



Documents n. 11
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TECHNICAL DATA SHEET - CABLE CONSTRUCTION

Specification for High-speed laser-launch multimode fibre OM3 50 μm MMF OM3 – 10Gb/s
Coating Type: Dual Layer Primary Coating (DLPC9)

Characteristics	Conditions	Specified Values	Units
Optical Specifications (Uncabled Fibre)			
Attenuation Coefficient	850 nm	≤ 2.1 ≤ 2.2 ≤ 2.3	dB/km
	1300 nm	≤ 0.4 ≤ 0.5 ≤ 0.6	dB/km
Overfilled Modal Bandwidth ¹	850 nm	≥ 1500	Mhz.km
	1300 nm	≥ 500	Mhz.km
Effective Modal Bandwidth	850 nm	≥ 2000	Mhz.km
Fibre capacity	850 nm; 10 Gb/s	≤ 300	m
DMD	-	See Note 2	-
Numerical Aperture	-	0.200 ± 0.015	-
Chromatic dispersion			
• Zero dispersion wavelength, λ_0		$1295 \leq \lambda_0 \leq 1340$	nm
• Zero dispersion slope, S_0	$1295 \text{ nm} \leq \lambda_0 \leq 1310 \text{ nm}$	≤ 0.105	$\text{ps/nm}^2 \cdot \text{km}$
	$1310 \text{ nm} \leq \lambda_0 \leq 1340 \text{ nm}$	$\leq 0.000375 (1590 - \lambda_0)$	$\text{ps/nm}^2 \cdot \text{km}$
Bending Loss	850nm, 1300 nm / 100 turn, 75mm diam	≤ 0.5	dB
Backscatter Characteristics³			
• Point of discontinuity ⁴	850nm, 1300 nm	≤ 0.1	dB
• Irregularities over fibre length	850nm, 1300 nm	≤ 0.1	dB
• Group Index of Refraction (Typ.)	850 nm	1.482	-
	1300 nm	1.477	-
Geometrical Specifications			
Core Diameter	-	50 ± 2	μm
Core Non-Circularity	-	≤ 5	%
Core/Cladding Concentricity error	-	≤ 1	μm
Cladding Diameter	-	125.0 ± 1	μm
Cladding Non-Circularity	-	≤ 0.7	%
Coating Diameter	-	242 ± 5	μm
Coating Non-Circularity	-	≤ 5	%
Coating/Cladding Concentricity error	-	≤ 6	μm
Length	Standard lengths up to	8.8	km
Environmental Specifications			
Temperature cycling	850 nm, 1300 nm / -60°C to 85°C	≤ 0.1	dB/km
Temperature-Humidity cycling	850 nm, 1300 nm / -10°C to 85°C, 4-98% RH	≤ 0.1	dB/km
Water immersion	850 nm, 1300 nm / 23°C, 30 days	≤ 0.1	dB/km
Dry Heat	850 nm, 1300 nm / 85°C, 30 days	≤ 0.1	dB/km
Damp Heat	850 nm, 1300 nm / 85°C; 85% RH, 30 days	≤ 0.1	dB/km



Mechanical Specifications

Proof test	Off line	> 0.7 (100)	GPa (kpsi)
Dynamic tensile strength (median value)	0.5 meter gauge length unaged and aged ⁵	> 3.8 (550)	GPa (kpsi)
Fatigue parameter (Typ.)	Dynamic fatigue, unaged and aged ⁵	$n_d > 25$	-
Coating strip force	Average strip force, unaged and aged ⁶	1 to 3	N
	Peak strip force, unaged and aged ⁶	1.3 to 8.9	N

- 1) OTDR measurement with 0.5 μ m pulse width
- 2) Mean of bi-directional measurement
- 3) Aging at 85°C, 85% RH, 30 days
- 4) Aging:
 - 23°C, 0°C and 45°C
 - 30 days at 85°C and 85% RH
 - 14 days water immersion at 23 °C

