligned to slow axis by default for PM devices.

1409 Fiber Spool

SMF3000



Glass Geometry

Fiber Curl	4.0 m max. Radius of Curvature
Cladding Diameter	125±0.7 μm
Core-Clad Concentricity	0.5 μm max.
Cladding Non-Circularity	0.7% max.

Coating Geometry

Coating Diameter	242±5 μm
Coating-Cladding Concentricity	12 μm max.

Environmental Specifications

Environmental Test	Test Condition	Induced Attenuation
		1310 nm, 1550 nm, and 1625 nm
Temperature Dependence	-60°C to +85°C	0.05 dB/km max.
Temperature Humidity Cycling	-10°C to +85°C up to 98% RH	0.05 dB/km max.
Water Immersion	23°±2°C	0.05 dB/km max.
Heat Aging	85°±2°C	0.05 dB/km max.

Operating Temperature Range: -60°C to +85°C

Performance Characterizations

Core Diameter	8.2 μm
Numerical Aperture	0.14
Zero Dispersion Wavelength (λ_0)	1317 nm
Zero Dispersion Slope (S_0)	0.088 ps/(nm ² •km)
Effective Group Index of Refraction (N_{eff})	1310 nm: 1.4676; 1550 nm: 1.4682
Fatigue Resistance Parameter (N_d)	20
Coating Strip Force	Dry: 0.6 lbs. (3N) Wet, 14-day room temperature: 0.6 lbs. (3N)
Rayleigh Backscatter Coefficient (for 1 ns Pulse Width)	1310 nm: -77 dB 1550 nm: -82 dB
Proof Test	100 kpsi min.
Connector	2 m, Φ3.0 mm Tube on Each End, FC/APC
Dimension	30 Km+: 26.5x26.5x17 cm 20 Km: 24x24x12 cm

Order notes to our customers: The default parameters are as follows. For special needs, please contact sales.

1) Connector FC/APC, 900 μm, 1 m by default for all devices except for high power devices.

2) Slow axis working, fast axis blocked, connector key is aligned to slow axis by default for PM devices.