

Fiber OM5 50/125

Multimode Optical Fiber

V-Protect offers YOFC MaxBand® WideBand OM5 Bend Insensitive Multimode Fibre is a 50µm laser-optimized multimode fibre designed for short wavelength division multiplexing (SWDM) applications. Unlike legacy OM4 multimode fibre with high bandwidth at 850nm, YOFC MaxBand® OM5 Bend Insensitive Multimode Fibre has high bandwidth in the 850 nm - 950 nm window and maintaining backward compatibility with legacy OM4 fibre. WideBand OM5 and multi-wavelength transceivers are a viable solution for 100Gb/s and 400Gb/s multi-wavelength systems.



YOFC MaxBand® WideBand OM5 Bend Insensitive Multimode Fibre complies with or exceeds ISO/IEC 11801-4 OM5 specification, IEC 60793-2-10 A1-OM5 specification, and TIA-492AAAF A1-OM5 specification.

▣ Features

- Designed for multi-wavelength systems
- High bandwidth in the wavelength range of 850 nm - 950 nm
- Backward compatibility with legacy OM4 fibre
- Superior geometry uniformity
- Low attenuation
- High bandwidth
- Low differential mode delay (DMD)
- Very low macro-bending sensitivity
- Coated with YOFC's proprietary dual layer UV curable acrylate

▣ Application

- Support single-wavelength and multi-wavelength transmission system from 40 Gb/s to 400 Gb/s
- Data centers
- Data storage networks
- High-performance computing centers a
- Office centers
- Local area networks (LAN)
- Supports the use and installation of optical cables with a small bending radius
- High resistance to micro-bending
- Optimized performance in tight-buffer cable applications
- Stable performance over a wide range of environmental conditions

▣ Fiber characteristics

	Multimode	OM5 50/125
■ Fiber type		
■ Composition		
Coating		Dual layers of UV-cured acrylate
■ Geometrical Characteristics		
Core Diameter		50±2.5 µm
Core Non-Circularity		≤ 5.0 %
Cladding Diameter		125.0 ± 1.0 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		
Attenuation	850 nm	≤ 2.4 dB/km
	953 nm	≤ 1.7 dB/km
	1300 nm	≤ 0.6 dB/km
Overfilled Modal Bandwidth	850 nm	≥ 3500 MHz·km
	953 nm	≥ 1850 MHz·km
	1300 nm	≥ 500 MHz·km
Effective Modal Bandwidth	850 nm	≥ 4700 MHz·km
	953 nm	≥ 2470 MHz·km

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Application support distance on		
100Gb/s WDM ¹	850 nm	150 m
40Gb/s WDM ¹	850 nm	440 m
100GBASE-SR10 ²	850 nm	200 m
40GBASE-SR4	850 nm	200 m
Numerical Aperture		0.200±0.015
Group Refractive Index	at 850 nm	1.482
	at 1300 nm	1.477
Zero Dispersion Wavelength, λ_0	1297-1328 nm	
Zero Dispersion Slope, S_0	$\leq 4 \text{ (-103) / (840 (\lambda_0/840)^4)}$	[ps/(nm ² ·km)]
Macrobending loss ³ :		
for 2 turns at a 15 mm mandrel radius		$\leq 0.1 \text{ dB at 850 nm}$
		$\leq 0.3 \text{ dB at 1300 nm}$
for 2 turns at a 7,5 mm mandrel radius		$\leq 0.2 \text{ dB at 850 nm}$
		$\leq 0.5 \text{ dB at 1300 nm}$

¹ - Support distance with SWDM transceivers <http://www.swdm.org/msa/>

² - Support distances considering maximum cable attenuation of 3.0 dB/km at 850 nm, maximum total splice/connector loss of 1.0 dB and VCSELs maximum RMS spectral width $\leq 0.45 \text{ nm}$.

³ - The launochn ddition for the macrobending loss measurement fulfils that described in IEC 61280-4-1.

Mechanical Characteristics

Fiber proof test level		$\geq 9 \text{ N}$
		$\geq 1 \%$
		$\geq 100 \text{ kpsi}$
Coating strip force	typical average force	1.5 N
	peak force	$\geq 1.3, \leq 8.9 \text{ N}$
Dynamic Stress Corrosion Susceptibility		
Parameter (n_d , typical)		20

Backscatter Characteristics

Step (Mean of Bidirectional Measurement)	850&1300nm	$\leq 0.10 \text{ dB}$
Irregularities Over Fibre Length and Point Discontinuity	850&1300nm	$\leq 0.10 \text{ dB}$
Attenuation Uniformity	850&1300nm	$\leq 0.08 \text{ dB/km}$

Environmental Characteristics

Induced attenuation at 850 nm and 1300 nm:	
from -60°C to +85°C temperature cycling	$\leq 0.10 \text{ dB/km}$
-10~+85°C / 4%~98 % RH temperature humidity cycling	$\leq 0.10 \text{ dB/km}$
+85°C dry heat	$\leq 0.10 \text{ dB/km}$
+85°C, 85% RH damp heat	$\leq 0.10 \text{ dB/km}$
+23°C water immersion	$\leq 0.10 \text{ dB/km}$

Packing

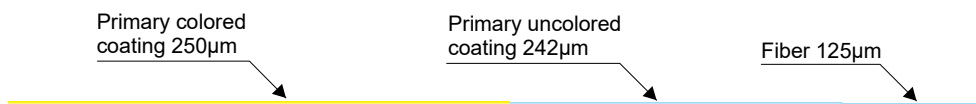
Fiber type	Multimode	OM5 50/125
Length on spool [km]		up to 8,8 km
Spool dimension		
	Flange diameter [mm]	234.5
	Barrel diameter [mm]	152.0
	Inner width [mm]	96.0
	Outer width [mm]	116.0
	Bore diameter [mm]	25.4

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✦ Fiber construction



System Link Length

40 & 100 Gb/s Link Length @850nm

MaxBand® WideBand OM5
Bend Insensitive Fibre

Distance (meters) 0 50 100 150 200

100Gb/s Link Length Based on WDM

MaxBand® WideBand OM5
Bend Insensitive Fibre

Distance (meters) 0 50 100 150

✦ Order code

OC-F55-x

Fiber color

00 - neutral, 01 - red, 02 - green, 03 - blue, 04 - yellow, 05 - white,
06 - grey, 07 - brown, 08 - violet, 09 - aqua, 10 - black, 11 - orange, 12 - pink
13 - neutral/black, 14 - red/black, 15 - green/black, 16 - blue/black, 17 - yellow/black,
18 - white/black, 19 - grey/black, 20 - brown/black, 21 - violet/black, 22 - aqua/black,
23 - black/white, 24 - orange/black, 25 - pink/black

Standard colours:

Fiber type	G.652.D	G.657.A1,A2,B3	OM1 62,5/125	OM2 50/125	OM3 50/125	OM4 50/125	OM5 50/125
Fiber colour	Yellow	White	Blue	Orange	Aqua	Violet	Green
RAL	1021	9010	5015	2003	6027	4005	6001

✦ Label on the spool contain

Tape of fiber
Length

✦ Warranty

V-Protect warrants that the delivered fibers meet this specification. If the fibers fail to meet this specification, V-Protect agrees to replace such failed fibers. V-Protect makes no warranty, however, as to the results to be obtained from the use of these fibers. In no event shall V-Protect be liable for removal or installation costs or other indirect or consequential damages.

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