

Central Loose Tube Optical Cable Laying Method

Article Overview

Central Loose Tube (CLT) optical cables should be installed using careful pulling, proper bend radius, figure-eight coiling, and mid-span access techniques to prevent fiber damage and ensure optimal performance.

Cable Handling and Preparation

Before installation, ensure the cable is stored on a flat, firm surface and protected from sharp objects, flooding, or extreme temperatures. Protective material on reels should remain in place until installation, and LSZH or PE jackets must be handled carefully to avoid cracks or mechanical stress (). Record cable identification markings, including sheath number, footage, and description codes, for future reference ().

Pulling and Laying Techniques

- o Pulling Tension: Apply pulling force only to the cable's strength members, not the outer jacket, to prevent elongation and fiber damage. Use a pulling grip of at least 600 mm to distribute tension evenly (). Maximum pulling tension for stranded loose tube cables is typically around 600 lbF (2,700 N), but always check the cable specification sheet ().
- o Bend Radius: Maintain the minimum bend radius during installation. For example, multiply the cable diameter by 15 to determine the working bend radius, and double this for pull wheels or rollers ().
- o Figure-Eight Coiling: When unreeled on the surface, lay the cable in a figure-eight pattern to prevent twisting and kinking. Loop sizes typically range from 2-4 m for general cables or 1.5-2.4 m for duct installations (). Slightly offset each loop to minimize mechanical pressure.
- o Slack Loops: Leave slack loops at known mid-span access points to facilitate routing and storage within closures. A typical slack loop length is around 96 inches (244 cm) ().

Mid-Span and End Access

- o Sheath Removal: Mark the cable for sheath removal (usually 2 meters from the end for termination). Use a sheath knife to make ring cuts 4-6 inches apart, flex the cable to separate the sheath, and remove it carefully to expose the ripcord and core ().
- o Buffer Tube Access: Use a buffer tube access tool or splitter to prevent fiber damage. Identify the buffer tube reversal point to safely unwind the tubes. For high fiber count cables, remove outer layers first, then handle inner layers similarly ().
- o Ripcord Handling: Pull ripcords carefully to split the jacket and armor without damaging fibers. Tie knots in ripcords and use pliers to guide the pull ().

Installation Precautions

- o Avoid sharp turns, edges, and excessive bending.

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- o Pull slowly and steadily to prevent kinks.
- o Use protective sheets when the cable end is on the ground.
- o Ensure all personal protective equipment is worn, including gloves and safety glasses, especially when handling fibers that may carry laser light (). By following these methods, Central Loose Tube optical cables can be installed safely, maintaining fiber integrity and ensuring long-term network performance.

This procedure describes cable-end and mid-span sheath removal and fiber access of ALTOS® cables which feature Corning Optical

The instructions in this document explain how to prepare end and mid-span openings of the Prysmian central loose tube fiber optic

The stranded loose tube cable design protects the optical fiber from external forces applied to the cable during manufacturing,

Outdoor optical fiber Central Loose Tube (jelly filled tube) cable with glass yarns as strength member and

A multi-strand optical cable is a loose tube made of high-modulus plastic with colored optical fibers and ointment at the

These cables are composed of several fibers together inside a small plastic tube, which are in turn wound around a central strength

Stranded fiber optic cable and central tube fiber optic cable are the two most common types of fiber optic cables, and

Do not use automated figure-eight machines when installing fiber optic cables with a central tube design or any loose tube cable

This loose tube dielectric optical cable is designed for outdoor installation in ducts and microducts by blowing or pulling techniques.

The present invention relates to central loose optical-fiber cables. An exemplary optical-fiber cable includes a central buffer tube that

This document provides specific information related to Loose Tube fibre cables. The General "Installation Guide For Optical Fibre

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Each cable includes a gel-filled loose tube housing 2 to 24 optical fibers, reinforced with double-jacket, strength members or the

Fiber optic cables come in many designs depending on where and how they are deployed. This guide

This Loose tube dielectric optical cable is designed for external underground installations in ducts by pulling, jetting or floating

Deciding between central loose tube and multi loose tube fiber cable comes down to your specific application and

Explore ETK Kablo's aerial central loose tube fiber optic cables, ideal for pole-to-pole telecom installations with UV-resistant jackets.

Web: <https://www.supremeacademicresearch.co.za>

