

# Chalcogenide IR-Fibers & Cables



*art photonics FlexiRay*<sup>®</sup> product line includes unique Chalcogenide Infra-Red (CIR-) fibers.

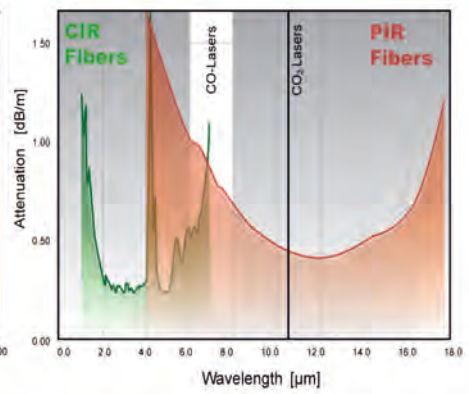
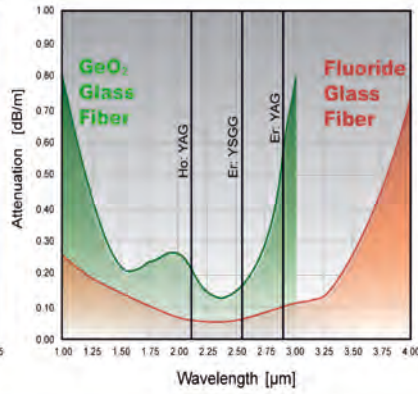
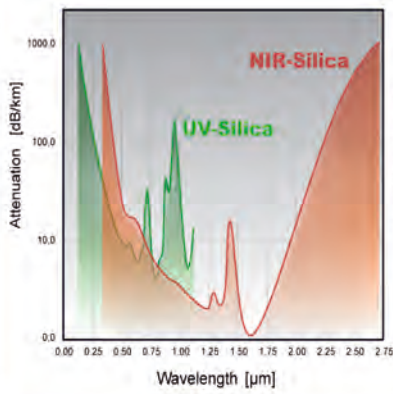
Based on chalcogenide glasses (As - S) they transmit IR-radiation in the spectral gap between Silica fibers (0.2-2.4 $\mu$ m) and Polycrystalline Infra-Red (PIR) fibers (4-18 $\mu$ m) in the range 1.1 - 6.5 $\mu$ m.

## 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

**broad spectra fiber solutions**

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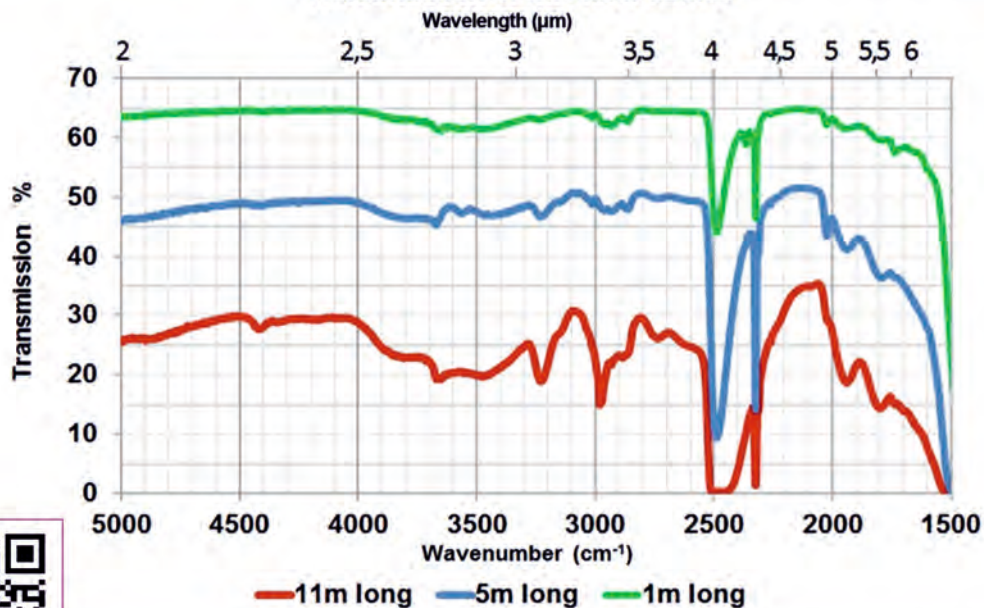
### Fiber Specification

| Standard Fibers                   | CIR-250/300 | CIR-350/400 | CIR-500/550 |
|-----------------------------------|-------------|-------------|-------------|
| Core diameter, $\mu\text{m}$      | 250         | 350         | 500         |
| Protective coating, $\mu\text{m}$ | 300         | 400         | 550         |
| Polymer jacket, $\mu\text{m}$     | 380         | 510         | 700         |
| Minimal bending radius, mm        | 50          | 75          | 100         |

Other diameters are available on request

|   |                            |
|---|----------------------------|
| Transmission Range                        | 1.1 - 6.5 $\mu\text{m}$    |
| Core / Cladding material                  | As-S - glass               |
| External Jacket                           | PVC                        |
| Core Refractive Index                     | 2.4                        |
| Effective Numerical Aperture (NA)         | 0.3                        |
| Operating Temperature, $^{\circ}\text{C}$ | $-200 < T < 90$            |
| Minimal bending radius                    | 200 x fiber outer diameter |
| Maximum transmitted Power, W              | 1 (CW)                     |

### Transmission of CIR-fiber cables



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