BEND INSENSITIVE 50µm

The new standard

Overview

Optical Cable Corporation's OM4, OM3, OM2+, and OM2 (ALE, ALT, ALX, & ALS) laser graded index multimode fibers are now bend insensitive. Bend insensitive 50µm fibers are now standard when ordering Optical Cable Corporation's 50µm fiber. The bend insensitive 50µm fibers meet and exceed the industry standards for legacy 50µm fiber and are also fully backward compatible with legacy 50µm fiber.

Features and Benefits

- All 50 micron fiber from OCC is now bend insensitive 50 micron fiber
- No new special fiber part codes required. ALS, ALX, ALT, & ALE are now bend insensitive 50 micron fibers
- Fully backward compatible with legacy 50 micron fibers
- No difference in handling or installation regarding splicing or connector termination
- Can be spliced or mated to legacy fibers and to other bend insensitive fibers from other manufactures
- End face inspection of fiber will show a "halo", or ring, around the core of the fiber. This "halo" is normal and has no effect on the performance of the fiber. For more information, see: http://www.cablinginstall.com/articles/2013/06/ofs-halo-report.html
- Better macro bend performance than legacy 50 micron fibers

Macro-Bend Performance

- OCC's bend insensitive OM4, OM3, OM2+ & OM2 (ALE, ALT, ALX, & ALS) fibers macro-bend performance are comparable to competing bend insensitive rated fibers
- OCC's bend tolerant OM4, OM3, OM2+ & OM2 (ABE, ABT, ABX, & ABS) have macro-bend performance that exceeds the industry's practices/recommendations

OCC 0M2/0M3/0M4 BEND INSENSITIVE FIBER			
		INDUCED ATTENUATION (DB)	
MANDREL RADIUS (MM)	NUMBER OF TURNS	850 NM	1300 NM
37.5	100	≤0.05	≤0.15
15	2	≤0.1	≤0.3
7.5	2	≤0.2	≤0.5

Applicable Standards

- ISO/IEC OM2/OM3/OM4
- TIA-492AAAD (ALE)
- TIA-492AAAC-A (ALT)
- TIA-492AAAB (ALS & ALX)
- ITU-T G.651.1

Characteristics

- Fully supporting 10 Gb/s applications as well as legacy 10 Mb/s applications
- Designed to be used with low cost LED Overfilled Launch (OFL) transmitters as well as low cost 850nm VCSEL transmitters
- DMD measurements meeting industry standards for Effective Modal Bandwidth (EMB)

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OCC 50 micron Fiber Chart

FIBER CODE	INDUSTRY STANDARD DESIGNATION	CORE/ CLADDING DIAMETER	NUMERIC APERTURE	WAVELENGTH (NM)	GIGABIT ETHERNET DISTANCE (M)	10-GIGABET ETHERNET DISTANCE (M)	MAXIMUM CABLED ATTENUATION (DB/ KM)	MINIMUM LASER EMB BANDWIDTH* (MHZ-KM)	MINIMUM OFL LED BANDWIDTH** (MHZ-KM)
ALS	Bend Insensitive Laser Grade OM2 ISO/IEC 11908	50/125	0.20	850/1310	600/600	82/300*	3.5/1.5	510/500	500/500
ALX	Bend Insensitive Extended Length Laser Grade OM2+ ISO/IEC 11801	50/125	0.20	850/1310	750/600	150/300^[2]	3.0/1.0[3]	950/500	700/500
ALT	Bend Insensitive Laser Optimized OM3 ISO/IEC 11801	50/125	0.20	850/1310	1000/600	300/300^[2]	3.0/1.0[3]	2000/500	1500/500
ALE	Bend Insensitive Laser Optimized OM4 ISO/IEC 11801	50/125	0.20	850/1310	1040/600	550[1]/300^[2]	3.0/1.0[3]	4700/500	3500/500

* Minimum Laser Effective Modal Bandwidth (EMB)

^ 1310 nm CWDM lasers (10GBASE-LX4)

[1] Reach assuming 3.0 dB maximum cabled attenuation at 850 nm and 1.3 dB total connection and splice loss

[2] Supports 220 meter 10GBASE-LRM distance, or 300 meter 10GBASE-LRM distance with 300 meter capable equipment

[3] 3.5/1.5 dB/km maximum attenuation applies for DX-Series cables greater than 36 fibers, and for all DX-Series cables with armor (corrugated steel tape or interlocked armor) or any other secondary outer jacketing

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