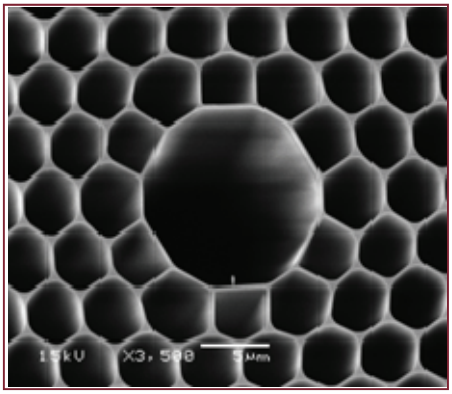
Hollow Core Spectral Filtering

HC-2000-01

2 µm Range Hollow Core Photonic Bandgap Fiber

- Low attenuation
- ›95% of optical power located in air
- Gaussian-like fundamental mode
- Can be filled with gas
- Low bend loss down to few mm bend radius
- Fresnel reflection to air at the end faces ‹10^{-4}
- Available spliced or connectorized
- Undoped silica for good temperature stability



Hollow core photonic bandgap fibers guide light in a hollow core surrounded by a microstructured cladding formed by a periodic arrangement of air holes in silica.

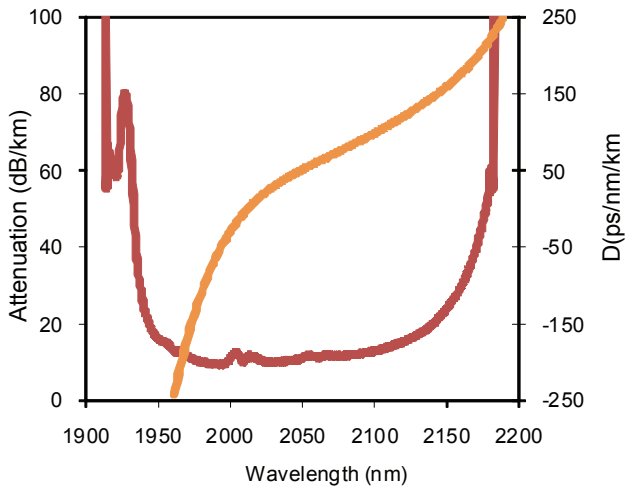
Since only a small fraction of light propagates in glass, the effect of material nonlinearities is significantly reduced and the fibers do not suffer from the same loss limitations as fibers made from all solid material.

Applications include power delivery, pulse shaping and compression, sensors and non-linear optics.

Physical properties	
Core diameter[1]	14.5 ± 0.5 µm
Diameter of microstructured region	~90 µm
Cladding diameter	155± 5 µm
Coating diameter	275 ± 50 µm
Coating material	Acrylate

Optical properties	
Center wavelength[2]	2025 ±5 nm
Attenuation @ 2000 nm	‹ 20 dB/km
10 dB transmission bandwidth	› 150 nm
Mode field diameter (1/e²)	12 ± 2 µm
NA @ 2000 nm[3]	~0.2
Effective mode index	~0.99
Zero dispersion wavelength	2012 ± 10 µm
Zero dispersion slope	~2.4 ps/(nm² km)

Typical attenuation and dispersion



1. Core formed by removing 7 unit cells of the cladding
2. Other wavelengths may be available on request
3. Sine of half angle at which a Gaussian fit to the far field intensity distribution drops to 1% of its peak value

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