

Polarization Maintaining Short Wavelength Fibers



Coherent'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

	PM460-HP	PM630-HP	PM780-HP
Operating Wavelength	460 – 700 nm	620 – 850 nm	770 – 1100 nm
Core NA	0.120	0.120	0.120
Mode Field Diameter (Gaussian)	3.3 ± 0.5 μm @ 515 nm	4.5 ± 0.5 μm @ 630 nm	5.3 ± 1.0 μm @ 850 nm
Cutoff	410 ± 40 nm	570 ± 50 nm	710 ± 60 nm
Core Attenuation	≤ 100.0 dB/km @ 488 nm	≤ 15.0 dB/km @ 630 nm	≤ 4.0 dB/km @ 850 nm
Beat Length (nominal)	1.3 mm @ 460 nm	1.8 mm @ 630 nm	2.4 mm @ 850 nm
Normalized Cross Talk	N/A	N/A	≤ - 40 dB at 4 m @ 850 nm
Birefringence	nominal 3.5 × 10 ⁻⁴	nominal 3.5 × 10 ⁻⁴	nominal 3.5 × 10 ⁻⁴

Geometrical & Mechanical Specifications

	PM460-HP	PM630-HP	PM780-HP
Cladding Diameter	125.0 ± 1.0 μm	125.0 ± 1.0 μm	125.0 ± 1.0 μm
Core Diameter	3.0 μm	3.5 μm	4.5 μm
Coating Diameter	245.0 ± 15.0 μm	245.0 ± 15.0 μm	245.0 ± 15.0 μm
Coating Concentricity	< 5.0 μm	< 5.0 μm	< 5.0 μm
Core/Clad Offset	≤ 0.50 μm	≤ 0.50 μm	≤ 0.50 μm
Coating Material	Acrylate	Acrylate	Acrylate
Operating Temperature Range	-40 to 85 °C	-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)	≥ 200 kpsi (1.4 GN/m ²)



PM460-HP is designed for lower power applications. For powers >5-10 mW, Nufern PM-S405-XP fiber is recommended.

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www.coherent.com ; www.shop.coherent.com • Coherent products are manufactured under an ISO 9001:2008 certified quality management system.



Custom developed fiber (FUD) 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 Coherent can assist with your requirements.