

25/300 Erbium/Ytterbium Co-doped LMA Double Clad Fibers



Nufer's Large Mode Area (LMA) and Polarization Maintaining LMA (PLMA) Er/Yb co-doped fiber features a unique low NA (0.09) core design, achieved without sacrificing high pump conversion efficiency and developed for applications where robustly single-mode output beam quality is critical. The high NA (0.46) 300 μm cladding waveguide allows for efficient coupling of high pump powers, while the large core diameter (25 μm) maintains a large-mode field diameter and short device length thereby minimizing deleterious nonlinear effects such as SBS and SRS. They utilize the latest fiber design and NuCOAT™ 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

- Eye safe (1.5 μm) lasers and amplifiers
- Military and commercial lidar
- High peak power, pulsed fiber amplifiers
- Ultra-short pulse fiber amplifiers

Features & Benefits

- NuCOAT™ fluoroacrylate coating — Greater fiber durability in extreme environmental conditions
- Unique low NA Er/Yb co-doped core design — Few moded core, for robust SM beam quality
- Large-mode field diameter — Increased threshold for non-linearities
- Optimized, high efficiency core glass composition — Suitable for high power operation
- All fiber proof tested to > 100 kpsi — Critical for ensuring long term reliability when coiling

Optical Specifications

	PLMA-EYDF-25P/300-HE	LMA-EYDF-25P/300-HE
Operating Wavelength	1530 – 1625 nm	1530 – 1625 nm
Core NA	0.090	0.090
First Cladding NA (5%)	≥ 0.46	≥ 0.46
Cladding Attenuation	≤ 30.0 dB/km @ 1095 nm	≤ 30.0 dB/km @ 1095 nm
Cladding Absorption	2.90 ± 0.50 dB/m at 915 nm	2.60 ± 0.50 dB/m at 915 nm
Core Absorption	85.0 ± 15.0 dB/m near 1535 nm	85.0 ± 15.0 dB/m near 1535 nm
Birefringence	nominal 1.5×10^{-4}	N/A

Geometrical & Mechanical Specifications

	PLMA-EYDF-25P/300-HE	LMA-EYDF-25P/300-HE
Cladding Diameter	300.0 ± 8.0 μm	N/A
Cladding Diameter (flat-to-flat)	N/A	300.0 ± 8.0 μm
Core Diameter	25.0 ± 2.0 μm	25.0 ± 2.0 μm
Coating Diameter	450.0 ± 15.0 μm	450.0 ± 15.0 μm
Core/Clad Offset	≤ 2.00 μm	≤ 2.00 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-25/300 and LMA-GDF-25/300



7 Airport Park Road, East Granby, CT 06026 • 860.408.5000 • Toll-free 866.466.0214 • Fax 860.844.0210 E-mail info@nufern.com • www.nufern.com • Nufern products are manufactured under an ISO 9001:2008 certified quality management system.



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.

25/300 Passive LMA Double Clad Fibers



Nufern's passive series of Large Mode Area (LMA) double clad fibers are ideal for high power monolithic fiber lasers and amplifiers. These passive fibers are based on a 25 micron diameter core and 300 micron diameter clad size with a low NA (0.09) core and are designed to work well with the active Er/Yb co-doped 25/300 LMA and PLMA fibers. These fibers utilize the latest fiber design and NuCOAT™ 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. These fibers are available in both non-PM and PANDA-style PM fibers

Typical Applications

- Eye safe (1.5 μm) lasers and amplifiers
- Military and commercial lidar
- High peak power, pulsed fiber amplifiers
- Ultra-short pulse fiber amplifiers

Features & Benefits

- Designed for compatibility with 25/300 Er/Yb co-doped active fibers
- NuCOAT™ fluoroacrylate coating — Greater fiber durability in extreme environmental operating & storage conditions
- Optimized LMA core design — Easy to maintain single mode LP01 beam through fiber & components at high power
- All fiber proof tested to > 100 kpsi — Critical for ensuring long term reliability when coiling

Optical Specifications

	PLMA-GDF-25/300	LMA-GDF-25/300
Operating Wavelength	1530 – 1800 nm	1530 – 1800 nm
Core NA	0.090	0.090
First Cladding NA (5%)	≥ 0.46	≥ 0.46
Cladding Attenuation	≤ 15.0 dB/km @ 1095 nm	≤ 15.0 dB/km @ 1095 nm
Birefringence	nominal 1.5×10^{-4}	N/A

Geometrical & Mechanical Specifications

	PLMA-GDF-25/300	LMA-GDF-25/300
Cladding Diameter	300.0 ± 8.0 μm	300.0 ± 4.0 μm
Core Diameter	25.0 ± 2.0 μm	25.0 ± 2.0 μm
Coating Diameter	450.0 ± 15.0 μm	450.0 ± 15.0 μm
Core/Clad Offset	≤ 2.00 μm	≤ 2.00 μm
Clad Non-Circularity	N/A	≤ 0.5 %
Proof test Level	≥ 100 kpsi (0.7 GN/m ²)	≥ 100 kpsi (0.7 GN/m ²)

Designed to work with 25/300 LMA and PLMA Er/Yb co-doped active fibers



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