

Complete List of Specifications and Models for Communication Optical Cables



Overview

Product Specification Sheets Our team will make sure the configuration is tailored to your needs and will provide a detailed quote. Email us using the Requ.

Key Takeaways

Communication optical cables are categorized by fiber type, structure, and application, including single-mode, multi-mode, indoor, outdoor, and specialized cables, each with distinct specifications for performance and environment. Common Optical Cable Models



1. **Single-Mode Optical Fiber (SMF)** Single-mode cables have a small core diameter (~8.3 microns) and are designed for long-distance communication, often exceeding 50 km. They are widely used in data centers, enterprise networks, and fiber-to-the-home (FTTH) applications due to low signal attenuation and high transmission performance .

2. **Multi-Mode Optical Fiber (MMF)** Multi-mode cables feature larger cores (50–62.5 microns) and are suitable for short- to mid-range transmission, typically 550 meters to 2 km. They are ideal for local area networks, building-to-building connections, and data centers where high-speed data transfer is required over shorter distances .

3. **Indoor Optical Fiber** Indoor cables are lightweight, flexible, and bend-resistant, designed for installation in homes, offices, and commercial buildings. They comply with UL flame-rated standards for riser or plenum spaces and may use PVC, PVDF, or LSZH jackets for fire safety .

4. **Outdoor Optical Fiber** Outdoor cables are engineered for harsh environmental conditions, featuring MDPE or HDPE jackets, UV protection, water-blocking, and optional armor. They are suitable for urban roads, bridges, tunnels, and long-distance networks, providing high weather resistance and durability .

5. **Special Optical Fiber** Specialty cables include sensor cables, gyroscope cables, hydrophone cables, and fibers with dispersion-shifted or non-zero dispersion for unique applications. These are used in aerospace, marine exploration, geological monitoring, and industrial sensing .

Structural and Material Specifications

Optical cables are classified based on reinforcement, structural characteristics, protective coatings, outer layers, and fiber types. Reinforcement may include metal, non-metal, or heavy-metal cores to enhance tensile strength and mechanical properties. Indoor cables prioritize flexibility and fire resistance, while outdoor cables emphasize pressure, corrosion, and environmental resistance . Single-mode fibers often follow ITU-T G.652 or G.657 standards, with low attenuation and bend-insensitive designs. Multi-mode fibers may comply with OM1, OM2, OM3, or OM4 standards, optimized for high-speed LAN and data center applications .

Applications and Considerations

- **Indoor networks:** Offices, hotels, and residential buildings; focus on ease of installation and fire safety.
- **Outdoor networks:** Long-haul, metro, and broadband networks; focus on durability, UV resistance, and water-blocking.
- **Specialized environments:** Mining, military, nuclear, and airport applications; require customized materials and coatings for extreme conditions . When selecting optical cables, it is essential to consider transmission distance, environmental conditions, fiber type, and mechanical requirements to ensure optimal network performance and longevity. Manufacturers like Corning and Prysmian provide detailed specification sheets and product models to guide selection .

Article Content

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An all inclusive list of the various optical fiber specification sheets.

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These products and the others found in this catalog are the result of Proterial Cable's relentless desire to manufacture the finest

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Fiber Optic Cable Cable Types: (L>R): Zipcord, Distribution, Loose Tube, Breakout Cable provides

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Explore the different types of fiber optic cables and understand which type suits your specific

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The cost of optical cable would undoubtedly decrease as more manufacturers swarmed to compete for market share

Fiber Optic Cable Components & Materials: Complete

Explore the 5 key fiber optic cable components and materials used in modern networks.

Understanding and Specifying Optical-Fiber Cables | EC&M

Understanding and Specifying Optical-Fiber Cables Structured cabling specifications ensure you purchase and install

Fiber Optic Cable Types - Multimode and Single Mode

The Optical Core - a glass tube (core) propagates the light signals through the fiber cable. Glass is inherently reflective and is a

Definition, Types and Applications of Optical Fiber

We are aware that optical fiber has completely revolutionised the communications industry. A core, cladding, and

Network Cabling | Copper | Coaxial | Fiber Optic Cables ★ IpCisco

Network Cable Types Network Cabling is the Layer 1 of OSI Model. One of the most important part of a network. With the media the

Outside Plant Fiber Optic Cable

Outside Plant Fiber optic cables for outdoor applications are engineered to withstand the more demanding conditions seen outside,

Network Cable Types and Specifications

This tutorial explains the types of network cables used in computer networks in detail. Learn the specifications,

Fiber Optic Cable

Belden's extensive line of indoor and outdoor cable products is offered in tight buffer and loose tube designs. Learn more about each

Multimode Optical Fiber Selection & Specification

Corning Cable Systems also stands by this recommendation, but in situations where mixing fiber bandwidth types is required, it is

Fiber Outside Plant Cables

These cables exhibit unmatched stability and optical excellence. Global Availability: CommScope's outside plant fiber optic cables

Optical Fiber

CommScope's innovations in fiber optic cable have enabled it to produce fiber cables that delivers consistent, fast performance over

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Specifications For Fiber Optic Networks

Specifications For Fiber Optic Networks Per current standards and specs, maximum supportable distances and attenuation for

Fiber Optics and Types

Fiber Optics or Optical Fiber is a technology that transmits data as a light pulse along a glass or plastic fiber. An

BEC701

An optical Fiber is a thin, flexible, transparent Fiber that acts as a waveguide, or "light pipe", to transmit light between the two ends of

Fiber Optic Cable Types | Omnitron Systems Guide

Fiber optic technology has transformed the way we transmit data, enabling faster, more reliable

Fiber Optic Cable Types: Comprehensive Guide

Explore the different types of fiber optic cables and understand which type suits your specific needs for speed, distance,

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Fiber Optic Cables | Corning

Corning offers a comprehensive portfolio of outdoor cable types including loose tube, ribbon, and microduct with a wide range of fiber

Optical Fiber Cable Specifications and Fibre-Count Guide

This guide sets out the technical parameters to define when specifying optical fiber cable. For how these map to

Fiber Optic Cable Types by Application | Lightera

A comprehensive guide to all types of fiber optic cable and their applications: communications, medical,

Fiber optic cable Catalog

Easy and fast installation due to its small diameter and light construction. Suitable for pushing, blowing method. Problem-free use in

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