



Specifications of

Single Armored Optical Fiber Cable (ADSS)

1. General

1.1 This specification covers the requirements for the supply of jelly-filled core, single-mode optical fiber cables.

1.2 The single mode optical fiber cable comply with the requirements of this specification and generally meet any latest relevant ITU-T Recommendation G.652.

2. Fiber characteristics

2.1 G.652

2.1.1 Geometric characteristics

Item		Construction
Mode field diameter	At 1310nm	9.2±0.4μm
Cladding diameter		125±1μm
Core concentricity error		≤0.5μm
Cladding non-circularity		≤1.0%
Cut-off wavelength (λ _{cc}) (for cable)		≤1260nm
Cut-off wavelength (λ _c) (for fiber)		1180nm~1330nm
Primary coating diameter	(Not included color layer)	245±5μm
	(Included color layer)	245±10μm
Coating-cladding concentricity error		≤12.5μm
Fiber curl radius		≥4m

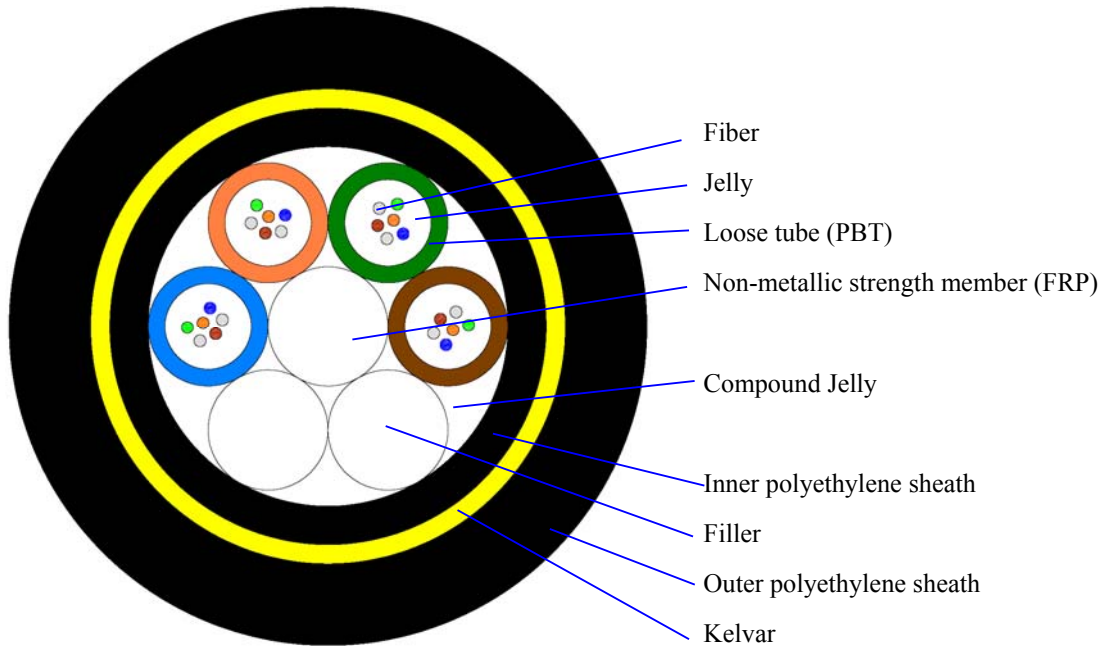
2.1.2 Transmission characteristics

Item		Performance
Attenuation	At 1310nm	≤0.36dB/km(max.)
	At 1383nm	≤0.35dB/km(max.)
	At 1550nm	≤0.25dB/km(max.)
Macro bending loss	Φ=60mm, 100turns at 1550nm	≤0.1dB
Chromatic dispersion	Within 1288~1339nm	≤3.5ps/nm·km
	At 1550nm	≤18ps/nm·km
Zero dispersion wavelength		1300~1324nm
Zero dispersion slope		≤0.090ps/nm ² ·km
Cut off wavelength		≤1260nm

3 Optical Fiber Cable

3.1 ADSS Optical Fiber Cable

3.1.1 Cross section



3.1.2 Operational Condiation

Cable Type	Maximum allowed operational tension(MAT)	Operational Condiation
ADSS_24	4100N	Maximum span: 200m Maximum ice thickness: 5mm Maximum wind speed: 25m/min
ADSS_48	4800N	
ADSS_72	5800N	
ADSS_96	6200N	

Notes: Customize product by operational condition

3.1.3 Dimension of the cable

Cable Type	Amount of fiber	Max. numb. of the fiber in one tube	*Nom. thickness of PE sheath	Overall diameter (Appr.)	Weight (Appr.)
			mm		
ADSS_24	24	6	1.75	12.2	120

ADSS_48	48	8	1.75	13.0	137
ADSS_72	72	12	1.75	13.6	151
ADSS_96	96	12	1.75	15.3	205

*Note: The minimum thickness of the sheath is 1.7mm.

3.1.4 Performance

NO	ITEM	TEST METHOD	SPECIFICATION
1	Tensile performance IEC749-1-E1	- Load: complied with cable type - Time: 1 minute	- Loss change \leq 0.15 dB @1550 nm - Fiber strain \leq 0.6 % - No fiber break - No sheath damage
2	Crush test IEC749-1-E3	- Load: 2,200 N /100mm - Time: 1 minute - Length: 100 mm	- Loss change \leq 0.15 dB @1550 nm - No fiber break - No sheath damage
3	Impact test IEC794-1-E4	- Impact height: 1m - Impact weight: 450g - Number of impacts: 5 - Impact rate: 3 sec/cycle	- Loss change \leq 0.15dB @1550 nm - No fiber break - No sheath damage
4	Repeated bending IEC794-1-E6	- Bending dia.: $20 \times D$ - Load: 150N - Flexing rate: 3sec/cycle - No. of cycle: \geq 30	- Loss change \leq 0.15 dB @1550 nm - No fiber break - No sheath damage
5	Water penetration IEC794-1-E5B	- Height of water: 1m - Sample length: 3 m - Time: 24 hr	- No drip through the cable core assembly
6	Twist / Torsion IEC794-1-E7	- Length: 1 m - Load: 150N - Twist rate: 6sec/cycle - Twist angle: \pm 180° - No. of cycle: 10	- Loss change \leq 0.15dB @1550 nm - No fiber break - No sheath damage
7	Temperature Cycling IEC794-1-E1	- Temperature step: +20°C \rightarrow -40°C \rightarrow +70°C \rightarrow +20°C - Number of cycle: 2	- Loss change \leq 0.15dB/km @1550 nm - No fiber break - No sheath damage

		- Time per each step: 12 hrs	
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D*: Cable diameter

3.4 Color code

3.4.1 The Color Code of Individual Fibers

Position	Fiber color
1	Blue
2	Orange
3	Green
4	Brown
5	Slate/Grey
6	White
7	Red
8	Black
9	Yellow
10	Violet
11	Rose
12	Aqua

3.4.2 The Color Code of Tube

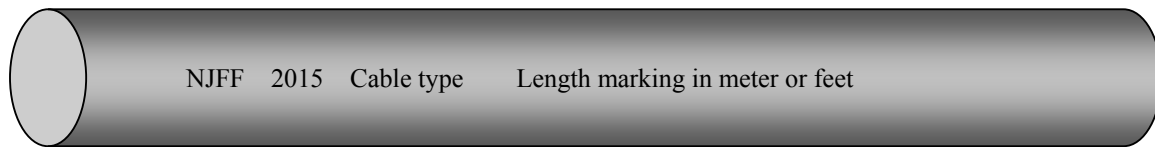
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3.5 Temperature

Item		Performance
Temperature	Installation	-20°C to +60°C

	Operation	-40°C to +70°C
	Transportation	-50°C to +70°C

4.Sheath marking



Note: Printed symbol according to customer's request.