

Optical cable outer sheath extrusion



AI Overview

The extrusion method for optical cable outer sheaths involves melting polymer materials and uniformly coating the cable core using precision-controlled extruders, dies, and cooling systems to ensure mechanical protection, electrical insulation, and dimensional accuracy.

Overview of the Extrusion Process

The outer sheath of an optical cable is applied using a specialized extrusion line, where the cable core—already containing optical fibers, buffer layers, and strengthening members—is continuously coated with molten polymer such as PE, PVC, LSZH, TPU, PUR, or TPE . The extrusion process serves multiple purposes: it provides mechanical protection against tension, crushing, and bending; electrical insulation for metal-armored cables; and identification through color coding or printing .

Key Components of the Extrusion Line

Extruder and Screw System: Polymer granules are fed into a screw and barrel system, where they are melted and homogenized. Optimized screw designs ensure uniform melting, pulse-free flow, and consistent polymer distribution, which is critical for maintaining wall thickness and concentricity .

Die Types:

- Pressure Die:** Tightly presses the sheath onto the cable core, providing firm adhesion and high moisture resistance, typically used for outdoor cables.
- Semi-Pressure (Tubing) Die:** Produces a looser sheath for better flexibility, suitable for indoor cables or microducts .

Temperature Control: Multi-zone heating along the barrel and die ensures precise polymer plasticization. Modern systems maintain $\pm 1^{\circ}\text{C}$ stability using SCR power controllers and precision sensors, preventing inconsistencies in wall thickness .

Cooling System: After extrusion, the cable passes through a segmented water bath or cooling trough. Gradient cooling is applied—warm water initially to prevent internal stress, followed by cold water to solidify the sheath efficiently .

Concentricity and Wall Thickness Control: Precision dies, electrostatic capacitance feedback, and intelligent sensors monitor the outer diameter in real time, automatically adjusting die pressur...

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Optical Fiber Cable Extrusion Line

An optical cable extrusion production line, commonly referred to as an extrusion line or sheathing line, is an industrial production system that uses an extrusion molding process to tightly coat one or multiple

Common Defects And Prevention Of Outer Sheath In Optical Cable

4.1 When extruding the isolation layer or sheath of large-section electric (optical) cables, a tube extrusion mold is generally used. If an outer mold with a larger aperture and a longer die ...

Optical Cable Extrusion Line

The optical cable extrusion production line is standard equipment in optical cable manufacturing plants, and its applications cover the sheathing production for all types of optical cables.

24 Cores ADSS Fiber Optic Cable Price & Datasheet

24 Cores ADSS Fiber Optic Cable ADSS optic cable adopts loose tube layer stranded structure, and the loose tube is filled with water blocking compound. Then, two layers of aramid fibers are twisted

How To Choose Fiber Cable Outer Sheath Materials?

Choosing the appropriate outer sheath material for fiber optic cables is crucial for ensuring the cable's durability, protection, and performance under specific environmental conditions.

WO2017084517A1

A double-layer co-extrusion method for an extremely-tiny air blown optical cable. The method comprises the following processes: putting optical fibers in storage, coloring the optical fibers, coating for two

Fiber optic cable outer sheath material

The outer sheath of the optical fiber cable is divided into different material types. The outer sheath of each material has its inherent characteristics (different fire performance) and suitable

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3 Fiber Optic Cable Sheathing Requirements

According to different laying methods, 3 requirement of fiber optic cable sheathing must be considered in manufacturing, to protect optical fibers under different conditions.

90 (120) optical cable sheath extrusion production line

This equipment can be used for loose tube punching oil gysts cable in the production of the inner and outer sheath. At the same time can also be used for

Analysis Of Optical Cable Sheath Materials: All-round Protection From ...

The sheath or outer sheath is the outermost protective layer in the optical cable structure, mainly made of PE sheath material and PVC sheath material, and halogen-free flame-retardant sheath material

The Most Comprehensive Guide To Figure 8 Fiber

In the ever-expanding universe of fiber optic networks, where speeds reach 800G and beyond while global FTTH connections surpass 2.2 billion by

Cable jacketing: What is it and why do you need it? | CDC

Cable jacketing, also known as cable sheathing or cable extrusion, is an essential part of cable design and construction. Find out why below.

Fiber Optic Cable Sheathing

Mechanical properties for different cable types are set with armoring and strength members. Our state-of-the-art extrusion technology offers you the ability to utilize a large variety of plastic materials to

Mastering Optical Cable Sheath Extrusion:... | AIMIFIBER

An efficient optical cable sheath extrusion line is essential for producing reliable cables for telecom and ISP projects. This guide provides

Factory Direct 50/60/70/90mm Extruder Equipment Cat5e/Cat6 Used

Key attributes usage Extruding Operating Mode Automatic Weight (KG) 900 place of origin Guangdong, China brand name SZADP model number Extruder Machine model number Sheath 70mm Extrusion

Air-blown fiber unit | DYS

The outer sheath is a thermoplastic that is of low friction. The surface of the sheath is designed with special grooves, compared to the surface of the traditional optical fiber cable. It also provides not

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Setting up an optical cable sheath extrusion line is a critical step in manufacturing
Learn more from AIMIFIBER — fiber optic manufacturer since 2008.

Optic Cable Outer Sheathing Extrusion Production Line

It is a key enterprise integrating scientific research and development and production of special equipment for wire and cable and various efficient energy-saving

Optical Cable Sheath Extrusion Production

Optical fiber outer sheath: PE outer sheath and Aluminum plastic composite tape and PE composite outer sheath, Steel plastic composite tape and PE composite

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Fiber Optic Cable Sheathing Line with 90mm or 120mm

Product Description 1,fiber optic cable sheathing line application : A,the cable machinery is Suitable for optical cable outer sheath and core strengthening

Contact Us

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