

Fiber Specification and Selection

General Cable provides a wide range of optical fiber options so that the customer has the flexibility to construct a cable plant to best fit their needs. General Cable only uses optical fiber that meets or exceeds industry standards so that you can be assured of a quality product with best-in-class performance.

The fiber type and grade options available to users continue to expand as technology demands ever better optical fiber to perform to demanding requirements. The information below is intended to summarize the performance of General Cable fiber types. A detailed fiber selection table is also included.

62.5/125 Multimode

62.5/125 multimode has been the TIA/EIA 568A standard in North America and in many parts of the world for years. Proven reliability and strong optical performance has kept this as the fiber of choice for data backbones and recently, Fiber-To-The-Desk (FTTD).

Super/FDDI - This fiber meets the bandwidth requirement and exceeds the attenuation specification for TIA/EIA 568A. Super/FDDI fiber is the most commonly used fiber in data networks today.



G300 - This fiber is General Cable's entry offering of "enhanced" multimode fibers. The G300 fiber has an optimized core profile that allows it to efficiently transmit a Gigabit Ethernet (per IEEE 802.3z) laser signal 300 meters at 850nm and 550 meters at 1300nm and still be backward compatible with TIA/EIA 568A and ISO 11801. This fiber sets a new benchmark for the base level of performance. It is perfect for any network backbone that reaches to 300 meters and for centralized cabling topographies (TSB-72).



G500 - The G500 is a premium 62.5/125 multimode fiber optimized for performance in laser based systems such as Gigabit Ethernet. G500 can transmit a Gigabit Ethernet (per IEEE 802.3z) laser signal a distance of 500 meters at 850nm and 1000 meters at 1300nm. This fiber provides a sound solution as backbone distances increase and the bandwidth potential of 1Gbps systems are needed. This fiber meets the requirement of TIA/EIA 568A and ISO 11801.

50/125 Multimode

50/125 multimode has been a standard in ISO 11801 and is used primarily in Europe and Asia. The popularity of 50/125 around the world and its superior bandwidth performance in the 850nm window are driving its inclusion into TIA/EIA 568B and acceptance in North America.

Super/50 - This 50/125 multimode fiber was designed to meet or exceed all requirements of TIA/EIA 568-B.3 and ISO 11801. The fiber has a bandwidth of 500/500Mhz•km to satisfactorily handle a variety of applications. This truly universal fiber has a place in nearly all data networks.



G600 - G600 provides all of the optical benefits of the Super/50 fiber along with the ability to extend the signal transmission distance of a Gigabit Ethernet (per IEEE802.3z) laser signal to 600 meters at both 850nm and 1300nm. This fiber is perfect for systems where backbone distances are an issue and future bandwidth is required.



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Singlemode

Singlemode fiber's tremendous bandwidth and low attenuation has made it the fiber of choice for service carriers. As opto-electronics come down in price, singlemode is becoming more common in data communication networks. General Cable offers non-dispersion shifted single-mode fiber, TIA/EIA 492AAAA Class IVa, as a standard offering. The various grades of single-mode fiber refer to the attenuation performance.

Premium - The premium grade of fiber has a maximum fiber attenuation of 0.4/0.3 dB/km at 1310/1550nm for each fiber in a loose tube cable. This is most common for outside plant applications where transmission distances and loss budgets are critical.

Super - This grade is most effective with premises and indoor/outdoor cables where the transmission distances are short (< 5km). The Super grade of singlemode fiber has an attenuation of 0.8/0.6 dB/km at 1310/1550nm for tight buffer cables.

Other grades of 62.5/125, 50/125, and singlemode are available to suit design preferences and industry standards. These are detailed in the table below.

FIBER SPECIFICATIONS AND SELECTION GUIDE

FIBER DESCRIPTION	FIBER TYPE	MAXIMUM ATTENUATION (dB/km)				MINIMUM BANDWIDTH (Mhz•km)		GIGABIT ETHERNET DISTANCE (METERS)		NUMERICAL APERTURE
		850nm	1300nm	1310nm	1550nm	850nm	1300nm	850nm	1300nm	

62.5/125 Multimode

Super/FDDI	CT	3.5	1.0	-	-	160	500	220	550	0.275
G300	CG	3.5	1.0	-	-	220	500	300	550	0.275
G500	CL	3.5	1.0	-	-	350	500	500	1000	0.275
High Performance	CB	3.5	1.0	-	-	500	500	500	550	0.275

50/125 Multimode

Super/50	BG	3.0	1.0	-	-	500	500	550	550	0.200
G600	BH	3.0	1.0	-	-	500	500	600	600	0.200
Standard/50	BS	3.0	1.0	-	-	400	400	500	550	0.200

Singlemode - Loose Tube

Super	AP	-	-	0.5	0.4	-	-	-	5,000	-
Premium	AQ	-	-	0.4	0.3	-	-	-	5,000	-
High Performance	AT	-	-	0.35	0.25	-	-	-	5,000	-

Singlemode - Tight Buffer

Super	AP	-	-	0.8	0.6	-	-	-	5,000	-
Premium	AQ	-	-	0.6	0.5	-	-	-	5,000	-
High Performance	AT	-	-	0.5	0.5	-	-	-	5,000	-

Use the code in the "Fiber Type" column to replace the XX notation in the catalog number shown on the catalog page. This identifies the fiber that will be provided with the cable choice.

General Cable tests 100% of the fibers in all completed cables at the factory for attenuation and each fiber must meet the minimum requirements specified by the customer. General Cable does not use "typical" or "average" results for fiber optic cables.