

# stellar™ Fibre

## Product Description

STL Stellar™ Fibre, the next-gen Fibre from STL's optical design solutions, guarantees attenuation and macro bend insensitivity. Stellar is compatible with legacy networks comprising of G.652.D, G.657.A1 or G.657.A2 Fibre

## Product Application

Due to its impressive attenuation and macro bend insensitivity, Stellar™ Fibre finds use in almost all sections of a data communication network - Core, Metro and Access. Its unique design, specifically the higher mode field diameter, ensures compatibility with almost all existing Fibre types. Hence, whether it is existing network's capacity enhancement or new network provisioning for Metro and Long Haul or Fibre to the X, Stellar™ Fibre proves to be a universally-acceptable choice.

## Product Benefits

Stellar™ Fibre's innovative design ensures seamless splicing and no ambiguity while interpreting the OTDR trace because of its MFD match with G.652.D and G.657.A1. It is best suited for newer technologies and next-gen Fibre to the X applications or L-Band DWDM/CWDM in Metro and Long Haul applications because of the reduced losses at higher wavelengths

Stellar changes the paradigm of optical networks by delivering micro and macro bend performance as per ITU-T G.652.A2 standards. Micro bend performance of cable improves ability to make compact cables and the macro bend feature results in installation agility even with a low skilled labor and have a compact splice box. Extensive experiments prove that by using Stellar™ Fibre, tangible benefits accrue in terms of network longevity by a minimum of 10+ years, especially in emerging markets. It is an installer's delight as it has proven to repeatedly ensure 'first time right' installation (splicing etc).

## Product Specifications

Parameters		Stellar™ (G.657.A1 + G.657.A2+ G.652.D)
Max Attenuation (dB/Km)	1310 nm	≤ 0.33
	1383 ± 3 nm	≤ 0.31
	1550nm	≤ 0.19
	1625nm	≤ 0.21
MFD 1310 nm (μm)		9.1 ± 0.4
Cladding Diameter (μm)		125 ± 0.7
Core Cladd Concentricity error (μm)		≤ 0.5
Cladding Noncircularity (%)		≤ 0.7
Cable cutoff wavelength (nm)		≤ 1260
Zero dispersion wavelength (nm)		1300-1324
Zero dispersion slope (ps/nm <sup>2</sup> . Km)		≤ 0.092
Dispersion at 1550nm (ps/nm x Km)		≤ 18
PMD LDV (ps/sqrt.km)		≤ 0.06
Coating Diameter (uncoloured) (μm)		242 ± 5
Coating Cladding Concentricity error (μm)		≤ 12
Proof Testing (kpsi)		≥ 100
Coating strip force Average (N)		1.3 - 5.0
Fibre Curl (m)		≥ 4

\* Individual PMD values may change when cabled

Parameters			Stellar™ (G.657.A1 + G.657.A2+ G.652.D)
Macrobend loss (dB)	1 turn 7.5 mm radius	1550nm	≤ 0.5
		1625nm	≤ 1.0
	1 turn 10 mm radius	1550nm	≤ 0.1
		1625nm	≤ 0.2
	10 turns 15 mm radius	1550nm	≤ 0.03
		1625nm	≤ 0.1
Temperature cycling	-60C to +85C	Induced Attenuation at 1310,1550, 1625 nm (dB/Km)	≤ 0.05
Temperature humidity cycling	-60C to +85C, 95%RH		
Water Immersion	30days, 23 ± 2C		
Dry heat aging	30 days 85 ± 2C		
Damp heat aging	30days, 85 ± 2C, 85%RH		
Attenuation v/s Wavelength Max. (dB/Km)	1285-1330 nm	1310 nm (Reference)	0.03
	1525-1575 nm	1550 nm (Reference)	0.02
Point of discontinuities 1310nm & 1550nm (dB)			≤ 0.05
Dynamic fatigue parameter , Nd			≥ 20

## Manufacturing Process

STL controls every stage of the manufacturing process so that quality is built in to every meter of Fibre. To ensure the accuracy and precision of the manufacturing process, STL routinely calibrates and recertifies process equipment and measurement benches against internationally traceable standards from NPL/NIST, and follow test methods compliant with EIA/TIA, CEI-IEC and ITU standards.

## International Standards

STL Stellar™ Fibre complies or exceeds the ITU Recommendation G.652.D, G.657.A1 and G.657.A2

## Disclaimer

STL's policy of continuous improvement may result in a change in specifications without prior notice. Any warranty of any nature relating to any STL product is only contained in the written agreement between STL and the direct purchaser of such product(s).

*\*STL Stellar product is under a study ramp-up phase and above are the development specifications for the products.*

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