

15/130 Ytterbium-Doped LMA Double Clad Fibers



Nufern'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
- All fiber proof tested to > 100 kpsi — Critical for ensuring long term reliability when coiling

Optical Specifications

| | PLMA-YDF-15/130-VIII | LMA-YDF-15/130-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 | 1.90 ± 0.20 dB/m at 915 nm 5.70 dB/m near 976 nm | 1.80 ± 0.20 dB/m at 915 nm 5.40 dB/m near 976 nm |
| Birefringence | nominal 2×10^{-4} | N/A |

Geometrical & Mechanical Specifications

| | PLMA-YDF-15/130-VIII | LMA-YDF-15/130-VIII |
|----------------------------------|-------------------------------------|-------------------------------------|
| Cladding Diameter | 130.0 ± 1.0 μm | N/A |
| Cladding Diameter (flat-to-flat) | N/A | 130.0 ± 2.0 μm |
| Core Diameter | 15.0 ± 1.5 μm | 15.0 ± 1.5 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 |
| Coating Material | Low Index Polymer | Low Index Polymer |
| 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-15/130 and LMA-GDF-15/130



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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 Nufern can assist with your requirements.