

# **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

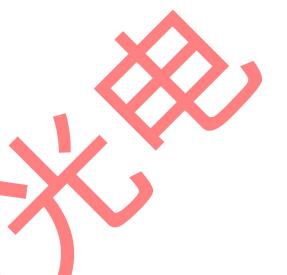


# **Main Specifications**

|  | Product Name     | Core NA       | Coating<br>diameter<br>(µm) | MFD       | @ 1060 nm | @ 1240 nm | Attenuation<br>@ 1480 nm<br>(dB/km) | @ 1550 nm | Cutoff<br>Wavelength<br>(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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