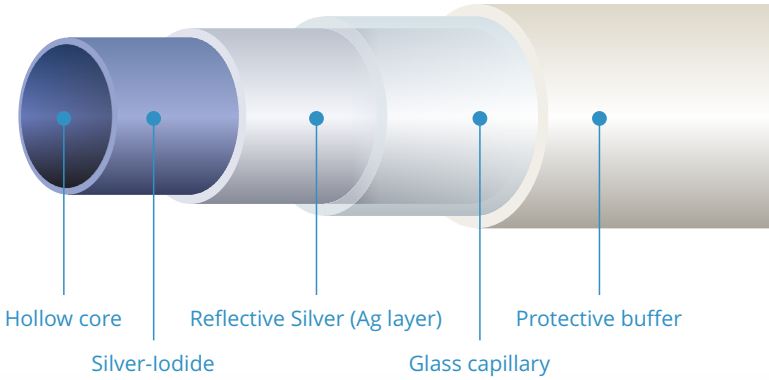
Hollow Waveguide Silica fibers

The hollow waveguide fiber (HWG) is a flexible glass fiber with a hollow core for the transmission of radiation in the mid-infrared range (2-18mic) for low divergent beams.

Due to their flexibility, small diameter and low beam divergence compared to multimode infrared fibers, hollow waveguide fibers are a preferred tool for laser transmission.



(HWG) fibers can be used in areas that are inaccessible to mirror-arm laser systems or other technologies for industrial applications.
The fibers are coated with a double polymer cladding that provides high flexibility for various applications.

Core sizes of 500 - 1000 microns are available.

Applications:
Laser Power Delivery for Er:YAG, CO and CO2 Lasers

Features:

- High transmission
- Inner diameter 500-1000 mic
- Double polymer coating for high flexibility
- Biocompatible materials
- Customized connector design, available
- Validated sterilization Process

fiberware

fiberware GmbH
Bornheimer Str. 4
09648 Mittweida
Germany

phone: +49 3727 959 250
fax: +49 3727 959 2541
e-mail: sales@fiberware.de
internet: fiberware.de

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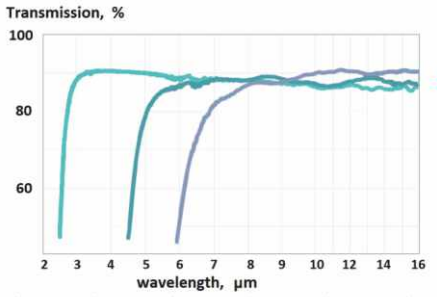
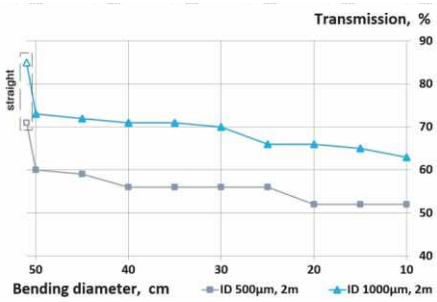
Specifications

Silica glass capillary	SiO2
Fresnel Reflection Losses	0%
Attenuation at designated wavelength	see table below
Recommended max power level for CO2-laser	10W for HWG-500 20W for HWG-750 30W for HWG-1000
Effective Numerical Aperature (output NA)	0.05+/-0.01* *depends on input NA
Bending losses, for 360° loop of ø=400mm	1dB
Protective Jacket	Acrylate + Fluoro polymer
Operating Temperature	–50°C to +90°C
Minimum Elastic Bending Radius	150 x [Inner HWG Diameter]





Parameters of Hollow Glass Waveguides

Code	Inner diameter, µm	Outer diameter, µm	Protective Jacket OD, µm	Optical losses at 10.6µm wavelength, dB/m	Min. bending Radius, mm
HWG 500	500 ± 25	650 ± 20	1000 ± 30	0.7	75
HWG 750	750 ± 30	950 ± 25	1300 ± 50	0.5	100
HWG 1000	1000 ± 30	1300 ± 25	1600 ± 50	0.3	150

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