Fiber Optic Cable Strapping Method



Overview

This method of aerial cable installation, “overlashing,” is attractive because the expense of providing a separate suspension strand for the fiber optic cable is avoided.

Key Takeaways

Proper strapping of fiber optic cables ensures mechanical protection, signal integrity, and long-term reliability in both aerial and indoor installations.

Aerial Cable Strapping

For aerial installations, fiber optic cables are often supported by messenger strands or existing cables. Strapping, or lashing, involves securing the fiber cable to these supports using specialized tools and techniques: Dedicated Messenger Lashing: A fiber optic cable is attached to a strand installed solely for its support. The cable is lashed along the strand using a lashing wire or strap, starting from the far end and moving toward the reel location to maintain tension and alignment.

Overlashing: The fiber cable is lashed over an existing cable, such as a copper or fiber line, using a similar lashing process. This method is useful when adding new fiber to an existing aerial network. Tension and Bend Control: Excessive pulling tension, sharp bends, or crushing forces must be avoided to prevent signal degradation.

Maintain the manufacturer's recommended minimum bend radius and avoid twisting the cable during lashing.

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Ground and Indoor Cable Strapping

For indoor or duct installations, proper strapping techniques focus on mechanical protection and organization: Cable Ties and Velcro Straps: Use non-metallic, smooth-edged ties to secure cables to racks, trays, or raceways. Avoid over-tightening, which can crush the cable and damage fibers. Slack Management: Loops of fiber should be formed in figure-8 patterns to prevent twisting and maintain bend radius.

Typical loop sizes range from 2 to 4 meters depending on cable stiffness. Trays and Raceways: Fiber cables should be routed in trays or raceways to protect against mechanical stress, maintain separation from electrical cables, and simplify maintenance.

General Best Practices

Protective Material: Keep protective sheaths in place until installation to prevent damage from sharp edges or environmental exposure. Temperature Considerations: Respect the cable's maximum installation and storage temperatures, especially for LSZH sheathed cables, which are more sensitive to cracking. Labeling and Documentation: Clearly label cables and maintain accurate documentation to facilitate troubleshooting and future upgrades.

Safety: Always wear protective gear, including gloves and eye protection, and follow occupational safety regulations during installation. By following these strapping techniques, fiber optic cables can be installed securely, minimizing mechanical stress and maintaining optimal signal performance over the network's lifetime.

Article Content

Lashed Aerial Installation of Fiber Optic Cable

This method of aerial cable installation, “overlashing,” is attractive because the expense of providing a separate suspension strand for the fiber optic cable is avoided.

FlexNAP System Cable Assembly Placing Lashed Aerial

This procedure outlines the use of both dedicated messengers (a strand installed solely for the fiber optic cable), and “overlashing” installations in which a fiber optic cable is lashed to a copper or fiber

Install 06 Issue 3 Aerial Cable Installation Practices

Using this method, the fiber optic cable is pulled into place beneath the strand using cable blocks. Lashing the cable to the strand then begins at the far end of the cable route with the lasher being

Aerial Cable Installation

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The FOA Reference For Fiber Optics -Outside Plant Construction

Deploying fiber above ground on poles or towers removes the need for underground digging and is particularly useful when the ground is uneven, rocky or both. Aerial installation is generally much less

Fibre Optic Cable Splicing Method

The document provides steps for pulling and splicing fiber optic cable. It outlines precautions to take when uncoiling and laying the cable to avoid kinks. It also details installing pulleys to prevent excess

Optical Fiber Cable Optical Fiber Cable In

All Fiber Optic Cable reels should be stored upright Laying the reel on its side may cause damage to the reel flange and/or cause the cable layers to shift – This may cause cable to snag during de-reeling.

Aerial Lashing Instructions

There are two basic types of aerial lashing; moving reel method and stationary reel method.

Lashed Aerial Installation of Fiber Optic Cable

6.8. Cable pullers are devices which ride either directly on a bare strand or over existing lashed cables. Available in single and multiple cable configurations, cable pullers link the pull-line to the pulling grip

Aerial Cable Placing Procedure

Self-supporting, fiber optic cables should be installed using the moving reel method whenever possible. It should be placed using cable blocks on the poles where it will remain during the remainder of the

How to Test Fiber Optic Cable | Equal Optics

Do you know how to test fiber optic cable? Learn about fiber optic testing methods, tools, and best practices with this comprehensive guide from

Fiber Optic Cable – Method of Joining and Fusion Splicing

Learn about the fiber optic cable operating principle, types, connectors, method of joining and fusion splicing.

Basics of Fiber Optics

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Fiber optic links require a method to connect the transmitter to the fiber optic cable and the fiber optic cable to the receiver. In general, there are two methods to link optical fibers together.

Underground Fiber Optic Cable: The Complete Guide (2026)

Choosing an underground fiber optic cable can be confusing. This guide covers cable structures, burial methods, applications, and key selection factors to help you make the right decision.

What is Duct Fiber Optic Cables, Application and

This post provides a detailed introduction to duct fiber optic cables, their features, application scenarios, installation methods, and several popular

What is Fiber Optic Cable Splicing?

Fiber Optic Cable is a form of modern network cable that has a far greater capacity than electrical communication connections. optical fibers are made comprised of exceedingly tiny strands

Fiber Optic Cable Testing 101: Tools, Techniques, and Industry

Fiber Optic Cable Testing Ensures network reliability by using tools like visible light sources, power meters, and OTDRs to measure signal loss, identify faults, and maintain system

A Step-by-Step Guide to Fiber Optic Cable Installation

This beginner-friendly guide will walk you through the step-by-step process of fiber optic cable installation for each method, highlighting best

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