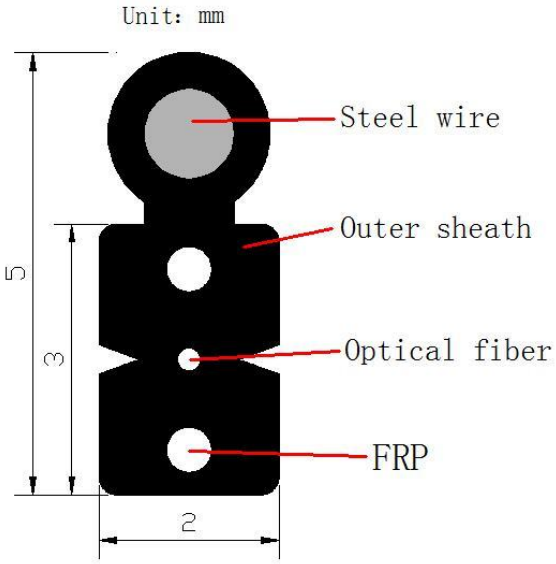
Outdoor FTTH Drop Cable GJYFXCH

Cable Design



Cable structure and parameters

No. of optical fiber			1
Optical Fiber Model			G.657A2
Fiber color			Red
Strength member	Material		G-FRP
	Diameter (±0.03) mm		0.50
	No.		2pcs
Messenger	Material		Steel wire
	Diameter (±0.03) mm		1.0
Outer Sheath	Material		LSZH
	Color		Black
Cable size (±0.2) mm			2.0 × 5.0
Cable Weight (±2) kg/km			18.5
Allowable Tensile Strength	Short Term	N	600
	Long Term		300
Allowable Crush Resistance	Short Term	N/100mm	2200
	Long Term		1000
Min. bending radius	Without Tension		10 × Cable-ϕ
	Under Maximum Tension		20 × Cable-ϕ
Temperature range (℃)	Installation		-20~+60
	Transport&Storage		-40~+70
	Operation		-40~+70

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

Characteristic	condition	data	unit
Optical properties			
Attenuation	1310nm 1383nm(氢老化后) 1490nm 1550nm 1625nm	≤0.35 ≤0.35 ≤0.23 ≤0.22 ≤0.23	dB/km 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）		≤1260	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 additional 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	85℃和 85% Relative	≤0.05	dB/km

attenuation	humidity, 30 days		
Dry heat aging	85℃	≤0.05	dB/km
Mechanical properties			
Screening tension		≥9.0	N
The macro bend Additional attenuation 10 CircleΦ30mm 10 CircleΦ30mm 1 CircleΦ20mm 1 CircleΦ20mm	 1550nm 1625nm 1550nm 1625nm	 ≤0.025 ≤1.0 ≤0.75 ≤1.5	 dB dB dB dB
Coating peeling force	Typical average	1.5	N
Dynamic fatigue parameters		≥20	

Main mechanical & environmental performance test

Item	Test Method	Acceptance Condition
Tensile Strength IEC 794-1-2-E1	- Load: Short term tension - Length of cable: about 50m	- Fiber strain ≤ 0.36% - Loss change ≤ 0.1 dB @1550 nm - No fiber break and no sheath damage.
Crush Test IEC 60794-1-2-E3	- Load: Short term crush - Load time: 1min	- Loss change ≤ 0.05dB@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/T901-2001-4.4.1	- Temperature step: +20ºC→-40ºC→+70ºC →+20ºC - Time per each step: 12 hrs - Number of cycle: 2	- Loss change ≤ 0.05 dB/km@1550 nm - No fiber break and no sheath damage.

Sheath marking

The color of marking is white, but if the remarking is necessary, the white color marking shall be printed newly on a different position.
An occasional unclear of length marking is permitted if both of the neighboring markings are clear.
The both cable ends are sealed with heat shrinkable end caps to prevent water ingress.