

# 20P/250 Erbium/Ytterbium-Doped LMA Double Clad PM Fiber



Coherent | Nufern's proprietary rare earth doping technology is used to deliver Er/Yb co-doped fibers with industry leading performance and reliability. This fiber features a 20 micron diameter core and a 250 micron diameter cladding with a 0.09 NA. The fiber design has been finely optimized to deliver the best performance. PLMA-EYDF-20P/250-XPB is optimized to achieve tens of Watts of output power with high efficiency and suppressed 1  $\mu\text{m}$  parasitic ASE, offering unmatched stability. The large core of the fiber allows for shorter fiber lengths in amplifier and laser systems to reduce the impact of non-linear effects. The fiber utilizes the latest fiber design and NuCOAT-FA coating technology to ensure excellent preservation of beam quality and extended operating light at the high power levels demanded by today's industrial fiber laser applications.

## Typical Applications

- Laser and amplifiers
- Military and commercial LIDAR
- High peak power, pulsed fiber amplifiers

## Features & Benefits

- Optimized XPH design — High efficiency and low parasitic 1  $\mu\text{m}$  ASE
- Large core — Enables shorter fiber length for high-power pulsed amplifiers
- Double clad design — High power performance and high power conversion efficiency
- NuCOAT-FA fluoroacrylate coating — Greater fiber durability in extreme operating and storage conditions
- All fiber proof tested to > 100 kpsi — Critical for ensuring long term reliability when coiling

## Optical Specifications

Operating Wavelength	1530 – 1625 nm
Core NA	0.090 $\pm$ 0.010
First Cladding NA (5%)	$\geq$ 0.46
Cladding Attenuation	$\leq$ 30.0 dB/km @ 1095 nm
Cladding Absorption	3.70 $\pm$ 0.60 dB/m at 915 nm
Core Absorption	90.0 $\pm$ 20.0 dB/m near 1535 nm
Birefringence	nominal $1.5 \times 10^{-4}$

## PLMA-EYDF-20P/250-XPB

## Geometrical & Mechanical Specifications

Cladding Diameter	250.0 $\pm$ 5.0 $\mu\text{m}$
Core Diameter	20.0 $\pm$ 2.0 $\mu\text{m}$
Coating Diameter	350.0 $\pm$ 10.0 $\mu\text{m}$
Core/Clad Offset	$\leq$ 2.50 $\mu\text{m}$
Clad Non-Circularity	$\leq$ 2.0 %
Coating Material	Low Index Acrylate
Proof test Level	$\geq$ 100 kpsi (0.7 GN/m <sup>2</sup> )

Matched passive delivery fiber PLMA-GDF-20/250-09M



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 Nufern can assist with your requirements.

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# 20/250 Precision Matched Passive LMA Double Clad PM Fiber



Coherent | Nufern's Polarization Maintaining LMA (PLMA) passive double clad fiber is ideal for high power fiber lasers and amplifiers used in military, industrial, and medical applications. This fiber features a 20 micron diameter core and 250 micron diameter clad size with a low NA (0.09) core. It is precision matched to its active ErYb-doped 20P/250 PLMA matched counterpart to ensure excellent splice compatibility and low loss. As with all Coherent | Nufern standard Large Mode Area (LMA) fibers, this fiber is proof-tested to 100 kpsi, an industry requirement for long term reliability. The fiber utilizes the latest fiber design and NuCOAT-FA coating technology to ensure excellent preservation of beam quality and extended operating life at the high power levels demanded by today's industrial fiber laser applications.

## Typical Applications

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

## Features & Benefits

- NuCOAT-FA fluoroacrylate coating — Greater fiber durability in extreme environmental operating & storage conditions
- LMA core design — Useful for transmitting high CW 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

Operating Wavelength	800 – 1650 nm
Core NA	0.090 ± 0.007
First Cladding NA (5%)	≥ 0.46
Cladding Attenuation	≤ 15.0 dB/km @ 1095 nm
Birefringence	nominal $1.5 \times 10^{-4}$

## PLMA-GDF-20/250-09M

## Geometrical & Mechanical Specifications

Cladding Diameter	250.0 ± 5.0 μm
Core Diameter	20.0 ± 1.5 μm
Coating Diameter	350.0 ± 10.0 μm
Core/Clad Offset	≤ 2.00 μm
Clad Non-Circularity	≤ 2.0 %
Coating Material	Low Index Acrylate
Proof test Level	≥ 100 kpsi (0.7 GN/m <sup>2</sup> )

Active fiber PLMA-EYDF-20P/250-XPB



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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 Nufern can assist with your requirements.

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