

# Alcatel 6900 Singlemode Fiber

## OPTICAL SPECIFICATIONS

Attenuation (cabled)	
Attenuation @ 1310nm	≤ 0.35 dB/km
Attenuation @ 1550nm	≤ 0.25 dB/km
Attenuation at 1383nm	≤ 1.5 dB/km

### Attenuation Uniformity (cabled)

No point discontinuity greater than 0.1 dB at 1310nm and 1550nm.

### Wavelength vs. Attenuation

Maximum attenuation change over the window.

Wavelength (nm)	Attenuation (dB/km)
1285-1310	≤ 0.035
1310-1330	≤ 0.03
1525-1550	≤ 0.03
1575-1550	≤ 0.03

### Attenuation with Bending

100 turns, 60mm diameter @ 1550 & 1620nm:	≤ 0.05 dB
1 turn, 32mm diameter @ 1550 & 1620nm:	≤ 0.5 dB

### Wavelength

Cutoff Wavelength (cabled)	≤ 1260nm
Zero Dispersion Wavelength	1310±10nm

### Dispersion Slope

Zero Dispersion Slope	< 0.092 ps/nm <sup>2</sup> ·km
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### PMD (cabled)

PMD Quadrature Average:	≤ 0.1 ps/√km
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## DIMENSIONAL SPECIFICATIONS

Mode Field Diameter @1310nm:	9.0±0.5µm
Mode Field Diameter @1550nm:	10.2±1.0µm
Fiber Outside Diameter:	125.0±1.0µm
Core/Cladding Offset:	≤ 0.6µm
Fiber Non-Circularity:	≤ 1.0%
Colored Coating Outside Diameter:	242±7µm
Colored Coating/Clad Concentricity Error:	≤ 12µm
Fiber Curl (radius):	> 4 meters

Alcatel's Singlemode Fiber is fully ITU G.652, IEC 60793-1 and Telcordia GR-20-CORE compliant.

Cable specifications apply to Alcatel manufactured cables and are tested or characterized in compliance to international standards.

Alcatel reserves the right to change specifications without prior notice.

## MECHANICAL SPECIFICATIONS

### Proof Test of AFC™ ColorLock™ Coated

The entire length is subjected to a tensile proof stress >100 kpsi (0.7 GN/m<sup>2</sup>); 1% strain equivalent

### Tensile Strength

Dynamic Tensile Strength (0.5 meter gauge length):  
Aged\* & Unaged median ≥ 550 kpsi (3.8GN/m<sup>2</sup>)

### Dynamic and Static Fatigue

Dynamic Fatigue, Tensile: N<sub>d</sub> ≥ 20 unaged and aged\*  
Dynamic Fatigue, 2 Point Bend: N<sub>d</sub> ≥ 20 unaged and aged\*  
Static Fatigue: N<sub>s</sub> ≥ 20 aged at 85°C, 85% RH

### Coating Performance

Coating Strip Force: 2.0lbf (8.9N) max, 0.3 lbf (1.3N) min.  
23°C, 0°C, and 45°C  
Aged: 30 days at 85°C and 85% relative humidity  
14 days water immersion at 23°C  
Wasp spray exposure (Telcordia)  
Aged: 30 days at 85°C water No delimitation

## ENVIRONMENTAL SPECIFICATIONS

Induced Attenuation@1550nm	(dB/km)
Temperature Cycling Performance (-60°C to 85°C):	≤ 0.05
Temperature Humidity Cycling (-10°C to 85°C, 4-98%RH):	≤ 0.05
Water Immersion (23°C):	≤ 0.05
Heat Aging (85°C):	≤ 0.05

## TYPICAL CHARACTERIZATION VALUES

Nominal Zero Dispersion Wavelength:	1310nm
Nominal Zero Dispersion Slope:	0.086 ps/nm <sup>2</sup> ·km
Effective Group Index @ 1310nm:	1.4640
@ 1550nm:	1.4645
Backscatter Coefficient @ 1310nm:	-76.7 dB
Backscatter Coefficient @ 1550nm:	-81.7 dB
Typical Core Diameter:	8.8µm
Dynamic Tensile Strength (*Aged): (0.5m gauge length)	median 750 kpsi (5.26GN/m <sup>2</sup> )
Dynamic Fatigue (*Aged):	N <sub>d</sub> =22
Static Fatigue:	N <sub>s</sub> ≥ 25 aged @ 85°C, 85% RH
Dispersion @1285-1330nm:	≤ 2.7 ps/nm·km
Dispersion @1550nm	≤ 17 ps/nm·km

\*Aged for 30 days at 85°C, 85% relative humidity

For additional information visit Alcatel online or call your nearest Optical Fiber Sales Representative

[www.alcatel.com/opticalfiber](http://www.alcatel.com/opticalfiber)

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