ADSS-SS-200m-24/48B1.3

1. General

1.1 Scope

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

Cable type	Application
ADSS-SS-200m-24/48B1.3	Self-supporting aerial installation

200m represent the span.

1.2 Reference

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

ITU-T G.652	Characteristics of a single-mode optical fibre
IEC 60794-1-1	Optical fibre cables-part 1-1: Generic specification-General
IEC 60794-1-2	Optical fibre cables-part 1-2: Generic specification-Basic optical cable test procedure
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
Max. pole distance	200m
Operation temperature	-40 ℃～+70 ℃
Storage temperature	-40 ℃～+70 ℃
Static bending radius	10 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.652D

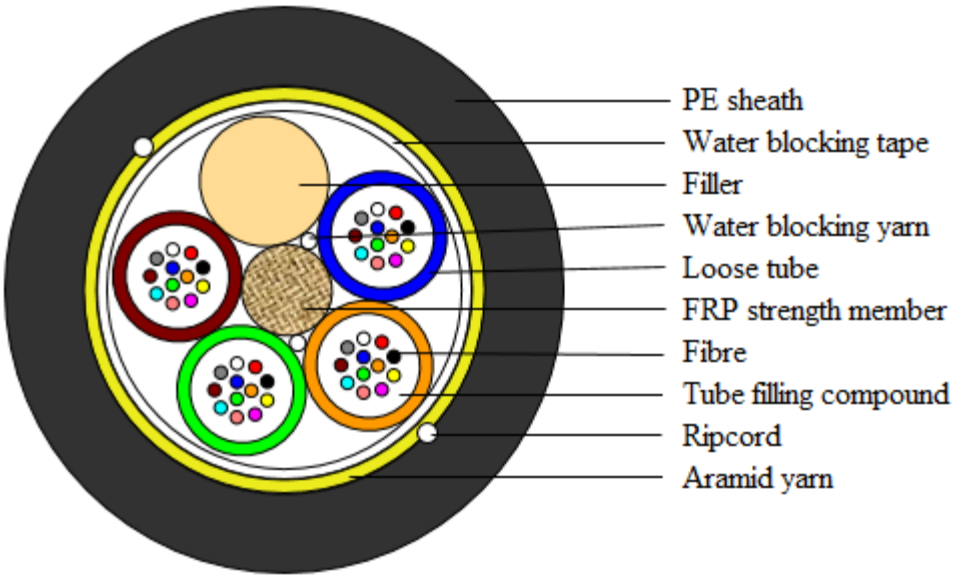
Parameter	Specification
MFD (1310nm)	9.1±0.4um
MFD (1550nm)	10.4±0.5um
Cladding diameter	125mm ±1.0mm
Fiber diameter	245±7um, with UV coating, and colored to : 250±15um
Core/cladding concentricity error	≤ 0.6um
Coating/cladding concentricity error	≤ 12.0um
Cladding non circularity	≤ 1.0%
Cut off wavelength	λcc ≤1260nm
Attenuation coefficient	1310nm: 0.35dB/km max after cabling 1550nm: 0.21dB/km max after cabling
Bending-loss performance of optical fiber @1310nm&1550nm	≤0.05dB (100 turns around a mandrel of 50mm diameter)
Polarization mode dispersion maximun individual fibre	≤0.1ps/√km
Polarization mode dispersion link value	≤0.06ps/√km
Zero-dispersion wavelength	1312±12nm
Zero-dispersion slope	≤0.091ps/nm^2 km

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



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Structure of other fibre counts refer 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 following color sequence, other sequence also is available.

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

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
Structure	Type	1+6	1+5
Loose tube	Fiber count/tube	6	12
	Outer diameter (mm)	2.1	2.4
Central strength member	Material	FRP	
	Diameter (mm)	2.25	1.8
	PE layer diameter (mm)	-	-
Water blocking	Material	Water blocking yarn & tape	
Peripheral strength member	Material	Aramid yarn	
Sheath	Material	PE	
	Color	Black	
	Thickness (mm)	Nominal: 1.5	
Ripcord	Number	2	
Cable diameter(mm) Approx.		10.4	10.5
Cable weight(kg/km) Approx.		82	80

3.5 Main Mechanical and Environmental Performance

Main mechanical performance

Item	Max allowable tension(N)	Crush(N/200mm)	
		Short term	Long term
24/48	3*Cable weight	2200	700

Environmental and installation condition

Max. wind speed	Max. ice thickness	Initial Installation sag	Temperature
25m/s	0	1.0%	-40 ºC～+70 ºC

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 1550nm.

Items	Test Method	Requirements
Tension	**IEC 60794-1-2-E1** Load: According to 3.5 Sample length: Not less than 50m. Duration time: 1min.	Fibre strain: ≤0.2% Additional attenuation: ≤0.05dB after test No damage to outer jacket and inner elements
Crush	**IEC 60794-1-2-E3** Load: According to 3.5 Duration of load: 1min	Additional attenuation: ≤0.05dB after test No damage to outer jacket and inner elements
Impact	**IEC 60794-1-2-E4** Radius: 300 mm Impact energy: 10 J Impact number: 1 Impact points: 3	Additional attenuation: ≤0.1dB No damage to outer jacket and inner elements
Repeated bending	**IEC 60794-1-2-E6** Bending radius: 20*D Cycles: 25 Load: 150N	Additional attenuation: ≤0.05dB No damage to outer jacket and inner elements
Torsion	**IEC 60794-1-2-E7** Cycles:10 Length under test: 1m Turns: ± 180 ° Load: 150N	Additional attenuation: ≤0.1dB No damage to outer jacket and inner elements
Water Penetration	**IEC 60794-1-2-F5B** Time : 24 hours Sample length : 3m Water height : 1m	No water leakage.
Temperature cycling	**IEC 60794-1-2-F1** Sample length: at least 1000m Temperature range: -40 ℃~+70 ℃ 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: The year of manufacture, the type of cable, cable number, length marking

Interval: 1±0.2% m

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

5.2 Reel Length

Standard reel length: 2/3 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.