

All Aluminum Conductor (AAC) Cables

DIN 48201-5

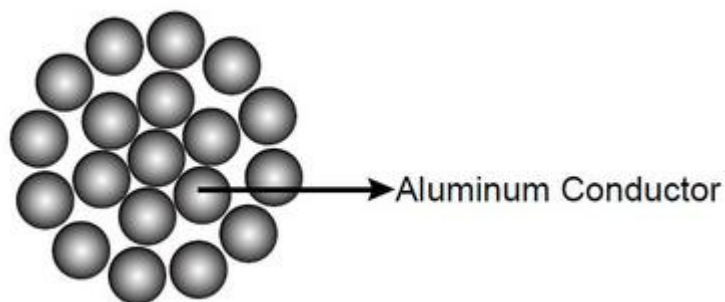
Application

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 DIN 48201-5 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 is 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@20°C	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/m ²
Seismic Acceleration	0.12 - 0.05g
Isokeraunic Level	10 - 18
Relative Humidity	5 - 100%

Technical Data

Numbers of Wires	Final Modules of Elasticity		Coefficient of linear Expansion	
	Kg/mm ²	lb/in ²	1/C ^o	1/F ^o
AL				
7	6000	8.5 x10 ⁶	23.0 x10-6	112.8 x10-6

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

DIN 48201 Part 5

Nominal Area		Stranding	Overall Diameter	Weight	Rated Strength	Electrical Resistance	Current Rating*
Nominal	Teorical						
mm ²	mm ²	No./mm	mm	kg/km	KN	ohm/Km	A
16	15.89	7/1.70	5.1	43	2.84	1.8022	83
25	24.25	7/2.10	6.3	66	4.17	1.181	108
35	34.36	7/2.50	7.5	94	5.78	0.8333	134
50	49.48	7/3.00	9	135	7.94	0.5787	168
50	48.35	19/1.80	9	133	8.45	0.5951	166
70	65.81	19/2.10	10.5	181	11.32	0.4372	200
95	93.27	19/2.50	12.5	256	15.68	0.3085	248
120	116.99	19/2.80	14	322	18.78	0.2459	285
150	147.11	37/2.25	15.8	406	25.3	0.196	328
185	181.62	37/2.50	17.5	500	30.54	0.1588	373
240	242.54	61/2.25	20.3	670	39.51	0.1191	445
300	299.43	61/2.50	22.5	827	47.7	0.0965	506
400	400.14	61/2.89	26	1104	60.86	0.0722	602
500	499.83	61/3.23	29.1	1379	74.67	0.0578	688
625*	626.2	91/2.96	32.6	1732	95.25	0.0462	786
800*	802.09	91/3.35	36.9	2218	118.39	0.036	907
1000*	999.71	91/3.74	41.1	2767	145.76	0.0289	1026

* The items marked with "*" 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° C & conductor temperature of 80°C.