

MaxCap-BB-OM3 multimode fibre

Properties for cabled fibre

General and application

This fibre is a laser-optimised, bend-insensitive graded-index multimode OM3 fibre suitable for transmission speeds of 10 Gb/s or higher. It has a 50 µm core diameter and a 125 µm cladding diameter. The fibre is optimised for maximum transmission properties at 850 nm; but is also well suited for 1300 nm systems. This fibre is fully compliant to the OM3 specification. The fibre supports 1000 m link length for a 1000BASE-SX system and 300 m for 10GBASE-SX, as well as 550 m for a 1000BASE-LX system. The outstanding bending performance of this fibre supports future compact cable management.

Standards and Norms

IEC 60793-2-10: type A1a.2	EN 50 173:2002 category OM3
EN 60793-2-10: type A1a.2	ISO/IEC 11801:2002 category OM3
TIA/EIA-492 AAAC	IEEE 802.3 - 2002 incl. amendment 802.3ae - 2002.

Cable attenuation

IEC 60793-1-40

Maximum value of cable attenuation at 850 nm	≤ 3.0 dB/km
Maximum value of cable attenuation at 1300 nm	≤ 1.0 dB/km
Attenuation limit according to IEC 60793-2-10, 850 nm	≤ 2.5 dB/km
Attenuation limit according to IEC 60793-2-10, 1300 nm	≤ 0.8 dB/km
Inhomogeneity of OTDR trace for any two 1000 metre fibre lengths	Max. 0.1 dB/km
Fibre bending loss R=7.5 mm 850/1300 nm	≤ 0.2 dB / ≤ 0.5 dB
Fibre bending loss R=15 mm 850/1300 nm	≤ 0.1 dB / ≤ 0.3 dB

Bandwidth

IEC 60793-1-41

Overfilled (OFL) modal bandwidth at 850 nm	≥ 1500 MHz • km
Overfilled (OFL) modal bandwidth at 1300 nm	≥ 500 MHz • km
Effective Modal Bandwidth (EMB) at 850 nm (<i>assured by means of differential mode delay (DMD) measurement as specified in IEC 60793-1-49</i>)	≥ 2000 MHz • km

Group index of refraction

IEC 60793-1-22

Group index of refraction at 850 nm	1.482
Group index of refraction at 1300 nm	1.477

Other properties

IEC 60793-1-xx

Attribute	Measurement method	Units	Limits
Core diameter	IEC/EN 60793-1-20	µm	50 ± 2.0
Cladding diameter	IEC/EN 60793-1-20	µm	125.0 ± 1.0
Cladding non-circularity	IEC/EN 60793-1-20	%	≤ 0.7
Core non-circularity	IEC/EN 60793-1-20	%	≤ 5
Core-cladding concentricity error	IEC/EN 60793-1-20	µm	≤ 1.5
Primary coating diameter – uncoloured	IEC/EN 60793-1-21	µm	242 ± 5
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	≤ 6
Proof stress level	IEC/EN 60793-1-30	GPa	≥ 0.7 (≈ 1 %)
Typical average strip force	IEC/EN 60793-1-32	N	1.7
Strip force (peak)	IEC/EN 60793-1-32	N	1.3 ≤ F _{peak,strip} ≤ 8.9
Numerical aperture	IEC/EN 60793-1-43	N	0.200 ± 0.015