WideCap-OM5 Multimode Fibre
Multimode Fibre Optimised for WDM Systems

Product Type: WideCap-OM5 **Issue date:** 10-2017
Coating Type: Dual Layer Primary Coating (DLPC9)

WideCap-OM5 multimode fibre is designed to support single wavelength and multi-wavelength transmission systems in the 850-950 nm wavelength window. WideCap-OM5 and WDM transmission systems provide high bandwidth and support efficient fiber count solutions to meet the increasing data demand in data center and LAN networks. WideCap-OM5 incorporates BendBright® technology to deliver enhanced macro-bending performance and is backward compatible with existing OM4 fibres and applications.

Standards references
WideCap-OM5 multimode fibre complies with or exceeds IEC 60793-2-10 type A1a.4, ISO/IEC 11801-OM5, TIA/EIA-492AAAE and Telcordia GR-20-CORE and GR-409-CORE specifications.

Features	Advantages
WideCap-OM5 offers high bandwidth in the vicinity 850 nm to 950nm window	Up to 400% more capacity than OM4 when using WDM technology
WideCap-OM5 multimode fibre is designed for single wavelength and WDM systems	Supports existing applications and emerging 100 Gb/s duplex systems. Enables next-generation 400 Gb/s technologies using 8 fibres
WideCap-OM5 uses BendBright® technology to deliver enhanced macro-bending performance	Allows the use of smaller, high density management systems in space limited data centres, computer rooms and LANs, improving overall system network reliability

Prysmian Group Multimode Fibre Innovation

1999 — Introduction of MaxCap300 (now *MaxCap-BB–OM3*)

2003 — Prysmian Group drives the advancement of MMF and introduces MaxCap550 (now *MaxCap-BB-OM4*)

2010 — Introduction of Bend-Insensitive MMF *MaxCap-BB-OMx*

2012 — Introduction of *MaxCap-BB-OM4+* Optimised for line speeds of 25Gbps

2014 — ***WideCap-OM5*** First MMF designed for WDM systems

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Characteristics	Conditions	Specified Values	Units
OPTICAL SPECIFICATIONS			
Attenuation Coefficient	850 nm 953 nm 1300 nm	≤ 2.4 ≤ 1.8 ≤ 0.6	dB/km
Numerical Aperture		0.200 ± 0.015	
Chromatic Dispersion			
Zero Dispersion Wavelength, λ_0		$1297 \le \lambda_0 \le 1328$	Nm
Zero Dispersion Slope, S_0	$1295 \text{ nm} \le \lambda_0 \le 1310 \text{ nm}$ $1310 \text{ nm} \le \lambda_0 \le 1340 \text{ nm}$	$\le 4(-103)/(840(1-(\lambda_0/840)^4))$ ps/nm².km	ps/nm².km
Fibre Capacity[1]	100Gbps WDM[2] 40Gbps WDM[2] 40GBASE-SR4 / 100GBASE-SR4	150 440 200	M
Overfilled Modal Bandwidth (OFL)	850 nm 953 nm 1300 nm	≥3500 ≥1850 ≥500	MHz.km
Effective Modal Bandwidth (EMB)	850 nm 953 nm	≥4700 ≥2470	MHz.km
Bending Loss	2 turns, Radius=7.5 mm; 850nm / 1300nm 2 turns, Radius=15 mm; 850nm / 1300nm 100 turns, Radius=37.5 mm; 850nm/1300nm	≤ 0.2 / ≤ 0.5 ≤ 0.1 / ≤ 0.3 ≤ 0.5 / ≤ 0.5	dB
Backscatter Characteristics[3]			
Point Discontinuity[4]	850 nm, 1300 nm	≤ 0.1	dB
Irregularities over fibre length	850 nm, 1300 nm	≤ 0.1	dB
Reflections		Not allowed	
Group Index of Refraction (Typ.)	850 nm 1300 nm	1.482 1.477	
GEOMETRICAL SPECIFICATIONS			
Core Diameter		50 ± 2.5	µm
Core Non-Circularity		≤ 5	%
Core/Cladding Concentricity Error		≤ 1.5	µm
Cladding Diameter		125.0 ± 1.0	µm
Cladding Non-Circularity		≤ 1	%
Coating Diameter		242 ± 5	µm
Coating Non-Circularity		≤ 5	%
Coating/Cladding Concentricity Error		≤ 10	µm
Length	Standard lengths up to	8.8	km
MECHANICAL SPECIFICATIONS			
Proof Test		> 0.7 (100)	GPa (kpsi)
Dynamic Tensile Strength (median value)	0.5 meter gauge length, unaged and aged	> 3.8 (550)	GPa (kpsi)
Fatigue Parameter (Typical)	Dynamic fatigue	$n_d > 20$	
Coating Strip Force	Average strip force	1 to 3	N
	Peak strip force	1.3 to 8.9	N
ENVIRONMENTAL SPECIFICATIONS			
Temperature Cycling	850 nm, 1300 nm; -60° C to +85° C	≤ 0.1	dB/km
Temperature-Humidity Cycling	850 nm, 1300 nm; -10° C to +85° C, 4-98% RH	≤ 0.1	dB/km
Water Immersion	850 nm, 1300 nm; 23° C, 30 days	≤ 0.1	dB/km
Dry Heat	850 nm, 1300 nm; 85° C, 30 days	≤ 0.1	dB/km
Damp Heat	850 nm, 1300 nm; 85° C; 85% RH, 30 days	≤ 0.1	dB/km

1) Support distances considering maximum cabled fibre attenuation of 3.0 dB/km at 850 nm, a maximum total connection loss of 1.0 dB
2) Support distance with SWDM transceivers http://www.swdm.org/msa/

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