

25/250 Ytterbium-Doped LMA Double Clad Fibers



Nufern's 25/250 Ytterbium-doped double clad fiber is ideally suited for high peak power pulsed fiber amplifier applications. Based on a waveguide structure that supports less modes than the 30/250 fiber, this fiber is incorporated into components and monolithic designs where maintaining beam quality can be more difficult. Both non-PM and PANDA-style PM fibers are available, as are a range of support fibers for component and pigtail development efforts. As with all Nufern 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-25/250-VIII	LMA-YDF-25/250-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	≤ 15.0 dB/km @ 1095 nm	≤ 15.0 dB/km @ 1095 nm
Cladding Absorption	1.70 ± 0.20 dB/m at 915 nm 5.10 dB/m near 975 nm	1.60 ± 0.20 dB/m at 915 nm 4.80 dB/m near 975 nm
Birefringence	nominal 2×10^{-4}	N/A

Geometrical & Mechanical Specifications

	PLMA-YDF-25/250-VIII	LMA-YDF-25/250-VIII
Cladding Diameter	250.0 ± 10.0 μm	N/A
Cladding Diameter (flat-to-flat)	N/A	250.0 ± 10.0 μm
Core Diameter	25.0 ± 2.5 μm	25.0 ± 2.5 μm
Coating Diameter	400.0 ± 20.0 μm	400.0 ± 20.0 μm
Coating Material	Low Index Polymer	Low Index Polymer
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.
Precision matched fiber sets are also available - see PLMA-YDF-25/250-M; LMA-YDF-25/250-M; PLMA-GDF-25/250-M and LMA-GDF-25/250-M



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Standard specifications and design parameters are listed above. 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 Nufern can assist with your requirements.