

# Corning® ClearCurve® LBL Optical Fiber Specifications

Corning® ClearCurve® LBL optical fiber is a full-spectrum optical fiber with enhanced macrobend performance compared to traditional improved bend single-mode fibers. This fiber is compliant with the following standards: ITU-T G.652.D and ITU-T G.657.A2/B2



## OPTICAL SPECIFICATIONS

### Maximum Attenuation

Wavelength (nm)	Maximum Value* (dB/km)
1310	0.33 – 0.35
1383 ± 3**	0.31 – 0.35 bag
1490	0.21 – 0.24
1550	0.19 – 0.20
1625	0.20 – 0.23

\*Maximum specified attenuation value available within the stated ranges.

\*\*Attenuation post-hydrogen aging according to IEC 60793-2-50 Section C.5 for B.1.3 fibers.

Alternate attenuation offerings available upon request.

### Attenuation vs. Wavelength

Range (nm)	Ref. $\lambda$ (nm)	Max. $\alpha$ 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 ( $\lambda$ ) by more than the value  $\alpha$ .

### Macrobend Loss

Mandrel Radius (mm)	Number of Turns	Wavelength (nm)	Induced Attenuation* (dB)
7.5	1	1550	0.4
7.5	1	1625	0.8

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

### Point Discontinuity

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

### Cable Cutoff Wavelength ( $\lambda_{ccf}$ )

$\lambda_{ccf} \leq 1260$  nm

### Mode-Field Diameter

Wavelength (nm)	MFD ( $\mu$ m)
1310	8.6 ± 0.4
1550	9.6 ± 0.5

### Dispersion

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

Zero Dispersion Wavelength ( $\lambda_0$ ): 1304nm ≤  $\lambda_0$  ≤ 1324nm

Zero Dispersion Slope ( $S_0$ ): ≤ 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

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## 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	245 ± 5 μm
Coating-Cladding Concentricity	<12 μm

## ENVIRONMENTAL SPECIFICATIONS

Environmental Test	Test Condition	Induced Attenuation 1310 nm, 1550 nm & 1625 nm (dB/km)
Temperature Dependence	-60°C to +85°C*	≤ 0.05
Temperature Humidity Cycling	-10oC to +85oC* up to 98% RH	≤ 0.05
Water Immersion	23o± 2oC	≤ 0.05
Heat Aging	85o± 2oC*	≤ 0.05
Damp Heat	85°C at 85% RH	≤ 0.05

\*Reference temperature = +23oC  
Operating Temperature Range: -60oC to +85oC

## MECHANICAL SPECIFICATIONS

### Proof Test

The entire fiber length is subjected to a tensile stress ≥100 kpsi (0.7 GPa)\*.  
\*Higher proof test levels available.

### Length

Fiber lengths available up to 50.4\* km/spool.  
\*Longer spliced lengths available.