# How to install the aluminum sheath inside the optical cable



## Overview

How to Prepare Copper MC Cable (Cutting, Terminating & Support)Installing MC cable involves several crucial steps, including cutting, removing the aluminum.

## Key Takeaways

The aluminum sheath is applied longitudinally over the cable core, shaped around it, and welded or bonded to provide mechanical protection and moisture resistance.

### Understanding the Aluminum Sheath

In optical cables, the aluminum sheath (often a PAP – plastic-coated aluminum tape) serves as a semi-hermetic protective layer around the cable core, preventing moisture ingress and providing mechanical strength. For high-performance applications, a smooth welded aluminum sheath is used, which combines the benefits of lead and corrugated aluminum sheaths while minimizing weight and diameter. This sheath is typically longitudinally applied and welded over the cable core, with an outer polyethylene layer bonded to it for additional protection.

### Installation Steps

Prepare the Cable Core Ensure the optical fibers are clean, dry, and free from mechanical stress. Any filling compounds or protective layers should be evenly distributed to avoid gaps under the sheath.

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## Apply the Aluminum Tape

Use a longitudinal application method, wrapping the aluminum tape around the cable core. Maintain consistent tension to avoid wrinkles or gaps. For smooth welded sheaths, the tape is shaped around the core and welded along the seam to form a continuous protective layer.

## Welding or Bonding

The seam of the aluminum tape is welded using a controlled process, often integrated with the extrusion of the outer polyethylene sheath in a tandem production line. Continuous inspection (e.g., video monitoring) ensures the weld is uniform and watertight.

## Extrude the Outer Sheath

After welding, a polyethylene outer sheath is extruded and bonded to the aluminum layer. This creates a solid, impervious water barrier and enhances resistance to fatigue strain.

## Quality Checks

Verify the sheath is continuous, smooth, and free of gaps or wrinkles. Conduct water-tightness and corrosion resistance tests if required. Ensure the cable maintains its minimum bend radius and mechanical integrity during handling.

## Tools and Precautions

Use specialized cable handling equipment to avoid bending or twisting the core. Maintain a clean environment to prevent contamination of fibers. Avoid sharp edges or excessive mechanical pressure during sheath application.

Follow manufacturer-specific guidelines for welding parameters and tape tension. By following these steps, the aluminum sheath will provide mechanical protection, moisture resistance, and long-term durability for the optical cable, ensuring reliable performance in ducts, overhead, or direct burial installations.

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## Article Content

How to Prepare Copper MC Cable (Cutting, Terminating & Support)

Installing MC cable involves several crucial steps, including cutting, removing the aluminum sheath, terminating the conductors, and properly securing the cable in place.

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1.1 This procedure describes installation and handling practices for Corning Cable Systems armored standard single tube (SST) fiber optic cables containing either ribbon, loose fibers, or bundled fibers.

Installation Guide for Fiber Optic Splice Closure

By following these detailed steps, the installation of your Fiber Splice Closure will be secure, organized, and maintained, ensuring high performance and longevity of your fiber optic network.

Armored Fiber Optic Cable: A Basic Understanding

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In this comprehensive guide, we''ll walk through the best practices for installing various types of fiber optic cable, from patch cords to distribution fiber,

The FOA Reference For Fiber Optics

Assuming the design is completed, we''re looking at the process of physically installing and completing the network, turning the design into an operating system. This chapter covers preparing for the

POWER CABLE INSTALLATION GUIDE

Because the tension entering the cable tray is rarely zero, it is critical that the tension required to remove the cable from the reel be used to calculate the total tension for the installation.

Application Note

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Carefully insert the bottom plate of the bonding clamp per manufacturer''s instructions between the armor and inner cable jacket. Use the mallet to gently insert the bottom plate under the armor. Make sure

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Learn the key differences between indoor and outdoor fiber optic cables, including structures, applications (FTTH, Backbone, Data Centers), standards, and how to choose the right

Fiber and Cable Stripper – Types, Uses & Guide

First, strip the outer sheath of the optical fiber with optical fiber strippers; remove the stripped outer sheath of the optical fiber; and finally, cut the

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