Polycrystalline Mid-InfraRed Fiber Cable

art photonics
broad spectra fiber solutions

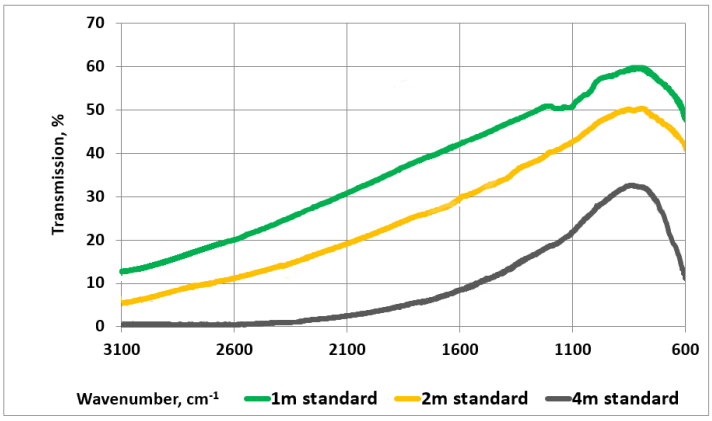
art photonics offers ***FlexiRay®*** Fiber Cables for a broad Mid-Infrared spectral range 3 - 17 µm. Based on Polycrystalline InfraRed (PIR-) fibers, ***FlexiRay®*** fiber cables are used in a wide range of applications including Mid-IR light delivery, spectroscopy, remote temperature sensing, etc.
PIR-fiber 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.
Our manufacturing technologies 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:

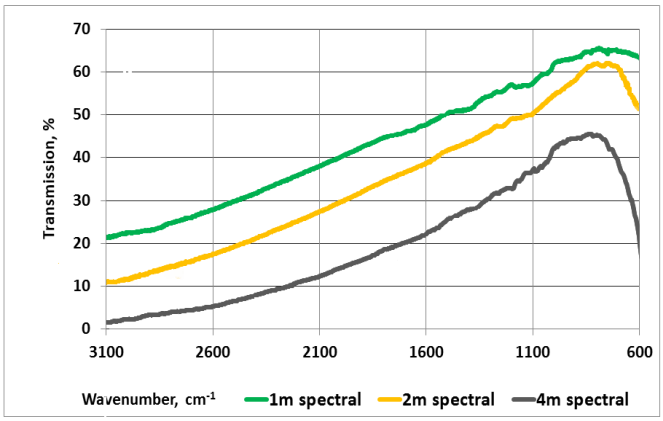
- Mid-IR spectroscopy
- Flexible IR pyrometry
- Flexible IR-Imaging systems
- Power delivery for Quantum Cascade Lasers
- Power delivery for CO- and CO_2-Lasers

Features:

- High transmittance in 3 - 17 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



Transmission Spectra of Polycrystalline Fibers of Different Length (Standard Quality Grade)



Transmission Spectra of Polycrystalline Fibers of Different Length (Spectral Quality Grade)

Product specifications

Optical Fiber Type	Polycrystalline Step Index Multimode
Wavelengths range	3 - 17 µm
Fiber Core/Cladding Sizes (µm)	see standard fiber parameters
Effective Numerical Aperture (NA)	0.30 ± 0.03
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 *For high- or cryogenic temperature application please send a custom inquiry, the temperature range for cables is not the same as for fibers
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 Multimode	240±15	300+0/-15	no	0.30±0.03	45
PIR400/500	Step Index Multimode	410±15	500+0/-15	no	0.30±0.03	75
PIR600/700	Step Index Multimode	600±20	700+0/-15	no	0.30±0.03	100
PIR900/1000	Step Index Multimode	860±20	1000+0/-25	no	0.30±0.03	150

** *effective value*

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