j-fiber Jena

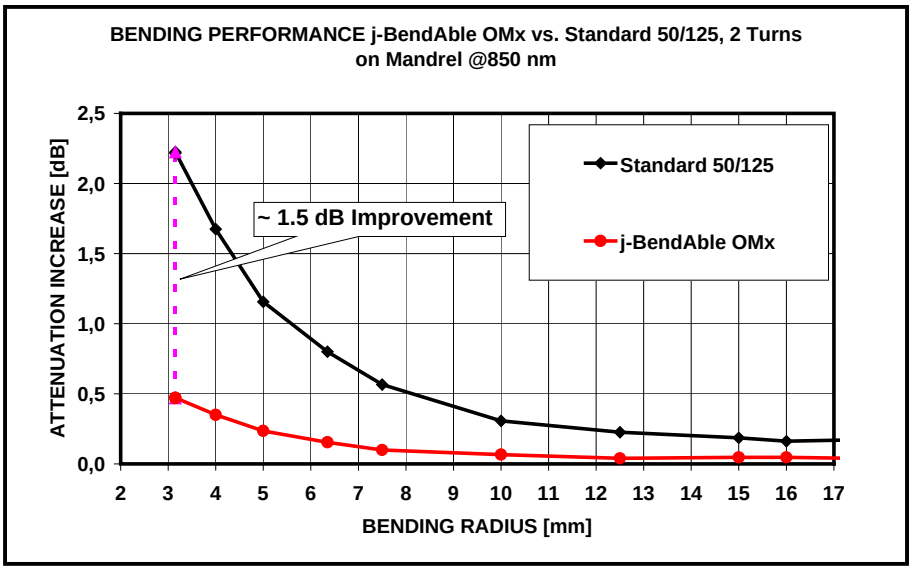
Member of LEONI Group

j-BendAble OMx Fiber

Bend-insensitive OM2+, OM3, OM4 compliant Multimode Fibers

Superior bend-loss performance in standard compliant high-bandwidth 10 Gigabit Ethernet transmission in demanding data center installations

j-BendAble OMx fibers are bend-insensitive 850nm laser-optimized 50 µm Multimode fibers in compliance with OM3 and OM4 standards and also available in advanced OM2+ bandwidth. With their superior bend-loss performance j-BendAble OMx fibers support compact packaging, small bend-radii and other challenging installation situations in advanced data centers. j-BendAble OMx fibers enable serial 10 Gb/s Ethernet transmission over up to 550 m link lengths as well as parallel transmission options in 40 Gb/s or 100 Gb/s speeds over up to 150 m.



j-BendAble Fiber Series

j-BendAble OMx

Bend-insensitive fiber with best bend tolerance for applications in high-fiber count cables. OMx standard compliance for challenging data center installation situations. Available with OM4, OM3 and OM2+ compliant performance.

j-BendAble Robust

Bend-optimized fiber with 500 µm coating for maximum protection from mechanical impacts. Minimum micro bending loss in pigtails. Ensures reliable 10 Gb/s Ethernet transmission over 150, 300 or 550 m link lengths.

j-BendAble HiNA

Customer application specific fiber. Higher NA to minimize attenuation loss in bending situations.

Manufacturing Process

j-BendAble Multimode fibers are manufactured by j-fiber's proprietary MCVD and PBD process for preform fabrication, a technology to flexibly provide innovative, customer specific fiber and preform designs with maximum splicing compatibility. Our DMD monitored process results in fibers with a precisely controlled index of refraction. Low attenuation values, consistent geometric properties and high strengths of the fibers are also subject to tight quality control.

Benefits

- Minimum bend loss in very small bend-radii applications
- 10 Gb/s Ethernet serial transmission with guaranteed OM4, OM3 standard compliant or OM2+ optical performance
- Provides for minimum bend-loss.
- Supports compact management cable systems in advanced data center applications.
- Supports high fiber count cable manufacturing.
- Provides for future-safe 40/100 Gb/s parallel transmission over up to 150 m.
- Guarantees reliable system performance by most stringent DMD characterization.

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

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Performance Characteristics

		150/ OM2+	300/ OM3	550/ OM4	Unit
Bandwidth (Overfilled Launch, LED based sources)	850 nm	≥ 750	≥ 1500	≥ 3500	MHz·km
	1300 nm	≥ 500	≥ 500	≥ 500	MHz·km
Effective Modal Bandwidth (EMB)	850 nm	≥ 1000	≥ 2000	≥ 4700	MHz·km
Transmission Link Lengths[1] for 10 Gb/s	850 nm	150	300	550	m
	1300 nm (LX4)	300	300	300	m

[1] Other link lengths available on request

Optical Characteristics

		Spec. Values	Unit
Attenuation Coefficient[1]	850 nm	≤ 2.3	dB/km
	1300 nm	≤ 0.7	dB/km
Attenuation @ 1383 nm (OH-Peak)		< 2.0	dB/km
Attenuation Discontinuities (OTDR 1300 nm)		< 0.05	dB
Zero Dispersion Wavelength		$1295 \leq \lambda_0 \leq 1320$	nm
Zero Dispersion Slope			
	$1295 \leq \lambda_0 \leq 1300$	$\leq 0.001 (\lambda_0 - 1190)$	ps/nm·km
	$1300 \leq \lambda_0 \leq 1320$	≤ 0.11	ps/nm·km
Numerical Aperture		0.200 ± 0.015	
Effective Group Index of Refraction	850 nm	1.483	
	1300 nm	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	245 ± 10	µm
Coating /Clad Concentricity Error	≤ 10.0	µm
Standard Lengths	1.1-8.8	km

Mechanical Characteristics

	Spec. Values	Unit
Proof Test	≥ 100	kpsi
	≥ 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	≥ 18	
Operating Temperature Range	-60 to +85	°C
Coating Strip Force (typical)	3.5	N

Environmental Characteristics

	Spec. Values @ 850/1300 nm	Unit
Change of Temperature Attenuation increase, -60°C to+85°C	≤ 0.20	dB/km
Dry Heat Attenuation increase, 30 days @ 85°C	≤ 0.20	dB/km
Damp Heat Attenuation increase, 30 days @ 85°C/85% R.H.	≤ 0.20	dB/km
Water Immersion Attenuation increase, 30 days in 23°C water	≤ 0.20	dB/km

Spool Size

		Unit
Fiber Length	≤ 4.4	km
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

Ordering Information

Fiber Type:	j-BendAble OMx 50/125/250 µm
Desired OptiGrade Class:	150, 300, 550
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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Officially registered facility according to EWG No. 761/2001