

Hollow Silica Waveguide HSW – JTHWCH and JTHWEH

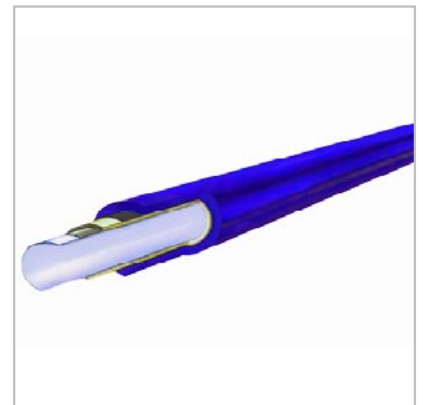
Providing a safer and easier-to-use laser solution, industry-leading Polymicro Technologies™ MediSpec™ Hollow Silica Waveguide With Aiming Beam Technology integrates delivery of power and beam alignment in a single lightweight fiber.

Characteristics

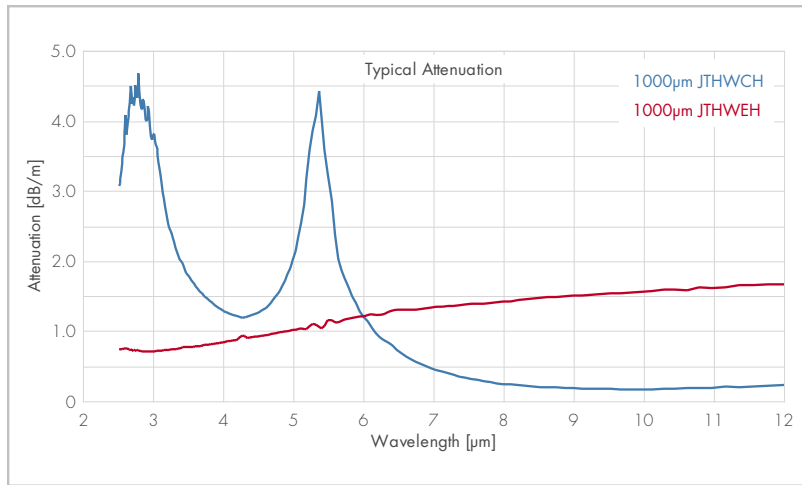
- Dual transmission of laser power and visible aiming beam in a single optical fiber
- Wavelength range 2.9 μm past 10.6 μm
- Transmission optimized for CO₂ or Er:YAG laser wavelengths
- High laser damage threshold
- Non-toxic: sterilizable
- Strong and flexible
- Tefzel* biocompatible jacket
- FDA-registered facility meeting labeling, packaging and sterilization requirements
- Physical:
 - Material — Tubing: Synthetic Fused Silica
 - Material — Coating: Tefzel* Biocompatible Jacket
 - Proof Tested @ Minimum 100kpsi: 100% for Strength

Note: The end manufacturer is responsible for bio-compatibility and sterilization testing and validation studies.

* Tefzel is a trademark of E. I. Du Pont de Nemours and Company



Polymicro Technologies Hollow Silica Waveguide with Aiming Beam Technology



Hollow-core Fibers for CO₂ Lasers

The HWCA fiber was designed for CO₂ wavelengths between 9 and 11 μm. The typical attenuation of the CO₂ wavelength 10.6 μm in a 1000 μm ID hollow-core fiber is less than 0.5 dB/m.

Hollow Silica Waveguides for CO₂ – Standard Products

Fiber Type	JTHWCH500	JTHWCH 750	JTHWCH 1000
Inner diameter [μm]	500 ± 25	750 ± 30	1000 ± 50
Glass diameter [μm]	650 ± 20	950 ± 25	1300 ± 25
Buffer diameter [μm]	1040 ± 30	1300 ± 50	1550 ± 50

Er:YAG Hollow-core Fibers

The transmission of HWEA fibers has been optimized for Er:YAG wavelengths. They are, therefore, often used in medical technology.

Hollow Silica Waveguides for Er:YAG – Standard Products

Fiber Type	JTHWEH500	JTHWEH750	JTHWEH 1000
Inner diameter [μm]	500 ± 25	750 ± 30	1000 ± 50
Glass diameter [μm]	650 ± 20	950 ± 25	1300 ± 25
Buffer diameter [μm]	1040 ± 30	1300 ± 50	1550 ± 50

Features and Benefits

Dual transmission of laser-power delivery and visible aiming beam in a single optical fiber	Reduces cable bulk over typical two-fiber solutions. Decreases chance for laser burns due to lack of precision
Hollow Silica Waveguide (HSW) optimized for mid-infrared (IR) wavelengths	Results in lighter, improved ergonomics for applications using carbon (CO ₂) and Er:YAG lasers
500, 750 and 1000 µm inner diameters (ID)	Allows for a wide range of laser-power solutions
Tefzel* biocompatible jacket material	Withstands ethylene oxide (EtO) sterilization for invasive medical procedures
Terminations upon request, using SMA, ST and FC connectors	Provides flexibility with multiple connector interface options

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Applications

- Medical/Lasers
 - Surgery
 - Therapeutic

Note:

The items listed in this table are standard configurations and sizes. Other configurations may be available on request.

