

EyeSafe 5/125 Thulium-Doped Single-Mode Single Clad Fiber



This single clad, small core diameter fiber features a very highly Tm-doped core region (~7% Tm) and is ideally suited for core pumping, enabling very short laser cavities required in producing ultra-fast fiber lasers with high slope efficiency under resonant pumping. The 5 μm core diameter with its 0.24 NA, together, offer superior single-mode operation and excellent bending performance.

Typical Applications

- Low to mid power CW and pulsed Eye Safe (~2 μm) lasers/amplifiers
- Ultra-fast (~2 μm) fiber lasers
- Military and commercial LIDAR
- 2 μm fiber lasers for pumping solid state crystal lasers

Features & Benefits

- Small diameter Tm-doped core design — Robust single mode beam quality
- Flexible design — May be pumped with 793 nm diodes or resonantly pumped using a fiber laser
- High pump absorption — Short fiber length, efficient lasing in the ~2 μm window
- High Tm doped core — Facilitates access to shorter lasing wavelengths below 1900 nm

Optical Specifications

Operating Wavelength	1900 – 2100 nm
Core NA	0.240 \pm 0.020
Core Absorption	330.0 \pm 50.0 dB/m at 1180 nm 340.0 \pm 50.0 dB/m at 1560 nm
Birefringence	nominal 2×10^{-4}

Geometrical & Mechanical Specifications

Cladding Diameter	125.0 \pm 1.0 μm
Core Diameter	5.5 \pm 1.0 μm
Coating Diameter	245.0 \pm 15.0 μm
Coating Concentricity	< 5.0 μm
Core/Clad Offset	\leq 0.50 μm
Coating Material	Low Index Acrylate
Proof Test Level	\geq 100 kpsi (0.7 GN/m ²)

PM-TSF-5/125 1365521



Coating Requirements: UV Cured, dual acrylate coating.

Nufern • 7 Airport Park Road, East Granby, CT 06026 • 860.408.5000 • Toll-free 866.466.0214 • Fax 860.844.0210 • Email: tech.sales@coherent.com
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.

NU0170- 11/12/2020