

In their TRANSMISSION LINE EASEMENT AGREEMENT from 10/9/24 that I received, Grain Belt indicates on Line 2b that “...*The Easement may be used for the transmission of electrical energy and for communication purposes, whether existing now or in the future...*”. On line 2c, the AGREEMENT continues, “*Telecommunications Easement. The Easement may also be used for installation, operation, and maintenance of fiber optic cable and other equipment needed for the transmission of communications to or by third parties.*”

An online search showed that overhead fiber optic cables also fall and can be dangerous to pets that walk through the debris field, as they may get shards of the tiny glass fibers in their paws or eyes, causing serious harm.

So in addition to high-voltage electrical lines falling, I will also have to worry about possible future fiber optic cables also falling and leaving dangerous shards of tiny glass fibers all over my drive where my pets walk.

Below are excerpts and links to the dangers overhead fiber optic cables pose:

The image shows a Google search interface. The search bar contains the text "danger of running fiber optic cable from high-voltage line tower". Below the search bar, there are navigation options: All, Images, Videos, Shopping, Forums, News, Web, and More. To the right of the search bar are icons for X, microphone, image search, and search. Below the search bar, there is a section for "AI Overview" with a "Learn more" link. The main content area displays a summary of the search results, followed by several key risks associated with running fiber optic cable near high-voltage lines: Corona Discharge, Dry Band Arcing, Induced Voltage, and Mechanical Stress. To the right of the main content, there is a sidebar with three related articles: "How electricity affects ADSS cables? The tracking effect and ...", "Fiber Optic Cables in Overhead Transmission Corridors", and "ADSS Fiber Inspection Solutions - OFIL Systems". A "Show all" button is located at the bottom of the sidebar.

Google danger of running fiber optic cable from high-voltage line tower

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Running a fiber optic cable directly from a high-voltage line tower poses a significant danger due to the "corona effect" and "tracking effect," where the intense electric field around the power lines can damage the fiber optic cable's sheath, leading to potential cable failure, signal degradation, and even safety hazards from exposed fibers, especially if the cable is not specifically designed for high-voltage environments.

**Key risks associated with running fiber optic cable near high-voltage lines:**

**Corona Discharge:**  
High voltage lines create a corona discharge, which is a partial ionization of the air around the conductor, generating heat, ozone, and other harmful byproducts that can degrade the cable's outer jacket, leading to potential breaches.

**Dry Band Arcing:**  
When moisture accumulates on the cable surface in polluted environments, it can create "dry bands" that can experience arcing due to the high voltage, further damaging the cable sheath.

**Induced Voltage:**  
Even though fiber optic cables are non-conductive, the proximity to high voltage lines can induce a small electrical potential on the cable, potentially causing interference with sensitive equipment.

**Mechanical Stress:**  
Installing fiber optic cables near high-voltage towers may require additional support structures, increasing the risk of mechanical stress on the cable due to wind or vibration.

How electricity affects ADSS cables? The tracking effect and ...  
Nov 30, 2021 — Current high-voltage structures post a very attractive type of installation because they reduce the...  
Fiber Optic Network Cable Solutions

Fiber Optic Cables in Overhead Transmission Corridors  
The relatively new practice of integrating fiber optic cables into high voltage corridors poses some technical and safety-relate...  
CapX 2020

ADSS Fiber Inspection Solutions - OFIL Systems  
All Dielectric Self Supporting (ADSS) fiber optic cables are located in high electric fields. Their sheath can be subjected t...  
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A fiber optic cable can fall due to various reasons including: **physical damage from digging or construction (like a backhoe hitting it), weather events like strong winds or heavy snow causing tree limbs to fall on the cable, vehicle accidents impacting utility poles where the cable is mounted, animal damage from rodents chewing through the cable, vandalism, improper installation, and even extreme temperature fluctuations causing cable components to weaken**; essentially, any force that can physically sever or dislodge the cable from its supporting infrastructure can cause it to fall.

Key points to remember:

Human activity:

Construction work, especially digging, is the most common cause of fiber optic cable damage, often referred to as "backhoe fade."

Weather events:

Strong winds, heavy snow, ice storms, and lightning strikes can all damage or dislodge fiber optic cables.

Animals:

Rodents like squirrels and rats can chew through cables, causing them to fail.

Poor installation:

Improperly secured cables or inadequate support structures can lead to cable falls.

Fiber Optic Cables Cuts: Most Common Causes & How To Combat Them

Commercial Electronics, Inc.

Weather-Related Fiber Internet Outages, Explained

Weather culprits include thunderstorms, heavy rain, snow, and extreme temperatures. Each condition impacts fiber internet i...

Race Communications

Solving These 7 Common Fibre Optic Cable Issues - TVNET

Sep 29, 2020 — Use Deterrents Against Animals. Rodents have long been the scourge of power lines and telephone...

tvnet-ltd.co.uk

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**Yes, an overhead fiber optic cable can break open**, especially if exposed to extreme weather conditions like strong winds, heavy ice accumulation, large temperature fluctuations, or if it is damaged by animals or other external factors; the glass fibers within the cable are inherently fragile, making the cable susceptible to breaks even when protected by the outer jacket.

Key points to remember:

Fiber fragility:

The core of a fiber optic cable is made of glass fibers, which are easily broken with excessive tension, bending beyond the recommended radius, or impact.

Environmental factors:

Wind, ice build-up, and extreme temperature changes can put stress on the cable, leading to potential breaks.

Cable quality:

Higher quality overhead fiber optic cables have better protection against damage, but even those can break under extreme conditions.

Key Factors When Choosing Between Buried and Aerial Fiber ...

Aerial Fiber Cable Deployment However, aerial cable is fragile. It will strain, sag, and eventually break if it is exposed to extr...

PPC Broadband

Extending optical fibre cabling - Acome

If the fibre elongation is too high, there is a risk of the signal weakening or even disappearing altogether. For example, if...

Acome

The Seven Deadly Sins of Fiber Cable Installations

Fiber is inherently fragile, and many lower-cost/poorer quality cables don't provide much additional protection. This is...

PPC Broadband

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## ◆ AI Overview

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A fallen fiber optic cable can be dangerous to pets primarily because **the sharp, thin glass fibers within the cable can cause cuts or punctures if they come into contact with the pet's skin, eyes, or mouth**, especially if the cable is damaged or frayed; however, the light transmitted through the cable itself is not harmful to pets as it does not carry electrical current. ⓘ

**Key points about the danger of a fallen fiber optic cable to pets:****Sharp fibers:**

The main concern is the potential for small, sharp glass fibers to pierce the pet's skin or eyes, which can be painful and may require veterinary attention. ⓘ

**Chewing hazard:**

If a pet chews on a damaged fiber optic cable, they could ingest glass fibers, which can cause internal irritation. ⓘ

**Difficult to see:**

Due to their small size, the fibers can be hard to see, making it difficult to avoid them. ⓘ

**What to do if you find a fallen fiber optic cable:**

- **Keep pets away:** Do not let your pets near the cable, especially if it appears damaged. ⓘ

## Things That Can Damage Fiber-Optic Cables

Jan 6, 2022

CableWholesale ⓘ

## Fiber optic and electromagnetic radiation - OPTOMER

Apr 24, 2020 — In summary, a fiber optic installation does not carry any risk in terms of electromagnetic radiation. Since suc...

Optomer ⓘ

## 5 Facts About Fiber Optic Cables | Cables &amp; Wiring | OneMonroe

Nov 3, 2021 — As previously mentioned, fiber optic cables are nonconductive. While they don't carry electricity, they do carr...

Monroe Engineering ⓘ

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From the website, EC&M, and their article, **“Don't Ignore the Hazards Associated with Fiber Optics”**  
<https://www.ecmweb.com/content/article/20888616/dont-ignore-the-hazards-associated-with-fiber-optics>

*“Microscopic glass needles.* A more serious hazard of optical fiber work is the fibers themselves. Fibers are pieces of glass. And like all glass, they can cause injury.

Because of this, you need to handle fiber with care. First of all, you must be very careful when handling open fibers; that is fibers not contained in a cable. (Modern optical fiber cables are very safe, and pose no danger to you. It is when the cables open that hazards arise.) If you were to accidentally jab yourself with one of these open fibers, you could easily end up with a painful sliver. What's worse is this sliver may not be visible! Remember: These slivers are made of transparent glass and can be very difficult to see.

You'll be surprised to know that jabbing yourself with a fiber is not the most hazardous situation. The real danger is when fibers are stripped, trimmed, and cut. These operations result in short, nearly microscopic pieces of glass lying around a work area. These are short, thin, invisible needles. If they're left lying around, someone will inevitably end up touching or handling them. As sharp and thin as these glass shards are, they can easily penetrate your skin. And unlike a wood sliver, these glass slivers will not degrade inside your skin.

These cut pieces of fiber are very dangerous. If they were to end up in your lunch, they could cause internal bleeding and conceivably death.

To avoid this problem, you should make generous use of masking tape (or any other type of tape) to catch the waste fiber pieces. Some technicians wrap the tape around a few fingers, sticky side out. This catches the fibers as soon as they are cut. You should also frequently blot the entire work area with tape to pick up stray pieces. Once the pickup operation is complete, you need to fold the tape upon itself and carefully dispose it. Never leave this tape lying around. Remember fibers are insidious, since they are very difficult to see; especially when you're not expecting them. If you happen to sit on some of these cut pieces, you won't soon forget it.”