ZITHA TECH SPECIALTY CABLES (Pty) Ltd

Fire-supporting optical cable



Overview

Fire-Resistant Optic Cable Fire-Resistant Optical Cables are specially designed to maintain data transmission integrity even in the event of a fire. Constr.

Key Takeaways

Fire-resistant optical cables are designed to maintain data transmission and signal integrity during fire emergencies, ensuring critical communication systems remain operational.Key Features

Continuous Operation During Fire: These cables are engineered to maintain optical signal integrity under extreme heat and flame exposure, often tested to standards such as IEC 60331-25, FE180, and CPR B2ca . They can operate for several hours in fires reaching temperatures up to 750°C . Safety and Environmental Compliance: Fire-resistant optical cables typically feature low smoke, zero halogen (LSZH) sheaths, minimizing toxic emissions and smoke during a fire, which protects both personnel and sensitive equipment . Mechanical Durability: Many designs include armoring with steel wire braiding or corrugated steel tape, providing resistance to impact, bending, and environmental stress, while protecting fibers from rodents and mechanical damage . Fiber Types and Configurations: These cables are available in singlemode (OS2, G652.D, G657 A, G655) and multimode (OM1, OM2, OM3, OM4) variants, with core counts ranging from 2 to 512 fibers. Loose tube constructions with gel-filled tubes or bend-insensitive fibers ensure long-term performance .

Applications

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Fire-resistant optical cables are widely deployed in critical infrastructure where uninterrupted communication is essential:

• Life safety systems: Fire alarms, voice alarm (VA) and voice evacuation systems

• Public buildings and transportation: Tunnels, metro lines, airports, and railway networks

• Industrial and data centers: Hospitals, industrial plants, and high-risk facilities requiring continuous connectivity
Standards and Certifications

These cables comply with international fire safety and performance standards:

• IEC 60331-25: Fire resistance for circuit integrity

• IEC 60332-2-3: Flame retardancy

• CPR Euroclass B2ca, Cca, Dca: Construction product regulations for fire performance

• UL, Bureau Veritas, DNV: Additional quality and safety certifications
Advantages
• Ensures network resilience during emergencies

• Reduces secondary damage to electronic equipment

• Supports flexible deployment in indoor/outdoor, vertical shafts, and tight bending installations

• Provides long-term reliability in harsh environments Fire-resistant optical cables are essential for any infrastructure where safety, regulatory compliance, and uninterrupted communication are critical, combining advanced optical performance with robust fire protection.

Article Content

Fire-Resistant Optic Cable

Fire-Resistant Optical Cables are specially designed to maintain data transmission integrity even in the event of a fire. Constructed

Fire Resistant Fiber Optic Cables CPR B2ca | ETK Kablo

For fire-critical areas, choose fire-resistant, LSZH fiber optic cables that are certified (e.g., FE180 and CPR B2ca) to maintain

Lifeline™ Fire Resistant Fiber Optic Cable | Prysmian

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This innovative cable features a patented design that ensures functionality for over three hours in temperatures reaching 1000ºC. It is

QFCI Fiber Cable | Lifeline® MC Cable | Fire Rated Cables

Lifeline® QFCI is the first UL flame listed optical cable designed for indoor/outdoor use in vital communication and emergency

Fiber Optic Cable Fire Ratings Explained

Engineering explanation of fiber optic cable fire ratings, flame classification systems, and installation environment

Fiber-optic cable

A TOSLINK optical fiber cable with a clear jacket. These cables are used mainly for digital audio

Fiber Optic Indoor Cables

These indoor fiber optic cables are used exclusively within buildings and must have a flame-retardant cable jacket to fit this purpose.

Fiber Optics in Hazardous Areas: A Detailed Safety Guide

Fiber-optic cables carry data as pulses of light instead of electrical currents. This fundamental difference offers several

Fire resistant optic fibre cable_V4

THE APAR ADVANTAGE APAR''s Fire Resistant (Fire Survival) Fibre Optic cables offers excellent protection in the event of fire

Fire-Resistant Optic Cable

Engineered for critical safety, this fire-resistant optic cable provides reliable data transmission in high-risk environments.

Fire Resistant Fiber Cable | Up to 3-Hour Resistance | UPCOM

Fire Resistant Fiber Optic Cable Fire resistant fiber optic cable is designed for communication lines that must keep operating during

CPR Optical Cables | Fire-Resistant | OPTRAL

CPR fire-resistant optical cables with Euroclass Dca, Cca, and B2ca classifications. Safety and performance for critical applications.

Lifeline™ Fire Resistant Fiber Optic Cable | Prysmian

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Discover Lifeline™ QFCI fire resistant fiber optic cable for reliable communication in emergency systems. Learn more about its

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Lifeline® MC Cable is exclusively stocked by Priority Wire & Cable. We carry RHW-2 and RW90-Two-Hour Fire cables as well

Fiber Optic Cables | Corning

With 2 billion kilometers of fiber optic cables installed around the globe, Corning continues to lead the industry in product quality and

Fiber Optic Indoor/Outdoor Cables

Our indoor/outdoor cables meet rigorous outdoor environments and can be routed indoors where flame rating applies, eliminating

Fire Resistant Fibre Optic Cable

Fire resistant cable offers protection in hazardous or fire prone areas for critical systems Non-metallic, all dielectric construction

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Fiber Optic Cable Buying Guide

Fiber Optic Cable Buying Guide Understand how to choose fiber optic cable by comparing single-mode vs. multimode, network

Fiber Optic Cable

Belden''s extensive line of indoor and outdoor cable products is offered in tight buffer and loose tube designs. Learn more about each

Fiber Optic Cable Fire Resistance Ratings – Fosco Connect

This article describes the fire resistance ratings code from NEC for fiber optic cables. We carry a large inventory of all types of fiber

CPR Optical Cables | Fire-Resistant | OPTRAL

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Lifeline™ Fire Resistant Fiber Optic Cable | Prysmian

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Engineering explanation of fiber optic cable fire ratings, flame classification systems, and installation environment

Top 5 Fire Resistant Fiber Optic Cable Manufacturers | 2026 Guide

In this guide, we list the Top 5 Global Manufacturers who set the standard for fire safety. We will also clarify the confusing jargon

Optimize Your Network with FS Fire-Resistant Fiber Optic Cables

Choosing the right fire resistant fiber optic cable ensures safety, compliance, and reliable performance in data centers

Lifeline Specialty: Fire Resistant QFCI Cable

ems that need to be operational during fire. The cable has a patented design that ensures operatio for more than 3 hours in fires up

Draka FireTuf Fire Resistant Fibre Optic Cable

This FireTuf fibre range is fully compliant with fire resistant standards IEC 60331-25 and flame retardant

Fire Resistant Fibre Optic Cable 4

Available in both multimode (OM3/OM4) and singlemode (OS2) variants, they support configurations from

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

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