



## NuMKW Matched Passive Fibers

NuMKW Large Mode Area (LMA) Germanium-doped (GDF) matched passive fibers feature tailored mode field matching to ensure the highest coupling efficiency with NuMKW 1.5kW, 2kW, and 3kW Ytterbium-doped (YDF) active fibers. NuMKW matched passive fibers maximize slope efficiency and beam quality and eliminate coupling to higher order modes (HOMs), thereby mitigating Transverse Mode Instability (TMI).

### Typical Applications

- High Power Fiber Lasers for Industrial Applications
  - Cutting and Welding
  - Laser Cladding
  - Additive Manufacturing

### Features & Benefits

- Matched fibers offer tailored mode field matching to ensure the highest coupling efficiency between the active and passive fibers
- Maximizes slope efficiency and beam quality
- Eliminates coupling to HOMs and thereby mitigates TMI

### Optical Specifications

	LMA-GDF-20/400-HP-M	LMA-GDF-22/400-915-3KW	LMA-GDF-20/400-976-3KW
Operating Wavelength	1015 - 1115 nm	1015 - 1115 nm	1015 - 1115 nm
Core NA	0.065 ± 0.005	0.065 ± 0.005	0.065 ± 0.005
Cladding NA (5%)	≥ 0.46	≥ 0.46	≥ 0.46
Core Attenuation	≤ 8 dB/km at 1200 nm ≤ 12 dB/km at 1300 nm	≤ 8 dB/km at 1200 nm	≤ 8 dB/km at 1200 nm
Cladding Attenuation	≤ 15 dB/km at 1095 nm	≤ 15 dB/km at 1095 nm	≤ 15 dB/km at 1095 nm

### Geometrical & Mechanical Specifications

	LMA-GDF-20/400-HP-M	LMA-GDF-22/400-915-3KW	LMA-GDF-20/400-976-3KW
Cladding Diameter (flat to flat)	395 ± 5 µm	395 ± 5 µm	395 ± 5 µm
Core Diameter	20 ± 1.5 µm	22 ± 1.5 µm	20 ± 1.5 µm
Coating Diameter	550 ± 15 µm	550 ± 15 µm	550 ± 15 µm
Clad Non-Circularity	≤ 0.5 µm	≤ 0.5 µm	≤ 0.5 µm
Core/Clad Offset	≤ 2 µm	≤ 2 µm	≤ 2 µm
Coating Material	Low Index polymer NuCoat-FA-HP	Low Index polymer NuCoat-FA-HP	Low Index polymer NuCoat-FA-HP
Proof Test Level	≥ 100 kpsi (0.7 GN/m <sup>2</sup> )	≥ 100 kpsi (0.7 GN/m <sup>2</sup> )	≥ 100 kpsi (0.7 GN/m <sup>2</sup> )

### Precision Matched Active Fiber

	LMA-GDF-20/400-HP-M	LMA-GDF-22/400-915-3KW	LMA-GDF-20/400-976-3KW
Precision Matched Active Fiber	LMA-YDF-20/400-1.5kW & LMA-YDF-20/400-HP-M	LMA-YDF-22/400-915-3kW	LMA-YDF-20/400-976-3kW



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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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