Radiation-resistant optical cable sheath specifications and prices



Overview

Radiation-resistant electrical optical cable Find your radiation-resistant electrical optical cable easily amongst the 11 products from the leading brands.

Key Takeaways

Pricing for radiation-resistant optical cable sheaths is typically customized and must be obtained directly from suppliers based on material, radiation tolerance, and application requirements. OverviewRadiation-resistant optical cable sheaths are specialized protective layers designed to shield fiber optic cables from high levels of ionizing radiation, chemical exposure, and mechanical stress. They are commonly used in nuclear facilities, space applications, defense, and industrial environments where standard silica fibers would degrade due to radiation-induced attenuation.

Materials often include PEEK, LSZH, or other high-performance polymers that maintain integrity under extreme conditions.

Factors Affecting Price

Material Composition: High-performance polymers like PEEK or halogen-free flame-retardant compounds increase cost compared to standard polyethylene or PVC sheaths. Radiation Tolerance: Cables designed to withstand higher doses of radiation or prolonged exposure are more expensive due to specialized fiber preforms and manufacturing processes. Cable Type and Configuration: Single-mode vs. multi-mode fibers, bundled assemblies, or custom feedthroughs affect pricing.

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Quantity and Customization: Small orders or highly customized assemblies (e.g., fan-outs, hermetic feedthroughs) typically cost more per unit. Supplier and Region: Prices vary depending on manufacturer, shipping, and regional regulations for nuclear or industrial compliance.

How to Obtain Pricing

Direct Supplier Contact: Companies like Lapp Muller, SEDI-ATI, and McMaster-Carr provide radiation-resistant optical cables but require direct inquiries for quotes. Requesting a Quote: Provide specifications such as fiber type, sheath material, radiation dose tolerance, length, and environmental conditions to receive an accurate price. Market Research: The global optical cable sheath market is projected to grow from $4.

06 billion in 2025 to $7. 44 billion by 2034, reflecting increasing demand for high-performance and specialized sheaths.

Practical Advice

For budgeting purposes, expect custom radiation-resistant optical cable sheaths to be significantly more expensive than standard optical cables, often several times the cost of conventional fiber optic cables due to specialized materials and manufacturing. Engaging multiple suppliers for quotes ensures competitive pricing and compliance with technical requirements.

Article Content

Radiation-resistant electrical optical cable

Find your radiation-resistant electrical optical cable easily amongst the 11 products from the leading brands (LAPP, Yangtze Optical Electronic, Axon, ...) on DirectIndustry, the industry specialist for your

Nuclear radiation-resistant fiber optic cable

We can design different types of radiation-resistant fiber assemblies such as bundles, bifurcated bundles, fan-outs, integrated hermetic feedthroughs, and

Military Specification

This specification covers the general requirements and characteristics for cables utilizing optical fibers for signal transmission. NOTE: The base document is not DLA Land and Maritime

High Temperature, High Radiation Resistant Cables

Engineered for the harshest nuclear environments, Shawflex cables withstand up to 200°C and 250 Mrad qualified for containment areas, LOCA, and seismic events.

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Radiation-resistant cables

Axorad® radiation resistant cables can be used as power cables, instrumentation cables, control cables and sensor cables in nuclear plants, in particle detectors, accelerators or scientific devices. They are

ALTOS® LSZH Loose Tube Cables

The loose tube cable construction, pioneered by Corning Cable Systems, places fiber in buffer tubes and provides stable and highly reliable transmission parameters for a wide variety of voice, video and

Optical data cable

Axorad® radiation resistant cables can be used as power cables, instrumentation cables, control cables and sensor cables in nuclear plants, in particle detectors,

Radiation Resistant Cable Solutions: PEEK/XLPE Cables & Irradiated ...

Radiation-resistant materials: Radiation-resistant cables are usually made of specially formulated insulating and sheathing materials, such as polyether ether ketone (PEEK), crosslinked

Radiation-resistant cables

Axorad® radiation resistant cables designed by Axon'' Cable combine resistance to radiation with challenging constraints in standard or inert atmosphere.

Nuclear Fiber Cables

The cables are manufactured with materials to meet IEEE 383, IEEE 1202, IEEE 1682, and other flame ratings commonly used in the nuclear industry. These rugged yet lightweight cable constructions are

6 Fiber Cable Outer Sheath Materials and How To Choose?

Requirements So the material of the fiber optic cable outer sheath must be able to withstand the sun and rain, and not crack due to ultraviolet radiation. At the same time, it must have

Optical Fiber and Cable Reliability for High Radiation Environments

To ensure a reliable fiber optic network in high radiation environments, testing must be conducted to ensure that changes in optical fibers or cable materials do not increase optical fiber

Global Optical Cable Sheath Market Size, Share, Growth Trends

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The optical cable sheath market is on a trajectory of steady expansion, with a compound annual growth rate (CAGR) estimated at approximately 6.2% from 2026 to 203This growth is

18 Cable Sheath Materials Explained

Discover 18 types of cable sheath materials. Full comparison of fire resistance, flexibility, environmental tolerance, and usage in telecom, power, and

The Most Complete Guide to ADSS Cable

Are you in search of the optimal fiber optic cable for your network? Well! It is critical to choose the right cable so that performance, longevity, and cost-effectiveness are not compromised.

Rad-hard fibers | Exail

Radiation resistant single-mode fiber with different coatings for sensing in high dose environments A radiation single-mode optical fiber has been specifically developed for distributed sensing in harsh

Radiation Resistant Cable Solutions: PEEK/XLPE

TST CABLES has developed its own range of single and multi-core irradiation crosslinked wires and cables, suitable for operation at high ambient

Marine and Offshore Cables

Enhanced oil resistance, low smoke zero halogen, minimum tear resistance •Identification:Legend will include manufacturers name, voltage, BS6883, number of cores and c.s.a., cable sheath class (e.g.

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

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