



# 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  $\mu\text{m}$  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  $\mu\text{m}$ ) lasers/amplifiers
- Ultra-fast (~2  $\mu\text{m}$ ) fiber lasers
- Military and commercial LIDAR
- 2  $\mu\text{m}$  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  $\mu\text{m}$  window
- High Tm doped core — Facilitates access to shorter lasing wavelengths below 1900 nm

## Optical Specifications

Operating Wavelength  
Core NA  
Core Absorption

## SM-TSF-5/125

1900 – 2100 nm  
0.240  $\pm$  0.020  
330.00  $\pm$  50.00 dB/m at  
1180 nm  
340.00  $\pm$  50.00 dB/m at  
1560 nm

## Geometrical & Mechanical Specifications

Cladding Diameter  
Core Diameter  
Coating Diameter  
Coating Concentricity  
Core/Clad Offset  
Proof test Level

125.0  $\pm$  1.0  $\mu\text{m}$   
5.5  $\pm$  1.0  $\mu\text{m}$   
245.0  $\pm$  15.0  $\mu\text{m}$   
< 5.0  $\mu\text{m}$   
 $\leq$  0.50  $\mu\text{m}$   
 $\geq$  100 kpsi (0.7 GN/m<sup>2</sup>)

Coating Requirements: UV Cured, dual acrylate coating.



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Nufern products are manufactured under an ISO 9001:2008 certified quality management system.



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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