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Multicom 2017



# **TECHNICAL SPECIFICATIONS**

## **FOR ADSS CABLE**

## 1. PRODUCTION DESCRIPTION

This specification covers the general requirements and performance of ADSS cable suitable for Aerial, which HSC offered including optical characteristics, mechanical characteristics and geometrical characteristics.

## 2. REFERENCES

The cable which HSC offered shall be designed, manufactured and tested according to international standards as follows:

ISO9001	Quality Management Systems
ISO 14001	Environmental Management Systems
IEC60793-1	Optical fiber Part 1: Generic specifications
IEC60793-2	Optical fiber Part 2: Product specifications
ITU-T G.650	Definition and test methods for the relevant parameters of single-mode fibers
ITU-T G.652	Characteristics of a single-mode optical fiber cable
IEC60794-3-10	Outdoor cables – Family specification for duct and directly buried optical telecommunication cables
IEC60794-3-20	Outdoor cables - Family specification for optical self-supporting aerial telecommunication cables

## 3. OPTICAL FIBER

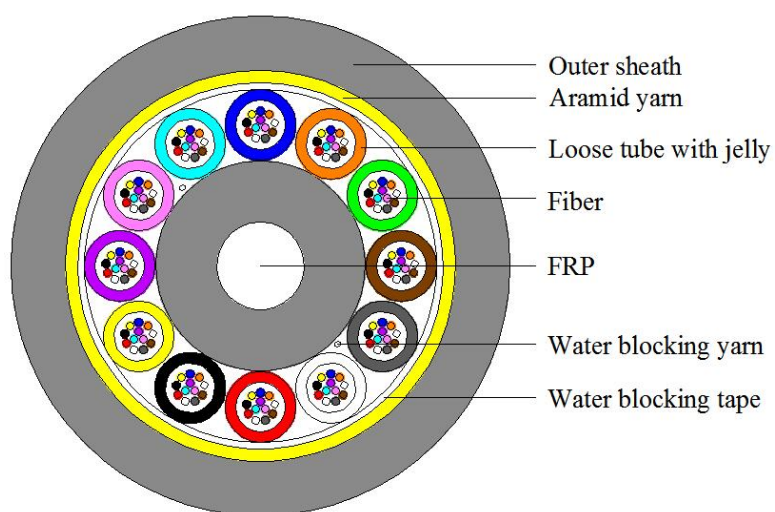
Optical fiber characteristics (G.652D FIBER)

Category	Description		Specifications
			G.652 D
Optical Specifications	Attenuation	@1310 nm	≤0.35 dB/km
		@1550 nm	≤0.25 dB/km
	Attenuation vs. Wavelength	@1288~1339 nm	≤0.05 dB/km
		@1525~1575 nm	≤0.05 dB/km
	Zero Dispersion Wavelength (nm)		1300~1324
	Zero Dispersion Slope		≤0.092 ps/nm <sup>2</sup> .km
	Dispersion	@1285~1330 nm	≤3.5 ps/nm.km
		@1550 nm	≤18 ps/nm.km
	Polarization Mode Dispersion(PMD)		≤0.2 ps/km <sup>1/2</sup>
	PMD Link value		≤0.15 ps/km <sup>1/2</sup>
	Cable Cutoff Wavelength(λ <sub>cc</sub> )		≤1260 nm

	Macro bending Loss (100 turns;Φ60 mm) @1550 nm (100 turns;Φ60 mm) @1625 nm		≤0.05 dB ≤0.05 dB
	Mode Field Diameter	@1310nm	9.3±0.5 μm
		@1550nm	10.4±1.0 μm
Dimensional Specifications	Fiber Curl Radius		≥4.0 m
	Cladding Diameter		125±1.0 μm
	Mode field Core/clad concentricity		≤0.6 μm
	Coating Diameter		245±10 μm
	Coating/Cladding Concentricity		≤12.5 μm
	Cladding Non-Circularity		≤1.0%
Mechanical Specifications	Proof Test		≥0.69 GPa
	Peak Coating Strip Force		1.0~8.9 N
Environmental Specifications	Temperature Cycling Induced Attenuation @1310 nm,1550 nm,1625nm(-60℃to+85℃)		≤0.05 dB/km

## 4. OPTICAL CABLE

### 4.1 Construction of cable



Structure	Unit	Parameter			
Fiber count	fibers	12	24	48	96
Element	--	6	6	6	8
Loose tube Diameter	mm	2.0		2.0	3.4/2.0
Cores of per tube(no more than)	--	6		8	12

Central strength member/coating		mm	2.0		2.0	3.4/2.5
Auxiliary strength member			Aramid yarn			
Sheath	Material	--	HDPE			
	Thickness	mm	1.8			
Cable diameter		mm	9.9	9.9	9.9	11.4
Weight		Kg/km	78	79	81	101
Span		ft	600	600	600	600
Tensile strength		N	2500	2500	2500	3000

#### 4.2 Mechanical characteristics

Impact strength (R=12.5mm)		--	0.45kg, 1m			
Torsion		--	±180°			
Crush Resistance		N/ 100mm	1000			
Bending Radius	Dynamic	--	≥20×Cable Diameter			
	Static	--	≥10×Cable Diameter			
Operating Temperature		°C	-40~+70			

#### 4.3 Fibers and tube color code

FIBERS AND TUBE COLOR CODE SCHEME:											
1	2	3	4	5	6	7	8	9	10	11	12
Blue	Orange	Green	Brown	Slate	White	Red	Black	Yellow	Violet	Pink	Aqua

### 5. PACKING AND DRUM

#### 5.1 Cable marking

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. The following information shall be marked on the outer sheath of the cable at an interval of about 1 meter.

- Cable type
- Number of optical fiber
- Manufacture name

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- Month/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 1 meter  $\pm$  1%.

## **5.2 Drum marking**

Each side of every wooden drum shall be permanently marked in a minimum of 3 cm high lettering with following:

- Manufacture name

- Cable type

- Cable length

- Number of fibers

- Cross and net weight of cable

## **5.3 Packing and shipping**

The both end of each cable shall be sealed with suitable caps to prevent ingress of moisture, The factory length of the cable wound on a strong wooden drum.

**-End of Specification-**