

NL-1550-POS-1

Nonlinear Photonic Crystal Fiber

- Small mode field area
- High nonlinear coefficient
- Flat positive dispersion

Photonic crystal fibers use a microstructured cladding region with air holes to guide light in a pure silica core, giving rise to novel functionalities.

This highly nonlinear photonic crystal fiber benefits from a special core design to obtain a very flat dispersion curve over the telecom wavelength range.

The slightly positive dispersion values of this fiber support soliton propagation and makes it attractive for applications such as supercontinuum generation and optical parametric amplification (OPA). Other fiber versions with near zero or negative dispersion values are also available.

The fiber is available spliced to standard single mode fiber.

Applications

- Supercontinuum generation
- Optical parametric amplification

Physical properties

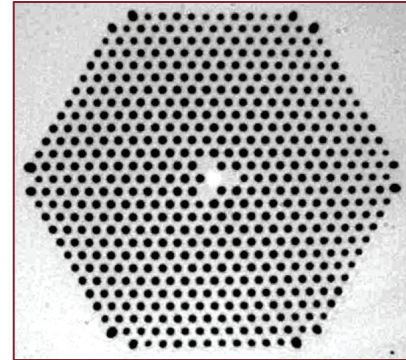
| | |
|--------------------------------|--------------|
| Material | Pure Silica |
| Cladding diameter | 128 ± 5 μm |
| Coating diameter | 250 ± 10 μm |
| Coating material, single layer | Acrylate |
| Core diameter | 2.1 ± 0.3 μm |

*)Triangular core, average diameter

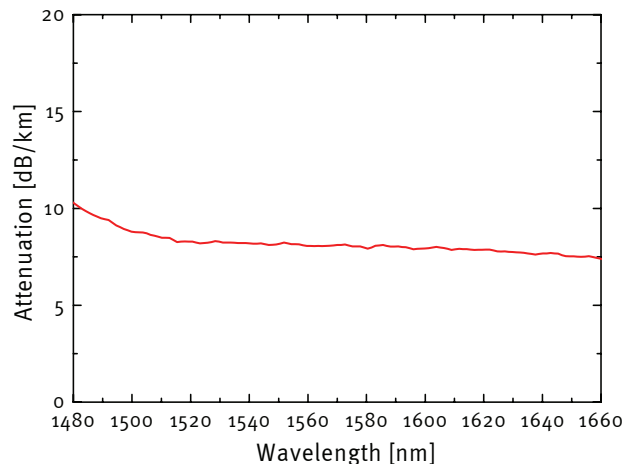
Optical properties

| | |
|---------------------------------|-------------------------|
| Dispersion @ 1480-1620 nm | >0.5 ps/nm/km |
| Dispersion @ 1480-1620 nm | <1.5 ps/nm/km |
| Attenuation @ 1510-1620 nm | <9 dB/km |
| Mode field diameter @ 1550 nm | 2.8 ± 0.5 μm |
| Numerical aperture @ 1550 nm | 0.40 ± 0.05 |
| Nonlinear coefficient @ 1550 nm | ~11 (Wkm) ⁻¹ |
| Splicing loss @ 1550 nm* | <0.5 dB |

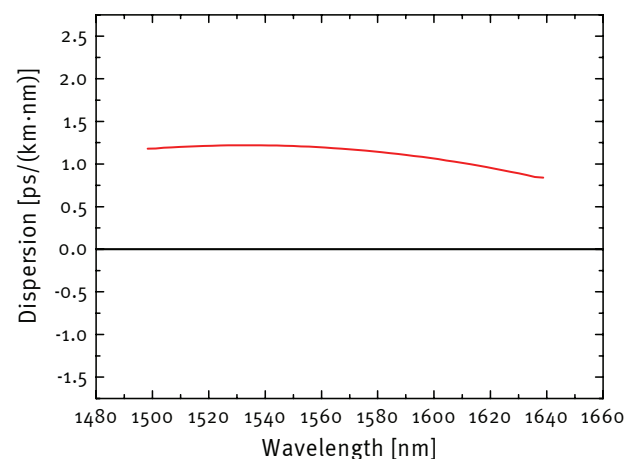
*)Total splicing loss for splicing to standard fiber via an intermediate fiber



Typical spectral attenuation



Typical dispersion



NL-1550-POS-1-031126