

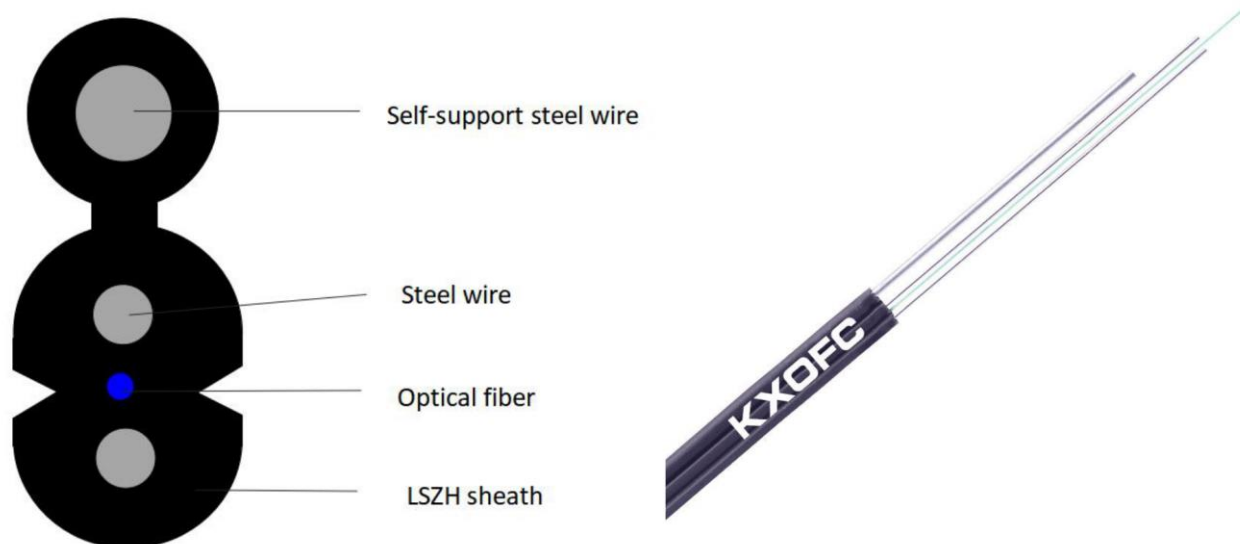
TECHNICAL DATA SHEET
FOR
Single Mode Optical Fiber Cable
Outdoor FTTH Application

(GJYXCH-1 Fibers)



1. Cable Construction

1.1 Cable cross-section



2. Cable Specification

2.1 Sheath marking

KXOFC	2025	GJYXCH	XX core(G.657A2)	XXXXm
KXOFC	: Manufacturer's brand			
2025	: Manufacture year			
GJYXCH	: Cable type			
XX core (G.657A1)	: XX cores single-mode optical fiber (ITU-T Rec. G.657A1)			
XXXXm	: Mark of meters			
<i>*The marking is printed every 1 meter;</i>				

2.2 The color of marking is white, but if the remarking is necessary.

2.3 An occasional unclear of length marking is permitted if both of the neighboring markings are clear;



2.4 Fiber color code

No.	1	2	3	4
Color	Blue	Orange	Green	Brown

2.5 Technical data

No. of Fiber		1	
Fiber Model		G.657A1	
Support member	Material	Single Steel Wire	
	Diameter (±0.03) mm	0.9	
Strength Member	Material	Steel wire	
	Diameter (±0.03) mm	0.4	
	NO.	2	
Outer Sheath	Material	LSZH	
	Colour	black	
Cable Diameter (±0.2) mm		2.0×5.0	
Cable Weight (±2) kg/km		17	
Attenuation	1310nm	dB/km	0.40
	1550nm		0.30
Allowable Tensile Strength	Short Term	N	600
	Long Term		300
Allowable Crush Resistance	Short Term	N/100mm	2200
	Long Term		1000
Temperature range (°C)	Installation		-20~+60
	Transport&Storage		-40~+60
	Operation		-40~+60

3. Fiber Properties

3.1 The properties of single mode optical fiber (ITU-T Rec. G.657A1)

Characteristics	Conditions	Specified values	Units
Optical Characteristics			
Attenuation	1310nm	≤0.32	[dB/km]
	1383nm(after H ₂ -aging)	≤0.31	[dB/km]
	1460nm	≤0.31	[dB/km]
	1550nm	≤0.18	[dB/km]



Characteristics	Conditions	Specified values	Units	
	1625nm	≤0.20	[dB/km]	
Attenuation vs. Wavelength Max. α difference	1285nm-1330nm, in reference to 1310nm	≤0.03	[dB/km]	
	1525nm-1575nm, in reference to 1550nm	≤0.02	[dB/km]	
Dispersion Coefficient	1285nm-1340nm	-3.5 to 3.5	[ps/(nm·km)]	
	1550nm	≤18	[ps/(nm·km)]	
	1625nm	≤22	[ps/(nm·km)]	
Zero Dispersion Wavelength(λ_0)	--	1300-1324	[nm]	
Zero Dispersion Slope(S_0)	--	≤0.092	[ps/(nm ² ·km)]	
Typical Value	--	0.086	[ps/(nm ² ·km)]	
PMD	Maximum Individual Fibre	--	≤0.1	[ps/√km]
	Link Design Value (M=20, Q=0.01%)	--	≤0.06	[ps/√km]
	Typical Value	--	0.04	[ps/√km]
Cable Cut off Wavelength (λ_{cc})	--	≤1260	[nm]	
Mode Field Diameter (MFD)	1310nm	8.7-9.5	[μm]	
	1550nm	9.8-10.8	[μm]	
Effective Group Index of Refraction (N_{eff})	1310nm	1.466	--	
	1550nm	1.467	--	
Point Discontinuities	1310nm	≤0.05	[dB]	
	1550nm	≤0.05	[dB]	
Geometrical Characteristics				



Characteristics		Conditions	Specified values	Units
Cladding Diameter		--	125.0±0.7	[μm]
Cladding Non-Circularity		--	≤0.7	[%]
Coating Diameter		--	235-245	[μm]
Coating-Cladding Concentricity Error		--	≤12.0	[μm]
Coating Non-Circularity		--	≤6.0	[%]
Core-Cladding Concentricity Error		--	≤0.5	[μm]
Curl(radius)		--	≥4	[m]
Delivery Length		--	Up to 50.4	[km/reel]
Environmental Characteristics		1310nm, 1550nm & 1625nm		
Temperature Dependence Induced Attenuation		-60°C to +85°C	≤0.05	[dB/km]
Temperature-Humidity Cycling Induced Attenuation		-10°C to +85°C, 98% RH	≤0.05	[dB/km]
Water soak Dependence Induced Attenuation		23°C, for 30 days	≤0.05	[dB/km]
Damp Heat Dependence Induced Attenuation		85°C and 85% RH, for 30 days	≤0.05	[dB/km]
Dry Heat Aging		85°C, for 30 days	≤0.05	[dB/km]
Mechanical Specification				
Proof Test		--	≥9.0	[N]
		--	≥1.0	[%]
		--	≥100	[kpsi]
Macro-bend Induced Loss	10 Turns Around a Mandrel of 15 mm Radius	1550nm	≤0.05	[dB]



Characteristics	Conditions	Specified values	Units
10 Turns Around a Mandrel of 15 mm Radius	1625nm	≤0.3	[dB]
1 Turn Around a Mandrel of 10 mm Radius	1550nm	≤0.5	[dB]
1 Turn Around a Mandrel of 10 mm Radius	1625nm	≤1.5	[dB]
Coating Strip Force	typical average force	1.5	[N]
	peak force	1.3-8.9	[N]
Dynamic Fatigue Parameter (n _d)	--	≥20	--

4. Characteristic of Optical Cable

4.1 Mechanical & environmental characteristics

4.1.1 Cable bending radius: 20 x cable diameter (during operation)

40 x cable diameter (during installation)

4.1.2 Temperature range and humidity

Operating temperature range	-40°C to +60°C
Storage / Transport temperature range	-50°C to +70°C
Installation temperature range	-20°C to +50°C

5. Packing and Marking

5.1 Packing

5.1.1 Each single length of cable shall be reeled on **Plywood Drum** suitable for long distance shipment.

5.1.2 Covered by plastic buffer sheet.

5.1.3 At least 1 m of inside end of cable will be reserved for testing.

5.1.4 Drum length

5.1.4.1 Standard drum length is **1000m±5%**;

5.1.4.2 Single length not less than 90% of standard length per drum shall be permitted for quantity not exceeding 10% of the total supply;

5.1.5.3 Total quantity is at least the ordered quantity.

5.2 Marking



5.2.1 Cable drum

- Manufacturer brand;
- Roll-direction arrow;
- Cable outer end position indicating arrow;
- The word "**OPTICAL FIBER CABLE**";
- Origin, The word "**MADE IN CHINA**";
- Caution plate indicating the correct method for loading, unloading and convey the cable;
- *Other customer information such as contract no., project no., and delivery destination. (if needed)*

5.2.2 Marking plate

- Product name;
- Cable type and size;
- Drum length;
-
- Gross / Net weight in kilograms; - Drum number in meters;
- Manufacturer's name;
- Manufacturing year and month;
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- Project number, contract number or purchasing order number (if needed).*

5.3 Cable identification documents

- Test report.

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