

25/400 Ytterbium-Doped LMA Double Clad Fibers



Coherent's 25/400 Ytterbium-doped double clad fiber is ideally suited for high average power pulsed and narrow linewidth CW fiber amplifier applications. Based on a "few-moded" waveguide structure, this fiber is incorporated into components and monolithic designs where maintaining beam quality can be more difficult. In addition to the standard active fiber, Coherent can supply a matching passive support fiber for component and pigtail development efforts. As with all Coherent standard Large Mode Area (LMA) fibers, these fibers are proof-tested to 100 kpsi, an industry requirement for long term reliability when coiling for mode filtering.

Typical Applications

- High peak power amplifiers
- LIDAR
- Material processing
- Non-linear optics/frequency doubling

Features & Benefits

- NuCOAT™ fluoroacrylate coating — Greater fiber durability in extreme environmental operating & storage conditions
- LMA core design and short amplifier length — Useful for generating high peak powers
- "Few" moded core design — Easy to maintain single mode LP01 beam through fiber & components
- PANDA-style stress structure for increased birefringence — Superior optical performance and uniformity
- All fiber proof tested to > 100 kpsi — Critical for ensuring long term reliability when coiling

Optical Specifications

	PLMA-YDF-25/400-VIII	LMA-YDF-25/400-VIII
Operating Wavelength	1060 – 1115 nm	1060 – 1115 nm
Core NA	0.060 ± 0.010	0.060 ± 0.010
First Cladding NA (5%)	≥ 0.46	≥ 0.46
Cladding Attenuation	N/A	≤ 15.0 dB/km @ 1095 nm
Cladding Absorption	0.80 ± 0.10 dB/m at 915 nm 2.40 dB/m near 975 nm	0.60 ± 0.10 dB/m at 915 nm 1.80 dB/m near 975 nm
Birefringence	nominal 3.5×10^{-4}	N/A

Geometrical & Mechanical Specifications

	PLMA-YDF-25/400-VIII	LMA-YDF-25/400-VIII
Cladding Diameter	400.0 ± 15.0 μm	N/A
Cladding Diameter (flat-to-flat)	N/A	400.0 ± 15.0 μm
Core Diameter	25.0 ± 2.5 μm	25.0 ± 1.5 μm
Coating Diameter	550.0 ± 20.0 μm	500.0 ± 20.0 μm
Core Non-Circularity	N/A	≤ 15 %
Coating Material	Low Index Acrylate	Low Index Acrylate
Proof-test Level	≥ 100 kpsi (0.7 GN/m ²)	≥ 100 kpsi (0.7 GN/m ²)

The passive version of each fiber is also available - see PLMA-GDF-25/400 and LMA-GDF-25/400



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



Custom developed fiber (FUD) specifications are subject to change without notice. Other configurations such as alternative form factors, optimized cut-off and UV cured color coating may be available. Let us know how Coherent can assist with your requirements.