

# WideCap-OM4 Multimode Fibre

## Fibre Optimized for Multi-Wavelength Systems

**Product Type:** WideCap-OM4  
**Coating Type:** Dual Layer Primary Coating (DLPC9)

**Issue date:** 09-2014  
**Supersedes:** -



Bend insensitive Laser-Optimized 50um WideCap-OM4 Multimode Fibre for multi-wavelength systems.

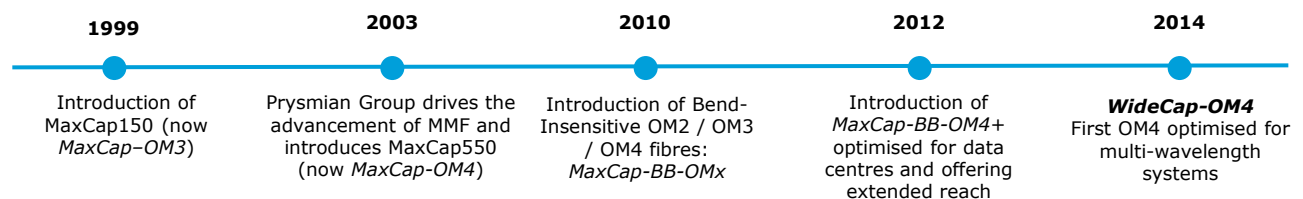
WideCap-OM4 multimode fibre delivers OM4 performance in the 850-950nm window while maintaining compatibility with current multimode fibres. Traditional OM4 fibres offer high bandwidth in a narrow band centred at 850nm. To satisfy the exponentially increasing information demand in Data Centers, the capacity of WideCap-OM4 has been extended to longer wavelengths up to 950nm. WideCap-OM4 and multi-wavelength transceivers are a viable solution for future 100 and 400Gbps multi-wavelength systems. WideCap-OM4 incorporates BendBright® technology to withstand tight bends and cabling challenges in the data centre.

### Standards references

**WideCap-OM4** comply with or exceed IEC 60793-2-10 type A1a.3 Optical Fibre Specification, ISO/IEC 11801 OM4 specification, TIA/EIA-492AAAD detail specification and Telcordia GR-20-CORE and GR-409-CORE specifications.

Features	Advantages
<b>WideCap-OM4</b> multimode fibre optimized for multi-wavelength systems	<b>WideCap-OM4</b> has been designed for high performance data centres, and future-proof the advent of multi-wavelength transceivers at 40/100/400Gbps
<b>WideCap-OM4</b> offers OM4 capacity in the 850-950nm window	<b>WideCap-OM4</b> offers OM4 quality performance at 850nm and longer wavelengths, supporting up to four 25Gbps channels in the 850-950 window
<b>WideCap-OM4</b> with BendBright® technology to deliver enhanced macrobending performance	<b>WideCap-OM4</b> allows the use of smaller, high density fibre management systems in space limited data centres, computer rooms and LANs, improving overall system network reliability

### Prysmian Group Multimode Fibre Innovations



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Characteristics	Conditions	Specified Values	Units
<b>OPTICAL SPECIFICATIONS</b>			
Attenuation Coefficient	850 nm 1300 nm	$\leq 2.3$ $\leq 0.5$	$\leq 2.4$ $\leq 0.6$ dB/km
Numerical Aperture		0.200 ± 0.015	
Chromatic Dispersion			
Zero Dispersion Wavelength, $\lambda_0$		$1295 \leq \lambda_0 \leq 1340$	nm
Zero Dispersion Slope, $S_0$	$1295 \text{ nm} \leq \lambda_0 \leq 1310 \text{ nm}$ $1310 \text{ nm} \leq \lambda_0 \leq 1340 \text{ nm}$	$\leq 0.105$ $\leq 0.000375 (1590 - \lambda_0)$	ps/nm <sup>2</sup> .km
Fibre Capacity	40Gbps multi-wavelength transceivers 40GBASE-SR4 / 100GBASE-SR10 10GBASE-SR	150 <sup>1</sup> 200 <sup>1</sup> 600 <sup>1</sup>	m
Overfilled Modal Bandwidth	850 nm 1300 nm	3500 500	MHz.km
Effective Modal Bandwidth (EMB)	850 nm	4700	MHz.km
Effective Modal Bandwidth equivalent <sup>2</sup>	875 nm 900 nm 925 nm 950 nm	4700	MHz.km
Bending Loss	2 turns, Radius=7.5 mm; 850nm / 1300nm 2 turns, Radius=15 mm; 850nm / 1300nm	$\leq 0.2$ / $\leq 0.5$ $\leq 0.1$ / $\leq 0.3$	dB
Backscatter Characteristics <sup>3</sup>			
Point Discontinuity <sup>4</sup>	850 nm, 1300 nm	$\leq 0.1$	dB
Irregularities over fibre length	850 nm, 1300 nm	$\leq 0.1$	dB
Reflections		Not allowed	
Group Index of Refraction (Typ.)	850 nm 1300 nm	1.482 1.477	
<b>GEOMETRICAL SPECIFICATIONS</b>			
Core Diameter		50 ± 2.5	µm
Core Non-Circularity		$\leq 5$	%
Core/Cladding Concentricity Error		$\leq 1$	µm
Cladding Diameter		125.0 ± 1.0	µm
Cladding Non-Circularity		$\leq 0.7$	%
Coating Diameter		242 ± 5	µm
Coating Non-Circularity		$\leq 5$	%
Coating/Cladding Concentricity Error		$\leq 10$	µm
Length	Standard lengths up to	8.8	km
<b>MECHANICAL SPECIFICATIONS</b>			
Proof Test		> 0.7 (100)	GPa (kpsi)
Dynamic Tensile Strength (median value)	0.5 meter gauge length, unaged and aged <sup>5</sup>	> 3.8 (550)	GPa (kpsi)
Fatigue Parameter (Typical)	Dynamic fatigue, unaged and aged <sup>5</sup>	$n_d > 25$	
Coating Strip Force	Average strip force, unaged and aged <sup>6</sup> Peak strip force, unaged and aged <sup>6</sup>	1 to 3 1.3 to 8.9	N N
<b>ENVIRONMENTAL SPECIFICATIONS</b>			
Temperature Cycling	850 nm, 1300 nm; -60°C to +85°C	$\leq 0.1$	dB/km
Temperature-Humidity Cycling	850 nm, 1300 nm; -10°C to +85°C, 4-98% RH	$\leq 0.1$	dB/km
Water Immersion	850 nm, 1300 nm; 23°C, 30 days	$\leq 0.1$	dB/km
Dry Heat	850 nm, 1300 nm; 85°C, 30 days	$\leq 0.1$	dB/km
Damp Heat	850 nm, 1300 nm; 85°C; 85% RH, 30 days	$\leq 0.1$	dB/km

1) For maximum cabled fibre attenuation of 3.0 dB/km at 850 nm, a maximum total connector loss of 1.0 dB  
2) EMB equivalent has been defined to meet equivalent 850nm OM4 performance at the wavelengths listed on the table. Takes into account the effect of chromatic dispersion on bandwidth at longer wavelengths  
3) OTDR measurement with 0.5 µs pulse width  
4) Mean of bi-directional measurement  
5) Aging at 85° C, 85% RH, 30 days  
6) Aging at 23° C, 0° C and 45° C; 30 days at 85° C and 85% RH; 14 days water immersion at 23° C