

Black polyethylene sheath material for optical cables



Overview

PE Black Sheath Material – High Quality Polyethylene Cable Discover high-quality PE Black Sheath Material designed for superior cable protection and insula.

Key Takeaways

Black polyethylene (PE), including HDPE and LLDPE, is widely used as a durable, UV-resistant, and protective outer sheath for optical cables. Types of Black PE Sheath Materials

High-Density Polyethylene (HDPE) is commonly used for optical cable sheaths due to its high mechanical strength, wear resistance, and smooth surface, making it suitable for direct burial, overhead, and outdoor installations. HDPE sheaths can maintain flexibility in temperatures ranging from -60°C to 80°C and have an outdoor service life exceeding 20 years when UV stabilizers are added. Virgin HDPE formulations provide stable testing performance and can replace imported or petrochemical products of similar grade. Linear Low-Density Polyethylene (LLDPE) is another option, offering good extrusion performance and low internal stress when processed correctly. LLDPE sheaths are suitable for optical cables and wires, and their extrusion parameters can be optimized using PE screw extruders with segmented cooling to reduce internal stress.

Performance Characteristics

- **Mechanical Strength:** HDPE sheaths have compressive strength above 25 MPa, ensuring protection against external forces.

- **Surface Quality:** Smooth surfaces (friction coefficient ≤ 0.15) facilitate conduit installation and reduce wear .
 - **Environmental Resistance:** Both HDPE and LLDPE sheaths resist moisture, UV radiation, and chemical corrosion, ensuring long-term signal stability .
 - **Temperature Range:** Flexible from -60°C to 80°C, suitable for diverse climates .
 - **Flame Retardancy:** LSZH (Low Smoke Zero Halogen) formulations can be customized to reduce smoke and toxic gas emission in case of fire .
- Applications

Black PE sheaths are used in optical fiber cables for telecommunications, power, marine, automotive, and industrial applications . They are suitable for rodent- and termite-resistant cables, direct burial, and outdoor installations where mechanical and environmental protection is critical .

Standards and Compliance

- GB/T 15065-2009 and YD/T 1485-2006 for mechanical and physical properties .
- IEC 60754 and IEC 61034 for LSZH materials, ensuring low halogen emission and smoke density .
- RoHS compliance for environmental safety .

Storage and Handling

PE sheath materials should be stored in dry, ventilated warehouses, protected from sunlight, rain, and damp conditions. Packaging options include 25 kg paper-plastic composite bags or larger polyethylene bags for bulk storage . In summary, black PE sheaths, particularly HDPE and LLDPE, provide robust mechanical protection, environmental resistance, and optional LSZH safety features, making them ideal for high-performance optical cable applications.

Article Content

PE Black Sheath Material – High Quality Polyethylene Cable

Discover high-quality PE Black Sheath Material designed for superior cable protection and insulation. Our durable polyethylene black

LLDPE Sheath Material for Cable Protection (KRD-2050)

KRD-2050 Black LLDPE Sheath Material | Linear Low-Density Polyethylene for Superior Flexibility and Protection in

28 Selection_of_the_Correct_Optical_Cable

Most Outside Plant optical cables are made from medium density or high density polyethylene with carbon black for UV stabilization.

Low-shrinkage polyethylene optical cable sheath material, preparation ...

In order to overcome at least one defect of the above-mentioned prior art, the present invention provides a low-shrinkage

Cable Sheath Materials

XLPE (Cross-Linked Polyethylene) – provides a tough, moisture, chemical and weather resistant sheath material. Used mainly as an

Application Notes

Armored Versus Non-armored Cable Armoring increases the strength and robustness of a cable relative to its surroundings. The

Virgin black HDPE jacket material

PE virgin compound for sheath material of optical cable, Used for the outer sheath of high standard and high requirement optical

Sheathing Types

Sheathing opacity controls the effects of outside light, and any light leaking from the fiber to optimize the application effect. When

Fiber-optic cable

A fiber-optic cable, also known as an optical-fiber cable, is an assembly similar to an electrical cable but containing one or more

Low-shrinkage polyethylene optical cable sheath material, preparation ...

The invention discloses a low-shrinkage polyethylene optical cable sheath material. On the one hand, high-density polyethylene

LLDPE Sheath Material for Cable Protection (KRD-2050)

KRD 2050 black linear low density polyethylene sheath material (LLDPE)
Environmentally friendly materials that comply with RoHS

Cable Jacket Material: How to Choose

Cable Jacket Material Comparison Both network cables and fiber optic cables have different cable jackets to choose

Cable jacket | Cable sheath and cable insulation | Simply explained

Depending on the material and construction, cable insulation can also be waterproof or water-repellent. In addition, a cable sheath

18 Cable Sheath Materials Explained

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

What you should know about Fiber Optic Cable Jacket Material

Most Outside Plant optical cables are made from medium density or high density polyethylene with carbon black for UV stabilization.

Black Polyethylene Sheath Cable Semiconductive Granule Plastics ...

Black Polyethylene Sheath Cable Semiconductive Granule Plastics Compound for Wire and Cable, Find Details and Price about

High-Speed Cable Sheath Jacket Compounds | Elpolymer

Discover Elpolymer's selection of High-Speed Cable Sheath Jacket Compounds, meticulously crafted to provide unparalleled

Fiber Optic Cable Sheath and Water Barrier

However, the plastic sheath material tends to give very limited protection against the penetration of water into the cable. Hence an

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

