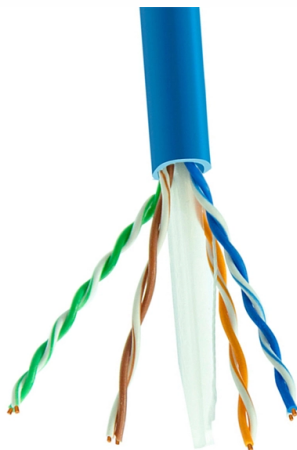


Hazardous risks associated with fiber optic cables on utility poles



Overview

Safety in Fiber Optic Construction Although premises cable is called "low voltage" and fiber optic cables are non-conductive, it runs in areas full of power.

Key Takeaways

Fiber optic cables themselves are non-conductive, but when installed on utility poles, they pose significant hazards including fire, electrocution, structural stress, and wildlife interference. Fire and Electrical Hazards

While fiber optic cables do not carry electricity, the installation environment often includes high-voltage power lines, creating risks of electrical arcing. Lashing wires or support hardware can accidentally contact energized lines, potentially igniting fires, as seen in incidents like the Silverado, Woolsey, and Lafayette fires where improperly secured lashing wires caused electrical sparks that ignited nearby flammable materials. Installers are also at risk of electrocution when working near high-voltage lines, particularly during the installation of cable supports or pulleys, as documented in fatalities involving all-dielectric self-supporting (ADSS) cables.

Structural and Mechanical Risks

Utility poles are designed for specific loads, and adding fiber optic cables and associated hardware can increase physical stress, potentially leading to pole failure or cable sagging. Improperly tensioned cables or inadequate supports can exacerbate these risks, especially in high-wind or storm conditions.

Wildlife and Environmental Risks

Overhead fiber optic cables are vulnerable to wildlife, such as birds, squirrels, and raccoons, which can damage cables by chewing, nesting, or climbing on them. This can disrupt service and create additional hazards if damaged cables interfere with power lines .

Safety During Maintenance

Working on poles with fiber optic cables often involves confined spaces, energized equipment, and induced voltages, which can pose risks even though the fiber itself is non-conductive. Installers must follow strict safety protocols, including using insulated tools, voltage detectors, and proper grounding procedures to prevent shock or burns .

Eye and Optical Hazards

Fiber optic cables transmit invisible infrared light, which can cause severe eye damage if directly viewed or exposed during maintenance. Awareness and protective eyewear are essential when handling active fiber lines .

Mitigation Strategies

- Use insulated and non-metallic support hardware to reduce contact with power lines .
- Maintain proper grounding and bonding of nearby electrical equipment .
- Implement wildlife deterrents to protect overhead cables .
- Train personnel in pole safety, fall protection, and optical safety .
- Regularly inspect and maintain lashing wires, supports, and cable tension to prevent mechanical failures . In summary, while fiber optic cables are inherently safe in terms of electricity, their placement on utility poles introduces fire, electrocution, structural, wildlife, and optical hazards. Proper installation, maintenance, and safety protocols are critical to mitigate these risks.

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Others are located on poles, where risks can arise from live overhead conductors and from falling from heights.

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