

Wire sizes and power capacity chart

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Wire sizes and
power capacity

AWG Number	Diameter (inches)	Diameter (mm)	Cross-Section (mm ²)	Ohms per 1000 ft.	Ohms per km	Maximum amps for chassis wiring	Maximum amps for power transmission	Maximum frequency for 100% skin depth for solid conductor copper	Breaking force Soft Annealed Cu 37000 PSI	Ampacity (at 75°C)	Current Ratings 2 Cables Single Phase Amp.	watts at 220v	watts at 48v	watts at 24v	watts at 12v
1000MCM			500												
750MCM			400												
600MCM			300												
500MCM			240												
350MCM			185												
300MCM			150												
120 mm ²			120 mm ²								260	5720	1248	6240	3120
0000 (4/0) AWG	0.460 0 in	11.684 mm	107 mm ²	0.05	0.16	380	302	125 Hz	6120 lbs	230		5060	1104	5520	2760
37/.083											218	4796	1046	5232	2616
95 mm ²			95 mm ²								230	5060	1104	5520	2760
000 (3/0) AWG	0.409 6 in	10.405 mm	85.0 mm ²	0.06	0.2	328	239	160 Hz	4860 lbs	200		4400	9600	4800	2400
37/.072											180	3960	8640	4320	2160
70 mm ²			70 mm ²								185	4070	8880	4440	2220
00 (2/0) AWG	0.364 8 in	9.266 mm	67.4 mm ²	0.08	0.26	283	190	200 Hz	3860 lbs	175		3850	8400	4200	2100
0 (1/0) AWG	0.324 9 in	8.251 mm	53.5 mm ²	0.1	0.32	245	150	250 Hz	3060 lbs	150		3300	7200	3600	1800
50 mm ²			50 mm ²								145	3190	6960	3480	1740
19/.083											140	3080	6720	3360	1680
1 AWG	0.289 3 in	7.348 mm	42.4 mm ²	0.12	0.41	211	119	325 Hz	2430 lbs	130		2860	6240	3120	1560
35 mm ²			35 mm ²								90	1980	4320	2160	1080
2 AWG	0.257 6 in	6.544 mm	33.6 mm ²	0.16	0.51	181	94	410 Hz	1930 lbs	115		2530	5520	2760	1380
19/.072											122	2684	5856	2928	1464
3 AWG	0.229 4 in	5.827 mm	26.7 mm ²	0.2	0.65	158	75	500 Hz	1530 lbs	100		2200	4800	2400	1200

25 mm2			25 mm2								73	16060	3504	1752	876
19/.064											97	21340	4656	2328	1164
4 AWG	0.204 3 in	5.189 mm	21.2 mm2	0.25	0.82	135	60	650 Hz	1210 lbs	85		18700	4080	2040	1020
5 AWG	0.181 9 in	4.621 mm	16.8 mm2	0.31	1.03	118	47	810 Hz	960 lbs	-					
16 mm2			16 mm2								56	12320	2688	1344	672
19/.052											74	16280	3552	1776	888
6 AWG	0.162 0 in	4.115 mm	13.3 mm2	0.4	1.3	101	37	1100 Hz	760 lbs	65		14300	3120	1560	780
7 AWG	0.144 3 in	3.665 mm	10.5 mm2	0.5	1.63	89	30	1300 Hz	605 lbs	-					
10 mm2			10 mm2								42	9240	2016	1008	504
7/.064											53	11660	2544	1272	636
8 AWG	0.128 5 in	3.264 mm	8.37 mm2	0.63	2.06	73	24	1650 Hz	480 lbs	50		11000	2400	1200	600
7/.052											43	9460	2064	1032	516
9 AWG	0.114 4 in	2.906 mm	6.63 mm2	0.79	2.6	64	19	2050 Hz	380 lbs	-					
6 mm2			6 mm2								31	6820	1488	744	372
7/.044											36	7920	1728	864	432
10 AWG	0.101 9 in	2.588 mm	5.26 mm2	1	3.28	55	15	2600 Hz	314 lbs	35		7700	1680	840	420
11 AWG	0.090 7 in	2.305 mm	4.17 mm2	1.26	4.13	47	12	3200 Hz	249 lbs	-					
4 mm2			4 mm2								24	5280	1152	576	288
7/.036											28	6160	1344	672	336
12 AWG	0.080 8 in	2.053 mm	3.31 mm2	1.59	5.21	41	9.3	4150 Hz	197 lbs	25		5500	1200	600	300
2.5 mm2			2.5 mm2								18	3960	864	432	216
2 mm2			2 mm2								15	3300	720	360	180
13 AWG	0.072 0 in	1.828 mm	2.62 mm2	2	6.57	35	7.4	5300 Hz	150 lbs	-					
7/.029											20	4400	960	480	240
14 AWG	0.064 1 in	1.628 mm	2.08 mm2	2.53	8.28	32	5.9	6700 Hz	119 lbs	20		4400	960	480	240
15 AWG	0.057 1 in	1.450 mm	1.65 mm2	3.18	10.44	28	4.7	8250 Hz	94 lbs	-					
16 AWG	0.050 8 in	1.291 mm	1.31 mm2	4.02	13.17	22	3.7	11 k Hz	75 lbs	17		3740	816	408	204
1.5 mm2			1.5 mm2								13	2860	624	312	156
17 AWG	0.045 3 in	1.150 mm	1.04 mm2	5.06	16.61	19	2.9	13 k Hz	59 lbs	-					
1 mm2			1 mm2								11	2420	528	264	132
3/.036											15	3300	720	360	180
18 AWG	0.040 3 in	1.024 mm	0.823 mm2	6.39	20.94	16	2.3	17 kHz	47 lbs	14		3080	672	336	168
19 AWG	0.035 9 in	0.912 mm	0.653 mm2	8.05	26.41	14	1.8	21 kHz	37 lbs	-					
20 AWG	0.032 0 in	0.812 mm	0.518 mm2	10.15	33.29	11	1.5	27 kHz	29 lbs	11		2420	528	264	132
3/.029											10	2200	480	240	120
21 AWG	0.028 5 in	0.723 mm	0.410 mm2	12.8	41.98	9	1.2	33 kHz	23 lbs	-					
22 AWG	0.025 3 in	0.644 mm	0.326 mm2	16.14	52.94	7	0.92	42 kHz	18 lbs	7		1540	336	168	84
23 AWG	0.022	0.573	0.258	20.36	66.78	4.7	0.73	53 kHz	14.5 lbs	-					

Imperial Sizes BSS-2004				Metric Sizes BSS-6004			
7/.029	0.0045	2.9	20	2.5	1/1.78	18	16
7/.036	0.007	4.52	28	4	7/0.85	24	22
7/.044	0.01	6.45	36	6	7/1.04	31	28
7/.052	0.0145	9.35	43	10	7/1.35	42	39
7/.064	0.0225	14.52	53	16	7/1.70	56	50
19/.044	0.03		62	20		62	56
19/.052	0.04	25.81	74	25	7/2.14	73	66
19/.064	0.06	38.71	97	35	19/1.53	90	80
19/.072			120	50	19/1.78	145	125
19/.083	0.1	64.52	140	70	19/2.14	185	160
37/.072	0.15	96.77	180	95	19/2.52	230	195
37/.083	0.2	129	218	120	37/2.03	260	220
37/.093	0.25			150	37/2.25	355	320
37/.103	0.3	193.5	284	185	37/2.52	405	365
61/.093	0.4			240	61/2.25	480	430
61/.103	0.5			300	61/2.52	560	500
91/.093	0.6			400	61/2.85	680	610
91/.103	0.75			500	61/3.20	800	710
127/.103	1			630	91/2.98	910	820
				FLEXIBLE			
14/.0076	0.0006	0.39	2	0.5	16/0.20	3	
23/.0076	0.001	0.65	5	0.75	24/0.20	6	
40/.0076	0.0017	1.1	10	1	32/0.20	10	
70/.0076	0.003	1.94	15	1.5	30/0.25	15	
110/.0076	0.0048	3.1	20	2.5	50/0.25	20	
162/.0062	0.007	4.52	25	4MM ²	56/0.30	25	

[Wire Size Calculator](#)