

Double-disc optical fiber cable



AI Overview

Double-disc optical fiber cables, also known as double-jacket or DDJ cables, feature dual protective layers for enhanced durability, crush resistance, and environmental protection.

Overview Double-disc optical fiber cables are designed with two protective jackets surrounding the optical fibers, providing superior mechanical strength and environmental resistance compared to single-jacket cables. They are typically dielectric, meaning they contain no metallic elements, making them lightning-resistant and suitable for aerial, duct, or direct-burial installations. The dual jacket construction also eliminates the need for grounding or bonding in many applications.

Construction and Features

- Inner and Outer Jackets:** Usually made of polyethylene (PE) or low-smoke zero-halogen (LSZH) materials, offering UV, abrasion, and chemical resistance.
- Strength Members:** Aramid (Kevlar) or Fiber Reinforced Plastic (FRP) rods provide tensile strength and crush resistance.
- Loose Tube Design:** Fibers are housed in loose tubes, often gel-free, to allow flexibility and stable performance over wide temperature ranges (-50°C to 70°C operational).
- Water Blocking:** Some designs include dry water-blocking yarns or tapes to prevent moisture ingress.
- Fiber Types:** Available in single-mode (OS2) for long-distance, high-speed transmission, and multimode (OM4/OM2) for shorter distances.

Mechanical and Optical Specifications

- Fiber Count:** Typically ranges from 2 to 288 fibers per cable.
- Outer Diameter:** Around 5–20 mm depending on fiber count and jacket thickness.
- Tensile Strength:** Short-term up to 2700 N, long-term around 890–1330 N.
- Bend Radius:** Minimum bend diameter for installation is usually 10–16 times the cable diameter, operational bend radius slightly smaller.
- Attenuation:** Single-mode OS2 fibers typically have maximum attenuation of 0.3–0.4 dB/km at 1310–1550 nm wavelengths.

Applications Double-disc optical fiber cables are ideal for:

- Outdoor telecommunications:** Long-distance backbone networks, campus interconnects, and...

Article Content

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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 light.

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This chapter gives an overview and introduces application scenarios for optical fibers and cables in optical communications. The use of single-mode optical fibers for both short-reach and long-haul

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Fiber Optic Cables | Corning

With 2 billion kilometers of fiber optic cables installed around the globe, Corning continues to lead the industry in product quality and innovation.

Understanding Single vs Dual Jacket Outdoor Optical

Discover the advantages and installation considerations of single and dual jacket outdoor optical cables. Gain comprehensive knowledge of outdoor

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For direct connector assembly. Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon

Double Armored Fiber Optic Cable

Find Double Armored Fiber Optic Cable related suppliers, manufacturers, products and specifications on GlobalSpec - a trusted source of Double Armored Fiber Optic Cable information.

Duplex Fiber Optic Cables – Mouser

Mouser offers inventory, pricing, & datasheets for Duplex Fiber Optic Cables.

Multi-mode optical fiber

Multi-mode optical fiber is a type of optical fiber mostly used for communication over short distances, such as within a building or on a campus. Multi-mode links can

Fiber Optic Cable Types Explained

Our comprehensive guide to types of fiber optic cables. Learn all about the differences between single mode and multimode cables, as well as the various

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Comparing Single-Core and Dual-Core Optical Fibers

While single-core fibers offer efficiency and simplicity for long-distance transmission, dual-core fibers excel in high-capacity, short-range

Aerospace-Grade Wire and Cable

Well designed fiber optic connection systems begin with high-reliability single and multimode cable. Glenair is able to fabricate and supply a targeted range of fiber

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ALTOS® Loose Tube, Gel-Free, Double-Jacket Cable

The double-jacket construction adds a layer of protection for harsh environments. The loose tube cable design provides stable performance over a wide temperature range and is

Contact Us

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