

# Corning® ClearCurve® XB Optical Fiber



Reduced footprint components and bend sensitive applications

Corning's ClearCurve® XB fiber is a full-spectrum optical fiber with improved macro-bend performance compared to legacy single-mode fibers. Products of all types are constantly decreasing their size and becoming more complex. Having the ability to place fibers in increasingly smaller footprints without performance degradation is crucial to keeping the optical loss budgets low. The contribution by bend loss to the overall loss budget increases as the amount of fiber that is deployed in the bent state increases. Having a fiber that is designed for low bend loss makes these new smaller products a reality.

## Applications:

- Bend sensitive applications
- Footprint reduction
- Small size and integrated EDFA's
- Couplers
- Pigtails/patchcords

## Features:

- Low bend loss design
- Fully compatible with legacy fibers
- Ease of handling and splice ability of standard single mode fibers
- Economical bend loss performance
- Optical attenuation that is flat across the C & L-Bands
- 200 kpsi proof test for higher mechanical reliability in small bend scenarios
- Fully compliant with the following standards:
  - ITU-T G.652.D
  - ITU-T G.657.A1

## Optical Specifications

Cable Cutoff Wavelength ( $\lambda_{cp}$ ) (nm)	$\leq 1260$	
Maximum Attenuation	Wavelength (nm)	Maximum Value* (dB/km)
	1310	0.33 - 0.35
	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.		
Mode-field Diameter	Wavelength (nm)	MFD ( $\mu\text{m}$ )
	1310	$8.6 \pm 0.4$
	1550	$9.8 \pm 0.5$
Dispersion	Wavelength (nm)	Dispersion Value [ps/(nm·km)]
	1550	$\leq 18.0$
	1625	$\leq 22.0$
Zero Dispersion Wavelength ( $\lambda_0$ ): $1304 \text{ nm} \leq \lambda_0 \leq 1324 \text{ nm}$		
Zero Dispersion Slope ( $S_0$ ): $\leq 0.089 \text{ ps}/(\text{nm}^2 \cdot \text{km})$		
Polarization Mode Dispersion (PMD)	Value (ps/ $\sqrt{\text{km}}$ )	
Maximum Individual Fiber	$\leq 0.1$	
Point Discontinuity	Wavelength (nm)	Point Discontinuity (dB)
	1310	$\leq 0.05$
	1550	$\leq 0.05$

## Key Geometric, Mechanical and Environmental Specifications

Cladding Diameter ( $\mu\text{m}$ )	$125.0 \pm 0.7$
Core-Clad Concentricity ( $\mu\text{m}$ )	$\leq 0.5$
Cladding Non-Circularity (%)	$\leq 0.7$
Coating Diameter ( $\mu\text{m}$ )	$242 \pm 5$
Coating-Cladding Concentricity ( $\mu\text{m}$ )	$< 12$
Coloring Diameter* ( $\mu\text{m}$ )	$250 +15/-9$
Fiber Curl (m)	$\geq 4.0$ radius of curvature

\* If applicable

Environmental Test	Test Condition	Induced Attenuation 1310 nm, 1550 nm & 1625 (dB/km)
Temperature Dependence ( $^{\circ}\text{C}$ )	-60 to 85 *	$\leq 0.05$
Temperature-Humidity Cycling ( $^{\circ}\text{C}$ )	-10 to 85 * up to 98% RH	$\leq 0.05$
Water Immersion ( $^{\circ}\text{C}$ )	23 * $\pm 2$	$\leq 0.05$
Dry Heat Soak ( $^{\circ}\text{C}$ )	85 * $\pm 2$	$\leq 0.05$
Damp Heat ( $^{\circ}\text{C}$ )	85 * at 85% RH	$\leq 0.05$
Operating Temperature Range ( $^{\circ}\text{C}$ )	-60 to 85	
Proof Test (kpsi)	$\geq 200$	
Lengths	Available up to 50.4 km per spool	

\* Reference temperature: 23 $^{\circ}\text{C}$

## ClearCurve® XB

### Performance Characterizations\*

Index of Refraction (Core)		1.45	
Numerical Aperture		0.13	
Macrobend Loss			
Mandrel Diameter (mm)	Number of Turns	Wavelength (nm)	Induced Attenuation** (dB)
20	1	1625	1.5
20	1	1550	0.5

\* Values in this table are nominal or calculated values

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

For more information about Corning's leadership in Specialty Fiber technology visit our website at [www.corning.com/specialtyfiber](http://www.corning.com/specialtyfiber)  
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