

Correct splicing method for armored pigtails

Article Overview

Splicing armored fiber optic pigtails involves carefully stripping, cleaning, cleaving, and fusion-splicing the fiber, then protecting the joint with a heat-shrink sleeve inside a splice tray.

Understanding Armored Pigtails

Armored fiber optic pigtails are enclosed in a stainless steel or strong steel tube within the outer jacket, providing extra protection against physical damage, rodents, and environmental stress . They are commonly used in outdoor, industrial, or high-risk installations. The splicing process is similar to standard pigtails but requires careful handling due to the additional armor layer.

Tools and Materials Needed

- o Fusion splicer: Aligns and fuses the fiber ends using an electric arc .
- o Fiber strippers: Remove the outer jacket and coating without nicking the glass .
- o High-precision cleaver: Cuts the fiber at a perfect 90° angle for low-loss splicing .
- o Lint-free wipes and 99% isopropyl alcohol: For cleaning the bare fiber .
- o Heat-shrink splice protection sleeves: Protect the fused joint .
- o Armored cable cutters or pliers: To carefully remove the steel armor without damaging the fiber .

Step-by-Step Splicing Procedure

- o Slide on the protection sleeve: Place the heat-shrink sleeve onto the fiber before stripping or cleaving. It cannot be added after splicing .
- o Remove the armor and outer jacket: Use specialized cutters to carefully strip the stainless steel or steel tube, exposing the inner fiber without nicking it .
- o Strip the fiber coating: Use a fiber stripper to remove the buffer coating, exposing about 30-40 mm of bare glass .
- o Clean the fiber: Wipe the bare fiber with lint-free wipes soaked in isopropyl alcohol until it is free of dust and oils .
- o Cleave the fiber: Use a high-precision cleaver to cut the fiber at a perfect 90° angle. A poor cleave will result in high splice loss .
- o Load fibers into the fusion splicer: Place both the pigtail and the incoming fiber into the V-grooves of the splicer. The splicer aligns the cores automatically .
- o Fuse the fibers: Start the splicer to create a continuous optical path. The splicer will display estimated splice loss in dB .
- o Protect the splice: Slide the heat-shrink sleeve over the fused joint and bake it in the splicer's oven to secure the connection .

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o Place in a splice tray: For armored pigtails, ensure the joint is secured inside a splice tray or closure to prevent mechanical stress and environmental exposure .

Best Practices

- o Always handle armored fibers carefully to avoid bending or breaking the inner glass.
- o Clean and inspect each fiber end before splicing to minimize signal loss.
- o Use appropriate splice trays designed for armored cables to maintain network reliability.
- o For outdoor installations, ensure the splice closure is weatherproof to protect against moisture and temperature changes . By following these steps, you can achieve a low-loss, durable splice for armored fiber optic pigtails, ensuring reliable network performance in demanding environments.

It's a commonly utilized method to terminate fiber optic cables via fusion or mechanical splicing, providing optimal

Fiber optic pigtails are needed to produce accurate assembly for precise alignment of fiber

Fiber optic pigtails are essential components in fiber optic installations, used to connect fiber

Dive into the world of fiber optic pigtails, their types, applications, and splicing methods. Enhance your network's

APPLICATION Leviton MTP Pigtails are designed to support fusion-splice terminations in the field. The pigtails provide an easy

Like fiber optic patch cords, fiber optic pigtails can be divided into UPC and APC versions. Most commonly used types are SC/APC

There is some loss and attenuation while building an optic fiber system. Correct fiber optic

Let's consider mechanics installing and daisy chaining multiple shield pigtails together but before we begin an real installation,

Butt Splice Installation (Fastest & Easiest Method) Butt splices are one of the most common and efficient ways to

Fiber optic pigtails are mainly for fast fusion splicing applications, while patch cords are for

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Learn the essential steps and tools for preparing fiber optic cables for connectors or

FS offers custom fiber pigtails in any connector & fiber type with tight buffer, armored and bend insensitive

Confused about fiber optic pigtails--which connector type, which polish, fusion or

In this guide, we will break down what fiber optic pigtails are, how they differ from patch cords, what types exist, and

#0003: Basic techniques for connecting wires Connections discussed: Straight solder

The Task . . . Click here for larger image. Let's consider mechanics installing and daisy chaining multiple shield pigtails together but

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