

Short Wavelength Pure Silica Core Polarization Maintaining Fibers



Nufern's industry leading short wavelength pure silica core polarization maintaining fibers have superior waveguide, radiation, and mechanical properties, enabling a large variety of applications in diverse markets. High consistency and extreme end-to-end control of optical properties provide particular advantage in spectrographic and frequency sensitive applications. The pure silica core fiber is optimum for demanding applications in the UV and visible spectrum requiring ultra-low attenuation over longer lengths and where resistance to radiation-induced damage and color center formation are critical.

Typical Applications

- Laser pigtailed
- Spectroscopy
- Sensors
- Bio-medical
- Metrology

Features & Benefits

- Panda-style configuration — Superior optical performance, intrinsically good radiation performance
- Tight specifications — Highly deterministic results, highest product yield
- High proof test — Low risk of mechanical damage and failure
- High fatigue failure resistance — Longest service life
- Pure silica core — Resistance to radiation-induced damage and color center formation

Optical Specifications

	PM-S460-HP	PM-S630-HP
Operating Wavelength	460 – 550 nm	630 – 780 nm
Core NA	0.120	0.120
Mode Field Diameter (Gaussian)	3.5 ± 0.3 μm @ 460 nm	4.2 ± 0.5 μm @ 630 nm
Cutoff	420 ± 30 nm	580 ± 40 nm
Core Attenuation	≤ 30.0 dB/km @ 460 nm	≤ 12.0 dB/km @ 630 nm
Beat Length (nominal)	2.3 mm @ 460 nm	4.7 mm @ 630 nm
Birefringence	nominal 2×10^{-4}	nominal 1.3×10^{-4}

Geometrical & Mechanical Specifications

Cladding Diameter	125.0 ± 1.0 μm	125.0 ± 1.0 μm
Core Diameter	3.0 μm	3.5 μm
Coating Diameter	245.0 ± 15.0 μm	245.0 ± 15.0 μm
Coating Concentricity	< 5.0 μm	< 5.0 μm
Core/Clad Offset	≤ 0.50 μm	≤ 0.50 μm
Coating Material	UV Cured, Dual Acrylate	UV Cured, Dual Acrylate
Operating Temperature Range	-40 to 85 °C	-40 to 85 °C
Proof test Level	≥ 200 kpsi (1.4 GN/m ²)	≥ 200 kpsi (1.4 GN/m ²)



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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.