

EyeSafe 10 Micron Core Holmium-Doped SM Double Clad Fiber



SM fiber featuring a unique low NA (< 0.1) high concentration Ho-doped core design. The Ho-doped fiber can be pumped by a Tm-doped fiber laser at ~1950-nm and can achieve 60% efficiency. The high NA (0.46) large pump cladding waveguide allows for efficient coupling of high pump powers, but with its small core size this fiber can easily be core-pumped as well. This fiber features a single mode large core/cladding ratio with a low NA and is ideally suited for both CW and pulsed laser applications.

Typical Applications

- High power CW and pulsed
- EyeSafe (~2 μm) lasers and amplifiers
- Military and commercial LIDAR
- ~2 μm output TEM₀₀ fiber lasers for pumping solid state crystal lasers

Features & Benefits

- Unique low NA Ho-doped core design – Robust single-mode beam quality
- NuCOAT™ fluoroacrylate coating – Greater fiber durability in extreme environmental operating & storage conditions
- High pump absorption – Short fiber length, efficient lasing in the ~2 μm window
- Fiber designed for either core-pumping or clad-pumping.

Optical Specifications

Operating Wavelength	2100 – 2200 nm
Core NA	0.150 ± 0.020
First Cladding NA (5%)	≥ 0.46
Cladding Attenuation	≤ 15.0 dB/km @ 810 nm
Cladding Absorption	0.30 ± 0.20 dB/m at 1150 nm

SM-HDF-10/130

Geometrical & Mechanical Specifications

Cladding Diameter (flat-to-flat)	130.0 ± 2.0 μm
Core Diameter	10.0 ± 1.0 μm
Coating Diameter	220.0 ± 10.0 μm
Coating Concentricity	< 5.0 μm
Core/Clad Offset	≤ 0.50 μm
Proof test Level	≥ 100 kpsi (0.7 GN/m ²)



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EyeSafe 25 Micron Core Holmium-Doped LMA Double Clad Fiber

True LMA fiber featuring a unique low NA (< 0.1) high concentration Ho-doped core design. The Ho-doped fiber can be pumped by a Tm-doped fiber laser at ~1950-nm and can achieve 60% efficiency. The high NA (0.46) large pump cladding waveguide allows for efficient coupling of high pump powers. The large core diameter (25 μm) maintains a large mode field diameter and short device length, thereby minimizing non-linear effects such as SBS and SRS.

Typical Applications

- High power CW and pulsed
- EyeSafe (~2 μm) lasers and amplifiers
- Military and commercial LIDAR
- ~2 μm output TEM₀₀ fiber lasers for pumping solid state crystal lasers

Features & Benefits

- Unique low NA Ho-doped core design — Robust single-mode beam quality
- NuCOAT™ fluoroacrylate coating — Greater fiber durability in extreme environmental operating & storage conditions
- High pump absorption — Short fiber length, efficient lasing in the ~2 μm window

Optical Specifications

Operating Wavelength	2100 – 2200 nm
Core NA	0.080 ± 0.010
First Cladding NA (5%)	≥ 0.46
Cladding Attenuation	≤ 15.0 dB/km @ 810 nm
Cladding Absorption	0.30 ± 0.20 dB/m at 1150 nm

LMA-HDF-25/250

Geometrical & Mechanical Specifications

Cladding Diameter (flat-to-flat)	250.0 ± 8.0 μm
Core Diameter	25.0 ± 2.0 μm
Coating Diameter	395.0 ± 15.0 μm
Core/Clad Offset	≤ 2.00 μm
Proof test Level	≥ 100 kpsi (0.7 GN/m ²)



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EyeSafe 40 Micron Core Holmium-Doped LMA Double Clad Fiber



True LMA fiber featuring a unique low NA (< 0.1) high concentration Ho-doped core design. The Ho-doped fiber can be pumped by a Tm-doped fiber laser at ~1950-nm and can achieve 60% efficiency. The high NA (0.46) large pump cladding waveguide allows for efficient coupling of high pump powers. The large core diameter (40 μm) maintains a large mode field diameter and short device length, thereby minimizing non-linear effects such as SBS and SRS.

Typical Applications

- High power CW and pulsed
- EyeSafe (~2 μm) lasers and amplifiers
- Military and commercial LIDAR
- ~2 μm output TEM₀₀ fiber lasers for pumping solid state crystal lasers

Features & Benefits

- Unique low NA Ho-doped core design — Robust single-mode beam quality
- NuCOAT™ fluoroacrylate coating — Greater fiber durability in extreme environmental operating & storage conditions
- High pump absorption — Short fiber length, efficient lasing in the ~2 μm window

Optical Specifications

Operating Wavelength	2100 – 2200 nm
Core NA	0.080 ± 0.010
First Cladding NA (5%)	≥ 0.46
Cladding Attenuation	≤ 15.0 dB/km @ 810 nm
Cladding Absorption	0.30 ± 0.20 dB/m at 1150 nm

LMA-HDF-40/400

Geometrical & Mechanical Specifications

Cladding Diameter (flat-to-flat)	400.0 ± 10.0 μm
Core Diameter	40.0 ± 4.0 μm
Coating Diameter	550.0 ± 15.0 μm
Core/Clad Offset	≤ 2.00 μm
Proof test Level	≥ 100 kpsi (0.7 GN/m ²)



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EyeSafe 40 Micron Core Holmium-Doped LMA All-Glass Double-Clad Fiber

True LMA fiber featuring a unique low NA (< 0.1) high concentration Ho-doped core design. The Ho-doped fiber can be pumped by a Tm-doped fiber laser at ~1950-nm and can achieve 60% efficiency. The Ho-doped fiber features a unique all-glass cladding design with a 40 μm diameter Ho-doped core, a glass inner cladding diameter of 250 μm , a 320 μm 0.22NA index depressed outer glass cladding for the pump radiation and a fluoroacrylate outer polymer jacket (40/250/320/400).

Typical Applications

- High power CW and pulsed EyeSafe ~2 μm lasers/amplifiers
- EyeSafe industrial & medical lasers
- Military and commercial LIDAR

Features & Benefits

- Unique low NA Ho-doped core design — Robust single-mode beam quality
- NuCOAT™ fluoroacrylate coating — Greater fiber durability in extreme environmental operating & storage conditions
- High pump absorption — Short fiber length, efficient lasing in the ~2 μm window
- Unique all-glass double clad design — For achieving higher output powers

Optical Specifications

Operating Wavelength	2100 – 2200 nm
Core NA	0.080 \pm 0.010
Cladding Absorption	0.55 \pm 0.20 dB/m at 1150 nm

LMA-HTF-40/250/400

Geometrical & Mechanical Specifications

Cladding Diameter (flat-to-flat)	250.0 \pm 10.0 μm
Core Diameter	40.0 \pm 4.0 μm
Coating Diameter	550.0 \pm 15.0 μm
Proof test Level	\geq 100 kpsi (0.7 GN/m ²)

Coating Requirements: Low index Coating.



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