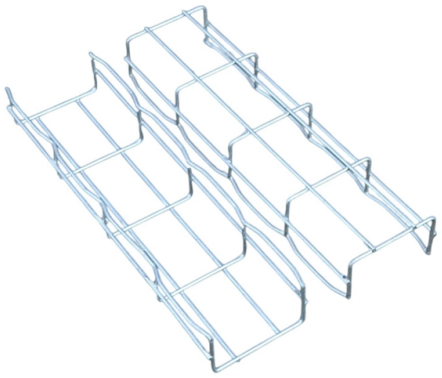
How to connect a dual-core fiber optic cold connector



Overview

Need to extend, repair or join two fibre optic cables? There are three main methods, each with its own advantages and limitations.

Key Takeaways

Use a mechanical splice (cold connector) to join dual-core fiber optic cables by stripping, cleaving, aligning, and securing the fibers without heat or epoxy.

Tools and Materials Needed

Fiber stripping tool to remove the protective coatingFiber cleaver for precise cuttingMechanical splice (cold connector) suitable for dual-core fibersAlcohol wipes or dust-free paper for cleaningOptical power meter or visual fault locator for testingStep-by-Step Procedure1. Prepare the Fiber Ends Strip the protective coating from both fiber cores carefully, exposing the bare glass without nicking or scratching the fibers. Clean the exposed fibers with alcohol wipes to remove any debris or oils, as contamination can increase insertion loss.

2. Cleave the Fibers Use a calibrated fiber cleaver to cut each fiber end cleanly and evenly. A smooth, perpendicular cleave ensures proper alignment and minimal signal loss.

3. Insert Fibers into the Cold Connector Place each fiber into the mechanical splice's V-groove or alignment channel. Ensure that both cores are properly seated and aligned.

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The connector may include a fiber matching gel to improve optical transmission. 4. Secure the Connection Tighten the splice mechanism according to the connector's instructions.

Some connectors use a simple clip or screw to hold the fibers in place, while others may require a small hand tool. 5. Inspect and Test Check the connection visually for proper alignment and cleanliness.

Use an optical power meter to measure light transmission and a visual fault locator to detect any misalignment or breaks. Typical insertion loss for mechanical splices ranges from 0. 2 to 0.

5 dB, slightly higher than fusion splicing.

Best Practices

Always handle fibers with care to avoid injury from glass shards. Keep the connector and fiber ends clean; even small dust particles can degrade performance. Perform testing immediately after installation to confirm a low-loss connection.

For dual-core cables, ensure both cores are connected in the correct orientation to maintain signal integrity. By following these steps, a dual-core fiber optic cable can be reliably connected using a cold connector, providing a quick, cost-effective, and field-friendly solution without the need for fusion splicing or power sources.

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