

Eye Safe 9/125 Thulium-Doped Single-Mode Single Clad Fibers



This single clad, small core diameter fiber is designed specifically for use in core-pumped cavities. As the fiber is polarization maintaining, it is also suitable for applications requiring linearly polarized output.

Typical Applications

- Low/mid power 2 μm CW & pulsed Eye Safe lasers & amplifiers
- Eye Safe industrial & medical lasers
- Military & commercial LIDAR
- 2 μm fiber lasers for pumping crystal lasers

Features & Benefits

- Small diameter Tm-doped core design — Robust single mode beam quality
- May be pumped with 793 nm diodes or resonantly pumped using a fiber laser
- High pump absorption — Short fiber length, efficient lasing in the $\sim 2 \mu\text{m}$ window
- Core pumping facilitates access to shorter lasing wavelengths below 1900 nm

Optical Specifications

Operating Wavelength	1900 – 2100 nm
Core NA	0.150
Mode Field Diameter (predicted)	10.5 μm @ 2000 nm (nominal)
Cutoff	1750 \pm 100 nm
Core Absorption	9.00 \pm 2.00 dB/m at 1180 nm
	27.00 dB/m at 793 nm
Birefringence (predicted)	nominal 2.5×10^{-4}

PM-TSF-9/125

Geometrical & Mechanical Specifications

Cladding Diameter	125.0 \pm 1.0 μm
Core Diameter	9.0 μm
Coating Diameter	245.0 \pm 15.0 μm
Coating Concentricity	< 20.0 μm
Core/Clad Offset	\leq 0.50 μm
Coating Material	Acrylate
Proof Test Level	\geq 100 kpsi (0.7 GN/m ²)

The passive version of each fiber is also available.

