

Multimode Optical Fiber

OM2, Laser Optimized OM3, OM4 and Signature Core™

TECHNICAL INFORMATION

Panduit OM2 and laser-optimized OM3, OM4 and Signature Core™ multimode fibers exceed domestic and international standards for optical fiber, including TIA-492AAAB, TIA-492AAAC, TIA-492AAAD and IEC 60793-2-10. They support a diverse set of legacy and contemporary applications including Ethernet, Fibre Channel, Infiniband™, Fiber Distributed Data Interface (FDDI), Token Ring, Asynchronous Transfer Mode (ATM) and FICON (Fiber Connection) among others.

GEOMETRY

DIMENSION	VALUE
Core Diameter:	50.0µm ± 2.5µm
Core Non-Circularity:	≤ 5%
Cladding Diameter:	125µm ± 1.0µm
Cladding Non-Circularity:	≤ 0.7%
Core-Cladding Concentricity:	≤ 1.0µm
Coating Diameter:	242µm ± 5µm
Coating-Cladding Concentricity:	≤ 10µm

ATTENUATION

WAVELENGTH	OM2	OM3, OM4 AND SIGNATURE CORE™
850 nm:	≤ 2.5 dB/km	≤ 2.4 dB/km
1300 nm:	≤ 0.8 dB/km	≤ 0.6 dB/km

OPTICAL CHARACTERISTICS

PROPERTY	OM2, OM3 & OM4	Signature Core™
Point Discontinuity:	≤ 0.1 dB	
Numerical Aperture:	0.200 ± 0.015	
Group Index of Refraction – 850 nm (typical):	1.482	
Group Index of Refraction – 1300 nm (typical):	1.478	
Zero Dispersion Wavelength (typical):	1295 – 1340 nm	1295 – 1315 nm
Macrobend Attenuation (850 nm / 1300 nm):		
100 turns @ 37.5 mm radius	≤ 0.5 dB / ≤ 0.5 dB	
2 turns @ 15 mm radius	≤ 0.1 dB / ≤ 0.3 dB	
2 turns @ 7.5 mm radius	≤ 0.2 dB / ≤ 0.5 dB	

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TRANSMISSION PROPERTIES

BANDWIDTH	OM2	OM3	OM4	Signature Core™
Overfilled Bandwidth – 850 nm (MHz·km):	≥ 500	≥ 1500	≥ 3500	≥ 3500
Overfilled Bandwidth – 1300 nm (MHz·km):	≥ 500	≥ 500	≥ 500	≥ 500
Effective Modal Bandwidth – 850 nm (MHz·km):	≥ 950	≥ 2000	≥ 4700	See Note 1
Differential Mode Delay (ps/m):	NA	See Note 2		
Differential Mode Delay – Sliding Mask (ps/m):	NA	≤ 0.25	≤ 0.11	≤ 0.10
Differential Mode Delay – Peak Shift (ps/m):	NA	NA	NA	See Note 1

NOTE 1: Signature Core™ MMF is designed to compensate modal and chromatic dispersion and therefore not adequately characterized by the Effective Modal Bandwidth (EMB) metric alone. Signature Core™ is specified by the combination of EMB and several Differential Mode Delay characteristics (inner mask, outer mask, sliding mask and peak shift).

NOTE 2: Panduit OM2, OM3, and OM4 laser-optimized multimode fiber exceeding industry standards defined in TIA-492AAAB, TIA-492AAAC, TIA-492AAAD and IEC 60793-2-10 by meeting the Effective Modal Bandwidth and Differential Mode Delay requirements.

MECHANICAL PROPERTIES

PROPERTY	VALUE
Proof Test:	≥ 0.7 GPa
Coating Strip Force (typical):	2 N

ENVIRONMENTAL PROPERTIES

TEST	VALUE
Operating Temperature	-60°C to 85°C
Temperature Dependence (850 nm & 1300 nm from -60°C to +85°C):	≤0.1 dB/km
Temperature-Humidity Cycling (850 nm & 1300 nm from -10°C to +85°C, > 94% RH):	≤0.1 dB/km
Accelerated Aging (850 nm & 1300 nm at 85°C for 30 days):	≤0.1 dB/km
Water Immersion Induced Attenuation (850 nm & 1300 nm at 23°C for 30 days):	≤0.1 dB/km