

# Annealed Copper Stranded Conductors

Nominal Area			B & SG (AWG)	Stranding and Wire Diameter		Approximate Overall (Equivalent)Diameter		Calculated Electrical Area			Nominal Weight		Standard Resistance at 20°C (63°F) (Plain Wire)		Nominal Area
inch <sup>2</sup>	mm <sup>2</sup>	circ mils		inch	mm	inch	mm	inch <sup>2</sup>	mm <sup>2</sup>	circ mils	lb/1000 yd	kg/km	ohm/1000yd	ohm/km	inch <sup>2</sup>
-	0.50	1020	20	1/.032	1/.813	.032	0.81	.0008042	0.5188	1024	9.30	4.613	30.38	33.23	-
-	-	1020	20	7/.0121	7/.307	.036	0.91	.0007914	0.5106	1008	9.47	4.698	30.88	33.77	-
.001	-	-	-	1/.036	1/.914	.036	1.91	.001018	0.6567	1296	11.77	5.838	24.01	26.26	.001
.001	-	-	-	3/.020	3/.508	.043	1.09	.000924	0.5961	1176	11.11	5.512	26.45	28.92	.001
-	0.75	-	-	1/.039	1/.991	.039	0.99	.001195	0.7707	1521	13.81	6.851	20.46	22.37	-
-	-	1620	18	1/.0403	1/1.02	.040	1.02	.00128	0.8239	1630	14.75	7.316	19.16	20.95	-
-	-	1620	18	7/.0152	7/.386	.046	1.16	.001249	0.8057	1590	14.94	7.410	19.57	21.40	-
.0015	-	-	-	1/.044	1/1.12	.044	1.12	.001521	0.9810	1936	17.58	8.721	16.07	17.58	.0015
-	1.0	-	-	1/.045	1/1.14	.045	1.14	.001590	1.026	2025	18.39	9.122	15.36	16.80	-
-	1.0	-	-	7/.017	7/.432	.051	1.30	.001562	1.008	1989	18.68	9.266	15.64	17.11	-
.002	-	-	-	3/.029	3/.737	.062	1.59	.001943	1.253	2474	23.37	11.59	12.58	13.76	.002
-	-	2580	16	1/.0508	1/1.29	.051	1.29	.00203	1.308	2585	23.43	11.63	12.06	13.19	-
-	-	2580	16	7/.0192	7/.488	.058	1.46	.001993	1.286	2537	23.83	11.82	12.26	13.41	-
-	1.5	-	-	1/.055	1/1.40	.055	1.40	.002376	1.533	3025	27.47	13.63	10.29	11.25	-
-	1.5	-	-	7/.021	7/.533	.063	1.60	.002384	1.538	3035	28.51	14.14	10.25	11.21	-
.003	-	-	-	3/.036	3/.914	.078	1.97	.002994	1.931	3812	36.01	17.86	8.163	8.927	.003
.003	-	-	-	1/.064	1/1.63	.064	1.63	.003217	2.075	4096	37.20	18.45	7.596	8.307	.003
-	-	4110	14	1/.0641	1/1.63	.064	1.63	.00323	2.082	4113	37.31	18.51	7.572	8.281	-
-	-	4110	14	7/.0242	7/.615	.073	1.84	.003166	2.042	4031	37.86	18.78	7.719	8.442	-
-	2.5	-	-	1/.071	1/1.80	.071	1.80	.003959	2.554	5041	45.78	22.71	6.172	6.750	-
-	2.5	-	-	7/.027	7/.686	.081	2.06	.003941	2.542	5017	47.13	23.38	6.201	6.782	-
.0045	-	-	-	7/.029	7/.737	.087	2.21	.004546	2.933	5788	54.37	26.97	5.375	5.879	.0045
-	-	6530	12	1/.0808	1/2.05	.081	2.05	.00513	3.308	6532	59.29	29.41	4.766	5.212	-
-	-	6530	12	7/.0305	7/.775	.092	2.32	.005028	3.244	6402	60.14	29.84	4.860	5.315	-
-	4	-	-	1/.089	1/2.26	.089	2.26	.006221	4.014	7921	71.93	35.68	3.928	4.296	-
-	4	-	-	7/.034	7/.864	.102	2.59	.006249	4.032	7956	74.74	37.08	3.911	4.277	-
.007	-	-	-	7/.036	7/.914	.108	2.74	.007005	4.520	8920	83.80	41.57	3.489	3.815	.007
-	-	10380	10	1/.1019	1/2.59	.102	2.59	.008155	5.261	10380	94.29	46.77	2.996	3.277	-
-	-	10380	10	7/.0385	7/.978	.116	2.93	.008012	5.169	10200	95.83	47.54	3.050	3.335	-
-	6	-	-	1/.109	1/2.77	.109	2.77	.009331	6.020	11880	107.9	53.52	2.619	2.864	-
-	6	-	-	7/.042	7/1.07	.126	3.21	.009535	6.152	12140	114.0	56.55	2.563	2.803	-

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inch <sup>2</sup>	mm <sup>2</sup>	circ mils		inch	mm	inch	mm	inch <sup>2</sup>	mm <sup>2</sup>	circ mils	lb/1000 yd	kg/km	ohm/1000yd	ohm/km	inch <sup>2</sup>
-	-	13090	9	1/.1144	1/2.91	.1144	2.91	.01028	6.634	13090	118.8	58.93	2.377	2.600	-
-	-	13090	9	7/.0432	7/1.10	.130	3.30	.01009	6.508	12840	120.7	59.86	2.422	2.649	-
.01	-	-	-	7/.044	7/1.12	.132	3.35	.01046	6.751	13320	125.2	62.11	2.335	2.555	.01
-	-	16510	8	1/1.285	1/3.26	.128	3.26	.01297	8.366	16510	150.0	74.36	1.884	2.061	-
-	-	16510	8	7/.0486	7/1.23	.146	3.70	.01277	8.237	16260	152.7	75.75	1.914	2.093	-
.0145	-	-	-	7/.052	7/1.32	.156	3.96	.01462	9.430	18610	174.8	86.71	1.672	1.828	.0145
-	10	-	-	1/1.41	7/3.58	.141	3.58	.01561	10.07	19880	180.5	89.54	1.565	1.711	-
-	10	-	-	7/.054	7/1.37	.162	4.12	.01576	10.17	20070	188.5	93.51	1.550	1.695	-
-	-	20820	7	1/1.443	1/3.67	.144	3.67	.01635	10.55	20820	189.1	93.80	1.494	1.634	-
-	-	20820	7	7/.0545	7/1.38	.164	4.15	.01606	10.36	20440	192.0	95.24	1.522	1.664	-
-	-	26240	6	1/.162	1/4.11	.162	4.11	.02061	13.30	26240	238.3	118.2	1.185	1.296	-
-	-	26240	6	7/.0612	7/1.55	.184	4.66	.02025	13.06	25780	242.2	120.1	1.207	1.320	-
0.225	-	-	-	7/.064	7/1.63	.192	4.88	.02214	14.28	28190	264.9	131.4	1.104	1.207	.0225
-	16	-	-	7/.068	7/1.73	.204	5.18	.02499	16.12	31820	299.0	148.3	0.9777	1.069	-
-	-	33090	5	7/.0688	7/1.75	.206	5.24	.02559	16.51	32580	306.0	151.8	0.9550	1.044	-
.03	-	-	-	19/.044	19/1.12	.220	5.59	.02835	18.29	36100	340.4	168.9	0.8619	0.9425	.03
-	-	41740	4	7/.0772	7/1.96	.232	5.88	.03222	20.78	41020	385.3	191.1	0.7585	0.8295	-
-	25	-	-	7/.085	7/2.16	.255	6.48	.03905	25.19	49720	467.1	231.7	0.6257	0.6843	-
.04	25	-	-	19/.052	19/1.32	.260	6.60	.03960	25.55	50420	475.3	235.8	0.6171	0.6748	.04
-	-	52620	3	7/.0867	7/2.20	.260	6.61	.04063	26.21	51730	486.0	241.1	0.6014	0.6577	-
-	-	66360	2	7/.0974	7/2.47	.292	7.42	.05128	33.08	65290	613.3	304.2	0.4765	0.5211	-
-	35	-	-	7/.100	7/2.54	.300	7.62	.05405	34.87	68820	646.5	320.7	0.4521	0.4944	-
-	35	-	-	19/.061	19/1.55	.305	7.75	.05450	35.16	69390	654.2	324.5	0.4484	0.4904	-
.06	-	-	-	19/.064	19/1.63	.320	8.13	.05999	38.70	76380	720.2	357.3	0.4074	0.4455	.06
-	-	83690	1	19/.0664	19/1.69	.332	8.43	.06547	41.66	82210	775.1	384.5	0.3784	0.4139	-
.075	-	-	-	19/.072	19/1.83	.360	9.14	.07592	48.98	96660	911.4	452.1	0.3219	0.3520	.075
-	50	-	-	19/.073	19/1.85	.365	9.27	.07805	50.35	99380	936.9	464.8	0.3131	0.3424	-
-	-	105600	1/0	19/.0745	19/1.89	.373	9.46	.08129	52.44	103500	975.8	484.1	0.3006	0.3288	-
.1	-	-	-	19/.083	19/2.11	.415	10.5	.1009	65.09	128500	1212	601.2	0.2422	0.2649	.1
-	-	133100	2/0	19/.0837	19/2.13	.419	10.6	.1026	66.19	130600	1232	611.1	0.2382	0.2605	-
-	70	-	-	19/.086	19/2.18	.430	10.9	.1083	69.87	137900	1300	645.0	0.2256	0.2467	-

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inch <sup>2</sup>	mm <sup>2</sup>	circ mils		inch	mm	inch	mm	inch <sup>2</sup>	mm <sup>2</sup>	circ mils	lb/1000 yd	kg/km	ohm/1000yd	ohm/km	inch <sup>2</sup>
.12	-	-	-	37/.064	37/1.63	0.448	11.4	.1168	75.33	148700	1403	696.0	.2093	.2289	.12
-	-	167800	3/0	19/.094	19/2.39	0.470	11.9	.1294	83.49	164800	1553	770.4	.1888	.2065	-
-	-	167800	3/0	37/.0673	37/1.71	0.471	12.0	.1291	83.29	164400	1551	769.4	.1893	.2070	-
-	95	-	-	19/.101	19/2.57	0.505	12.8	.1494	96.39	190200	1793	889.4	.1636	.1789	-
.15	95	-	-	37/.072	37/1.83	0.504	12.8	.1478	95.34	188100	1776	881.0	.1654	.1808	.15
-	-	211600	4/0	19/.1055	19/2.68	0.528	13.4	.1630	105.2	207500	1957	970.8	.1499	.1639	-
-	120	-	-	37/.081	37/2.06	0.567	14.4	.1870	120.7	238100	2247	1115	.1307	.1429	-
-	-	250000	-	37/.0822	37/2.09	0.575	14.6	.1926	124.3	245200	2314	1148	.1269	.1388	-
.20	-	-	-	37/.083	37/2.11	0.581	14.8	.1964	126.7	250000	2360	1171	.1244	.1361	.20
-	150	300000	-	37/.090	37/2.29	0.630	16.0	.2309	149.0	294000	2774	1376	.1058	.1157	-
.25	-	-	-	37/.093	37/2.36	0.651	16.5	.2465	159.1	313900	2963	1470	.09911	.1084	.25
-	-	350000	-	37/.0973	37/2.47	0.681	17.3	.2699	174.1	343600	3243	1609	.09055	.09903	-
-	185	-	-	37/.100	37/2.54	0.700	17.8	.2851	183.9	363000	3426	1699	.08572	.09375	-
.3	-	-	-	37/.103	37/2.62	0.721	18.3	.3024	195.1	385000	3634	1803	.08081	.08837	.3
-	-	400000	-	37/.104	37/2.64	0.728	18.5	.3083	198.9	392500	3705	1838	.07926	.08668	-
-	240	-	-	37/.114	37/2.90	0.798	20.3	.3705	239.0	471700	4452	2208	.06596	.07214	-
-	240	-	-	61/.089	61/2.26	0.801	20.3	.3722	240.0	473900	4474	2219	.06566	0.7181	-
-	-	500000	-	37/.1162	37/2.95	0.813	20.7	.3849	248.3	490100	4625	2294	.06349	.06943	-
-	-	500000	-	61/.0905	61/2.30	0.814	20.7	.3848	248.3	490000	4626	2295	.06350	.06944	-
.4	-	-	-	61/.093	61/2.36	0.837	21.3	.4064	262.2	517400	4885	2423	.06013	.06576	.4
-	300	-	-	61/.099	61/2.51	0.891	22.6	.4605	297.1	586500	5536	2746	.05306	.05803	-
-	-	600000	-	61/.0992	61/2.52	0.893	22.7	.4624	298.3	588700	5558	2757	.05285	.05780	-
.5	-	-	-	61/.103	61/2.62	0.927	23.5	.4985	321.6	634700	5992	2972	.04902	.05361	.5
-	-	700000	-	61/.1071	61/2.72	0.964	24.5	.5389	347.7	686200	6479	3214	.04534	.04959	-
-	-	750000	-	61/.1109	61/2.82	0.998	25.4	.5779	372.8	735800	6947	3446	.04229	.04625	-
-	-	750000	-	91/.0908	91/2.31	0.999	25.4	.5778	372.8	735700	6948	3447	.04229	.04625	-
.6	-	-	-	91/.093	91/2.36	1.023	26.0	.6062	391.1	771800	7289	3616	.04032	.04409	.6
-	400	-	-	61/.114	61/2.90	1.026	26.1	.6106	393.9	777400	7341	3642	.04002	.04377	-
-	-	800000	-	61/.1145	61/2.91	1.031	26.2	.6160	397.4	784300	7405	3673	.03967	.04338	-
-	-	800000	-	91/.0938	91/2.38	1.032	26.2	.6166	397.8	785100	7414	3678	.03963	.04334	-
.75	-	-	-	91/.103	91/2.62	1.133	28.8	.7435	479.7	946700	8940	4435	.03287	.03594	.75

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inch <sup>2</sup>	mm <sup>2</sup>	circ mils		inch	mm	inch	mm	inch <sup>2</sup>	mm <sup>2</sup>	circ mils	lb/1000 yd	kg/km	ohm/1000yd	ohm/km	inch <sup>2</sup>
-	500	1000000	-	61/.1280	61/3.25	1.152	29.3	0.7698	496.6	980100	9254	4590	.03174	.03472	-
-	-	1000000	-	91/.1048	91/2.66	1.153	29.3	0.7697	496.6	980100	9255	4591	.03175	.03472	-
0.85	-	-	-	127/.093	127/2.36	1.209	30.7	1.8459	545.8	1077000	10173	5046	.02889	.03159	.085
-	625	-	-	91/.117	91/2.97	1.287	32.7	0.9594	619.0	1222000	11536	5722	.02547	.02786	-
-	-	1250000	-	91/.1172	91/2.98	1.289	32.7	0.9627	621.1	1226000	11575	5742	.02538	.02776	-
-	-	1250000	-	127/.0992	127/2.52	1.290	32.8	0.9625	620.9	1225000	11574	5741	.02539	.02777	-
1.0	-	-	-	127/.103	127/2.62	1.339	34.0	1.0376	669.4	1321000	12478	6190	.02355	.02575	1.0
-	-	1500000	-	91/.1284	91/3.26	1.412	35.9	1.155	745.5	1471000	13893	6892	.02115	.02313	-
-	-	1500000	-	127/.1087	127/2.76	1.413	35.9	1.156	745.6	1471000	13897	6894	.02115	.02312	-
-	800	-	-	91/.132	91/3.35	1.452	36.9	1.221	787.7	1555000	14683	7284	.02001	.02188	-
1.25	-	-	-	127/.112	127/2.84	1.456	37.0	1.227	791.5	1562000	14754	7319	.01992	.02178	1.25
1.5	-	-	-	169/.107	169/2.72	1.605	40.8	1.490	961.3	1897000	17920	8889	.01640	.01794	1.5
-	1000	-	-	91/.147	91/3.73	1.617	41.1	1.514	976.8	1928000	18210	9033	.01614	.01765	-
-	-	2000000	-	127/.1255	127/3.19	1.632	41.5	1.540	993.8	1961000	18525	9189	.01586	.01735	-
-	-	2000000	-	169/.1088	169/2.76	1.632	41.5	1.541	993.9	1962000	18528	9191	.01586	.01735	-

**British Sizes**

B.S.7: 1953 and B.S.480 : 1954

**B & SG (AWG) Sizes**

Based on C.E.S.A. C68A : A.S.T.M. B8-53 and I.P.C.E.A. 5-19-8 Classes B & C (preferred sizes)

**Metric Sizes**

V.D.E. 0255/51 and 0265/52

**British Sizes**

The following tolerances on resistance are permitted in British Standard Specifications: per cent

Single wires, tinned, below .036-inch diameter +5

Single wires, tinned, .036-inch diameter and above +4

Single wires, plain +3

Stranded conductor, tinned below .036-inch +4

Stranded conductor, tinned, .036-inch diameter and above +3

Stranded conductor, plain +2

A further increase in resistance of 2 per cent is allowable for the laying-up of twin and multicore cables