

# Single Mode Fiber G.657.A1

Fiber type	G.657.A1
OPK code	A1
Core	Germanium doped silica
Cladding	Silica, step index and matched clad type
Coating	Dual layers of UV-cured acrylate

## Optical Characteristics

Attenuation coefficient Loose tube Cables (Typical / Maximum <sup>1</sup> )	
at 1310 nm	0.32 / 0.4 dB/km
at 1550 nm	0.20 / 0.4 dB/km
at 1625 nm	0.21 / 0.4 dB/km
Attenuation coefficient Tight Buffered Cables (Typical / Maximum <sup>1</sup> )	
at 1310 nm	0.33 / 0.4 dB/km
at 1550 nm	0.25 / 0.4 dB/km
Point of discontinuity at 1310 nm and 1550 nm	≤ 0.1 dB
Cable cut-off wavelength (λ <sub>cc</sub> )	≤ 1260 nm
Zero dispersion wavelength	1302 – 1324 nm
Zero dispersion slope	≤ 0.090 (ps/(nm <sup>2</sup> ·km))
Chromatic dispersion at 1285 ~ 1330 nm	≤ 3.5 ps/(nm.km)
Chromatic dispersion at 1550 nm	≤ 18.0 ps/(nm.km)
Maximum individual fiber PMD	≤ 0.15 ps/√km
Fiber PMD link value	≤ 0.1 ps/√km
Effective group index of refraction at 1310 nm	1.467
Effective group index of refraction at 1550 nm	1.468
Effective group index of refraction at 1625 nm	1.468
Backscatter coefficient at 1310 nm	-79.2 dB
Backscatter coefficient at 1550 nm	-81.7 dB
Backscatter coefficient at 1625 nm	-82.5 dB

## Geometrical Characteristics

Mode field diameter at 1310 nm	8,9 ± 0.4 μm
Core/Cladding concentricity error	≤ 0.5 μm
Cladding diameter	125.0 ± 0.7 μm
Cladding non-circularity	≤ 0.7%
Primary coating diameter (uncoloured fibre)	242 ± 5 μm
Primary coating diameter (coloured fibre)	250 ± 10 μm
Fibre curl radius	≥ 4.0 m
Coating-Cladding concentricity	≤ 12 μm

## Macrobending loss

10 turns, mandrel radius 15 mm at 1550 nm	≤ 0.25 dB
10 turns, mandrel radius 15 mm at 1625 nm	≤ 1.0 dB
1 turn, mandrel radius 10 mm at 1550 nm	≤ 0.75 dB
1 turn, mandrel radius 10 mm at 1625 nm	≤ 1.5 dB

## Mechanical Characteristics

Proof test level	≥ 100 kpsi (1.0% strain)
Coating strip force	1.3 ~ 8.9 N
Dynamic fatigue resistance parameter	≥ 20

<sup>1</sup> ISO/IEC 11801-1