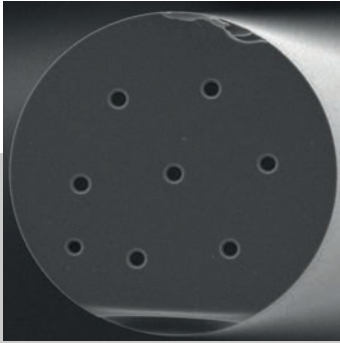


# MULTICORE FIBRES

## 2-CORE, 7-CORE, AND 12-CORE FIBRES



These doped silica multicore fibres integrate 2, 7 or 12 cores which makes them particularly suited for telecom, Bragg grating inscription (decoupled strain and temperature measurement) or for fibre amplifiers/lasers and their associated passive components. Draw tower Bragg grating inscription, associated Fan in/Fan out and connectorisation available on request.

### MAIN CHARACTERISTICS

- Excellent fibre geometry control enables optimal splice losses
- Ge-doped core for transmission/FBG inscription or Er/Yb/Bi-doped for amplification
- Custom design available (Geometry, core numbers and composition for each core...)

### APPLICATIONS

- Telecom : space multiplexing and amplifiers
- Sensing : structural health monitoring and shape sensing
- Laser: high intensity lasers

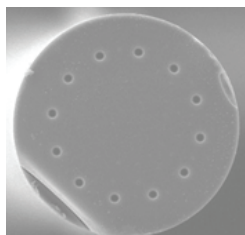
Product line **PERFAS**

FIBRE SPECIFICATIONS	MCF2-4-130	MCF7-5-125	MCF12-6-187
<b>Optical parameters</b>			
Operating Wavelength (nm)		> 1520	
Core Numerical Aperture (NA)	0.26 +/- 0.02	0.21 +/- 0.02	0.19 +/- 0.02
Cladding Numerical Aperture (NA)	-	-	≥ 0.46
LP <sub>11</sub> Cut-off Wavelength (nm)	1390	1495	1400
Mode Field Diameter @ 1550 nm (µm)	5 +/- 0.5	6 +/- 0.5	6.5 +/- 0.5
Background Loss @ 1550 nm (dB/km)	< 60	< 5	< 25 (multimode)
Cross-Talk (dB/10 km) <sup>(1)</sup>		- 60	
<b>Physical/Material parameters</b>			
Core Geometry	2 cores matched to a hexagon lattice (opposite location)	6 cores hexagon arranged around 1 center core <sup>(2)</sup>	12 cores arranged on a 135 µm circle
Core Dopant	Germanium (Ge/B, Er, Yb, Bi available on request)		
Core Spacing (µm)	70 +/- 0.5	35 +/- 0.5	35 +/- 0.5
Core Concentricity Error (µm)	< 0.3	< 0.3	< 0.5
Core Diameter (µm)	4 +/- 0.5	5 +/- 0.5	6 +/- 0.5
Cladding Diameter (µm)	129 +/- 1	125 +/- 1	187.5 +/- 2.5
Coating Outside Diameter (µm)	160 +/- 15	245 +/- 15	355 +/- 15
Coating Type	Dual coat high index acrylate		
Proof Testing (kpsi)	> 50		

<sup>(1)</sup> Theoretical value

<sup>(2)</sup> Angular orientation key on request

### Microscope view of the dual and twelve cores fibres



Multiple options and configurations are available. Please contact Photonics Bretagne to find the best fit.

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