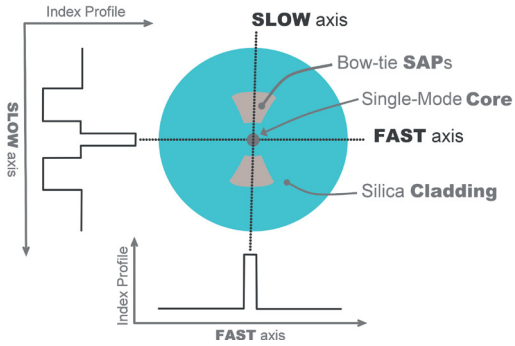
POLYIMIDE COATED PM FIBER

Polyimide Coated PM Fiber (HB-P) withstands temperatures as high as 400°C short-term and 300°C continuous.



Typical bow-tie HiBi fiber geometry

It is ideally suited for medical and sensing applications where fiber must be sterilized at high temperature, or withstand the curing temperatures of the high performance laminates.

Polyimide is a high performance polymer, widely used throughout the electronics industry. The polyimide coating is chemically bonded to the fiber surface and is an exceptionally rugged, chemical resistant material, which offers fiber protection when applied to a thickness of just 10µm.

In comparison, a standard acrylate coating must be applied to a thickness of 40µm for a 125µm cladding diameter fiber.

HB-P is particularly suited to embedded 'Smart-Skins' type applications due to its low profile, which helps to maintain composite strength through a reduction in the area of the Resin Rich Zone (RRZ). The relatively thin coating, combined with the high adhesion of the glass-polyimide bond, can optimize the mechanical strain transfer in a fiber sensing system.

Fibercore's 'Bow-Tie' Polarization Maintaining (PM) fiber 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.

FEATURES

Advantages

- Operation up to 300°C continuously
- Highly Birefringent (HB)
- Short Beat-Lengths (SB)
- Strong Polarization Extinction Ratio (PER) maintaining

Typical Applications:

- High temperature sensors
- Downhole sensors
- Interferometric sensors
- Medical probes
- Embedded sensors

Product Variants

- HB800P
  Polyimide coated PM Fiber for use around 830nm
- HB1250P
  Polyimide coated PM Fiber for use around 1310nm
- HB1500P
  Polyimide coated PM Fiber for use around 1550nm

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SPECIFICATIONS

	HB800P	HB1250P	HB1500P
Operating Wavelength (nm)	830 - 1200	1300 - 1550	1520 - 1650
Cut-Off Wavelength (nm)	600 - 800	1030 - 1270	1230 - 1520
Numerical Aperture	0.14 - 0.18		
Mode Field Diameter (µm)	3.7 - 5.0 @830nm	5.8 - 7.8 @1310nm	7.0 - 9.2 @1550nm
Attenuation (dB/km)	≤5 @830nm	≤2 @1310nm	≤2 @1550nm
Beat-Length (mm)	≤2.0 @633nm		
Proof Test (%)	1 (100 kpsi)		
Cladding Diameter (µm)	125 ± 2		
Core Cladding Concentricity (µm)	≤1.0		
Coating Diameter (µm)	155 ± 5		
Coating Type	Polyimide		
Operating Temperature (°C)	-55 to +300		

RELATED PRODUCTS

- PM Erbium Doped Fiber
- Zing™ Polarizing Fiber
- Standard PM Fiber
- Polyimide Coated SM Fiber

Fibercore House I Southampton Science Park
United Kingdom I SO16 7QQ
T +44 (0)23 8076 9893 I **E** info@fibercore.com

fibercore.com

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A HUMANETICS COMPANY