

Fibers for Raman Amplifiers

The IXF-PDF & IXF-PDF-PM fiber series are Phosphorous P-Doped fiber especially designed to achieve very high Raman gain at 1.48 micron for high-power pumping of Erbium doped fibers. P-Doped Fiber offers a Raman shifted gain that is three times higher than the germanium-doped fibers.

The main application is to produce high-power sources at 1240 and 1480 nm that can be used as pump lasers in O-vnd and C-band fiber amplifiers respectively. Indeed, laser diodes are limited to ~200mW of optical output power while Raman lasers can generate 1W. (For 1310 nm Raman fiber amplifiers, the Raman Fiber features very low loss, as it's a good alternative to the 1480 nm laser diode sources that are limited to 100 to 200 mW output power compared to the 1 watt Raman laser alternative.)

Key Features

- Raman Gain Efficiency (typical): 2.5 (W·km)⁻¹
- High P2O5 concentration
- Low Attenuation
- Good splicing losses and low macrobending losses

Applications

- Raman Laser
- Raman Amplifier

Related Products

- Polarization Maintaining Fibers
- Spun Fibers



Main Specifications

Product Name	Core NA	Coating diameter (μm)	MFD	Attenuation @ 1060 nm (dB/km)	Attenuation @ 1240 nm (dB/km)	Attenuation @ 1480 nm (dB/km)	Attenuation @ 1550 nm (dB/km)	Cutoff Wavelength (nm)	Birefringence
IXF-PDF-5-125	0.17 +/- 0.01	245 +/- 15	7.5 +/- 1	< 2.4	< 1.5	< 1.4	< 1.7	1025 +/- 75	NA
IXF-PDF-5-125-PM	0.17 +/- 0.01	245 +/- 15	7.5 +/- 1	< 3	< 2	< 1.8	< 2.5	1025 +/- 75	> 1.10 ⁻⁴

Common specifications

- Bare fiber diameter: 125 +/- 1 μm
- Core to cladding concentricity: < 1 μm
- Proof test level: 100 kpsi



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