



Ampacities and Mechanical Properties of Rectangular Copper Busbars: Table 1. Ampacities of Copper No. 110

Ampacities of Copper No. 110 Busbars - Ampacities in the table below are for bus bars having an emissivity of 0.4. This was observed on samples exposed for 60 days in an industrial environment, and it is probably identical to that of bus bars in service.

Dimensions, In.	30 °C Rise		50 °C Rise		65 °C Rise	
	Skin Effect Ratio at 70° C	60-Hz Ampacity,* Amp	Skin Effect Ratio at 90° C	60-Hz Ampacity, *Amp	Skin Effect Ratio at 105° C	60-Hz Ampacity, *Amp
1/16 x 1/2	1.00	103	1.00	136	1.00	157
1/16 x 3/4	1.00	145	1.00	193	1.00	225
1/16 x 1	1.00	187	1.00	250	1.00	285
1/16 x 1 1/2	1.00	270	1.00	355	1.00	410
1/16 x 2	1.01	345	1.01	460	1.01	530
1/8 x 1/2	1.00	153	1.00	205	1.00	235
1/8 x 3/4	1.00	215	1.00	285	1.00	325
1/8 x 1	1.01	270	1.01	360	1.01	415
1/8 x 1 1/2	1.01	385	1.01	510	1.01	590
1/8 x 2	1.02	495	1.02	660	1.02	760
1/8 x 2 1/2	1.02	600	1.02	800	1.02	920
1/8 x 3	1.03	710	1.03	940	1.03	1,100
1/8 x 3 1/2	1.04	810	1.03	1,100	1.03	1,250
1/8 x 4	1.04	910	1.04	1,200	1.04	1,400
3/16 x 1/2	1.00	195	1.00	260	1.00	300
3/16 x 3/4	1.01	270	1.01	360	1.01	415
3/16 x 1	1.01	340	1.01	455	1.01	520
3/16 x 1 1/2	1.02	480	1.02	630	1.02	730
3/16 x 2	1.03	610	1.03	810	1.03	940
3/16 x 2 1/2	1.04	740	1.04	980	1.03	1,150
3/16 x 3	1.05	870	1.05	1,150	1.04	1,350
3/16 x 3 1/2	1.07	990	1.06	1,300	1.06	1,500
3/16 x 4	1.09	1,100	1.08	1,450	1.07	1,700
1/4 x 1/2	1.01	240	1.01	315	1.01	360
1/4 x 3/4	1.01	320	1.01	425	1.01	490
1/4 x 1	1.02	400	1.02	530	1.02	620
1/4 x 1 1/2	1.03	560	1.03	740	1.03	860
1/4 x 2	1.04	710	1.04	940	1.04	1,100
1/4 x 2 1/2	1.06	850	1.06	1,150	1.06	1,300
1/4 x 3	1.08	990	1.08	1,300	1.07	1,550
1/4 x 3 1/2	1.10	1,150	1.09	1,500	1.09	1,750
1/4 x 4	1.12	1,250	1.11	1,700	1.10	1,950
1/4 x 5	1.16	1,500	1.15	2,000	1.14	2,350



Dimensions, In.	30 °C Rise		50 °C Rise		65 °C Rise	
	Skin Effect Ratio at 70° C	60-Hz Ampacity,* Amp	Skin Effect Ratio at 90° C	60-Hz Ampacity, *Amp	Skin Effect Ratio at 105° C	60-Hz Ampacity, *Amp
1/4 x 6 1/4 x 8 1/4 x 10 1/4 x 12	1.18 1.23 1.27 1.31	1,750 2,250 2,700 3,150	1.17 1.22 1.26 1.30	2,350 3,000 3,600 4,200	1.17 1.21 1.25 1.28	2,700 3,450 4,200 4,900
3/8 x 3/4 3/8 x 1 3/8 x 1 1/2 3/8 x 2 3/8 x 2 1/2 3/8 x 3 3/8 x 3 1/2 3/8 x 4 3/8 x 5 3/8 x 6 3/8 x 8 3/8 x 10 3/8 x 12	1.02 1.03 1.05 1.08 1.12 1.15 1.18 1.20 1.24 1.27 1.33 1.38 1.42	415 510 710 880 1,050 1,200 1,350 1,500 1,800 2,100 2,650 3,200 3,700	1.02 1.03 1.04 1.08 1.10 1.14 1.16 1.19 1.23 1.26 1.31 1.36 1.40	550 680 940 1,150 1,400 1,600 1,800 2,000 2,400 2,800 3,550 4,300 5,000	1.02 1.03 1.04 1.07 1.09 1.13 1.15 1.18 1.22 1.24 1.30 1.35 1.38	630 790 1,100 1,350 1,600 1,850 2,100 2,350 2,800 3,250 4,100 4,900 5,800
1/2 x 1 1/2 x 1 1/2 1/2 x 2 1/2 x 2 1/2 1/2 x 3 1/2 x 3 1/2 1/2 x 4 1/2 x 5 1/2 x 6 1/2 x 8 1/2 x 10 1/2 x 12	1.04 1.08 1.12 1.16 1.20 1.24 1.26 1.32 1.36 1.42 1.47 1.52	620 830 1,000 1,200 1,400 1,550 1,700 2,050 2,400 3,000 3,600 4,200	1.04 1.08 1.11 1.15 1.19 1.22 1.25 1.30 1.34 1.40 1.45 1.51	820 1,100 1,350 1,600 1,850 2,100 2,300 2,750 3,150 4,000 4,800 5,600	1.04 1.07 1.10 1.14 1.18 1.21 1.24 1.29 1.33 1.39 1.44 1.50	940 1,250 1,550 1,850 2,150 2,400 2,650 3,150 3,650 4,600 5,500 6,400
3/4 x 4 3/4 x 5 3/4 x 6 3/4 x 8 3/4 x 10 3/4 x 12	1.42 1.48 1.52 1.60 1.67 1.72	2,050 2,400 2,800 3,500 4,200 4,900	1.40 1.46 1.50 1.58 1.64 1.69	2,750 3,250 3,750 4,700 5,600 6,500	1.38 1.44 1.48 1.56 1.62 1.67	3,150 3,750 4,300 5,400 6,500 7,500

* Applicable to typical in-service conditions (indoors, 40°C ambient temperature), horizontal run on edge, and free from external magnetic influences.