Physical & Electrical Properties of Uniform-Thickness Angle Bus Conductors – 6101-T6 alloy 55.0% IACS Conductivity (minimum) (4)

Size (3)		Area sq in	Weight lb/ft	Moment of Inertia in^4		Minimum Distance to Neutral Axis		Xa - 60 Hz Inductive Reactance 1-ft Spacing microhms/ft	DC Resistance at 20°C microhms/ft	Rac/Rdc at 70°C 60 Hz	AC Resistance at 70°C 60Hz microhms/ft	AC Current Rating 60 Hz Amp (1)	
W in	T in			Ix or y	Iz	x or y	z					Indoor e=0.35	Outdoor e=0.50
3 1/4	1/4	1.57	1.83	1.60	0.65	0.91	1.30	51.41	11.20	1.024	11.49	1300	1902
4	1/4	1.93	2.27	3.02	1.18	1.09	1.51	46.60	9.07	1.045	9.46	1550	2236
4	3/8	2.85	3.36	4.35	1.75	1.14	1.60	46.62	6.14	1.115	6.85	1850	2654
4 1/2	3/8	3.23	3.80	6.31	2.61	1.26	1.77	43.93	5.42	1.145	6.20	2050	2885
5	3/8	3.60	4.24	8.75	3.50	1.39	1.96	41.52	4.86	1.175	5.71	2250	3130

Notes:

1. Indoor current ratings are based on 30°C rise over 40°C ambient in still but unconfined air, normally oxidized surface (e=0.35). Outdoor ratings are based similarly, but with 2 ft/sec crosswind (e=0.50). Horizontal mounting is assumed with spacing sufficient to eliminate proximity effects, generally assumed to be 18-in. or over. Indoor ratings based on work by House and Tuttle. Outdoor ratings from IEEE paper by Prager, Pemberton, Craig and Bleshman.
2. Back-to-back angles are to be considered as separate members; not as a composite.
3. Alignment grooves are extruded to facilitate centering of holes according to NEMA standard spacings.
4. A modification of this design has a lug at top that does not interfere with bolting, yet it strengthens the shape against tendency to roll-over to the z-z axis in long spans subjected to large lateral short circuit forces. For equal weight of shape, the z-z radius of gyration is increased by 20 percent. The stress that causes roll-over is thereby increased about 40 percent.