

Low Waterpeak Singlemode Fibre to ITU-T Recommendation G.652 C/D

Features and Benefits

The following details summarise the main optical, geometrical and physical characteristics of MagniLight low water peak fibres as used in Sirocco Enhanced Performance Fibre Units (EPFU), compliant with ITU-T Rec. G.652 C / D.

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 (2F,4F,8F,12F) | 1310 nm | ≤ 0.38 | dB/km maximum |
| | 1550 nm | ≤ 0.26 | dB/km maximum |
| Attenuation at 1383 nm (Fibre) ¹ | | ≤ 0.35 | dB/km |
| Mode Field Diameter | Petermann II | 9.2 ± 0.4 | µm |
| Cut-off Wavelength (cabled) | | ≤ 1260 | nm |
| Dispersion | 1285 – 1330 nm | ≤ 3.5 | ps/nm.km |
| | 1550 nm | ≤ 18.0 | ps/nm.km |
| Zero Dispersion Wavelength | λ ₀ | 1302 – 1322 | nm |
| | Slope | ≤ 0.089 | ps/nm ² .km |
| PMDq (IEC concatenated value) | | ≤ 0.08 | ps /√ km |

| Geometrical Properties | | Value | Units |
|--------------------------------------|--|-----------|------------|
| Reference Surface Diameter | | 125 ± 0.7 | µm |
| Core to Cladding Concentricity Error | | ≤ 0.84 | µm maximum |
| Reference Surface Non-Circularity | | ≤ 1 | % |
| Coating Diameter | | 235 - 255 | µm |

| Physical Properties | | Value | Units |
|---------------------|--|-------|-------|
| Proof Test Level | | ≥ 1 | % |

¹ As per ITU-T Recommendation G.652: "The sampled attenuation average at this wavelength shall be less than or equal to the value specified at 1310 nm after hydrogen ageing according to IEC 60793-2-50 regarding the B1.3 fibre category"

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