

---

## G.657.A1. Bending Insensitive Single-mode Optical Fiber

### Product Introduction

G.657.A1, the bending insensitive single-mode optical fiber, not only has good bending resistance, but also has good compatibility with G.652.D. At the same time, it can extend the coverage of the access network and is the best product for optical fiber access.

### Performance Features

- Low loss & bending insensitive
- Two optional diameters: 245 μm
- Optimized MFD and precise geometric properties
- Good compatibility with G.652.D single-mode fiber

### Application Scenarios

- Gigabit broadband home & FTTP
- 5G pre-network construction
- Big data center & computer interconnection

### Product Specification

Parameter	conditions	Units	value
<b>Optical</b>			
Attenuation	1310nm	dB/km	≤ 0.350
	1383nm	dB/km	≤ 0.350
	1550nm	dB/km	≤ 0.210
	1625nm	dB/km	≤ 0.230
Attenuation vs. Wavelength	1310nm VS. 1285-1330nm	dB/km	≤ 0.04
	1550nm VS. 1525-1575nm	dB/km	≤ 0.03
Zero Dispersion Wavelength	—	nm	1300 - 1324
Zero Dispersion Slope		ps/(nm <sup>2</sup> ·km)	≤ 0.092
Polarization Mode Dispersion	—	ps/√km	≤ 0.2
Cut-off Wavelength λ <sub>cc</sub> (Cable)	—	nm	≤ 1260
Mode Field Diameter (MFD)	1310nm	μm	9.2±0.4
	1550nm	μm	10.4±0.5
Attenuation Discontinuity	1310nm	dB	≤ 0.03

	1550nm	dB	≤ 0.05
<b>Geometrical</b>			
Cladding Diameter		μm	125±0.7
Cladding Non-Circularity		%	≤ 1.0
Core/Cladding Concentricity Error		μm	≤ 0.5
Coating Diameter (Uncolored)		μm	245±10
Coating/Cladding Concentricity Error		μm	≤12
Curl		m	≥ 4
<b>Environmental (1550nm, 1625nm)</b>			
Temperature Cycling	-60°C to +85°C	dB/km	≤ 0.05
High Temperature & High Humidity	85°C, 85% RH, 30days	dB/km	≤ 0.05
Water Immersion	23°C, 30days	dB/km	≤ 0.05
High Temperature Aging	85°C, 30days	dB/km	≤ 0.05
<b>Mechanical</b>			
Proof Stress	—	GPa	0.69
		kpsi	100
Coating Strip Force *	Peak	N	1.3 - 8.9
	Average	N	1.0 - 5.0
Tensile Strength	F <sub>k</sub> =50%	GPa	≥ 4.00
	F <sub>k</sub> =15%	GPa	≥ 3.20
Dynamic Fatigue (N <sub>d</sub> )	—	—	≥ 20
<b>Macrobending Loss</b>			
Ø30mm×10t	1550nm	dB	≤ 0.25
	1625nm	dB	≤ 1.0
Ø20mm×1t	1550nm	dB	≤ 0.75
	1625nm	dB	≤ 1.5
* The peak peel force of the coating is 0.6-8.9N, and the average value is 0.6-5.0N when the coating diameter is 200±10.			