



# STL Stellar 250 Fiber

## ITU-T G.657.A2 Single Mode Optical Fiber

### Product Description

STL Stellar 250 Fiber is the first to offer ITU-T G.657.A2 bend performance with a 9.1 micron standard mode field diameter, ensuring complete compatibility with existing networks. The induced loss of this fiber at the tightest bends is a factor of two lower than the ITU-T G.657.A2 standard providing installation and operational efficiencies in high density (HD) networks. This low bend loss extends to the longer wavelengths required for future system upgrades. Fibers with low bend loss fibers allow operators to optimize their physical asset utilization and future proof their high-density networks.

### Product Application

The need to improve network installation and operational efficiencies has led to wider application of bend-insensitive fibers. STL Stellar 250 Optical Fiber is suitable for use in any network where full backward compatibility with deployed fibers is required.

### Product Benefits

- Fully compatible with existing networks built with G.652.D and G.657.A1 fibers - due to 9.1 micron standard mode field diameter.
- Provides installation and operational efficiencies in high density networks - due to very low bend loss.
- Future system ready - in that low bend loss extends to longer wavelengths

### Standard Compliance

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.

## Product Specifications

Optical Parameters		
<b>Attenuation Max. (dB/km)</b>		
1310 nm		≤ 0.33
1383 nm		≤ 0.31
1550 nm		≤ 0.19
1625 nm		≤ 0.21
<b>Macro bend loss (dB)</b>		
1 turn 7.5 mm radius	1550nm	≤ 0.2
1 turn 10 mm radius		≤ 0.1
10 turns 15 mm radius		≤ 0.03
1 turn 7.5 mm radius	1625nm	≤ 0.5
1 turn 10 mm radius		≤ 0.2
10 turns 15 mm radius		≤ 0.1
Mode Field Diameter (μm) at 1310 nm		9.1 ± 0.4
Mode Field Diameter (μm) at 1550 nm		10.3 ± 0.5
Cable cut-off wavelength (nm)		≤ 1260
Zero dispersion wavelength (nm)		1300 to 1324
Dispersion at 1550nm (ps/nm.km)		≤ 18
Zero Dispersion Slope (ps/nm <sup>2</sup> .km)		≤ 0.092
PMD LDV (ps/√ km)		≤ 0.06
Individual Fiber PMD* (ps/√ km) * Individual PMD values may change when cabled		≤ 0.1
Point of discontinuities 1310nm & 1550nm (dB)		≤ 0.05
Geometrical Parameters		
Cladding Diameter (μm)		125 ± 0.7
Core Clad Concentricity error (μm)		≤ 0.5
Cladding Non-circularity (%)		≤ 0.7
Coating Diameter (uncoloured) (μm)		242 ± 5
Coating Cladding Concentricity error (μm)		≤ 12
Mechanical & Environmental Characteristics		
Temperature dependence	-60°C to +85°C	≤ 0.05 (Induced Attenuation at 1310, 1550, 1625 nm (dB/km))
Temperature humidity cycling	-10°C to +85°C, 95% RH	
Water Immersion	30 days, 23 ± 2°C	
High temperature and humidity aging	30 days 85 ± 2°C, 85% RH	
Accelerated Aging (Temperature)	30 days, 85 ± 2°C	
Proof Testing		≥ 125 (kpsi) (0.86GN/m <sup>2</sup> ) (This is equivalent to 1.2% strain)
Fiber Curl (m)		≥ 4
Performance Characteristics		
Coating strip force		≥ 1.3 N (0.3 lbf) and ≤ 5.0 N (1.1 lbf)
Dynamic fatigue parameter (N <sub>d</sub> )		≥ 20
Effective group index of refraction (Typical Values)		1.4672 at 1310 nm 1.4679 at 1550 nm 1.4684 at 1625 nm
Attenuation in the wavelength region from 1285 - 1330 nm in reference to the attenuation at 1310 nm (dB/km)		≤ 0.03
Attenuation increase in the wavelength region from 1525 - 1575 nm in reference to the attenuation at 1550 nm (dB/km)		≤ 0.02

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For additional information please contact your sales representative.

You can also visit our website at [www.stl.tech](http://www.stl.tech)

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