

10/125 NuGEN9 Precision Matched Ytterbium-Doped LMA Double Clad Fiber



NuGEN9 active fibers offer the most advanced glass composition and fiber design. This fiber is a Yb-doped Large Mode Area (LMA) active double clad fiber featuring a 10 micron diameter core and 125 micron clad diameter with a low NA (0.08) core. This fiber is ideally suited for applications spanning military, industrial and medical applications. NuGEN9 fibers feature an optimized glass composition enabling higher absorption with superior photodarkening performance. These fibers are proof-tested to 100 kpsi, an industry requirement for long term reliability. NuGEN9 fibers are exclusively offered with Coherent's proprietary NuCOAT-FA coating technology with the best wet and dry heat performance available, ensuring excellent preservation of beam quality and extended operating life. The fiber is precision matched to its passive counterpart ensuring excellent splice compatibility and low loss.

Typical Applications

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

Features & Benefits

- NuGEN9 fiber design — Providing higher absorption with superior reliability & photodarkening performance
- NuCOAT-FA fluoroacrylate coating — Excellent wet and dry heat performance for extended life in extreme conditions
- 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
- All fiber proof tested to > 100 kpsi — Critical for ensuring long term reliability when coiling

Optical Specifications

Operating Wavelength	1015 – 1115 nm
Core NA	0.080 ± 0.005
First Cladding NA (5%)	≥ 0.460
Cladding Attenuation	≤ 15.0 dB/km @ 1095 nm
Cladding Absorption	1.90 ± 0.30 dB/m at 915 nm

LMA-YDF-10/125-9M

Geometrical & Mechanical Specifications

Cladding Diameter (flat-to-flat)	125.0 ± 1.5 μm
Core Diameter	10.5 ± 1.0 μm
Coating Diameter	245.0 ± 10.0 μm
Coating Concentricity	< 5.0 μm
Core/Clad Offset	≤ 0.70 μm
Coating Material	Low Index Acrylate
Proof test Level	≥ 100 kpsi (0.7 GN/m ²)



Coating Non-Circularity < 2%
Precision matched passive versions of this fiber are also available - see LMA-GDF-10/125-M & LMA-GSF-10/125-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.



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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10/125 Precision Matched Passive LMA Fibers



Coherent | Coherent's large mode area (LMA) passive single and double clad fibers are ideally suited for applications spanning military, industrial and medical including linearly polarized fiber lasers and amplifiers. These fibers feature a 10 micron diameter core and 125 micron diameter clad size with a low NA core. They are precision matched to their LMA Yb-doped 10/125 matched counterparts to ensure excellent splice compatibility and low loss. As with all Coherent | Coherent standard LMA fibers, these fibers are proof-tested to 100 kpsi, an industry requirement for long term reliability. They utilize the latest fiber design and the double clad fibers features NuCOAT-FA coating technology to ensure excellent preservation of beam quality and extended operating life 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

- NuCOAT-FA fluoroacrylate coating — Greater fiber durability in extreme environmental operating & storage conditions
- Bend insensitive — Survives application in tight confines
- Optimized LMA core design — Easy to maintain single mode LP01 beam through fiber & components at high power
- Precision Matched (M) — Providing low splice loss
- All fiber proof tested to > 100 kpsi — Critical for ensuring long term reliability

Optical Specifications

	LMA-GSF-10/125-M	LMA-GDF-10/125-M
Operating Wavelength	1015 – 1115 nm	1015 – 1115 nm
Core NA	0.075 ± 0.005	0.080 ± 0.005
First Cladding NA (5%)	N/A	≥ 0.46
Core Attenuation	≤ 40.0 dB/km @ 1300 nm ≤ 20.0 dB/km @ 1200 nm	≤ 40.0 dB/km @ 1300 nm ≤ 20.0 dB/km @ 1200 nm
Cladding Attenuation	N/A	≤ 15 dB/km @ 1095 nm

Geometrical & Mechanical Specifications

	LMA-GSF-10/125-M	LMA-GDF-10/125-M
Cladding Diameter	125.0 ± 1.0 μm	125.0 ± 1.0 μm
Core Diameter	11.0 ± 1.0 μm	10.5 ± 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
Clad Non-Circularity	≤ 0.5 %	≤ 0.5 %
Coating Material	Acrylate	Low Index Acrylate
Proof-test Level	≥ 100 kpsi (0.7 GN/m ²)	≥ 100 kpsi (0.7 GN/m ²)



Coating Non-Circularity < 2%
Designed to work with 10/125 LMA Yb-doped active fibers, especially LMA-YDF-10/125-9M

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