

Polycrystalline InfraRed PIR-fiber cable

art photonics offers **FlexiRay®** Fiber Cables for a broad Mid-Infrared spectral range 3 - 17 μm . Based on Polycrystalline InfraRed (PIR-) fibers, **FlexiRay®** fiber cables are used in a wide range of applications including Mid-IR light delivery, spectroscopy, remote temperature sensing, etc. PIR-fiber cables are available with a variety of standard fiber diameters, with different connectors (SMA-905, FC/PC, and FC/APC), and several types of protective sheathing. Manufacturing technologies of **art photonics** assure precise fiber position inside the connector ferrule and a perfect surface quality of the fiber end. Before shipping, each fiber cable passes through the detailed Quality Control procedure.

Applications:

- ✓ Mid-IR spectroscopy
- ✓ Flexible IR pyrometry
- ✓ Flexible IR-Imaging systems
- ✓ Power delivery for Quantum Cascade Lasers
- ✓ Power delivery for CO- and CO₂-Lasers



Features:

- ✓ High transmittance in 3 - 18 μm range
- ✓ Low optical losses 0.2 - 0.3 dB/m at 9 - 13 μm
- ✓ Core/Clad structure with core diameters span from 240 to 860 μm
- ✓ Minimal aging effect
- ✓ Non-hydroscopic and non-toxic

Standart product specifications

Optical Fiber Type	Polycrystalline Step Index Multimode
Wavelengths range	3 - 17 μm
Fiber Core/Cladding Sizes (μm)	see standard fiber parameters on the second page
Effective Numerical Aperture (NA)	0.30 +/- 0.05
Minimum bending radius depending on protective sheathing	PEEK tubing – 130mm metal PVC coated tubing – 80mm stainless steel tubing – 80mm stainless steel silicone coated tubing – 130mm
Connectors	SMA-905, FC-PC or FC-APC with Titanium ferrule
Temperature range	-50°C to + 80°C
Length	≤ 15m depending on fiber diameter

Parameters of standard Polycrystalline fibers

Code	Type	Core, μm	Cladding, μm	Protective Jacket, μm	NA	Min. bending Radius, mm
PIR240/300	Step Index few modes	240 \pm 10	300+0/-10	no	0.35 \pm 0.05	45
PIR400/500	Step Index Multimode	400 \pm 10	500+0/-15	no	0.35 \pm 0.05	75
PIR600/700	Step Index Multimode	600 \pm 15	700+0/-15	no	0.35 \pm 0.05	100
PIR900/1000	Step Index Multimode	860 \pm 20	1000+0/-20	no	0.35 \pm 0.05	150