



A Furukawa Company

500 μm Coated Graded-Index

Multimode Optical Fibers



Features and Benefits

- Extra thick coating for exceptional (microbend and mechanical) protection
- Superior geometric tolerances and very low attenuation
- Enables minimal connection loss and low cabled attenuation
- Quality ensured through Differential Mode Delay (DMD) testing
- Allows Gigabit Ethernet operation up to 600 meters at 850 nm

Applications

- Military
- Aerospace
- Geophysical
- Industrial
- Transportation

Product Description

OFS offers standard and 1 Gb/s multimode optical fibers with a 500 μm diameter dual-layered acrylate protective coating. This coating, three times the thickness of conventional 245 μm coated fiber, provides maximum protection of the fibers for special use applications in rugged environments.

The fibers are 100% quality tested in accordance with the Telecommunications Industry Association (TIA) Fiber Optic Test Procedures (FOTP) and other industry standards. In addition, OFS optical fibers meet the optical and mechanical requirements of Telcordia Generic Requirements documents GR-20-CORE and GR-409-CORE.

Consistent product quality, on-time delivery, responsive service, and excellent technical support are just a few of the reasons why OFS is one of the world's leading producers of optical fibers.

Also Available with Extended Link Lengths at 1 Gb/s

50/125

600 meters at 850 nm
600 meters at 1300 nm

62.5/125

300 meters at 850 nm
550 meters at 1300 nm

For additional information please contact your sales representative.

You can also visit our website at www.ofsoptics.com or call **1-888-fiberhelp** (1-888-342-3743) USA or **1-770-798-5555** outside the USA.

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500 μm Coated Graded-Index Multimode Optical Fiber

Product Specifications		500 μm Coated Graded-Index Multimode Fiber	
Physical Characteristics	50/125	62.5/125	
Core Diameter	50 ± 2.5 μm	62.5 ± 2.5 μm	
Core Non-Circularity	≤ 5 %	≤ 5 %	
Clad Diameter	125 ± 1 μm	125 ± 1 μm	
Clad Non-Circularity	≤ 1 %	≤ 1 %	
Core/Clad Concentricity Error (Offset)	≤ 1.0 μm	≤ 1.0 μm	
Coating Diameter	500 ± 25 μm	500 ± 25 μm	
Coating Non-Circularity	≤ 5 %	≤ 5 %	
Coating-Clad Concentricity Error (Offset)	≤ 19 μm	≤ 19 μm	
Tensile Proof Test	100 kpsi (0.69 GPa)		
Coating Strip Force:			
Range:	0.2 – 1.0 lbf (0.9 - 4.4 N)	0.2 – 1.0 lbf (0.9 - 4.4 N)	
Typical:	0.6 lbf (2.7 N)	0.6 lbf (2.7 N)	
Standard Reel Lengths	1.1 – 4.4 km	1.1 – 4.4 km	
Optical Characteristics			
Attenuation			
at 850 nm	≤ 2.3 dB/km	≤ 2.9 dB/km	
at 1300 nm	≤ 0.6 dB/km	≤ 0.6 dB/km	
Bandwidth - Standard			
at 850 nm	≥ 500 MHz-km	≥ 200 MHz-km	
at 1300 nm	≥ 500 MHz-km	≥ 500 MHz-km	
Bandwidth - Laser-Optimized			
at 850 nm	≥ 550 MHz-km	≥ 220 MHz-km	
at 1300 nm	≥ 600 MHz-km	≥ 500 MHz-km	
Attenuation at 1380 nm minus attenuation at 1300 nm	≤ 1.0 dB/km	≤ 1.0 dB/km	
Attenuation Uniformity / Point Discontinuities at 850 nm and 1300 nm	≤ 0.08 dB	≤ 0.08 dB	
Numerical Aperture	0.200 ± 0.015	0.275 ± 0.015	
Chromatic Dispersion			
Zero Dispersion Wavelength (λ ₀)	1295 – 1340 nm	1320 – 1365 nm	
Zero Dispersion Slope (S ₀)	≤ 0.105 ps/nm ² -km (1295 ≤ λ ₀ ≤ 1310 nm) ≤ 0.000375 x (1590 – λ ₀) (1310 ≤ λ ₀ ≤ 1340 nm)	≤ 0.11 ps/nm ² -km (1320 ≤ λ ₀ ≤ 1348 nm) ≤ 0.001 x (1458 – λ ₀) (1348 ≤ λ ₀ ≤ 1365 nm)	
Group Refractive Index			
at 850 nm	1.483	1.496	
at 1300 nm	1.479	1.491	
Backscatter Coefficient			
at 850 nm	-68.4 dB	-64.8 dB	
at 1300 nm	-75.8 dB	-72.1 dB	
Macrobend Attenuation			
100 turns on a 75 mm mandrel at 850 nm and 1300 nm	≤ 0.5 dB	≤ 0.5 dB	
Environmental Characteristics			
Operating Temperature Range	-40 °C to +85 °C	-40 °C to +85 °C	
Temperature Induced Attenuation at 850 nm and 1300 nm from -60 °C to +85 °C (5 24-hour cycles)	≤ 0.2 dB/km	≤ 0.2 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)	≤ 0.2 dB/km	≤ 0.2 dB/km	
Accelerated Aging (Temperature) Induced Attenuation at 85 °C for 30 days	≤ 0.2 dB/km	≤ 0.2 dB/km	
Water Immersion Induced Attenuation, 23 °C for 30 days	≤ 0.2 dB/km	≤ 0.2 dB/km	
Dynamic Fatigue Stress Corrosion Parameter (n _f)	≥ 18	≥ 18	



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