

Properties of tight buffered multimode fibre Ø900 µm

Multimode OM1 fibre to be used at 850 nm and 1300 nm

General and application

Tight buffered fibre consist of a 1% proof tested fibre, a dual acrylate primary coating to nominally 250µm and a secondary buffer to 900µm. The buffer is extruded around the primary coating in order to make a versatile, and robust buffering system.

The buffer material consists of either LS0H or PVC compound. The buffer alone may be removed over a length of more than 1000 mm to the primary coating. The primary coated fibre is thereafter, available for splicing. The primary coating may then in a second step be mechanically stripped to the 125µm glass diameter. The combined coating and buffer may be removed to the 125µm glass cladding diameter in one operation with ease and low force. Stripping is thus done in bites of 15–25 mm.

The intended use of this tightly buffed fibre is pigtails. The buffered fibre may also be manufactured to patch-cords and be used as an element in cables (Riser and Breakout). The buffer may be coloured to any colour of IEC 60304.

Graded index multimode fibre suitable for transmission speeds of up to 10 Gb/s. It has a 62.5µm core diameter and a 125µm cladding diameter.

Standards and Norms

IEC 60793-2-10 Category A1_b

ISO / IEC 11801 Category OM1

AS / NZS 3080

Attenuation of cabled fibre

Attribute	Measurement method	Units	Limits
Maximum attenuation value of cable @ 850 nm	IEC 60793-1-40	dB/km	3.5
Maximum attenuation value of cable @ 1300 nm		dB/km	1.0
Inhomogeneity of OTDR trace for any two 1000 m fibre lengths		db/km	Max. 0.2

Bandwidth

Attribute	Measurement method	Units	Values
850 nm	IEC 60793-1-41	MHz.km	200
1300 nm		MHz.km	500

Group index of refraction

Attribute	Measurement method	Limits
Effective group index at 850 nm	IEC 60793-1-22	1.496
Effective group index at 1300 nm		1.491

Other properties

Attribute	Measurement method	Units	Limits
Core diameter	IEC 60793-1-22	µm	62.5 ± 3.0
Cladding diameter		µm	125 ± 1.0
Cladding non-circularity		%	≤ 1.0
Core non-circularity		%	≤ 5
Core cladding concentricity error		µm	≤ 1.5
Primary coating diameter	IEC 60793-1-22	µm	250 ± 15
Primary coating non-circularity		%	≤ 5
Primary coating-cladding concentricity error		µm	≤ 10
Secondary coating diameter		µm	900 ± 50
Proof stress level	IEC 60793-1-30	GPa	≥ 0.7 (≈ 1 %)
Typical average strip force	IEC 60793-1-32	N	1.7
Strip force peak (F)		N	1.3 ≤ F ≤ 8.9
Numerical aperture	IEC 60793-1-43	µm	0.275 ± 0.015

All measurements in accordance with ITU-T G650 recommendations

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