

Single Mode Fiber G.657.A1-type 2

Fiber type	G.657.A1
OPK code	A1/II
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 ¹)	
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 ¹)	
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_{cc})	≤ 1260 nm
Zero dispersion wavelength	1304 – 1324 nm
Zero dispersion slope	$0.073 \leq S_0 \leq 0.090$ ($S_0 = \text{ps}/(\text{nm}^2/\text{km})$)
Chromatic dispersion at 1550 nm	$13.3 \leq D \leq 18.0$ ps/(nm.km)
Chromatic dispersion at 1625 nm	$17.2 \leq D \leq 22.0$ ps/(nm.km)
Maximum individual fiber PMD	≤ 0.1 ps/√km
Fiber PMD link value	≤ 0.06 ps/√km
Effective group index of refraction at 1310 nm	1.4676
Effective group index of refraction at 1550 nm	1.4682

Geometrical Characteristics

Mode field diameter at 1310 nm	9.2 ± 0.4 μm
Mode field diameter at 1550 nm	10.4 ± 0.5 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)	241 – 265 μm
Fibre curl radius	≥ 4.0 m
Coating-Cladding concentricity	≤ 12 μm

Macrobending loss

10 turns, mandrel radius 15 mm at 1550 nm	≤ 0.05 dB
10 turns, mandrel radius 15 mm at 1625 nm	≤ 0.3 dB
1 turn, mandrel radius 10 mm at 1550 nm	≤ 0.50 dB
1 turn, mandrel radius 10 mm at 1625 nm	≤ 1.5 dB
100 turns, mandrel radius 25 mm at 1625 nm	≤ 0.01 dB

Mechanical Characteristics

Proof test level	≥ 100 kpsi
Coating strip force	3.0 N
Dynamic fatigue resistance parameter	20

¹ ISO/IEC 11801-1