

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

	PM-TSF-9/125	SM-TSF-9/125
Operating Wavelength	1900 – 2100 nm	1900 – 2100 nm
Core NA	0.150	0.150
Mode Field Diameter (predicted)	10.5 μm @ 2000 nm (nominal)	10.5 μm @ 2000 nm (nominal)
Cutoff	1750 \pm 100 nm	1750 \pm 100 nm
Core Absorption	9.00 \pm 2.00 dB/m at 1180 nm 27.00 dB/m at 793 nm	9.00 \pm 2.00 dB/m at 1180 nm 27.00 dB/m at 793 nm
Birefringence (predicted)	nominal 2.5×10^{-4}	N/A

Geometrical & Mechanical Specifications

	PM-TSF-9/125	SM-TSF-9/125
Cladding Diameter	125.0 \pm 1.0 μm	125.0 \pm 1.0 μm
Core Diameter	9.0 μm	9.0 μm
Coating Diameter	245.0 \pm 15.0 μm	245.0 \pm 15.0 μm
Coating Concentricity	< 20.0 μm	< 20.0 μm
Core/Clad Offset	\leq 0.50 μm	\leq 0.50 μm
Coating Material	Dual Acrylate	Dual Acrylate
Proof-test Level	\geq 100 kpsi (0.7 GN/m ²)	\geq 100 kpsi (0.7 GN/m ²)

The passive version of each fiber is also available.



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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.