Elliptical-clad Polarization Maintaining Gyroscope & Sensor Fibers

Nufern's elliptical clad PM Gyroscope fibers have high birefringence and are designed for gyroscope and sensor applications. These fibers feature good bending performance and are optimized for either 850 nm or 1300 nm wavelength operation. The 850 nm optimized fiber has a 40 µm clad diameter and the 1300 nm optimized fiber has an 80 µm clad diameter. Both are ideally suited for applications requiring a small form factor.

Typical Applications

- Fiber optic gyroscopes (FOGs)
- Fiber optic voltage and current sensors
- Laser pigtailing
- Small form factor couplers
- Specialty sensors

Features & Benefits

- High birefringence — Less gyroscope drift
- Bend insensitive — Smaller diameter coils possible
- Excellent crosstalk over temperature range — Ensures performance in harsh environments
- Nufern proprietary coating — Optimized for gyroscope applications

Optical Specifications	**PME850G-40/100-5**	**PME1300G-80/170-5**
Operating Wavelength	810 – 870 nm	1290 – 1340 nm
Core NA	0.180	0.180
Mode Field Diameter	4.0 ± 0.5 µm @ 850 nm	6.0 ± 0.5 µm @ 1300 nm
Cutoff	720 ± 60 nm	1230 ± 50 nm
Core Attenuation	≤ 12.0 dB/km @ 820 nm	≤ 2.0 dB/km @ 1300 nm
Beat Length	≤ 2.0 mm @ 850 nm	≤ 1.2 mm @ 633 nm
H-Parameter	≤ 5.00000×10^{-5} m^{-1}@ 850 nm	≤ 3.00000×10^{-5} m^{-1}@ 1300 nm
Normalized Cross Talk	≤ - 25.0 dB at 100 m @ 630 nm	≤ - 25.0 dB at 100 m @ 1300 nm
Geometrical & Mechanical Specifications		
Cladding Diameter	40.0 ± 1.0 µm	80.0 ± 1.0 µm
Core Diameter	3.5 µm	6.0 µm
Coating Diameter	100.0 ± 5.0 µm	170.0 ± 5.0 µm
Core/Clad Offset	≤ 1.50 µm	≤ 2.00 µm
Operating Temperature Range	-60 to 105 °C	-60 to 105 °C
Prooftest Level	≥ 100 kpsi (0.7 GN/m²)	≥ 100 kpsi (0.7 GN/m²)

Coating Requirements: UV cured dual acrylate coating

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