

AAC/ASC Conductor Application

All Aluminum Conductors (AAC) is a concentric-lay-stranded conductor consisting of hard drawn aluminum wires available in both single layer and multi-layer constructions. Used in Overhead transmission for primary or secondary distribution lines.

ASC

Aluminum Stranded Conductor (ASC) conductors may be used in overhead line installations where the design parameters do not require the higher tensile strength or temperature ratings provided by ACSR, ACCR or other types of conductors

AAC/ASC Cable Standard

ASTM B231, IEC61089, BS215

AAC Wire Construction

Aluminum 1350-H19 wires, concentrically stranded

Max. size 2000mm²(4000MCM)/ Max. str. no. 127 wires

All Aluminum Conductor Features

High-capacity, high-conductivity, low weight and low cost

All Aluminium Conductor Data Sheet

AAC-IEC61089

Code Number	Nominal Cross-section Area	Stranding & Wire Dia.		No.	Approx. Overall	Approx. Dia. Weight	Nominal breaking Strength	Maximum D.C. Resistance at 20°C
	mm ²	No.s	mm		mm	kg/km	Kn	Ω/km
25	25	7	2.13	6.4	68.4	4.5	1.1453	
125	125	19	2.89	14.5	343.6	21.25	0.2302	
400	400	37	3.71	26	1102	64	0.0721	
630	630	61	3.63	32.6	1738.3	100.8	0.0458	
1500	1500	91	4.58	50.4	4143.1	240	0.0193	

AAC-ASTM B231

Total Area		Stranding Dia.	No. & Wire	Approx. Overall	Approx. Dia. Weight	Nominal breaking Strength	Maximum D.C. Resistance at 20°C
AWG/MCM	mm ²	No.s	mm	mm	Kg/km	daN	Ω/km
4	21.16	7	1.96	5.88	58	396	1.3624
1/0	53.48	7	3.12	9.36	148	873	0.539
250	126.68	19	2.91	14.55	348	2062	0.2275
500	253.35	37	2.95	20.65	697	4035	0.1138
795	402.83	61	2.9	26.1	1122	6345	0.0715
795	402.83	37	3.72	26.04	1120	6232	0.0715
3500	1773.45	127	4.21	54.73	4922	26200	0.0166

AAC-BS215

Code Name	Nominal Cross-section Area	Calculated Cross-section Area	Stranding & Wire Dia.	No.	Approx.e Overall	Approx. Dia. Weight	Nominal breaking Strength	Maximum D.C. Resistance at 20°C
	mm ²	mm ²	No.s	mm	mm	kg/km	daN	Ω/km
Midge	22	25	7	2.06	6.18	64	399	1.227
Grasshopper	80	91	7	3.91	11.73	232	1278	0.3406

Beetle	100	116	19	2.67	13.35	293	1742	0.2704
Hornet	150	171	19	3.25	16.25	435	2570	0.1825
Caterpillar	175	202	19	3.53	17.65	513	2863	0.1547
Butterfly	300	351	19	4.65	23.25	890	4875	0.0892
Tarantula	750	864	37	5.23	36.61	2192	12010	0.0363

BS 215 Part 1

Code	Nominal Area		Stranding	Overall Diameter	Weight	Rated Strength	Electrical Resistance	Current Rating*
	Nominal	Teorical						
	mm ²	mm ²	No.xmm	mm	kg/km	KN	Ω/Km	A
Midge	22	23.33	7/2.06	6.18	64	3.99	1.227	106
Gnat	25	26.8	7/2.21	6.6	73.8	4.83	1.0643	122
Mosquito	35	37	7/2.59	7.8	102.1	6.27	0.7749	141
Ladybird	40	42.8	7/2.79	8.4	117.9	7.28	0.6678	157
Ant	50	52.83	7/3.1	9.3	145	8.28	0.5419	175
Fly	60	63.55	7/3.4	10.2	174	9.9	0.4505	196
Wasp	100	106	7/4.39	13.17	290	16	0.2702	268
Hornet	150	157.6	19/3.25	16.25	434	25.7	0.1825	342
Charfer	200	213.2	19/3.78	18.9	587	35.4	0.1349	412
Cockroach	250	265.7	19/4.22	21.1	731	40.4	0.1083	471
Butterfly	300	322.7	19/4.65	23.25	888	48.75	0.08916	530
Centipede	400	415.2	37/3.78	26.46	1145	63.1	0.06944	616
Maybug	475	486.1	37/4.09	28.6	1342	0.05571	0.05900	740
Skorpion	500	529.8	37/4.27	29.9	1460	0.04916	0.05400	887
Cicada	600	628.3	37/4.65	32.6	1733	0.03423	0.04500	1056

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.

BS EN 50182

Code	Nominal Area		Stranding	Overall Diameter	Weight	Rated Strength	Electrical Resistance	Current Rating*
	Nominal	Teorical						
	mm ²	mm ²	No.xmm	mm	kg/km	KN	Ω/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	500	628.3	37/4.65	32.55	1733	100.54	0.0459	788
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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.

IEC 61089

Code	Nominal Area	Stranding	Overall Diameter	Weight	Rated Strength	Electrical Resistance	Current Rating*
	mm ²	No.xmm	mm	kg/km	KN	Ω/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 "*" 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.

Aluminum Stranded Conductor (ASC) ASTM B 231/B 231M

Code	Nominal Area		Stranding	Overall Diameter	Weight	Rated Strength	Electrical Resistance	Current Rating*
	AWG&MCM	mm ²	No.xmm	mm	kg/km	KN	Ω/Km	A
Peachbell	6	13.3	7/1.56	4.68	36.6	2.53	2.1477	75
Rose	4	21.1	7/1.96	5.88	58.2	3.91	1.3606	99
Iris	2	33.6	7/2.47	7.41	92.6	5.99	0.8567	132
Pansy	1	42.4	7/2.78	8.34	116.6	7.3	0.6763	153
Poppy	1/0.0	53.5	7/3.12	9.36	147.2	8.84	0.5369	176
Aster	2/0.0	67.4	7/3.50	10.5	185.7	11.1	0.4267	203
Phlox	3/0.0	85	7/3.93	11.79	233.9	13.5	0.3384	234
Oxlip	4/0.0	107.2	7/4.42	13.26	295.2	17	0.2675	270

Valerian	250	126.7	19/2.91	14.55	348.6	20.7	0.2274	299
Sneezewort	250	126.7	7/4.80	14.4	348.8	20.1	0.2269	299
Laurel	266.8	135.2	19/3.01	15.05	372.2	22.1	0.2125	312
Daisy	266.8	135.2	7/4.96	14.88	372.3	21.4	0.2125	311
Peony	300	152	19/3.19	15.95	418.3	24.3	0.1892	335
Tulip	336.4	170.5	19/3.38	16.9	469.5	27.3	0.1686	359
Daffodil	350	177.3	19/3.45	17.25	487.9	28.4	0.1618	369
Canna	397.5	201.4	19/3.67	18.35	554.9	31.6	0.143	397
Goldentuft	450	228	19/3.91	19.55	627.6	35	0.126	429
Syringa	477	241.7	37/2.88	20.16	664.8	38.6	0.1192	444
Cosmos	477	241.7	19/4.02	20.1	664.8	37	0.1192	444
Hyacinth	500	253.3	37/2.95	20.65	696.8	40.5	0.1136	458
Zinnia	500	253.3	19/4.12	20.6	697.1	38.9	0.1134	458
Dahlia	556.5	282	19/4.35	21.75	775.8	43.3	0.1018	489
Mistletoe	556.5	282	37/3.12	21.84	775.7	44.3	0.1016	490
Meadowsweet	600	304	37/3.23	22.61	836.3	47.5	0.0948	511
Orchid	636	322.3	37/3.33	23.31	886.9	50.4	0.0892	530
Heuchera	650	329.4	37/3.37	23.59	907.4	51.7	0.0871	538
Flag	700	354.7	61/2.72	24.48	975.8	57.1	0.0811	561
Varbena	700	354.7	37/3.49	24.43	975.7	55.4	0.0812	561
Nasturtium	715.5	362.6	61/2.75	24.75	998.5	58.4	0.0793	569
Violet	715.5	362.6	37/3.53	24.71	998.5	56.7	0.0794	568
Cattail	750	380	61/2.82	25.38	1046	60.3	0.0754	587
Petunia	750	380	37/3.62	25.34	1046	58.6	0.0755	586
Lilac	795	402.8	61/2.90	26.1	1110	63.8	0.0713	607
Arbutus	795	402.8	37/3.72	26.04	1109	61.8	0.0715	605
Snapdragon	900	456	61/3.09	27.81	1256	70.8	0.0628	654
Cockscomb	900	456	37/3.96	27.72	1256	68.4	0.0631	652
Goldenrod	954	483.4	61/3.18	28.62	1331	75	0.0593	677
Magnolia	954	483.4	37/4.08	28.56	1331	72.6	0.0594	676
Camellia	1000	506.7	61/3.25	29.25	1394	78.3	0.0568	695
Hawkweed	1000	506.7	37/4.18	29.26	1395	76.2	0.0566	696
Larkspur	1033.5	523.7	61/3.31	29.79	1442	81.3	0.0547	710
Bluebell	1033.5	523.7	37/4.25	29.75	1441	78.8	0.0547	710
Marigold	1113	564	61/3.43	30.87	1553	87.3	0.051	740
Hawthorn	1192.5	604.2	61/3.55	31.95	1662	93.5	0.0476	771
Narsissus	1272	644.5	61/3.67	33.03	1774	98.1	0.0445	802
Columbine	1351	694.8	61/3.78	34.02	1884	104	0.042	829
Carnation	1431	725.1	61/3.89	35.01	1997	108	0.0396	858
Gladiolus	1510.5	765.4	61/4.00	36	2108	114	0.0375	885
Coreopsis	1590	805.7	61/4.10	36.9	2216	120	0.0357	911
Jasmine	1750	886.7	61/4.30	38.7	2442	132	0.0324	962
Cowslip*	2000	1013	91/3.77	41.47	2787	153	0.0286	1032
Sagebrush*	2250	1140	91/3.99	43.89	3166	167	0.0255	1099
Lupine*	2500	1267	91/4.21	46.31	3519	186	0.0229	1163

Bitterrot*	2750	1393	91/4.42	48.62	3872	205	0.0208	1223
Trillium*	3000	1520	127/3.90	50.7	4226	223	0.0193	1271
Bluebonnet*	3500	1773	127/4.22	54.86	4977	261	0.0165	1373

* 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.

DIN 48201 Part 5

Nominal Area		Stranding	Overall Diameter	Weight	Rated Strength	Electrical Resistance	Current Rating*
Nominal	Theorical						
mm ²	mm ²	No.xmm	mm	kg/km	KN	Ω/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

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(*) 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.

AS 1531 - Standard

Codename	Construction	Calculated Cross-section area	Approx. Overall diameter	Approx. Overall weight	Maximum resistance at 20oC	DC Calculated breaking load	Equivalent Aluminum area
AAC1350	No. x mm	mm ²	mm	kg/km	Ω/km	kN	mm ²
LEO	7 x 2.50	34.36	7.50	94.3	0.833	5.71	33.9
LEONIDS	7 x 2.75	41.58	8.25	113	0.689	6.72	41.1
LIBRA	7 x 3.00	49.48	9.00	135	0.579	7.98	48.9
MARS	7 x 3.75	77.28	11.3	211	0.370	11.8	76.3
MERCURY	7 x 4.50	111.3	13.5	304	0.258	16.9	110
MOON	7 x 4.75	124.0	14.3	339	0.232	18.9	122
NEPTUNE	19 x 3.25	157.6	16.3	433	0.183	24.7	154
ORION	19 x 3.50	182.8	17.5	503	0.157	28.7	180
PLUTO	19 x 3.75	209.8	18.8	576	0.137	31.9	206
SATURN	37 x 3.00	261.6	21.0	721	0.110	42.2	256
SIRIUS	37 x 3.25	307.0	22.8	845	0.094	48.2	301

TAURUS	19 x 4.75	336.7	23.8	924	0.0857	51.3	331
TRITON	37 x 3.75	408.5	26.3	1,120	0.0706	62.2	400
URANUS	61 x 3.25	506.1	29.3	1,400	0.0572	75.2	495
URSULA	61 x 3.50	586.9	31.5	1,620	0.0493	87.3	574
VENUS	61 x 3.75	673.7	33.8	1,860	0.0429	97.2	659