

## ESM-12

### Single-mode 12 $\mu\text{m}$ core fiber



- Low fiber loss from 700 nm to 1700 nm
- Single-mode at all wavelengths
- Radiation hard pure silica fiber
- Wavelength independent MFD
- Larger mode area than conventional single mode fibres at short wavelengths

This single-mode photonic crystal fiber is optimized to low loss across 700 nm to above 1700 nm while keeping an almost constant mode field diameter.

The fiber is endlessly single-mode with no higher order mode cut-off and delivers excellent mode quality at all wavelengths.

The fiber has a standard 125  $\mu\text{m}$  outer diameter and is compatible with all common fiber tools.

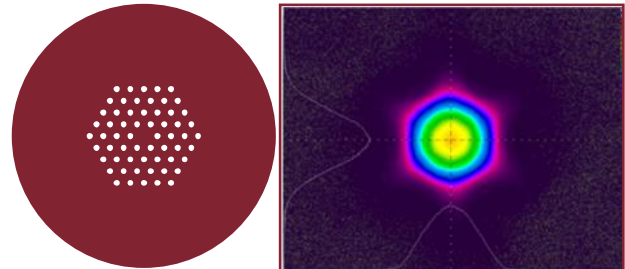
Optical properties	
Single mode cut-off wavelength*	None
Attenuation @ 780 nm	< 20 dB/km
Attenuation @ 1064 nm	< 8 dB/km
Attenuation @ 1550 nm	< 3 dB/km
Mode field diameter @ 1064 nm ( $1/e^2$ )	10.3 $\pm$ 1.0 $\mu\text{m}$
Mode field diameter @ 1550 nm ( $1/e^2$ )	10.5 $\pm$ 1.0 $\mu\text{m}$
NA @ 1064 nm (5%)	0.09 $\pm$ 0.02
Physical properties	
Core diameter	12.2 $\pm$ 0.5 $\mu\text{m}$
Outer cladding diameter, OD	125 $\pm$ 5 $\mu\text{m}$
Coating diameter	245 $\pm$ 10 $\mu\text{m}$
Core and cladding material	Pure silica
Coating material, single layer	Acrylate
Coating concentricity	< 10 $\mu\text{m}$
Proof test level	0.5 %

Standard interfacing options	
FC/PC connector	0.0 $\pm$ 0.5 deg angle
FC/APC connector	8.0 $\pm$ 0.5 deg angle
Collapse and cleave	0.0 $\pm$ 0.5 deg angle

All interfaces are provided with a 150  $\pm$  25  $\mu\text{m}$  sealing length of the PCF structure.

Please contact us for other custom interfacing options.

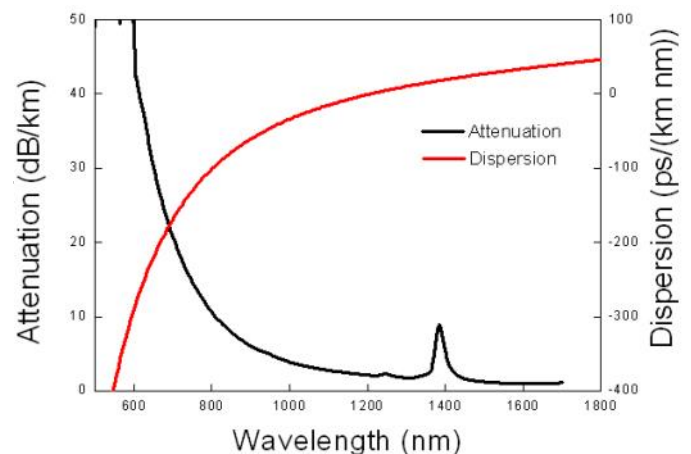
\* TIA-455-80-C standard



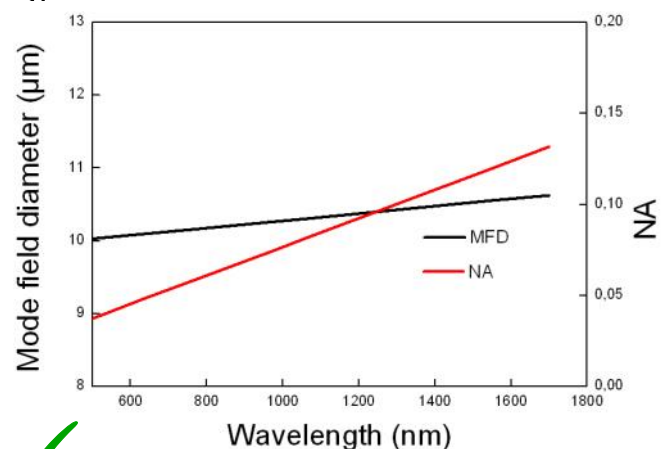
#### Applications

- Delivery of broadband radiation in a single spatial mode
- Short wavelength applications (visible light and UV)
- Sensors and interferometers

#### Typical spectral attenuation and dispersion



#### Typical MFD and NA



ESM-12-V1-141212