Methods for laying overhead optical cables using pulleys



Overview

At present, optical cables are wound on a pay-off reel for storage and transportation, and when the optical cables are laid, constructors need to manually take the optical cables off...

Key Takeaways

Overhead optical cables can be efficiently installed using pulleys through moving or stationary reel methods, with careful attention to tension, pulley placement, and safety. Key Methods1.

Moving Reel Method

This method is used when a cable reel trailer or aerial lift truck can move along the pole line without obstructions. The cable is unwound directly from the moving reel, passing through pulleys mounted on poles to guide the cable along the route. This is a one-pass operation, eliminating the need for temporary pull lines and saving time for the entire deployment.

2.

Stationary Reel Method

When the route is not fully accessible, a stationary reel is placed at one end of the section. The cable is pulled through pulleys mounted on poles using temporary hardware. Once the cable reaches its destination, it is transferred to permanent support hardware.

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This method is suitable for areas with obstacles or limited vehicle access.

Pulley Placement and Use

Pulleys are installed on poles at strategic points to guide the cable and reduce friction. The inside diameter of the pulley should match the cable size to prevent damage. Pulleys may be grounded when working near electrical lines to ensure safety.

For long spans, multiple pulleys are used to maintain proper tension and prevent sagging.

Equipment and Tools

Optical cable laying tools for lifting and handling the cable from the pay-off reel. Thimble clevises and hooks to secure pulleys and accessories while allowing free movement. Pull-off torsion releasers to prevent rope knotting during traction.

Unmanned aerial vehicles (UAVs) can assist in pulling the cable over obstacles like trees, improving efficiency and reducing environmental impact.

Safety Considerations

Workers must use personal protective equipment including safety harnesses, helmets, gloves, and steel-toed boots. Maintain three-point contact when climbing poles or ladders. Ensure proper tension during pulling to avoid cable damage or excessive sag.

Survey the route and obtain necessary permits before installation.

Installation Requirements

Pole spacing typically ranges from 25–40 meters in urban areas and 40–50 meters in suburban areas. Use galvanized steel strands as suspension wires for mechanical support. Consider cable sag and elongation under maximum load to maintain proper tension and performance.

By following these methods, overhead optical cables can be installed efficiently, safely, and with minimal environmental impact, whether using moving or stationary reel techniques with pulleys.

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Article Content

Overhead optical cable laying method

At present, optical cables are wound on a pay-off reel for storage and transportation, and when the optical cables are laid, constructors need to manually take the optical cables off...

OFC Cable Installation SOP Guide | PDF | Manufactured Goods

Key steps are barricading the workspace, attaching cable guide pulleys and pole bands to route the cable, installing suspension clamps and earthing materials, and branching or splicing the cable as

OFC Puling | PDF

This document discusses techniques for installing optical fiber cables through pulling or blowing. It covers topics like route planning, cable handling, tools required, cable storage, installation methods,

Overhead Line Stringing Equipment Guide | PDF | Cable | Electrical ...

This document provides information on equipment and machines for stringing overhead lines, including: - Overhead cable pulleys for pulling insulated cables made of materials like polyamide and aluminum.

OPGW Installation Manual

The bending radius of optical cable during laying process should be effectively guaranteed to avoid “gold hooks” and avoid too much tension, abrasion and too many times of twists and turns.

OPGW Cable Installation

This Reference Manual spotlights the OPGW installation instructions required in the field. ZION offers detailed installation instructions on the proper techniques for installing OPGW cables.

The Latest Methods of Aerial Fiber Cable Construction

Many people are confused about the hanging of aerial optical cables. In fact, there are two methods for aerial optical cables laying: one is "fixed-pulley traction method", including "manual traction method"

Method and device for mounting an optical cable on an overhead line

The invention relates to a method for fitting an optical cable to a cable of an overhead line having a sequence of line pylons, a lashing apparatus being provided which runs along the...

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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

OPGW Optical Ground Wire

OPGW has dual functions of aerial ground wire and fiber communication. It is composed of AS wire, AA wire and stainless steel tube optical unit. The installation rules of OPGW are basically the same as

Duct Installation of Fiber Optic Cable

Under this condition, the fiber cable needs to be stored in coil form at each manhole/handhole available at every 200 to 300 meters. Hence, fiber optic cable installation into a

Duct Installation of Fiber Optic Cable

Fiber optic cable is usually (but not always) installed in an innerduct that provides mechanical protection for the fiber optic cable. Generally, the duct is available in plastic, concrete,

OPGW Fiber Optic Cable Installation Guide

This document provides installation procedures for OPGW fiber optic cables. It describes preparing the site by surveying the line and positioning equipment like reels, tensioners, and pullers.

How To Set Up Overhead Fiber Optic Cable? — ZMS Cable

Fiber optic cable construction is roughly divided into the following steps: preparation → routing project → fiber optic cable laying → fiber optic cable splicing → project acceptance.

4 Common Optical Cable Construction Methods

F. Pipeline optical cables should also pay attention to reliable grounding. 3) Directly buried optical cable laying: A. The depth of the direct buried optical cable trench should be excavated

OPGW Installation Guidelines | PDF | Optical Fiber | Wire

This document provides installation guidelines for optical ground wire (OPGW). Section 2 discusses preparation for OPGW installation, including establishing engineering plans, preparing tools like

Overhead Fiber Optic Cable: Installation Method and

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Overhead fiber optic cable is suitable for long-distance lines and dedicated network optical cable lines or some local special sections. It provides

Ohl transmission lines opgw instalation procedure for fiber optic ...

This document provides procedures for installing OPGW fiber optic cables on transmission lines between 35kV and 400kV. It outlines the planning, installation, splicing and testing processes.

Related Video Reference

This video was associated with the source search result. Verify technical details against current product documentation and project requirements.

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EU project coordination: Parque das Nações, Lisbon, Portugal

This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

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