

Model: LPFIG8A22C/2KM

2 Core G.657 A2 Fiber Optic Figure-8 Cable Outdoor with White Stripes

1. General

1.1 Scope

This listed specification covers the design requirements and performance standard for the supply of optical fiber cable in the industry. It also includes Linkedpro premium designed cable with optical, mechanical and geometrical characteristics.

Cable type	Application
SM FIGURE-8 DROP WIRE 2 Core G-657 A2	Outdoor installation cable

1.2 Cable Description

The Linkedpro Manufactured Cable possesses high tensile strength and flexibility in compact cable sizes. At the same time, it provides excellent optical transmission and physical performance.

1.3 Quality

The Linkedpro Manufactured Cable's excellent quality control is achieved through intense in-house quality check and stringent audit acceptance by ISO 9001.

1.4 Reliability

The Linkedpro Manufactured Cable's Initial and periodic product qualification tests for performance and durability are performed rigorously to ensure product reliability.

1.5 Reference

The cable which Linkedpro offered are designed, manufactured and tested according to international standards as follows

IEC 60793-1	Optical fiber Part 1: Generic specifications
IEC 60793-2	Optical fiber Part 2: Product specifications
IEC 60794-2	Optical fiber cables-part 2 indoor cables- sectional specification
IEC 60794-3-10	Optical fiber cables- Part 3-10: outdoor cables-family specification for duct and directly buried optical telecommunication cables
ITU-T G.650	Definition and test methods for the relevant parameters of single-mode fibers
ITU-T G.657	Characteristics of a bending-loss insensitive single-mode optical fiber

2. Optical Fiber

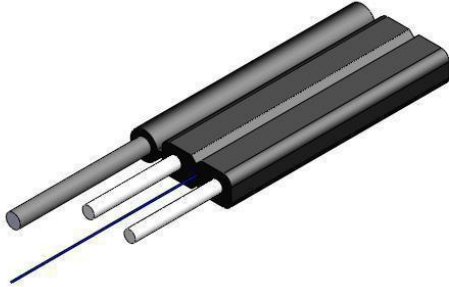
The optical fiber is made of high pure silica and germanium doped silica. UV curable acrylate material is applied over fiber cladding as optical fiber primary protective coating. The detail data of optical fiber performance are shown in the following table.

G.657 A2 Fiber

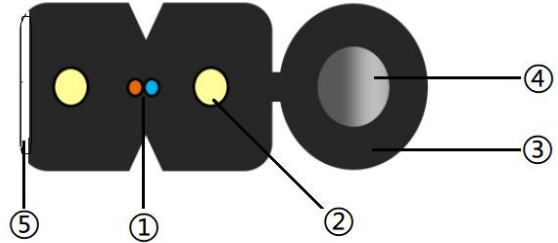
No.	Items		Unit	Specification	
				G.657 A2	
1	Mode Field Diameter	1310nm	μm	8.6±0.4	
		1550nm	μm	9.6±0.5	
2	Cladding Diameter		μm	125.0±0.7	
3	Cladding Non-Circularity		%	≤0.8	
4	Core-Cladding Concentricity Error		μm	≤0.5	
5	Coating Diameter		μm	245±5	
6	Coating Non-Circularity		%	≤3.0	
7	Cladding-Coating Concentricity Error		μm	≤12.0	
8	(PMD)		Ps/km 1/2	≤0.10	
9	Cable Cutoff Wavelength		nm	$\lambda_{cc} \leq 1260$	
10	Zero-Dispersion wavelength		nm	1300~1322	
11	Zero-Dispersion slope		Ps/(nm ² .km)	≤0.091	
12	Attenuation(max.)	1310nm	dB/km	≤0.36	
		1383nm	dB/km	≤0.35	
		1550nm	dB/km	≤0.22	
		1310-1625nm	dB/km	≤0.36	
13	Attenuation with bending loss	7.5mm diameter,1 turn	1550nm	dB	≤0.40
		7.5mm diameter,1 turn	1625nm	dB	≤0.80
		10mm diameter,1 turn	1550nm	dB	≤0.10
		10mm diameter,1 turn	1625nm	dB	≤0.20
		15mm diameter,15 turn	1550nm	dB	≤0.03
		15mm diameter,15 turn	1625nm	dB	≤0.10

3. CABLE STRUCTURE

3.1 Cable Type: G657A2 FLAT TYPE FIG-8



The picture is only for reference



Construction:

- ①.Colored Fiber(Blue and Orange)
- ②.Strength member (FRP)
- ③.Outer sheath (LSZH)
- ④.Messenger(Galvanized steel wire)
- ⑤. White Stripes

Technical Characteristics

- With excellent mechanical and environmental properties
- Low weight, easy to install and joint

Dimension and Properties

Physical	Fiber count	2Core * G.657A2
	Strength member diameter (FRP)	0.5+0.05 mm*2
	Cable OD	2.0±0.05*5.1 ±0.1mm
	Messenger Steel Wire Diameter	1.0±0.05mm
	Cable weight	20.0kg/km±8%
	Operation temperature range	-40℃ to + 70℃ @100% Humidity
	Installation temperature range	-10℃ to + 70℃
	Transport and storage temperature range	-20℃ to +70℃
	Max. tensile load	Short term: 600N, long term: 300N
Mechanical	Crush resistance	Installation:2200N/10cm, working: 1000N/10cm
	Minimal dynamic bending radius	30mm
	Minimal static bending radius	15mm

Color code scheme:

Fiber color: Blue and Orange

Sheath color: Black

Standard length: 2km/Wooden Reel/Carton, all cartons are in pallets

4. Test Requirements

Approved by various professional optical and communication product institution, Linkedpro also conduct various in-house testing in its third party Laboratory and Test Center. Linkedpro possess the technology to keep its fiber attenuation loss within Industry Standards.

The cable is in accordance with applicable standard of cable and requirement of customer. The following test items are carried out according to corresponding reference.

Routine tests of optical fiber

Mode field diameter	IEC 60793-1-45
Core/clad concentricity	IEC 60793-1-20
Cladding diameter	IEC 60793-1-20
Cladding non-circularity	IEC 60793-1-20
Attenuation coefficient	IEC 60793-1-40
Chromatic dispersion	IEC 60793-1-42
Cable cut-off wavelength	IEC 60793-1-44

Test list

4.1 Tension Loading Test

Test Standard	IEC 60794-1-2 E1
Sample length	No less than 50 meters
Load	Max. tension load
Duration time	1 minute
Test results	Additional attenuation: $\leq 0.04\text{dB}$
	No damage to outer jacket and inner elements

4.2 Crush/Compression Test

Test Standard	IEC 60794-1-2 E3
Load	Crush load
Duration time	1 minute
Test number	1
Test results	Additional attenuation: $\leq 0.04\text{dB}$
	No damage to outer jacket and inner elements

4.3 Impact Resistance Test

Test Standard	IEC 60794-1-2 E4
Impact energy	1J
Radius	12.5mm
Impact points	3
Impact number	1
Test result	No obvious change after test
	No damage to outer jacket and inner elements

4.4 Repeated Bending Test

Test Standard	IEC 60794-1-2 E6
Bending radius	20 X diameter of cable
Cycles	30 cycles
Test result	No obvious change after test
	No damage to outer jacket and inner elements

4.5 Torsion/Twist Test

Test Standard	IEC 60794-1-2 E7
Sample length	2m
Angles	±180 degree
cycles	5
Test result	No obvious change after test
	No damage to outer jacket and inner elements

4.6 Bend Test

Test Standard	IEC 60794-1-2 E11A
Mandrel radius	30mm
Turn number	4
Number of cycles	3
Test result	No obvious change after test
	No damage to outer jacket and inner elements

5.Packing

Packed in carton, coiled on Wooden reel. Standard length of cable shall be 2,000m. The cable ends shall be securely fastened to the reel to prevent the cable from becoming loose in transit or during placing operations. Each reel shall be well packed in individual carton box.