

THE KEY ADVANTAGES OF PRE-TERMINATED CABLES

Posted on 29-07-2024 by Luís Taveira



Categories: [Fiber Optic](#), [General](#)

Fiber Optic Cables are a crucial element in the transmission of data, voice, and video in communication networks. They are widely used in various applications such as telecommunications, cable TV transmission, high-speed Internet, and data center infrastructure. Pre-connectorization is a technology that has become increasingly common in the fiber optic cable market. This article aims to explore the advantages of this solution.

What are the different types of Fiber Optic Cables?

There are different types of fiber optic cables available in the market, each with specific characteristics and applications. The main types of fiber optic cables are:

Single-Mode Fiber Optic Cables: Used for long distances as they allow greater signal reach. They have a smaller core, allowing the signal to travel longer distances without quality loss.

Multi-Mode Fiber Optic Cables: Used for shorter distances, such as in data centers or local networks. They have a larger core, allowing for higher data transmission capacity over short distances.

In addition, these **cables have different constructions** to meet various application requirements. The two most common cable constructions are:

Tight Buffer Cable: In this type of cable, the fiber's secondary coating can be 900µm, 2mm, or 3mm. The coating is called "tight buffer" because it is in direct contact with the fiber, with no space for movement. Tight buffer cables are commonly used in indoor installations or short distances, as they are more sensitive to damage over long distances or in outdoor environments.

Loose Tube Cable: In this type of cable, the optical fibers are placed inside loose tubes, which are inside the cable's outer jacket. Each tube can hold several optical fibers, offering greater mechanical protection than tight buffer cables. Loose tube cables are more resistant to mechanical damage and are more suitable for outdoor installations or long distances.

What are the different types of Optic Connectors?

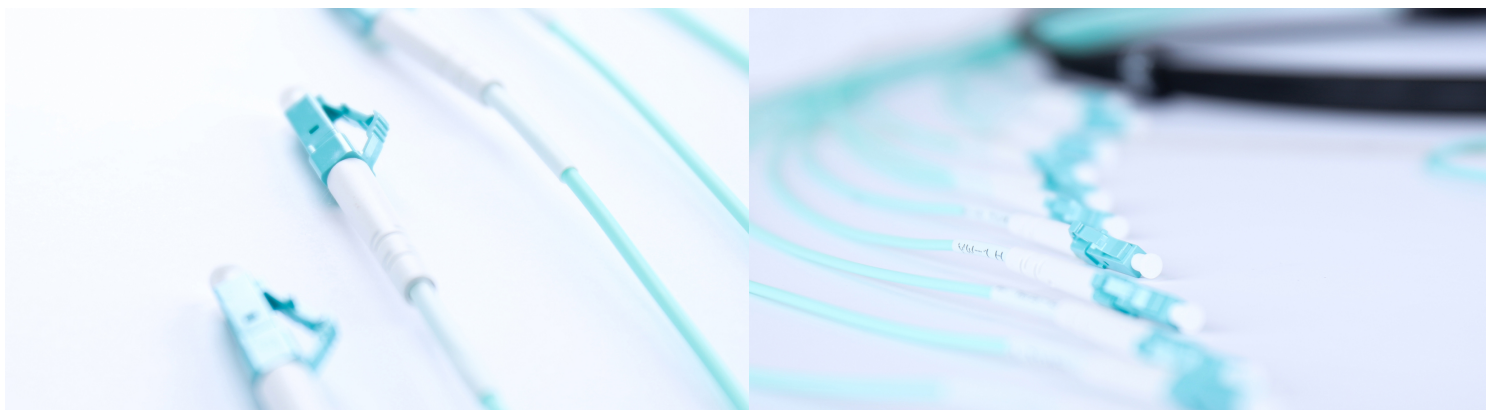
Regarding fiber optic connectors, there are also different types, each with its own advantages and disadvantages. The main types of connectors are:

LC Connector: Small and easy to install, used in single-mode and multi-mode cables.

SC Connector: Medium-sized, used in single-mode and multi-mode cables. It has a "key" that ensures a secure connection.

ST Connector: Medium-sized, mainly used in multi-mode cables, has a thread that ensures a firm connection.

MPO Connector: High-density, used in fiber optic cables with multiple fibers. It allows for quick and easy connection in high-density environments.



What is Pre-connectorization?

Pre-connectorization is a process that involves assembling fiber optic connectors directly at the factory before the cables are shipped to the customer. This technique brings several advantages, including reduced installation time and costs, as well as ensuring greater reliability and connection quality.

The main advantage of pre-connectorization is the **ease of installation**. With pre-connectorized fiber optic cables, the installation process becomes much **faster and simpler**. It is not necessary to assemble the connectors on-site, which requires more time and technical skill. With pre-connectorization, just connect the ready-made cable to the destination device, and the connection is ready for use - a **Plug N' Play solution**.

Another important advantage of pre-connectorization is **cost reduction**. By opting for pre-connectorized fiber optic cables, companies can save time and money on installation, as the process is faster and easier, allowing for a greater number of installations. Additionally, the **connection quality is also guaranteed**, avoiding the need for rework and repairs.

An additional advantage is the **greater reliability of the connection**. As the connectors are assembled in the factory under controlled conditions, the connection quality is ensured. This reduces the likelihood of signal loss or connection failures. Furthermore, pre-connectorization can also help prevent cable damage, as they are handled more carefully during connector assembly.

Pre-connectorized fiber optic cables are an increasingly popular solution in the communication network market. Pre-connectorization brings several advantages, making it more common for companies to opt for pre-connectorized fiber optic cables in their network infrastructures. It is important to know the different types of cables and connectors available on the market to choose the most suitable option for each application. Pre-connectorization can be a beneficial solution in many cases.