

# What are the standards for relocating overhead optical cables

## Article Overview

Relocating overhead optical cables requires adherence to industry standards for tension, sag, environmental durability, and safety to ensure reliable performance and regulatory compliance.

## Key Standards and Guidelines

**Cable Types and Support:** Overhead optical cables are typically either self-supporting (ADSS) or messenger-supported, and the relocation process must account for the cable type and its support system. Self-supporting cables carry their own weight, while messenger-supported cables rely on a steel messenger wire for tensile support . **Tensile Strength and Tensioning:** Cables must withstand environmental stresses such as wind, ice, and temperature fluctuations. Tensile strength standards range from 1,500N for short spans to 12,000N for long-distance ADSS cables. Messenger wires should be tensioned at 15-20% of their breaking strength to allow for thermal expansion . **Sag Control:** Proper sag is critical to prevent mechanical stress. Sag should be maintained at 1-2% of the span length (e.g., a 50m span should have 0.5-1m sag). Pulling tension during relocation should not exceed 0.5% of the cable's breaking strength to avoid damage . **Pole Spacing and Height:** Urban installations typically use 25-40m spacing with concrete poles of 10-12m height, while suburban or rural areas use 40-50m spacing with wooden poles of 12-15m height. Extreme environments may require reinforced poles with spacing up to 67m . **Environmental and Mechanical Considerations:** Cables must tolerate temperature ranges from -40°C to +80°C, ice loading up to 50mm, and wind speeds up to 320 km/h. During relocation, avoid sharp bends, edges, and excessive mechanical pressure. Use protective materials if the cable remains exposed for more than 24 hours . **Anchoring and Stability:** Dead-end poles should be anchored with guy wires at a 45° angle for stability. Ensure proper grounding and bonding according to construction standards . **Bend Radius and Handling:** Maintain a minimum bend radius of 20 times the cable diameter to prevent microbending loss. Use figure-8 loops when handling cable to prevent twisting and mechanical stress . **Regulatory Compliance:** Follow FOA installation standards and ITU-T L.163 recommendations for route planning, cable selection, tension, temperature considerations, and handling procedures. These standards ensure safety, reliability, and long-term performance . **Inspection and Testing:** After relocation, perform pilot tests and inspections to verify tension, sag, and signal integrity. Training for personnel handling the relocation is recommended to minimize risks . By following these standards, overhead optical cables can be safely relocated while maintaining structural integrity, signal performance, and compliance with industry regulations.

The objective of this document is to be an optical fibre cable installation and laying guide, addressed to new installers, also being



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Overhead optical fiber cables with a non-current-carrying metallic member must adhere to specific regulations when entering

This document outlines the scope, materials, equipment, personnel, procedures, safety requirements, and environmental

Fiber optic cable sequential numbers are required at each pole location and vault wall. Sequential numbers will identify conduit

Clearance standards dictate a minimum separation of 300 mm between optical fiber and overhead service conductors, with

This document provides standards and guidelines for optical fiber cable infrastructure design, deployment, and construction. It

In the realm of optical fiber deployment, overhead installation remains a critical method for rapid and cost-effective

Polyethylene (PE) is the material of choice for use as an aerial OSP cable jacket. The performance of raw PE can degrade rapidly

You can run composite cable that includes optical fibers and power circuits, if the functions of the optical fibers and the

Fiber-optic communication cables installed on high voltage transmission line structures are subject to high electric

Optical ground wire An optical ground wire (also known as an OPGW or, in the IEEE standard, an optical fiber composite overhead

The cable-in-conduit cable shall be a fiber optic cable with a one-inch diameter polyethylene conduit extruded around it. The cable

Aerial Cable Installation Aerial Cable Installation Deploying fiber above ground on poles or towers removes the need for underground

Overhead and buried laying are the most common laying methods for fiber optic cable installation. What are their

This standard describes procedures for installing and testing cabling networks that use fiber optic cables and

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related components to

This document provides procedures for installing OPGW fiber optic cables on transmission lines between 35kV and 400kV. It outlines

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