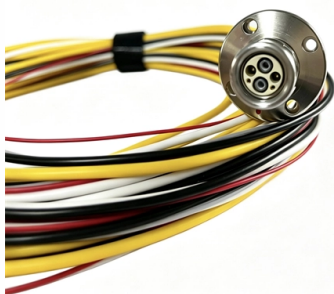


Is PVC used for optical fiber cables



Overview

Low Smoke Zero Halogen (LSZH) cable has a flame-resistant jacket that doesn't emit toxic fumes even if it burns.

Key Takeaways

PVC is primarily used as the outer jacket of optical fiber cables to provide protection, mechanical strength, and cost-effective indoor installation. Protective Sheathing

PVC (Polyvinyl Chloride) is commonly used as the outer sheath of optical fiber cables, safeguarding the fibers from environmental factors such as moisture, chemical corrosion, and physical abrasion. It enhances the mechanical strength and durability of the cable, reducing the risk of fiber damage during installation and use, and can be formulated in different colors for identification and aesthetic purposes .

Indoor Applications

PVC-sheathed cables are widely used for general indoor runs, including horizontal cabling between workstations and vertical riser installations in buildings with contained ventilation systems. They are soft, flexible, and resistant to oxidation, making them suitable for standard indoor environments where high fire safety ratings are not critical .

Fire Safety Considerations



While PVC provides basic flame resistance, it produces dense smoke and toxic halogen gases when burned, which limits its use in poorly ventilated areas or plenum spaces. For these environments, alternatives like LSZH or OFNP are preferred. PVC cables are often rated as OFNR (Optical Fiber Nonconductive Riser), suitable for vertical runs between floors but not for air-handling plenums .

Cost and Performance

PVC is cost-effective compared to other jacket materials, offering a balance of chemical resistance, weathering resistance, and low flammability for general-purpose indoor applications. It is less suitable for outdoor use due to UV degradation and extreme temperature exposure, where materials like PE or armored jackets are preferred .

Summary

PVC optical fiber cables are ideal for indoor installations where cost efficiency, flexibility, and basic protection are required. They provide mechanical protection, abrasion resistance, and customizable appearance, but are limited in high-risk fire or outdoor environments. Proper selection of PVC versus other materials depends on installation location, fire safety requirements, and environmental exposure .

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