

20/130 Ytterbium-Doped LMA Double Clad Fibers



Coherent's polarization maintaining, Large Mode Area (LMA), Ytterbium-doped double clad fiber is ideal for linearly polarized high power fiber lasers and amplifiers used in military, industrial, and medical applications. LMA Yb-doped fibers enable efficient, compact, diode pumped fiber sources that are an attractive alternative to traditional solid-state lasers. This fiber features a large core/cladding ratio with a low NA (0.08) and is ideally suited for pulsed laser applications.

Typical Applications

- Pulsed fiber lasers and amplifiers
- Material processing
- LIDAR
- Non-linear optics / frequency doubling

Features & Benefits

- 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
- PANDA-style stress structure for increased birefringence — Superior optical performance and uniformity
- NuCOAT™ fluoroacrylate coating — Greater fiber durability in extreme environmental operating & storage conditions
- All fiber proof tested to > 100 kpsi — Critical for ensuring long term reliability when coiling

Optical Specifications

	PLMA-YDF-20/130-VIII	LMA-YDF-20/130-VIII
Operating Wavelength	1060 – 1115 nm	1060 – 1115 nm
Core NA	0.080 ± 0.005	0.080 ± 0.005
First Cladding NA (5%)	≥ 0.46	≥ 0.46
Cladding Attenuation	≤ 15.0 dB/km @ 1095 nm	≤ 15.0 dB/km @ 1095 nm
Cladding Absorption	3.40 ± 0.30 dB/m at 915 nm 10.20 dB/m near 976 nm	2.90 ± 0.30 dB/m at 915 nm 8.70 dB/m near 976 nm
Birefringence	nominal 2×10^{-4}	N/A

Geometrical & Mechanical Specifications

	PLMA-YDF-20/130-VIII	LMA-YDF-20/130-VIII
Cladding Diameter	130.0 ± 1.0 μm	N/A
Cladding Diameter (flat-to-flat)	N/A	130.0 ± 2.0 μm
Core Diameter	20.0 ± 2.0 μm	20.0 ± 2.0 μm
Coating Diameter	245.0 ± 10.0 μm	245.0 ± 10.0 μm
Coating Concentricity	< 5.0 μm	< 5.0 μm
Core/Clad Offset	≤ 1.00 μm	≤ 1.00 μm
Proof test Level	≥ 100 kpsi (0.7 GN/m ²)	≥ 100 kpsi (0.7 GN/m ²)

The passive version of each fiber is also available - see PLMA GDF-20/130 and LMA GDF-20/130



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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.

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