Member of LEONI Group

j-BendAble Robust Fiber

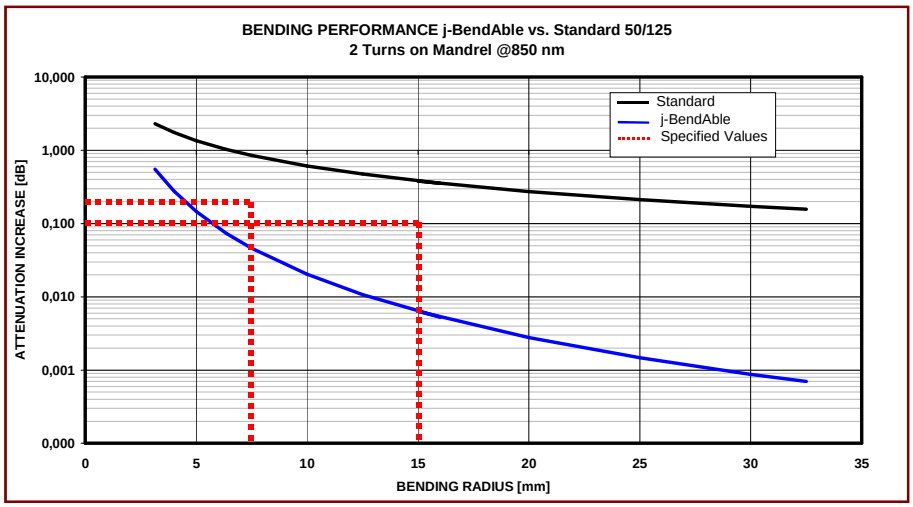
Bend-insensitive Multimode Fiber with 500 μm Coating

Superior bend loss performance combined with maximum protection from mechanical impacts for high-bandwidth 10 Gigabit Ethernet transmission

j-BendAble Robust fiber is a bend-insensitive, trench-assisted 50/125 fiber with a 500 μm coating. It has been developed to provide for superior bend-loss performance even in most challenging installation situations with very small bend-radii applications and exposure to mechanical stress.

j-BendAble Robust is laser-optimized for transmission at 850 nm and is available with OM2, OM3 and OM4 standard compliant optical performance. The fiber enables serial 10 Gb/s Ethernet transmission from 150 m up to 550 m link lengths.

Superior bending performance of j-BendAble Robust (typical)



Benefits

- Bend-insensitive MMF with minimum bend loss performance in very smal bend-radii applications
- Special 500 μm coating for best fiber protection against mechanical impacts
- 10 Gb/s Ethernet serial transmission with standard comliant OM4, OM3, OM2, OM2+ bandwidth
- Guarantees most 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

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

[1] Other link lengths available on request

Optical Characteristics

		Spec. Values	Unit
Attenuation Coefficient[1]	850nm 1300nm	≤ 2.4 ≤ 0.7	dB/km dB/km
Attenuation @ 1383 nm (OH-Peak)		< 2.0	dB/km
Attenuation Discontinuities (OTDR 1300 nm)		< 0.05	dB
Chromatic dispersion Zero Dispersion Wavelength λ_0		$1295 \leq \lambda_0 \leq 1340$	nm
Zero Dispersion Slope, S_0 – from $1295 \leq \lambda_0 \leq 1310$ – from $1310 \leq \lambda_0 \leq 1340$		 ≤ 0.105 $\leq 0.000375 \cdot (1590-\lambda_0)$	 $ps/nm^2 \cdot km$ $ps/nm^2 \cdot km$
Numerical Aperture		0.200 ± 0.015	
Effective Group Index of Refraction	850nm 1300nm	1.483 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	500 ± 15.0	µm
Coating /Clad Concentricity Error	≤ 10.0	µm
Standard Lengths	1.1-8.8	km

Mechanical Characteristics

	Spec. Values	Unit
Proof Test	≥ 200 ≥ 17.6	kpsi N
Dynamic Tensile Strength Unaged Fiber (0.5 m) Median Tensile Strength 15th Percentile Tensile Strength Aged Fiber (0.5 m) Median Tensile Strength 15th Percentile Tensile Strength	 ≥ 3.8 ≥ 3.3 ≥ 3.03 ≥ 2.76	 GPa GPa GPa GPa
Dynamic Fatigue Stress Corrosion Parameter n_d	≥ 23	
Operating Temperature Range	-60 to +85	°C
Coating Strip Force (typical)	3.5	N

Environmental Characteristics

	Spec. Values	Unit
	@ 850/1300 nm	
Change of Temperature Attenuation increase, -60°C to +85°C	≤ 0.10	dB/km
Dry Heat Attenuation increase, 30 days @ 85°C	≤ 0.10	dB/km
Damp Heat Attenuation increase, 30 days @ 85°C/85% R.H.	≤ 0.10	dB/km
Water Immersion Attenuation increase, 30 days in 23°C water	≤ 0.10	dB/km

Spool Size

	small	large
Fiber Length	≤ 4.4km	> 4.4km
Spool Diameter	9.25”/23.5cm	10.4”/26.4cm
Spool Width	4.21”/10.7cm	6.65”/16.9cm
Spindle	1”/2.54cm	1”/2.54cm
Traverse Width	3.75”/9.5cm	5.9”/15.0cm

Ordering Information

Fiber Type:	j-BendAble Robust 50/125/500 µm
Desired j-BendAble Class:	OM2, OM2+, OM3, OM4
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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