

Techniques for Longitudinal Stripping of Optical Cables

Article Overview

Longitudinal stripping of optical cables involves carefully removing the outer jacket or buffer along the cable's length using precision mechanical, thermal, or laser-based tools to avoid fiber damage.

Mechanical Stripping Techniques

Mechanical strippers are the most common tools for longitudinal stripping. They are designed to cut the outer jacket or buffer along the cable's axis without nicking the optical fibers inside. Key steps include:

- o Tool Setup: Adjust the blade depth to match the cable diameter, ensuring the fiber is not damaged. For armored cables, tools like the ACS Armored Cable Slitter can slit both the polyethylene sheath and armor in one pass, following the cable's strength members to avoid spiraling or fiber damage .
- o Cable Placement: Position the cable in the tool opening and secure it with adjustable rollers or thumb knobs to maintain a snug fit .
- o Longitudinal Cut: Pull the tool along the cable length, allowing it to follow any external strength members. For multi-layer cables, strip each layer progressively--outer jacket, aramid yarn, and buffer--ensuring underlying layers remain intact .
- o Blade Maintenance: Keep cutting edges sharp to achieve clean, straight cuts. Dull blades can create jagged edges or micro-nicks that compromise fiber integrity . Specialized buffer tube strippers, such as the 45-162 to 45-165 series, allow adjustable blade depth for different buffer diameters and support both transverse and longitudinal cuts, making them suitable for indoor loose tube and micro coaxial cables .

Thermal and Chemical Methods

Thermal strippers use controlled heat to soften polymer coatings, allowing them to be slid off the fiber. This method is particularly useful for tight-buffered fibers where mechanical stripping may risk nicking the glass. Chemical stripping involves solvents that dissolve the coating but is less common due to handling hazards and longer processing times .

Laser-Based Stripping

Laser stripping is a non-contact method that uses a focused laser beam to create an axially oriented groove along the protective cover. The groove allows the outer jacket to be split and removed without touching the fiber, minimizing the risk of micro-cracks or attenuation issues. This method is especially effective for tight-buffered or harnessed cables where precision is critical .

Best Practices

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- o Progressive Layer Stripping: Always remove layers individually, starting from the outer jacket to the buffer, to prevent damage to inner fibers .
- o Avoid Fiber Contact: Ensure blades or heat sources do not touch the glass fiber directly, as even minor scratches can lead to cracks and signal loss .
- o Consistent Technique: Use automated or semi-automated tools when possible for repeatable, uniform stripping, reducing operator error .
- o Inspection: After stripping, inspect fibers for nicks, scratches, or uneven cuts before splicing or connectorization. By selecting the appropriate tool and following these techniques, longitudinal stripping can be performed efficiently while maintaining the integrity and performance of optical fibers.

Shop our fiber optic cable stripping tools, essential for removing cable jackets, aramid yarn, and buffers to ensure optimal fiber optic

In this informative guide, we'll walk you through the step-by-step process of stripping and preparing fibre optic cable

Fiber cable stripping tools are essential for anyone working with fiber optics. Understanding the different types of tools, their

In several articles, I mentioned optical fibre in the context of substation automation,

The longitudinal beam tube stripping for outdoor fiber optic cable cutover time. Open center beam tube outer diameter have four

Good fiber optic stripping techniques in your cable assembly process are crucial. See best

Stripping is the act of removing the protective polymer coating around optical fiber in preparation for fusion splicing. The splicing

Grandway KMS-K Longitudinal Cable Sheath Cutter includes all the basic tools for fiber optic cable construction and maintenance.

Master prep with our Fiber Optic Longitudinal Slitter guide. Learn expert tips for safe, precise mid-span access and

The Longitudinal Stripping Tool is an efficient and indispensable tool for fiber optic cable termination. It

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Introduction: Stripping and preparing fibre optic cables for termination is a critical step in the installation and

Fiber strippers are precision tools that reliably and cleanly remove a defined length of coating (often 30-40 mm) from a fiber end so

Note the cable diameter and jacket thickness for each cable - Stripping cables and fibers is a delicate process.

Explore Optical Fiber Stripper types and uses. Learn pro techniques for precise stripping to

Trusted since 1958, Jonard's Fiber Stripping Tool is a must-have for all fiber technicians. Shop Jonard's popular collection of fiber

Conventional techniques Optical fibers can be stripped by mechanical, chemical, or thermo-mechanical methods.

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