

# CeramOptec®

Innovative Fiber Optics...Every Step of the Way™



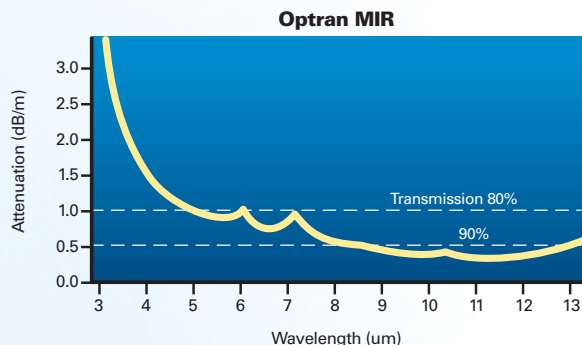
CeramOptec is unique in its ability to manufacture fiber optic CO<sub>2</sub> laser delivery systems and MIR optical fiber commercially. CeramOptec's flexible fiber optic delivery systems for CO<sub>2</sub> lasers offer an advantage over articulated arms—the typical delivery system for CO<sub>2</sub> lasers—which are often rigid and cumbersome. Optran MIR optical fibers are the finest quality laser fibers for everything from medical treatments to FT-IR spectroscopy (4 – 16 μm).

## Features

- Optimized for CO and CO<sub>2</sub> lasers
- Low attenuation in the MIR region
- Non-brittle and very flexible
- Non-hygroscopical material
- High numerical aperture
- Reliable coupling accessories available
- Core/Clad or Bare Core design

## Applications

- Medical
  - CO<sub>2</sub> Laser Delivery
- Industrial/Scientific
  - FT-IR spectroscopy
  - Pyrometry
  - Laser marking
  - Remote, non-contact, temperature control
  - IR imaging
  - Laser surface treatment



## Physical Properties

Crystal of solid solution:	AgCl : AgBr
Specific weight:	6.39 g/cm <sup>3</sup>
Melting point:	412°
Tensile strength:	100 MPa
Work temperature:	-60° to +110°C
Minimum bend radius:	R = 100 x Ø fiber

## Optical Properties

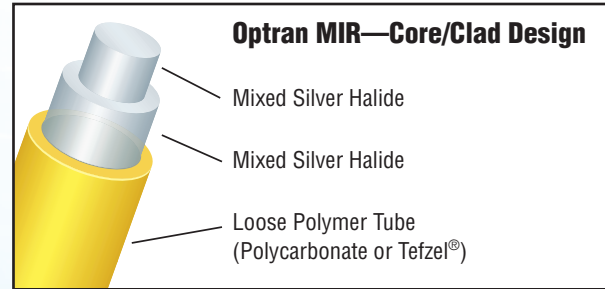
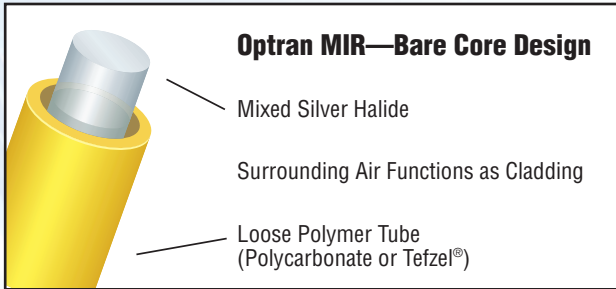
Transmission range:	4 to 16 μm
Refractive index (core):	2.1
Practical NA:	0.5 (bare core) 0.35 (core/clad) 0.25 (core/clad) 0.13 (core/clad)
Damage threshold (CO <sub>2</sub> CW):	10 kW/cm <sup>2</sup>
Reflective loss (l = 10.6 μm)	25%

## Bare Core

Product Code	Ø Core (µm) ± 2%	Ø Loose Tube (µm) ± 2%	Max. Length (m)
MIR 300	300	700	20
MIR 500	500	1000	10
MIR 700	700	1500	10
MIR 1000	1000	2000	10

## Core/Clad

Product Code	Ø Core (µm) ± 2%	Ø Clad (µm) ± 2%	Ø Jacket (µm) ± 5%	Max. Length (m)
MIR 200/300 BPLC	200	300	400	10
MIR 400/500 BPLC	400	500	700	10
MIR 600/700 BPLC	600	700	900	10
MIR 860/1000 BPLC	860	1000	1300	5



## Notes:

NA is measured at the 95% intensity angle.

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## Please contact our Sales Engineering representatives:

### North America

CeramOptec Industries, Inc.  
515A Shaker Road; East Longmeadow, MA 01028  
Tel: 800-934-2377  
413-525-0600  
Fax: 413-525-1112  
Email: salesengineering@ceramoptec.com

### West Coast Office

Tel: 408-362-0100  
Fax: 408-629-1657  
Email: salesengineering@ceramoptec.com

### Europe

CeramOptec GmbH  
Siemensstr. 44; 53121 Bonn, Germany  
Tel: +49 (0) 228-979670  
Fax: +49 (0) 228-9796799  
Email: info@ceramoptec.de

## Innovative Fiber Optics...Every Step of the Way

CeramOptec was founded in 1986 and today is a global leader in the production of stock and custom silica / silica, plastic-clad silica, and hard polymer-clad silica optical fibers; fused capillary tubing; DPSS lasers; diode modules; and low loss bundles and assemblies for UV, VIS, and IR transmission, medical laser delivery, sensors, plasma fusion, and spectroscopy.

With several facilities worldwide, we are able to provide our customers with local, prompt, and reliable service and products. By maintaining complete control over the entire manufacturing process—from preform manufacturing to finished fiber product—we are able to provide the highest quality control, custom solutions, and competitive pricing to our customers.

Please visit <http://www.ceramoptec.com> for more information.

CeramOptec is a subsidiary of biolitec™ AG.

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