

Article Overview

The construction of overhead optical cables involves a systematic sequence of pole selection, installation, cable pulling, and grounding to ensure safe and reliable fiber deployment.

Step 1: Pole Selection and Preparation

- o Choose the type of pole based on terrain and obstacles. Standard poles are typically 7 meters high with a tip diameter of 150 mm, while special sections may require 8-9 meters .
- o Determine pole depth: 0.9 m for rocky surfaces, 1.2 m for other soils .
- o Set pole spacing: Standard distance is 50 m, adjustable to 60 m in mountainous areas .
- o Mark pole numbers for identification, ensuring visibility and proper orientation .

Step 2: Pole Installation

- o Excavate and check hole depth before erecting poles .
- o Ensure vertical alignment: Straight-line poles should have less than 5 cm deviation; corner poles require slight inward adjustment and tip tilting toward tension wires .
- o Install anchors and guy wires: Anchor depth must be verified, with distance-to-height ratios maintained for stability .

Step 3: Cable Laying Preparation

- o Select the construction method: Hanging wire support, hanging wire winding, or self-supporting methods, depending on terrain and line requirements .
- o Install guide devices at lead-in and exit points to prevent cable dragging and reduce friction .
- o Reserve cable length for extension and retraction, typically limiting each pull to around 2 km .

Step 4: Cable Pulling

- o Pull the cable carefully along the prepared route, ensuring the pulling force does not exceed 120 kg .
- o Use reinforced core sections for pulling and apply waterproof reinforcement at cable heads .
- o Maintain proper bending radius: Cable turns should exceed 20 times the cable diameter to prevent damage .

Step 5: Cable Fixing and Anchoring

- o Secure the cable to poles using clamps or hooks according to the chosen method .
- o Ensure tensioning is uniform to prevent sagging or excessive strain .

Construction procedures for overhead optical cables

- o Install joint boxes or closures for splicing, ensuring proper sealing and anchoring .

Step 6: Grounding and Safety

- o Ground all metal components reliably, especially in high-voltage or mountainous areas, typically with three grounding points per kilometer .
- o Install lightning arresters when crossing power lines .

Step 7: Inspection and Testing

- o Check alignment, tension, and grounding for compliance with design standards .
- o Perform optical tests to verify signal integrity and ensure no fiber strain occurred during installation .

Step 8: Finalization

- o Backfill and compact around pole bases, flush with urban surfaces or slightly higher in suburban areas .
 - o Document the installation with pole numbers, cable routes, and test results for future maintenance .
- Following this sequence ensures that overhead optical cables are installed safely, maintain signal integrity, and comply with engineering standards.

Most false floor systems include cable trays for fiber optic cables. An armored indoor cables is sometimes used in underfloor

This document discusses overhead fiber optic cables, which are used for long-distance communications and installed on poles using

During construction, we must always pay attention to not subject the optical cable to heavy pressure or be stabbed by

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

Abstract An aerial cable is an insulated cable usually containing all fibres required for a telecommunication line, which is suspended

Before the fiber optic cable plant can be installed, construction may be needed to provide the infrastructure in which the fiber optic

Construction procedures for overhead optical cables

an existing lashed fiber optic or copper cable. This method of aerial cable installation, "overlashing," is attractive because the

PART A: SPECIFICATION FOR THE SUPPLY OF OVERHEAD OPTICAL GROUND WIRE (OPGW), ALL DIELECTRIC SELF

In any cable deployment, whether it is optical fibre or any other type of cable, it should be considered the considerable number of

In the communications industry, how to construct overhead optical cable is a problem that many front-line

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

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

So buried laying is suitable for fiber optic cable installation in cities and places with this need.

Fiber Optic Network Design Jump To: The Communications System Cabling Design Choosing Transmission Equipment Planning

Learn the different fiber optic cable installation requirements with our expert guide to ensure optimal performance and

An optical ground wire (also known as an OPGW or, in the IEEE standard, an optical fiber composite overhead ground wire) is a type

Web: <https://in-au.co.za>

