



Properties of cabled Bend-insensitive Enhanced Multimode 50µm fibre

MaxCap-BB-OM4 Multimode Fibre

General and application

Prysmian MaxCap BendBright[®] OM4, 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[®] OM4 fibres incorporate BendBright[®] technology to deliver enhanced macro-bending performance.

Standards and Norms

AttributeMeasurement methodUnitsLimitsAttenuation @ 850 nm $B50 nm$ B/km ≤ 2.5 Attenuation @ 1300 nmIEC 60793-1-40 B/km ≤ 0.7 Point discontinuity @ 850 nm & 1300 nm B/km ≤ 0.1 Numerical apertureIEC 60793-1-43- 0.200 ± 0.015 BandwidthMeasurement methodUnitsLimitsOverfilled launch modal bandwidth (OFL) @ 850 nmIEC 60793-1-41MHz.km ≥ 3500 Overfilled launch modal bandwidth (OFL) @ 1300 nmIEC 60793-1-41MHz.km ≥ 3500 Effective modal bandwidth (EMB) @ 850 nmIEC 60793-1-49MHz.km ≥ 4700 Group index of refractionIEC 60793-1-49MHz.km ≥ 4700	IEC 60793-2-10: type A1a.3 ISO / IEC 1	1801 Category OM4	ITU G.651.1	
Attenuation @ 850 nmdB/km ≤ 2.5 Attenuation @ 1300 nmIEC 60793-1-40dB/km ≤ 0.7 Point discontinuity @ 850 nm & 1300 nmIEC 60793-1-43 $ 0.200 \pm 0.015$ BandwidthIEC 60793-1-43 $ 0.200 \pm 0.015$ BandwidthMeasurement methodUnitsLimitsOverfilled launch modal bandwidth (OFL) @ 1300 nmIEC 60793-1-41MHz.km ≥ 3500 Overfilled launch modal bandwidth (OFL) @ 1300 nmIEC 60793-1-49MHz.km ≥ 3500 Group index of refractionIEC 60793-1-49MHz.km ≥ 4700 Group index of refraction @ 850 nmIEC 60793-1-29MHz.km ≥ 4700 Typical group index of refraction @ 1300 nmIEC 60793-1-22 $ 1.482$ Typical group index of refraction @ 1300 nmIEC 60793-1-22 $ 1.477$ Geometrical propertiesIEC 60793-1-22 $ 1.477$ Ciadding ion-circularity $ -$ Ciadding ion-circularity $ -$ Core non-circularity $ -$ Ciadding non-circularity $ -$ Primary coating diameter $ -$ Primary coating non-circularity $ -$ Primary coating non-circularity $ -$ Primary coating non-circularity $ -$ Primary coating non-circularity	Attenuation & Optical properties			
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Core-cladding concentricity error μm ≤ 1.5 Primary coating diameter μm 245 ± 10 Primary coating non-circularityIEC 60793-1-21% ≤ 5 Primary coating-cladding concentricity error μm ≤ 1.5 Bending LossAttributeMeasurement methodUnitsLimits2 turns on a R= 7.5 mm mandrel @ 850 nmdB ≤ 0.2 dB ≤ 0.5	Cladding diameter	IEC 60793-1-20	μm	125.0 ± 1.0
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Bending LossAttributeMeasurement methodUnitsLimits2 turns on a R= 7.5 mm mandrel @ 850 nmdB ≤ 0.2 2 turns on a R= 7.5 mm mandrel @ 1300 nmIEC 60793-1-40dB ≤ 0.5	Primary coating non-circularity	IEC 60793-1-21	%	≤ 5
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2 turns on a R= 7.5 mm mandrel @ 850 nm dB ≤ 0.2 2 turns on a R= 7.5 mm mandrel @ 1300 nm IEC 60793-1-40 dB ≤ 0.5	Bending Loss			
2 turns on a R= 7.5 mm mandrel @ 1300 nm IEC 60793-1-40 dB ≤ 0.5	Attribute	Measurement method	Units	Limits
TEC 60793-1-40	2 turns on a R= 7.5 mm mandrel @ 850 nm		dB	≤ 0.2
2 turns on a R= 15 mm mandrel @ 850 nm $dB \leq 0.1$	2 turns on a R= 7.5 mm mandrel @ 1300 nm		dB	≤ 0.5
	2 turns on a R= 15 mm mandrel @ 850 nm	100/93-1-40	dB	≤ 0.1

2 turns on a R= 15 mm mandrel @ 850 nm 2 turns on a R= 15 mm mandrel @ 1300 nm

≤ 0.3

dB





Mechanical properties

Attribute	Measurement method	<u>Units</u>	<u>Limits</u>
Proof stress level	IEC 60793-1-30	GPa	≥ 0.7 (≈ 1 %)
Average strip force (Fave)	IEC 60793-1-32	Ν	$1.0 \leq F_{ave} \leq 3.0$
Peak strip force (F _{peak})	IEC 00793-1-32	Ν	$1.3 \leq F_{peak} \leq 8.9$

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