



General purpose MC Single mode Fibre

ITU-T G652.B, IEC/EN 60793-2-50 B1.1

GENERAL

This single mode optical fibre, is a matched cladding fibre, optimised for transmission in the 1310 nm window, with good transmission properties at 1550 nm as well.

STANDARDS AND NORMS

This fibre fulfils the requirements of:

- IEC 60793-2-50 Category B.1.1
- EN 60793-2-50: Class B1.1
- ITU Recommendation G.652.B

When cabled, the fibres fulfil the requirements for use in a number of cabling systems, among them are:

- EN 50 173-1 : 2002, cat. OS1
- ISO/IEC 11801 : 2002, cat. OS1

Fibre properties:

- IEEE 802.3 - 2002 incl. 802.3ae
- Testing methods are in accordance with the following standards:
- IEC 60793-1-XX:2002
 - EN 60793-1-XX:2002

CORE

The core is germanium doped.

COATING

The fibre coating is dual layer UV curable acrylate. The coating offers excellent stable stripping performance, and a unique high and stable value for the dynamic stress corrosion.

OPTICAL PROPERTIES

Attenuation (of cable with fibres):

At 1310 nm: ≤ 0.40 dB/km

In the range 1285-1330 nm:

≤ 0.43 dB/km

At 1550 nm: ≤ 0.25 dB/km

At 1625 nm: ≤ 0.40 dB//km

Inhomogeneity of OTDR trace for any two 1000 metre fibre lengths Max.: 0.1 dB/km

Group index of refraction:

At 1310 nm 1.467

At 1550 nm 1.467

Attribute	Measurement method	Units	Limits
Cladding diameter	IEC/EN 60793-1-20	μm	125.0 ± 1
Cladding non-circularity	IEC/EN 60793-1-20	%	≤ 1.0
Core (MFD) non-circularity	IEC/EN 60793-1-20	%	≤ 6
Core (MDF) -cladding concentricity error	IEC/EN 60793-1-20	μm	≤ 0.6
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	%	≤ 6
Primary coating-cladding concentricity error	IEC/EN 60793-1-21	μm	≤ 12.5
Proof stress level	IEC/EN 60793-1-30	GPa	≥ 0.7 ($\approx 1\%$)
Strip force (peak)	IEC/EN 60793-1-32	N	$1.0 \leq F_{\text{peak.strip}} \leq 8.9$
Chromatic dispersion coefficient: In the interval 1285 nm – 1330 nm In the interval 1270 nm – 1340 nm At 1550 nm Zero dispersion wavelength, λ_0 Zero dispersion slope	IEC/EN 60793-1-42	ps/km • nm ps/km • nm ps/km • nm nm ps/(nm ² • km)	$\leq 3 $ ≤ 6 ≤ 18 1310 –8/ +12 ≤ 0.091
Cut-off wavelength	IEC/EN 60793-1-44	λ_c nm λ_{oc} nm	High limit: 1330 Low limit: 1150 ≤ 1260
Mode field diameter at 1310 nm Mode field diameter at 1550 nm	IEC/EN 60793-1-45	μm μm	9.2 ± 0.4 10.4 ± 0.8
Macrobending loss at 1550 nm, 100 turns on a \varnothing 60 mm mandrel.	IEC/EN 60793-1-47	dB	≤ 0.05
Polarisation mode dispersion (PMD) coefficient, cabled	IEC/TR 61941	ps/ $\sqrt{\text{km}}$	≤ 0.5
PMD ₀ Link Design Value	IEC/TR 61283-3	ps/ $\sqrt{\text{km}}$	≤ 0.2