XINLAN®

All Aluminum Conductor (AAC) Cables

IEC 61089

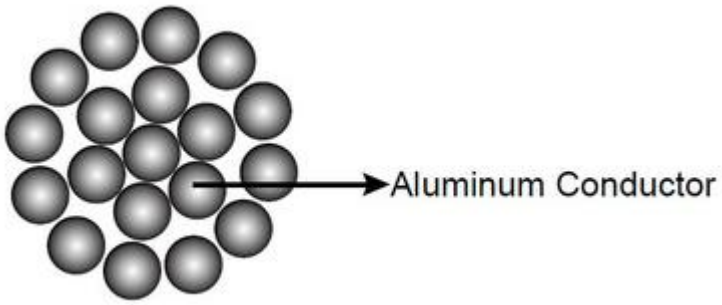
Application

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 IEC 61089 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

IEC 61089

Code	Nominal Area	Stranding	Overall Diameter	Weight	Rated Strength	Electrical Resistance	Current Rating*
	mm2	No./mm	mm	kg/km	KN	ohm/Km	A
10	10	7/1.35	4.05	27.4	1.95	2.8633	62
16	16	7/1.71	5.13	43.8	3.04	1.7896	84
25	25	7/2.13	6.39	68.4	4.5	1.1453	110
40	40	7/2.70	8.1	109.4	6.8	0.7158	147
63	63	7/3.39	10.17	172.3	10.39	0.4545	195
100	100	19/2.59	12.95	274.8	17	0.2877	259
125	125	19/2.89	14.45	343.6	21.25	0.2302	297
160	160	19/3.27	16.35	439.8	26.4	0.1798	345
200	200	19/3.66	18.3	549.7	32	0.1439	396
250	250	19/4.09	20.45	687.1	40	0.1151	454
315	315	37/3.29	23.03	867.9	51.97	0.0916	522
400	400	37/3.71	25.97	1102	64	0.0721	603
450	450	37/3.94	27.58	1239.8	72	0.0641	647
500	500	37/4.15	29.05	1377.6	80	0.0577	688
560	560	37/4.39	30.73	1542.9	89.6	0.0515	736
630	630	61/3.63	32.67	1738.3	100.8	0.0458	789
710	710	61/3.85	34.65	1959.1	113.6	0.0407	845
800	800	61/4.09	36.81	2207.4	128	0.0361	905
900	900	61/4.33	38.97	2483.3	144	0.0321	967
1000	1000	61/4.57	41.13	2759.2	160	0.0289	1026
1120*	1120	91/3.96	43.56	3093.5	179.2	0.0258	1091
1250*	1250	91/4.18	45.98	3452.6	200	0.0231	1157
1400*	1400	91/4.43	48.73	3866.9	224	0.0207	1226
1500*	1500	91/4.58	50.38	4143.1	240	0.0193	1270

* The items marked with 鈥?鈥?are not in our current product range and the details are for information only.

(*) 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^{0}C & conductor temperature of 80^{0}C.

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