TECHNICAL SPECIFICATIONS

FOR ADSS-**B1-100M CABLE

1. Product Description

This specification covers the general requirements and performance of cable for ADSS, span 150m, which SHG offered including optical characteristics, mechanical characteristics and geometrical characteristics and etc.

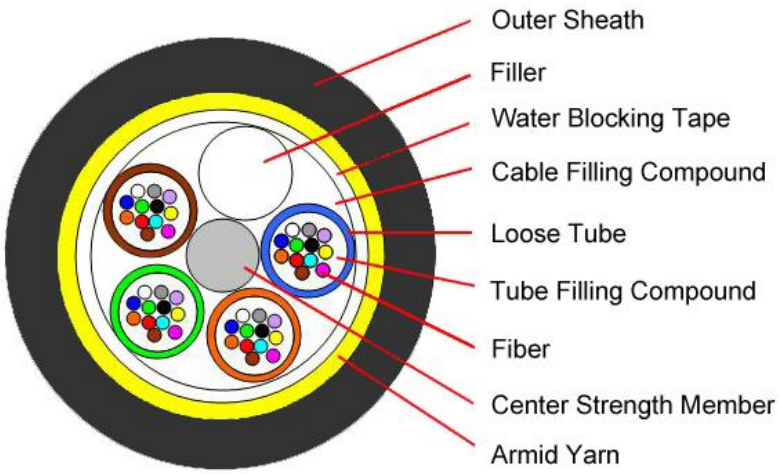
2. OPTICAL FIBER

Optical fiber characteristics (G.652D FIBER)

Category	Description		Specifications
			G.652D
Optical Specifications	Attenuation	@1310nm	≤0.35dB/km
		@1383nm	≤0.35dB/km
		@1550nm	≤0.22dB/km
		@1625nm	≤0.25dB/km
	Attenuation discontinuity		≤0.05 dB
	Attenuation vs. Wavelength	@1285~1330nm	≤0.05 dB/km
		@1525~1575nm	≤0.05 dB/km
	Zero Dispersion Wavelength		1300~1324nm
	Zero Dispersion Slope		≤0.092ps/(nm^2.km)
	Dispersion	@1310nm	≤3.5 ps/nm.km
		@1550nm	≤18 ps/nm.km
	Polarization Mode Dispersion(PMD)		≤0.2ps/km$^{1/2}$
	Cable Cutoff Wavelength(λcc)		≤1260nm
	Effective Group Index of Refraction	@1310nm	1.4675
		@1550nm	1.4681
	Macro bend loss (30mm radius ,100turns) 1625nm		≤0.1 dB
Geometric Specifications	Mode Field Diameter	@1310nm	9.2±0.6μm
		@1550nm	10.4±0.8μm
	Cladding Diameter		125±1μm
	Cladding Non-Circularity		≤1.0%
	Coating Diameter		245±7μm
	Coating/Cladding Concentricity Error		≤8μm
	Core/Cladding Concentricity Error		≤0.8μm
Mechanical Specifications	Proof Test level		≥1.0%
	Fiber Curl Radius		≥4.0m
	Peak Coating Strip Force		1.3~8.9N

3. OPTICAL CABLE

3.1 Construction of cable



3.1.2 Cable Main Performance. (Table 1)

Number of fiber		8	24
Loose tube	material	PBT (polybutylene terephthalate)	
	No. of tubes	2	4
	fiber per tube	4	6
Filling compound in loose tube		Thixotropic jelly	
Strength member		FRP	
Cable jacket	material	MDPE - black middle density polyethylene, UV resistant	
	diameter	9.2	
Cable weight Approx. (kg/km)		60	
Tensile strength Max. (N)	Long term	800	
	Short term	2000	
Crush Resistance Min. (N/10cm)	Long term	300	
	Short term	1000	
Bending Radius (mm)	Static	20D*	
	Dynamic	10D	
Operating Temperature		-40~+60 ℃	

D---- Cable diameter

3.2 Fiber coding,The color coding of the optical fiber shall be in accordance with Table 3.2.1

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

Table3.2.2：Identification of loose tube

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

4. TEST REQUIREMENTS

No	Item	Test standard	Method	Acceptance criteria
1	Tensile test	IEC-60794-1-E1	-Max. Tensile strength:4000N -Sample length:50 meters -Time: 1minutes;	-Fiber strain at maximum Load: max. 0.33% -Attenuation increase≤0.05dB
2	Crush test	IEC-60794-1-E3	-Load:1000N -Time: 1 minutes -Length: 100mm	-No splits or cracks in the outer jacket; -Attenuation increase<0.10dB,
3	Impact test	IEC-60794-1-E4	-Impact energy: 450g - Height:1 meter -Impact points: min.1 --Number of impacts: 5	-No splits or cracks in the outer jacket -Attenuation increase≤0.10dB
4	Repeated bending	IEC-60794-1-E6	-R=20×cable outer diameter -1m cable length with 150N weight,30 cycles	- No splits or cracks in the outer jacket -Attenuation increase ≤0.10dB
5	Torsion test	IEC-60794-1-E7	-1m cable length with 150N weight -±90 degrees, 10 cycles	- No splits or cracks in the outer jacket -Attenuation increase ≤0.10B
6	Bending test	IEC-60794-1-E11	-Diameter of mandrel: 20×D -Number of turns/helix:10 -Number of cycles: 5	- No splits or cracks in the outer jacket - No fiber break
7	Temperature cycling test	IEC-60794-1-F1	-Temperature step: +20℃→-40℃→+60℃→-40℃→+60℃→+20℃ -Time per each step: 12 hrs -Number of cycles: 2 cycles	-Attenuation variation for reference value (the attenuation to be measured before test at +20±3℃) ≤0.05dB
8	Water penetration test	IEC-60794-1-F5	-Water height: 1m -Sample length:3m -Duration of test: 24hrs	-No water leakage at the end of the sample
9	Drip test	IEC-60794-1-E14	-Five 0.3m samples suspended vertically in a climate chamber, raised temperature to +70℃	-No filling compound shall drip from tubes after 24 hr

5. PACKING AND DRUM

5.1 The cable is wound on a non-returnable wooden drum. Both ends of cable are securely fastened to drum and sealed with a shrinkable cap to prevent ingress of moisture. The following information shall be marked on the outer sheath of the cable at an interval of about 1 meter, OR according to customer's requirement.

- Cable type and number of optical fiber
- Manufacturer name
- Month and Year of Manufacture
- Cable length

  The sequential number of the cable length shall be marked on the outer sheath of the cable at an interval of 1meter ± 1%.

5.2 Drum marking, Each side of every wooden drum shall be permanently marked in a minimum of 2.5~3 cm high lettering with following:

- Manufacture name and logo
- Cable length
- Cable type and number of fibers
- Roll way
- Gross and net weight

-End of Specification-