



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

Nufern'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

Operating Wavelength (nominal)	1550 nm	1550 nm
Core NA	0.090	0.090
First Cladding NA (5%)	≥ 0.46	≥ 0.46
Cladding Attenuation	$\leq 30.0 \text{ dB/km @ } 1095 \text{ nm}$	$\leq 30.0 \text{ dB/km @ } 1095 \text{ nm}$
Cladding Absorption	$2.90 \pm 0.50 \text{ dB/m at } 915 \text{ nm}$	$2.60 \pm 0.50 \text{ dB/m at } 915 \text{ nm}$
Core Absorption	$85.0 \pm 15.0 \text{ dB/m near } 1535 \text{ nm}$	$85.0 \pm 15.0 \text{ dB/m near } 1535 \text{ nm}$
Birefringence	nominal 1.5×10^{-4}	N/A

Geometrical & Mechanical Specifications

Cladding Diameter	$300.0 \pm 8.0 \mu\text{m}$	N/A
Cladding Diameter (flat-to-flat)	N/A	$300.0 \pm 8.0 \mu\text{m}$
Core Diameter	$25.0 \pm 2.0 \mu\text{m}$	$25.0 \pm 2.0 \mu\text{m}$
Coating Diameter	$450.0 \pm 15.0 \mu\text{m}$	$450.0 \pm 15.0 \mu\text{m}$
Core/Clad Offset	$\leq 2.00 \mu\text{m}$	$\leq 2.00 \mu\text{m}$
Proof test Level	$\geq 100 \text{ kpsi (} 0.7 \text{ GN/m}^2 \text{)}$	$\geq 100 \text{ kpsi (} 0.7 \text{ GN/m}^2 \text{)}$

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.

