



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 ($\sim 2 \mu\text{m}$) lasers and amplifiers
- Military and commercial LIDAR
- $\sim 2 \mu\text{m}$ 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 $\sim 2 \mu\text{m}$ window

Optical Specifications

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

LMA-HDF-40/400

Geometrical & Mechanical Specifications

Cladding Diameter (flat-to-flat)	$400.0 \pm 10.0 \mu\text{m}$
Core Diameter	$40.0 \pm 4.0 \mu\text{m}$
Coating Diameter	$550.0 \pm 15.0 \mu\text{m}$
Core/Clad Offset	$\leq 2.00 \mu\text{m}$
Proof test Level	$\geq 100 \text{ kpsi (} 0.7 \text{ GN/m}^2 \text{)}$



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Standard specifications and design parameters are listed above. 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 Nufern can assist with your requirements.

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