

# Corning® ClearCurve® ZBL Optical Fiber

## Product Information



Designed to meet even the most challenging indoor installations where high transmission rates and low distortion are imperative, Corning® ClearCurve® ZBL optical fiber delivers industry-leading macrobending performance. When subjected to small radius bends, this full-spectrum single-mode fiber exhibits virtually no signal loss. ClearCurve ZBL fiber exceeds the most stringent bend performance requirements of Recommendation ITU-T G.657.B3 and remains compatible and fully compliant with Recommendation ITU-T G.652.D.

## Optical Specifications

### Maximum Attenuation

Wavelength (nm)	Maximum Value* (dB/km)
1310	≤ 0.35
1383**	≤ 0.35
1490	≤ 0.24
1550	≤ 0.20
1625	≤ 0.23

\*Alternate attenuation offerings available upon request.

\*\*Attenuation values at this wavelength represent post-hydrogen aging performance.

### Attenuation vs. Wavelength

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

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)
5	1	1550	≤ 0.10
5	1	1625	≤ 0.30

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

### Point Discontinuity

Wavelength (nm)	Point Discontinuity (dB)
1310	≤ 0.05
1550	≤ 0.05

### Cable Cutoff Wavelength (λ<sub>cc</sub>)

λ<sub>cc</sub> ≤ 1260 nm

### Mode Field Diameter

Wavelength (nm)	Mode Field Diameter (μm)
1310	8.6 ± 0.4
1550	9.65 ± 0.5

### Dispersion

Wavelength (nm)	Dispersion Value [ps/(nm·km)]
1550	≤ 18
1625	≤ 23

Zero Dispersion Wavelength (λ<sub>0</sub>): 1304 nm ≤ λ<sub>0</sub> ≤ 1324 nm

Zero Dispersion Slope (S<sub>0</sub>): ≤ 0.092 ps/(nm<sup>2</sup>·km)

### Polarization Mode Dispersion (PMD)

	Value (ps/√km)
PMD Link Design Value	≤ 0.06*
Maximum Individual Fiber PMD	≤ 0.2

\*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<sub>0</sub>). This value represents a statistical upper limit for total link PMD. Individual PMD values may change when fiber is cabled.

### ColorPro™ Identification Technology

ClearCurve ZBL fiber is also available in colored and ringmarked 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	$\leq 0.5$ $\mu\text{m}$
Cladding Non-Circularity	$\leq 0.7\%$

### Coating Geometry

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

## Environmental Specifications

Environmental Test	Test Condition	Induced Attenuation 1310 nm, 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 (0.69 GPa). Higher proof test levels are available.

### Length

Fiber lengths available up to 50.4 km/spool.

## Performance Characterizations

Characterized parameters are typical values.

Numerical Aperture	1310 nm: 0.14
Effective Group Index of Refraction ( $n_{\text{eff}}$ )	1310 nm: 1.4670 1550 nm: 1.4677
Fatigue Resistance Parameter ( $n_d$ )	20
Coating Strip Force	Dry: 0.6 lbs. (3 N)
Rayleigh Backscatter Coefficient (for 1 ns Pulse Width)	1310 nm: -77 dB 1550 nm: -82 dB