

# CIR-Chalcogenide IR-Glass Fibers and Cables

Chalcogenide InfraRed (CIR) glasses are the best  $As_2S_3$ -based material for fiber optics in the range of 1.5 - 6  $\mu m$ . CIR fibers transmit IR-radiation in the gap between Silica fibers(0.2-2.4 $\mu m$ ) and Polycrystalline InfraRed (PIR) fibers (4-18 $\mu m$ ).

Our single-mode and multimode CIR fibers are drawn in core/clad structure with double polymer coating and characterized by a low optical loss and high flexibility.

ART Photonics CIR fiber Cables are offered with a variety of fiber diameters terminated with SMA905 connectors. Each cable assembly goes through the strict Quality Control with several examinations during the fabrication process, including extensive inspection of fiber tip quality by FiberCheck® technique.

For further assistance or custom design, please contact our Sale Support office.

## Applications

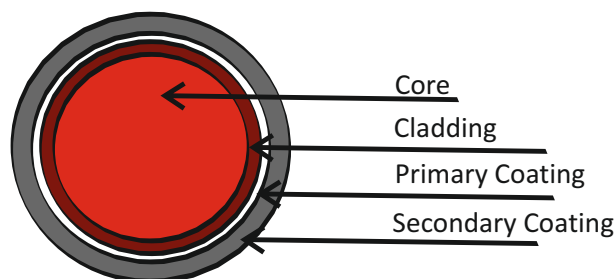
- Flexible IR-imaging systems
- Remote non-contact pyrometry in the 200-600K range
- Fiber probes for remote process IR - spectroscopy
- Fiber amplifiers and lasers

## Features

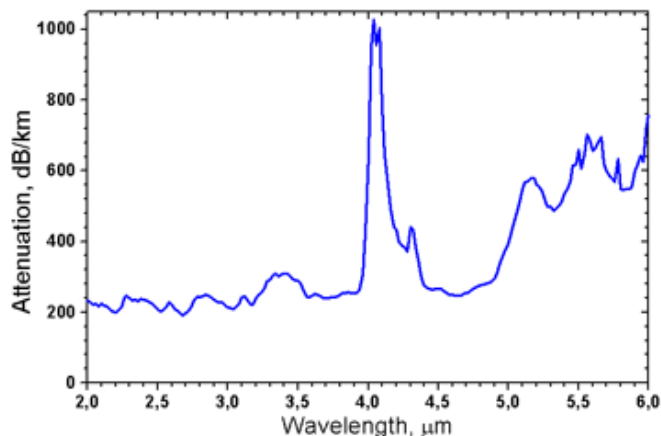
- High transmittance from 1.5 $\mu m$  to 6 $\mu m$
- Optical losses 0.2 dB/m at 2 - 4  $\mu m$
- Double polymer coating for high flexibility
- Durable cables with SMA-connectors
- ISO 9001:2008 certified production

## Fiber Specification

Transmission Range	1.5 - 6 $\mu m$
Core material	$As_2S_3$
Cladding material	As-S
Primary Protective Coating	PTFE
Secondary Coating	PVC
Core Refractive Index	2.4
Effective NA	0.25—0.28
Minimum radius of multiple bending	200 x Fiber core diameter
Operating Temperature	-200°C < T < 100°C
Maximal Transmitted Power	1 W (CW)



## CIR-Fiber Attenuation Spectra



Standard Fibers	CIR- 8	CIR-250	CIR-340	CIR-500
Core Diameter, $\mu\text{m}$	8	250	340	500
Cladding Diameter, $\mu\text{m}$	200	300	400	550
Protective Coating Diameter, $\mu\text{m}$	300	380	510	700

**Standard cables in PEEK protective tubing SMA-905 terminated\*.**

Product Code	Core/clad fiber diameter, $\mu\text{m}$	PEEK protective tubing diameter, mm	Standard length**, m
CIR 250/300	250/300	1.6 or 3.2	1, 1.5, 2
CIR 340/400	340/400	3.2	1, 1.5, 2
CIR 500/550	500/550	3.2	1, 1.5, 2

\* other standard and special connectors are available on request

\*\*other length from 0.3m up to 15m is available on request.

**HANDLING INSTRUCTION FOR CIR-FIBER CABLE**

1. Please take care - As-S glass CIR-fiber is fragile and toxic!
2. Do not touch fiber ends.
3. protect fiber ends with caps if not in use.
4. Cable assembly is not destined for Er:YAG laser power delivery.

