Introduction to Optical Cable Stripping Tools



Overview

A fiber stripper is a precision tool used to remove the protective polymer fiber coatings from an optical fiber.

Key Takeaways

Fiber optic cable strippers are precision tools designed to safely and efficiently remove coatings, buffers, and jackets from optical fibers for splicing, connectorization, or other processing.

Types of Fiber Optic Stripping Tools

Mechanical Strippers: These handheld tools use precision-cut jaws to remove coatings from fibers without damaging the glass. They are fast, inexpensive, and suitable for standard telecommunication fibers with 125 µm cladding and 250 µm coatings. Mechanical strippers are also available for tight buffers (900 µm) and larger cable jackets, but require correct sizing and careful handling to avoid nicking the fiber.

Thermal Strippers: Thermal tools soften the fiber coating with heat before removal, reducing the force needed and minimizing the risk of fiber damage. They are ideal for multi-fiber ribbons or tough coatings like silicone or polyimide. Typical operating temperatures range from 80–120 °C for acrylate coatings, 120–150 °C for tight buffers, and up to 250–350 °C for polyimide coatings.

Battery-powered thermal strippers are available for field use, while bench units offer adjustable temperature, pull speed, and strip length.

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Specialty and Multi-

Layer Strippers: Some tools are designed to remove multiple layers of fiber protection, including aramid yarn, tight buffers, and outer jackets. Tools like the Jonard CST-4000 allow longitudinal, spiral, and circular cuts for large cables, while kits like Thorlabs' TSK1 provide interchangeable blades and fiber guides for precise stripping of different fiber diameters.

Key Features to Consider

Precision: High-accuracy cavities or blades ensure the coating is removed without nicking the glass fiber. Versatility: Tools may handle multiple fiber diameters, coatings, or cable types, including multimode, single-mode, and plastic optical fibers. Ergonomics: Spring-loaded or coil-spring designs reduce hand fatigue during repetitive stripping tasks.

Safety: Use of PPE, such as safety glasses, and proper disposal of stripped coatings is essential to prevent injury.

Practical Tips

Match the stripper to the fiber type and coating material. For fieldwork, battery-powered thermal strippers or compact mechanical kits are convenient. For lab or high-volume applications, programmable bench strippers or ribbon thermal strippers improve consistency and efficiency.

Always follow manufacturer guidelines for temperature, strip length, and blade maintenance to ensure clean, damage-free fiber preparation. By selecting the appropriate tool and following proper handling procedures, technicians can achieve reliable, precise, and safe fiber optic cable preparation for splicing, connectorization, or other optical applications.

Article Content

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Fiber Cable Stripping Tools: A Comprehensive Guide The delicate nature of fiber optic cables requires specialized tools for proper handling, especially when it comes to stripping away the protective layers

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