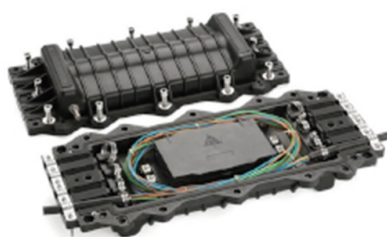


What is the splicing sequence for non-standard optical cables



Overview

This video was associated with the source search result. Verify technical details against current product documentation and project requirements.

Key Takeaways

Splicing non-standard optical cables involves careful preparation, alignment, splicing (fusion or mechanical), and protection, following a sequence adapted to the cable's unique construction.

Step 1: Cable Preparation

Begin by stripping the outer jacket and any protective layers according to the cable design. Non-standard cables may have unusual strength members (metallic or aramid fibers) or multiple buffer layers, so follow the manufacturer's instructions to avoid damaging the fibers. Cut the fibers to the proper length to allow for splicing and storage in a splice tray. Ensure all metallic components are properly grounded if present.

Step 2: Fiber Cleaning and Cleaving

Clean the exposed fiber with high-purity alcohol to remove debris and coating residues. Use a precision fiber cleaver to create a flat, perpendicular end face. For non-standard fibers, verify that the cleaver is compatible with the fiber diameter and coating type to ensure a clean cut.

Step 3: Splice Method Selection

Choose between fusion splicing and mechanical splicing:

- **Fusion Splicing:** Preferred for permanent, low-loss joints. The fiber cores are fused using an electric arc, providing minimal reflectance and high mechanical strength. Adjust the splicer settings for non-standard fiber diameters or coatings .
- **Mechanical Splicing:** Uses an alignment fixture and index-matching gel to hold fibers together. Suitable for temporary repairs or fibers incompatible with fusion splicing. Ensure the splice assembly matches the fiber size and type .

Step 4: Fiber Alignment and Splicing

Align the fibers precisely in the splicer or mechanical fixture. For fusion splicing, the splicer may require custom parameters for non-standard fibers, including arc intensity and fusion time. For mechanical splicing, ensure the fibers are fully seated and the index-matching fluid is applied correctly .

Step 5: Splice Protection

Place the completed splice in a splice tray and secure it. For outside plant or harsh environments, enclose the tray in a splice closure designed for the cable type. Ensure proper strain relief for strength members and maintain fiber bend radius to prevent stress or microbending .

Step 6: Testing

After splicing, test the fiber for continuity, insertion loss, and reflectance. Use an OTDR for long or complex runs to verify each splice. Adjust or redo any splice that exceeds acceptable loss thresholds .

Step 7: Documentation

Record the splice location, type, and test results. For non-standard cables, note any deviations from standard procedures or special splicer settings used. By following this sequence—preparation, cleaning, alignment, splicing, protection, testing, and documentation—you can achieve reliable splices even for non-standard optical cables, ensuring low loss, minimal reflectance, and mechanical integrity .

Article Content

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In this guide, we cover the basics of fiber optic splicing, how to perform splicing using two different methods, and finally some best

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Fiber Splices – mechanical splicing, fusion splicing, insertion loss ...

The two main types are fusion splicing, which permanently melts and fuses the fiber ends together, and mechanical splicing, which

Mechanical splice

There are several designs in use for mechanical splicing, varying based on the method of fiber alignment; four common methods,

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Preparing cables for splice closures involves several steps that should be followed in the exact sequence specified by the

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4.1.2 Procedures indicated in this standard in conjunction with fiber optic cable manufacturer's recommendations for installation and

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