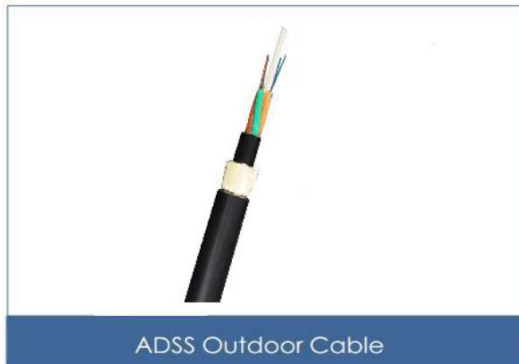


AII DIELECTRIC SELF-SUPPORTING AERIAL CABLE (ADSS CABLE)

1. Introduction ADSS Fiber Cable

The fibers are in jelly-filled loose tubes, laid up around a central nonmetallic strength member. The cable is water blocked, aramid yarn reinforced and PE or AT sheathed. ADSS (All Dielectric Self-Supporting) Cable is suspended from poles or towers in telecommunication and power outside plant applications.



Features

- The lifespan is over 30 years
- Large span with the largest span of over 1000m
- Can be installed without shutting off the power
- Central strength member FRP gives high tensile strength
- Water blocking system ensures reliable waterproof performance
- PE or AT sheath ensures safety of cable in high voltage environment
- All-dielectric structure and light weight provide easy installation and good electromagnetic resistance

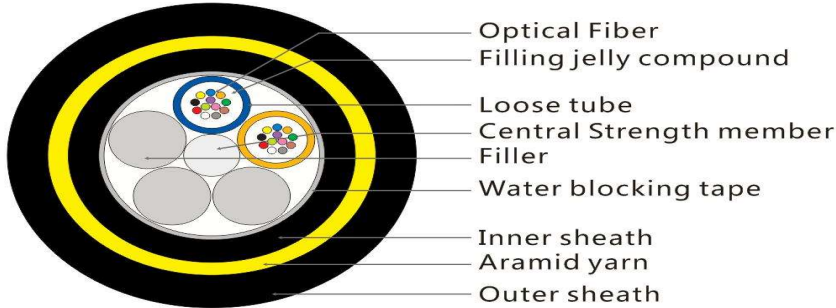
Application

- Railways, power and telecommunication pole routes
- Can be used in areas with high electrical field strength
- Suitable for installation on poles and on the power distribution network

Optics Specifications for G652D single mode fiber

Attenuation(dB/km)	@1310nm	≤ 0.34 dB/km
	@1383nm (after hydrogen aging)	≤ 0.32 dB/km
	@1550nm	≤ 0.22 dB/km
	@1625nm	≤ 0.24 dB/km
Dispersion	@1285nm~1340nm	-3.0~3.0ps/(nm*km)
	@1550nm	≤ 18 ps/(nm*km)
	@1625nm	≤ 22 ps/(nm*km)
Zero-Dispersion wavelength		1300~1324nm
Zero-Dispersion slope		≤ 0.092 ps/(nm ² *km)
Mode field diameter @ 1310nm		9.2 \pm 0.4 μ m
Mode field diameter @ 1550nm		10.4 \pm 0.8 μ m
PMD	Max. value for fiber on the reel	0.2ps/km 1/2
	Max. Designed value for link	0.08ps/km 1/2
Cable cutoff wavelength, λ_{cc}		≤ 1260 nm
Effective group index (Neff)@1310nm		1.4675
Effective group index (Neff)@1550nm		1.468
Macro-bend loss ($\Phi 60$ mm,100 turns) @1550nm		≤ 0.05 dB
Back scatter characteristic(@1310nm&1550nm)		
Point discontinuity		≤ 0.05 dB
Attenuation uniformity		≤ 0.05 dB/km
Attenuation coefficient difference for bi-directional measurement		≤ 0.05 dB/km
Geometrical characteristics		
Cladding diameter		125 \pm 1 μ m
Cladding non-circularity		$\leq 1\%$
Core/cladding concentricity error		$\leq 0.4\mu$ m
Fiber diameter with coating(uncolored)		245 \pm 5 μ m
Cladding/coating concentricity error		$\leq 12.0\mu$ m
Curl		≥ 4 m
Mechanical characteristic		
Proof test		0.69GPa
Coating strip force (typical value)		1.4N
Dynamic stress corrosion susceptibility parameter (typical value)		≥ 20
Environmental characteristics(@1310nm&1550nm)		
Temperature induced attenuation (-60~+85°C)		≤ 0.5 dB/km
Dry heat induced attenuation(85 \pm 2°C,30days)		≤ 0.5 dB/km
Damp heat induced attenuation (85 \pm 2°C, RH85%,30days)		≤ 0.5 dB/km

3. Cable Structure



Cable Type	ADSS Cable	Fiber Count	24 Fibers
Construction	Stranded Loose Tube	Fiber Type	Single mode G.652D
Inner/Outer Jacket Material	PE	Jacket Color	Black
Cable Diameter	12.0±0.5mm	Weight	150kg/km
Strength Member	FRP	Span	200m
Rated Tensile Strength	5.5KN	Temperature	-40 to +70°C

COLOR IDENTIFICATION OF FIBER

The fibers shall be marked by a colored coating with 12 different colors according to EIA/TIA 598:

1	2	3	4	5	6	7	8	9	10	11	12
Blue	Orange	Green	Brown	Slate	Natural	Red	Black	Yellow	Violet	Pink	Aqua

1. Test Requirement

The cable is in accordance with applicable standards.
Routine tests for optical fiber

Mode field diameter	IEC 60793-1-45
Mode field Core/clad concentricity	IEC 60793-1-20
Cladding diameter	IEC 60793-1-20
Cladding non-circularity	IEC 60793-1-20
Attenuation coefficient	IEC 60793-1-40
Chromatic dispersion	IEC 60793-1-42
Cable cut-off wavelength	IEC 60793-1-44

Test for outdoor cable

3.1 Tension Loading Test

Test Standard	IEC 60794-1-2 E1
Sample length	No less than 50 meters
Load	Max. installation load
Duration time	1 hour
Test results	Additional attenuation: $\leq 0.05\text{dB}$ No damage to outer jacket and inner elements

3.2 Crush/Compression Test

Test Standard	IEC 60794-1-2 E3
Load	Crush load
Plate size	100mm length
Duration time	1 minute
Test number	1
Test results	Additional attenuation: $\leq 0.05\text{dB}$ No damage to outer jacket and inner elements

3.3 Impact Resistance Test

Test Standard	IEC 60794-1-2 E4
Impact energy	6.5J
Radius	13.6mm
Impact points	3
Impact number	2
Test result	Additional attenuation: $\leq 0.05\text{dB}$

3.4 Repeated Bending Test

Test Standard	IEC 60794-1-2 E6
Bending radius	20 X diameter of cable
Cycles	25 cycles
Test result	Additional attenuation: $\leq 0.05\text{dB}$ No damage to outer jacket and inner elements

3.5 Torsion/Twist Test

Test Standard	IEC 60794-1-2 E7
Sample length	2m
Angles	± 180 degree
cycles	10
Test result	Additional attenuation: $\leq 0.05\text{dB}$ No damage to outer jacket and inner elements

3.6 Bend Test

Test Standard	IEC 60794-1-2 E11B
Mandrel diameter	20 X diameter of cable
Turn number	4
Number of cycles	3
Temperature	20°C
Test result	No damage to outer jacket and inner elements

3.7 Temperature cycling Test

Test Standard	IEC 60794-1-2 F1
Temperature step	+20°C → -40°C → +85°C → +20°C
Time per each step	Transition from 0°C to -40°C: 2 hours; duration at -40 °C : 8 hours; Transition from -40 °C to +85 °C : 4 hours; duration at +85 °C : 8 hours; Transition from +85°C to 0°C: 2 hours
Cycles	5
Test result	Attenuation variation for reference value (the attenuation to be measured before test at +20±3°C) ≤ 0.05 dB/km

3.8 Water penetration Test

Test Standard	IEC 60794-1-2 F5
Height of water column	1m
Sample length	1m
Test time	1 hour
Test result	No water leakage from the opposite of the sample

3.9 Drip Test

Test Standard	IEC 60794-1-2 E14
Sample length	0.3m
Temperature	70 °C
Duration	24 hrs.
Test result	No filling compound shall drip from tubes

Packing and Marking

Packing

- Each single length of cable shall be reeled on Fumigated Wooden Drum
- Covered by plastic buffer sheet
- Sealed by strong wooden battens
- At least 1 m of inside end of cable will be reserved for testing.
- Drum length: Standard drum length is 3000 m \pm 2%;

Drum Marking

- manufacturer name;
- Manufacturing year and month
- Roll-direction arrow;
- Drum length;
- Gross/net weight;

