



C18e: Enhanced SM fibre for connector mounting

Low water-peak OS1 fibre with tight geometrical specification

General and application

This enhanced Single mode fibre provides improved performance across the entire 1260 nm to 1625 nm wavelength spectrum due to its low attenuation in 1383 nm the water-peak region. The fibre design is matched cladding, The selected narrow physical tolerances and the low cut-off value make this fibre the optimum choice for cables, which may have connectors directly mounted e.g. patch cords and jumpers.

Standards and Norms

IEC 60793-2-50 Category B.1.3

EN 60793-2-50: Class B.1.3

ITU Recommendation G.652.D – the older ITU designations A, B and C are also fulfilled

EN 50173-1: 2007, cat. OS2; also OS1 requirements are fulfilled

ISO/IEC 11801:2002 category OS1

ISO/IEC 24702:2006 cat. OS2; also OS1 requirements are fulfilled

IEEE 802.3 - 2002. incl. 802.3ae

Attenuation (of cable with fibres)

IEC 60793-1-40

1310 - 1625 nm	≤ 0.39 dB/km
1550 nm	≤ 0.25 dB/km
Inhomogeneity of OTDR trace for any two 1000 metre fibre lengths	Max. 0.1 dB/km
Group index of refraction	1.467

Fibre properties according to IEC

IEC 60793-1

Attribute	Measurement method	Units	Limits
Cladding diameter	IEC/EN 60793-1-20	µm	125.0 ± 0.4
Cladding non-circularity	IEC/EN 60793-1-20	%	≤ 0.3
Core (MFD) non-circularity	IEC/EN 60793-1-20	%	≤ 6
Core (MFD) -cladding concentricity error	IEC/EN 60793-1-20	µm	≤ 0.3
Primary coating diameter - uncoloured	IEC/EN 60793-1-21	µm	245 ± 10
Primary coating diameter - coloured	IEC/EN 60793-1-21	µm	250 ± 15
Primary coating non-circularity	IEC/EN 60793-1-21	%	≤ 5
Primary coating-cladding concentricity error	IEC/EN 60793-1-21	µm	≤ 12.0
Proof stress level	IEC/EN 60793-1-30	GPa	≥ 0.7 (≈ 1 %)
Strip force (peak)	IEC/EN 60793-1-32	N	1.0 ≤ F _{peak.strip} ≤ 8.9
Chromatic dispersion coefficient: In the interval 1285 nm – 1330 nm At 1550 nm At 1625 nm	IEC/EN 60793-1-42	ps/km • nm ps/km • nm ps/km • nm	≤ 3 ≤ 18.0 ≤ 22.0
Zero dispersion wavelength, λ ₀		nm	1311 ± 11
Zero dispersion slope		ps/(nm ² • km)	≤ 0.090
Cut-off wavelength	IEC/EN 60793-1-44	λ _c nm λ _{cc} nm	High limit: 1285 Low limit: 1150 ≤ 1260
Mode field diameter at 1310 nm Mode field diameter at 1550 nm	IEC/EN 60793-1-45	µm µm	9.0 ± 0.4 10.1 ± 0.5
Macrobending loss at 1550 nm, 100 turns on a ø 60 mm mandrel.	IEC/EN 60793-1-47	dB	≤ 0.05
Polarisation mode dispersion (PMD) coefficient, cabled	IEC/EN 60793-1-48	ps/√km	≤ 0.5
PMD ₀ Link design Value	IEC/EN 60794-3	ps/√km	≤ 0.2