

EPFU CASALIGHT BEND INSENSITIVE CASALIGHT FIBRE (G.657.A) FIBRE SPECIFICATION

The following details summarise the main Optical, Geometrical and Physical Characteristics of fibres to ITU-T Rec. G.657.A

Fibres are manufactured from high grade silica, doped as necessary to achieve the required light guiding properties, designed with a matched-cladding, step-index profile.

The fibre coating is a dual layer structure of ultra-violet cured acrylate resin. The lower modulus inner layer being optimised for both adhesion to the fibre surface and mechanical stripping, using the appropriate stripping tools. The outer layer is optimised for abrasion resistance and fibre processing properties.

| OPTICAL PROPERTIES | | VALUE | UNITS |
|------------------------------------|----------------|---------------|-------------------------|
| Attenuation Coefficient | 1310 nm | ≤ 0.36 | dB/km maximum |
| | 1550 nm | ≤ 0.22 | dB/km maximum |
| Mode Field Diameter @ 1310nm | Petermann II | 8.8 ± 0.4 | μm |
| Cut-off Wavelength (Cabled) | λ_{cc} | ≤ 1260 | nm |
| Dispersion | 1285 - 1330 nm | ≤ 3.5 | ps/nm.km |
| | @ 1550 nm | ≤ 18.0 | ps/nm.km |
| | @ 1625 nm | ≤ 22.0 | ps/nm.km |
| Zero Dispersion Wavelength | λ_0 | 1302 - 1322 | nm |
| | Slope | ≤ 0.089 | ps/nm ² .km |
| PMD ₀ Link design value | | ≤ 0.07 | ps / $\sqrt{\text{km}}$ |

| GEOMETRICAL PROPERTIES | | VALUE | UNITS |
|--------------------------------------|--|---------------|-----------------------|
| Reference Surface Diameter | | 125 ± 0.7 | μm |
| Core to Cladding Concentricity Error | | ≤ 0.5 | μm maximum |
| | | | |
| Reference Surface Non-Circularity | | ≤ 1 | % |
| Coating Diameter | | 245 ± 5 | μm |

| PHYSICAL PROPERTIES | | VALUE | UNITS |
|---------------------|--|----------|-------|
| Proof Test Level | | ≥ 1 | % |

| PHYSICAL PROPERTIES (fibre) | | VALUE | UNITS |
|------------------------------|--|-------------|-------|
| 1 turn 20mm radius @ 1550nm | | ≥ 0.5 | dB |
| 10 turn 30mm radius @ 1550nm | | ≥ 0.05 | dB |
| 10 turn 30mm radius @ 1625nm | | ≥ 0.5 | dB |