



Standard PM Fiber

Fibercore's Polarization Maintaining (PM) fibers are designed to give the highest levels of polarization maintenance for wavelengths from 488nm to greater than 1550nm. These fibers can be used in interferometric sensors, modulators, delay lines, spectroscopy and biomedical applications.

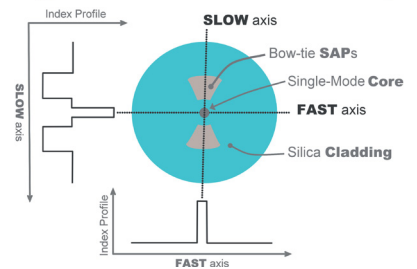
Fibercore use 'Bow-Tie' Stress Applying Parts (SAPs) to create birefringence in the core. The design of these highly efficient SAPs generate very high birefringence without excessive stress, allowing polarization orientation to be controlled effectively across a fiber system.

'Bow Tie' PM Fiber

The core is flanked by areas of high expansion, boron-doped glass, which shrink back more than the surrounding silica. Tension caused induces birefringence (creating two different indices of refraction: a higher index parallel and a lower index perpendicular to the applied stress).

Fibercore's 'Bow-Tie' design is capable of creating more birefringence than any other stressed design. This is simply because it is based on two opposing wedges, the most simple and efficient means of applying stress to a point.

Typical 'Bow-Tie' HiBi Fiber Geometry



Advantages:

- Highly birefringent
- Short beat-length
- Strong Polarization Extinction Ratio (PER) maintaining
- Broad wavelength ranges

Typical applications:

- Interferometric sensors
- Diode pigtailed
- Coherent beam delivery
- Modulators
- Delay lines
- Spectroscopy
- Biomedical

Related Products:

- PM Erbium Doped Fiber (DHB1500)
- Zing™ Polarizing Fiber (HB-Z)
- Telecoms PM Fiber (HB-T)
- PM Coupler Fiber (HB-C)
- PM Gyro Fiber (HB-G)
- Polyimide Coated PM Fiber (HB-P)

Product Variants:

- **HB450** PM Fiber for wavelengths above 450nm
- **HB600** PM Fiber for wavelengths above 600nm
- **HB750** PM Fiber for wavelengths above 750nm
- **HB800** PM Fiber for wavelengths above 800nm
- **HB1000** PM Fiber for wavelengths above 1020nm
- **HB1250** PM Fiber for wavelengths above 1270nm
- **HB1500** PM Fiber for wavelengths above 1520nm



PM Fiber

Specifications

	HB450	HB600	HB750	HB800	HB1000	HB1250	HB1500
Operating Wavelength (nm)	488 - 633	633 - 780	780 - 830	830 - 1060	1060 - 1300	1300 - 1550	1550 - 1650
Cut-Off Wavelength (nm)	350 - 470	500 - 600	610 - 750	600 - 800	840 -1020	1030 -1270	1230 -1520
Numerical Aperture	0.10 - 0.13	0.14 - 0.18					
Mode Field Diameter (µm)	3.0 – 4.1 @488nm	2.8 – 3.7 @633nm	3.5 – 4.6 @780nm	3.7 – 4.9 @830nm	4.7 – 6.3 @1060nm	5.8 – 7.9 @1310nm	7.0 – 9.2 @1550nm
Attenuation (dB/km)	≤100 @488nm	≤15 @633nm	≤8 @780nm	≤5 @830nm	≤3 @1060nm	≤2 @1310nm	≤2 @1550nm
Beat Length (mm) @633	<2.0						
Proof Test (%)	1 (100 kpsi)						
Cladding Diameter (µm)	125 ± 1						
Core Cladding Concentricity (µm)	≤0.75	≤1.0					
Coating Diameter (µm)	245 ± 15						
Coating Type	Dual Acrylate						

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