



# High Absorption 30/250 Precision Matched Ytterbium-Doped LMA Double Clad Fiber

Nufern precision matched high absorption 30/250 Ytterbium-doped double clad fiber offers a higher Yb dopant concentration than our original 30/250 LMA fibers and tighter geometrical specifications improving splice loss and mateability. This fiber is specifically designed for short pulse amplification where fiber length is a critical design factor because of very high peak powers. The high absorption enables very short fiber amplifier lengths without sacrificing efficiency. Short pulse fiber amplifiers can be considered low-cost replacements for Nd:YAG lasers used in materials processing, LIDAR and range finding applications. This precision matched active fiber is optimized to match Nufern's precision matched passive 30/250 fiber for superior splicing and loss performance.

## Typical Applications

- Short pulse fiber amplifiers & lasers
- Materials processing
- LIDAR
- Range finding
- CW fiber amplifiers and lasers

## Features & Benefits

- Precision matched fiber series — ensure splice compatibility across the 30/250 High Absorption LMA fibers
- 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
- Higher Yb dopant concentration — Higher absorption & superior long-term performance

## Optical Specifications

Operating Wavelength	1060 – 1115 nm
Core NA	$0.062 \pm 0.005$
First Cladding NA (5%)	$\geq 0.46$
Core Attenuation	$\leq 30.0 \text{ dB/km @ } 1200 \text{ nm}$ $\leq 45.0 \text{ dB/km @ } 1300 \text{ nm}$
Cladding Absorption	$2.10 \pm 0.20 \text{ dB/m at } 915 \text{ nm}$ $6.30 \text{ dB/m near } 975 \text{ nm}$

## LMA-YDF-30/250-HI-M

## Geometrical & Mechanical Specifications

Cladding Diameter (flat-to-flat)	$250.0 \pm 5.0 \text{ } \mu\text{m}$
Core Diameter	$30.0 \pm 2.0 \text{ } \mu\text{m}$
Coating Diameter	$395.0 \pm 15.0 \text{ } \mu\text{m}$
Core/Clad Offset	$\leq 2.00 \text{ } \mu\text{m}$
Proof test Level	$\geq 100 \text{ kpsi (0.7 GN/m}^2\text{)}$

Coating Requirements: Low index polymer coating.  
The precision matched passive version of this fiber is also available - see LMA-GDF-30/250-M



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.

NU0168- 11/07/2013