



### Main characteristics

- Passive/photosensitive or Erbium/Ytterbium doped
- Index difference and dopants superior control and uniformity among all 12 cores for both passive and active fibres
- Excellent fibre geometry (core position and spacing) enables optimal splice losses

### Applications

- Sensing
- Telecom
- Laser

These Ge and Er/Yb doped silica multicore fibres integrates 12 cores regularly arranged on a 135µm circle which make them particularly suited for Bragg grating inscription for sensing application (Shape, Strain, Temperature...) and for multicore fibre amplifiers and their associated passive components for telecom application in the C-band.

### Fibre specifications

| Fibre type                                 | Multicore Passive Fibre<br>MCF12-7-187         | Multicore EY Fibre<br>MCF12-7-187-EY |
|--|--|--------------------------------------|
| <b>Optical parameters</b>                  |  |                                      |
| Operating Wavelength (nm)                  | > 1500   |                                      |
| Core Numerical Aperture (NA)               | 0.20 +/- 0.01                                  | 0.18 +/- 0.01                        |
| LP <sub>11</sub> cut-off wavelength (nm)   | 1400   | 1360                                 |
| Mode field diameter @ 1550 nm (µm)         | 6.5 +/- 0.1                                    | 6.7 +/- 0.1                          |
| Background loss @ 1550 nm (dB/km)          | < 1  | NA                                   |
| Core absorption @ 1535 nm (dB/m)           | NA   | 45 +/- 5                             |
| Cladding absorption @ 976 nm (dB/m)        | NA   | 1.5                                  |
| Cladding background loss @ 1310 nm (dB/km) | < 25   |                                      |
| Cross-Talk (dB/10 km)                      | -60  |                                      |
| <b>Physical/Material parameters</b>        |  |                                      |
| Core dopant                                | Germanium                                      | Erbium/Ytterbium                     |
| Design type                                | Step Index                                     |                                      |
| Number of cores                            | 12   |                                      |
| Core geometry                              | 12 cores regularly arranged on a 135 µm circle |                                      |
| Core spacing (µm)                          | 35 +/- 0.3                                     |                                      |
| Core Concentricity Error (µm)              | < 0.5  |                                      |
| Core Diameter (µm)                         | 7  |                                      |
| Cladding Diameter (µm)                     | 187 +/- 0.5                                    |                                      |
| Coating Outside Diameter (µm)              | 355 +/- 10                                     |                                      |
| Coating Type                               | Dual coat low index acrylate                   |                                      |
| Cladding NA                                | 0.46   |                                      |

### 2D and 3D fibre index profile

