20/130 Precision Matched Active LMA Double Clad Fiber

Coherent's matched series of Large Mode Area (LMA) double clad fibers are ideal for high power monolithic fiber lasers and amplifiers. Featuring a matching set of LMA fibers, this series of fibers ensure splice compatibility across the entire chain of 20/130 fiber components required to make monolithic fiber lasers. This matched fiber series is based on a 20 micron diameter core and 130 micron diameter clad size with a low NA (0.08) 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™ coating technology to ensure high slope efficiency, extended operating life and excellent beam quality at the high power levels demanded by today's industrial fiber laser applications.

Typical Applications

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

Features & Benefits

- Matched fiber series – ensure splice compatibility across the 20/130 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
- All fiber proof tested to > 100 kpsi — Critical for ensuring long term reliability when coiling

Optical Specifications	**LMA-YDF-20/130-M**
Operating Wavelength	1060 – 1115 nm
Core NA	0.080 ± 0.005
First Cladding NA (5%)	≥ 0.46
Cladding Attenuation	≤ 15.0 dB/km @ 1095 nm
Cladding Absorption	2.80 ± 0.30 dB/m at 915 nm
Geometrical & Mechanical Specifications	
Cladding Diameter (flat-to-flat)	130.0 ± 1.5 µm
Core Diameter	20.0 ± 1.5 µm
Coating Diameter	245.0 ± 10.0 µm
Coating Concentricity	< 5.0 µm
Core/Clad Offset	≤ 0.70 µm
Prooftest Level	≥ 100 kpsi (0.7 GN/m²)

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The passive version is also available - see LMA GDF-20/130-M

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20/130 Passive LMA Double Clad Fiber

Coherent'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 20 micron diameter core and 130 micron diameter clad size with a low NA (0.08) core and are designed to work well with the active Yb-doped 20/130 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

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

Features & Benefits

- Designed for compatibility with 20/130 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-20/130**	**LMA-GDF-20/130-M**
Operating Wavelength	1060 – 1600 nm	1060 – 1600 nm
Core NA	0.080 ± 0.005	0.080 ± 0.005
First Cladding NA (5%)	≥ 0.46	≥ 0.46
Core Attenuation	N/A	≤ 40.0 dB/km @ 1300 nm ≤ 20.0 dB/km @ 1200 nm
Cladding Attenuation	≤ 15.0 dB/km @ 1095 nm	≤ 15.0 dB/km @ 1095 nm
Birefringence	nominal 2×10^{-4}	N/A
Geometrical & Mechanical Specifications		
Cladding Diameter	130.0 ± 1.0 µm	130.0 ± 1.0 µm
Core Diameter	20.0 ± 2.0 µm	20.0 ± 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	N/A	≤ 0.70 µm
Clad Non-Circularity	N/A	≤ 0.5 %
Prooftest Level	≥ 100 kpsi (0.7 GN/m²)	≥ 100 kpsi (0.7 GN/m²)

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Designed to work with 20/130 LMA Yb-doped active fibers.

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