

Corning® LEAF® Optical Fiber

Product Information



Corning® LEAF® optical fiber is the world's best and most widely deployed non-zero dispersion-shifted fiber (NZDSF). Typically deployed in non-coherent long-haul and metro networks, LEAF fiber combines low dispersion and low loss. This enables improved performance, flexibility, and compatibility with emerging network technologies. LEAF fiber has industry-leading performance specifications, including the lowest attenuation of any NZDSF product, and maintains compliance with Recommendation ITU-T G.655.D.

Optical Specifications

Maximum Attenuation

Wavelength (nm)	Maximum Value* (dB/km)
1383	≤ 0.4
1410	≤ 0.32
1450	≤ 0.26
1550	≤ 0.19
1625	≤ 0.21

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)
16	1	1550, 1625	≤ 0.50
30	100	1550, 1625	≤ 0.05

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

Point Discontinuity

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

Mode Field Diameter

Wavelength (nm)	Mode Field Diameter (μm)
1550	9.6 ± 0.4

Dispersion

Wavelength (nm)	Dispersion Value [ps/(nm·km)]
1530	2.0 – 5.5
1565	4.5 – 6.0
1625	5.8 – 11.2

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 (also known as PMD_o). This value represents a statistical upper limit for total link PMD. Individual PMD values may change when fiber is cabled.

Dimensional Specifications

Glass Geometry

Fiber Curl	≥ 4.0 m radius of curvature
Cladding Diameter	125.0 ± 0.7 μm
Core-Clad Concentricity	≤ 0.5 μm
Cladding Non-Circularity	≤ 0.7%

Coating Geometry

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

ColorPro™ Identification Technology

LEAF 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.



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 (0.69 GPa). Higher proof test levels are available.

Length

Fiber lengths available up to 25.2 km/spool.

Performance Characterizations

Characterized parameters are typical values.

Numerical Aperture	0.14 NA is measured at the one percent power level of a one-dimensional far-field scan at 1550 nm
Effective Area (A_{eff})	1550 nm: 72 μm^2
Effective Group Index of Refraction (n_{eff})	1550 nm: 1.4693
Fatigue Resistance Parameter (n_f)	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: -81 dB 1625 nm: -82 dB
Chromatic Dispersion	4 ps/(nm•km) at 1550 nm 10 ps/(nm•km) at 1625 nm

Spectral Attenuation (Typical Fiber)

Wavelength (nm)	Attenuation (dB/km)
1383	0.33
1410	0.27
1450	0.23
1550	0.19
1625	0.20

