

## Optronics OS1 / OS2 9/125 Singlemode Fibre

Optronics specification for standard OS1 / OS2 9/125 ITU-T G.652D LWP singlemode optical fibre. Cabled values are given where appropriate. All fibre parameters meet or exceed the following Low Water Peak (LWP) singlemode requirements:

- ITU-T G.652D
- IEC 60793-2-50 type B1.3
- ISO/IEC 11801 OS-1
- TIA/EIA 492-CAAB
- Telcordia GR-20-CORE

### Applications

- ▶ Operational in the entire 1260nm to 1625nm wavelength range
- ▶ Low chromatic dispersion in the 1310nm operating window
- ▶ Low attenuation at the 1383nm water peak region
- ▶ Operational in the 1360nm to 1460nm wavelength extended band
- ▶ All OS1 / OS2 Optronics cable constructions including tight buffered, loose tube and ribbon
- ▶ Supports 1Gb/s up to an indicative 5km in data networks
- ▶ Supports high speed multi channel video, data and voice services in metropolitan and access networks
- ▶ ATM, SONET and WDM

### Technical Specifications



Parameter	Unit	Value
General Characteristics		
LWP Singlemode optical fibre with doped silica core and silica cladding. Dual layer UV cured acrylic resin primary coatings.		
Geometrical Characteristics		
Mode field diameter at 1310 nm	µm	9.2 ± 0.6
Mode field diameter at 1550 nm	µm	10.1 ± 0.8
Cladding non circularity	%	≤ 1.0
Cladding Diameter	µm	125 ± 0.9
Cladding non circularity	%	≤ 0.7
Coating non circularity	%	≤ 6.0
Core/cladding concentricity error	µm	≤ 0.5
Coating/cladding concentricity error	µm	≤ 12
External diameter (uncoloured)	µm	242 ± 8
Fibre curl radius	m	≥ 4
Transmission Characteristics		
Maximum attenuation fibre @ 1310 nm	dB/km	≤ 0.35
Maximum attenuation fibre @ 1383 nm	dB/km	≤ 0.35
Maximum attenuation fibre @ 1550 nm	dB/km	≤ 0.21
Maximum attenuation fibre @ 1625 nm	dB/km	≤ 0.24
Maximum attenuation cabled @ 1310 nm#	dB/km	≤ 0.38
Maximum attenuation cabled @ 1550 nm#	dB/km	≤ 0.25
Maximum attenuation cabled @ 1625 nm"	dB/km	≤ 0.28
Typical attenuation cabled @ 1310 nm#	dB/km	≤ 0.34
Typical attenuation cabled @ 1550 nm#	dB/km	≤ 0.19
Typical attenuation cabled @ 1625 nm"	dB/km	≤ 0.25
Chromatic dispersion @ 1310 nm	(ps/nm·km)	≤3.00

Parameter	Unit	Value
Chromatic dispersion @1550nm	(ps/nm·km)	≤18.00
Chromatic dispersion @1625nm	(ps/nm·km)	≤22.00
Cabled cut off wavelength $\lambda_{cutoff}$	nm	≤ 1260
Zero dispersion wavelength $\lambda_0$	nm	≥ 1300
		≤ 1322
Zero dispersion slope S0 at $\lambda_0$	ps/(km <sup>2</sup> ·km)	≤ 0.090
Numerical aperture (NA)		0.14±0.015
Polarisation mode dispersion (PMD)	(ps/√km)	≤ 0.2
Fibre irregularities point and whole length @ 1310 nm & 1550 nm	dB	≤ 0.05
Group refractive index @1310 nm		1.4660-1.4677
Group refractive index @ 1550 nm & 1625 nm		1.4670-1.4682
Environmental Characteristics		
Fibre temperature dependence -60°C to +85°C	dB/km	≤ 0.05
Fibre temperature and humidity cycling -10°C to +85°C, 98% R.H.	dB/km	≤ 0.05
Fibre watersoak dependence 23°C for 30 days	dB/km	≤ 0.05
Mechanical Characteristics		
Proof test fibre strain for 1 second equivalent	%	1
Bending dependence 100 turns 60 mm diameter 1310 nm, 1550 nm and 1625 nm	dB	≤ 0.05
Typical mean coating strip force	N	1.0 to 3.0