

How to fuse an 8-core optical cable to the panel



Overview

How to fuse spliced fiber optic cables? Industrial fusion splicing of fiber optic cable is performed using a splicing apparatus.

Key Takeaways

Fusing an 8-core optical cable to a panel involves carefully stripping, cleaning, cleaving, aligning, and splicing each fiber, followed by protecting the splices and organizing them in the panel.

Step 1: Prepare the Cable

- Strip the outer jacket of the 8-core cable using a cable stripper, exposing about 50-100 cm of the inner fibers while avoiding damage to the cores .
- Remove the aramid yarn and inner coatings with a fiber optic stripper, leaving 3-5 cm of bare fiber .
- Clean each fiber with a lint-free cloth and alcohol to remove debris and coating residues .

Step 2: Install Protection Sleeves

- Slide a fiber protection sleeve onto each fiber before cleaving. This protects the bare fiber after splicing .
- Ensure the sleeve is threaded before preparing the fiber end face to avoid contamination.

Step 3: Cleave the Fibers

- Use a fiber cleaver to cut each fiber end at a precise 90-degree angle .

- Proper cleaving ensures smooth, flat surfaces for optimal fusion and minimal signal loss.

Step 4: Fusion Splicing

- Place the fibers in the fusion splicer clamps, aligning the cores using the splicer's imaging system .

- The splicer generates an electric arc to melt and fuse the fiber ends together, creating a permanent, low-loss connection .

- Repeat this process for all 8 cores individually, ensuring each splice is properly aligned and fused.

Step 5: Protect the Splices

- Slide the protection sleeve over the fused joint and shrink it using a heat source or splicer's built-in heater .

- This prevents mechanical damage and maintains tensile strength.

Step 6: Terminate in the Panel

- Organize the spliced fibers neatly in the panel, routing them into the designated slots or holders.

- Ensure strain relief is applied to prevent bending or pulling on the fibers.

- Label each fiber according to its core number for easy identification and maintenance.

Step 7: Test the Splices

- Use an optical time-domain reflectometer (OTDR) or power meter to check for insertion loss and continuity .

- Verify that all 8 cores are transmitting signals correctly before closing the panel. By following these steps, you ensure reliable, low-loss connections for your 8-core optical cable, maintaining network performance and durability.

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