ZD CABLE
中东交联

ALL ALUMINUM CONDUCTOR
AAC

01 APPLICATION

AAC is used mainly in urban areas where the spacing is short and the supports are close. All aluminium conductors are made up of one or more strands of aluminium wire depending on the end usage. AAC is also used extensively in coastal regions because it has a high degree of corrosion resistance.

02 DESCRIPTION

Concentric lay stranded Aluminium Conductors (AAC) are made out of Hard-Drawn aluminum wires.

03 SPECIFICATIONS

- IEC 61089 Round wire concentric lay overhead electrical stranded conductors
- ASTM B 231 Concentric-Lay-Stranded Aluminum 1350 Conductors
- BS EN 50182 Conductors for overhead lines — Round wire concentric lay stranded conductors
- BS 215-1 Aluminium Conductors and Aluminium Conductors, Steel-reinforced — For Overhead Power Transmission — Part 1: Aluminium Stranded Conductors
- AS 1531 Conductors - Bare overhead - Aluminium and aluminium alloy
- GB/T 1179 Round wire concentric lay overhead electrical stranded conductors

AAC/A1 IEC 61089

Code Number	Area	No.of Wires	Diameter		Linear Mass	Rated Strength	D.C. Resistance
			Wire	Cond.			
	mm^2		mm	mm	kg/km	kN	Ω/km
10	10	7	1.35	4.05	27.4	1.95	2.8633
16	16	7	1.71	5.12	43.8	3.04	1.7896
25	25	7	2.13	6.40	68.4	4.50	1.1453
40	40	7	2.70	8.09	109.4	6.80	0.7158
63	63	7	3.39	10.2	172.3	10.39	0.4545
100	100	19	2.59	12.9	274.8	17.00	0.2877
125	125	19	2.89	14.5	343.6	21.25	0.2302
160	160	19	3.27	16.4	439.8	26.40	0.1798
200	200	19	3.66	18.3	549.7	32.00	0.1439
250	250	19	4.09	20.5	687.1	40.00	0.1151
315	315	37	3.29	23.0	867.9	51.97	0.0916
400	400	37	3.71	26.0	1102.0	64.00	0.0721
450	450	37	3.94	27.5	1239.8	72.00	0.0641
500	500	37	4.15	29.0	1377.6	80.00	0.0577
560	560	37	4.39	30.7	1542.9	89.60	0.0515
630	630	61	3.63	32.6	1738.3	100.80	0.0458
710	710	61	3.85	34.6	1959.1	113.60	0.0407
800	800	61	4.09	36.8	2207.4	128.00	0.0361
900	900	61	4.33	39.0	2483.3	144.00	0.0321
1000	1000	61	4.57	41.1	2759.2	160.00	0.0289
1120	1120	91	3.96	43.5	3093.5	179.20	0.0258
1250	1250	91	4.18	46.0	3452.6	200.00	0.0231
1400	1400	91	4.43	48.7	3866.9	224.00	0.0207
1500	1500	91	4.58	50.4	4143.1	240.00	0.0193

AAC/A1 ASTM B 231

Code Name	Area		Number of Wires	Diameter of Wire	Approx. Overall Diameter	Unit Weight	Nominal Breaking Load	Nominal DC Resistance at 20°C
	Nominal	Actual						
	AWG or MCM	mm^2	No.	mm	mm	kg/km	kN	ohm/km
PEACHBELL	6	13.3	7	1.56	4.68	36.6	2.53	2.1606
ROSE	4	21.1	7	1.96	5.88	58.2	3.91	1.3619
IRIS	2	33.6	7	2.47	7.41	92.6	5.99	0.8550
PANSY	1	42.4	7	2.78	8.34	116.6	7.30	0.6779
POPPY	1/0	53.5	7	3.12	9.36	147.2	8.84	0.5373
ASTER	2/0	67.4	7	3.50	10.50	185.7	11.1	0.4262
PHLOX	3/0	85.0	7	3.93	11.79	233.9	13.5	0.3379
OXLIP	4/0	107.2	7	4.42	13.26	295.2	17.0	0.2680
VALERIAN	250	126.7	19	2.91	14.55	348.6	20.7	0.2268
SNEEZEWORT	250	126.7	7	4.80	14.40	348.8	20.1	0.2268
LAUREL	266.8	135.2	19	3.01	15.05	372.2	22.1	0.2126
DAISY	266.8	135.2	7	4.96	14.88	372.3	21.4	0.2126
PEONY	300	152.0	19	3.19	15.95	418.3	24.3	0.1890
TULIP	336.4	170.5	19	3.38	16.90	469.5	27.3	0.1686
DAFFODIL	350	177.3	19	3.45	17.25	487.9	28.4	0.1621
CANNA	397.5	201.4	19	3.67	18.35	554.9	31.6	0.1427
GOLDENTUFT	450	228.0	19	3.91	19.55	627.6	35.0	0.1260
SYRINGA	477	241.7	37	2.88	20.16	664.8	38.6	0.1189
COSMOS	477	241.7	19	4.02	20.10	664.8	37.0	0.1189
HYACINTH	500	253.3	37	2.95	20.65	696.8	40.5	0.1134
ZINNIA	500	253.3	19	4.12	20.60	697.1	38.9	0.1134
MISTLETOE	556.5	282.0	37	3.12	21.84	775.7	44.3	0.1019
DAHLIA	556.5	282.0	19	4.35	21.75	775.8	43.3	0.1019
MEADOWSWEET	600	304.0	37	3.23	22.61	836.3	47.5	0.0945
ORCHID	636	322.3	37	3.33	23.31	886.9	50.4	0.0892

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ASTM B 231

Code Name	Area		Number of Wires	Diameter of Wire	Approx. Overall Diameter	Unit Weight	Nominal Breaking Load	Nominal DC Resistance at 20°C
	Nominal	Actual						
	AWG or MCM	mm^2	No.	mm	mm	kg/km	kN	ohm/km
HEUCHERA	650	329.4	37	3.37	23.59	907.4	51.7	0.0872
FLAG	700	354.7	61	2.72	24.48	975.8	57.1	0.0810
VERBENA	700	354.7	37	3.49	24.43	975.7	55.4	0.0810
NASTURTIUM	715.5	362.6	61	2.75	24.75	998.5	58.4	0.0793
VIOLET	715.5	362.6	37	3.53	24.71	998.5	56.7	0.0793

AAC

ASTM B 231

Code Name	Area		Number of Wires	Diameter of Wire	Approx. Overall Diameter	Unit Weight	Nominal Breaking Load	Nominal DC Resistance at 20°C
	Nominal	Actual						
	AWG or MCM	mm²	No.	mm	mm	kg/km	kN	ohm/km
CATTAIL	750	380.0	61	2.82	25.38	1046	60.3	0.0756
PETUNIA	750	380.0	37	3.62	25.34	1046	58.6	0.0756
LILAC	795	402.8	61	2.90	26.10	1110	63.8	0.0713
ARBUTUS	795	402.8	37	3.72	26.04	1109	61.8	0.0713
SNAPDRAGON	900	456.0	61	3.09	27.81	1256	70.8	0.0630
COCKSCOMB	900	456.0	37	3.96	27.72	1256	68.4	0.0630
GOLDENROD	954	483.4	61	3.18	28.62	1331	75.0	0.0594
MAGNOLIA	954	483.4	37	4.08	28.56	1331	72.6	0.0594
CAMELLIA	1000	506.7	61	3.25	29.25	1394	78.3	0.0567
HAWKWEED	1000	506.7	37	4.18	29.26	1395	76.2	0.0567
LARKSPUR	1033.5	523.7	61	3.31	29.79	1442	81.3	0.0549
BLUEBELL	1033.5	523.7	37	4.25	29.75	1441	78.8	0.0549
MARIGOLD	1113	564.0	61	3.43	30.87	1553	87.3	0.0509
HAWTHORN	1192.5	604.2	61	3.55	31.95	1662	93.5	0.0476
NARCISSUS	1272	644.5	61	3.67	33.03	1774	98.1	0.0446
COLUMBINE	1351	684.6	61	3.78	34.02	1884	104	0.0420
CARNATION	1431	725.1	61	3.89	35.01	1997	108	0.0396
GLADIOLUS	1510.5	765.4	61	4.00	36.00	2108	114	0.0375
COREOPSIS	1590	805.7	61	4.10	36.90	2216	120	0.0357
JESSAMINE	1750	886.7	61	4.30	38.70	2442	132	0.0324
COWSLIP	2000	1013	91	3.77	41.47	2787	153	0.0284
SAGEBRUSH	2250	1140	91	3.99	43.89	3166	167	0.0255
LUPINE	2500	1267	91	4.21	46.31	3519	186	0.0229
BITTERROOT	2750	1393	91	4.42	48.62	3872	205	0.0208
TRILLIUM	3000	1520	127	3.90	50.70	4226	223	0.0191
BLUEBONNET	3500	1773	127	4.22	54.86	4977	261	0.0165

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BS EN 50182 (Germany)

Code	Old Code	Area	No. of Wires	Diameter		Mass per Unit Length	Rated Strength	DC Resistance
				Wire	Cond.			
		mm^2		mm	mm	kg/km	kN	Ω/km
16-AL1	16	15.9	7	1.70	5.10	43.4	3.02	1.7986
24-AL1	25	24.2	7	2.10	6.30	66.3	4.36	1.1787
34-AL1	35	34.4	7	2.50	7.50	93.9	6.01	0.8317
49-AL1	50	49.5	7	3.00	9.00	135.2	8.41	0.5776
48-AL1	50	48.3	19	1.80	9.00	132.9	8.94	0.5944
66-AL1	70	65.8	19	2.10	10.5	180.9	11.85	0.4367
93-AL1	95	93.3	19	2.50	12.5	256.3	16.32	0.3081
117-AL1	120	117.0	19	2.80	14.0	321.5	19.89	0.2456
147-AL1	150	147.1	37	2.25	15.8	405.7	26.48	0.1960
182-AL1	185	181.6	37	2.50	17.5	500.9	31.78	0.1588
243-AL1	240	242.5	61	2.25	20.3	671.1	43.66	0.1193
299-AL1	300	299.4	61	2.50	22.5	828.5	52.40	0.0966
400-AL1	400	400.1	61	2.89	26.0	1107.1	68.02	0.0723
500-AL1	500	499.8	61	3.23	29.1	1382.9	82.47	0.0579
626-AL1	625	626.2	91	2.96	32.6	1739.7	106.45	0.0464
802-AL1	800	802.1	91	3.35	36.9	2228.3	132.34	0.0362
1000-AL1	1000	999.7	91	3.74	41.1	2777.3	159.95	0.0291

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BS EN 50182 (United Kingdom)

Code	Old code	Area	No.of wires	Diameter		Mass per Unit length	Rated Strength	DC Resistance
				Wire	Cond.			
		mm^2		mm	mm	kg/km	kN	Ω/km
23-AL1	MIDGE	23.3	7	2.06	6.18	63.8	4.20	1.2249
27-AL1	GNAT	26.9	7	2.21	6.63	73.4	4.83	1.0643
37-AL1	MOSQUITO	36.9	7	2.59	7.77	100.8	6.27	0.7749
43-AL1	LADYBIRD	42.8	7	2.79	8.37	117.0	7.28	0.6678
53-AL1	ANT	52.8	7	3.10	9.30	144.4	8.72	0.5409
64-AL1	FLY	63.6	7	3.40	10.2	173.7	10.49	0.4497
74-AL1	BLUEBOTTLE	73.6	7	3.66	11.0	201.3	11.78	0.3880
79-AL1	EARWIG	78.6	7	3.78	11.3	214.7	12.57	0.3638
84-AL1	GRASSHOPPER	84.1	7	3.91	11.7	229.7	13.45	0.3400
96-AL1	CLEGG	95.6	7	4.17	12.5	261.3	15.30	0.2989
106-AL1	WASP	106.0	7	4.39	13.2	289.6	16.95	0.2697
106-AL1	BEETLE	106.4	19	2.67	13.4	292.4	18.08	0.2701
132-AL1	BEE	132.0	7	4.90	14.7	360.8	21.12	0.2165
158-AL1	HORNET	157.6	19	3.25	16.3	433.2	26.01	0.1823
186-AL1	CATERPILLAR	185.9	19	3.53	17.7	511.1	29.75	0.1546
213-AL1	CHAFER	213.2	19	3.78	18.9	586.0	34.12	0.1348
238-AL1	SPIDER	237.6	19	3.99	20.0	652.9	38.01	0.1210
266-AL1	COCKROACH	265.7	19	4.22	21.1	730.4	42.52	0.1081
323-AL1	BUTTERFLY	322.7	19	4.65	23.3	886.8	51.63	0.0891
373-AL1	MOTH	373.1	19	5.00	25.0	1025.3	59.69	0.0770
372-AL1	DRONE	372.4	37	3.58	25.1	1027.1	59.59	0.0774
415-AL1	CENTIPEDE	415.2	37	3.78	26.5	1145.1	66.43	0.0695
486-AL1	MAYBUG	486.1	37	4.09	28.6	1340.6	77.78	0.0593
530-AL1	SCORPION	529.8	37	4.27	29.9	1461.2	84.77	0.0544
628-AL1	CICADA	628.3	37	4.65	32.6	1732.9	100.54	0.0459

AAC/1350 AS 1531

Code Name	Stranding and Wire Diameter	Approx. Overall Diameter	Cross-sectional Area	Approx. Mass	Calculated Breaking Load (CBL)	Equiv. Aluminium Area	D.C. Resistance at 20°C
	mm	mm	mm^2	kg/km	KN	mm^2	Ω/km
Leo	7/2.50	7.50	34.36	94.3	5.71	33.9	0.833
Leonids	7/2.75	8.25	41.58	113	6.72	41.1	0.689
Libra	7/3.00	9.0	49.48	135	7.98	48.9	0.579
Mars	7/3.75	11.3	77.28	211	11.8	76.3	0.370
Mercury	7/4.50	13.5	111.3	304	16.9	110	0.258
Moon	7/4.75	14.3	124.0	339	18.9	122	0.232
Neptune	19/3.25	16.3	157.6	433	24.7	154	0.183
Orion	19/3.50	17.5	182.8	503	28.7	180	0.157
Pluto	19/3.75	18.8	209.8	576	31.9	206	0.137
Saturn	37/3.00	21.0	261.6	721	42.2	256	0.110
Sirius	37/3.25	22.8	307.0	845	48.2	301	0.094
Taurus	19/4.75	23.8	336.7	924	51.3	331	0.0857
Triton	37/3.75	26.3	408.5	1120	62.2	400	0.0706
Uranus	61/3.25	29.3	506.1	1400	75.2	495	0.0572
Ursula	61/3.50	31.5	586.9	1620	87.3	574	0.0493
Venus	61/3.75	33.8	673.4	1860	97.2	659	0.0429

AAC(JL)

GB/T 1179

Code Number	Area	No. of Wires	Diameter		Linear Mass	Rated Strength	D.C. Resistance at 20°C
			Wire	Cond.			
	mm^2		mm	mm	kg/km	kN	Ω/km
10	10.0	7	1.35	4.05	27.4	1.95	2.8578
16	16.1	7	1.71	5.13	44.0	3.05	1.7812
25	24.9	7	2.13	6.39	68.3	4.49	1.1480
35	34.4	7	2.50	7.50	94.1	6.01	0.8333
40	40.1	7	2.70	8.10	109.8	6.81	0.7144
50	49.5	7	3.00	9.00	135.5	8.41	0.5787
63	63.2	7	3.39	10.2	173.0	10.42	0.4532
70	71.3	7	3.60	10.8	195.1	11.40	0.4019
95	95.1	7	4.16	12.5	260.5	15.22	0.3010
100	100	19	2.59	13.0	275.4	17.02	0.2874
120	121	19	2.85	14.3	333.5	20.61	0.2374
125	125	19	2.89	14.5	343.0	21.19	0.2309
150	148	19	3.15	15.8	407.4	24.43	0.1943
160	160	19	3.27	16.4	439.1	26.33	0.1803
185	183	19	3.50	17.5	503.0	30.16	0.1574
200	200	19	3.66	18.3	550.0	31.98	0.1439
210	210	19	3.75	18.8	577.4	33.58	0.1371
240	239	19	4.00	20.0	657.0	38.20	0.1205
250	250	19	4.09	20.5	686.9	39.94	0.1153
300	298	37	3.20	22.4	820.7	49.10	0.0969
315	315	37	3.29	23.0	867.6	51.90	0.0917
400	400	37	3.71	26.0	1103.2	64.00	0.0721
450	451	37	3.94	27.6	1244.2	72.18	0.0639
500	503	37	4.16	29.1	1387.1	80.46	0.0573
560	560	37	4.39	30.7	1544.7	89.61	0.0515
630	631	61	3.63	32.7	1743.8	101.0	0.0458
710	710	61	3.85	34.7	1961.5	113.6	0.0407
800	801	61	4.09	36.8	2213.7	128.2	0.0360
900	898	61	4.33	39.0	2481.1	143.7	0.0322
1000	1001	61	4.57	41.1	2763.8	160.1	0.0289

AAC(JL)

GB/T 1179

Code Number	Area	No. of Wires	Diameter		Linear Mass	Rated Strength	D.C. Resistance at 20°C
			Wire	Cond.			
	mm^2		mm	mm	kg/km	kN	Ω/km
1120	1121	91	3.96	43.6	3099.2	170.4	0.0258
1250	1249	91	4.18	46.0	3453.1	189.8	0.0232
1400	1403	91	4.43	48.7	3878.5	213.2	0.0206
1500	1499	91	4.58	50.4	4145.6	227.9	0.0193