How to remove the insulation from fiber optic cables



Overview

Care of Optical Fibers During Splice PreparationSplicing and termination procedures require the removal of a section of the optical fiber's protective coat.

Key Takeaways

Use precision fiber strippers and follow a layer-by-layer approach to safely remove insulation without damaging the glass fiber.

Step-by-

Step Process1. Identify Cable Layers Fiber optic cables often have multiple layers: the outer jacket, aramid yarn (strength fibers), buffer coatings, and the glass fiber itself. Each layer must be stripped individually to avoid damaging the fiber.

2.

Use the Right Tools

Mechanical Fiber Strippers: Handheld tools with precision slots for different coating diameters (125 µm, 250 µm, or 900 µm) allow controlled removal of jackets and buffers.

Thermo-

Mechanical Strippers: Apply heat to soften the coating before pulling it off, reducing the risk of nicks.

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Chemical or Non-

Contact Methods: Solvents, hot air, or laser ablation can be used for specialty fibers or delicate coatings. Cutting Scissors or Ripcords: For outdoor armored cables, use cable-cutting scissors or ripcords to remove armor and jackets safely. 3.

Stripping Procedure

Outer Jacket: Mark the length to strip, cut carefully, and remove using a stripper or ripcord. For armored cables, cut the armor first and pull the ripcord to remove the jacket. Aramid Yarn: Cut or pull away the strength fibers without touching the glass fiber.

Buffer Coating: Use a precision fiber stripper to remove the buffer layer. Avoid nicking the fiber; even a small scratch can lead to cracks under stress. Glass Fiber: Once exposed, handle carefully.

Perform a 45-degree bend test to check for hidden damage before connectorization. 4. Cleaning After stripping, clean the fiber with a lint-free wipe and, if necessary, a gel remover to eliminate adhesives or gel inside the buffer tubes.

5.

Maintenance and Safety

Always use sharp, well-maintained tools; dull blades can stress or break fibers. Wear safety glasses to protect against glass shards. Dispose of stripped coatings and aramid yarn properly to avoid contamination or injury.

6.

Tips for Outdoor Cables

Remove gel or adhesive carefully to prevent fiber contamination. Heat loose tubes gently to straighten them if needed, avoiding excessive bending that can kink the fiber. By following these steps and using the appropriate tools, you can safely remove insulation from fiber optic cables while maintaining the integrity of the glass fiber for splicing or connectorization.

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Article Content

Care of Optical Fibers During Splice Preparation

Splicing and termination procedures require the removal of a section of the optical fiber''s protective coating. It is crucial that the coating removal be accomplished carefully to minimize the impact on the

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A fiber stripper is a precision tool used to remove the protective polymer fiber coatings from an optical fiber. This process exposes the bare glass without scratching or nicking it, which is required for tasks

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The FOA Reference For Fiber Optics

All fiber optic applications are not the same. At the FOA, we''re mainly concerned with communications fiber optics - telco, CATV, LAN, industrial, etc., but fiber optics are also used in medical or

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