

EPFU OM3E (ENHANCED) 50/125 MULTIMODE FIBRE SPECIFICATION

The following details summarise the main Optical, Geometrical and Physical Characteristics of fibres for the CATV/industrial market, exceeding the requirements of TIA/EIA-492AAAC, ISO/IEC 11801 OM-3 Type and IEC 60793-2-10 A1a.2

Fibres are manufactured from high grade silica, doped as necessary to achieve the required light guiding properties, designed with a matched-cladding, graded-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 + Hybrids)	850 nm	≤ 3.2	dB/km maximum
	1300 nm	≤ 1.2	dB/km maximum
Attenuation Coefficient (4F,6F, 8F,12F)	850 nm	≤ 2.6	dB/km maximum
	1300 nm	≤ 0.8	dB/km maximum
Numerical Aperture		0.20 ± 0.015	-
Minimum Modal Bandwidth ^{[1][2]}	850 nm	3500	MHz.km minimum
	1300 nm	500	MHz.km minimum
Effective Modal Bandwidth	850 nm	4700	MHz.km minimum

GEOMETRICAL PROPERTIES		VALUE	UNITS
Core Diameter		50 ± 2.5	µm
Reference Surface Diameter		125 ± 1	µm
Core to Cladding Concentricity Error		≤ 1.5	µm
Reference Surface Non-Circularity		≤ 1	%
Coating Diameter (Coloured)		235 to 255	µm

PHYSICAL PROPERTIES		VALUE	UNITS
Proof Test Level		≥ 1	%

1. The minimum Effective Modal Bandwidth is ensured by means of Differential Mode Delay (DMD).
2. This fibre should be used with transmitters according to TIA/EIA-492AAAC or IEC 60793-2-10.
3. This fibre offers a 10 Gb/s application distance of 550 meters using a maximum cabled fibre attenuation of 3.0 dB/km at 850 nm and a maximum total connector loss of 1 dB.
4. The applied ultra tight DMD specifications (inner and outer mask and sliding window) ensure an effective modal bandwidth of 4700 MHz.km.
5. A tighter inner mask (from 0 to 18 µm) is used as defined in TIA/EIA-492AAAC or IEC 60793-2-10, type A1a.2 (from 5 to 18 µm).