

CORNING

Single-mode bend insensitive optical fiber with mid-temperature acrylate-based coatings



Inquire for information about the application of mid-temperature coatings on glasses with optical properties that match your application or custom need.

Corning® ClearCurve® Single-Mode Mid-Temperature Specialty Optical Fibers for Harsh Environments

The Corning® ClearCurve® Single-mode bend insensitive family of fibers now includes higher temperature capability. For use at temperatures up to 180 °C and beyond, these acrylate-based fibers deliver the best macro bend performance in the industry with ease of use and handling; benefiting sensing systems operating in harsh environments.

Applications:

- Fiber Sensing and Data Transmission with tight bend requirements for:
 - Aerospace and Defense
 - Medical
 - Structural Health Monitoring
 - Down-Hole Drilling

Features:

- Acrylate-base for ease of handling
- Rated for up to 180 °C
- Fully qualified at 165 °C
- Test data available for 150 °C - 200 °C temperature range
- Hermetic coating (optional) for protection against hydrogen induced attenuation increase and improved fatigue resistance
- Consistent strength over time at elevated temperatures
- A set of fibers designed to meet your specific needs with recommended minimum bending radii of 5 mm, 7.5 mm and 10 mm
- Exceeding the stringent bend performance requirements of ITU-Recommendations G.657.B3, G657.A2/B2, G657.A1 respectively
- Fully compliant with ITU-Recommendations G652.D
- Compatible with Corning® SMF-28e® and SMF-28e+® fibers

SMBIA-5-C

SMBIA-7.5-C

SMBIA-10-C

Key Optical Specifications

Operating Wavelength (nm)	1310, 1550	1310, 1550	1310, 1550
Cable Cutoff Wavelength (nm)	≤ 1260	≤ 1260	≤ 1260
Maximum Attenuation (dB/km)			
@ 1310 nm	0.38	0.38	0.38
@ 1550 nm	0.24	0.24	0.24
Mode-field Diameter (μm)			
@ 1310 nm	8.6 ± 0.4	8.6 ± 0.4	8.6 ± 0.4
@ 1550 nm	9.65 ± 0.5	9.6 ± 0.5	9.8 ± 0.5

Key Geometric, Mechanical and Environmental Specifications

Cladding Outside Diameter (μm)	125 ± 1.0
Coating Outside Diameter (μm)	245 ± 10*
Core-to-Cladding Offset (μm)	≤ 0.5
Standard Lengths	500 m, 1 km, 2 km, 5 km
Proof Test (kpsi)	100
Operating Temperature (°C)	-60 to 150 or 180**
Coating	Mid-Temperature Acrylate Optional Hermetic Layer

* 200 ± 10 μm available for 150 °C only

** 180 °C product also fully qualified at 165 °C

Performance Characteristics (values in this table are nominal or calculated)

Numerical Aperture	0.12	0.12	0.12
Bend Loss (X mm radius; 1 turn) (dB/turn)			
@ 1550 nm	≤ 0.10	≤ 0.40	≤ 0.50
@ 1625 nm	≤ 0.30	≤ 0.80	≤ 1.50
Recommended Minimum Bending Radius (mm)	5	7.5	10

SMBIA-B-C

Single-Mode Bend Insensitive Optical Fiber with:

	Category	Definition	Product Code
A	Hermetic Indicator	Non Hermetic	(blank)
		Hermetic	H
B	Minimum Bend Radius (mm)	5	5
		7.5	7.5
		10	10
C	Mid-temperature Acrylate Coating Type	150 °C	MT
		180 °C	XMT

For more information about Corning’s leadership in Specialty Fiber technology visit our website at www.corning.com/specialtyfiber

To obtain additional technical information, an engineering sample or to place an order for this product, please contact us at:

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