

Silicon Core Tube for Optical Cable



AI Overview

Silicon core tubes are high-performance HDPE conduits with a low-friction silicone inner layer, designed for smooth, long-distance optical cable installation.

Structure and Materials Silicon core tubes are typically co-extruded composite pipes made from high-density polyethylene (HDPE) with a silicone or siliceous inner layer. The inner silicone layer acts as a solid lubricant, providing an ultra-low friction surface that allows optical cables to be blown or pulled through the tube repeatedly without damage (). Some designs also include additives like active silicone oil, dimethyl silicone oil, antioxidants, and initiating agents to enhance durability, heat resistance, and long-term performance (). The typical composition of the silicone layer includes:

- HDPE: 95–100%
- Silicone: 2.5–3.5%
- Active silicone oil: 5–8%
- Dimethyl silicone oil: 6–10%
- Initiating agent: 0.5–1.5%
- Antioxidant: 1.5–2.5% ()

Key Features

- Low Friction Coefficient:** The silicone core reduces friction, enabling smooth cable installation and repeated extraction ().
- Durability:** Resistant to aging, UV, chemical corrosion, and rodent damage, with a service life of up to 50–100 years ().
- Mechanical Strength:** HDPE outer layer provides structural integrity, impact resistance, and flexibility for various terrains ().
- Temperature Range:** Suitable for extreme conditions, typically from -40°C to 100°C ().
- Waterproof and Sealed:** Prevents moisture ingress, ensuring cable protection in underground or outdoor installations ().
- Bend Radius:** Can be bent according to terrain without special treatment, often with a minimum radius of 10 times the outer diameter ().

Applications Silicon core tubes are widely used in:

- Fiber optic communication networks for highways, railways, and urban infrastructure ().
- Telecom and electrical lines, including cable television and public information networks ().
- Underground conduit systems, branch networks, and inter-city communication links ().

Installation Advantages

- Cable Blowing or Pulling:** The low-friction inner layer allows optical cables to be installed using pressurized air or rope...

Article Content

HDPE Silicon Core Pipe-DEF PIPELINE

HDPE silicon core pipe is a new type of composite pipe with silicone solid lubricant on the inner wall, which is widely used in the optical cable communication network system of roads and railways.

HDPE Silicon Core Pipe

HDPE Silicon Core Pipe is a high-performance conduit specially designed for optical cable protection. Featuring a durable HDPE outer layer and a low-friction silicon inner lining, it enables smooth and

Hdpe Silicon Core Pipe 25mm

HDPE silicon-core pipes are specially designed to be communication optical (electric) cable protection tubing. The silicon core pipe is produced and shaped

HDPE silicon core pipe for communication cable protection

HDPE silicon core pipe are specially designed to be communication optical (electric) cable protection tubing. The silicon core pipe is produced and shaped through an

Fiber Optic Communication Optical Duct Cable PE Silicon Core Tube

Fiber Optic Communication Optical Duct Cable PE Silicon Core Tube, Find Details and Price about HDPE Silicon Core Cable Pipe HDPE Pipe from Fiber Optic Communication Optical Duct Cable PE

Silicon core tube for optical cable

In this way, the friction coefficient of the silicon core tube for the optical cable can be 0.142, the friction performance is good, and the optical cable is repeatedly drawn in the silicone core tube, cannot fall

Silicone Coated HDPE Ducts 32mm 40mm 50mm Price

Silicone Coated HDPE Ducts The HDPE silicon core tube, Silicon Coated HDPE Pipe, is a new type of composite pipe with a silicone solid lubricant

HDPE Silicon Core Pipe-Shandong Xinhengde New Materials Co., Ltd.

HDPE silicon-core pipes are specially designed as protective tubing for communication optical and electrical cables. These pipes are formed via co-extrusion of HDPE and silicon core materials, which

What Is Fiber Optic Made Of: Silica Glass to Plastic

Fiber optic cables are made from silica glass, protective coatings, and sometimes plastic. Learn what goes into each layer and why the materials matter.

Silicon core tube-UPVC Pipes and HDPE Pipes-SHANDONG EPOCH

In the field of telecommunications, HDPE silicon core pipes are mainly used for the protection and laying of optical cables. It can effectively protect the optical cable from external damage and influence, and

HDPE Silicon Core Pipes and Fitting

HDPE silicon core pipes is produced by 3 plastic extruders. The main raw material is high-density polyethylene and the core layer is a solid lubricant silicon with the

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 optical fibers that are used to carry

What is Silicon core tube

Silicon core pipe is a new type of composite pipe with silicone solid lubricant on the inner wall. It has good sealing performance, chemical resistance and low engineering cost. It is widely used in optical

Fiber Optical Cables Structure and Production Materials

Fiber Optic Cables made of Plastic-Clad Silica Plastic Clad Silica (PCS) is a combination of silica glass and plastic materials to make the optical fiber. Its core

HDPE Pipe for Fiber Optic Communication Optical Duct

HDPE Pipe HDPE Silicon Core Pipe 50mm 40mm 32mm plastic cable conduit PLB-HDPE Ducts are manufactured using ultra-violet (UV) stabilized grade of HDPE

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Hdpe Silicon Core Pipe for optical fiber cable

The HDPE silicon core tube is a new type of composite pipe with a silicone solid

HDPE Silicone Core Pipe

HDPE silicon core tubes are mainly used for laying optical fiber cables. The friction coefficient of the inner wall of the silicon core is extremely low, which facilitates

Silicon core tube for optical cable

The silicon core tube for the optical cable comprises an outer tube, a mixed support, a movable support, a middle layer and a silicon core tube body, wherein the fixed support is...

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Silicon Core Hdpe 25mm-200mm Optic Duct Conduit Optical Fiber Cable ...

Product descriptions from the supplier HDPE Silicon core Pipe HDPE Silicon core pipe is a new kind of composite pipe with silicon solid lubricant in the inner wall. They are suitable for installation in the field

HDPE Silicon Core Pipes and Fitting

HDPE silicon core pipes is a new type of composite pipes with a silicon solid lubricant inner wall. It have good dealing performance, chemical corrosion

HDPE Silicon Core Pipe for Fiber Optical Cables

HDPE silicon-core pipes are specially designed as protective tubing for communication optical and electrical cables. These pipes are formed via co-extrusion of HDPE and silicon core materials, which

What Is a Fiber Optic Cable Core and How Does It Work?

Everything else in a fiber optic cable exists to protect and support this core. What the Core Is Made Of Most fiber optic cores are made from high-purity silica glass, the same basic

Hdpe Silicon Core Pipe for optical fiber cable

The HDPE silicon core tube is a new type of composite pipe with a silicone solid lubricant on the inner wall. It has good sealing performance, chemical corrosion

Contact Us

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