Method for splicing armored fiber optic patch cords



Overview

Method for splicing armored fiber optic patch cordsIn this guide, we cover the basics of fiber optic splicing, how to perform splicing using two different.

Key Takeaways

Splicing armored fiber optic patch cords requires careful handling of the steel armor, Kevlar strength members, and fiber core to ensure reliable connectivity and protection in harsh environments.

Understanding Armored Patch Cords

Armored fiber optic patch cords are designed for high durability and protection in industrial, outdoor, or high-traffic areas. They typically feature: Interlocked stainless steel or steel tape armor for crush and rodent resistanceAramid yarn (Kevlar) for tensile strengthOuter jacket for environmental protectionAvailable in single-mode (OS1/OS2) and multimode (OM1–OM5) fibers The armor and strength members make these cords more resistant to bending, twisting, and physical damage, but they also require special care during splicing. Splicing ConsiderationsPreparationUse a fiber optic stripper to carefully remove the outer jacket and armor without damaging the fiber.

Cut the steel armor using specialized cutters or shears designed for armored cables. Remove the Kevlar yarn carefully; it can be used to reinforce the splice if needed.

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Fiber Cleaving

Strip the fiber coating to expose the bare glass. Clean the fiber with isopropyl alcohol to remove debris. Use a precision cleaver to create a flat, smooth fiber end for splicing.

Splicing Methods

Fusion Splicing: Preferred for armored cords due to low insertion loss and high reliability. Align fibers in a fusion splicer and apply heat to fuse the glass ends. Mechanical Splicing: Can be used for temporary or field repairs, but may have slightly higher loss and less durability.

Protection of the SpliceUse a splice protector sleeve to shield the fused fiber. Reapply armor or protective tubing around the splice if possible, or use an armored splice tray for additional protection. Ensure the splice area is strain-relieved to prevent stress on the fiber.

Testing

After splicing, test the fiber with an OTDR (Optical Time-Domain Reflectometer) or power meter to verify low loss and proper connectivity.

Best Practices

Always handle fibers with care; even small scratches can cause signal loss. Maintain a minimum bend radius to prevent microbending in armored fibers. For outdoor or industrial installations, ensure the splice is sealed against moisture and contaminants.

Keep spare armored patch cords for quick replacement in critical applications like FTTx or industrial networks. By following these steps, armored fiber optic patch cords can be spliced effectively while maintaining their durability, crush resistance, and signal integrity in harsh environments.

Article Content

Method for splicing armored fiber optic patch cords

In this guide, we cover the basics of fiber optic splicing, how to perform splicing using two different methods, and finally some best practices to perform good fiber splicing.

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Fusion splicing is most widely used as it provides for the lowest loss and least reflectance, as well as providing the most reliable joint. Virtually all singlemode

Splicing of fiber patch cord

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