

HC-1550-PM-01

Polarization Maintaining Hollow Core Photonic Bandgap Fiber



Hollow Core



Spectral Filtering



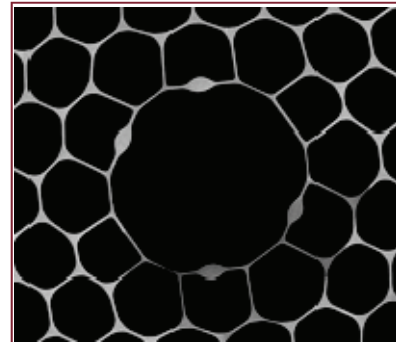
Polarization Maintaining

- >95% of optical power located in air
- Quasi-Gaussian fundamental mode
- Polarization maintaining
- Can be filled with gas

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.

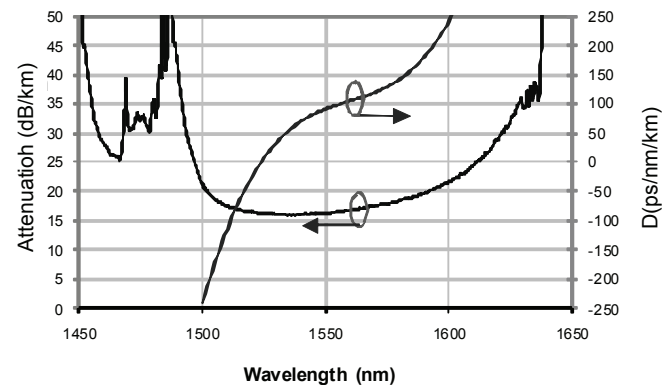
Since only a small fraction of light propagates in glass, the effect of material nonlinearities is significantly reduced and the fibers do not suffer from the same loss limitations as fibers made from all solid material.

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

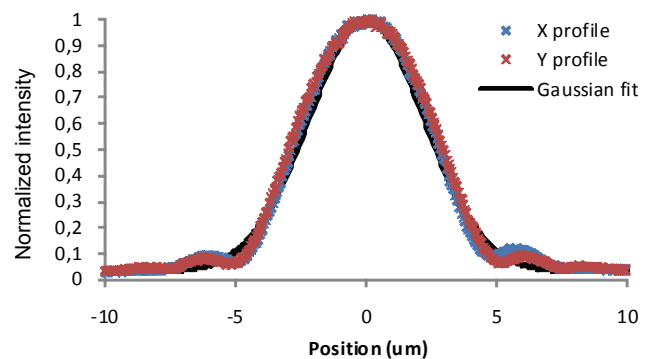


Physical properties	
Core diameter ⁽¹⁾	11.8 ± 0.3 μm
Pitch	4.0 ± 0.1 μm
Air filling fraction PBG region	> 90%
Diameter of holey region	72 μm
Cladding diameter	120 ± 2 μm
Coating diameter	240 ± 50 μm
Coating material	Acrylate
Optical properties	
Center wavelength ⁽²⁾	1565 ± 5 nm
Attenuation @ 1550 nm	< 25 dB/km
Dispersion @ 1550 nm	93 ± 10 ps/nm/km
Dispersion slope @ 1550 nm	~2 ps/nm ² /km
10 dB transmission bandwidth	> 100 nm
Fraction of light in air	> 95%
Mode field diameter (1/e ²)	9 ± 1 μm
NA @ 1550 nm ⁽³⁾	~0.2
Effective mode index	~0.99
Mode shape overlap with std. SMF	> 85%
Group birefringence ⁽¹⁾ Δn _g	> 2 · 10 ⁻⁴

Typical attenuation and dispersion



Typical near field intensity



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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