

## Optronics OM4 50/125 Multimode Optical

Optronics specification for standard OM4 50/125 graded index multimode optical fibre. Cabled values are given where appropriate. All fibre parameters meet or exceed the following generic and laser optimised 50/125 requirements:

- ITU-T G.651
- IEC 60793-2-10 type A1a.3
- ISO/IEC 11801 OM-4
- TIA/EIA-492AAAD
- Telcordia GR-20-CORE

### Applications

- ▶ For use in 10 Gb/s high speed LAN networks over a 550m indicative link length at 850 nm (SX) wavelength using a laser launch
- ▶ For use in 1 Gb/s high speed LAN networks over a 1000m indicative link length at 850 nm (SX) wavelength using a laser launch
- ▶ High speed and legacy networks including Gigabit Ethernet, Fast Ethernet and Ethernet
- ▶ All OM4 Optronics cable constructions including tight buffered, loose tube and ribbon
- ▶ Data centres
- ▶ Premises cabling in data networks including backbone, riser and horizontal
- ▶ Supports video, data and voice services



### Technical Specification

Parameter	Unit	Value
General Characteristics		
Graded index multimode optical fibre with doped silica core and silica cladding. Dual layer UV cured acrylic resin primary coatings.		
Geometrical Characteristics		
Core diameter	µm	50 ± 2.5
Core non circularity	%	≤ 5
Cladding diameter	µm	124.9 ± 1.1
Cladding non circularity	%	≤ 1.0
Core/cladding concentricity error	µm	≤ 1.5
Coating/cladding concentricity error	µm	≤ 12
External diameter (uncoloured)	µm	244.5 ± 7.5
Transmission Characteristics		
Maximum attenuation fibre @ 850 nm	dB/km	≤ 2.3
Maximum attenuation fibre @ 1300 nm	dB/km	≤ 0.6
Maximum attenuation cabled @ 850 nm	dB/km	≤ 3.5
Maximum attenuation cabled @ 1300 nm	dB/km	≤ 1.5
Typical attenuation cabled @ 850 nm	dB/km	≤ 2.7
Typical attenuation cabled @ 1300 nm	dB/km	≤ 0.9
Zero dispersion wavelength $\lambda_0$	nm	≥ 1295
		≤ 1340

Parameter	Unit	Value
Zero dispersion slope $S_0$	ps/(km <sup>2</sup> ·km)	≤ 0.11
Numerical aperture (NA)		0.200 ± 0.015
Modal bandwidth @ 850 nm overfilled LED	MHz·km	≥ 3500
Modal bandwidth @ 1300 nm overfilled LED	MHz·km	≥ 500
Effective modal bandwidth @ 850nm laser launch	MHz·km	≥ 4700
Group refractive index @ 850 nm		1.480
Group refractive index @ 1300 nm		1.479
Fibre irregularities point and whole length @ 1300 nm	dB	≤ 0.1
Environmental Characteristics		
Fibre temperature dependence -60°C to +85°C	dB/km	≤ 0.1
Fibre temperature and humidity cycling -10°C to +85°C, 90% R.H.	dB/km	≤ 0.1
Fibre watersoak dependence 23 °C for 30 days	dB/km	≤ 0.2
Mechanical Characteristics		
Proof test fibre strain for 1 second equivalent	%	1
Bending dependence 100 turns 75 mm diameter 850 nm & 1300 nm	dB	≤ 0.5
Typical mean coating strip force	N	1.0 to 3.0

\*Reduced bend sensitivity (RBS) OM4 available on request