ZITHA TECH SPECIALTY CABLES (Pty) Ltd

Fiber optic cable obstructing road affects construction



Overview

Optical-fiber Cables for On-road Surface Wiring without Using Poles We introduced our on-road surface-wiring optical-cable technology and its construction.

Key Takeaways

Fiber optic cable installation can obstruct road access due to trenching, microtrenching, and conduit placement, but coordinated planning and modern techniques help minimize disruption.Reasons for Road Obstruction

Fiber optic cable construction often requires excavation or trenching along roadways, which can temporarily block lanes or restrict traffic. Traditional underground installation involves digging trenches 3–4 feet deep to place conduits, which may require heavy machinery and road closures to ensure safety and proper cable protection . In urban areas, especially where utility poles have been removed, laying new underground conduits may necessitate cutting and opening roads, sometimes only permitted during off-peak hours or at night due to traffic regulations . Microtrenching is a less invasive method, creating narrow grooves (8–16 inches deep) in asphalt to lay fiber cables, which still requires temporary lane closures but reduces the scale of disruption . Road-surface wiring techniques involve forming grooves, laying cables, and filling them with filler material, allowing installation with standard road-cutting equipment without extensive excavation .

Regulatory and Coordination Challenges

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Obstruction is compounded by right-of-way (ROW) conflicts, permit denials, and coordination with local authorities or property owners. Delays in obtaining access or overlapping projects with other utilities can extend the period of road disruption . Arbitration or formal agreements are sometimes necessary to resolve disputes over access, technical standards, or financial responsibilities for road restoration .

Mitigation Measures

Governments and telecom operators have implemented strategies to reduce road obstruction and protect fiber infrastructure. For example, in Nigeria, a Joint Standing Committee was established to coordinate between the Federal Ministry of Works, the Ministry of Communications, and the Nigerian Communications Commission. The committee ensures communication before, during, and after road construction to prevent fiber damage and minimize traffic disruption . Other mitigation strategies include:

• Scheduling construction during off-peak hours or at night

• Using microtrenching or road-surface wiring to reduce excavation

• Coordinating with traffic management authorities to maintain safe access

• Implementing clear signage and temporary detours to guide vehicles and pedestrians

Conclusion

While fiber optic cable construction can temporarily obstruct road access due to trenching, conduit placement, or microtrenching, modern installation techniques and coordinated planning with authorities help minimize disruption and protect both the infrastructure and public safety . Proper scheduling, communication, and use of less invasive methods are key to balancing network expansion with road accessibility.

Article Content

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A Joint Standing Committee on the Protection of Fiber Optic Cables to address the persistent issue of fiber optic cuts

FG sets up committee to safeguard telecom cables during road

The Federal Government has established a Joint Standing Committee on the Protection of Fibre-Optic Cables to curb

FG moves to prevent telecom cable damage in road construction

The Federal Government has set up a Joint Standing Committee to prevent damage to telecom Fibre-Optic Cables

Over 5,000 fibre cuts linked to road construction

The Nigerian Communications Commission (NCC) has disclosed that more than 5,000 fibre-optic cable cuts were

Fiber networks and the right of way (ROW)

Expensive installation. Installing fiber optic networks through rural fields and forests often

Permitting Considerations for Installing Fiber-Optic

Before installing fiber-optic cables underground, a utility first needs the support — and often the permission

Understanding Fiber Network Construction Regulations

Just as road rules keep cars moving safely, fiber network regulations ensure internet connections are reliable,

Road Construction Causes Over 5,000 Fibre Optic Cuts in 6 Mo

Road construction and excavation led to over 5,000 fibre optic cuts in Nigeria in the first half of 2026, disrupting digital

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Carriageway Road Crossings Where our duct crosses a carriageway, adjoining Duct laid beneath a carriageway crossing kerbs must

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GFiber Construction & Installation Timeline Overview

Fiber-optic filaments cannot be exposed to environmental moisture during splicing, and road excavation

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The document provides guidance on best practices for selecting and installing fiber optic cables for distributed sensing applications in

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OR 8 Fiber Optic Cable Project

During construction, travelers can expect: Short-term single lane, shoulder and bike lane closures in construction areas

The FOA Reference For Fiber Optics -Outside Plant Construction ...

Typically, optical fiber cables do not carry electrical power, but the metallic components of a conductive cable are capable of

Utility easements & fiber construction: What homeowners should know ...

Wondering how fiber construction affects your property? Learn about utility easements, what to expect during

Changing our existing network

Move, remove or relocate our telegraph poles, manholes, joint boxes, green cabinets, underground ducts

Fiberoptic Projects | City of Phoenix

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Fiberoptic Projects Fiber-optic cables are made up of many super thin strands of optical glass fiber that make it possible to transmit

What are property owners rights regarding a company putting fiber optic ...

What are property owners rights regarding a company putting fiber optic lines in all over our city & property owners

Frontier''s Fiber Network Construction: What to Expect | Frontier

Frontier is working hard to construct a fiber network in your area as quickly as possible. Learn about the construction process and

Micro-trenching involves digging a small trench just inches under the road surface along the curb line to install fiber optic lines.

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Construction Without Disruption: Installing Fiber Optic

First, it''s important to understand the “dig once” concept. This is something I learned 20 years ago from

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The FOA Reference For Fiber Optics -Outside Plant Construction

Completing Outside Cable Plant Installation. Aerial Cable Installation Aerial Cable Installation Deploying fiber above ground on poles

Construction Without Disruption: Adding New

5. Reduce the length of new fiber optic cables by reusing existing fiber optic cable cores

Construction Without Disruption | ICT Solutions & Education

Department of Transportation Secretary Pete Buttigieg hopes that Dig Once legislation will facilitate that. The Dig Once Act would

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Ministries Launch Joint Committee to Address Fiber Optic Cable

In his address, Engr. Adebiyi tasked the committee with developing strategies to reduce the damage to fiber optic

FG sets up joint committee to tackle fiber cuts during road ...

“Last year, we experienced over 50,000 fiber cuts incidents across the country of which around 30,000 were

FIBER OPTIC CONSTRUCTION STANDARDS

All State and County Road crossings shall meet the installation requirements outlined in the right of way permit issued by the

Road Construction Causes Over 5,000 Fibre Optic Cuts in 6 Mo

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This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

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