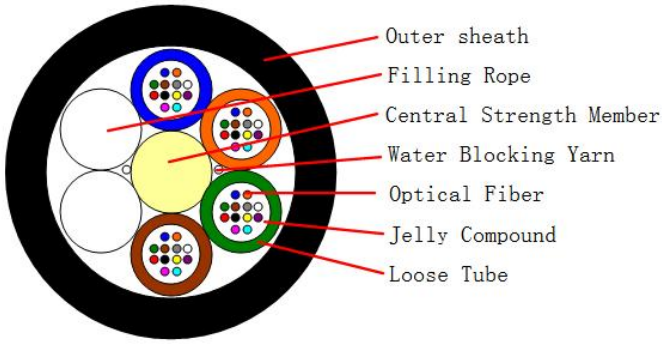
Outdoor Fiber Optical Cable Duct Air-blown Micro-cable No Metal SM G652 G657 GCYFTY 96 144 288 Core HDPE

Cable Design



Technical data

No. of cable		24	48	72	96	144	288
Fiber Model		G657A2					
Design(StrengthMember+Tube&Filler)		1+6			1+8	1+12	1+9+15
Central Strength Member	Material	FRP					
	Diameter（±0.05）mm	1.5			2.6	2.6	3.0
Additional Sheath	Material	MDPE					
	Size（±0.1）mm	—				4.5	—
Loose Tube	Material	PBT					
	Diameter（±0.1）mm	1.5					
	Thickness（±0.03）mm	0.20					
	The Max.Core NO./Tube	6	12				
Filler Rope	Material	LDPE					
	Colour	White					
	Diameter（±0.06）mm	1.5	1.5	—	—	—	—
	NO.	4	2	—	—	—	—
Additional Strength Member		Water Blocking Yarn					
Outer Sheath	Material	HDPE					
	Thickness（±0.1）mm	0.5					
Cable Diameter（±0.2）mm		5.5	5.5	5.5	6.6	8.5	10.2
Cable Wetght（±5.0）kg/km		24	24	24	42	60	80
Attenuation	1310nm	≤0.35dB/ km					
	1550nm	≤0.21dB/ km					
Allowable Tensile Strength	Short Term	400 N	400 N	400 N	500 N	500 N	750N
	Long Term	150 N	150 N	150 N	250 N	250 N	250N
Allowable Crush Resistance	Short Term	600 (N/100mm)					
	Long Term	200 (N/100mm)					
Min. bending radius	Without Tension	10.0×Cable-φ					

	Under Maximum Tension	20.0×Cable-φ
Temperature range （℃）	Installation	-20~+60
	Transport&Storage	-40~+70
	Operation	-40~+70

Fibre Color

No.	1	2	3	4	5	6
Color	Blue	Orange	Green	Brown	Gray	White
No.	7	8	9	10	11	12
Color	Red	Black	Yellow	Violet	Pink	Aqua

Loose Tube Color

No.	1	2	3	4	5	6
Color	Blue	Orange	Green	Brown	Gray	White
No.	7	8	9	10	11	12
Color	Red	Black	Yellow	Violet	Pink	Aqua

The properties of optical fiber (ITU-T Rec. G.657A2)

Characteristic	Characteristic	Characteristic	Characteristic
Optical properties			
Attenuation	1310nm 1383nm(After hydrogen aging) 1550nm 1625nm	≤0.35 ≤0.32 ≤0.20 ≤0.21	dB/km dB/km dB/km dB/km
Relative wavelength attenuation @1310nm @1550nm	1285～1330nm 1525～1575nm	≤0.05 ≤0.05	dB/km dB/km
Dispersion in the wavelength range of	1285～1340nm 1550nm	≤3.5 ≤18	ps/(nm.km) ps/(nm.km)
Zero dispersion wavelength		1300～1324	nm
A zero-dispersion slope		≤0.092	ps/(nm^2.km)
Polarization Mode Dispersion Coefficient PMD Single fiber maximum Fiber link value (M=20, Q=0.01%) Typical value		≤0.2 ≤0.1 0.04	ps/ ps/ ps/
Cable cut-off wavelength（λcc）		≤1250	nm
Mode field diameter （MFD）	1310nm 1550nm	8.8±0.4 9.8±0.5	μm μm
Attenuation discontinuities	1310nm 1550nm	≤0.05 ≤0.05	dB dB
Geometric characteristics			
Core diameter		125±0.7	μm
Cladding roundness		≤0.7	%
Coating diameter		245±5	μm

Coating / package concentricity error		≤12.0	μm
Core / package concentricity error		≤0.5	μm
The warpage (radius)		≥4	m
Environmental characteristics（1310nm、1550nm、1625nm）			
Temperature additiona l attenuation	-60℃ ～+85℃	≤0.05	dB/km
Temperature-humidity cycle additional attenuation	-10℃ ～+85℃， 98% Relative humidity	≤0.05	dB/km
Flooding additional attenuation	23℃，30 days	≤0.05	dB/km
Hot and humid additional attenuation	85℃和 85% Relative humidity，30 days	≤0.05	dB/km
Dry heat aging	85℃	≤0.05	dB/km
Mechanical properties			
Screening tension		≥9.0	N
The macro bend Additional attenuation 1CircleΦ7.5mm 1CircleΦ10mm 10CircleΦ15mm 1CircleΦ7.5mm 1CircleΦ10mm 10CircleΦ15mm	 1550nm 1550nm 1550nm 1625nm 1625nm 1625nm	 ≤0.330 ≤0.080 ≤0.015 ≤0.710 ≤0.160 ≤0.095	 dB dB dB dB dB dB
Coating peeling force	Typical average	1.5	N
Dynamic fatigue parameters		≥20	

The properties of single mode optical fiber (ITU-T Rec. G.652.D)

Item	Specification
Fiber type	Single mode
Fiber material	Doped silica
Attenuation coefficient @ 1310 nm @ 1383 nm @ 1550 nm @ 1625 nm	 ≤ 0.36 dB/km ≤ 0.32 dB/km ≤ 0.22 dB/km ≤ 0.30 dB/km
Point discontinuity	≤ 0.05 dB
Cable cut-off wavelength	≤ 1260 nm
Zero-dispersion wavelength	1300 ~ 1324 nm
Zero-dispersion slope	≤ 0.092 ps/(nm^2.km)

Chromatic dispersion @ 1288 ~ 1339 nm @ 1271 ~ 1360 nm @ 1550 nm @ 1625 nm	 ≤3.5 ps/(nm. km) ≤5.3 ps/(nm. km) ≤18 ps/(nm. km) ≤22 ps/(nm. km)
PMD_Q (Quadrature average*)	≤0.2 ps/$km^{1/2}$
Mode field diameter @ 1310 nm	9.2±0.4 um
Core / Clad concentricity error	≤ 0.5 um
Cladding diameter	125.0 ± 0.7 um
Cladding non-circularity	≤1.0%
Primary coating diameter	245 ± 10 um
Proof test level	100 kpsi (=0.69 Gpa), 1%
Temperature dependence 0oC~ +70oC @ 1310 & 1550nm	≤ 0.1 dB/km

Sheath marking

The optical fiber drop cable shall have sequentially numbered length marking at intervals of approximately 1 meter. The starting number of ordering length for any coil shall begin whit zero meter. The accuracy of the measurement of lenth marking shall be held within the limits of ± 1%.