

Double Clad High NA Fiber – DC·165·16·Passive

Description

This passive double clad fiber, consists of a Large-Mode Area, single-mode core embedded in a high-NA multimode fiber structure. The fiber allows a single-mode beam to be propagated forward the fiber and at the same time scattered light or luminescence may be collected and propagated backwards for detection.

The inner cladding has a high numerical aperture (NA) due to the large index step between the air hole ring and silica. Microstructuring of the inner cladding allows a large mode field diameter while still maintaining a superior beam quality. The all-silica fiber sustains high power levels (CW).

The fiber is available with sealed ends and beam expanders as an option.

Advantages

- Large-Mode Area signal core supports high power levels.
- High-NA multimode guide with high collection efficiency for backscattered light or luminescence / fluorescence

Applications

- Single mode pulse delivery, collection of light from a broad angle
- Spectroscopy
- Optical coherence reflectography

Optical Properties

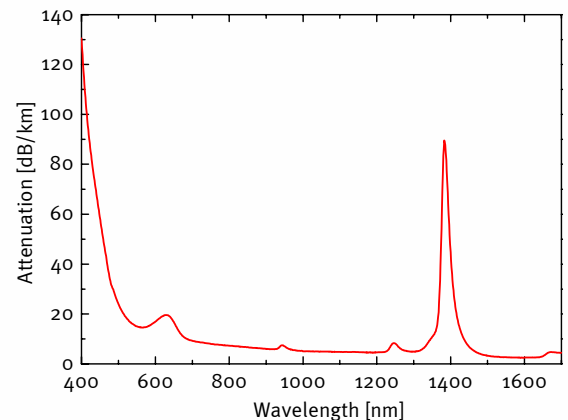
Signal core

Single mode operation:	> 700 nm
Mode field diameter:	16 ± 2 μm
Mode field area:	~ 200 μm ²
NA @ 800 nm:	~ 0.04
M ² @ 800 nm:	~ 1.2

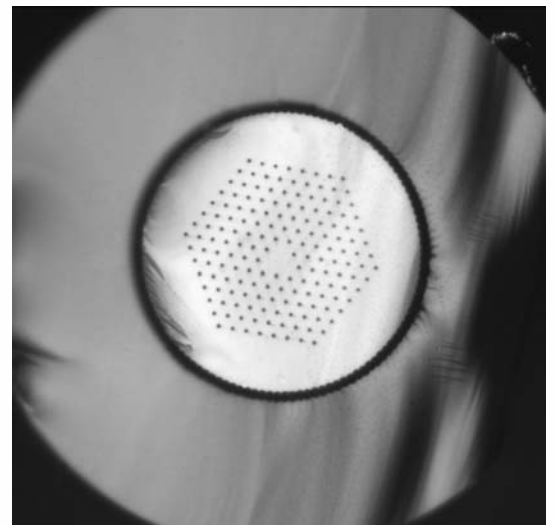
Multimode pump core

Numerical aperture @ 600 nm:	0.61 ± 0.05
Numerical aperture @ 950 nm:	0.65 ± 0.05
Background loss @ 800 nm:	< 0.01 dB/m

Attenuation of multimode guide



Fiber Structure



Physical Properties

Signal core diameter:	16 ± 2 μm
Inner cladding diameter, ID:	163 ± 5 μm
Outer cladding diameter, OD:	350 ± 5 μm
Coating diameter:	578 ± 20 μm
Outer and inner cladding material:	Pure silica
Coating material, single layer:	Acrylate