

These fibres offer both low dispersion at the pump wavelength and high numerical aperture and are therefore particularly suited for generating supercontinuum with Titane-Sapphire, Neodyme or Ytterbium pulsed pump sources. End-caps, connectorisation and simulation support available on request.

MAIN CHARACTERISTICS

- Pure silica core, low background losses
- Small effective area, high nonlinear coefficient
- Dispersion optimised for pumping near 780 nm, 1040 nm & 1060 nm

APPLICATIONS

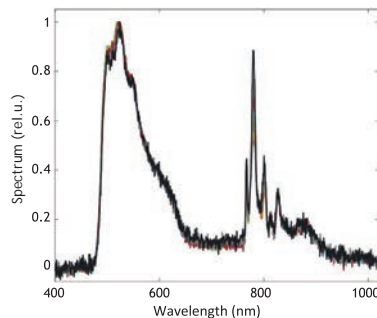
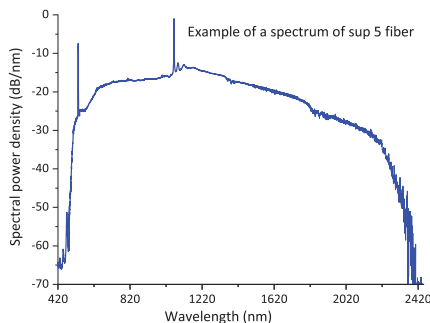
- Supercontinuum generation
- Frequency comb generation

Product line **PERFAS**

FIBRE SPECIFICATIONS	SUP-2-135	SUP-4-135	SUP-5-125	SUP-5-125-PM
Optical parameters				
Zero Dispersion Wavelength (ZDW) (nm) ^{(1) (2)}	760 +/- 15	965 +/- 15	1050 +/- 5	1050 +/- 5
Mode Field Diameter @ ZDW (µm) ⁽²⁾	1.6 +/- 0.2	3.4 +/- 0.5	4.5 +/- 0.5	4.5 +/- 0.5
Effective Area @ ZDW (µm ²) ⁽²⁾	1.9 typical	8.2 typical	14 typical	16 typical
Nonlinear Coefficient (W ⁻¹ .km ⁻¹) ⁽²⁾	105 +/- 10	20 +/- 2	10 +/- 1	10 +/- 1
Numerical Aperture ⁽²⁾	0.4 typical	0.25 typical	0.2 typical	0.2 typical
Background Loss @ ZDW (dB/km)	< 90	< 20	< 20	< 20
Background Loss @ 1550 nm (dB/km)	N/A	< 10	< 15	< 30
Birefringence (x 10 ⁻⁴)	> 0.5	N/A	N/A	> 1.8
Physical/Material Parameters				
Material	F300 Silica			
Core Diameter (µm)	1.7 +/- 0.2	4.5 +/- 0.3	5 +/- 0.3	5 +/- 0.3
Cladding Diameter (µm)	135 +/- 5	135 +/- 5	125 +/- 2	125 +/- 3
Cladding Non- Circularity (%)	< 2	< 2	< 2	< 7.5
Coating Outside Diameter (µm)	240 +/- 10	250 +/- 10	245 +/- 10	240 +/- 10
Coating Type	Dual coat high index coating acrylate			
Proof- Testing (kpsi)	> 20			
Cleaved or End- Capped End- Face (on request)	M ² parameter < 1.3 @ 632 nm			

⁽¹⁾ Other ZDW on request ⁽²⁾ Calculated value from simulation

Typical supercontinuum generated in two SUP fibres



- See left: a SUP-5-125 fibre pumped with a 1064 nm pulse laser (Pulse width: 1.2 ns, Peak power: 10 kW)
- See right: in an end-capped SUP-2-135 fibre pumped with a 780 nm pulse laser (Pulse width: 150 fs, peak power: 200 kW) - Courtesy of Charles University, Prague

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