

How to connect a fiber optic cable to a fusion splice tray



Overview

The procedure is straightforward but unforgiving -- skip a step or get sloppy with prep, and the splice fails.

Key Takeaways

To connect fiber optic cables to a fusion splice tray, you must prepare, splice, protect, and neatly organize the fibers within the tray to ensure low-loss, durable connections. Step 1: Prepare the Fiber Cables

Begin by stripping the outer jacket of the fiber cable using a precision cable splitter, exposing the buffer tube. For tight-buffered fibers, carefully strip the 250µm coating without bending the fiber excessively, maintaining a bending radius greater than 30 mm. Clean the exposed fiber with an IPA-soaked lint-free swab to remove oils and debris, which can weaken the splice .

Step 2: Cleave the Fiber

Use a precision cleaver to create a flat, mirror-like end on each fiber. Proper cleaving is critical, as angled or chipped ends can cause high signal loss or splice failure. Inspect the cleaved ends under a microscope to ensure quality .

Step 3: Fusion Splicing



Place each fiber into the V-groove of the fusion splicer, ensuring clamps are properly aligned. Activate the splicer to create a permanent joint using an electric arc. After splicing, slide a protective splice sleeve over the joint to shield it from mechanical stress and environmental factors .

Step 4: Organize Fibers in the Splice Tray

Open the fusion splice tray and carefully place the spliced fibers into the designated slots or compartments. Maintain gentle loops to avoid sharp bends, and secure the fibers using the tray's clips or holders. This prevents microbending and ensures long-term stability .

Step 5: Final Checks

Close the tray lid and verify that all fibers are properly seated and protected. Label the fibers if necessary for identification. Insert the tray into the fiber enclosure, ensuring that excess fiber length is managed without tension .

Safety and Best Practices

- Wear safety goggles and cut-resistant gloves to protect against glass shards .
- Use anti-static mats or wrist straps to prevent static damage to the splicer electronics .
- Always use manufacturer-recommended consumables, such as splice sleeves, to reduce long-term failure rates . By following these steps, you can achieve low-loss, durable fiber connections that are well-organized and protected within a fusion splice tray, suitable for both data center and field deployments .

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Using the splice closure and an OSP loose tube or armored cable you have for practice, follow the instructions for the closure to

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3.0 INSTALLING SPLICE TRAY AND FIBER 3.1 Install the splice holders, fusion or mechanical to base of FST24 splice tray. 3.2

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