

THE BERK-TEK FIBER OPTIC CABLE ADVANTAGE

Through rigorous specifications and unwavering attention to quality, Berk-Tek guarantees an unprecedented 600-meter link length for 10G connections with GIGALite™-10XB fiber.

GIGALITE FIBER

TIGHTER DIMENSIONAL TOLERANCE

Key factors in ensuring the optimal connection of optical fibers include the geometric dimensions of the core and cladding. Minimally compliant specifications do not deliver GIGALite performance. Berk-Tek specifies tighter minimum and maximum specifications than TIA and IEC standards, resulting in improved worst case insertion loss thanks to more consistent alignment.

Improvements are also specified for cladding diameter, core/clad concentricity, non-circularity, and others. When combined, these improved attributes result in a significantly improved worst case insertion loss. As data rates continue to climb, the allowable loss in the link shrinks. The GIGALite fiber advantage allows users to keep ahead of these advances.

BETTER BANDWIDTH SPECIFICATION

In practical terms, higher bandwidth provides increased link length and improved allowable insertion loss. All high bandwidth fiber is measured using a process called DMD (Differential Modal Delay). From that data, TIA allows two different measurements to be used to report the performance:

- ▶ **DMD Mask:** the DMD data of the measured fiber is compared against several templates. If the performance meets any one of the templates, it is said to pass the test.
- ▶ **EMBc:** the DMD data of the measured fiber is used to determine the response with 10 simulated light sources. Each “source” results in a calculated bandwidth (Effective Modal Bandwidth calculated, or EMBc). The lowest value becomes the reported bandwidth of the fiber under test.

There is a debate in the industry about which test method is more accurate, with proponents of each method advocating the benefits of their preferred method.

To meet GIGALite requirements, optical fibers must pass OM3 and OM4 specifications using both test methods. This assures that the fiber meets both of the accepted test methods and eliminates the uncertainty of “false positives”.

TEKFLEX™

Bend insensitive multimode fibers (BIMMF) have become increasingly popular. The Competence Center at Berk-Tek developed a test method to ensure that these new designs would be compatible with traditional designs as well as supporting future technologies. BIMMF fibers have enabled advanced cable manufacturing techniques, but they also minimize attenuation when cables are installed in basket tray, for example.





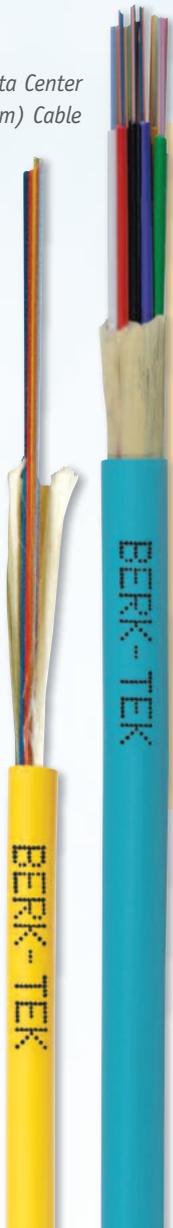
MAXIMIZE DENSITY WITH CABLE CONSTRUCTIONS OPTIMIZED FOR PRE-TERMINATED ASSEMBLIES

Berk-Tek offers the industry's premier fiber optic cable line for the construction of pre-terminated assemblies. Our complete line of indoor, outdoor and indoor/outdoor cable constructions ensure you have the flexibility to select the proper cable for your application. Allowing you to design the highest performing and most reliable solution with the lowest cost of ownership.

Cabling options include the compact and rugged Micro Data Center Plenum (MDP) and High Density Distribution Cable (ACP) as well as Adventum® indoor/outdoor cable, ArmorTek™ interlocking armor, Premise Distribution and Ribbon cable constructions. All constructions feature laser-optimized 50 micron GIGAlite™, GIGAlite-10 and GIGAlite-10XB Enhanced Multimode, as well as our standard 62.5 micron multimode fibers and low water peak single-mode fibers.

MDP (Micro Data Center Plenum) Cable

High Density Distribution Cable (ACP)



OPTICAL CABLING INNOVATIONS

MDP (Micro Data Center Plenum) indoor cables are designed specifically to enable high density backbone connectivity in existing or new data centers. These rugged cables are available in fiber counts from four to 288 optical fibers. This design offers dramatically reduced cable diameters of up to 50% over typical indoor/outdoor and premises distribution style cable offerings. These cables are pre-terminated using industry standard MPO (MTP®)* multi-fiber optical connectors, or LC connectors. They provide the highest density, most flexible backbone connectivity solution available for data centers and SAN installations.

High Density Distribution Cable (ACP) is a compact, indoor-only loose tube cable with the strength to provide more robust handling over the lifespan of your installation. By including aramid within the 3.0 mm tube containing the optical fibers, this design delivers both a compact cross-section and superior strain relief capabilities. With fiber counts of up to 432 optical strands, ACP is an outstanding choice to support the parallel transmission requirements of 40/100G Ethernet.

**MTP is a registered trademark of US Conec, LTD.*

- ▶ *MDP cable is only available as pre-terminated assemblies. Contact your sales representative for more details.*