CORNING

Corning® Mid-Temperature Specialty Optical Fibers

Single-mode and multimode 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 Specialty Fiber portfolio has expanded and now contains optical fiber coatings for operations up to 180 °C. While these coatings provide the ability to operate at elevated temperatures, they are also acrylate-based for ease of use and handling. When combined with Corning's extensive range of optical glass properties, the introduction of mid-temperature coatings opens a new dimension for the uses of fiber optics. With the addition of Corning's distinctive hermetic layer, these mid-temperature fibers offer improved hydrogen resistance and fatigue performance in mid-temperature ranges.

Applications:

- Fiber Sensing and Data Transmission 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
- Hermetic coating (optional) for protection against hydrogen induced attenuation increase and improved fatigue resistance
- Consistent strength over time at elevated temperatures
- Multimode fiber is made with a graded index refractive index profile for increased performance

M0300035
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Key Optical Specifications

	SMA-C	MM50A-C***
Operating Wavelength (nm)	1310, 1550	850, 1060, 1300
Cutoff Wavelength (nm)	≤ 1290	n/a
Maximum Attenuation (dB/km)	0.38 @ 1310 nm 0.24 @ 1550 nm	2.5 @ 850 nm 0.7 @ 1300 nm
Mode-field Diameter (µm)	9.2 ± 0.4 @ 1310 nm 10.4 ± 0.5 @ 1550 nm	n/a
Bandwidth @ 850 nm and 1300 nm (MHz-km)	n/a	≥ 500#
Numerical Aperture	0.12 (nominal)	0.20 ± 0.015

Higher bandwidth MM fibers are available with the ClearCurve® Multimode mid-Temperature fibers (M0300120)

Key Geometric, Mechanical and Environmental Specifications

Core Diameter (µm)	8.2 (nominal)	50 ± 2.5
Cladding Outside Diameter (µm)	125 ± 1.0	125 ± 2.0
Coating Outside Diameter (µm)	245 ± 10*	245 ± 10*
Core-to-Cladding Offset (µm)	≤ 0.5	≤ 1.5
Standard Lengths**	500 m, 1 km, 2 km, 5 km	
Proof Test (kpsi)	100	100
Operating Temperature (°C)	-60 to 150 or 180 ****	-60 to 150 or 180 ****
Coating	Mid-Temperature Acrylate Optional Hermetic Layer	Mid-Temperature Acrylate Optional Hermetic Layer

* 200 ± 10 µm also available for 150 °C only

** Contact Corning Incorporated for longer lengths

*** MM50-MT and MM50H-MT contain graded index Refractive Index profile

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

SMA-C or MM50A-C

Single-Mode or Multimode Optical Fiber with:

	Category	Definition	Product Code
A	Hermetic Indicator	Non Hermetic Hermetic	(blank) H
C	Mid-temperature Acrylate Coating Type	150 °C 180 °C	MT 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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