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. An extended range (XP) version of PM- S405 replaces the HP version offering a broader operational wavelength range.

Typical Applications

- Laser pigtailing
- 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-S405-XP**	**PM-S350-HP**
Operating Wavelength	400 – 680 nm	350 – 460 nm
Core NA	0.120	0.120
Mode Field Diameter (Gaussian)	3.6 ± 0.5 µm @ 405 nm 5.0 ± 0.5 µm @ 630 nm	2.3 µm @ 350 nm (nominal)
Cutoff	390 ± 20 nm	315 ± 25 nm
Core Attenuation	≤ 30.0 dB/km @ 630 nm ≤ 30.0 dB/km @ 488 nm	N/A
Beat Length (nominal)	N/A	1.5 mm @ 350 nm
Normalized Cross Talk	≤ - 50.0 dB at 10 m @ 630 nm	N/A
Birefringence	nominal 2×10^{-4}	nominal 2.5×10^{-4}
Geometrical & Mechanical Specifications		
Cladding Diameter	125.0 ± 1.0 µm	125.0 ± 1.0 µm
Core Diameter	3 µm	2.5 µm
Coating Diameter	245.0 ± 15.0 µm	245.0 ± 15.0 µm
Coating Concentricity	< 5.0 µm	< 5.0 µm
Core/Clad Offset	≤ 0.60 µm	≤ 0.50 µm
Coating Material	UV Cured, Dual Acrylate	UV Cured, Dual Acrylate
Operating Temperature Range	-60 to 85 °C	-40 to 85 °C
Prooftest Level	≥ 200 kpsi (1.4 GN/m²)	≥ 200 kpsi (1.4 GN/m²)

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7 Airport Park Road, East Granby, CT 06026 • 860.408.5000 • Toll-free 866.466.0214 • Fax 860.844.0210 E-mail info @ nufern.com • www.nufern.com Nufern products are manufactured under an ISO 9001:2008 certified quality management system.

RoHS

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.