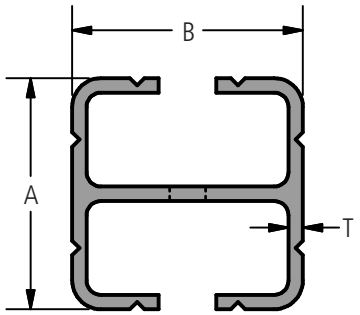
Integral Web (IWBC)

This shape is used for station bus, open or enclosed and for the high-current bus of outdoor substations for distribution voltages, as well as for 600-volt bus for industrial plants. AFL offers the integral web bus conductor in both ventilated and non-ventilated conditions. The use of this shape makes it unnecessary to use the spacer clamps or welded tie-bars normally needed across the channels between insulator supports. Although convection airflow is less than that of a face-to-face channel arrangement, transverse strength is greater. The shallow grooves extruded on the surface facilitate location of the centers of drilled or punched holes for attaching base plates and taps.



Size		Wall Thickness	Area	Weight
Height A	Width B	T	sq in	lb/ft
in	in	in		
4	4	0.156	2.439	2.87
4	4	0.250	3.781	4.45
4	4	0.312	4.460	5.25
6	4	0.250	4.780	5.62
6	4	0.375	6.020	7.10
6	4	0.375	6.950	8.17
6	5	0.375	7.600	8.94
6	6	0.375	8.600	10.15
6	6	0.550	11.220	13.19
7	7	0.500	12.840	15.10
8	5	0.375	9.080	10.68
8	5	0.500	11.750	13.82
8	8	0.500	16.120	18.96
9	9	0.625	20.040	23.57
10	10	0.625	23.500	27.64

Physical & Electrical Properties of Integral-Web Channel Bus Conductors – 6101-T6 Alloy 55.0% IACS Conductivity (minimum)

Size		Wall Thickness	Area	Weight	Moment of Inertia, in^4		DC Resistance	Current Rating	Inductive Reactance	Rac/	AC 60 Hz Resistance	Current Rating AC-60Hz	
A in	B in	T in	sq in	lb/ft	I_{x-x}	I_{y-y}	Rdc-20°C microhms per ft	DC 70°C e=0.35 Indoors	Xa-60Hz 1 ft spacing microhms per ft	RDC70°C 60HZ	Rac-70°C microhms per ft	Indoor e=0.35	Outdoor e= 0.50
4	4	0.156	2.439	2.87	3.876	6.213	6.88	2260	39.02	1.020	7.017	2240	2520
4	4	0.250	3.781	4.45	5.788	9.213	4.42	2810	39.76	1.035	4.579	2276	3115
4	4	0.312	4.460	5.25	6.892	10.94	3.75	3050	40.80	1.050	3.940	2980	3360
6	4	0.250	4.780	5.62	16.35	12.74	3.50	3480	34.80	1.050	3.670	3400	3780
6	4	0.375	6.020	7.10	14.50	14.00	2.78	3900	36.60	1.080	3.000	3760	4180
6	4	0.375	6.950	8.17	22.91	17.45	2.41	4200	----	1.090	2.630	4020	4470
6	5	0.375	7.600	8.94	25.19	29.78	2.20	4500	32.50	1.110	2.440	4320	4800
6	6	0.375	8.600	10.15	29.73	45.98	1.95	5020	27.60	1.110	2.160	4760	5270
6	6	0.550	11.22	13.19	40.05	60.86	1.49	5730	31.40	1.220	1.820	5190	5740
7	7	0.500	12.84	15.10	64.83	95.67	1.30	6530	27.60	1.210	1.570	5940	6540
8	5	0.375	9.080	10.68	52.88	37.59	1.84	5350	29.10	1.120	2.064	5060	5560
8	5	0.500	11.75	13.82	66.84	46.67	1.42	6090	30.00	1.280	1.820	5380	5910
8	8	0.500	16.12	18.96	103.5	152.3	1.04	7740	24.70	1.260	1.310	6890	7550
9	9	0.625	20.04	23.57	162.3	240.1	0.83	9060	21.60	1.370	1.140	7740	8450
10	10	0.625	23.50	27.64	255.6	362.4	0.71	10260	19.10	1.420	1.010	8610	9350

Notes:

1. Current ratings are based on 6101-T61 alloy with standard vent-holes in web. For 6101-T6 reduce the rating by 2 percent. Indoor ratings are based on 30°C rise over 40°C ambient in still but unconfined air, normally oxidized surface (e=0.35) and similarly for outdoor ratings, except 2 ft/sec cross wind (e=0.50). Horizontal mounting is assumed with spacing sufficient to eliminate proximity effects, generally assumed to be 18-in. or over. For temperature rise of 50°C above 40°C ambient, the indoor ratings for 30°C may be increased about 30 percent. Indoor ratings (D-C and A-C) calculated by computer and verified by test rounded. Outdoor ratings are calculations only.
2. For vent and notch arrangements, consult your AFL Sales Representative. The interior perimeter varies according to the washer diameters that are to be accommodated, and as to their location per NEMA spacing. The 12 in. x 12 in. size is a opposite of two symmetric extrusions bolted together.

Ordering Instructions:

Step 1: Choose Size of IWBC

Size of IWBC	Size Code
4″ x 4″	I44
6″ x 4″	I64
6″ x 5″	I65
6″ x 6″	I66
7″ x 7″	I77
8″ x 5″	I85
8″ x 8″	I88
9″ x 9″	I99
10″ x 10″	I101

Step 2: Choose Wall Thickness

Wall Thickness	Thickness Code
5/32	156W
1/4	250W
5/16	312W
3/8	375W
0.550	550W
1/2	500W

Step 3: Standard Alloy

Alloy Number	Alloy Code
6101	Z

Step 4: Choose Temper

Temper	Temper Code
T6	T6
T61	T61
T63	T63

Step 5: Choose Piece Length
Piece Length is a whole number between 10 feet and 40 feet.

Step 6: Build Catalog Number

Size Code	+	Thickness Code	+	Alloy Code	+	Temper	+	Vented

Example: To order 8" x 8" IWBC with 1/2" wall thickness 6101 T-6 Alloy

I88	+	500W	+	Z	+	T6	+	V

Completed Catalog Number is I88500WZT6V.

Example: To order 4" x 4" IWBC with 1/4" wall thickness 6063 T-6 Alloy Non-vented

I44	+	250W	+	Y	+	T6	+	

Completed Catalog Number is I44250WYT6