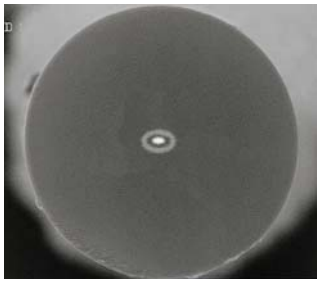
Elliptical core PM fiber

PME1300-5 | PME1300-30 | MME6040

Our elliptical-core fiber provides high polarization extinction and insensitivity to bending and twisting stress. Unlike conventional PM fibers, birefringence of the elliptical-core waveguide has low thermal dependence (more than 10 times lower than Panda).

We offer two fiber options: highly-birefringent PME1300-5, insensitive to bending and stress; and longer beatlength PME1300-30 that features low attenuation and can be used for polarization retardation (quarter-wave plates). Different polarization beatlengths are achieved by precisely controlling silica dopant concentration, while keeping core dimensions intact. As a result these two fibers can be spliced to each other with minimum losses - less than 0.2 dB (with core axes properly aligned). Due to core geometry the splice losses to a conventional circular-core fiber (SMF, Panda or Bow-tie) are asymmetrical - 0.5 dB for circular-to-elliptical coupling and 2.5 dB for elliptical-to-circular arrangement.

Polarization-preserving qualities offered by the elliptical core design are not limited to single-mode applications. Our unique multimode MME6040 fiber features large elliptical core that provides polarization extinction suitable for various applications. Confined within 60 x 40 micron silica core, linearly polarized light can be transmitted over short (< 10 m) lengths with less than 1% cross-coupling.



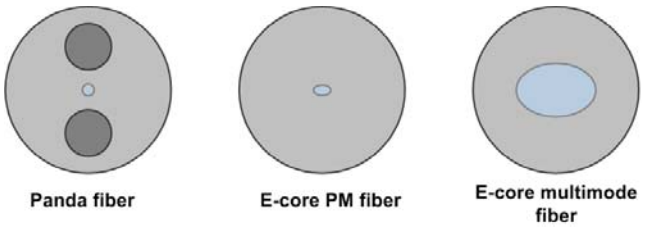
Features

- High extinction ratio
- Reduced coupling loss
- Low temperature dependence

Applications

- Fiber-optic gyros
- Optical current sensors
- Fiber amplifiers

PM fiber cross-sections



Specifications

	PME1300-5	PME1300-30	MME6040
Operating wavelength	1300 - 1600 nm	1300 - 1600 nm	500 - 2000 nm
Cut-off wavelength	< 1280 nm	< 1280 nm	-
Beatlength (@ 1310 nm)	5 mm	30 mm	-
Normalized thermal coefficient	$< 10^{-4}$ °C^{-1}	$< 10^{-4}$ °C^{-1}	-
Attenuation (@ 1310 nm)	22 dB/km	7.5 dB/km	-
Mode field dimensions	13 x 8 um	13 x 8 um	60 x 40 um
Cladding diameter	125 um	125 um	125 um
Coating diameter	250 um	250 um	250 um
Core-clad concentricity	< 0.5 um	< 0.5 um	-
Cladding offset	< 5 um	< 5 um	< 5 um
Coating material	acrylate	acrylate	acrylate
Proof test	100 kpsi	100 kpsi	100 kpsi
Bending radius	> 20 mm	> 30 mm	> 30 mm

Specifications shown above are for our standard products. For detailed information on other types of elliptical core fiber, such as Erbium-doped or low-birefringence versions, please contact us at (416) 661 1418 or info@ivgfiber.com

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