

# 10/125 Ytterbium-Doped Single-Mode Single Clad Fiber



Coherent's single-clad series of Yb-doped large mode area (LMA) fibers are designed to support low power fiber lasers and amplifiers based on single-mode diode pump technology. These 10µm core diameter fibers with a 0.075 NA provide single-mode beam output and are compatible with standard "telecom" fiber technology ensuring low splice loss to numerous fiber pigtailed components. Featuring an optimized glass composition with high absorption, these fibers provide high efficiency and very short device lengths, minimizing non-linear effects. The PM (PLMA) version uses a PANDA-style stress structure which delivers linearly polarized light suitable for frequency conversion. These fibers make the ideal gain medium for low average power ultrafast fiber lasers, and pre-amplifiers for higher power double-clad amplifiers.

## Typical Applications

- Low power CW and pulsed fiber lasers
- Ultrafast (fs) fiber lasers
- Pre-amps for high-power, double-clad devices

## Features & Benefits

- Single-mode output — Compatible with standard telecom 980/1060 nm fiber-based components or Nufern's exact matched fibers
- PANDA-style stress structure — Linearly polarized output for frequency conversion
- High absorption — Short fiber lengths to reduce detrimental non-linear effects
- High slope efficiency — Efficient utilization of pump power

## Optical Specifications

	PLMA-YSF-10/125	LMA-YSF-10/125
Operating Wavelength	1015 – 1115 nm	1015 – 1115 nm
Core NA	0.075	0.075
Mode Field Diameter	10.50 ± 1.00 µm @ 1060 nm	10.50 ± 1.00 µm @ 1060 nm
Cutoff	1000.0 ± 50.0 nm	1000.0 ± 50.0 nm
Core Attenuation	≤ 20.0 dB/km @ 1200 nm	≤ 20.0 dB/km @ 1200 nm
Core Absorption	110.0 ± 13.0 dB/m at 915 nm	110.0 ± 13.0 dB/m at 915 nm
	350.0 dB/m at 975 nm	350.0 dB/m at 975 nm
Birefringence	2.5 × 10 <sup>-4</sup>	N/A

## Geometrical & Mechanical Specifications

	PLMA-YSF-10/125	LMA-YSF-10/125
Cladding Diameter	125.0 ± 1.0 µm	125.0 ± 1.0 µm
Core Diameter	10.0 µm	10.0 µm
Coating Diameter	245.0 ± 15.0 µm	245.0 ± 15.0 µm
Coating Concentricity	< 5.0 µm	< 5.0 µm
Core/Clad Offset	≤ 0.70 µm	≤ 0.70 µm
Coating Material	Acrylate	Acrylate
Operating Temperature Range	-55 to 85 °C	-55 to 85 °C
Proof Test Level	≥ 100 kpsi (0.7 GN/m <sup>2</sup> )	≥ 100 kpsi (0.7 GN/m <sup>2</sup> )



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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.