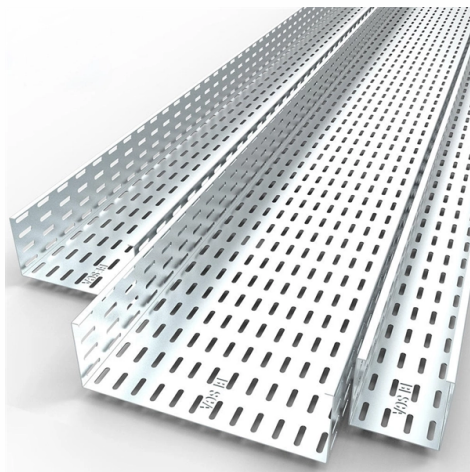


Fiber Optic Cable Line Type Classification and Price Table



Overview

With this table, you can compare the most common fiber optic cable types, including OS1, OS2, OM1, OM2, OM3, OM4 and OM5.

Key Takeaways

Fiber optic cables are classified by fiber type, construction, and application, with prices ranging from \$0.05 to \$6 per foot depending on specifications and installation requirements. Fiber Optic Cable Classification

1. Fiber Type

- Single-Mode Fiber (SMF, OS1/OS2): Small core ($\sim 9\text{ }\mu\text{m}$), supports long-distance, high-speed transmission, commonly used in campus backbones, metropolitan, and long-haul networks .

- Multimode Fiber (MMF, OM3/OM4): Larger core ($50\text{--}62.5\text{ }\mu\text{m}$), supports multiple light modes, ideal for short-reach applications like data centers .

2. Cable Construction

- Tight-Buffered: Indoor use, easier to terminate, suitable for patch cords and riser applications .

- Loose-Tube: Outdoor or long-distance use, protects fibers from environmental stress, often gel-filled for moisture resistance .

- Armored: Extra protection for harsh environments or direct burial, adds 20-50% to cost .
 - Non-Armored: Standard indoor or aerial applications, lower cost .
- ### 3. Jacket Material and Environmental Rating
- Indoor: PVC or LSZH jackets, cost-effective, flame-retardant for riser or plenum spaces .
 - Outdoor: PE or UV-resistant jackets, suitable for aerial, direct-burial, or wet environments .
 - Direct-Buried: Requires additional testing and compliance, higher material and installation costs .
- ### 4. Fiber Count

- Common counts: 2, 12, 24, 48, 96, 288 strands. Higher fiber counts increase cost proportionally .

Price Table (Indicative)	Cable Type	Fiber Count	Construction	Environment	Price per Foot	Notes
	Single-mode OS1	12	Tight-buffered	Indoor	\$0.10-\$0.50	Short-distance, low-cost backbone
	Single-mode OS2	12-24	Loose-tube	Outdoor	\$0.30-\$1.00	Long-distance, high durability
	Multimode OM3	12-24	Tight-buffered	Indoor	\$0.30-\$1.00	Data center, short-reach
	Multimode OM4	24-48	Armored	Indoor/Outdoor	\$0.50-\$2.00	High-speed, high-density applications
	Armored Single-mode	24-48	Loose-tube	Outdoor/Direct-burial	\$0.50-\$5.00	Harsh environment, trenching required
	High-count Backbone	96-288	Loose-tube	Outdoor	\$1.00-\$6.00	Campus or metropolitan backbone

Installation Cost Examples

- Basic Indoor Run (1,000 ft, single-mode): Cable \$0.40/ft, Labor \$1.00/ft, Permits \$150, Accessories \$100. Total ≈ \$2,650-\$3,100 .
 - Mid-Range Outdoor Run (2,000 ft, 4 terminations): Cable \$0.70/ft, Labor \$1.60/ft, Permits \$350, Delivery \$120, Accessories \$250. Total ≈ \$4,940-\$6,120 .
 - Premium Outdoor Armored (5,000 ft, multiple splices, testing): Cable \$1.00/ft, Labor \$3.00/ft, Permits \$900, Delivery \$350, Warranty extended. Total ≈ \$11,000-\$14,500 .
- ### Factors Affecting Price

- Fiber type and count, cable construction, jacket material, indoor vs outdoor, armored vs non-armored, installation complexity, labor, permits, and regional cost variations .
- Bulk purchases (>10 km) reduce per-unit cost, while custom lengths or urgent orders increase it . This classification and pricing guide provides a practical framework for budgeting fiber optic cable projects, whether for enterprise, data center, or long-haul network deployments.

Article Content

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With this table, you can compare the most common fiber optic cable types, including OS1, OS2, OM1, OM2, OM3, OM4 and OM5.

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Fiber Optic Cable Types - Multimode and Single Mode

The Optical Core – a glass tube (core) propagates the light signals through the fiber cable.

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Once the fiber optic cables are installed, it is important to clean and maintain the cables. There are two types of fiber optic connector

Fiber Optic Cable Types | Omnitron Systems Guide

Explore fiber optic cable types, features, and applications. Omnitron Systems explains single-mode, multi

Fiber Optics and Types

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

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

Types of Fiber Optic Cables: A Comprehensive Guide | Network Drops

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

Handbook Optical fibres, cables and systems

The optical fibres are specified in ITU-T with reference to the geometrical, optical, transmission and mechanical attributes listed in

Fiber Optic Cable Types * | Single Mode

A Fiber Optic cable is a network cable which transmits data via light signals over glass fiber. It provides

Fiber Optic Cables Guide | Types, Features, & Selection Tips | Tyclon

Learn about the different types, features, and selection criteria for fiber optic cables. Tyclon provides a comprehensive guide to help

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This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

