

## Legacy OM2 Graded-Index Multimode Fibre 50/125 µm (1300 nm bandwidth optimized)

**Product Type:** Legacy OM2 Multimode Fibre (50 µm core diam.)  
**Coating Type:** Dual Layer Primary Coating (DLPC9)

**Issue date:** 03-2013  
**Supersedes:** 04-2012



### Legacy 850 nm Laser-Optimized **OM2 50 µm Multimode Fibre.**

This graded-index multimode fibre has a 50 µm core diameter and a 125 µm cladding diameter. The fibre is designed for use at 1300 nm and can also be used at 850 nm and is suitable for use in premises cabling applications, like Local Area Networks (including backbone, riser and horizontal) with video, data and/or voice services using LED, VCSEL and Fabry-Perot laser sources at 850 nm or 1300 nm.

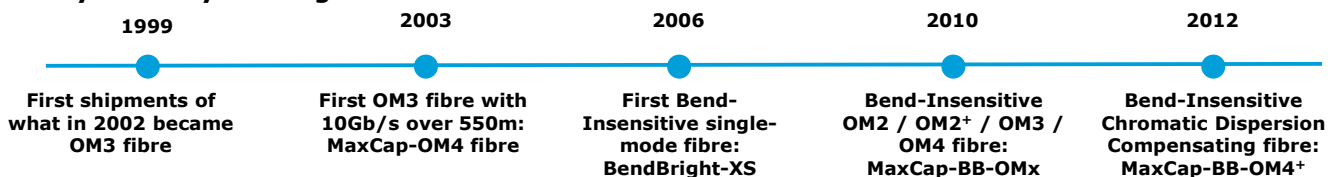
This multimode fibre assures full compatibility with legacy systems, like Fast Ethernet, FDDI, ATM, Fibre Channel and 1Gb/s Ethernet. Because of the nature of the Plasma-activated Chemical Vapor Deposition (PCVD and APVDTM) manufacturing process, this fibre offers the highest bandwidth available in the market.

#### Standards references

The fibre complies with or exceeds ITU Recommendation G.651.1, IEC 60793-2-10 type A1a.1 Optical Fibre Specification, TIA/EIA-492AAAB detail specification and Telcordia GR-20-CORE and GR-409-CORE specifications.

Features	Advantages
Produced by the PCVD and APVD™ processes, the ultimate processes for graded- index multimode fibres	<ul style="list-style-type: none"> <li>• Superior geometry, uniformity and purity of glass</li> <li>• PCVD and APVD™ produced multimode fibres show excellent modal bandwidth performance</li> </ul>
Coated with the dual layer UV Acrylate	<ul style="list-style-type: none"> <li>• Optimized performance in tight-buffer cable applications</li> <li>• High resistance to micro-bending</li> <li>• Stable performance over a wide range of environmental conditions</li> <li>• Improved an easier strippability of tight buffer coatings</li> </ul>

### Key Industry Leading Milestones



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Characteristics	Conditions	Specified Values		Units
<b>OPTICAL SPECIFICATIONS (Uncabled fibre)</b>				
Attenuation Coefficient	850 nm 1300 nm	$\leq 2.2$ $\leq 0.5$	$\leq 2.3$ $\leq 0.6$	dB/km
Numerical Aperture		0.200 $\pm$ 0.015		
Chromatic Dispersion				
Zero Dispersion Wavelength, $\lambda_0$		1295 $\leq \lambda_0 \leq$ 1340		nm
Zero Dispersion Slope, $S_0$	1295 nm $\leq \lambda_0 \leq$ 1310 nm 1310 nm $\leq \lambda_0 \leq$ 1340 nm	$\leq 0.105$ $\leq 0.000375 (1590 - \lambda_0)$		ps/nm <sup>2</sup> .km
Overfilled Modal Bandwidth <sup>1</sup>	850 nm 1300 nm	$\geq 500$ $\geq 500$		MHz.km
Bending Loss	100 turns, D=75 mm; 850nm / 1300nm	$\leq 0.5$		dB
Backscatter Characteristics <sup>2</sup>				
Point Discontinuity <sup>3</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>GEOMERICAL SPECIFICATIONS</b>				
Core Diameter		50 $\pm$ 2.5		$\mu\text{m}$
Core Non-Circularity		$\leq 5$		%
Core/Cladding Concentricity Error		$\leq 1$		$\mu\text{m}$
Cladding Diameter		125.0 $\pm$ 1.0		$\mu\text{m}$
Cladding Non-Circularity		$\leq 0.7$		%
Coating Diameter		242 $\pm$ 5		$\mu\text{m}$
Coating Non-Circularity		$\leq 5$		%
Coating/Cladding Concentricity Error		$\leq 10$		$\mu\text{m}$
Length	Standard lengths up to Other lengths available on request	26.4		km
<b>MECHANICAL SPECIFICATIONS</b>				
Proof Test	Off line	> 0.7 (100)		GPa (kpsi)
Dynamic Tensile Strength (median value)	0.5 meter gauge length, unaged and aged <sup>4</sup>	> 3.8 (550)		GPa (kpsi)
Fatigue Parameter (Typical)	Dynamic fatigue, unaged and aged <sup>4</sup>	$n_f > 25$		
Coating Strip Force	Average strip force, unaged and aged <sup>5</sup>	1 to 3		N
	Peak strip force, unaged and aged <sup>5</sup>	1.3 to 8.9		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). The modal bandwidth is linearly normalized to 1 km, according to IEC 60793-2-10.
- 2). OTDR measurement with 0.5  $\mu\text{s}$  pulse width.
- 3). Mean of bi-directional measurement.
- 4). Aging at 85°C, 85% RH, 30 days.
- 5). Aging at 23°C, 0°C and 45°C; 30 days at 85°C and 85% RH; 14 days water immersion at 23°C.