XINLAN®

All Aluminum Conductor (AAC) Cables

BS EN 50182

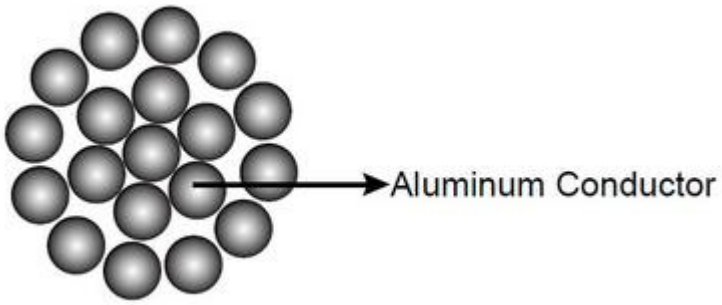
Application

AAC conductor is also known as aluminium stranded conductor. It is manufactured from electrolytically refined aluminium, with a minimum purity of 99.7%.

Standard

Basic design to BS EN 50182 standards

Cable Construction



Concentric lay stranded Aluminium Conductor (AAC) is made up of one or more strands of hard drawn 1350 aluminum alloy. These conductors are used in low, medium and high voltage overhead lines.

AAC has seen extensive use in urban areas where spans are usually short but high conductivity us required. The excellent corrosion resistance of aluminium has made AAC a conductor of choice in coastal areas.

Because of its relatively poor strength to weight ratio, AAC had limited use in transmission lines and rural distribution because of long spans utilized.

All aluminium conductors are made up of one or more strands of aluminium wire dep.

Electrical Properties

Density@20ºC	2.703 kg/dm
Temperature Coefficient@20°C	0.00403 (°C)
Resistivity@20°C	0.028264
Linear Expansivity	23 x10-6 (°C)

Service Conditions

Ambient Temperature	-5°C - 50°C
Wind Pressure	80 – 130kg/m2
Seismic Acceleration	0.12 - 0.05g
Isokeraunic Level	10 – 18
Relative Humidity	5 – 100%

Technical Data

Numbers of Wires	Final Modules of Elasticity		Coeficient of linear Expansion	
AL	Kg/mm²	lb/in²	1/Cº	1/Fº
7	6000	8.5 x106	23.0 x10-6	112.8 x10-6

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19	5700	8.1 x106	23.0 x10-6	112.8 x10-6
37	5700	8.1 x106	23.0 x10-6	112.8 x10-6
61	5500	7.8 x106	23.0 x10-6	112.8 x10-6
91	5500	7.8 x106	23.0 x10-6	112.8 x10-6

Construction Parameters

BS EN 50182

Code	Nominal Area		Stranding	Overall Diameter	Weight	Rated Strength	Electrical Resistance	Current Rating*
	Nominal	Teorical						
/	mm2	mm2	No./mm	mm	kg/km	KN	ohm/Km	A
Gnat	25	26.9	7/2.21	6.63	73	4.83	1.0643	115
Mosquito	35	36.9	7/2.59	7.77	101	6.27	0.7749	140
Ladybird	40	42.8	7/2.79	8.37	117	7.28	0.6678	154
Bluebottle	70	73.6	7/3.66	10.98	201	11.78	0.388	215
Earwig	75	78.6	7/3.78	11.34	215	12.57	0.3638	223
Grasshopper	80	84.1	7/3.91	11.73	230	13.45	0.34	233
Clegg	90	95.6	7/4.17	12.51	261	15.3	0.2989	252
Beetle	100	106.4	19/2.67	13.35	292	18.08	0.2701	269
Bee	120	132	7/4.90	14.7	361	21.12	0.2165	307
Caterpillar	180	185.9	19/3.53	17.65	511	29.75	0.1546	379
Spider	220	237.6	19/3.99	19.95	653	38.01	0.121	440
Moth	350	373.1	19/5.00	25	1025	59.69	0.077	579
Drone	350	372.4	37/3.58	25.06	1027	59.59	0.0774	577
Maybug	450	486.1	37/4.09	28.63	1341	77.78	0.0593	677
Scorpion	500	529.8	37/4.27	29.89	1461	84.77	0.0544	713
Cicada	600	628.3	37/4.65	32.55	1733	100.54	0.0459	788

Note: *The values of current rating mentioned in above Table are based on wind velocity of 0.6 metre/second, solar heat radiation of 1200 watt/metre2, ambient temperature of 50^0C& conductor temperature of 80^0C.

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