54XOP0018 Xoptic ADSS 2x12E9/125 G.657A1
54XOP0017 Xoptic ADSS 4x12E9/125 G.657A1
54XOP0015 Xoptic ADSS 6x12E9/125 G.657A1
54XOP0016 Xoptic ADSS 8x12E9/125 G.657A1

1. General

1.1 Scope

This Specification covers the design requirements and performance standard for the supply of optical fibre cable in the industry. Stable quality control system for our cable products through several programs including ISO 9001, ISO 14001 and OHS.

Cable type Application: Self-supporting aerial installation

1.2 Reference

The cable offered by Xoptic are designed, manufactured and tested according to the standards as follows:

ITU-T G.657	Characteristics of a single-mode optical fibre
IEC 60794-1-1	Optical fibre cables - part 1-1 - Generic specification-General
IEC 60794-1-21	Optical fibre cables - part 1-2 - Generic specification-Basic optical cable test procedure-Mechanical test methods
IEC 60794-1-22	Optical fibre cables - part 1-2 - Generic specification-Basic optical cable test procedure-Environmental test methods
IEC 60794-3	Optical fibre cables - part 3 - Sectional specification-Outdoor cables
IEC 60794-4-20	Aerial optical cables along electrical power lines - Family specification for ADSS (All Dielectric Self Supported) optical cables

1.3 Life Time

Optical fibre cables supplied in compliance with this specifications is capable to withstand the typical service condition for a period of twenty-five (25) years without detriment to the operation characteristics of the cable.

1.4 Application

Item	Value
Operation temperature	-40ºC~+70ºC
Installation temperature	-15ºC~+55ºC
Storage temperature	-40ºC~+70ºC
Static bending radius	15 times the cable diameter
Dynamic bending radius	20 times the cable diameter

2. Optical Fibre

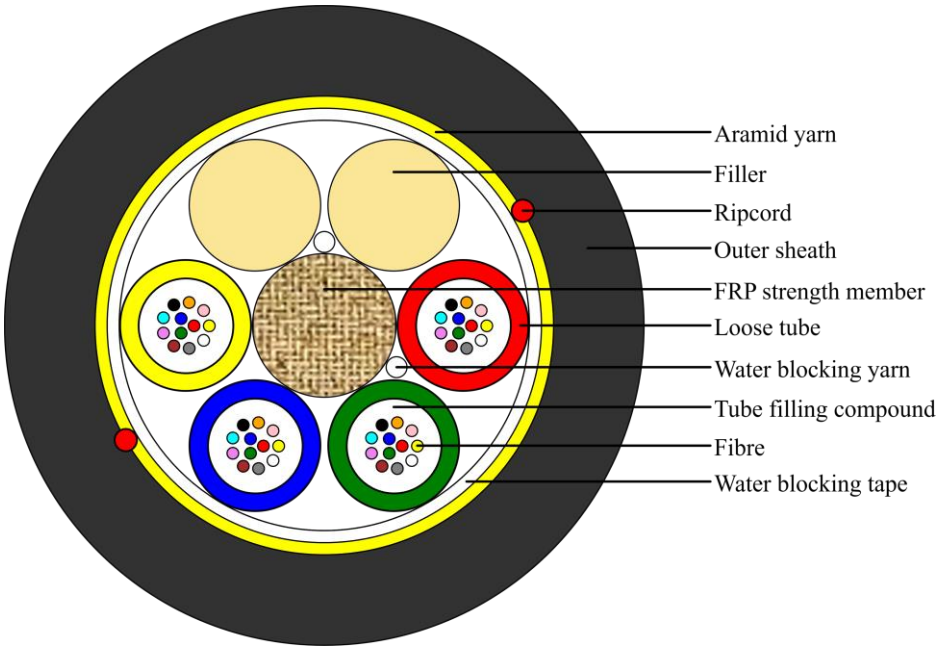
Optical Fibres supplied in this specification meet the requirements of ITU-T G.657.A1

3. Optical Cable

3.1 Technical Characteristics

- The unique second coating and stranding technology provide the fibres with enough space and bending endurance, which ensure good optical property of the fibres in the cable
- Accurate process control ensures good mechanical and temperature performance
- High quality raw material guarantees the long service life of cable

3.2 Cross Section of Cable



Xoptic ADSS
Structure of other fibre counts referred to 3.4
Schematic for reference only

3.3 Fibre and Loose Tube Identification

The color code of fibres and loose tube will be identification in accordance with the TIA-598-D color sequence, other sequence also is available. The color of the fillers will be natural.

3.4 Dimensions and Descriptions

The standard optical cable structure is shown in the following table, other structure and fibre count are also available according to customer requirements.

Item	Contents	Value	
		24/48/72	96
Structure	Type	1+6	1+8
Loose tube	Max. fibre count/tube	12	
	Outer diameter (mm)	2.2	
	Water blocking	Filling gel	
Central strength member	Material	FRP	
	Diameter (mm)	2.4	2.8
	PE layer diameter (mm)	/	3.7
Water blocking	Material	Water blocking yarn and tape	
Peripheral strength member	Material	Aramid yarn	
Outer Sheath	Material	HDPE (UV resistant)	
	Color	Black	
	Thickness (mm)	Nominal: 1.5	
Ripcord	Number	2	
	Color	Red	
Cable diameter(mm) Approx.		10.1	11.3
Cable weight(kg/km) Approx.		82	105

3.5 Main Mechanical Performance

Value	Max allowable tension(N)	Max static tension(N)	Crush(N/100mm)
24~96	3100	1500	2000

4. Mechanical, Physical and Environmental Test Characteristics

The mechanical and environmental performance of the cable are in accordance with the following table. Unless otherwise specified, all attenuation measurements required in this section shall be performed at 1550 nm.

Items	Test Method	Requirements
Tension	**IEC 60794-1-21-E1** Load: According to 3.5 Sample length: Not less than 50m. Duration time: 1min.	Additional attenuation: ≤ 0.05 dB after test No damage to outer jacket and inner elements
Crush	**IEC 60794-1-21-E3A** Load: According to 3.5 Duration of load: 1min	Additional attenuation: ≤ 0.05 dB after test No damage to outer jacket and inner elements
Impact	**IEC 60794-1-21-E4** Radius: 300 mm Impact energy: 10J Impact number: 1 Impact points: 3	Additional attenuation: ≤ 0.1 dB No damage to outer jacket and inner elements
Repeated bending	**IEC 60794-1-21-E6** Bending radius: 20 *D Cycles: 25 Load: 150N	Additional attenuation: ≤ 0.05 dB No damage to outer jacket and inner elements
Torsion	**IEC 60794-1-21-E7** Cycles: 10 Length under test: 1 m Turns: ±180° Load: 150N	Additional attenuation: ≤ 0.1 dB No damage to outer jacket and inner elements
Water Penetration	**IEC 60794-1-22-F5** Time: 24 hours Sample length: 3m Water height: 1m	No water leakage.
Temperature cycling	**IEC 60794-1-22-F1** Sample length: at least 1000m Temperature range: -40 ºC~+70 ºC Cycles: 2 Temperature cycling test dwell time: 12 hours	The change in attenuation coefficient shall be less than 0.05 dB/km.
Other parameters	According to **IEC 60794-1**	

5. Packaging and Drum

5.1 Cable Sheath Marking

Unless otherwise specified, the cable sheath marking shall be as follows:

- Color: white
- Contents: Xoptic, the year of manufacture, the type of cable, cable number, length marking
- Interval: 1m

Outer sheath marking legend can be changed according to user's requests.

5.2 Reel Length

Standard reel length: 2/3/4 km/reel, other length is also available.

5.3 Cable Drum

The cables are packed in fumigated wooden drums.

5.4 Cable Packing

Both ends of the cable will be sealed with suitable plastic caps to prevent the entry of moisture during shipping, handling and storage. The inner end is available for testing.