

How to pull fiber optic cable



Overview

Best Practices for Pulling Fiber Optic Cable Fiber optic cable is surprisingly strong, durable and pliable; however, several best practices should be followed.

Key Takeaways

Pull fiber optic cable carefully using the strength members, proper conduit preparation, and adherence to bend radius and tension limits to ensure a safe and functional installation.

Preparation

Before pulling fiber optic cable, assess the conduit size and condition. Measure the inner diameter to ensure the cable fits comfortably without excessive bending or stretching, and inspect for debris, sharp edges, or breaks that could damage the cable during installation. Clean the conduit and smooth any rough surfaces, and plan for gradual curves rather than sharp bends to protect the cable integrity.

Using the Strength Member

Fiber optic cables contain Kevlar or aramid yarn strength members inside the outer jacket. Always pull the cable by these strength members, not the outer jacket, to prevent stretching, tearing, or breaking. Expose a small portion of the strength member using a fiber jacket stripper, loop it through a cable pull-eye, and secure it with tape or a knot for safe pulling.

Pulling Techniques

- **Lubrication:** For long runs, use a compatible cable lubricant to reduce friction and prevent damage.

- **Tension Control:** Observe the maximum pulling load specified by the manufacturer. Use an automated puller with tension control or a breakaway pulling eye for long runs .

- **Avoid Twisting:** Roll the cable off the spool rather than spinning it to prevent twists that stress the fibers .

- **Bend Radius:** Never exceed the cable's minimum bend radius. Modern bend-insensitive fibers may allow tighter curves, but older fibers require larger radii .

Installation Best Practices

- **Plan the Installation:** Document equipment locations, cable specifications, testing requirements, and potential problem areas .

- **Pull, Don't Push:** Always pull the cable through the conduit; pushing can damage the fibers .

- **Maintain Cleanliness:** Keep dust caps on connectors and avoid contaminating optical surfaces to prevent signal loss .

- **Cable Length:** Ensure the cable is long enough for the run to avoid splicing, which adds complexity and cost .

Testing and Inspection

After installation, inspect and test the fiber optic system to verify signal integrity and performance. Address any issues promptly to ensure a reliable network . By following these steps—preparing the conduit, using the strength members, controlling tension, respecting bend radius, and maintaining cleanliness—you can safely and efficiently pull fiber optic cable while minimizing the risk of damage and ensuring optimal network performance.

Article Content

How To Pull Fiber Optic Cable Through Conduit | Storables

Learn how to pull fiber optic cable through conduit with this informative article. Find step-by-step instructions and tips

The FOA Reference For Fiber Optics-Installing Fiber Optic Cable

Fiber optic cable may be installed indoors or outdoors using several different installation processes. Outdoor cable may be direct

Fiber Optic Cable Pulling

Electrical wire installers know how to pull cable. The basic approach to pulling fiber optic cable differs little from the techniques used

FO Cable Pulling Method Statement

This document provides a work method statement for fiber optic cable pulling that outlines 33 steps to safely pull cable. Safety

The FOA Reference For Fiber Optics-Installing Fiber Optic Cable

General Guidelines For Installing Fiber Optic Cable Fiber optic cable may be installed indoors or outdoors using several different

Fiber Optic Cable Installation and Handling Instructions

Introduction Fiber optic cables can be easily damaged if they are improperly handled or installed. It is imperative that certain

Installing Wire Mesh pulling Grips on Fiber Optic Cables

1. General 1.1 This procedure provides general instructions for installing a wire mesh pulling grip (Figure 1) on AITOS® ribbon, and

Proper Installation (Pulling) of Fiber Optic Cable

Roll fiber optic cable off the spool: Rolling, as opposed to pulling, prevents putting twists in the cable. When preparing the fiber optic

Pulling Fiber Optic Cable in Conduit

AEN 136, Revision 2 This Applications Engineering Note (AE Note) addresses key points for planning cable pulls in conduit.

Top 10 Fiber Optic Mistakes to Avoid | trueCABLE

Avoid costly fiber optic installation errors. Learn the top 10 things NOT to do with fiber optic cables and how to handle

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