

Chalcogenide Mid InfraRed Fiber Cable

art photonics' offers **FlexiRay®** Fiber Cables for a Mid-Infrared spectral range 1.1 - 6.5 μm . Based on Chalcogenide Infra-Red (CIR-) fibers, **FlexiRay®** fiber cables are used in a wide range of applications including power delivery of QCL, spectroscopy, Flexible IR-imaging systems, etc. CIR- fiber cables are available with a variety of standard fiber diameters, SMA-905, FC/PC, FC/APC connectors, and several types of protective tubing. 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 a detailed Quality Control procedure.

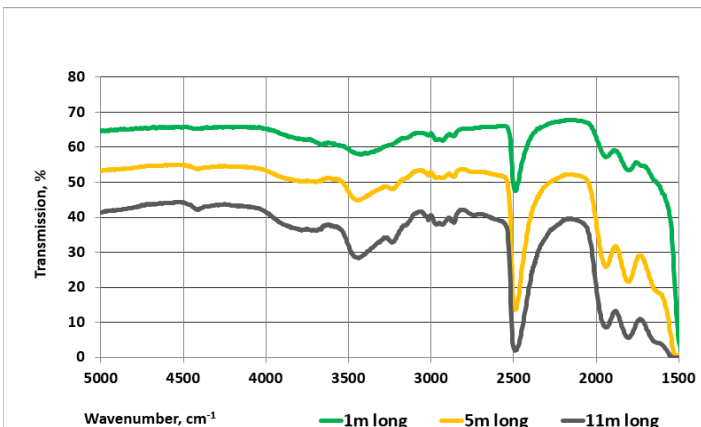


Applications:

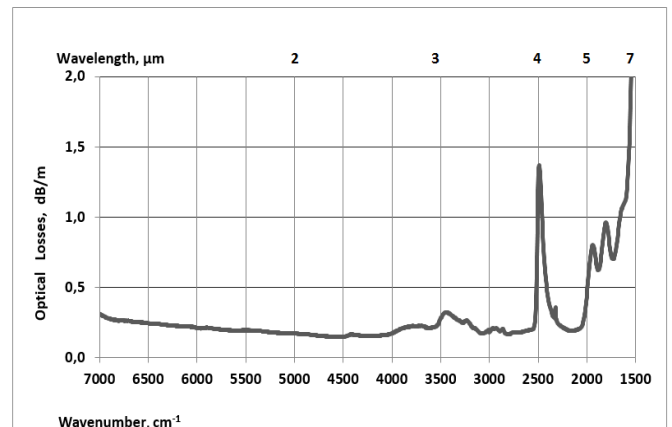
- ✓ Mid IR spectroscopy
- ✓ Flexible IR pyrometry
- ✓ Flexible IR-Imaging systems
- ✓ Power delivery for Quantum Cascade Lasers

Features:

- ✓ High transmittance in 1.1 - 6.5 μm range
- ✓ Low optical losses 0.2 - 0.3 dB/m at 2.5 - 4 μm and 4.5 - 5 μm
- ✓ Core/Clad structure with core diameters span from 8 to 500 μm
- ✓ Temperature range from -50°C to 90°C



Transmission Spectra of CIR-Cables of Different Length



Optical Losses Spectrum of CIR- Fiber



Product specifications

Optical Fiber Type	Chalcogenide Step Index Multimode
Wavelengths range	1.1 - 6.5 μm
Fiber Core/Cladding Sizes (μm)	see standard fiber parameters
Effective Numerical Aperture (NA)	see standard fiber parameters
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
Temperature range	-50°C to + 90°C

Parameters of standard Chalcogenide fibers

Code	Type	Core, μm	Cladding, μm	Protective Jacket, μm	NA	Min. bending Radius, mm
CIR8/300	Step Index Singlemode	8 \pm 1	300 \pm 15	400 \pm 20	0.25 \pm 0.02	60
CIR50/250	Step Index few modes	50 \pm 3	250 \pm 10	410 \pm 20	0.13 \pm 0.02	50
CIR250/300	Step Index Multimode	250 \pm 10	300 \pm 15	400 \pm 30	0.30 \pm 0.03	60
CIR340/400	Step Index Multimode	340 \pm 10	400 \pm 15	510 \pm 30	0.30 \pm 0.03	80
CIR500/550	Step Index Multimode	500 \pm 10	550 \pm 15	700 \pm 30	0.30 \pm 0.03	100