Corning® TXF® Optical Fiber
Product Information

CORNING

Corning® TXF® optical fiber combines both ultra-low loss and a large effective area for ultimate high-data-rate transmission performance over extremely long spans. As a result, long-haul networks with TXF fiber can provide a pathway towards the most cost-effective solution by reducing the need for amplification sites and signal regeneration. This is particularly important at extremely high-data-rate applications where network reach becomes severely limited. TXF fiber is compliant with Recommendation ITU-T G.654.E.

Optical Specifications

Maximum Attenuation

Wavelength (nm)	Maximum Value (dB/km)
1550	≤ 0.17
1625	≤ 0.19

Attenuation vs. Wavelength

Range (nm)	Ref. λ (nm)	Max. α Difference (dB/km)
1525 – 1575	1550	0.02
1550 – 1625	1550	0.03

The attenuation in a given wavelength range does not exceed the attenuation of the reference wavelength (λ) by more than the value α.

Macrobend Loss

Mandrel Radius (mm)	Number of Turns	Wavelength (nm)	Induced Attenuation* (dB)
30	100	1550	≤ 0.1
30	100	1625	≤ 0.1

*The induced attenuation due to fiber wrapped around a mandrel of a specified radius.

Point Discontinuity

Wavelength (nm)	Point Discontinuity (dB)
1550	≤ 0.05

Cable Cutoff Wavelength (λ_{cc})

λ_{cc} ≤ 1520 nm

Mode Field Diameter

Wavelength (nm)	Mode Field Diameter (μm)
1550	12.4 ± 0.5

Dispersion

Wavelength (nm)	Dispersion Value [ps/(nm•km)]
1550	≤ 23
1625	≤ 29

Dispersion Slope at 1550 nm ≤ 0.070 ps/(nm²•km)

Polarization Mode Dispersion (PMD)

	Value (ps/√km)
PMD Link Design Value	≤ 0.04*
Maximum Individual Fiber PMD	≤ 0.1

*Complies with ITU-T G.650-2 Appendix IV, (m = 20, Q = 0.01%), August 2015.

The PMD link design value is a term used to describe the PMD of concatenated lengths of fiber. This value represents a statistical upper limit for total link PMD. Individual PMD values may change when fiber is cabled.

ColorPro® Identification Technology

TXF fiber is also available in colored variants, enabled by ColorPro® identification technology. Corning fibers with ColorPro® identification technology deliver better efficiency in cable manufacturing, simplify inventory management, and leverage an enhanced fiber product offering.

How to Order

Contact your sales representative, or call the Optical Fiber Customer Service Department:
Ph: 1-607-248-2000 (U.S./Can.)
+44-1244-525-320 (Europe)
Email: cofic@corning.com
Please specify the fiber type, attenuation, and quantity when ordering.

Dimensional Specifications

Glass Geometry

Fiber Curl	≥ 4.0 m radius of curvature
Cladding Diameter	125.0 ± 0.7 µm
Core-Clad Concentricity	≤ 0.8 µm
Cladding Non-Circularity	≤ 0.7%

Coating Geometry

Coating Diameter	242 ± 5 µm
Coating-Cladding Concentricity	≤ 12 µm

Environmental Specifications

Environmental Test	Test Condition	Induced Attenuation 1550 nm and 1625 nm (dB/km)
Temperature Dependence	-60°C to +85°C*	≤ 0.05
Temperature Humidity Cycling	-10°C to +85°C up to 98% RH	≤ 0.05
Water Immersion	23°C ± 2°C	≤ 0.05
Heat Aging	85°C ± 2°C	≤ 0.05
Damp Heat	85°C at 85% RH	≤ 0.05

Operating Temperature Range: -60°C to +85°C
*Reference temperature = +23°C

Mechanical Specifications

Proof Test

The entire fiber length is subjected to a tensile stress ≥ 100 kpsi (0.7 GPa).

Length

Fiber lengths available up to 50.4 km/spool.

Performance Characterizations

Characterized parameters are typical values.

Effective Area	125 μm^2 typical
Effective Group Index of Refraction (n_{eff})	1550 nm: 1.4650
Fatigue Resistance Parameter (n_d)	20
Coating Strip Force	Dry: 0.6 lbs. (3 N) Wet, 14-day room temperature: 0.6 lbs. (3 N)
Rayleigh Backscatter Coefficient (for 1 ns Pulse Width)	1550 nm: -85 dB

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