

C01a: High bandwidth multi mode 50 µm fibre

Properties of cabled OM2 fibre for use at 850 nm and at 1300 nm

General and application

This fibre is a graded-index multimode fibre suitable for transmission speeds of up to 10 Gb/s (100m 10GBASE-SX). It has a 50 µm core diameter and a 125 µm cladding diameter. The fibre is designed for use at 850 and/or 1300 nm.

This fibre is suitable for use in premises wiring application like LAN's with video, data and or voice services using LED, VCSEL and Fabry-Perot laser sources.

Standards and Norms

IEC 60793-2-10 Category A1a	EN 50173-1:2007 category OM2
EN 60793-2-10: type A1a	ISO/IEC 11801:2002 category OM2.
TIA/EIA-492 AAAB	IEEE 802.3 - 2002. with amendment 802.3ae - 2002.
	ANSI/TIA/EIA-568.B.3 - 2000

Cable attenuation

IEC 60793-1-40

Maximum at 850 nm	≤ 2.7 dB/km
Maximum at 1300 nm	≤ 0.8 dB/km
Typical value at 850 nm	≤ 2.5 dB/km
Typical value at 1300 nm	≤ 0.6 dB/km
Inhomogeneity of OTDR trace for any two 1000 metre fibre lengths	Max. 0.2 dB/km

Bandwidth

IEC 60793-1-41

850 nm	600 MHz • km
1300 nm	1200 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 ± 2.5
Cladding diameter	IEC/EN 60793-1-20	µm	125.0 ± 1
Cladding non-circularity	IEC/EN 60793-1-20	%	≤ 1.0
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 ± 0.7
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	≤ 10
Proof stress level	IEC/EN 60793-1-30	GPa	≥ 0.7 (≈ 1 %)
Typical average stripforce	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		0.200 ± 0.015