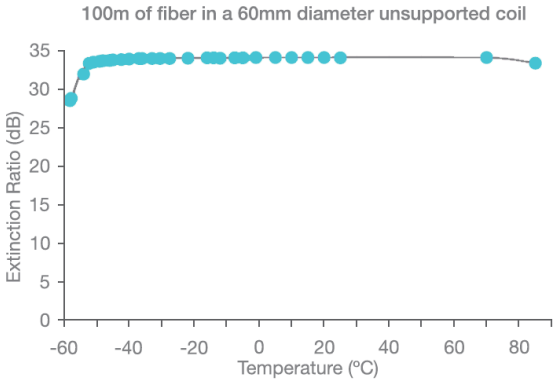
PM GYRO FIBER

Fibercore are the World's leading supplier of Polarization Maintaining (PM) fibers for Fiber Optic Gyroscopes (FOGs).

By using 'Bow Tie' Stress Applying Parts (SAPs), stress can be efficiently focused across the core of the fiber, offering industry leading levels of birefringence to maintain high levels of Polarization Extinction Ratio (PER). By combining the high birefringence with Fibercore's optimized gyro fiber coating package, the World's highest performance levels can be achieved.



The PM gyro range of fibers offers Short Beat-Length (SB) variants for the highest PER levels, high Numerical Aperture (NA) fibers (HI) for reduced macro and micro bend losses in small coil diameters and Radiation Tolerant (RT) variants for space missions.

High Polarization Extinction from -55°C to +85°C

Performance is maintained over a wide temperature range. Under test conditions designed to simulate those encountered in a typical FOG coil. Extinction ratios of better than 30dB (h-parameter of 1×10-5 m-1) have been maintained down to -55°C, with extinction of over 28dB demonstrated right down to -60°C.

FEATURES

Advantages

- 'Bow-Tie' design engineered to give superior birefringence
- The World's best selling Gyro fiber
- Optimized coating package for best PER performance over temperature
- Radiation tolerant designs for space applications
- High NA designs for reduced bend loss in small coil diameters

Typical Applications

- FOGs
- Current sensors
- Delay lines

Product Variants

- HB800G-SB
- HB1500G-SB(6.5/80/135)
- HB1500G-SB(6.5/80/155)
- HB800G
- HB1250G
- HB1500G
- HB1500G-HI
- HB1500G-RT
- HB1500G-RT-SB
- HB1500G-SB(6/60/100)

SPECIFICATIONS

Short beat-length fiber

	HB800G-SB	HB1500G-SB (6.5/80/135)	HB1500G-SB (6.5/80/155)
Operating Wavelength (nm)	810 - 1000	1520 - 1650	
Cut-Off Wavelength (nm)	660 - 800	1360 - 1520	
Numerical Aperture	0.14 - 0.18	0.19 - 0.21	
Mode Field Diameter (µm)	3.7 - 5.0 @830nm	6.0 - 6.85 @1550nm	
Attenuation (dB/km)	≤5 @830nm	≤1.5 @1550nm	
Beat-Length (mm)	≤1.0 @633nm		
Proof Test (%)	1 or 2 (100 kpsi or 200 kpsi). Greater upon request		
Cladding Diameter (µm)	80 ± 1		
Core Cladding Concentricity (µm)	≤1.0		
Coating Diameter (µm)	165 ± 5	135 ± 2	155 ± 5
Coating Type	Dual Layer Acrylate		
Operating Temperature (°C)	-55 to +85		

SB - Short Beat-Length

Standard gyro fiber

	HB800G	HB1250G	HB1500G	HB1500G-HI
Operating Wavelength (nm)	810 - 1000	1280 - 1520	1520 - 1650	
Cut-Off Wavelength (nm)	660 - 800	1030 - 1270	1230 - 1520	1360 - 1520
Numerical Aperture	0.14 - 0.18			0.19 - 0.21
Mode Field Diameter (µm)	3.7 - 4.9 @830nm	5.8 - 7.8 @1310nm	6.9 - 9.3 @1550nm	6.0 - 6.9 @1550nm
Attenuation (dB/km)	≤5 @830nm	≤2 @1310nm	≤2 @1550nm	≤3 @1550nm
Beat-Length (mm)	≤1.5 @633nm			
Proof Test (%)	1 or 2 (100 kpsi or 200 kpsi). Greater upon request			
Cladding Diameter (µm)	80 ± 1			
Core Cladding Concentricity (µm)	≤1.0			
Coating Diameter (µm)	165 ± 5	170 ± 5		155 ± 5
Coating Type	Dual Layer Acrylate			
Operating Temperature (°C)	-55 to +85			

HI - High Index

Specifications continued on next page.

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SPECIFICATIONS CONTINUED

Radiation tolerant fiber

	HB1500G-RT	HB1500G-RT-SB	HB1500G-SB(6/60/100)
Operating Wavelength (nm)	1520 - 1650		
Cut-Off Wavelength (nm)	1230 - 1520	1360 - 1520	1260 - 1520
Numerical Aperture	0.14 - 0.18	0.19 - 0.21	0.20 - 0.22
Mode Field Diameter (µm)	6.9 - 9.3 @1550nm	6.0 - 7.0 @1550nm	5.6 - 6.3 @1550nm
Attenuation (dB/km)	≤2 @1550nm		≤2.5 @1550nm
Beat-Length (mm)	≤1.5 @633nm	≤1.15 @633nm	≤1.0 @633nm
Proof Test (%)	1 or 2 (100 kpsi or 200 kpsi). Greater upon request		1 (100 kpsi). Greater upon request
Cladding Diameter (µm)	80 ± 1		60 ± 2.5
Core Cladding Concentricity (µm)	≤1.0		
Coating Diameter (µm)	170 ± 5	165 ± 5	100 ± 5
Coating Type	Dual Layer Acrylate		
Operating Temperature (°C)	-55 to +85		

SB - Short Beat-Length **RT** - Radiation Tolerant

RELATED PRODUCTS

- PM Coupler Fiber
- Standard PM Fiber
- Telecoms PM Fiber
- Polyimide Coated PM Fiber
- Erbium Doped Fiber IsoGain™

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