10/125 & 10/130 Precision Matched Active LMA Double Clad Fibers

Coherent's matched series of Large Mode Area (LMA) double clad fibers are ideal for monolithic fiber lasers and amplifiers. Featuring a matching set of LMA fibers, this series of fibers ensure splice compatibility across the entire chain of 10/130 fiber components required to make monolithic fiber lasers. This matched fiber series is based on a 10 micron diameter core and 130 micron diameter clad size with a low NA (0.075) core and consists of Yb-doped fiber and passive beam delivery fibers all made to highest tolerances in the industry. All fibers utilize the latest glass composition and NuCOAT fluoroacrylate coating technology to ensure high slope efficiency, extended operating life and excellent beam quality demanded by today's industrial fiber laser applications. These precision matched LMA fiber sets are available in non-PM (LMA) and PM (PLMA) versions.

Typical Applications

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

Features & Benefits

- Matched fiber series – Ensures splice compatibility across the 10/130 matched series of fibers
- NuCOAT™ fluoroacrylate coating — Greater fiber durability in extreme environmental operating & storage conditions
- State of the art Yb-doped glass — Useful for generating high CW powers
- 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-10/125-M**	**LMA-YDF-10/130-M**
Operating Wavelength	1015 – 1115 nm	1015 – 1115 nm
Core NA	0.075 ± 0.005	0.075 ± 0.005
First Cladding NA (5%)	≥ 0.460	≥ 0.46
Cladding Attenuation	≤ 15.0 dB/km @ 1095 nm	≤ 15.0 dB/km @ 1095 nm
Cladding Absorption	1.65 ± 0.15 dB/m at 915 nm 4.95 dB/m near 976 nm	1.45 ± 0.25 dB/m at 915 nm 4.20 dB/m near 975 nm
Birefringence	nominal 3×10^{-4}	N/A
Geometrical & Mechanical Specifications		
Cladding Diameter	125.0 ± 1.0 µm	130.0 ± 1.5 µm
Core Diameter	11.0 ± 1.0 µm	11.0 ± 1.0 µm
Coating Diameter	245.0 ± 10.0 µm	245.0 ± 10.0 µm
Coating Concentricity	< 5.0 µm	< 5.0 µm
Core/Clad Offset	≤ 0.70 µm	≤ 0.70 µm
Coating Material	Low Index Acrylate	Low Index Acrylate
Prooftest Level	≥ 100 kpsi (0.7 GN/m²)	≥ 100 kpsi (0.7 GN/m²)

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Coating Requirements: Low index polymer coating. The precision matched passive fibers are also available- see PLMA-GDF-10/125-M and LMA-GDF-10/130-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.

RoHS compliant

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