

# Specification

FOR  
**Self-Supporting**  
**Indoor(outdoor) Optic Cable**  

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**[ GJYXFJCH ]**

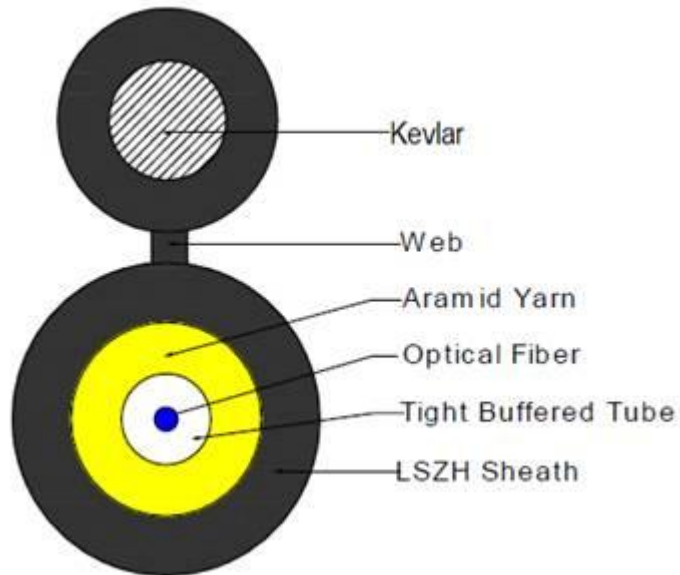
Canal autorizado:

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# 1. CABLE CONSTRUCTION

## 1.1. CROSS SECTIONAL DIAGRAM



## 1.2. TECHNICAL SPECIFICATION

Fiber count		1F	2F
Tighter fiber	OD(mm):	0.9 <sup>±0.1</sup>	0.6 <sup>±0.1</sup>
	Material:	PVC	PVC
Max fiber count/tube		12	
Strength member		Aramid yarn	
Supporting member (mm)		FRP Or Kevlar	
Sheath	Support Thickness:	Non. 0.5mm	
	Cable Thickness:	Non. 0.45mm	
	Material:	LSZH	
OD of cable (mm)		3.0*5.7mm	

Net weight ( kg/km)	15
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## 2. FIBER AND LOOSE BUFFER TUBE IDENTIFICATION

The color code of the loose buffer tubes and the individual fibers within each loose buffer tube

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

## 3. TEMPERATURE RANGE

Operating temperature	-40°C ~ +60°C
Store/Transport temperature	-50°C ~ +70°C
Installation temperature	-20°C ~ +60°C

## 4. OPTICAL FIBER

### 4.1. The Optical and Geometrical Performance of Single Mode Fiber

Items	UNITS	SPECIFICATION	
		G652D	G657A
Fiber type		G652D	G657A
Attenuation	dB/km	$\leq 0.35$ at 1310nm $\leq 0.21$ at 1550nm	
Chromatic Dispersion	ps/nm.km	$\leq 3.5$ at 1310nm $\leq 18$ at 1550nm $\leq 22$ at 1625nm	
Zero Dispersion Slope	ps/nm <sup>2</sup> .k m	$\leq 0.092$	
Zero Dispersion Wavelength	nm	1300 ~ 1324	
Cut-off Wavelength ( $\lambda_{cc}$ )	nm	$\leq 1260$	

Attenuation vs. Bending (60mm x100turns)	dB	(30mm radius, 100ring) ≤ 0.1 @ 1625nm	(10mm radius, 1ring)≤ 1.5 @ 1625nm
Mode Field Diameter	μm	9.2 ± 0.4 at 1310nm	9.0 ± 0.4 at 1310nm
Core-Clad Concentricity	μm	≤ 0.5	≤ 0.5
Cladding Diameter	μm	125±1	125±1
Cladding Non-circularity	%	≤ 0.8	≤ 0.8
Coating Diameter	μm	245±5	245±5
Proof Test	Gpa	≥ 0.69	≥ 0.69

#### 4.2 The Optical and Geometrical Performance of Multi Mode Fiber (50/125)

NO.	Items	UNITS	SPECIFICATION	
1	Fiber Core Diameter	μm	50±2.5	
2	Cladding Diameter	μm	125±2	
3	Core-Clad Concentricity	μm	≤1.5	
4	Clad-Coating Concentricity	μm	≤12.5	
5	Fiber Core Non-circularity	%	≤6.0	
6	Cladding Non-circularity	%	≤2.0	
7	Coating Diameter	μm	245±10	
8	Attenuation	850nm	dB/km	2.4~3.5
		1300nm	dB/km	0.55~1.5
9	Bandwidth	850nm	MHz·km	200~800
		1300nm	MHz·km	200~1200
10	The biggest theory numerical aperture	—	0.20±0.02 或 0.23±0.02	

## 5. Mechanical and Environmental Performance of the Cable

NO.	ITEMS	TEST METHOD	ACCEPTANCE CRITERIA
1	Tensile Loading Test	#Test method:IEC 60794-1-E1 -. Long-tensile load: 200N -. Short-tensile load: 400N -. Cable length: ≥50m	-. Attenuation increment@1550nm:≤0.1dB -. No jacket cracking and fiber breakage
2	Crush Resistance Test	#Test method:IEC 60794-1-E3 -.Long load: 200N/100mm -.Short load: 600 N/100mm Load time: 1 minutes	-. Attenuation increment@1550nm:≤0.1dB -. No jacket cracking and fiber breakage
3	Impact Resistance Test	#Test method:IEC 60794-1-E4 -.Impact height: 1 m -.Impact weigh: 450 g -.Impact point: ≥5 -.Impact frequency: ≥3/point	-. Attenuation increment@1550nm:≤0.1dB -. No jacket cracking and fiber breakage
4	Repeated Bending	#Test method:IEC 60794-1-E6 -.Mandrel diameter: 20D (D = cable diameter) -.Subject weight: 15kg -.Bending frequency: 30 times -.Bending speed: 2s/time	-. Attenuation increment@1550nm:≤0.1dB -. No jacket cracking and fiber breakage
5	Torsion Test	#Test method:IEC 60794-1-E7 -.Length: 1m -.Subject weight:15kg -.Angle: ±180 degree -.Frequency: ≥10/point	-. Attenuation increment@1550nm:≤0.1dB -. No jacket cracking and fiber breakage
6	Water Penetration Test	#Test method:IEC 60794-1-F5B -.Height of pressure head: 1m -.Length of specimen: 3m -.Test time: 24 hours	-. No leakage through the open cable end
7	Temperature Cycling Test	#Test method:IEC 60794-1-F1 -.Temperature steps: +20℃、-40℃、+70℃、+20℃ -.Testing Time: 24 hours/step -.Cycle index: 2	-. Attenuation increment@1550nm:≤0.1dB -. No jacket cracking and fiber breakage
8	Drop Performance	#Test method:IEC 60794-1-E14 -.Testing length: 30cm -.Temperature range: 70±2℃ -.Testing Time: 24 hours	-. No filling compound drop out

## 6. FIBER OPTIC CABLE BENDING RADIUS

Static bending:  $\geq 10$  times than cable out diameter

Dynamic bending:  $\geq 20$  times than cable out diameter.

## 7. PACKAGE AND MARK

### 7.1 PACKAGE

Not allowed two length units of cable in one drum, two ends should be sealed,. Two ends should be packed inside drum, reserve length of cable not less than 3 meters.

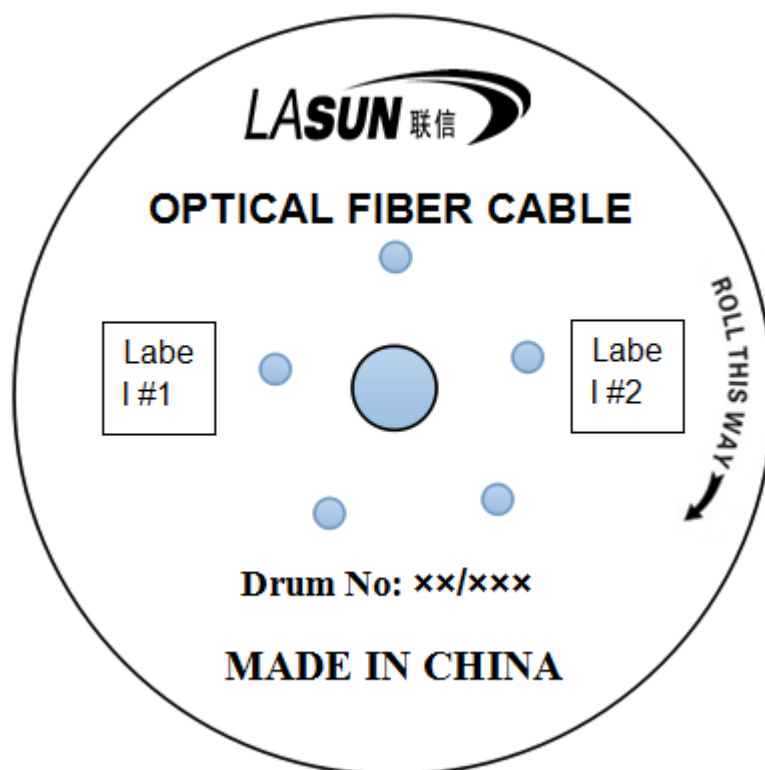
### 7.2 MARK

Cable Mark: length, brand

Drum Mark: Manufacturer, cable category, No. of drum, length, GW. direction of rotation, manufacturing date.

## 8. TEST REPORT

Test report and certification supplied.



Label 1: Certificate Of Quality    Label 2: Testing Data