

C31: MaxCap-BB-OM3 Multimode Fibre

Specifications of cabled bend-insensitive OM3 fibre

General and Application

Prysmian MaxCap BendBright® OM3, laser-optimised, bend-insensitive, graded-index multimode fibres are designed for transmission speeds of 10 Gb/s and beyond. It is suitable for systems operating at 850 nm and 1300 nm wavelengths. MaxCap BendBright® OM3 fibres incorporate BendBright® technology to deliver enhanced macro-bending performance. Prysmian multimode fibres are produced with proprietary Plasma Chemical Vapour Deposition (PCVD) process.

Standards

IEC 60793-2-10: type A1a.2	ISO/IEC 11801 category OM3
TIA/EIA-492 AAAC	ANSI/TIA/EIA-568.C
ITU G.651.1	ISO/IEC 24764

Cabled Fibre Attenuation

Attribute	Measurement method	Units	Limits
Attenuation at 850 nm	IEC 60793-1-40	dB/km	≤ 3.0
Attenuation at 1300 nm	IEC 60793-1-40	dB/km	≤ 1.0

Optical Specifications (Bare Fibre)

Attribute	Measurement method	Units	Limits
Attenuation at 850 nm	IEC 60793-1-40	dB/km	≤ 2.5
Attenuation at 1300 nm	IEC 60793-1-40	dB/km	≤ 0.7
Attenuation Difference btw. 1380 nm and 1300 nm	IEC 60793-1-40	dB/km	≤ 3.0
Point Discontinuity at 850 nm and 1300 nm	IEC 60793-1-40	dB	≤ 0.1
Numerical Aperture	IEC 60793-1-43	-	0.200 ± 0.015

Bending Loss

Mandrel Radius = 7.5 mm, 2 turns at 850/1300 nm	IEC 60793-1-40	dB	≤ 0.2 / ≤ 0.5
Mandrel Radius = 15 mm, 2 turns at 850/1300 nm	IEC 60793-1-40	dB	≤ 0.1 / ≤ 0.3

Bandwidth

Overfilled Launch Modal Bandwidth (OFL) at 850 nm	IEC 60793-1-41	MHz • km	≥ 1500
Overfilled Launch Modal Bandwidth (OFL) at 1300 nm	IEC 60793-1-41	MHz • km	≥ 500
Effective Modal Bandwidth (EMB) at 850 nm	IEC 60793-1-49	MHz • km	≥ 2000

Multimode System Reach

Transmission Distance*	1000BASE-SX	1000 m
	10GBASE-SR	300 m
	40GBASE-SR4	140 m
	100GBASE-SR10	140 m
	100GBASE-SR4	70 m

*Indicated link distances require total connector loss ≤ 1.0 dB, and VCSEL spectral bandwidth of ≤ 0.45 nm

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Geometrical Specifications

Attribute	Measurement method	Units	Limits
Core diameter	IEC 60793-1-20	μm	50 ± 2.5
Core non-circularity	IEC 60793-1-20	%	≤ 5
Core-cladding concentricity error	IEC 60793-1-20	μm	≤ 1
Cladding diameter	IEC 60793-1-20	μm	125.0 ± 1.0
Cladding non-circularity	IEC 60793-1-20	%	≤ 0.7
Coating diameter – uncoloured	IEC 60793-1-21	μm	242 ± 7
Coating diameter – coloured	IEC 60793-1-21	μm	250 ± 15
Coating non-circularity	IEC 60793-1-21	%	≤ 5
Coating-cladding concentricity error	IEC 60793-1-21	μm	≤ 10

Mechanical Specifications

Attribute	Measurement method	Units	Limits
Proof stress level	IEC 60793-1-30	GPa	≥ 0.7 (1%)
Average strip force	IEC 60793-1-32	N	≥ 1.0 ≤ 3.0
Peak strip force	IEC 60793-1-32	N	≥ 1.3 ≤ 8.9

Group Index of Refraction

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

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