

Fiber optic cable cannot be pulled out

Article Overview

Fiber optic cables may become stuck due to excessive friction, sharp bends, overfilled conduits, or internal damage to the cable's glass fibers.

Common Causes

1. Excessive Friction in Conduits Pulling a fiber optic cable through a long or twisting conduit can generate high friction, especially if the conduit is dry or narrow. This friction can prevent the cable from moving and may risk snapping the internal fibers if force is applied . 2. Overfilled Conduits If too many cables occupy a conduit, the limited space increases resistance. Overfilling can wedge the cable in place, making it difficult or impossible to pull out without damaging the jacket or internal fibers . 3. Sharp Bends or Kinks Fiber optic cables have strict minimum bend radii. Bending beyond this limit can cause micro-bending or macro-bending, which not only degrades signal but can also physically lock the cable in place within the conduit . 4. Snagging or Obstructions Cables can catch on rough edges, connectors, or debris inside the conduit. A snag can prevent movement and may damage the cable if excessive pulling force is applied . 5. Internal Fiber Damage Glass fibers are fragile. If the cable has been previously stressed, crushed, or kinked, the internal fibers may break or bind inside the jacket, making the cable immovable . 6. Environmental Factors Moisture, temperature extremes, or rodent damage can cause the cable jacket to swell, stick, or adhere to the conduit walls, further complicating removal .

Preventive Measures

- o Use proper pulling techniques, attaching the pull string to the cable's strength member rather than the jacket .
- o Respect the minimum bend radius and avoid sharp turns.
- o Follow conduit fill guidelines to leave sufficient space for smooth pulling.
- o Inspect conduits for obstructions or debris before installation.
- o Consider lubricants designed for fiber optic cables to reduce friction in long runs. Understanding these factors can help technicians troubleshoot why a fiber optic cable cannot be pulled out and prevent damage during installation or maintenance.

Fiber optic cable is surprisingly strong, durable and pliable; however, several best practices should be followed to ensure a

The following article explores best practices when pulling fiber optic cables and cable

Fiber optic cables should always be pulled by the strengthened yarn fibers inside the outer jacket. This

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strength

The basic approach to pulling fiber-optic cable and copper cable is similar; however, optical fiber has a few idiosyncrasies. The glass

The tools you need, and how to properly handle fiber optic and network cables.

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

Outdoor fiber optic cables are designed for longer runs and can be pulled over much greater distances. Depending on

The cable manufacturer gives you the perfect solution to pulling the cables, they install

Advice on Pulling Fiber Optic Cable According to many experienced cable installers, fail to

Understanding how to repair your damaged fiber optic cable will help you keep your network online when the unexpected strikes.

Cable installers always talk about "pulling" fiber optic cable because that is how they install underground

The cable is connecting two buildings and over 100m long. Is there a possibility to repair the cable or shorten it to the break point?

Repair cut fiber cables with this step-by-step guide. Learn proper tools, techniques, and tips for effective fixes.

All fiber optic applications are not the same. At the FOA, we're mainly concerned with communications fiber optics - telco, CATV,

Repairing a Broken Fiber Optic Cable This article covers the typical steps required to repair and/or re

Learn how to troubleshoot fiber optic cables with common problems, a step-by-step process, essential tools, and

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