Properties of cable with BendBright™ OM5 Multimode Fibre

C39

Applicable Standards

- IEC / EN 60793-2-10: type A1-OM5
- TIA/EIA-492 AAAF (formerly AAAE)
- ITU-T G.651.1
- ISO/IEC 11801: Category OM5
- ANSI/TIA/EIA-568.3-D

Cabled Fibre Attenuation

Attribute	Measurement method	Units	Limits
Attenuation at 850 nm	IEC 60793-1-40	dB/km	≤ 3.0
Attenuation at 953 nm	IEC 60793-1-40	dB/km	≤ 2.3
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 953 nm	IEC 60793-1-40	dB/km	≤ 1.8
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

Attribute	Measurement method	Units	Limits
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

Attribute	Measurement method	Units	Limits
Overfilled Launch Modal Bandwidth (OFL) at 850 nm	IEC 60793-1-41	MHz • km	≥ 3500
Overfilled Launch Modal Bandwidth (OFL) at 953 nm	IEC 60793-1-41	MHz • km	≥ 1850
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	≥ 4700
Effective Modal Bandwidth (EMB) at 953 nm	IEC 60793-1-49	MHz • km	≥ 2470

Multimode System Reach

IEEE Standard or MSA	Units	Transmission Distance
10GBASE-SR	m	550*
40GBASE-SR4	m	190*
25GBASE-SR	m	100
100GBASE-SR4	m	100
400GBASE-SR4.2	m	150
40G-BiDi	m	200
100G-BiDi	m	150
40G SWDM4	m	440
100G SWDM4	m	150

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

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
Cladding diameter – uncoloured	IEC 60793-1-21	µm	242 ± 7
Cladding 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	$1.0 \leq F_{avg.strip} \leq 3.0$
Peak strip force	IEC 60793-1-32	N	$1.3 \leq F_{peak.strip} \leq 8.9$
Dynamic Fatigue	IEC 60793-1-33	-	$n_d \geq 20$

Group index of refraction

Attribute	Measurement method	Units	Values
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

All measurements in accordance with ITU-T G650 recommendations