

Fiber Optic Stripping Techniques



Overview

Explore Optical Fiber Stripper types and uses. Learn pro techniques for precise stripping to ensure reliable network performance with top tools.

Key Takeaways

Fiber optic stripping involves carefully removing protective coatings from optical fibers using mechanical, thermal, chemical, or plasma methods to expose the bare glass without causing damage.

Overview of Fiber Stripping

Fiber optic stripping is a critical step in preparing optical fibers for fusion splicing, connectorization, or termination. The process removes the protective polymer coatings, jackets, and buffer layers to expose the bare glass core and cladding, typically 125 μm in diameter, while avoiding scratches or nicks that could compromise signal integrity or cause fiber failure under stress or thermal cycling.

Common Stripping Techniques

Mechanical Stripping

Uses precision hand tools or automated strippers with laser-drilled or precision-ground holes to remove coatings. Strippers are designed for specific fiber diameters (e.g., 125 μm glass with 250 μm coating) and may include multiple slots for different layers such as the jacket, aramid yarn, and buffer. Proper technique involves progressive stripping: first the outer jacket, then strength members, and finally the buffer coating.

Avoids generic wire strippers or blades, which can create micro-nicks and lead to signal loss.

Thermal Stripping

Uses controlled heat to soften or burn off the coating. Often applied in automated systems or specialized preparation units. Requires careful temperature control to prevent fiber damage.

Chemical Stripping

Involves hot acids, such as sulfuric acid, to dissolve the polymer coating. Typically used in laboratory or industrial settings for precise coating removal.

Plasma or Non-

Contact Methods

Employ plasma or laser ablation to remove coatings without physical contact. Useful for delicate fibers or specialty applications like fiber Bragg gratings.

Best Practices

Use professional-grade strippers to ensure clean, consistent removal of coatings and reduce rework. Clean and maintain tools after each use with isopropyl alcohol and a soft brush to remove residue and prevent blade damage. Progressive stripping is essential for multi-layer cables; each layer must be stripped individually to the correct length.

Avoid using strippers for non-fiber materials, as this can damage precision-ground surfaces. Window stripping may be required for certain applications, removing a short section of coating from the middle of the fiber.

Tools and Equipment

Handheld fiber strippers: Lightweight, portable, and suitable for fieldwork. Automated stripping machines: Provide consistent results for high-volume production.

Specialized scissors or cutters: Used to trim aramid yarn or jackets after stripping.

By following these techniques and using the appropriate tools, technicians can ensure high-quality fiber preparation, minimize signal loss, and extend the lifespan of fiber optic connections.

Article Content

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In this informative guide, we'll walk you through the step-by-step process of stripping and preparing fibre optic cable for termination, covering techniques, tools, and best practices to help you

The Ultimate Optical Fiber Stripper Guide

Explore Optical Fiber Stripper types and uses. Learn pro techniques for precise stripping to ensure reliable network performance with top tools.

Fiber Strippers – tools, mechanical, thermal, chemical, plasma,

Fiber strippers are precision tools that remove a coating from a fiber before connectorization or splicing. There are mechanical, thermal and non-contact strippers.

Laser stripping of optical fibers opens up new applications

Conventional techniques Optical fibers can be stripped by mechanical, chemical, or thermo-mechanical methods. Each method has its own advantages but they also have drawbacks,

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Stripping (fiber)

Fiber optical stripping can be done using a special stripping and preparation unit that uses hot sulfuric acid or a controlled flow of hot air to remove the coating. There are also mechanical tools used for

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