Just the Technical Facts

Simplicity meets durability: Corning Cable Systems patented OptiTip MT Connectors help reduce costs and maximize real-world reliability in fiber communications.

OptiTip™ MT Connector

Chances are, no local area network (LAN) will have to send data while system components are baked at 75ºC, forced through ten freeze-thaw cycles or suddenly dropped 15 ft in temperatures far below zero, all within a few days. But if situations like these ever do develop, Corning Cable Systems patented OptiTip™ MT Fiber Optic Connectors – key elements in Corning Cable Systems Plug & Play™ AnyLAN™ Systems – are designed to help ensure that the data gets through, even under extreme environmental and usage conditions. This performance objective is combined with a well-engineered design that offers simple system deployment with no specialized engineering or installation skills necessary.

What is an OptiTip MT Connector?

The OptiTip MT Connector is a hardened array connector designed to provide rapid connectivity (for two, four, six, eight or 12 fibers) in a durable, easy-to-install design. As part of Plug & Play AnyLAN Systems, the first and only preterminated cabling system for local area networks, the OptiTip MT Connector is used to provide point-to-multipoint connectivity along the distribution trunk cable at the tether attachment point (TAP) to a harness assembly.

The OptiTip MT Connector is also used on each end of Plug & Play AnyLAN Systems direct cable trunks for low-fiber-count, point-to-point connectivity. The OptiTip MT Connector uses alignment pins and a keyed housing to make connection virtually error-free.

Why was the OptiTip MT Connector Developed?

Corning Cable Systems Plug & Play AnyLAN Systems with OptiTip MT Connectors fulfill several important needs of end-users, consultants and contractors including:

- Ease of connection and installation (for changes and additions as well as for initial installation)

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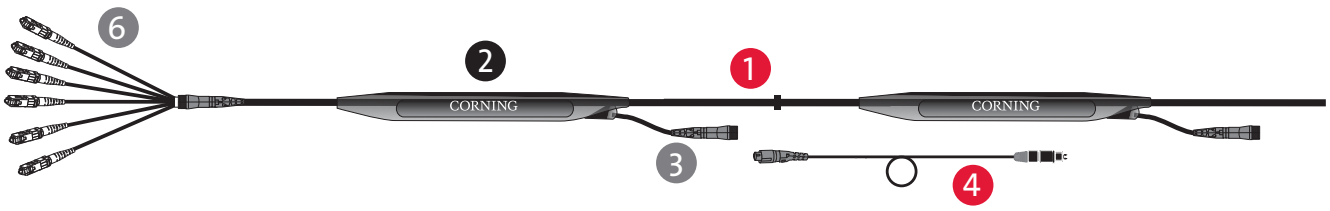

Plug & Play™ AnyLAN™ Systems for Outside Plant Components:

1. Distribution Trunk Cable
2. Tether Attachment Point (TAP)
3. OptiTip™ Tether Assembly
4. OptiTip / MTP® Harness
5. Zeux™ Panel option
6. Distribution Trunk Cable – pretermination
7. Hardware (rack- or wall-mount available)

Plug & Play AnyLAN Systems Distribution System Component Terminology

- A simple way to mate fibers in outside or inside plant without needing closures, hardware or adapter panels
- Eliminate both the components and the installation time required at splice point
- Consistently accurate fiber alignment
- Completely sealed system to protect the fiber connections from the elements and ensure reliability in harsh conditions
- Compact and lightweight components

What Are the Benefits of OptiTip MT Connectors?

OptiTip MT Connectors are a key contributor to the value Plug & Play™ AnyLAN™ Systems offer to fiber network installers and end-users because OptiTip MT Connectors reduce installation time, installer training requirements and component costs. If you can connect a garden hose, you can connect an OptiTip MT Connector, with no training or special equipment required. Imagine 12 fibers connected in a matter of seconds and the value that can offer. The OptiTip MT Connector's compact size also helps with areas where space is limited – the OptiTip MT Connector can fit within a 1.25-in duct or smaller, offering a high-density, rugged solution where space is tight.

Speed of Installation

The OptiTip Connector design allows connections to be made much more rapidly than with traditional field termination methods, such as splicing or field connectors – up to three or four times faster per connection. That's because splicing is basically a hand-crafted operation, performed by specialists who work with system elements individually (e.g., aligning fiber cores),

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using expensive fusion splicers and many components, while OptiTip™ connections involve joining two pre-configured parts with no equipment required.

The potential for errors, including improper seals, misalignment and polarity issues, is eliminated because installers do not need to craft each connection onsite. Also, pinned and unpinned OptiTip connections can only be joined in one way and do not require an adapter to mate together like other connector styles. Moves and changes are easier to perform as well.

Cost-effectiveness

Fast field connection can help reduce costs several ways. The lack of splicing with OptiTip MT Connectors means Plug & Play™ AnyLAN™ Systems can be deployed without skilled, specialized technicians – giving contractors the option of taking on additional telecommunications jobs without adding specialists or investing in additional training. End-users can use their own staff to deploy systems using OptiTip MT Connectors, thereby reducing the number of personnel required compared with conventional system installation and drastically reducing the total time required for the installation.

Reliability

The OptiTip MT Connector's design is intended to minimize both fiber exposure and the risk of signal degradation during installation or later moves or changes. OptiTip MT Connector signal integrity ensures a maximum insertion loss of 0.75 dB (typical insertion loss is approximately 0.35 dB) with a reflectance of -0.65 dB or less for single-mode. The OptiTip MT Connector meets Telcordia communications performance specifications (based on maintaining system integrity for at least 30 years) and has undergone third-party laboratory validation of IP69K and IP68 industrial applications standards for the most comprehensive protection against dust or water ingress.

How Rugged Is the OptiTip MT Connector?

The OptiTip MT Connector has undergone rigorous testing, meeting a variety of telecommunications industry standards for optical fibers to ensure it will provide excellent, long-term durability.

The OptiTip MT Connector has been tested to the Telcordia GR-3152 industry standard, "Generic Requirements for Hardened Multi-Fiber Optical Connectors." This means the OptiTip MT Connector will perform to specifications virtually regardless of the conditions it is subjected to. Tests representative of GR-3152 requirements include:

- Freeze/thaw cycling (ten cycles over 55 days within a ten-foot-square water meter box)
- High pressure immersion
- Crushing (200 lb for 30 seconds)
- Extremes of temperature and humidity (seven days of exposure to temperatures ranging from -40ºC to 75ºC; seven days of exposure to 95 percent humidity)
- Seal placed under load (five pounds for seven days at 23ºC, at 90-degree angle)

The complete range of tests is more comprehensive, including everything from salt spray and particulate exposure to rodent resistance. While most networks will never be exposed to all of these extreme conditions, this testing program subjects the OptiTip MT Connector to virtually any and all challenges it might face.

The National Electrical Manufacturers Association (NEMA) uses IP code ratings (defined by IEC 60529) to describe the level of ingress protection that a connector or enclosure provides against solid or liquid objects. Because the OptiTip Connector meets the requirements for both IP68 and IP69K ratings, it provides the most complete protection available in a multi-fiber connector. The IP68 rating means, among other things, that the OptiTip MT Connector can withstand long periods of high-pressure immersion in liquids. The OptiTip MT Connector is the first marketed multi-fiber connector to earn both IP68 and IP69K ratings. The IP69K rating ensures the OptiTip MT Connector will stand up (without physical seal violation) under high-pressure, high-temperature washdown procedures from as close as 6 inches away.

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Because of the OptiTip™ MT Connector, Corning Cable Systems Plug & Play™ AnyLAN™ Systems can provide end-users, consultants and contractors with considerable flexibility and ease in deploying fiber optic cabling systems. In addition, the OptiTip MT Connector has been shown to provide high durability. In the face of expanding fiber network use, increasingly stringent telecommunications industry standards and growing pressures to reduce installation time and costs, Corning Cable Systems Plug & Play AnyLAN Systems with the proven OptiTip MT Connector technology offer network builders and operators the optimum choice for fiber network installations, expansions or upgrades.

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LAN-1086-EN / January 2009