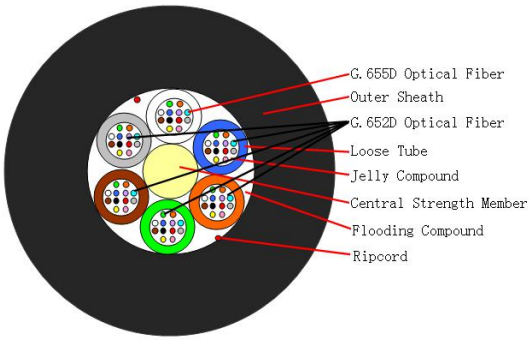
Outdoor Communication Cable(GYFTY)

Cable Design



Technical data

No. of cable		36B1.3+12B4	48B1.3+24B4	60B1.3+12B4
Fiber Model		G.652D&G.655		
Design(StrengthMember+Tube&Filler)		1+5	1+6	1+6
Central Strength Member	Material	FRP		
	Diameter（±0.05）mm	1.5	2.0	2.0
Loose Tube	Material	PBT		
	Diameter（±0.06）mm	1.9		
	Thickness（±0.03）mm	0.30		
	The Max.Core NO./Tube	12		
Filler Rope	Material	MDPE		
	Diameter（±0.06）mm	1.9	—	—
	No.	1	—	—
Water Blocking layer（Material）		Filling Compound		
Ripcord	Material	Nylon		
	Color	Red		
	No.	2		
Outer Sheath	Material	MDPE		
	Thickness（±0.1）mm	1.6		
Cable Diameter（±0.2）mm		8.5	9.0	9.0
Cable Wetght（±5.0）kg/km		58	67	67

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

Type	1	2	3	4	5	6
60B1.3+12B4	Blue G.652D	Orange G.652D	Green G.652D	Brown G.652D	Gray G.652	White G.655
48B1.3+24B4	Blue G.652D	Orange G.652D	Green G.652D	Brown G.652D	Gray G.655	White G.655
36B1.3+12B4	Blue G.652D	Orange G.652D	Green G.652D	Brown G.655	-	-

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	 ≤ 0.35 dB/km ≤ 0.32 dB/km ≤ 0.21 dB/km ≤ 0.24 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)
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

The properties of single mode optical fiber (ITU-T Rec. G.655)

Item	Specification
Fiber type	Single mode
Fiber material	Doped silica
Attenuation coefficient @ 1550 nm @ 1625 nm	 ≤ 0.22 dB/km ≤ 0.24 dB/k

Point discontinuity	≤ 0.05 dB
Cable cut-off wavelength	≤ 1450 nm
Zero-dispersion wavelength	1520 nm
dispersion slope	≤ 0.084ps/(nm^2.km)
PMD_Q (Quadrature average*)	≤0.2 ps/km$^{1/2}$
Mode field diameter @ 1550nm	9.6±0.5 um
Core / Clad concentricity error	≤ 0.5 um
Cladding diameter	125.0 ± 0.7 um
Cladding non-circularity	≤1.0%
Primary coating diameter	245 ± 8 um
Proof test level	100 kpsi (=0.69 Gpa), 1%
Temperature dependence 0oC~ +70oC @ 1550 & 1625nm	≤ 0.1 dB/km

Main mechanical & environmental performance test

Item	Test Method	Acceptance Condition
Tensile Strength IEC 794-1-2-E1	- Load: 1500N - Length of cable: about 50m	- Fiber strain ≤ 0.33% - Loss change ≤ 0.1 dB @1550 nm - No fiber break and no sheath damage.
Crush Test IEC 60794-1-2-E3	- Load:1000N/100mm - Load time: 1min	- Loss change ≤ 0.1dB@1550nm - No fiber break and no sheath damage.
Impact Test IEC 60794-1-2-E4	- Points of impact: 3 - Times of per point: 1 - Impact energy: 5J	- Loss change ≤ 0.1dB@1550nm - No fiber break and no sheath damage.
Temperature Cycling Test YD/T901-2001-4.4.4.1	- Temperature step: +20°C→-40°C→+70°C→+20°C - Time per each step: 12 hrs - Number of cycle: 2	- Loss change ≤ 0.1 dB/km@1550 nm - No fiber break and no sheath damage.

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%.

a) Manufacturer's name
b) Type of wire
c) Year and month of manufacture
d) Length marking each meter along the wire