

# IXF-PZG-1550-80

## Polarizing Fiber

Exail Polarizing (PZ) fiber is designed so that only one state of polarization is guided along the fiber; any other state of polarization will be lost rapidly thus yielding a high built-in polarization extinction ratio. This particular mechanism is obtained through a specific waveguide design and a careful optimization of the glass composition resulting in both high birefringence and leakage behavior.

PZ fibers are available at different wavelengths with a broad polarizing window (typically larger than 100 nm), low attenuation and high extinction ratio ( $\geq 30$  dB), that can be tuned by coiling the proper fiber length at the appropriate coil diameter.

If needed Exail also offers ready to use polarizing solutions based on PZ fibers.



### Benefits & Features

- All-fiber polarizer
- Coiled operation
- Polarizing wavelengths available: 780, 840, 980, 1060, 1310 or 1550 nm
- Fiber diameter: 80 or 125  $\mu\text{m}$
- Tiger design
- > 100 nm polarizing window
- > 30 dB extinction ratio

### Applications

- Quantum optics, cold atoms
- All-Fiber polarizer
- Fiber optic current sensors and gyros

### Parameters

20 dB fast edge* (nm)	< 1500
3 dB slow edge* (nm)	> 1600
Extinction ratio (dB)	< -30
Attenuation @1550nm (dB/km)	< 20
Mode field diameter @1550nm ( $\mu\text{m}$ )	11 $\pm$ 2.5
Numerical aperture	0.13 $\pm$ 0.01
Core/Clad concentricity ( $\mu\text{m}$ )	< 1
Cladding diameter ( $\mu\text{m}$ )	80 $\pm$ 2
Coating diameter ( $\mu\text{m}$ )	170 $\pm$ 5
Proof test level (kpsi)	100

### Design parameters

Operating wavelength (nm)	1550
Design	Tiger
Core shape	Round
Coating material	Dual acrylate
Operating temperature range ( $^{\circ}\text{C}$ )	-40 to +85

#### Comments:

\*Typical polarization performance with deployment conditions of 5m length in a 80mm coil.

Exail reserves the right to change, at any time and without notice, the specifications, design, function or form of its products described herein.

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