

10/400 Ytterbium-Doped LMA Double Clad Fibers



Coherent's Large Mode Area (LMA) Ytterbium-Doped Double Clad Fiber is ideal for high power fiber lasers and amplifiers used in military, industrial, and medical applications. LMA Yb-doped fibers enable efficient, compact, diode pumped fiber sources that are an attractive alternative to traditional solid-state lasers. This fiber features a 10/400 core/cladding size with a low NA (0.075) core, > 77% slope efficiency, > 100W CW output power and is suitable for use in single-mode applications.

Typical Applications

- High power fiber lasers
- CW amplifiers
- Military, industrial and medical
- Single-mode applications

Features & Benefits

- NuCOAT™ fluoroacrylate coating — Greater fiber durability in extreme environmental operating & storage condition
- 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-10/400-VIII	LMA-YDF-10/400-VIII
Operating Wavelength	1060 – 1115 nm	1060 – 1115 nm
Core NA	0.077 ± 0.007	0.077 ± 0.007
First Cladding NA (5%)	≥ 0.46	≥ 0.46
Core Attenuation	≤ 20.0 dB/km @ 1200 nm	≤ 30.0 dB/km @ 1300 nm
Cladding Attenuation	≤ 15.0 dB/km @ 1095 nm	≤ 15.0 dB/km @ 1095 nm
Cladding Absorption	0.20 ± 0.04 dB/m at 915 nm 0.60 dB/m near 975 nm	0.20 ± 0.04 dB/m at 915 nm 0.60 dB/m near 975 nm
Birefringence	nominal 3×10^{-4}	N/A

Geometrical & Mechanical Specifications

	PLMA-YDF-10/400-VIII	LMA-YDF-10/400-VIII
Cladding Diameter	400.0 ± 10.0 μm	N/A
Cladding Diameter (flat-to-flat)	N/A	400.0 ± 10.0 μm
Core Diameter	11.5 ± 1.0 μm	11.5 ± 1.0 μm
Coating Diameter	550.0 ± 15.0 μm	550.0 ± 15.0 μm
Core/Clad Offset	≤ 2.50 μm	≤ 2.50 μm
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-10/400 and LMA GDF-10/400

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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.