

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*
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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*
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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*
	3.5 ± 0.3 μm @ 460 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

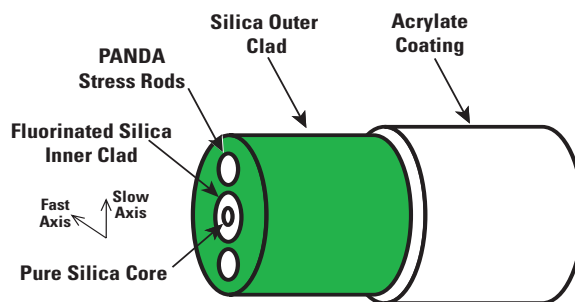
PM-S460-HP

Operating Wavelength (nominal)	460 - 550 nm
Mode Field Diameter (1/e ² fit - near field)	3.5 ± 0.3 μm @ 460 nm
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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
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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

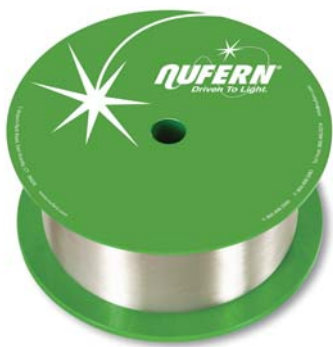


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<http://www.optoscience.com>

東京本社 〒160-0014 東京都新宿区内藤町1番地 内藤町ビルディング
TEL: 03 (3356) 1064 FAX: 03 (3356) 3466 E-mail: info@optoscience.com
大阪支店 〒532-0011 大阪市淀川区西中島7-7-2 新大阪ビル西館
TEL: 06 (6305) 2064 FAX: 06 (6305) 1030 E-mail: osk@optoscience.com
名古屋営業所 〒450-0002 名古屋市中村区名駅2-37-21 東海ソフトビル
TEL: 052 (569) 6064 FAX: 052 (569) 8064 E-mail: ngo@optoscience.com



Polarization Maintaining Short Wavelength Fibers

Nufern's industry leading visible and short wavelength Polarization Maintaining fibers have superior waveguide, radiation, and mechanical properties enabling a large variety of new critical 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 intrinsically high level of radiation resistance allows this family to operate for extended periods of time on low earth orbits, near and deep space, and in applications where risk of exposure to man-made radiation is great.

Typical Applications

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

Features & Benefits

- PANDA-style configuration — Superior performance, intrinsically good radiation performance
- Tight specifications — Highly deterministic results, highest product yield
- High Proof Test — Low risk of mechanical handling failure
- High fatigue failure resistance — Longest service life

Optical Specifications

Operating Wavelength (nominal)
MFD (1/e² fit - near field)
Second Mode Cut-Off
Core Attenuation
Beat Length (nominal)
Normalized Cross Talk
Birefringence (nominal)

PM460-HP

460 – 700 nm
3.3 ± 0.5 μm @ 515 nm
410 ± 40 nm
≤ 100 dB/km @ 488 nm
1.3 mm @ 460 nm
3.5 x 10⁻⁴

PM630-HP

620 - 850 nm
4.5 ± 0.5 μm @ 630 nm
570 ± 50 nm
≤ 15 dB/km @ 630 nm
1.8 mm @ 630 nm
3.5 x 10⁻⁴

PM780-HP

770 - 1100 nm
5.3 ± 1.0 μm @ 850 nm
710 ± 60 nm
≤ 4 dB/km @ 850 nm
2.4 mm @ 850 nm
≤ -40 dB at 4 m @ 850 nm
3.5 x 10⁻⁴

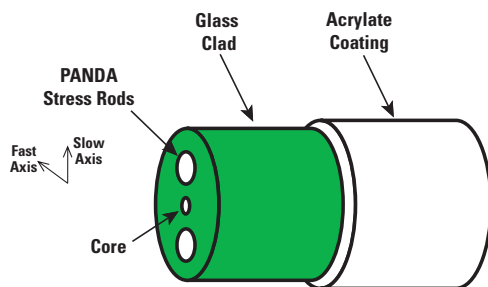
Geometrical & Mechanical Specifications

Clad Diameter
Coating Diameter
Core-Clad Concentricity
Coating/Clad Offset
Coating Material
Operating Temperature
Proof Test Level

125 ± 1 μm
245 ± 15 μm
< 0.5 μm
≤ 5 μm
UV Cured, Dual Acrylate
- 40 to + 85°C
≥ 200 kpsi (1.4 GN/m²)

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RoHS



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東京本社 〒160-0014 東京都新宿区内藤町1番地 内藤町ビルディング
TEL: 03 (3356) 1064 FAX: 03 (3356) 3466 E-mail: info@optoscience.com
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名古屋営業所 〒450-0002 名古屋市中村区名駅2-37-21 東海ソフトビル
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