

Fiber optic cable type and diameter



Article Overview

Fiber optic cables are categorized mainly into single-mode and multimode types, with core sizes ranging from 8-9 μm for single-mode to 50-62.5 μm for multimode, each optimized for specific transmission distances and bandwidth requirements.

Types of Fiber Optic Cables

Single-Mode Fiber (SMF):

- Features a very small core, typically 8-9 microns in diameter, allowing only one light mode to propagate.
 - Ideal for long-distance, high-speed transmission with minimal signal loss.
 - Commonly used in telecommunications, long-haul networks, and high-bandwidth applications.
 - Examples include OS1 and OS2 fibers, with OS2 optimized for outdoor and long-distance use ().
- #### Multimode Fiber (MMF):
- Has a larger core, usually 50 μm or 62.5 μm , supporting multiple light modes simultaneously.
 - Suitable for shorter distances, such as data centers, LANs, and enterprise networks.
 - Common multimode types include OM1, OM2, OM3, and OM4, with OM3 and OM4 supporting high-speed 10G/40G/100G connections ().
- #### Armored Fiber Cable:
- Includes an extra protective layer, often metal or reinforced plastic, to resist physical damage, crushing, or tampering.
 - Used in harsh environments or outdoor installations where mechanical protection is critical ()....

Article Content

Sep 17, 2025

Fiber Optic Cables: Speed, Standards, and More

There are two major types of fiber optic cables, single-mode and multimode. Single-mode cable is used for

May 31, 2026

Fiber-optic communication

An optical fiber patching cabinet. The yellow cables are single-mode fibers; the orange and blue cables are multi-mode fibers:

Nov 08, 2025

Fiber Optic Cable Types – Multimode and Single Mode

Single Mode fibers are identified by the designation OS or Optical Single-mode Fiber. Single Mode cable has a much smaller core (8

Dec 24, 2025

Fiber Selection Guide

- Singlemode fiber optic cables are ideal for high bandwidth and long-distance applications, while multimode cables, also suitable for

Jan 15, 2026

Types of Fibre Optic Cable: A Comprehensive Guide

Learn about single-mode and multi-mode fiber optic cables, their components, uses, and how to choose the right type

Nov 05, 2025

Fiber Optics: Understanding the Basics

Optical fiber s are made from either glass or plastic. Most are roughly the diameter of a human hair, and they may be many miles

May 05, 2026

Multimode Fiber Types: OM1 vs OM2 vs OM3 vs OM4 vs OM5

How Many Types of Multimode Fiber? Identified by ISO 11801 standard, multimode fiber optic cables can be classified

Jan 22, 2026

The Ultimate Guide to Fiber Optic Cables – Types, Standards, and ...

Discover how to choose the right fiber optic cables for your network. Learn about fiber types, cable constructions,

Oct 23, 2025

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,

Oct 05, 2025

Fibre optic cable selection guide

This fibre optic cable selection guide explains the differences between the different types and the commonly available construction

Sep 10, 2025

Fiber Optic Cable Types – Multimode and Single Mode

Application Fiber Optic connectors and cables are present in nearly every communications project that we might sell into, be it a DAS

Feb 02, 2026

Fiber optics | Definition, Inventors, & Facts | Britannica

Fiber optics, the science of transmitting data, voice, and images by the passage of light through thin, transparent fibers.

Jan 09, 2026

Fiber Optics and Types

Fiber optic cables are used for long-distance and high-performance data networking. They are capable of transmitting

Oct 17, 2025

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

Dec 03, 2025

FIBRE OPTIC CABLES GENERAL SPECIFICATIONS

FIBRE OPTIC CABLES GENERAL SPECIFICATIONS ... * All attenuation values are valid for cabled fibres ** Zero Water Peak

Jan 11, 2026

Fiber Optic Cable Types Explained: Choosing the Right Fiber Cable

With so many types available, choosing the right one for your application can feel overwhelming. This guide breaks

Dec 30, 2025

Fiber Optic Cable Types: A Complete Guide

Here's everything you need to know about the various fiber optic cable types, what makes them so useful, and what

Jun 22, 2026

Fiber Optic Cable Types: Single-Mode, Multimode, and Beyond – A ...

Discover fiber optic cable types, including single-mode (OS1, OS2) and multimode (OM1, OM2, OM3, OM4, OM5),

Apr 19, 2026

The FOA Reference For Fiber Optics

Fiber optic cables come in lots of different types, depending on the number of fibers and how and where it

May 21, 2026

Fiber Optic Cable Types Explained: Choosing the Right Fiber Cable

This guide breaks down the most common and specialized fiber optic cable types, helping you identify the best fit for

Jul 20, 2026

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,

Jun 08, 2026

Single Mode Fiber Cable Explained

How Does Fiber Optics Work? As explained by the Fiber Optics Association, fiber optics is the communications medium that sends

Nov 19, 2025

Single Mode vs. Multimode Fiber: Core Differences and Selection Guide

How do you choose between single mode and multimode fiber? Compare their differences in core size, light source,

Apr 20, 2026

A Complete Guide to Fibre Optic Cables | RS

There are multiple fibre optic cable types, and it is important to understand the differences between each one. Each

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://www.greatpremiersolutions.co.za>

Email: sales@greatpremiersolutions.co.za

Phone: +27 82 914 3675

Address: Unit 5, Silicon Heights, 22 Electron Avenue, Cape Town, 8001, South Africa

This document is for informational purposes only. Specifications subject to change without notice.

