Stripping of large-pair optical cables



Overview

For high-volume manufacturing environments, such as the production of fiber-optic patch cables or medical fiber probes, fully automated stripping systems are used.

Key Takeaways

Large-pair optical cables require specialized mechanical, thermal, or automated stripping tools to safely remove coatings and jackets without damaging the fibers.

Overview

Stripping large optical fibers or fiber bundles involves removing protective coatings, tight buffers, or outer jackets to expose the bare glass for splicing or connectorization. Large-diameter fibers (up to 2,000 µm cladding) or multi-fiber ribbons require tools that can handle high-strength fibers while maintaining fiber integrity and cleanliness. Methods and Tools1.

Mechanical Stripping

Handheld fiber strippers or pliers are used for single fibers or small bundles. Tools like the Jonard CST-4000 allow longitudinal, spiral, or circular cuts for large cables (19–40 mm diameter), with adjustable blades and spring-loaded mechanisms to reduce hand fatigue. Mechanical strippers are suitable for standard coatings (acrylate, silicone, polyimide) and tight buffers (up to 900 µm), but care must be taken to avoid nicking the fiber.

2.

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Thermal Stripping

Thermal strippers use controlled heat to soften or vaporize coatings, allowing precise removal without mechanical stress. Adjustable temperature and timing settings ensure compatibility with different coating materials and fiber diameters. Ideal for high-strength splices where tensile strength must be preserved.

3.

Plasma-

Assisted or Automated StrippingAutomated systems, such as the AutoStrip II, use plasma or burst technology to remove coatings up to 1,000 µm (custom nozzles up to 2,000 µm) cleanly and without contact. These systems provide high repeatability, minimal debris, and controlled fiber strength, with built-in tensile testing up to 20 N. Suitable for mid-span window stripping and high-throughput production environments.

No chemicals are required, reducing contamination and operator handling risks.

Best Practices

Strip only the required length (typically 30–50 mm) to avoid weakening the fiber. Clean the fiber after stripping using lint-free wipes and high-purity alcohol or dedicated fiber cleaners. Inspect the fiber under a microscope for nicks or scratches before splicing or connectorization.

For large cables, use adjustable or automated tools to maintain consistent stripping quality and reduce operator fatigue. Follow manufacturer specifications for splicers or connectors regarding strip length and fiber preparation.

Summary

Stripping large-pair optical cables requires a combination of precision, appropriate tooling, and careful handling. Mechanical, thermal, and plasma-assisted methods each have advantages depending on fiber diameter, coating type, and production requirements. Automated systems are particularly effective for high-diameter fibers and high-throughput applications, ensuring clean, strong, and repeatable results while minimizing fiber damage.

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Article Content

Fiber Strippers – tools, mechanical, thermal, chemical,

For high-volume manufacturing environments, such as the production of fiber-optic patch cables or medical fiber probes, fully automated stripping systems are used.

The Ultimate Optical Fiber Stripper Guide

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Method for laser stripping of optical fiber and flat cable

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This method allows stripping of the protective layers from single fibers and from multi-fiber ribbon cables. It also allows stripping of the protective layers at an end section of the cable or in a middle section

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The “golden rule” in stripping

About the Author FOC Tips Fiber Optic Center has a team of technical experts and marketing strategists with decades of years in the field. This team contributes to the fiber, cable and

The FOA Reference For Fiber Optics

Prepare the cables to be spliced Strip jacket, removing an adequate amount of jacket, usually 2-3 m, for splicing and dressing the buffer tubes and fibers in the splice closure. Leave the proper amount of

Ways of Cutting, Coiling, and Stripping Multiconductor

These cables consist of multiple insulated conductors within a protective jacket, often made from rubber or another durable, flexible material.

The Ultimate Optical Fiber Stripper Guide

Adjustable and Specialized Optical Fiber Stripper Models While most applications use standard fiber sizes, some projects may involve non-standard or

How To Strip (Wires and Cables)

Automatic Strippers Sometimes you''ll find yourself faced with having to strip many wires for a big wiring job or preparing multi-conductor cable for a

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