Lucent Technologies
Bell Labs Innovations

GigaGuide™ 62.5 Optical Fiber

product fact sheet

key specifications

Core diameter: 62.5 ± 3 micron

Clad diameter: 125 ± 1 micron

Attenuation: ≤ 2.9 dB/km at 850 nm; and ≤ 0.7 dB/km at 1300 nm

Allows for Gigabit Ethernet operation up to 300 meters at 850 nm and 550 meters at 1300 nm

Fully compatible with standard 62.5/125 graded index multimode optical fiber

High-Performance Fiber for Gigabit Ethernet Speeds

GigaGuide™ 62.5 graded-index multimode optical fiber from Lucent Technologies meets the market's demands for longer link lengths in Gigabit Ethernet applications and other high-speed network platforms. Easy to install and connect, GigaGuide 62.5 offers full compatibility with the installed base of standard 62.5/125 multimode fiber networks.

Designed to carry the high bandwidth required by today's network users, GigaGuide 62.5 provides transmission distances up to 300 meters at 850 nm and up to 550 meters at 1300 nm, meeting or exceeding the requirements for IEEE 802.3z Gigabit Ethernet standards.

Outstanding Performance with All Light Sources

Like other graded-index multimode fibers in the GigaGuide family, GigaGuide 62.5 is specifically designed to maximize the potential of the Gigabit Ethernet standard. By increasing transmission speeds to 1,000 Mb/s (1 Gb/s), Gigabit Ethernet architecture provides optimal performance for those sites where even Fast Ethernet speeds are inadequate.

Laser-certified for use with Gigabit Ethernet, GigaGuide 62.5 offers outstanding performance with both conventional edge emitting lasers and Vertical Cavity Surface Emitting Lasers (VCSELs). For standard 62.5/125 applications, GigaGuide is fully compatible with all standard fiber optic network protocols including FDDI, Fast Ethernet and 155 Mb/s ATM.

product specifications

GigaGuide™ 62.5 Optical Fiber

GigaGuide meets or exceeds industry standards for fiber specifications.	
Physical Characteristics	
Core diameter (µm)	62.5 ± 3
Clad diameter (µm)	125 ± 1
Coating diameter (µm)	245 ± 10
Core non-circularity (%)	≤ 5
Clad non-circularity (%)	≤ 2
Core-clad offset (µm)	≤ 3
Clad-coating offset (µm)	≤ 6
Standard prooftest (kpsi)	≥ 100
Standard reel lengths (km)	2.2 – 8.8
Optical Characteristics	
Attenuation at 850 nm (dB/km)	≤ 2.9
Attenuation at 1300 nm (dB/km)	≤ 0.7
Numerical aperture	0.275 ± 0.015
Zero dispersion wavelength range (nm)	1320 – 1365
Maximum dispersion slope (ps/(nm^2•km))	0.097
Macrobend attenuation (dB) 100 turns on a 75 mm mandrel at 850 nm and 1300 nm	≤ 0.5
Point discontinuities (dB) at 850 nm and 1300 nm	≤ 0.08
Group Refractive Index	
850 nm	1.496
1300 nm	1.491
GigaGuide provides resistance to temperature and humidity extremes.	
Environmental Performance	
Maximum induced attenuation @ 850 nm and 1300 nm from -60°C to +85°C (dB/km)	≤ 0.20
Maximum induced attenuation @ 850 nm and 1300 nm from -10°C to +85°C, 85% RH 30 day cycle (dB/km)	≤ 0.20
GigaGuide's dual layer UV-cured acrylate coating provides excellent fiber protection and strips cleanly and easily.	
Coating Removal Performance	
Typical dry strip force (lb_f)	≤ 0.6
Typical wet strip force (lb_f)	≤ 0.6

Advanced Processes, Stringent Quality Control

GigaGuide 62.5 is specially designed for ease of installation. A tight (± 1 micron) specification on cladding diameter minimizes loss due to connectorizing. Lucent protects the fiber by using a dual-layered, UV-cured acrylate coating system. This coating provides excellent protection against temperature and humidity extremes, and it strips cleanly and easily for use in even the most challenging installation conditions.

GigaGuide 62.5 is manufactured at Lucent's Multimode Center of Excellence (Sturbridge, Massachusetts) using the company's advanced Inside Vapor Deposition (IVD) technology. Using the IVD process, Lucent produces a range of multimode fiber products that offer excellent performance for all transmission protocols. The IVD method enables Lucent to precisely control each fiber's index of refraction. Under the restricted launch conditions used in Gigabit Ethernet, this maximizes fiber bandwidth performance at 1Gb/s speeds.

Like all of Lucent's graded index multimode fibers, GigaGuide 62.5 fibers are 100 percent quality tested in accordance with the Telecommunications Industry Association (TIA) Fiber Optic Test Procedures (FTP) and other industry standards.

For more information about GigaGuide 62.5 and Lucent's other multimode optical fiber products, contact:

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