

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.

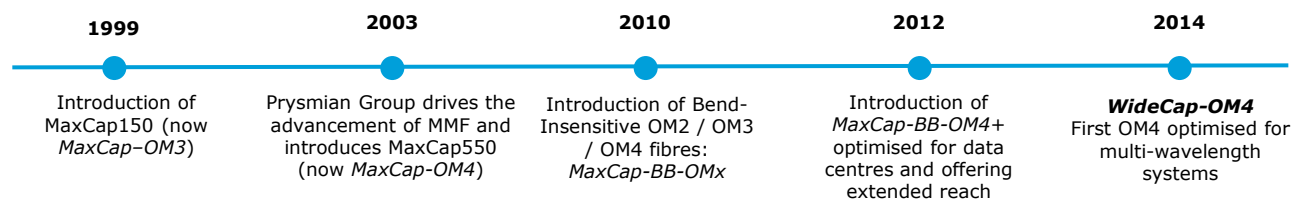
WideCap-OM4 multimode fibre delivers OM4 performance in the 850-950nm window while maintaining compatibility with current multimode fibres. Traditional OM4 fibres offer high bandwidth in a narrow band centred at 850nm. To satisfy the exponentially increasing information demand in Data Centers, the capacity 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
WideCap-OM4 multimode fibre optimized for multi-wavelength systems	WideCap-OM4 has been designed for high performance data centres, and future-proof the advent of multi-wavelength transceivers at 40/100/400Gbps
WideCap-OM4 offers OM4 capacity in the 850-950nm window	WideCap-OM4 offers OM4 quality performance at 850nm and longer wavelengths, supporting up to four 25Gbps channels in the 850-950 window
WideCap-OM4 with BendBright® technology to deliver enhanced macrobending performance	WideCap-OM4 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
OPTICAL SPECIFICATIONS			
Attenuation Coefficient	850 nm 1300 nm	≤ 2.3 ≤ 0.5	≤ 2.4 ≤ 0.6 dB/km
Numerical Aperture		0.200 ± 0.015	
Chromatic Dispersion			
Zero Dispersion Wavelength, λ_0		1295 ≤ λ_0 ≤ 1340 nm	
Zero Dispersion Slope, S_0	1295 nm ≤ λ_0 ≤ 1310 nm 1310 nm ≤ λ_0 ≤ 1340 nm	≤ 0.105 ≤ 0.000375 (1590 - λ_0) ps/nm ² .km	
Fibre Capacity	40Gbps multi-wavelength transceivers 40GBASE-SR4 / 100GBASE-SR10 10GBASE-SR	150 ¹ 200 ¹ 600 ¹ 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 ²	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	≤ 0.2 / ≤ 0.5 ≤ 0.1 / ≤ 0.3 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 μm	
Cladding Diameter		125.0 ± 1.0 μm	
Cladding Non-Circularity		≤ 0.7 %	
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 ⁵	> 3.8 (550) GPa (kpsi)	
Fatigue Parameter (Typical)	Dynamic fatigue, unaged and aged ⁵	$n_d > 25$	
Coating Strip Force	Average strip force, unaged and aged ⁶ Peak strip force, unaged and aged ⁶	1 to 3 N 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) 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