

Duplex Fiber Optical Patchcord OM5

Product Overview

The OM5 Bend Insensitive Multimode Fiber is a 50µm laser-optimized multimode fiber designed for short wavelength division multiplexing (SWDM) applications. Unlike traditional OM4 fiber with high bandwidth performance in a narrow bend centred at 850nm. This multimode fiber delivers OM4 performance in the 850-950nm window while maintaining compatibility with current multimode fibers. Wideband OM5 and multi-wavelength transceivers are a viable solution for future 100Gb/s and 400Gb/s multi-wavelength-systems.

The Wideband OM5 Bend insensitive Multimode Fiber complies with or exceeds ISO/IEC 11801 OM5 specification, IEC 60793-2-10 type A1a.4 optical fiber specification and TIA/EIA-492AAAE detail specification.

Features	Benefits and Applications
<ul style="list-style-type: none"> Designed for multi-wavelength systems 	<ul style="list-style-type: none"> Duplex transmission of 40/100/400 Gb/s using SWDM technology
<ul style="list-style-type: none"> Maintaining compatibility with current OM4 multimode optical fiber 	<ul style="list-style-type: none"> Supports today's application including 100Gb/s Ethernet
<ul style="list-style-type: none"> Very low macro-bending sensitivity 	<ul style="list-style-type: none"> Supports installation with small cable bend radii and compact organizers
<ul style="list-style-type: none"> Coated with proprietary dual layer UV curable acrylate 	<ul style="list-style-type: none"> Optimized performance in tight-buffer cable applications High resistance to micro-bending Stable performance over a wide range of environmental conditions

System Link Length

Wideband OM5 Bend Insensitive fiber	40Gb/s multi-wavelength transceivers 850-950nm	Max. 150m distance
Wideband OM5 Bend Insensitive fiber	40 & 100Gb/s Link length 850nm based on IEEE802.3	Max. 200m distance
Wideband OM5 Bend Insensitive fiber	10Gb/s Link length 850nm based on IEEE802.3	Max. 600m distance

Characteristics	Conditions	Specified Values	Units
Geometry Characteristics			
Core diameter		50 ± 2.5	µm
Core Non-Circularity		≤ 5.0	%
Cladding Diameter		125.0 ± 0.8	µm
Cladding Non-Circularity		≤ 0.6	%
Coating Diameter		245 ± 7	µm
Coating/Cladding Concentricity Error		≤ 10.0	µm
Coating Non-Circularity		≤ 6.0	%
Core/Cladding Concentricity Error		≤ 1.0	µm
Delivery Length		Up to 8.8	km/reel

Optical Characteristics	Conditions	Specified Values	Units
Attenuation	850nm	≤ 2.4	dB/km
	953nm	≤ 1.7	dB/km
	1300nm	≤ 0.6	dB/km
Overfilled Modal Bandwidth	850nm	≥ 3500	MHz * km
	953nm	≥ 1850	MHz * km
	1300nm	≥ 500	MHz * km
Effective Modal Bandwidth	850nm	≥ 4700	MHz * km
	953nm	≥ 2470	MHz * km
Application support distance on			
40Gb/s multi-wavelength transceivers	850~950nm	150	m
40 & 100Gigabit Ethernet	850nm	200	m
10GBASE-SR	850nm	600	m
1000BASE-SX	850nm	1100	m
Numerical Aperture		0.200 ± 0.015	
Group Refractive Index	850nm	1.482	
	1300nm	1.477	
Zero Dispersion Wavelength, λ_0		1297-1328	nm
Zero Dispersion Slope, S_0		≤ 4(-103)/(840(1-($\lambda_0/850$) ⁴))	ps/(nm ² * km)
Macrobending loss ¹		@850nm @1300nm	
2 turns @15mm radius		≤ 0.1 ≤ 0.3	dB
2 turns @7.5mm radius		≤ 0.2 ≤ 0.5	dB

Backscatter Characteristics (850nm & 1300nm)	Specified Values	Units
Step (Mean bidirectional measurement)	≤ 0.10	dB
Irregularities over fiber length and point discontinuity	≤ 0.10	dB
Attenuation uniformity	≤ 0.08	dB/km

Environmental Characteristics (850nm & 1300nm)	Specified Values	Units
Temperature Cycling at -60°C to +85°C	≤ 0.10	dB/km
Temperature-Humidity Cycling at -10°C to +85°C and 4% to 98% RH	≤ 0.10	dB/km
Water Immersion at 23°C for 30 days	≤ 0.10	dB/km
Dry Heat at 85°C for 30 days	≤ 0.10	db/km
Damp Heat at 85°C and 85% RH for 30 days	≤ 0.10	dB/km

Mechanical Specification	Conditions	Specified Values	Units
Proof test		≥ 9.0	N
		≥ 1.0	%
		≥ 100	kpsi
Coating strip force	Typical average force peak force	1.5	N
		≥ 1.3 ≤8.9	N
Dynamics stress corrosion susceptibility parameter (n_d , typical)		27	

Remark: (1) The launch condition for the macrobending loss measurement fulfils that described in IEC 61280-4-1.