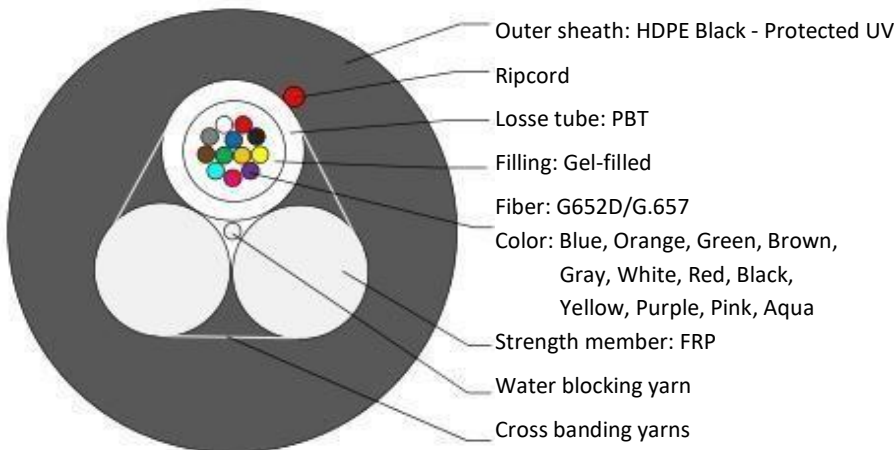


OPTICAL FIBER - #ASU – MINI ADSS

ASU100 – 120 CABLE

1. Cable Cross -Section



Note: water blocking yarn is available

2. Cable Specification

2.1 Introduction

Single loose tube construction, jelly compound filled, then HDPE outer sheath with two non-metallic strength members combined and UV protected.

2.2 Fiber color code

Fiber color in each tube starts from No. 1 Blue.

1	2	3	4	5	6	7	8	9	10	11	12
Blue	Orange	Green	Brown	Gray	White	Red	Black	Yellow	Violet	Pink	Aqua

2.3 Color codes for loose tube

1
Nature

2.4 Cable structure and parameter

SN	Item	Unit	Value	
1	No. of fibers	count	6/8/12/24	
2	FRP diameter(nominal)	mm	1.5	
3	Cable diameter (±5%)	mm	7	7.5
4	Cable weight (±10%)	kg/km	39± 5kg	
5	Tension	N	1600/800	
6	Crush	N/100mm	1000/300	
7	Span	m	100	120

3. Characteristic of Optical Cable

3.1 Min. bending radius for installation

Static: 15 x cable diameter

Dynamic: 30 x cable diameter

3.2 Application temperature range

Operation: - 20°C ~ +65°C

Installation: -10°C ~ +60°C

Storage/transportation: - 20°C ~ +65°C

3.3 Main mechanical & environmental performance test

Item	Test Method	Acceptance Condition
Tensile Strength IEC 60794-1-2-E1	- Load: Short term tension - Length of cable: about 50m - Load time: 1min	- Fiber strain \leq 0.33% - No fiber break and no sheath damage.
Crush Test IEC 60794-1-2-E3	- Load: Short term crush - Load time: 1min	- Loss change \leq 0.1dB@1550nm - No fiber break and no sheath damage.
Temperature Cycling IEC 60794-1-2-F1	- Temperature: -20°C~+60°C - Time of each step: 12h - Number of cycle: 2	- Loss change \leq 0.1dB/km@1550nm - No fiber break and no sheath damage.

(Item)	Unit	Specification G. 652
Mode field diameter	1310nm	μm 9.2 \pm 0.4
	1550nm	μm 10.4 \pm 0.8
Cladding diameter	μm	125.0 \pm 1
Cladding non-circularity	%	\leq 1.0
Core/cladding concentricity error	μm	\leq 0.5
Coating diameter	μm	242 \pm 7
Coating/cladding concentricity error	μm	\leq 12
Cable cut-off wavelength	nm	\leq 1260
Attenuation Coefficient	1310nm	dB/km \leq 0.36
	1550nm	dB/km \leq 0.22
Proof stress level	kpsi	\geq 100

4 TEST REQUIREMENTS

Approved by various professional optical and communication product institution, GL also conduct various in-house testing in its own Laboratory and Test Center. She also conducts test with special arrangement with the Chinese Government Ministry of Quality Supervision & Inspection Center of Optical Communication Products (QSICO). GL 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
Mode field 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

Tension Loading Test	
Test Standard	IEC 60794-1
Sample length	No less than 50 meters
Load	Max. installation load
Duration time	1 hour
Test results	Additional attenuation: $\leq 0.05\text{dB}$ No damage to outer jacket and inner elements

Crush/Compression Test	
Test Standard	IEC 60794-1
Load	Crush load
Plate size	100mm length
Duration time	1 minute
Test number	1
Test results	Additional attenuation: $\leq 0.05\text{dB}$ No damage to outer jacket and inner elements

Impact Resistance Test	
Test Standard	IEC 60794-1
Impact energy	6.5J
Radius	12.5mm
Impact points	3
Impact number	2
Test result	Additional attenuation: $\leq 0.05\text{dB}$

Repeated Bending Test	
Test Standard	IEC 60794-1

Bending radius	20 X diameter of cable
Cycles	25 cycles
Test result	Additional attenuation: $\leq 0.05\text{dB}$ No damage to outer jacket and inner elements

Torsion/Twist Test	
Test Standard	IEC 60794-1
Sample length	2m
Angles	± 180 degree
cycles	10
Test result	Additional attenuation: $\leq 0.05\text{dB}$ No damage to outer jacket and inner elements
Temperature cycling Test	
Test Standard	IIEC 60794-1
Temperature step	$+20^{\circ}\text{C} \rightarrow -40^{\circ}\text{C} \rightarrow +85^{\circ}\text{C} \rightarrow +20^{\circ}\text{C}$
Time per each step	Transition from 0°C to -40°C :2hours; duration at -40°C :8 hours; Transition from -40°C to $+85^{\circ}\text{C}$:4hours; duration at $+85^{\circ}\text{C}$:8 hours; Transition from $+85^{\circ}\text{C}$ to 0°C :2hours
Cycles	5
Test result	Attenuation variation for reference value (the attenuation to be measured before test at $+20\pm 3^{\circ}\text{C}$) ≤ 0.05 dB/km
Water penetration Test	
Test Standard	IEC 60794-1
Height of water column	1m
Sample length	1m
Test time	1 hour
Test result	No water leakage from the opposite of the sample

5. Packing and Marking

Each single length of cable shall be reeled on **Fumigated Wooden Drum**

Covered by plastic buffer sheet

Sealed by strong wooden battens

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

Drum length: Standard drum length is 3,000m \pm 2%; as required

5.2 Drum Marking (can according to the requirement in the technical specification)

Manufacturer name;

Manufacturing year and

month Roll---direction arrow;

Drum length;

Gross/net weight;

