50 Micron OM5 Wideband Multimode Optical Fiber Spool – Optimized for SWDM and 100G/400G Transmission

Product Overview

Winner OM5 optical fiber is a next-generation wideband multimode fiber (WBMMF) standardized under ISO/IEC 11801-1:2017 and TIA-492AAAE, designed to support Shortwave Wavelength Division Multiplexing (SWDM) technologies from 850 nm to 953 nm. With a 50/125 µm core/cladding geometry, it maintains backward compatibility with OM3 and OM4 while enabling higher data rates using fewer fibers—making it ideal for future-proof data center upgrades.

The fiber delivers effective modal bandwidth sufficient to support 100GBASE-SWDM4 up to 150 meters and 400GBASE-SWDM4 up to 100 meters, significantly reducing transceiver and cabling costs compared to parallel optics. Its optimized refractive index profile ensures low differential mode delay (DMD) across the extended wavelength range, guaranteeing stable performance with VCSEL-based SWDM transceivers. Winner OM5 is manufactured under stringent quality controls to meet IEC 60793-2-10 specifications and supports operating temperatures from -40°C to +85°C.

Technical Specifications

Brand Name	Winner

Model Number	OM5
Fiber Type	Wideband Multimode (WBMMF)
Core/Cladding Diameter	50/125 µm
Wavelength Range	850 nm to 953 nm (optimized for SWDM)
Effective Modal Bandwidth	⩾4700 MHz・km @850 nm; meets OM5 EMB requirements across 850–953 nm
Attenuation	⩽2.4 dB/km @850 nm, ⩽0.6 dB/km @1300 nm
Operating Temperature Range	-40°C to +85°C
Storage Temperature Range	-40°C to +85°C
Installation Temperature Range	-10°C to +60°C

Applications

- Data centers deploying SWDM4 or BiDi transceivers for 40G/100G/400G connectivity with reduced fiber count

- High-density server-to-TOR (Top-of-Rack) and spine-leaf interconnects requiring future scalability
- Enterprise networks planning long-term migration paths beyond OM4 without adopting single-mode infrastructure
- Cloud service providers seeking cost-efficient 100G+ solutions with simplified cabling architecture
- Retrofit projects where existing OM3/OM4 pathways can be reused with OM5 fiber for enhanced capacity

Standards & Compatibility

Winner OM5 fiber complies with ISO/IEC 11801-1 (WBMMF), TIA-492AAAE, and IEC 60793-2-10 Type A1a.5. It is fully compatible with OM3 and OM4 in legacy links and supports all major SWDM transceiver standards including 40GBASE-SWDM4, 100GBASE-SWDM4, and 400GBASE-SWDM4. The fiber is identifiable by its aqua jacket when cabled, per TIA-598-D color coding.