

Aluminum Busbar Ampacity Chart

PART 1: SINGLE ALUMINUM BUSBAR AMPACITY CHART

Material: Aluminum 6101-T61 Alloy | Frequency: 60 Hz AC

1/16" THICKNESS SERIES (1.6mm)

Size (Thickness × Width)	Area (in²)	Circ Mils (K)	Weight (lb/ft)	DC Resistance @ 20°C (μΩ/ft)	30°C Rise (A)	50°C Rise (A)	65°C Rise (A)
1/16 × 1/2	0.0312	39.7	0.037	494	58	76	88
1/16 × 3/4	0.0469	59.7	0.055	327	81	108	126
1/16 × 1	0.0625	79.6	0.073	247	105	140	160
1/16 × 1-1/2	0.0938	119	0.11	164	151	199	230
1/16 × 2	0.125	159	0.146	123	193	258	297

1/8" THICKNESS SERIES (3.2mm)

Size (Thickness × Width)	Area (in²)	Circ Mils (K)	Weight (lb/ft)	DC Resistance @ 20°C (μΩ/ft)	30°C Rise (A)	50°C Rise (A)	65°C Rise (A)
1/8 × 1/2	0.0625	79.6	0.073	247	86	115	132
1/8 × 3/4	0.0938	119	0.11	164	120	160	182
1/8 × 1	0.125	159	0.146	123	151	202	232
1/8 × 1-1/2	0.188	239	0.22	82	216	286	330
1/8 × 2	0.25	318	0.293	62	277	370	426
1/8 × 2-1/2	0.312	397	0.365	49	336	448	515
1/8 × 3	0.375	477	0.439	35	398	526	616
1/8 × 4	0.5	636	0.585	31	454	616	700

3/16" THICKNESS SERIES (4.8mm)

Size (Thickness × Width)	Area (in²)	Circ Mils (K)	Weight (lb/ft)	DC Resistance @ 20°C (μΩ/ft)	30°C Rise (A)	50°C Rise (A)	65°C Rise (A)
3/16 × 1/2	0.09375	119	0.11	164	109	146	168
3/16 × 3/4	0.141	179	0.165	109	151	202	232
3/16 × 1	0.188	239	0.22	82	190	255	291
3/16 × 1-1/2	0.281	358	0.329	55	269	353	409
3/16 × 2	0.375	477	0.439	41	342	454	526
3/16 × 2-1/2	0.469	597	0.549	33	414	549	644

Size (Thickness × Width)	Area (in²)	Circ Mils (K)	Weight (lb/ft)	DC Resistance @ 20°C (μΩ/ft)	30°C Rise (A)	50°C Rise (A)	65°C Rise (A)
3/16 × 3	0.562	715	0.658	27	487	644	756
3/16 × 3-1/2	0.656	835	0.768	23	554	728	840
3/16 × 4	0.75	955	0.878	21	616	812	952

1/4" THICKNESS SERIES (6.4mm)

Size (Thickness × Width)	Area (in²)	Circ Mils (K)	Weight (lb/ft)	DC Resistance @ 20°C (μΩ/ft)	30°C Rise (A)	50°C Rise (A)	65°C Rise (A)
1/4 × 1/2	0.125	159	0.146	123	134	176	202
1/4 × 3/4	0.188	239	0.22	82	179	238	274
1/4 × 1	0.25	318	0.293	62	224	297	347
1/4 × 1-1/2	0.375	477	0.439	41	314	414	482
1/4 × 2	0.5	637	0.585	31	398	526	616
1/4 × 2-1/2	0.625	796	0.731	25	476	644	728
1/4 × 3	0.75	955	0.878	21	554	728	868
1/4 × 3-1/2	0.875	1110	1.024	18	644	840	980
1/4 × 4	1.0	1270	1.17	15	700	952	1092
1/4 × 5	1.25	1590	1.463	12	840	1120	1316
1/4 × 6	1.5	1910	1.755	10	980	1316	1512

3/8" THICKNESS SERIES (9.5mm)

Size (Thickness × Width)	Area (in²)	Circ Mils (K)	Weight (lb/ft)	DC Resistance @ 20°C (μΩ/ft)	30°C Rise (A)	50°C Rise (A)	65°C Rise (A)
3/8 × 3/4	0.281	368	0.329	55	232	308	353
3/8 × 1	0.375	477	0.439	41	286	381	442
3/8 × 1-1/2	0.562	715	0.658	27	398	526	616
3/8 × 2	0.75	955	0.878	21	493	644	756
3/8 × 2-1/2	0.938	1190	1.097	16	588	784	896
3/8 × 3	1.12	1430	1.31	14	672	896	1036
3/8 × 3-1/2	1.31	1670	1.533	12	756	1008	1176
3/8 × 4	1.5	1910	1.755	10	840	1120	1316
3/8 × 5	1.88	2390	2.2	8	1008	1344	1568
3/8 × 6	2.25	2860	2.633	7	1176	1568	1820

1/2" THICKNESS SERIES (12.7mm)

Size (Thickness × Width)	Area (in²)	Circ Mils (K)	Weight (lb/ft)	DC Resistance @ 20°C (μΩ/ft)	30°C Rise (A)	50°C Rise (A)	65°C Rise (A)
1/2 × 1	0.5	637	0.585	31	347	459	526
1/2 × 1-1/2	0.75	955	0.878	21	465	616	700
1/2 × 2	1.0	1270	1.17	15	560	756	868
1/2 × 2-1/2	1.25	1590	1.463	12	672	896	1036
1/2 × 3	1.5	1910	1.755	10	784	1036	1204
1/2 × 3-1/2	1.75	2230	2.048	9	868	1176	1344
1/2 × 4	2.0	2550	2.34	8	952	1288	1484
1/2 × 5	2.5	3180	2.925	6	1148	1540	1764
1/2 × 6	3.0	3820	3.51	5	1344	1764	2044
1/2 × 8	4.0	5090	4.68	4	1680	2240	2576

NOTES:

All ratings based on 40°C ambient temperature

Temperature rise measured above ambient

DC resistance measured at 20°C (68°F)

Material: Aluminum 6101-T61 alloy

Conductivity: 61% IACS minimum

All ampacity values in amperes (A)

PART 2: MULTIPLE ALUMINUM BUSBAR AMPACITY CHART

Frequency: 60 Hz AC | Material: Aluminum 6101-T61

SECTION A: VERTICAL ORIENTATION (EDGE-MOUNTED)

1/4" THICKNESS - VERTICAL MOUNTING

Size (inches)	1 BAR DC	1 BAR AC	2 BARS DC	2 BARS AC	3 BARS DC	3 BARS AC	4 BARS DC	4 BARS AC
1/4 × 1/2	420	429	833	817	1235	1194	1637	1561
1/4 × 1	549	545	1051	1012	1552	1400	2053	1915
1/4 × 2	780	768	1472	1410	2162	1980	2851	2530
1/4 × 3	1005	980	1878	1790	2729	2462	3619	3081
1/4 × 4	1225	1184	2275	2092	3141	2905	4658	3625
1/4 × 5	1443	1381	2665	2413	3821	3338	5095	4146
1/4 × 6	1870	1760	3427	3034	4974	4183	6375	5112

3/8" THICKNESS - VERTICAL MOUNTING

Size (inches)	1 BAR DC	1 BAR AC	2 BARS DC	2 BARS AC	3 BARS DC	3 BARS AC	4 BARS DC	4 BARS AC
3/8 × 2	691	678	1340	1278	1979	1831	2620	2332
3/8 × 3	974	941	1857	1709	2738	2384	3658	2946
3/8 × 4	1249	1191	2356	2099	3460	2993	4563	3574
3/8 × 5	1519	1429	2842	2483	4162	3387	5479	4178
3/8 × 6	1785	1657	3320	2847	4848	3857	6375	4765
3/8 × 8	2388	2058	4353	3598	6188	4774	8119	5875
3/8 × 10	3222	2934	5165	4289	7483	6523	9817	6941

1/2" THICKNESS - VERTICAL MOUNTING

Size (inches)	1 BAR DC	1 BAR AC	2 BARS DC	2 BARS AC	3 BARS DC	3 BARS AC	4 BARS DC	4 BARS AC
1/2 × 3	1845	1734	2725	2491	3665	3242	4317	3927
1/2 × 4	1462	1369	2202	2116	3200	2864	4224	3949
1/2 × 5	1744	1634	2745	2418	4100	3764	5417	4580
1/2 × 6	2081	1892	3387	3230	4976	4278	6577	5210
1/2 × 8	2685	2393	4075	4014	5725	4526	7514	6248
1/2 × 10	3278	2880	6029	4779	8763	6256	11149	7579

SECTION B: HORIZONTAL ORIENTATION (FLAT-MOUNTED)

1/4" THICKNESS - HORIZONTAL MOUNTING

Size (inches)	1 BAR DC	1 BAR AC	2 BARS DC	2 BARS AC	3 BARS DC	3 BARS AC	4 BARS DC	4 BARS AC
1/4 × 1/2	420	415	800	785	1060	1020	1240	1180
1/4 × 1	535	510	1010	980	1360	1280	1560	1460
1/4 × 2	750	735	1380	1310	1850	1700	2180	1940
1/4 × 3	955	920	1700	1600	2300	2050	2780	2330
1/4 × 4	1160	1130	2200	1830	2670	2300	3160	2610
1/4 × 5	1360	1170	2320	1890	2870	2540	3460	2810
1/4 × 6	1620	1520	2640	2310	3410	2800	3900	3080

3/8" THICKNESS - HORIZONTAL MOUNTING

Size (inches)	1 BAR DC	1 BAR AC	2 BARS DC	2 BARS AC	3 BARS DC	3 BARS AC	4 BARS DC	4 BARS AC
3/8 × 2	670	660	1230	1170	1610	1480	1990	1780
3/8 × 3	935	905	1680	1550	2250	1960	2720	2200
3/8 × 4	1190	1130	2080	1860	2800	2340	3380	2660
3/8 × 5	1420	1340	2440	2110	3250	2650	3850	2940
3/8 × 6	1630	1520	3710	2330	3680	2970	4280	3420
3/8 × 8	2000	1820	3240	2700	4610	3470	4820	3900

1/2" THICKNESS - HORIZONTAL MOUNTING

Size (inches)	1 BAR DC	1 BAR AC	2 BARS DC	2 BARS AC	3 BARS DC	3 BARS AC	4 BARS DC	4 BARS AC
1/2 × 3	1300	1050	1870	1650	2350	2000	3080	2750
1/2 × 4	1190	1300	2190	1860	2510	2470	3070	2740
1/2 × 5	1680	1320	2890	2340	3650	2780	4870	3590
1/2 × 6	1850	1710	3050	2800	4060	3080	4370	3930
1/2 × 8	2310	2030	3640	2980	4780	3480	5510	3720

INSTALLATION NOTES

Orientation Comparison:

Vertical mounting provides 10-40% higher ampacity than horizontal

Wide dimension should be oriented vertically for optimal heat dissipation

Horizontal mounting may require forced air cooling for high loads

Multiple Bar Derating:

Spacing between bars: 0.5-1.0× thickness minimum

AC ratings lower than DC due to skin and proximity effects

Derating increases with number of parallel bars

Installation Requirements:

Maintain adequate clearance for air circulation

Use non-ferrous mounting hardware

Apply anti-oxidant compound at all connections

Support bars per manufacturer specifications

Standard Conditions:

Ambient temperature: 40°C (104°F)

Frequency: 60Hz AC (where applicable)

Indoor installation with natural ventilation

Single-sided heat dissipation assumed