

j-BendAble OM2/OM2⁺ Multimode Fibers

Bend-insensitive fiber

OM2/OM2⁺ type fibers with superior bend-loss performance for short distance 10 Gb/s Ethernet transmission rates

j-BendAble OM2/OM2⁺ Multimode fibers are bend-insensitive 850 nm laser-optimized 50µm Multimode fibers. They provide for best macrobending performance and support high-density packaging cables, smallest bend-radii and challenging installation situations in advanced data centers. j-BendAble OM2 is best suited to support conventional LAN applications with OM2 performance. j-BendAble OM2⁺ (also known as OM3 – 150 type fiber) is the ideal solution for short reach 150 m distance 10 Gb/s Ethernet data transmission in high-speed interconnects for central offices and data centers. j-BendAble OM2/OM2⁺ are compatible with all commercially available standard and bend-insensitive 50µm fibers.

Benefits

- Minimum bend loss in very small bend-radii applications
- 10 Gb/s Ethernet serial transmission over distances of 150m
- Effective Modal Bandwidth (EMB) ≥ 1000 MHz-km @ 850 nm
- Provides high performance at overfilled launch (OFL) bandwidth ≥ 750 MHz-km @ 850 nm and 500 MHz-km @ 1300 nm to support conventional applications.
- Ensures compatibility with currently commercially available bend-insensitive MMF and standard MMF
- Supports compact cable management systems in advanced data center applications.
- Supports high fiber count cable manufacturing.

Standardization and Compliances for j-BendAble OM2/OM2⁺

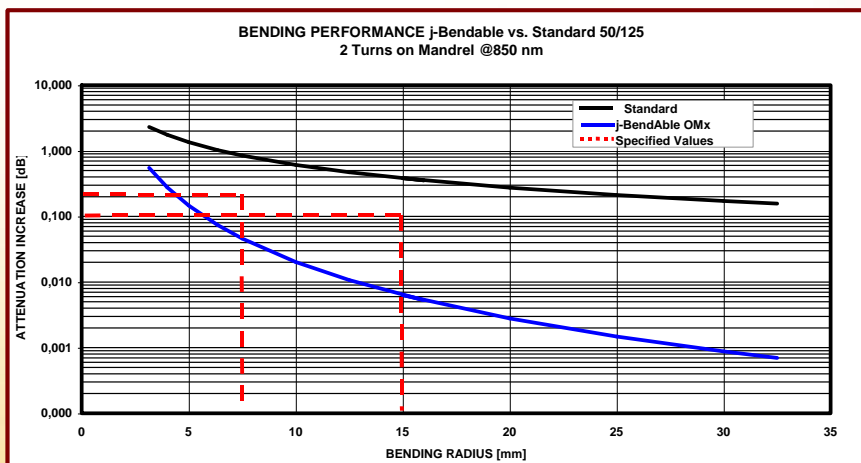
- IEC 60793-2-10
- ITU G651.1
- TIA/EIA 492AAAB-A

Bending Performance

Macrobending Loss / Bend Induced Attenuation		Spec. Values	Unit
100 turns	850 nm	≤ 0.05	dB
Radius 37.5 mm	1300 nm	≤ 0.15	dB
2 turns	850 nm	≤ 0.1	dB
Radius 15 mm	1300 nm	≤ 0.3	dB
2 turns	850 nm	≤ 0.2	dB
Radius 7.5 mm	1300 nm	≤ 0.5	dB

For further information about our Multimode Fibers and other j-fiber products and services, please contact us:

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Performance Characteristics

		OM2	OM2 ⁺	Unit
Bandwidth (Overfilled Launch, LED based sources)	850nm	≥ 500	≥ 750	MHz-km
	1300nm	≥ 500	≥ 500	MHz-km
Effective Modal Bandwidth (EMB) ¹	850nm	n.a	≥ 1000	MHz-km
Transmission Link Lengths for 1 Gb/s	850nm	500	750	m
	1300nm	500	500	m
Transmission Link Lengths for 10 Gb/s ¹	850nm	n.a	150	m
	1300nm		300	m

¹850 nm operating wavelength with transmitters meeting encircled flux of ≤ 30% @ radius 4.5 μm and ≥ 86 % @ radius 19.0 μm. At 1300nm link length using LX4.

Optical Characteristics

		Spec. Values	Unit
Attenuation Coefficient ¹	850nm	≤ 2.3	dB/km
	1300nm	≤ 0.7	dB/km
Attenuation at 1383 nm (OH-Peak)		< 2.0	dB/km
Attenuation Discontinuities (OTDR 1300 nm)		< 0.05	dB
Chromatic dispersion Zero Dispersion Wavelength λ ₀		1295 ≤ λ ₀ ≤ 1340	nm
Zero Dispersion Slope, S ₀			
– from 1295 ≤ λ ₀ ≤ 1310		≤ 0.105	ps/nm ² ·km
– from 1310 ≤ λ ₀ ≤ 1340		≤ 0.000375·(1590-λ ₀)	ps/nm ² ·km
Numerical Aperture		0.200 ± 0.015	
Effective Group Index of Refraction	850nm	1.483	
	1300nm	1.478	

¹ Special attenuation values available upon request

Geometrical Characteristics

	Spec. Values	Unit
Core Diameter	50 ± 2.5	μm
Core Non-Circularity	≤ 5.0	%
Core/Clad Concentricity Error	≤ 1.5	μm
Cladding Diameter	125 ± 1.0	μm
Cladding Non-Circularity	≤ 1.0	%
Coating Diameter	242 ± 7	μm
Coating /Clad Concentricity Error	≤ 10	μm
Available Lengths	1.1-8.8 ¹	km

Mechanical Characteristics

	Spec. Values	Unit
Proof Test	≥ 0.69	GPa
	≥ 8.8	N
Dynamic Tensile Strength Unaged Fiber (0.5 m)		
Median Tensile Strength	≥ 3.8	GPa
15th Percentile Tensile Strength	≥ 3.3	GPa
Aged Fiber (0.5 m)		
Median Tensile Strength	≥ 3.03	GPa
15th Percentile Tensile Strength	≥ 2.76	GPa
Dynamic Fatigue Stress Corrosion Parameter n _d (typical)		
	≥ 23	
Operating Temperature Range		
	-60 to +85	°C
Coating Strip Force (typical)		
	1.9	N

Environmental Characteristics

		Spec. Values	Unit
		850/1300 nm	
Change of Temperature Attenuation increase, -60°C to +85°C			
		≤ 0.1	dB/km
Dry Heat Attenuation increase, 30 days @ 85°C			
		≤ 0.1	dB/km
Damp Heat Attenuation increase, 30 days @ 85°C/85% R.H.			
		≤ 0.1	dB/km
Water Immersion Attenuation increase, 30 days in 23°C water			
		≤ 0.1	dB/km

Coating

j-fiber Multimode optical fiber is protected with our enhanced coating material that guarantees long-term performance and reliability. The dual-layer acrylate material is user-friendly and compatible in all cable constructions, such as tight buffer and loose tube designs with low bending loss. Optimized for multimode fiber, the coating shows lowest microbending sensitivity. The coating is mechanically strippable and leaves no residue. Coating options for special applications are available on request.

Spool Size

	Size
Spool diameter	9.25"/23.5 cm
Spool width	4.21"/10.7 cm
Spindle	1"/2.54 cm
Traverse width	3.75"/9.5 cm

Environmental friendly Packaging

The shipping spool is designed to safeguard j-fiber optical fiber not only during shipping but also during subsequent handling in the customer's plant. It features smooth inside surfaces to ensure that the fiber is wound on and off the reel without the risk of breaking. The reel barrel is isolated via a polyethylene air cushion cover. The inside end of the fiber can be accessed for various measurements while still on the shipping spool.

All reels and transport boxes are designed to take advantage of our recycling program.

Ordering Information

To order our j-BendAble OM2/OM2⁺ optical fibers please call, fax or email us and specify the following parameters when ordering:

Fiber Type:	j-BendAble OM2 / OM2 ⁺ Multimode Fiber 50/125/242 μ m
Desired j-BendAble Class	OM2, OM2 ⁺
Desired Attenuation:	at 850 nm/1300 nm
Fiber Quantity:	kms
Other:	desired ship date, reel length, special requests

All fibers and preforms are subject to j-fiber's ongoing process and quality improvement programs ensuring excellent performance and high reliability. We reserve the right to make changes to the above specification without notice.

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