

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⁺

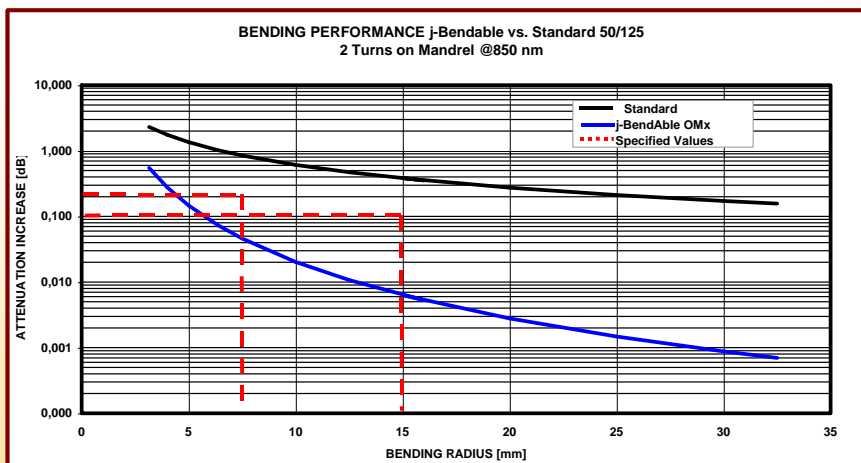
- IEC 60793-2-10
- ITU G651.1
- TIA/EIA 492AAAB-A

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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