

How to connect fiber optic cables using a cold splice



2. Imported design is convenient for expansion.

The design of two inlets saves space and allows for rear line entry.

AI Overview

Connecting fiber optic cables to a cold splice involves precise preparation, cleaving, alignment, and insertion into a mechanical splice connector to ensure low-loss light transmission.

Tools and Materials Needed

- Fiber stripping tool to remove protective coatings
- Fiber cleaver for precise cutting
- Mechanical splice (cold splice) connector
- Index-matching gel (usually pre-installed in the connector)
- Alcohol swabs for cleaning
- Optical power meter or visual fault locator for testing
- Safety equipment (gloves, eye protection)

Step-by-Step Process

- 1. Prepare the Fiber** Strip the outer jacket and protective coatings carefully to expose the bare fiber without nicking or damaging it. Clean the exposed fiber with alcohol swabs to remove any dust or debris, as contamination can cause signal loss or reflection.
- 2. Cleave the Fiber** Use a calibrated fiber cleaver to cut the fiber ends cleanly and evenly. A precise cleave ensures a smooth surface for optimal light transmission and minimal insertion loss.
- 3. Insert into the Cold Splice Connector** Open the mechanical splice connector and apply the index-matching gel if not pre-installed. Carefully insert the cleaved fiber ends into the connector, ensuring they meet at the splice point. The connector's alignment mechanism will hold the fibers in precise alignment, allowing light to pass through with minimal loss.
- 4. Secure and Close the Connector** Once the fibers are aligned, close the connector according to the manufacturer's instructions. Ensure the fibers are held firmly without bending or stress, which could degrade performance.
- 5. Test the Connection** Use an optical power meter to measure the transmitted light and verify low insertion loss. A visual fault locator can help detect any misalignment or breaks in the fiber path.

Best Practices

- Maintain cleanliness throughout the process; even small dust particles can significantly affect performance.
- Handle fibers carefull...

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Applications FTTH / FTTB / FTTC network distribution Outdoor optical cable terminal and branching points Backbone, campus, or metropolitan area optical connection

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