

Loosetube SM_G.652.D

APPLICABLE STANDARDS

- IEC / EN 60793-2-50 Category B-652.D
- ITU Recommendation G.652.D
- EN 50 173-1: Category OS2 and OS1a
- ISO / IEC 11801: Category OS2 and OS1a
- All measurements are in accordance with ITU-T G.650 Recommendation



Optical Proprieties

ATTRIBUTE	MEASUREMENT METHOD	UNITS	LIMITS
Mode field diameter at 1310 nm	IEC/EN 60793-1-45	µm	9.0 ± 0.4
Mode field diameter at 1550 nm	IEC/EN 60793-1-45	µm	10.1 ± 0.5
Chromatic Dispersion coefficient: • in the interval 1285 nm – 1330 nm • at 1550 nm • at 1625 nm	IEC/EN 60793-1-42	ps/km • nm ps/km • nm ps/km • nm	≤ 3.5 ≤ 18 ≤ 22
Zero Dispersion Wavelength, λ_0		nm	1302 – 1322
Zero Dispersion Slope		ps/(nm ² • km)	≤ 0.092
Cut-off Wavelength, λ_{cc}	IEC/EN 60793-1-44	nm	≤ 1260 ¹
Polarisation Mode Dispersion (PMD) coefficient	IEC/EN 60793-1-48	ps/√km	≤ 0.1
PMDQ Link Design Value (computed with Q=0.01%, N=20)	IEC/EN 60794-3	ps/√km	≤ 0.06

1. Guaranteed value according to the ITU-T (ATM G650) method.

Attenuation

ATTRIBUTE	MEASUREMENT METHOD	UNITS	LIMITS
Maximum attenuation value of cable at 1310 nm	IEC/EN 60793-1-40	dB/km	≤ 0.35
Maximum attenuation value of cable at 1383 nm ²	IEC/EN 60793-1-40	dB/km	≤ 0.35
Maximum attenuation value of cable at 1550 nm	IEC/EN 60793-1-40	dB/km	≤ 0.21
Maximum attenuation value of cable at 1625 nm	IEC/EN 60793-1-40	dB/km	≤ 0.24
Local discontinuity at 1310 and 1550 nm	IEC/EN 60793-1-40	dB	≤ ± 0.1

2. Including H2-ageing according to IEC 60793-2-50, type B.1.3, at 1383 nm.

Attenuation Variation Vs Bending

ATTRIBUTE	MEASUREMENT METHOD	UNITS	LIMITS
100 Turns on a R = 25 mm mandrel at 1310 & 1550 nm	IEC/EN 60793-1-47	dB	≤ 0.05
100 Turns on a R = 30 mm mandrel at 1625 nm	IEC/EN 60793-1-47	dB	≤ 0.05

Group Index of Refraction

ATTRIBUTE	MEASUREMENT METHOD	UNITS	LIMITS
1310 nm	IEC/EN 60793-1-22	–	1.467
1550 nm	IEC/EN 60793-1-22	–	1.468
1625 nm	IEC/EN 60793-1-22	–	1.468

Rayleigh Backscatter Coefficient (1NS Pulse Width)

ATTRIBUTE	MEASUREMENT METHOD	UNITS	LIMITS
1310 nm	–	dB	-79.4
1550 nm	–	dB	-81.7
1625 nm	–	dB	-82.5

Geometrical Properties

ATTRIBUTE	MEASUREMENT METHOD	UNITS	LIMITS
Cladding diameter	IEC/EN 60793-1-20	μm	125.0 ± 0.7
Cladding non-Circularity	IEC/EN 60793-1-20	%	≤ 0.7
Core-Cladding Concentricity error	IEC/EN 60793-1-20	μm	≤ 0.5
Coating diameter (nominal)	IEC/EN 60793-1-21	μm	245
Coating non-Circularity	IEC/EN 60793-1-21	%	≤ 5
Coating-Cladding Concentricity error	IEC/EN 60793-1-21	μm	≤ 12

Mechanical Properties

ATTRIBUTE	MEASUREMENT METHOD	UNITS	LIMITS
Proof stress level	IEC/EN 60793-1-30	GPa	≥ 0.7 ($\approx 1\%$)
Strip force (average)	IEC/EN 60793-1-32	N	$1 \leq F_{\text{average.strip}} \leq 3$
Strip force (peak)	IEC/EN 60793-1-32	N	$1.2 \leq F_{\text{peak.strip}} \leq 8.9$
Dynamic Fatigue Resistance, aged and unaged	IEC/EN 60793-1-33	–	$n_d \geq 20$