

PRODUCT CATALOG – AAAC (All Aluminum Alloy Conductor)

ASTM CONDUCTOR SIZES													
Code Word	Size (KCM)	Strand	Diameter (inches)		Cross sectional Area (Sq In)	Weight Per 1000 ft (Lbs)	Rated Strength (Lbs)	Resistance ¹ Ohms/1000ft		Current Rating ² (Amps)	Size	ACSR with Equiv. Diam. Stranding (Al/Stl)	Approx ECCond. With Equivalent Resistance
			Indiv. Wires	Complete Cable				DC@ 20 °C	AC@ 75 °C				
Akron	30.58	7	.0661	.198	.0240	28.7	1,110	.659	.785	107	6	6/1	6
Alton	48.69	7	.0834	.250	.0382	45.7	1,760	.414	.493	143	4	6/1	4
Ames	77.47	7	.1052	.316	.0608	72.7	2,800	.260	.310	191	2	6/1	2
Azusa	123.3	7	.1327	.398	.0968	115.7	4,460	.163	.195	256	1/0	6/1	1/0
Anaheim	155.4	7	.1490	.447	.1221	145.9	5,390	.130	.154	296	2/0	6/1	2/0
Amherst	195.7	7	.1672	.502	.1537	183.7	6,790	.103	.123	342	3/0	6/1	3/0
Alliance	246.9	7	.1878	.563	.1939	231.8	8,560	.0816	.0973	395	4/0	6/1	4/0
Butte	312.8	19	.1283	.642	.2456	293.6	11,000	.0644	.0769	460	266.8	26/7	266.8
Canton	394.5	19	.1441	.721	.3098	370.3	13,300	.0511	.0610	532	336.4	26/7	336.4
Cairo	465.4	19	.1565	.783	.3655	436.9	15,600	.0433	.0518	590	397.5	26/7	397.5
Darien	559.5	19	.1716	.858	.4394	525.2	18,800	.0360	.0431	663	477.0	26/7	477.0
Elgin	652.4	19	.1853	.927	.5124	612.4	21,900	.0309	.0371	729	556.5	26/7	556.5
Flint	740.8	37	.1415	.991	.5818	695.5	24,400	.0272	.0327	790	636.0	26/7	636.0
Greely	927.2	37	.1583	1.108	.7282	870.4	30,500	.0217	.0263	908	795.0	26/7	795.0

- Resistance is calculated using ASTM standard increments of stranding, and metal conductivity of 52.5% IACS. AC resistance at 60 Hz.
- Current ratings are based on 75°C conductor temperature, 25°C ambient, 2 ft/s wind, 96/watts/sq.foot sun, 0.5 coefficients of emissivity and absorption.

ASTM CONDUCTOR SIZES									
Conductor Size c mil	Area mm ²	Number & Diameter of Wires		Overall Diameter of Conductor		Linear Weight		Rated Strength lb	Maximum Resistance DC at 20°C Ω/Km
		inch	mm	inch	mm	Kg/km	daN		
66360	33.62	7 x 0.0974	7 x 2.47	0.291	7.41	93	1068	2400	0.9942
105600	53.50	7 x 0.1228	7 x 3.12	0.368	9.36	148	1697	3815	0.6256
133100	67.44	7 x 0.1379	7 x 3.50	0.413	10.50	187	2052	4612	0.4959
167800	85.02	7 x 0.1548	7 x 3.93	0.464	11.80	235	2586	5810	0.3936
211600	107.21	7 x 0.1739	7 x 4.42	0.522	13.26	296	3263	7332	0.3119
400000	202.68	19 x 0.1451	19 x 3.68	0.724	18.40	560	5974	13426	0.1650
450000	228.00	19 x 0.1539	19 x 3.91	0.769	19.55	630	6719	15100	0.1487
500000	253.35	19 x 0.1622	19 x 4.12	0.811	20.60	700	4764	16774	0.1321
550000	278.68	37 x 0.1219	37 x 3.10	0.854	21.70	769	8380	18835	0.1202
600000	304.00	37 x 0.1273	37 x 3.23	0.890	22.60	839	9138	20535	0.1102
650000	329.35	37 x 0.1325	37 x 3.36	0.926	23.52	910	9494	21336	0.1016
700000	354.70	37 x 0.1375	37 x 3.49	0.962	24.43	978	10220	22967	0.0944
750000	380.00	37 x 0.1424	37 x 3.61	0.995	25.27	1050	10960	24630	0.0880
800000	405.36	37 x 0.1470	37 x 3.73	1.020	26.10	1118	11680	26248	0.0826
900000	456.00	37 x 0.1560	37 x 3.96	1.090	27.72	1260	13150	29551	0.0733
1000000	506.70	37 x 0.1644	37 x 4.17	1.150	29.20	1400	14610	32832	0.0660

ASTM CONDUCTOR SIZES - METRIC UNITS													
Code Word	Nominal Size (KCM)	Diameter (mm)					Resistance ³ Ohms/km		Current Rating ⁴ (Amps)	Size (mm ²)	ACSR With Equiv. Diam Stranding (A1St1)	Approx EC Cond. With Equivalent Resistance	
		Nominal Size (mm ²)	Strand	Indiv. Wires	Compl. Cable	Weight ¹ (kg/km)	Rated Strength ² (kg)	DC@ 20 °C					AC@ 75 °C
Akron	30-58	15.50	7	1.679	5.04	42.7	503	2.16	2.57	107	13.30	6/1	13.30
Alton	48.69	24.67	7	2.118	6.36	68.0	798	1.36	1.62	143	21.15	6/1	21.15
Ames	77.47	39.25	7	2.672	8.02	108.2	1270	.853	1.02	191	33.63	6/1	33.63
Azusa	123.3	62.48	7	3.371	10.11	172.2	2023	.536	.639	256	53.31	6/1	53.51
Anaheim	155.4	78.74	7	3.785	11.35	217.1	2445	.425	.509	296	67.44	6/1	67.44
Amherst	195.7	99.16	7	4.247	12.74	273.3	3080	.338	.403	342	85.03	6/1	85.03
Alliance	246.9	125.1	7	4.770	14.31	344.9	3883	.268	.319	395	107.22	6/1	107.2
Butte	312.8	158.5	19	3.259	16.29	436.9	4989	.211	.252	460	135.19	26/7	135.2
Canton	394.5	199.9	19	3.660	18.30	551.1	6033	.168	.200	532	170.46	26/7	170.5
Cairo	465.4	235.8	19	3.975	19.88	650.0	7076	.142	.170	590	201.42	26/7	201.4
Darien	559.5	283.5	19	4.359	21.79	781.5	8527	.118	.142	663	241.70	26/7	241.7
Elgin	652.4	330.6	19	4.707	23.53	911.3	9934	.101	.122	729	281.98	26/7	282.0
Flint	740.8	375.4	37	3.594	25.16	1035.0	11068	.0892	.107	790	322.27	26/7	322.3
Greely	927.2	469.8	37	4.021	28.15	1295.0	13834	.0713	.0863	908	402.83	26/7	402.8

1. Weights are calculated using ASTM standard increments of stranding,
2. Rated strengths are calculated by ASTM methods and converted to metric units after rounding.
3. Resistance is calculated using ASTM standard increments of stranding, and metal conductivity of 52.5% IACS, AC resistance at 60 Hz.
4. Current ratings are based on 751 C conductor temperature, 25⁰C ambient, 0.61 m/s wind, 1033 watts/sq. meter sun, 0.5 coefficients of emissivity and absorption.

ASTM CONDUCTOR SIZES - METRIC UNITS						
Conductor Size Mm ²	Number of Wires	Diameter of Wire mm	Overall Diameter of Conductor mm	Linear Weight Kg/km	Rated Strength daN	Maximum Resistance DC at 20°C Ω/Km
40.0	7	2.70	8.10	110	1270	0.837
50.0	7	3.02	9.06	138	1590	0.670
63.0	7	3.39	10.17	173	1910	0.532
80.0	7	3.81	11.43	220	2410	0.418
100.0	7	4.26	12.78	275	3020	0.335
112.0	7	4.51	13.53	308	3380	0.300
125.0	19	2.89	14.45	343	3830	0.268
140.0	19	3.06	15.30	385	4290	0.240
160.0	19	3.27	16.35	440	4670	0.210
180.0	19	3.47	17.35	494	5260	0.186
200.0	19	3.66	18.30	550	5860	0.167
224.0	19	3.87	19.35	615	6550	0.150
250.0	19	4.09	20.45	686	7310	0.134
280.0	37	3.10	21.70	770	8390	0.120
315.0	37	3.29	23.03	865	9020	0.106
355.0	37	3.50	24.50	975	10200	0.0943
400.0	37	3.71	25.97	1098	11500	0.0837
450.0	37	3.94	27.58	1235	12900	0.0744
500.0	37	4.15	29.05	1372	14300	0.0670
560.0	37	4.39	30.73	1537	16100	0.0598
630.0	37	4.66	32.62	1730	18100	0.0531

BRITISH CONDUCTOR SIZES							
Code Name	N	Rated strength ¹		Maximum dc resistance at 20°C ²		Current Rating ³	
		kgf	lbf	Ohm/km	Ohm/1000ft	Temperate Amp	Tropical Amp
-	3714	379	835	2.87	0.873	90	73
Box	5960	608	1340	1.79	0.544	121	98
Acacia	7606	776	1710	1.40	0.426	140	114
Almond	9563	975	2150	1.11	0.339	162	131
Cedar	11253	1148	2530	0.944	0.288	180	145
-	13433	1370	3020	0.794	0.242	200	162
Fir	15168	1547	3410	0.700	0.213	217	175
Hazel	18993	1937	4270	0.559	0.170	250	201
Pine	21840	2227	4910	0.467	0.142	279	224
-	25576	2608	5750	0.398	0.121	309	247
Willow	27355	2790	6150	0.373	0.114	322	258
-	29401	2998	6610	0.347	0.106	337	270
-	33093	3375	7440	0.308	0.0938	363	290
Oak	36207	3692	8140	0.282	0.0859	384	307
-	36563	3729	8220	0.282	0.0860	385	307
Mulberry	46704	4763	10500	0.222	0.0676	448	356
Ash	53376	5443	12000	0.185	0.0565	501	398
Elm	62272	6350	14000	0.159	0.0480	553	438
Poplar	72058	7348	16200	0.140	0.0427	598	473
-	81398	8301	18300	0.124	0.0377	647	511
Sycamore	91184	9299	20500	0.111	0.0337	694	547
Upas	104528	10659	23500	0.0925	0.0282	776	610
-	121875	12428	27400	0.0794	0.0242	854	669
Yew	138333	14107	31100	0.0698	0.0213	925	723

¹. Rated strengths are calculated by ASTM methods and converted to metric units after rounding.

². Resistance is calculated using ASTM standard increments of stranding, and metal conductivity of 52.5% IACS.

³. Current ratings are based on 50 Hz AC, 75°C conductor temperature, and 0.61 m/s (2 ft/s) wind, 0.5 coefficients of emissivity and absorption, Temperate rating - 25°C ambient, 1000 watts/sq. meter sun, Tropical rating - 40°C ambient, 1200 watts/sq. meter sun.

BRITISH CONDUCTOR SIZES											
Code Name	Nom			Stranding and Wire				Approximate Overall		Weight ¹	
	Al Area	Cu Area	Equivalent	Diameter		Diameter		Total Area		Kg/km lb/M ft	
	mm ²	mm ²	Inch ²	mm	inch	mm	inch	mm ²	inch ²	Kg/km	lb/M ft
-		6.45	0.010	7/1.47	7/.0574	4.41	0.174	11.7	0.01812	32.2	21.7
Box		9.68	0.015	7/1.85	7/.0727	5.55	0.219	18.8	0.02908	51.7	34.7
Acacia		12.9	0.020	7/2.08	7/.0822	6.24	0.246	23.9	0.03711	66.1	44.4
Almond	25	16.1	0.025	7/2.34	7/.0921	7.02	0.276	30.1	0.04666	82.9	55.7
Cedar	30	19.4	0.030	7/2.54	7/1000	7.62	0.300	35.5	0.05498	97.8	65.7
-		22.6	0.035	7/2.77	7/1091	8.31	0.327	42.2	0.06543	116.4	78.2
Fir	40	25.8	0.040	7/2.95	70161	8.85	0.348	47.8	0.07415	131.8	88.6
Hazel	50	32.3	0.050	7/3.30	7/1299	9.90	0.390	59.9	0.09280	165.0	110.9
Pine		38.7	0.060	7/3.61	70422	10.83	0.426	71.7	0.11110	197.7	132.9
-		45.2	0.070	7/3.91	7/1539	11.73	0.462	84.1	0.13030	231.6	155.6
Willow		48.4	0.075	7/4.04	7/1591	12.12	0.477	89.8	0.1392	247.5	166.3
-		51.6	0.080	7/4.19	7/1650	12.57	0.495	96.5	0.1496	266.2	178.9
-		581	0.090	7/4.45	7/1751	13.35	0.526	108.8	0.1686	299.8	201.5
Oak	100	64.5	0.100	7/4.65	70831	13.95	0.549	118.9	0.1843	327.8	220.3
-	-	64.5	0.100	19/2.82	190111	14.1	0.555	118.8	0.1841	327.6	220.2
Mulberry	-	80.6	0.125	19/3.18	19/1253	15.9	0.626	151.1	0.2342	416.7	280.0
Ash	150	96.8	0.150	19/3.48	19/1370	17.4	0.685	180.7	0.2801	498.1	334.8
Elm	175	113.0	0.175	19/3.76	19/1481	18.8	0.740	211.0	0.3271	582.1	391.2
Poplar		129.0	0.200	37/2.87	37/1129	20.09	0.791	239.0	0.3705	658.8	442.7
-		145.0	0.225	37/3.05	37/1202	21.35	0.841	270.8	0.4197	746.7	501.8
Sycamore		161.0	0.250	37/3.23	37/1271	22.61	0.890	303.0	0.4697	834.9	561.1
Upas	300	194.0	0.300	37/3.53	37/1390	24.71	0.973	362.1	0.5613	998.6	671.1
-	-	226.0	0.350	37/3.81	370500	26.67	1.050	421.8	0.6538	1163	781.5
Yew	-	258.0	0.400	37/4.06	370600	28.42	1.119	479.9	0.7439	1323	889.2

¹. Weights are calculated using ASTM standard increments of stranding.

FRENCH CONDUCTOR SIZES

Code Name	Area mm ²	Number of Wires	Diameter of Wire mm	Overall Diameter of Conductor mm	Tensile Strength of Wire hbar	Rated Strength of Conductor daN	Maximum Resistance DC at 20°C Ω/km	Linear Weight Kg/km	Elasticity Modulus * hbar	Coefficient of Linear Expansion */°C
ASTER 22	21.99	7	2.00	6.00	32.4	710	1.50	60.2	6200	23.10 ⁻⁶
ASTER 34.4	34.36	7	2.50	7.50	32.4	1105	0.958	94.1	6200	23.10 ⁻⁶
ASTER 54.6	54.55	7	3.15	9.45	32.4	1755	0.603	149.0	6200	23.10 ⁻⁶
ASTER 75.5	75.54	19	2.25	11.25	32.4	2430	0.438	208.0	6000	23.10 ⁻⁶
ASTER 117	116.98	19	2.80	14.00	32.4	3765	0.283	322.0	6000	23.10 ⁻⁶
ASTER148	148.01	19	3.15	15.75	32.4	4765	0.224	407.0	6000	23.10 ⁻⁶
ASTER 181.6	181.62	37	2.50	17.50	32.4	5845	0.183	500.0	5700	23.10 ⁻⁶
ASTER 228	227.83	37	2.80	19.60	32.4	7340	0.146	627.0	5700	23.10 ⁻⁶
ASTER 288	288.34	37	3.15	22.05	32.4	9280	0.115	794.0	5700	23.10 ⁻⁶
ASTER 366	366.22	37	3.55	24.85	32.4	11785	0.0905	1009.0	5700	23.10 ⁻⁶
ASTER 570	570.22	61	3.45	31.05	32.4	18360	0.0583	1574.0	5400	23.10 ⁻⁶
ASTER851	850.66	91	3.45	37.95	32.4	27390	0.0391	2354.0	5250	23.10 ⁻⁶
ASTER1144	1143.51	91	4.00	44.00	31.9	36260	0.0292	3164.0	5250	23.10 ⁻⁶
ASTER 1600	1595.93	127	4.00	52.00	31.9	50640	0.0206	4425.0	5050	23.10 ⁻⁶

* These values are given for information only

GERMAN CONDUCTOR SIZES							
Conductor Size mm ²	Alloy Area mm ²	Number of Wires	Diameter mm	Overall Diameter of Conductor mm	Linear Weight Kg/km	Rated Strength daN	Maximum Resistance Strength DC at 20°C Ω/km
16	15.89	7	1.70	5.1	43	444	2.0910
25	24.26	7	2.10	6.3	66	677	1.3703
35	34.36	7	2.50	7.5	94	960	0.9669
50	49.48	7	3.00	9.0	135	1382	0.6714
50	48.35	19	1.80	9.0	133	1350	0.6905
70	65.81	19	2.10	10.5	181	1838	0.5073
95	93.27	19	2.50	12.5	256	2605	0.3579
120	116.99	19	2.80	14.0	322	3268	0.2854
150	147.11	37	2.25	15.8	406	4109	0.2274
185	181.62	37	2.50	17.5	500	5073	0.1842
240	242.54	61	2.25	20.3	670	6774	0.1383
300	299.43	61	2.50	22.5	827	8363	0.1120
400	400.14	61	2.89	26.0	1104	11176	0.08380
500	499.83	61	3.23	29.1	1379	13960	0.06709
625	626.20	91	2.96	32.6	1732	17490	0.05400
800	802.09	91	3.35	36.9	2218	22402	0.04180
1000	999.71	91	3.74	41.1	2767	27922	0.03350