

Fiber Optic Cable Om Grade and Wavelength



Overview

Compare all five multimode fiber grades — OM1 through OM5 — with full specs, bandwidth, distance limits, and real-world data center use cases.

Key Takeaways

OM fiber optic cables, particularly OM5, are designed to operate at multiple wavelengths, including 850 nm, 880 nm, 910 nm, and 940 nm, making them suitable for high-bandwidth applications.

Overview of OM Fiber Types

OM1: Typically operates at 850 nm and 1300 nm, with a core diameter of 62.5 microns. It supports data rates up to 10 Gbps over short distances (up to 300 meters).

OM2: Similar to OM1 but optimized for better performance, also operating at 850 nm and 1300 nm, with a core diameter of 50 microns. **OM3:** Laser-optimized multimode fiber that operates at 850 nm, supporting data rates of 10 Gbps over distances up to 300 meters. **OM4:** Further optimized for higher bandwidth, also operating at 850 nm, with a maximum distance of 400 meters for 10 Gbps.



OM5: The latest standard, designed for short wavelength division multiplexing (SWDM), operates at 850 nm, 880 nm, 910 nm, and 940 nm. It supports multiple wavelengths simultaneously, enhancing data transmission capacity without additional infrastructure. Key Features of OM5: Modal Bandwidth: OM5 has a modal bandwidth of 4700 MHz/km at 850 nm and 2470 MHz/km at 953 nm, making it suitable for high-speed applications like 40G and 100G Ethernet.

Applications: OM5 is particularly beneficial in data centers and high-performance computing environments where high bandwidth and short-distance connections are essential. In summary, OM fiber optic cables, especially OM5, are versatile and capable of operating at various wavelengths, making them ideal for modern networking needs.

Article Content

Multimode Fiber Cable Types: OM1/OM2/OM3/OM4/OM5 Compared

Compare all five multimode fiber grades — OM1 through OM5 — with full specs, bandwidth, distance limits, and real-world data center use cases. Learn which grade fits your

OM1 vs OM2 vs OM3 vs OM4 vs OM5 Multimode Fiber Guide | EDGE

Compare OM1, OM2, OM3, OM4, and OM5 multimode fiber specs, distances, bandwidth, and applications. Essential guide for data center fiber selection.

Differences_between_OM1__OM2__OM3__OM4_ copy

What are OM and OS type fiber optic cables? Fiber optic cables used in telecommunication are broadly categorized in two types – Multimode fiber and Single mode fiber cables. Multimode fiber cable is

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

A complete guide to multimode fiber types: from OM1 to OM5, covering modal dispersion, bandwidth limits, cabling design, and future trends.

OM1 vs OM2 vs OM3 vs OM4 vs OM5 Multimode Fiber Explained

Each OM grade specifies a minimum modal bandwidth at certain wavelengths, which determines the maximum distance the fiber can support at a given Ethernet speed. The fiber's physical dimensions,

Fiber OS1 OS2 OM3 OM4 OM5: Practical Network Cabling Guide

OS1, OS2, OM3, OM4, OM5 fiber grades: core sizes, distance limits by speed, when to mix grades, and which to choose for campus and data-center LANs.

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

Multimode fibers OM1 through OM5 offer varying levels of performance, bandwidth, and transmission capabilities. From the basic OM1 suitable for lower-speed applications to the advanced

A Technical Comparison of OM1, OM2, OM3, OM4, and OM5 Fibers

Understanding the differences between OM1, OM2, OM3, OM4, and OM5 is critical for network engineers, procurement managers, and system designers planning for both current bandwidth needs

Fiber Optic Cable Types Explained

Learn all about the differences between single mode and multimode cables, as well as the various fiber wavelengths and standard core sizes used in fiber optics.

Guide To Multimode Fiber (62.5um & 50um, OM1 to OM5)

Guide To Multimode Fiber (62.5um & 50um, OM1 to OM5) What is multimode fiber optic glass? Multimode fiber optic cable (or glass) is a common specification of

Fiber Optic Products & Accessories Manufacturer/Supplier

UnitekFiber is a professional manufacturer of fiber Indoor/outdoor cables, MPO/MTP fiber patch cords, fiber optic patch panel. SFP optical transceiver, fiber optical connectivity and PLC splitter. Our

Single Mode vs Multimode Fiber, What is The Difference?

Learn the key differences between single mode vs multimode fiber cables and choose the right one for your fiber optic system.

What Is Fiber Patch Cord? Singlemode/Multimode, LC SC FC, UPC Vs

LC or SC connector? UPC or APC polish? This article systematically introduces fiber patch cord basics, optical specifications and full-range industry applications to help you make correct

7 Best Fiber Optic Light Meters (May 2026) Expert Reviews

These handheld devices measure optical power in dBm, helping you verify signal strength, locate faults, and certify new installations with confidence. Finding the best fiber optic light

Fiber Optic Patch Cables: The Complete 2026 Buyer's

Confused by LC, SC, MPO, UPC, and APC? This complete fiber optic patch cable guide covers connector types, single-mode vs multimode,

Best 5 Visual Fault Finders of 2025: Professional Fiber Optic Testing ...

Visual fault finders, also known as visual fault locators (VFLs), are essential fiber optic testing instruments that use visible red laser light (typically 650nm wavelength) to identify faults, breaks,

Fiber Optic Cable Range: Comprehensive Guide

Fiber optic cable range varies depending on whether you're using single or multimode fiber. Learn the potential for both cable types.

Top 5 Fiber Optic Cable Manufacturers in the United States (

This 2025 updated guide focuses on manufacturers with established fiber optic cable product lines and meaningful presence in the United States. You'll get a practical comparison, then a

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

