

What should be disconnected during optical cable splicing



Overview

Poor fiber splicing, on the other hand, can lead to performance issues and increased maintenance costs.

Key Takeaways

During optical cable splicing, the protective jacket, armor, buffer tubes, water-blocking gel, and fiber coating must be carefully removed to expose the bare fiber for precise splicing. Key Elements to Disconnect or Remove



1. **Outer Cable Jacket and Armor** The first step in fiber preparation is to remove the outer protective jacket and any armor present. This exposes the internal fiber bundles while preventing damage to the fibers during splicing . 2. **Buffer Tubes** Many optical cables contain buffer tubes that encase individual fibers. These tubes must be carefully stripped to access the fibers themselves without causing microbends or stress . 3. **Water-Blocking Gel** Outside plant cables often contain a gel to prevent water ingress. This gel must be cleaned off using compatible solvents or degreasers, applied with lint-free towelettes, to avoid contamination of the fiber surface . 4. **Fiber Coating** The protective polymer coating around each fiber must be removed in a controlled manner. This can be done mechanically or chemically, ensuring minimal impact on the fiber's intrinsic strength. Proper coating removal is critical to prevent surface flaws that could reduce mechanical reliability or increase splice loss . 5. **Special Devices or Pigtails** If the cable includes optical splitters, add/drop pigtails, or other special devices, these should be pre-processed (welded, heat-shrunked, and coiled) before splicing the main fibers to maintain safety and minimize additional losses .

Best Practices

- Perform splicing in a clean, dust-free environment to prevent contamination .
- Use high-precision fiber end face cutters to ensure flat, burr-free fiber ends with minimal axial inclination, which reduces splice loss .
- Limit the number of passes with stripping tools to avoid introducing surface flaws .
- Maintain proper alignment and cleanliness throughout the process to achieve low-loss, reliable splices . By carefully disconnecting these protective elements and following proper preparation techniques, technicians can ensure high-quality, low-loss optical fiber splices that maintain long-term network reliability.

Article Content

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Different connectors and splice termination procedures are used for singlemode and multimode connectors, so make sure you know

VHO-Splice-fusion

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