

## C34: MaxCap-BB-OM2 multimode fibre

### Properties of cabled bend-insensitive OM2 fibre

#### General and application

This fiber is a bend-insensitive graded-index OM2 multimode fibre suitable for transmission speeds of 10Mb/s, 100Mb/s, 1 Gb/s and 10 Gb/s. It has a 50  $\mu\text{m}$  core diameter and a 125  $\mu\text{m}$  cladding diameter.

The outstanding bending performance of the MaxCap-BB-OM2 fibre supports future compact cable management. It is fully backwards compatible with all generic OM2 fibers.

#### Standards

IEC 60793-2-10: type A1a.1	ITU G.651.1	TIA/EIA-492 AAAB
ISO/IEC 11801 category OM2	EN 60793-2-10: type A1a.1	ANSI/TIA/EIA-568.C
	EN 50173-1 category OM2	IEEE 802.3

#### Optical properties

Attribute	Measurement method	Units	Limits
Attenuation limit according to IEC 60793-2-10, 850 nm	IEC 60793-1-40	dB/km	$\leq 3.5$
Attenuation limit according to IEC 60793-2-10, 1300 nm	IEC 60793-1-40	dB/km	$\leq 1.5$
Inhomogeneity of OTDR trace for any two 1000 metre fibre lengths	IEC 60793-1-40	dB/km	Max. 0.1
Numerical aperture	IEC 60793-1-43	-	$0.200 \pm 0.015$

#### Cable attenuation

Maximum attenuation value of cable at 850 nm	IEC 60793-1-40	dB/km	$\leq 2.7$
Maximum attenuation value of cable at 1300 nm	IEC 60793-1-40	dB/km	$\leq 0.8$

#### Attenuation variation vs bending

Fibre bending loss R=7.5 mm 850/1300 nm	IEC 60793-1-40	dB	$\leq 0.2 / \leq 0.5$
Fibre bending loss R=15 mm 850/1300 nm	IEC 60793-1-40	dB	$\leq 0.1 / \leq 0.3$

#### Bandwidth

Overfilled (OFL) modal bandwidth at 850 nm	IEC 60793-1-41	MHz • km	$\geq 500$
Overfilled (OFL) modal bandwidth at 1300 nm	IEC 60793-1-41	MHz • km	$\geq 500$
Effective Modal Bandwidth (EMB) at 850 nm	IEC 60793-1-49	MHz • km	-

#### Group index of refraction

Group index of refraction at 850 nm	IEC 60793-1-22	-	1.482
Group index of refraction at 1300 nm	IEC 60793-1-22	-	1.477

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### Geometrical properties

Attribute	Measurement method	Units	Limits
Core diameter	IEC 60793-1-20	μm	50 ± 2
Cladding diameter	IEC 60793-1-20	μm	125.0 ± 1.0
Cladding non-circularity	IEC 60793-1-20	%	≤ 0.7
Core non-circularity	IEC 60793-1-20	%	≤ 5
Core-cladding concentricity error	IEC 60793-1-20	μm	≤ 1
Primary coating diameter – uncoloured	IEC 60793-1-21	μm	242 ± 5
Primary coating diameter - coloured	IEC 60793-1-21	μm	250 ± 15
Primary coating non-circularity	IEC 60793-1-21	%	≤ 5
Primary coating-cladding concentricity error	IEC 60793-1-21	μm	≤ 6

### Mechanical properties

Attribute	Measurement method	Units	Limits
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)	IEC 60793-1-32	N	$1.3 \leq F_{\text{peak.strip}} \leq 8.9$

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