

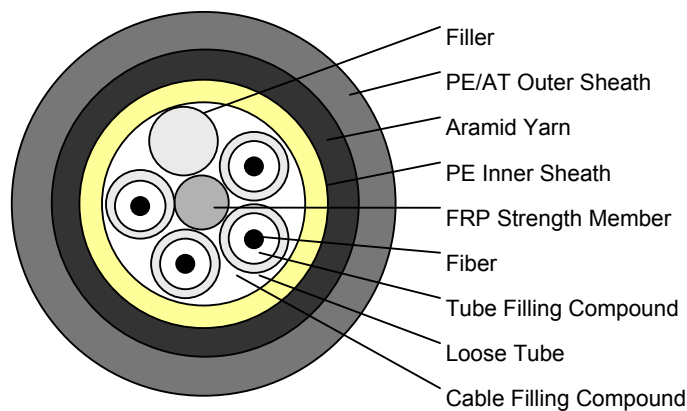
Part No. U-ADSS-XX-X-X-X



Cable Description

Uninet ADSS cable is loose tube standard. Fibers are positioned into a loose tube of high modulus plastics. The tubes filled with a water-resistant filling compound. The tubes (and fillers) are stranded around Fiber Reinforced Plastic (FRP) as a non-metallic central strength member into a compact and circular cable core. After the cable core is filled with filling compound, it is covered with a thin polyethylene (PE) inner sheath. After two layers of Aramid yarn applied in two directions over the inner sheath as strength member, the cable is completed with PE or AT (anti-tracking) outer sheath.

Cable Cross Section



Application

Aerial, PE outer sheath (10kV and 35kV overhead power lines)
 AT outer sheath (110kV and 220kV overhead power lines)

Cable Information

- U-ADSS-XX-X-X-X**
- ADSS** = All Direction Self-Supporting Aerial cable
 - XX** = Sheath material
 - X (kN)** = Maximum allowable working tension
 - X** = Fiber count
 - X** = Fiber type

U-ADSS-XX-X-X-X

Cable Characteristics

- The Cable can be installed without shutting off the power.
- Excellent AT performance. The maximum inductive at the operative of AT sheath can reach 25kV.
- Light weight and small diameter reduce the load caused by ice and wind and the load on towers and back props.
- Large span lengths and the largest span is over 1000m.
- Accurate control on Aramid application greatly improves the tensile strength of cables.
- Accurate fiber excess length and stranding lay length ensure good performance of tensile strength and temperature.
- The design life span is over 30 years.
- **Bending Radius:**
 Static: 10D (Diameter of cable)
 Dynamic: 20D (Diameter of cable)

Four Type of Climate in Which ADSS Can Be Applied

Type	Wind Velocity (m/s)	Icing	Additional Load (N/m)
A	25	0	0.7
B	35	0	0.7
C	10	5	2.5
D	10	10	4.4

Cable Parameters (1)

Ref. Outer Diameter (mm)	Ref. Weight (kg/km)		Rec. Daily Max. Working Tension (kN)	Max. allowable Working Tension (kN)	Breaking Strength (kN)	Strength member CSA (mm ²)	Modulus of Elasticity (kN/mm ²)
	PE Sheath	AT Sheath					
12.5	125	136	1.5	4	10	4.6	7.6
13.0	132	142	2.25	6	15	7.6	8.3
13.6	145	156	3.6	10	24	13.8	10.8
13.8	147	159	4.5	12	30	14.3	11.8
14.5	164	177	5.4	15	36	18.4	13.6
14.9	171	185	6.75	18	45	22.0	16.4
15.1	179	193	7.95	22	53	26.4	18.0
15.5	190	204	9.0	26	60	32.2	19.1
15.6	194	208	10.5	28	70	33.0	19.6
16.3	211	226	12.75	34	85	40.0	20.1
16.8	226	242	15.45	41	103	48.0	24.0
14.2	236	253	16.2	45	108	51.0	25.1
17.9	249	266	18.75	50	125	58.8	26.1

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Cable Parameters (2)

Operation, Storing, Transport, Temperature (°C)	Heat Expansion Coefficient (×1μ/K)	Suitable Span (NESC Standard, m)			
		A	B	C	D
-40 – +60	1.8	160	100	140	100
-40 – +60	1.5	230	150	200	150
-40 – +60	1.2	370	250	350	250
-40 – +60	1.0	420	280	400	180
-40 – +60	0.9	480	320	460	320
-40 – +60	0.6	570	280	550	380
-40 – +60	0.3	670	460	650	460
-40 – +60	0.1	750	530	750	510
-40 – +60	0.1	800	560	800	560
-40 – +60	0.1	880	650	880	650
-40 – +60	-0.4	1000	750	1000	760
-40 – +60	-0.5	1100	800	1100	830
-40 – +60	-0.8	1180	880	1180	900

Note:

- Only a part of ADSS cables are listed in the table. ADSS cables with other spans can be inquired from directly.
- Specifications in the table are got on condition that there is no height difference and the installation sag is 1%.
- Fiber count is 2 to 60. The identification of fibers complies with the national standard.
- Fibers, either single-mode or multimode, can be used in the cable on request. The attenuation of cabled G.652 fiber is ≤0.22 at 1550 nm.
- Specially designed cable structure is available on request.

Mechanical and Environmental Performance

Uninet ADSS cable complies with IEEE Standard P1222 as well as IEC 60794-1. The fiber in cable complies with ITUT Recommendations.

Item	Test Methods	Requirements
Stress-strain	The tension is increased to the max. Allowable working tension step by step.	The fiber shall not show any strain. The sheath shall not show any damages.
Crush	Load force: ≥2200N/10cm	The fiber shall not show any induced attenuation. The sheath shall not show any damages.
Impact	Load force: ≥2200N/10cm	The fiber shall not show any induced attenuation. The sheath shall not show any damages.
Repeated bending	Mandrel radius: 20D Load force: 150 N	The fiber shall not show any induced attenuation. The sheath shall not show any damages.
Torsion	Axial strain: 150 N Torsion length: 1m Torsion angle: ±180° Torsion: 10 times	The fiber shall not show any induced attenuation. The sheath shall not show any damages.

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Table Content Continued:

Temperature cycle	-40°C--+60°C	The fiber attenuation shows any no changes.
Thermal aging	After the temperature cycling test, 85°C, 120 hours	The fiber attenuation shows any no changes.
Water ingress	1m sample, 24 hours	No water penetrates.
Electrical	Salt water flow rate: 0.4±0.1 l/h Droplet size: 5-20 µm Temperature: 15-25°C NaCl content of water: 10±0.5kg/m³ Test voltage: 25kV Frequency: 625mm Duration: 1000 hours	Erosion at any point on the sheath surface shall not exceed 50% of the sheath thickness.
Aeolian vibration	Active span: >20 m Tension: 20% RTS Vibration cycles: 10□ times	The induced attenuation shall not exceed 1.0dB/km at 1550 nm for SM fibers.
Sheave	Deflection angel: 70° Cable moving distance: 4m Number of passes: 120	The induced attenuation shall not exceed 1.0dB/km at 1550 nm for SM fibers. The cable shall not show any surface damages.
Galloping	Test Tensions:≤5kN Galloping: 10 cycles	The induced attenuation shall not exceed 1.0dB/km at 1550 nm for SM fibers. The cable shall not show any surface damages.
Creep	Effective test length: 10m Load: 20% RTS Duration: 1000 hours	The fiber attenuation shows any no changes. The cable shall not show any surface damages.