Cladding Mode Free Photosensitive Single-Mode Fiber

Coherent's Cladding Mode Free (CMF) fiber is designed to allow more uniform grating-writing in WDM applications. CMF virtually eliminates all cladding modes allowing tighter channel spacing for high speed communications. Cladding Mode Free fiber is mode-matched to SMF-28TM for telecommunication system use. The polyimide coated CMF fiber is ideally suited for use in a WDM distributed sensing networks operating in high temperature and harsh environments.

Typical Applications

- Couplers
- C+L Band Gratings
- Polyimide Version: Sensors

Features & Benefits

- Excellent cladding mode suppression — allows for tighter channel spacing
- Mode matched to conventional transmission fibers — low splice loss (<0.1 dB typically)
- Polyimide Version: High Temperature coating — enables distributed WDM sensing in harsh environments

Optical Specifications	**CMF**	**CMF-P**
Operating Wavelength	1450 – 1600 nm	1450 – 1600 nm
Core NA	0.130	0.130
Mode Field Diameter	9.1 ± 0.5 µm @ 1550 nm	9.1 ± 0.5 µm @ 1550 nm
Cutoff	1370 ± 70 nm	1370 ± 70 nm
Geometrical & Mechanical Specifications		
Cladding Diameter	125.0 ± 1.5 µm	125.0 ± 2.0 µm
Core Diameter	8.0 µm	8.0 µm
Coating Diameter	245.0 ± 15.0 µm	145.0 ± 5.0 µm
Coating Concentricity	< 5.0 µm	< 1.5 µm
Core/Clad Offset	≤ 0.50 µm	≤ 0.50 µm
Coating Material	Acrylate	Polyimide
Operating Temperature Range	-55 to 85 °C	-65 to 300 °C
Short Term Bend Radius	≥ 6 mm	≥ 12 mm
Long Term Bend Radius	≥ 13 mm	≥ 25 mm
Prooftest Level	≥ 200 kpsi (1.4 GN/m²)	≥ 100 kpsi (0.7 GN/m²)

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www.coherent.com ; www.shop.coherent.com • Coherent products are manufactured under an ISO 9001:2008 certified quality management system.

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