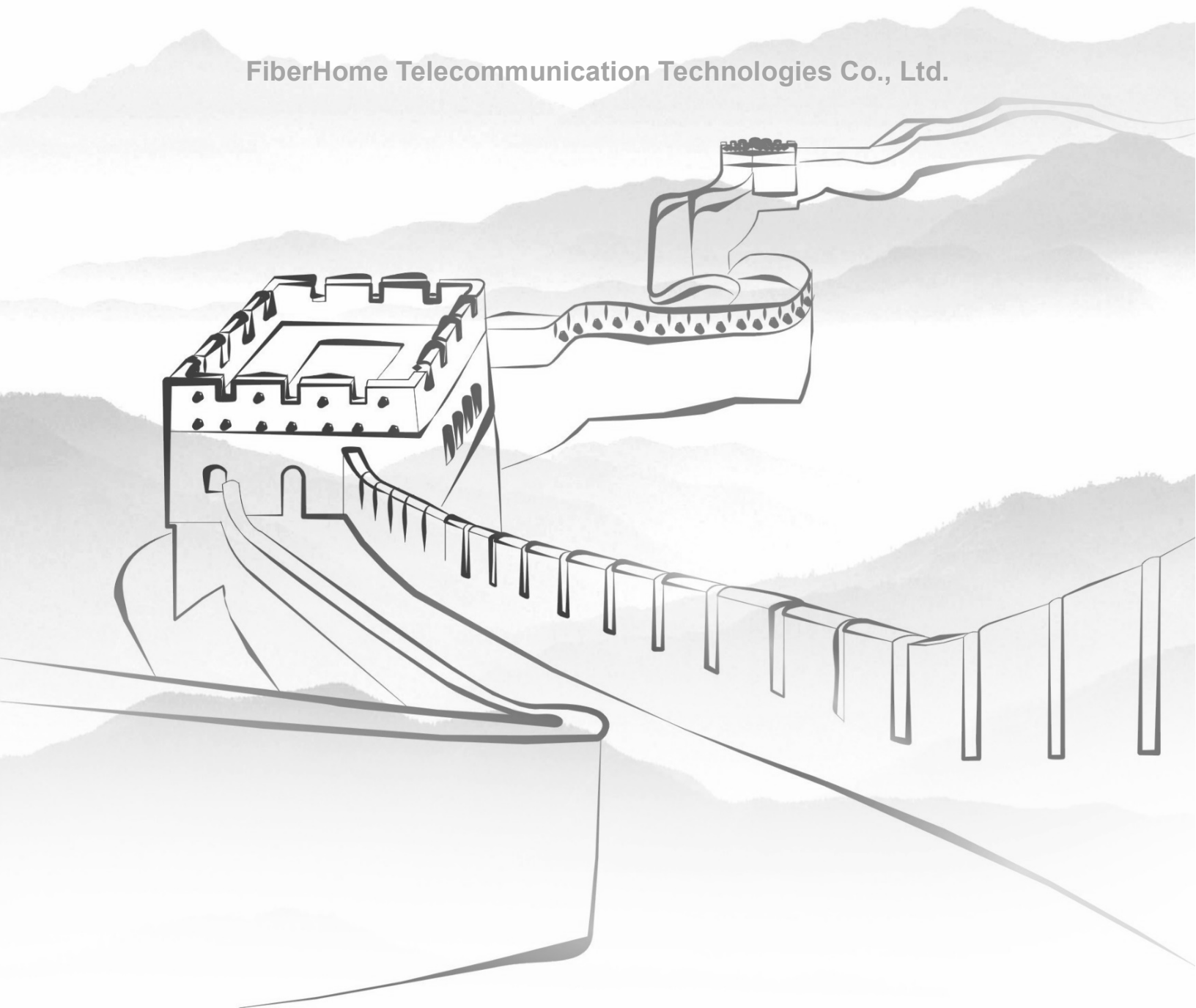


Optical Fiber Cable Specification



FiberHome Telecommunication Technologies Co., Ltd.



DROP CABLE 1 SM G.657 A2 3mm

Sección de corte y Dimensión del cable

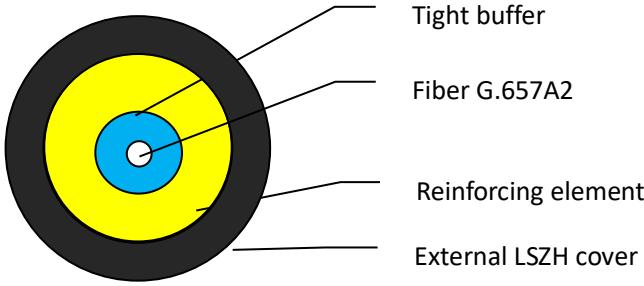


Figure. Cable section (Tip-A)

Item	Material	Description
Outer sheath	LSZH	External protection, Black
Reinforcing element	Aramid yarn	Reinforcing element
Tight buffered	LSZH	Color : Blue, Diameter:0.90m±0.05 μ m
Fiber	Fiber G.657A2	Fiber G.657A2
Outer cable diameter	(3.0±0.1)mm	
sheath thickness	(0.55±0.15)mm	
Cable weight	(8.0±1.0) kg/km	

Main properties and mechanical applications of the cable

Serial No.	Item	Requisitos
1	Maximum tension (MAT)	700N
2	Crush resistance (N)	220N /cm
3	Operating temperature	-30 ° C +65º C
4	Application	aerial /Duct
5	Lifespan	20 years

DETAILED SPECIFICATIONS

1. General

- 1.1 This specification covers the requirement for dry-core cable, and single-mode optical fibers.
- 1.2 Single-mode optical fiber must comply with the requirements and in accordance with the ITU-T G.657A2

2. Fiber characteristics

The optical, geometric, mechanical and environmental performance of the optical fiber must be in accordance with table 2.1.

The manufacturer is FiberHome

Table 2.1 Fiber characteristics G657A2

Parameters		Typical value
Attenuation	@1310nm	≤0.35dB/km
	@1383nm	≤0.35dB/km
	@1550nm	≤0.22dB/km
Modal field diameter	@1310nm	8.6±0.4μm
	@1550nm	9.6±0.5μm
Dispersion	@1285~1330nm	-4.0ps/(nm ² ·km)~4.0ps/(nm ² ·km)
	@1550nm	≤20ps/(nm ² ·km)
	@1625nm	≤25ps/(nm ² ·km)
Zero dispersion wavelength		1300nm~1322nm
Zero dispersion slope		≤0.091ps/(nm ² ·km)
Cut-off wavelength λ _{cc} (nm)		≤1260nm
Attenuation due to macro curvature	1 turn, 7.5mm radius (@1550nm)	≤0.4dB
	1 turn, 7.5mm radius (@1625nm)	≤0.8dB
	1 turn, 10mm radius (@1550nm)	≤0.1dB
	1 turn, 10mm radius (@1625nm)	≤0.2dB
	15 turn, 15mm radius (@1550nm)	≤0.03dB
	15 turn, 15mm radius (@1625nm)	≤0.1dB
Fiber core diameter		9μm
Cladding diameter		125±0.7μm
Cladding circularity error		≤0.8%
Modal field concentricity error		≤0.5μm
Coating diameter		245±5μm
Proof stress		≥0.69GPa(100kpsi)
Stress corrosion factor Nd(dynamic)		≥20

After Cable

Attenuation	@1310nm	≤0.40dB/km
	@1550nm	≤0.30dB/km

3 CABLE CHARACTERISTICS AND TESTS

3.1 Mechanical and environmental characteristics of the cable

The mechanical and environmental characteristics of the cable must be in accordance with table 3.1. Unless otherwise specified, all attenuation measurements will be carried out at the 1550 nm wavelength.

Table 3.1 The mechanical and environmental characteristics of the cable

Parameters	Method	Test condition	Criteria of acceptance
Tensile test	IEC60794-1-2-E1	L ≥ 50 m Load : 700N duration : 1min	Additional attenuation ≤0.1 dB No damage to the cable
Crush	IEC60794-1-2-E3	Load : 2200N duration : 1 minute -L: 100 mm	Additional attenuation ≤0.1 dB No damage to the cable
Impact	IEC60794-1-2-E4	Impact load : 1J Raius:12.5mm Impact length : 1m 3 points , 5 times for each point	Additional attenuation ≤0.1 dB No damage to the cable
repeated bends	IEC60794-1-2-E6	Load : 20 x diameter of cable = 30 cycle Every cycle ≈ 2 sec. L =1.0 m	Additional attenuation ≤0.1 dB No damage to the cable
Torsion	IEC60794-1-2-E7	Test length =2m, ±180 degrees , 10 cycle , Load 20N	Additional attenuation ≤0.1 dB No damage to the cable

Parameters	Method	Test condition	Criteria of acceptance
thermal cycle	IEC60794-1-2-F1	Test temperature : -30 ° C to +65 ° C duration :24h cycle :2 Longitud: ≥ 1000 m	Additional attenuation ≤0.1 dB No damage to the cable

Parameters	Method	Test condition	Criteria of acceptance
thermal cycle	IEC60794-1-2-F1	Test temperature : -30 ° C to +65 ° C duration :24h cycle :2 Longitud: ≥ 1000 m	Additional attenuation ≤0.1 dB No damage to the cable
65°C 12h 12h			
Water penetration	IEC60794-1-2-F5	Under the temperature of 20±5°C Cable length : 3m Water height : 1m duration : 24h	No water penetration

3.2 Operating condition

Parameters		Characteristics
Temperature	Installation	-30°C +65°C
	Operation	-30°C +65°C
	Transition	-30°C +65°C
Sag		1%
Span		Max span 80m
Wind load		Maximum wind speed: 50km/h
Ice thickness		No ice

Marking and Coil

4.1 Cover marking

The standard length of the cables should be 2000 meters for each with a tolerance of +/- 10m. Other cable lengths are also available upon customer request.

Both ends of the cable must be sealed with plastic plugs to prevent moisture during transport, handling and storage.

All ends of the cables must be well secured to prevent the cable from coming loose during transport or during laying operations.