

30/400 Ytterbium-Doped LMA Double Clad Fibers



Nufer's 30/400 Ytterbium-doped double clad fiber is designed to combine the features of large 30 μm core diameter for generating high pulse energy together with a large 400 μm cladding optimized for high average powers, while still delivering good beam quality through the adoption of LMA fiber design. Available with latest generation of glass technology, the Gen. VIII 30/400-YDF fiber is available in two versions —standard and PANDA-style PM.

Typical Applications

- Marking
- Welding
- Cutting

Features & Benefits

- NuCOAT™ fluoroacrylate coating — Greater fiber durability in extreme environmental operating & storage conditions
- LMA core design — Operates at highest CW powers possible and delivers good beam quality
- “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

	PLMA-YDF-30/400-VIII	LMA-YDF-30/400-VIII
Operating Wavelength	1060 – 1115 nm	1060 – 1115 nm
Core NA	0.060 \pm 0.010	0.060 \pm 0.010
First Cladding NA (5%)	\geq 0.46	\geq 0.46
Cladding Attenuation	\leq 15.0 dB/km @ 1095 nm	\leq 15.0 dB/km @ 1095 nm
Cladding Absorption	0.90 \pm 0.10 dB/m at 915 nm 2.70 dB/m near 975 nm	0.65 \pm 0.10 dB/m at 915 nm 2.00 dB/m near 975 nm
Birefringence	nominal 3×10^{-4}	N/A

Geometrical & Mechanical Specifications

	PLMA-YDF-30/400-VIII	LMA-YDF-30/400-VIII
Cladding Diameter	400.0 \pm 15.0 μm	N/A
Cladding Diameter (flat-to-flat)	N/A	400.0 \pm 15.0 μm
Core Diameter	30.0 \pm 3.0 μm	30.0 \pm 3.0 μm
Coating Diameter	550.0 \pm 20.0 μm	500.0 \pm 20.0 μm
Coating Material	Low Index Polymer	Low Index Polymer
Proof test Level	\geq 100 kpsi (0.7 GN/m ²)	\geq 100 kpsi (0.7 GN/m ²)

The passive version of each fiber is also available - see PLMA-GDF-30/400 and LMA-GDF-30/400



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.

30/400 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 30 micron diameter core and 400 micron diameter clad size with a low NA (0.06) core and are designed to work well with the active Yb-doped 30/400 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 lasers & amplifiers
- LMA fiber couplers & pump combiners
- High power pump & signal pigtails
- Military, industrial and medical

Features & Benefits

- Designed for compatibility with 30/400 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-30/400	LMA-GDF-30/400
Operating Wavelength	1060 – 1600 nm	1060 – 1600 nm
Core NA	0.060 ± 0.010	0.060 ± 0.010
First Cladding NA (5%)	≥ 0.46	≥ 0.46
Cladding Attenuation	≤ 15.0 dB/km @ 1095 nm	≤ 15.0 dB/km @ 1095 nm
Birefringence	nominal 3×10^{-4}	N/A

Geometrical & Mechanical Specifications

	PLMA-GDF-30/400	LMA-GDF-30/400
Cladding Diameter	400.0 ± 10.0 μm	400.0 ± 10.0 μm
Core Diameter	30.0 ± 2.5 μm	30.0 ± 2.5 μm
Coating Diameter	550.0 ± 20.0 μm	550.0 ± 20.0 μm
Proof test Level	≥ 100 kpsi (0.7 GN/m ²)	≥ 100 kpsi (0.7 GN/m ²)

Designed to work with 30/400 LMA Yb-doped active fibers.



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