

# Laser Optimized Fibers

## 62.5/62.5 XL



**Combines 1 Gigabit Ethernet capabilities and full compatibility with legacy multimode networks.**

### Product Description

OFS' Laser Optimized 62.5 and 62.5 XL Graded-Index Multimode Optical Fiber provides high performance over longer link lengths for Gigabit Ethernet and other high-speed transmission protocols. Laser Optimized 62.5 Fiber provides transmission distances up to 300 meters at 850 nm and up to 550 meters at 1300 nm, while our Laser Optimized 62.5 XL Fiber extends transmission distances up to 500 meters at 850 nm and up to 1000 meters at 1300 nm.

Fully compatible with your installed base of 62.5/125 micron multimode fiber, our Laser Optimized 62.5 and 62.5 XL Fiber allows for seamless upgrades of existing installations to 1 Gigabit per second (Gb/s) capability. Both fibers meet or exceed all performance requirements for Institute of Electrical and Electronics Engineers (IEEE) 802.3 Gigabit Ethernet standards.

### Applications

Designed to carry the high bandwidth required by today's network user, OFS' laser optimized fibers maximize the performance of laser-based applications operating at 1 Gb/s transmission speeds. They are also completely compatible with all standard fiber optic network protocols including Fiber Distributed Data Interface (FDDI), Fast Ethernet and 155 Mb/s Asynchronous Transfer Mode (ATM).

In Gigabit Ethernet networks, these laser-certified fibers offer outstanding performance with both conventional edge emitting lasers and Vertical Cavity Surface Emitting Lasers (VCSELs).

### Manufacturing and Quality Control

Robust and easy to connectorize, OFS Laser Optimized 62.5 and 62.5 XL Fibers promote ease of installation even under the most stringent conditions. OFS protects the fibers with Flex-10 coating, a dual-layered acrylate coating system that provides the industry's best protection against water, temperature and humidity extremes, yet still strips cleanly and easily.

Our fiber is manufactured at the OFS Multimode Center of Excellence in Sturbridge, Massachusetts using the company's advanced Modified Chemical

### Features/Benefits:

- Superior geometric tolerances and very low attenuation
- Enables minimal connection loss and low cabled attenuation
- Quality ensured through Differential Mode Delay (DMD) testing
- Allows for Gigabit Ethernet operation up to 500 meters at 850 nm and up to 1000 meters at 1300 nm

### Flex-10™ Coating for Multimode Fiber

OFS multimode fibers are made with a world-class draw process and our enhanced Flex-10 coating, designed to minimize induced attenuation that can occur in tight-buffer cable. Easy to strip and install, the coating offers outstanding performance in attenuation-sensitive 1 Gb/s and 10 Gb/s systems.

## Product Specifications

Vapor Deposition (MCVD) technology. Using the MCVD process, OFS produces a range of multimode fiber products that offer excellent performance for all transmission protocols. The MCVD method enables OFS to precisely control each fiber's index of refraction. Under the restricted launch conditions used in Gigabit Ethernet, this maximizes fiber bandwidth performance at 1 Gb/s speeds.

Like all OFS graded index multimode fibers, our Laser-Optimized 62.5 and 62.5 XL Fibers are tested and proven to exceed the Telecommunications Industry Association (TIA) Fiber Optic Test Procedures (FOTP) and other industry standards.

For additional information please contact your sales representative.

You can also visit our website at:

[www.ofsoptics.com/fiber](http://www.ofsoptics.com/fiber) or call 1-888-fiberhelp (from inside the USA).

For regional assistance, contact the global location closest to you.



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### Physical Characteristics

Core Diameter	62.5 ± 2.5 μm
Core Non-Circularity	≤ 5 %
Clad Diameter	125 ± 1 μm
Clad Non-Circularity	≤ 1 %
Core/Clad Concentricity Error (Offset)	≤ 1.0 μm
Coating Diameter	245 ± 10 μm
Coating Non-Circularity	≤ 5 %
Coating-Clad Concentricity Error (Offset)	≤ 8 μm
Tensile Proof Test	100 kpsi (0.69 GPa)
Coating Strip Force	Range: 0.5 - 1.0 lbf (2.2 - 4.4 N) Typical: 0.7 lbf (3.0 N)
Standard Reel Lengths	2.2 – 8.8 km

### Optical Characteristics

Attenuation		
at 850 nm	≤ 2.9 dB/km	
at 1300 nm	≤ 0.6 dB/km	
Overfilled Bandwidth	62.5	62.5 XL
at 850 nm	≥ 220 MHz-km	≥ 350 MHz-km
at 1300 nm	≥ 500 MHz-km	≥ 500 MHz-km
Transmission Distance (Link Length) Support	62.5	62.5 XL
Gigabit Ethernet at 850 nm	300 meters	500 meters
Gigabit Ethernet at 1300 nm	550 meters	1000 meters
Attenuation at 1380 nm minus attenuation at 1300 nm	≤ 1.0 dB/km	
Attenuation Uniformity / Point Discontinuities at 850 nm and 1300 nm	≤ 0.08 dB	
Numerical Aperture	0.275 ± 0.015	
Chromatic Dispersion		
Zero Dispersion Wavelength ( $\lambda_0$ )	1320 – 1365 nm	
Zero Dispersion Slope ( $S_0$ )	≤ 0.11 ps/nm <sup>2</sup> -km (1320 ≤ $\lambda_0$ ≤ 1348 nm) ≤ 0.001 x (1458 – $\lambda_0$ ) (1348 ≤ $\lambda_0$ ≤ 1365 nm)	
Group Refractive Index		
at 850 nm	1.496	
at 1300 nm	1.491	
Backscatter Coefficient		
at 850 nm	-64.8 dB	
at 1300 nm	-72.1 dB	
Macrobend Attenuation		
100 turns on a 75 mm mandrel at 850 nm and 1300 nm	≤ 0.5 dB	

### Environmental Characteristics

Operating Temperature Range	-60° C to +85° C
Temperature Induced Attenuation at 850 nm and 1300 nm from -60° C to +85° C (5 24-hour cycles)	≤ 0.1 dB/km
Temperature and Humidity Induced Attenuation at 850 nm and 1300 nm from -10° C to +85° C, 94% RH (30 24-hour cycles)	≤ 0.1 dB/km
Accelerated Aging (Temperature) Induced Attenuation at 85° C for 30 days	≤ 0.1 dB/km
Water Immersion Induced Attenuation, 23° C for 30 days	≤ 0.1 dB/km
Dynamic Fatigue Stress Corrosion Parameter ( $n_d$ )	≥ 18

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