

Skeleton Optical Cable Structure



AI Overview

Skeleton-type optical cables feature a central supporting skeleton with peripheral skeleton grooves that house optical fibers, offering high flexibility, bending resistance, and efficient installation.

Structure and Design A skeleton-type optical cable typically consists of a central skeleton that provides structural support and a peripheral skeleton with grooves or slots where optical fibers or fiber ribbons are placed. The peripheral skeleton is often wrapped around the central skeleton in a predefined pitch, which enhances flexibility and bending performance. The optical fibers are embedded in these grooves in a tight-buffered or ribbon form, ensuring they are protected from external stress and minimizing the risk of fiber breakage. The skeleton grooves are usually made of high-density polyethylene (HDPE) or similar materials, and the cable may include water-blocking tapes and aluminum layers to prevent moisture intrusion and provide additional mechanical protection. A polyethylene sheath is extruded over the skeleton to complete the cable structure.

Advantages

- Flexibility and Bending Resistance:** The combination of a rigid central skeleton and a flexible surrounding skeleton allows the cable to bend without damaging the fibers.
- High Fiber Density:** Multiple optical fibers or ribbons can be accommodated in the skeleton grooves, enabling compact designs with high core counts.
- Moisture and Mechanical Protection:** Water-blocking tapes and aluminum layers prevent moisture ingress and provide lateral pressure resistance.
- Ease of Installation and Maintenance:** The open or longitudinally slotted design allows for quick access to individual fibers, facilitating splicing and branching in FTTH and access networks.
- Environmental Compatibility:** All-dry designs avoid the use of gels or ointments, reducing pollution during construction and improving long-term reliability.

Applications Skeleton-type optical cables are widely used in FTTH (Fiber to the Home) networks, access networks, and interoffice connections where high fiber...

Article Content

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The invention relates to a flexible skeleton type optical fiber ribbon cable and a preparation method thereof, and the flexible skeleton type optical fiber ribbon cable comprises a...

What is the structure of the optical cable? What are the types of ...

Optical cables are now used in medicine as endoscopes, mostly in signal lights for entertainment and audio. There are many advantages of optical cable, first of all, it is relatively strong anti-interference.

The characteristics and classification of optical cables

Optical cable is a communication cable assembly that utilizes one or more optical fibers placed in a sheathing as a transmission medium and can be

Structure of optical cable

Skeleton optical cable is a typical loose structure. The optical fiber is buried in the spiral groove around the skeleton with room for movement. This kind of optical cable has good...

Easy-to-strip skeleton type optical cable

A skeleton-type optical cable and skeleton technology, applied in the direction of fiber mechanical structure, etc., can solve the problems of destroying the overall structure of the optical

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The invention discloses a skeleton type optical fiber ribbon cable which comprises a skeleton, wherein a plurality of skeleton grooves are uniformly formed in the circumference direction of the skeleton, a

The characteristics and classification of optical cables

Skeleton optical cable: The reinforcing member is located in the center of the optical cable, and the optical fiber or optical fiber ribbon is placed in the

Detailed explanation of the application of skeleton optical fiber ...

In view of the large number of optical fiber cores and the need for frequent offline and branch connection, it is advisable to use a skeleton-type optical fiber ribbon cable with a higher optical fiber

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The invention relates to an optical cable skeleton material required by skeleton-type optical cables in the modern communication industry. The optical cable skeleton material is prepared from resins such as

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The present application discloses a skeleton cable, comprising a skeleton with a plurality of skeleton grooves, an optical fiber unit installed in the skeleton groove, a waterproof layer covering the

A kind of skeleton type optical cable and its preparation method

In the skeleton type optical cable provided by the present invention, the skeleton layer is set as a central skeleton with good supporting force and a flexible surrounding skeleton.

The structure of fiber optical cable

Indoor fiber optical cable is classified by fiber core number, mainly single core, double core and multi-core optical cable. Indoor optical cable is mainly composed of tightly set optical fiber,

Composition of communication optical cable

Communication optical cable is a common wiring product. You should choose according to the nature of the specific project. Today we will introduce the structure of communication optical

Types and Differences of Optical Cables

4. By Structure Central Tube Optical Cable Optical fibers are concentrated in the central tube, offering excellent tensile strength. Layer-Stranded Optical Cable Optical fibers are arranged in

A skeleton optical fiber ribbon cable

A technology of optical fiber ribbon and skeleton, which is applied in the field of skeleton optical fiber ribbon and optical cable, can solve the problems that limit the efficiency of optical cable

Structure of fiber optic cable (FOC)

Fiber optic cables use light to transmit data, instead of electricity as in twisted pair cables. Different types of fiber optic cables have their own specific structure. Slight variation may happen in the structure of

Novel skeleton type optical cable

A skeleton-type optical cable and skeleton technology, applied in the direction of fiber mechanical structure, etc., to achieve the effect of convenient processing, convenient production,

Structure of optical cable

According to the state of the coated optical fiber in the optical cable, the optical cable has two types: tight structure and loose structure. Skeleton optical cable is a typical loose structure.

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Definitions the invention relates to the technical field of optical cables, and in particular to an ultra-flexible and low-cost corrugated skeleton trough optical cable and a production method thereof. skeleton

Cable skeleton with communication function

The invention provides a cable skeleton with a communication function, which belongs to the technical field of cables and comprises the following components: the framework body is provided with a

Skeleton type cable

A skeleton and skeleton technology, applied in the direction of fiber mechanical structure, etc., can solve the problems of large cable damage and difficult identification, and achieve the effect of simple

Introduction to the principle of optical fiber

Currently, skeleton-type optical cables in China are limited to dry-type ribbon fiber cables. This involves placing the optical fiber ribbons in a matrix within U-shaped or SZ-shaped spiral skeleton grooves,

Cable Structure

Cable Structures The structure of an optical cable is strictly dependent on the construction method and the application type that determines the design and the grade of external protection. The main core

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The invention improves the occupation ratio of the optical fiber ribbon in the skeleton structure and is suitable for preparing the skeleton optical cable with large core number, and adopts the integrally

FTTH Distribution Section Skeleton Optical Fiber Ribbon Cable ...

In view of the large number of optical fiber cores, frequent offline and branch connections, it is appropriate to use a skeleton-type optical fiber ribbon cable with a high optical fiber assembly density

An Overview Of Optical Fiber Cable Structure And Components

An optical fiber cable is a complex structure designed to protect fragile glass fibers that transmit digital data using light signals. This advanced cabling solution allows fast, secure data transfer and telecom

Introduction to the characteristics of skeleton optical cables

The skeleton type optical cable comprises a central skeleton and a peripheral skeleton; the peripheral framework is embedded with optical fibers in a closed pre-wrapping mode and continuously wrapped

Anatomy of a Cable – Optical Fiber

Anatomy of a Cable – Optical Fiber Fiber optic communications traces its roots back to Alexander Graham Bell. In 1880, he created the Photophone, which allowed for the transmission of

Detailed explanation of the application of skeleton optical fiber ...

Skeleton optical fiber ribbon cable has the characteristics of high optical fiber density, small outer diameter saving pipeline resources, good lateral pressure resistance, stable structure, convenient

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