

# 30/250 NuGEN9 Precision Matched Active LMA Double Clad Fiber



NuGEN9 active fibers offer the most advanced glass composition and fiber design and are all precision matched to their passive counterpart ensuring excellent splice compatibility and low loss. This fiber is a Yb-doped Large Mode Area (LMA) active double clad fiber featuring a 30 micron diameter core and 250 micron clad diameter with a low NA (0.06) core. This fiber is ideal for high power monolithic fiber lasers and amplifiers. NuGEN9 fibers feature an optimized glass composition enabling higher absorption with superior photodarkening performance. These fibers are proof-tested to 100 kpsi, an industry requirement for long term reliability. NuGEN9 fibers are exclusively offered with Coherent's proprietary NuCOAT-FA coating technology with the best wet and dry heat performance available, ensuring excellent preservation of beam quality and extended operating life.

## Typical Applications

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

## Features & Benefits

- NuGEN9 fiber design — Providing higher absorption with superior reliability & photodarkening performance
- NuCOAT-FA fluoroacrylate coating — Excellent wet and dry heat performance for extended life in extreme conditions
- "Few" moded core design — Easy to maintain single mode LP01 beam through fiber & components
- All fiber proof tested to > 100 kpsi — Critical for ensuring long term reliability

## Optical Specifications

Operating Wavelength	1015 – 1115 nm
Core NA	0.062 ± 0.005
First Cladding NA (5%)	≥ 0.46
Cladding Attenuation	≤ 15.0 dB/km @ 1095 nm
Cladding Absorption	2.50 ± 0.30 dB/m at 915 nm
Slope Efficiency	> 70.0% @ 915 nm

## LMA-YDF-30/250-9M

## Geometrical & Mechanical Specifications

Cladding Diameter (flat-to-flat)	250.0 ± 5.0 μm
Core Diameter	30.0 ± 2.0 μm
Coating Diameter	395.0 ± 15.0 μm
Core/Clad Offset	≤ 2.00 μm
Coating Material	Low Index Acrylate
Proof test Level	≥ 100 kpsi (0.7 GN/m <sup>2</sup> )



The ultra matched passive version of this fiber is also available - see LMA-GDF-30/250-M+

Nufern • 7 Airport Park Road, East Granby, CT 06026 • 860.408.5000 • Toll-free 866.466.0214 • Fax 860.844.0210 • Email: tech.sales@coherent.com  
www.coherent.com ; www.shop.coherent.com • Coherent products are manufactured under an ISO 9001:2008 certified quality management system.



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.

# 30/250 Passive LMA Double Clad Fibers



Coherent'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 30  $\mu\text{m}$  diameter core and 250  $\mu\text{m}$  diameter clad size with a low NA (0.06) core and are designed to work well with the active Yb-doped 30/250 LMA 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

- Monolithic high power fiber lasers and amplifiers
- LMA fiber couplers, and pump combiners
- High power pump and signal pigtails
- Military, industrial and medical

## Features & Benefits

- NuMATCH™ — Optimized compatibility with 30/250 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-30/250	LMA-GDF-30/250-M
Operating Wavelength	1060 – 1600 nm	1060 – 1600 nm
Core NA	0.060 $\pm$ 0.010	0.062 $\pm$ 0.005
First Cladding NA (5%)	$\geq$ 0.46	$\geq$ 0.46
Core Attenuation	N/A	$\leq$ 45.0 dB/km @ 1300 nm $\leq$ 30.0 dB/km @ 1200 nm
Cladding Attenuation	$\leq$ 15.0 dB/km @ 1095 nm	$\leq$ 15.0 dB/km @ 1095 nm
Birefringence	nominal $2 \times 10^{-4}$	N/A

## Geometrical & Mechanical Specifications

	PLMA-GDF-30/250	LMA-GDF-30/250-M
Cladding Diameter	250.0 $\pm$ 10.0 $\mu\text{m}$	247.0 $\pm$ 3.0 $\mu\text{m}$
Core Diameter	30.0 $\pm$ 2.5 $\mu\text{m}$	30.0 $\pm$ 2.0 $\mu\text{m}$
Coating Diameter	400.0 $\pm$ 20.0 $\mu\text{m}$	395.0 $\pm$ 15.0 $\mu\text{m}$
Core/Clad Offset	N/A	$\leq$ 2.00 $\mu\text{m}$
Clad Non-Circularity	N/A	$\leq$ 0.5 %
Proof test Level	$\geq$ 100 kpsi (0.7 GN/m <sup>2</sup> )	$\geq$ 100 kpsi (0.7 GN/m <sup>2</sup> )



Coating Requirements: Low Index Polymer Coating.  
Designed to work with 30/250 LMA Yb-doped active fibers.

Nufern • 7 Airport Park Road, East Granby, CT 06026 • 860.408.5000 • Toll-free 866.466.0214 • Fax 860.844.0210 • Email: tech.sales@coherent.com  
www.coherent.com ; www.shop.coherent.com • Coherent products are manufactured under an ISO 9001:2008 certified quality management system.



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.