62.5 µm OM1 Multimode Fibre

Issue date: October 2020
Supersedes: March 2013

Applicable Standards

- IEC / EN 60793-2-10: type A1-OM1
- ISO / IEC 11801: Category OM1
- TIA / EIA 492 AAAF (formerly 492 AAAA)

Optical Specifications

Bandwidth (OFL)

Attribute	Units	Specified Values
Overfilled Modal Bandwidth at 850 nm	MHz•km	≥ 200
Overfilled Modal Bandwidth at 1300 nm	MHz•km	≥ 500

Attenuation

Attribute	Units	Specified Values
Attenuation coefficient at 850 nm	dB/km	≤ 2.7
Attenuation coefficient at 1300 nm	dB/km	≤ 0.6

Numerical Aperture

Numerical aperture	0.275 ± 0.015

Macrobending Loss

Conditions	Wavelength	Units	Specified Values
Mandrel Radius = 37.5 mm, 100 Turns	850 / 1300 nm	dB	≤ 0.5 / ≤ 0.5

Chromatic Dispersion

Attribute	Conditions	Units	Specified Values
Zero Dispersion Wavelength, λ_0		nm	$1320 \le \lambda_0 \le 1365$
Zero Dispersion Slope, S_0	$1320 \le \lambda_0 \le 1348$	ps/[nm^2•km]	≤ 0.11
	$1348 \le \lambda_0 \le 1365$	ps/[nm^2•km]	≤ 0.001 (1458 - λ_0)

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Backscatter characteristics [1]

Attribute	Conditions	Units	Specified Values
Point Discontinuity [2]	850 nm, 1300 nm	dB	≤ 0.1
Irregularities over fibre length	850 nm, 1300 nm	dB	≤ 0.1
Reflections	-	-	Not allowed
Group Index of Refraction at 850 nm	-	-	1.496 (typical)
Group Index of Refraction at 1300 nm	-	-	1.491 (typical)

[1] OTDR measurement with 0.5 µs pulse width.
[2] Mean of bi-directional measurement

Geometrical Specifications

Glass Geometry

Attribute	Units	Specified Values
Core Diameter	µm	62.5 ± 2.5
Core non-Circularity	%	≤ 5
Core-Cladding Concentricity Error	µm	≤ 1.5
Cladding Diameter	µm	125.0 ± 1.0
Cladding non-Circularity	%	≤ 1

Coating Geometry

Attribute	Units	Specified Values
Coating Diameter	µm	242 ± 7
Coating non-Circularity	%	≤ 5
Coating-Cladding Concentricity Error	µm	≤ 10

Mechanical Specifications

Proof Test [3]

The entire spool length is subjected to a tensile proof stress ≥ 0.7 GPa (100 kpsi) ; 1% strain equivalent

[3] Higher proof test available upon request

Coating Performance

Attribute	Units	Specified Values
Average Coating Strip Force, unaged and aged [4]	N	$1 \leq F_{avg\text{-}strip} \leq 3$
Peak Coating Strip Force, unaged and aged [4]	N	$1.3 \leq F_{peak\text{-}strip} \leq 8.9$

[4] Aging at 23°C, 30 days

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Fibre Strength

Attribute	Units	Specified Values
Dynamic Tensile Strength (0.5 meter gauge length), unaged and aged [5]	GPa	median > 3.8 (550 kpsi)
Dynamic Fatigue, unaged and aged [5]	-	$n_d \geq 20$

[5] Aging at 85°C, 85% RH, 30 days

Environmental Specifications

Environmental test	Test Conditions	Induced attenuation at 850, 1300 nm (dB/km)
Temperature Cycling	-60°C to +85°C	≤ 0.1
Temperature - Humidity Cycling	-10°C to +85°C, 4-98% RH	≤ 0.1
Water Immersion	30 days; 23°C	≤ 0.1
Dry Heat	30 days ; 85°C	≤ 0.1
Damp Heat	30 days; 85°C; 85% RH	≤ 0.1

Others

Length	Up to 26.4 km per spool
Coating	Acrylate Coating; Coloured (ink) and Clear

All measurements in accordance with ITU-T G650 recommendations

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