

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 pigtailling
- 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

Operating Wavelength (nominal)	350 - 460 nm
Mode Field Diameter (1/e ² fit - near field)	2.3 μm @ 350 nm*
Second Mode Cut-Off	≤ 340 nm
Attenuation	--
Beat Length (nominal)	1.5 mm @ 350 nm
Numerical Aperture (nominal)	0.12
Birefringence (nominal)	2.5 x 10 ⁻⁴

Geometrical & Mechanical Specifications

Clad Diameter	125 ± 1 μm
Coating Diameter	245 ± 15 μm
Core-Clad Concentricity	< 0.5 μm
Coating/Clad Offset	≤ 5 μm
Core Type	Pure Silica Core
Coating Material	UV Cured, Dual Acrylate
Operating Temperature	- 40 to + 85°C
Proof Test Level	≥ 200 kpsi (1.4 GN/m ²)

PM-S350-HP

Operating Wavelength (nominal)	350 - 460 nm
Mode Field Diameter (1/e ² fit - near field)	2.3 μm @ 350 nm*
Second Mode Cut-Off	≤ 340 nm
Attenuation	--
Beat Length (nominal)	1.5 mm @ 350 nm
Numerical Aperture (nominal)	0.12
Birefringence (nominal)	2.5 x 10 ⁻⁴

PM-S405-HP

Operating Wavelength (nominal)	400 - 500 nm
Mode Field Diameter (1/e ² fit - near field)	3.2 μm @ 405 nm*
Second Mode Cut-Off	365 ± 25 nm
Attenuation	≤ 50 dB/km @ 405 nm
Beat Length (nominal)	1.8 mm @ 405 nm
Numerical Aperture (nominal)	0.12
Birefringence (nominal)	2.3 x 10 ⁻⁴

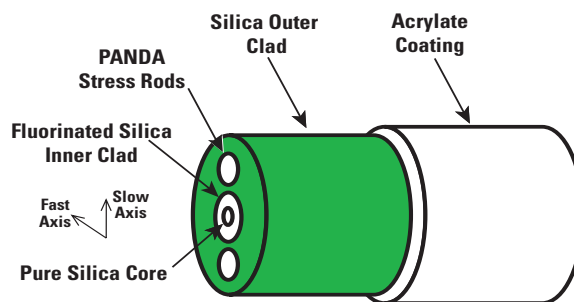
PM-S460-HP

Operating Wavelength (nominal)	460 - 550 nm
Mode Field Diameter (1/e ² fit - near field)	3.5 ± 0.3 μm @ 460 nm
Second Mode Cut-Off	420 ± 30 nm
Attenuation	≤ 30 dB/km @ 460 nm
Beat Length (nominal)	2.3 mm @ 460 nm
Numerical Aperture (nominal)	0.12
Birefringence (nominal)	2.0 x 10 ⁻⁴

PM-S630-HP

Operating Wavelength (nominal)	630 - 780 nm
Mode Field Diameter (1/e ² fit - near field)	4.2 ± 0.5 μm @ 630 nm
Second Mode Cut-Off	580 ± 40 nm
Attenuation	≤ 12 dB/km @ 630 nm
Beat Length (nominal)	4.7 mm @ 630 nm
Numerical Aperture (nominal)	0.12
Birefringence (nominal)	1.3 x 10 ⁻⁴

*Nominal value



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Nufern products are manufactured under an ISO 9001:2000 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.