

# 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<sub>cc</sub>)

λ<sub>cc</sub> ≤ 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/(nm<sup>2</sup>·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	$\geq 4.0$ m radius of curvature
Cladding Diameter	$125.0 \pm 0.7$ $\mu\text{m}$
Core-Clad Concentricity	$\leq 0.8$ $\mu\text{m}$
Cladding Non-Circularity	$\leq 0.7\%$

### Coating Geometry

Coating Diameter	$242 \pm 5$ $\mu\text{m}$
Coating-Cladding Concentricity	$\leq 12$ $\mu\text{m}$

## Environmental Specifications

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

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  $\geq 100$  kpsi (0.7 GPa).

### Length

Fiber lengths available up to 25.2 km/spool.

## Performance Characterizations

Characterized parameters are typical values.

Effective Area	125 $\mu\text{m}^2$ typical
Effective Group Index of Refraction ( $n_{\text{eff}}$ )	1550 nm: 1.4655
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