

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



Coherent 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 Coherent'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 ± 0.005
First Cladding NA (5%)	≥ 0.46
Core Attenuation	≤ 30.0 dB/km @ 1200 nm ≤ 45.0 dB/km @ 1300 nm
Cladding Absorption	2.10 ± 0.20 dB/m at 915 nm 6.30 dB/m near 975 nm

LMA-YDF-30/250-HI-M

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
Proof test Level	≥ 100 kpsi (0.7 GN/m ²)



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

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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.