

PM GYRO FIBER



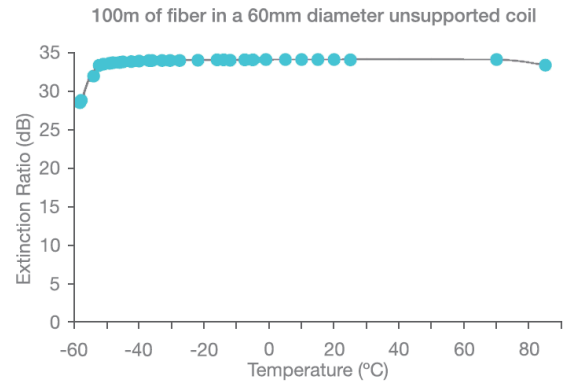
Fibercore are the World's leading supplier of Polarization Maintaining (PM) fibers for Fiber Optic Gyroscopes (FOGs).

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 $1 \times 10^{-5} \text{ m}^{-1}$) 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
Short beat-length PM Fiber for 830nm FOGs
- HB1500G-SB(6.5/80/135)
Short beat-length PM fiber for 1550nm FOGs
- HB1500G-SB(6.5/80/155)
Short beat-length and radiation tolerant PM fiber for 1550nm FOGs
- HB800G
PM Fiber for 830nm FOGs
- HB1250G
PM Fiber for 1310nm FOGs
- HB1500G
PM Fiber for 1550nm FOGs
- HB1500G-HI
High NA PM Fiber for 1550nm FOGs with very low bend loss
- HB1500G-RT
Radiation tolerant PM Fiber for 1550nm FOGs
- HB1500G-RT-SB
Short beat-length and radiation tolerant PM fiber for 1550nm FOGs

To find out more visit [fibercore.com](https://www.fibercore.com)

22July2020_MD05/8

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.

To find out more visit fibercore.com

Copyright © Fibercore 2020. This flyer is indicative only Contact Fibercore directly for details.

SPECIFICATIONS CONTINUED

Radiation tollerant fiber

| | HB1500G-RT | HB1500G-RT-SB |
|----------------------------------|---|-------------------|
| Operating Wavelength (nm) | 1520 - 1650 | |
| Cut-Off Wavelength (nm) | 1230 - 1520 | 1360 - 1520 |
| Numerical Aperture | 0.14 - 0.18 | 0.19 - 0.21 |
| Mode Field Diameter (μm) | 6.9 - 9.3 @1550nm | 6.0 - 7.0 @1550nm |
| Attenuation (dB/km) | ≤2 @1550nm | |
| Beat-Length (mm) | ≤1.5 @633nm | ≤1.15 @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) | 170 ± 5 | 165 ± 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™

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

fibercore.com