Anti-rodent ADSS-6/12/24/36/48/72 G.652D

Aerial/Duct/Direct Buried Cable, Max Span: 200m Max.
Applied voltage: 110kv, Max operating weather conditions: NESC Light

Cable cross-section and dimensions

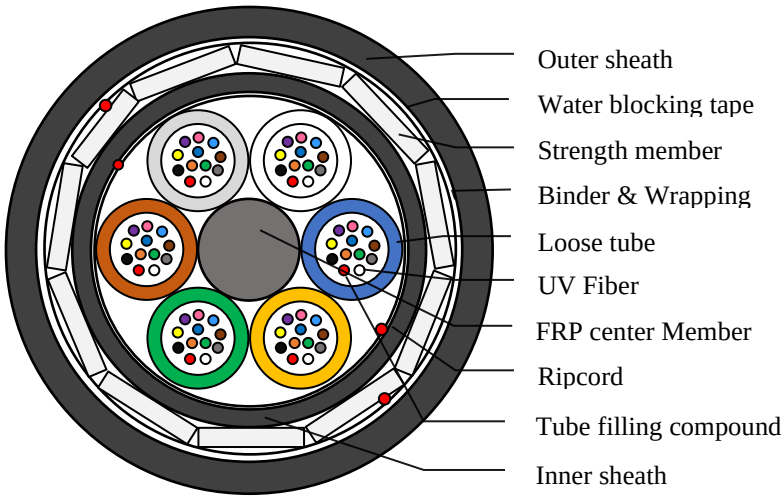


Figure. Cable Cross-Section (A-end)

Item	Material	Description
Outer sheath	HDPE	HDPE
Strength Members	Flat FRP	Additional strength member
Water blocking yarn	Water blocking yarn	Water blocking & moisture proof
Binder	Polyester yarn	Cable core binding
Water blocking tape	Water blocking tape	Water blocking & moisture proof
Loose tube	PBT	Color of tubes: blue, orange, green, brown, grey, white
Tube filling compound	Hydrogen absorption gel	Water Blocking & Moisture Proof
Fiber	Silicon-based fiber(G.652D)	UV fiber, color with: blue, orange, green, brown, gray, white, red, black, yellow, violet, pink, aqua
Center strength member	FRP	FRP
Cable O.D.	13.9±0.5mm	
Cable weight	160±15kg/km	

Cable main mechanical properties and application

Serial No.	Item	Requirement
1	Allowable tension resistance (N)	7000N
2	Allowable crush resistance (N)	1000N /10cm
3	Application	Aerial Max span 200m
4	Operation temperature	-20℃ ~+65℃

DETAILED SPECIFICATIONS

1. General

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

1.2 This single mode optical fiber cable shall comply with the requirements of this specification and ITU-T G.652D.

2. Fiber characteristics

The optical, geometrical, mechanical and environmental performance of the optical fiber shall be in accordance with tables 2.1.

Table 2.1 G.652D fiber characteristics

G.652D fiber characteristics		
Optics specifications		
Attenuation	@1310nm	≤0.35dB/km
	@1383nm(after hydrogen aging)	≤0.35dB/km
	@1550nm	≤0.22dB/km
Dispersion	@1285nm～1340nm	≤3.5ps/(nm·km)
	@1550nm	≤18ps/(nm·km)
	@1625nm	≤22ps/(nm·km)
Zero-Dispersion wavelength		1300nm～1324nm
Zero-Dispersion slope		≤0.092ps/(nm^2·km)
Mode field diameter (MFD) at 1310nm		9.2±0.6μm
Mode field diameter (MFD) at 1550nm		10.5±1.0μm
PMD	Max. for fiber on the reel	0.20ps/km$^{1/2}$
Cable cutoff wavelength λ_{cc}(nm)		≤1260nm
Back scatter characteristics (at 1310nm&1550nm)		
Point discontinuity		≤0.05dB
Attenuation uniformity		≤0.05dB/km
Attenuation coefficient difference for bi-directional measurement		≤0.05dB/km
Geometrical characteristics		
Cladding diameter		125±1.0μm
Cladding non-circularity		≤1%
Core/cladding concentricity error		≤0.6μm
Fiber diameter with coating (uncolored)		245±10μm
Cladding/coating concentricity error		≤12.0μm
Mechanical characteristics		
Proof stress		≥0.69GPa(100kpsi)

Macrobend loss at 1550nm	Φ60mm,100 turns	≤0.05dB
	Φ32mm,1turn	≤0.05dB

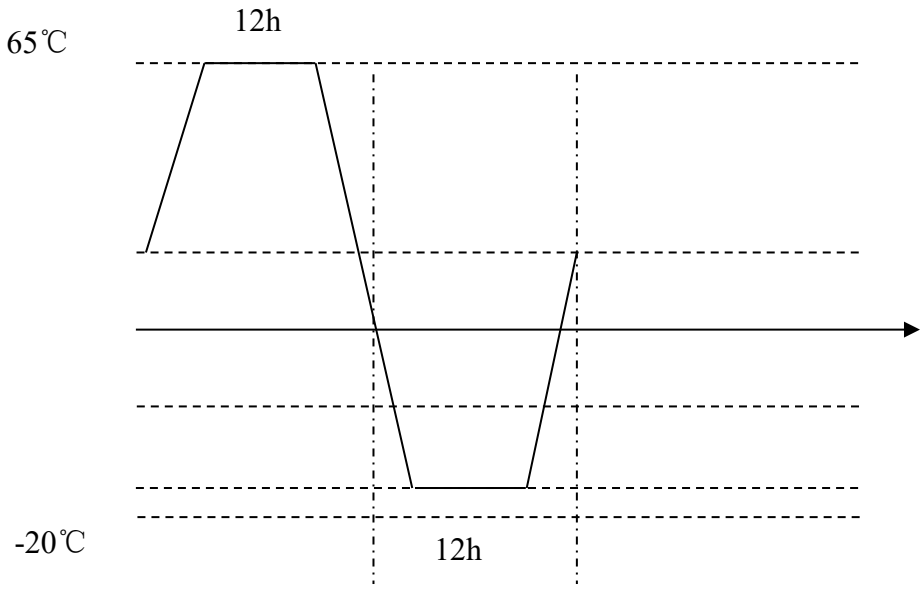
3 PHYSICAL, MECHANICAL, ENVIRONMENTAL, PERFORMANCE AND TESTS

3.1 Mechanical and Environmental Performance of the Cable

The mechanical and environmental performance of the cable shall be in accordance with Table 3.1 below. Unless otherwise specified, all attenuation measurements required in this section shall be performed at 1550nm for single mode fiber.

Table 3.1 The Mechanical and Environmental Performance of the Cable

Item	Test Method	Test Conditions	Acceptance Criteria
Tensile Strength	IEC60794-1-2-E1	L ≥ 50 m Load:7000N Time: 1 min	Additional attenuation≤0.05 dB No visible damage to the surface of out sheath
Crush Resistance	IEC60794-1-2-E3	Load：1000N Time: 1 minute -Length: 100 mm	Additional attenuation≤0.05dB No visible damage to the surface of out sheath
Impact Resistance	IEC60794-1-2-E4	The impact of weight: ≥450g Weight high: 1m 3 point , 5 times per point	Additional attenuation≤0.05dB No visible damage to the surface of out sheath
Repeated bending	IEC60794-1-2-E6	Load: 150 N Tests = 30 cycles Each cycle ≈ 2 sec. L =1.0 m	Additional attenuation≤0.05dB No visible damage to the surface of out sheath
Torsion	IEC60794-1-2-E7	The test length =1m, ±180 degree, 10 cycles, Test weight 150N	Additional attenuation≤0.05dB No visible damage to the surface of out sheath

Item	Test Method	Test Conditions	Acceptance Criteria
Temperature cycling	IEC60794-1-2-F1	Operating Temperature: -20 ° C to +65 ° C Soak time:12h Cycle:2 Cable length: ≥ 1000 m	Additional attenuation ≤0.05 dB
			
Water penetration Test	IEC60794-1-2-F5	At 20±5 ℃ ,1m water column applied to one of 3m cable after 24h,no water penetration	No water penetration