

Ultra-fast Laser Fiber Optic Cables

An integrated fiber optic cable based on hollow core photonic crystal fibers

Ultra-fast laser fiber optic cables are mainly based on hollow core photonic crystal fibers. Hollow core photonic crystal fibers can guide light through air rather than through glass, so they have advantages over traditional optical fibers and may eventually take the place of traditional optical fibers. Hollow core photonic crystal fiber has high damage threshold, low loss, supports broadband transmission, and can effectively modulate fiber dispersion and nonlinear effects by changing the inflatable body of the fiber core or adjusting the air pressure. It shows outstanding advantages in research fields such as strong field physics, super laser technology, etc.

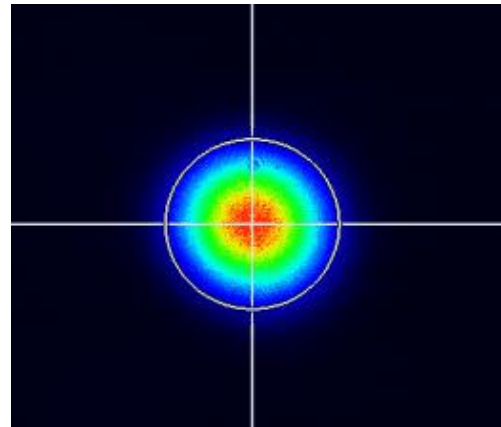
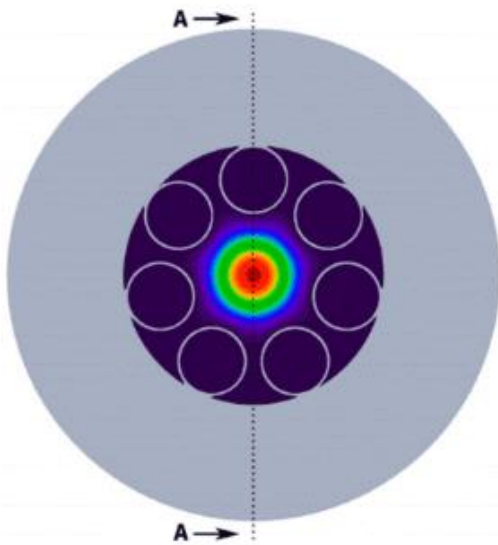
The hollow core photonic crystal fiber packaging process independently developed by CASTECH can provide hollow core photonic crystal fiber optic cables with high-reliability. Tailor-made design and processing according to the customers' requirements are also available.



Applications

- Precision machining
- Micro/nano manufacturing
- Multiphoton imaging
- NLO
- Pump-probe

CASTECH's products are produced independently throughout the entire process and can be customized according to customer needs. Refer to the following list for standard products.



Hollow core photonic fiber structure and output beam profile

Ultra-Fast Optical Fiber Transmission Cable Model Number: ULC-t-a-w-p-l-h

Type (t)	Fiber Type (a)	Wavelength (w)	Average Power (p)	Fiber Length (l)	Housing (h)
S (Screw type)	HC-ARF30/250	532 nm	30 W	2 m	A01
P (Plug-in type)	HC-ARF45/400	1030 nm	50 W	3 m	A99
F (Flange type)	HC-ARF60/340	1064 nm	80 W	5 m	B01
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Typical Specifications

Wavelength	Fiber Type	Pulse Energy	Average Power	Transfer Efficiency	Spot Circularity
1030 nm	HC-ARF60/340	200 μ J	50 W	85 %	90 %

Housing dimensions(mm):

