

What are the methods for splicing steel-armored optical cables



AI Overview

Splicing steel wire armored (SWA) fiber optic cables requires careful preparation, specialized tools, and protective measures to maintain both mechanical integrity and optical performance.

Understanding Armored Fiber Optic Cables

Steel wire armored (SWA) fiber optic cables consist of fiber cores encased in loose tubes, surrounded by strength members (like Kevlar), and protected by a metallic steel wire armor with an outer jacket. This construction provides mechanical protection, rodent resistance, and durability for harsh environments, including underground or outdoor installations.

Tools and Materials Needed

- Fiber strippers for removing acrylate or polyimide coatings
- Heat shrink tubing and stainless steel (SS) tubes for sealing the splice
- Abrasive cutoff wheel or scissors for cutting armor and strength members
- Clamps or vises to secure the cable during preparation
- Optional: In-line splice kits like TE's Raychem HVSA-3 for 3/C armored cables, which rebuild all layers of the cable including the armor.

Splicing Procedure Overview

Prepare the Cable Ends:

Cut the cable to the desired length and slide heat shrink tubing and SS tube over the cable before exposing fibers.

Strip the Armor and Jacket:

Carefully remove the steel wire armor and outer jacket to expose the inner fibers and strength members. Cut Kevlar and wires close to the jacket using scissors or an abrasive wheel.

Prepare the Fiber:

Strip the fiber coating (polyimide or acrylate) using a fiber stripper, then clean with alcohol and lint-free wipes.

Splice the Fibers:

Use fusion splicing or mechanical splicing techniques to join the optical fibers, ensuring minimal signal loss.

Rebuild the Armor and Seal:

Slide the SS tube over the splice and apply heat shrink tubing to restore mechanical protection. For multi-core armored cables, in-line splice kits can rebuild the armor layer and provide a sealed, durable joint.

Test the Splice:

Verify o...

Article Content

Splice Steel Cable (5 Heavy-Duty Techniques)

Master the art of splicing with our guide on 5 heavy-duty techniques for steel cables. Enhance safety and efficiency—click to learn more!

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100M/328FT Outdoor Armored LC to LC Fiber Optic Cable, 4 Core

About This 1 dustrial-Grade Durability: Engineered with a rugged 5.0mm industrial TPU jacket and dual-layer armor (steel tube + stainless mesh), this LC to LC fiber optic cable resists water, UV,

FLX Series Fiber Optic Connectors - Rugged,

FLX Series fiber connectors are rugged, waterproof, and offer quick, tool-free termination. Ideal for FTTH, data center, military, and industrial networks.

How to Install Fiber Optic Cable: Step-by-Step Guide

Learn how to install fiber optic cable with Network Drops'' easy step-by-step guide. Follow the process for quick and effective results.

Underground Fiber Optic Cable Installation:

Explore the process and benefits of underground fiber optic cable installation. Learn how this infrastructure investment can elevate your internet

Cable landing station | PDF

The document provides information about cable landing stations and the process of laying and repairing submarine optical cables. It discusses: 1) What a cable

SPECIFICATION STANDARD OPTICAL FIBER BACKBONE

Installation, splicing, termination, testing, labeling and documentation of new inter building fiber optic communication cable between buildings as specified and on the drawings.

Cost of Fiber Optic Cable Per Foot - 2026 US

What is the real cost of fiber optic cable per foot in 2026? After analyzing 40+ U.S. fiber projects, we've assembled current material rates, labor burdens, and hidden

How to Choose the Best 48 Core Fiber Optic Cable for

Choosing the right 48 core fiber optic cable involves balancing performance requirements, environmental conditions, and long-term scalability.

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LIVORA 75M/246FT Outdoor Armored LC to LC Fiber Optic Cable, 4

About This 1 dustrial-Grade Durability: Engineered with a rugged 5.0mm industrial TPU jacket and dual-layer armor (steel tube + stainless mesh), this LC to LC fiber optic cable resists water, UV,

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492_Active_Design Template_Cable Preparation Guide

The purpose of this document is to provide guidelines for accessing the fibers of STL armored IBR optical fiber cables, made with a corrugated armor tape, and two steel wires embedded in the HDPE

Can you splice an armoured cable?

When it comes to splicing armoured cables, there are several methods and technologies available. Each has its own advantages and is suited to different scenarios.

Understanding and Selecting Optical Fibre and Cable

In this document, the relationship between the cable features, followed standards, test parameters, and acceptance criteria are explained with examples for a better understanding of an optical fibre cable

Outdoor Fiber Optic Cable Types Compared: ADSS,

Outdoor Fiber Optic Cable Types Compared - Choosing the right fiber optic cable for an outdoor run isn't like picking an indoor patch cord.

Power Cable Splicing and Terminating Guide

Turn the pages to discover cable splicing and termination techniques that can help reduce the risk of errors that could cause premature electrical failures – and help make you look like a hero.

DRAFT Preparation Guide_OFC_RapidTube Armored Cable v1

Load the cable into the hardware and route the ribbons to the appropriate trays for splicing. Refer to the hardware instructions on how to secure the buffer tubes in the splice trays.

RocketRibbon® Cables | Ribbon Cable | Corning

Additionally, our optimized pairing solutions for the Fiber Optic Splice Closure 2178 family is ideal for our RocketRibbon cables, providing excellent system flexibility

Top 5 Fiber Optic Cable Manufacturers in the United States (

Picking a fiber optic cable manufacturer isn't just a "who's big" exercise. Your choice affects optical performance (attenuation, bandwidth), build-out speed (lead time), and long-term

How to Splice a Steel Cable?

Splicing a steel cable involves weaving its strands together to create a strong and reliable join; this process, outlined below, demonstrates how to splice a steel cable effectively, resulting in a

Outdoor Fiber Installation Practices Explained for 2025

Outdoor fiber optic cable installation uses burial, aerial, or direct burial methods. You need specialized equipment and planning to protect cables from

How to choose fiber optic pigtails?

Applications Fiber optic pigtails are used to terminated fiber optic cables via fusion splicing or mechanical splicing as shown in the picture below. The end of the

Methods for splicing steel-armored optical cables

These standards, published by the International Electrotechnical Commission (IEC), cover specifications and testing methods for optical fibers and cables, including splicing requirements.

Can you splice into an armoured cable?

However, situations may arise where splicing into an armoured cable becomes necessary. This article explores the intricacies of armoured cable splicing, its feasibility, and best practices to ensure safe

How to Install an Armored Cable Splice step-by-Step ...

In this tutorial, we'll show you step-by-step how to correctly install an armored cable splice, ensuring safety, continuity, and compliance with international standards. ☑☑♂
You'll ...

Contact Us

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