



Zee Sections: Gross Section Properties

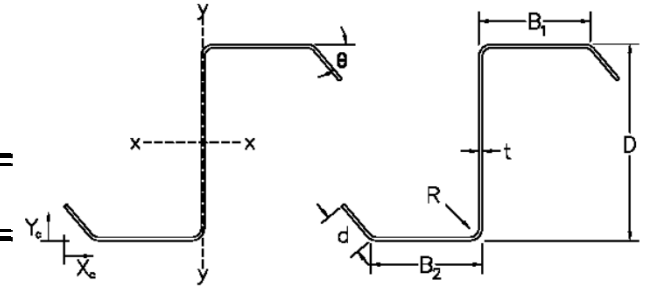


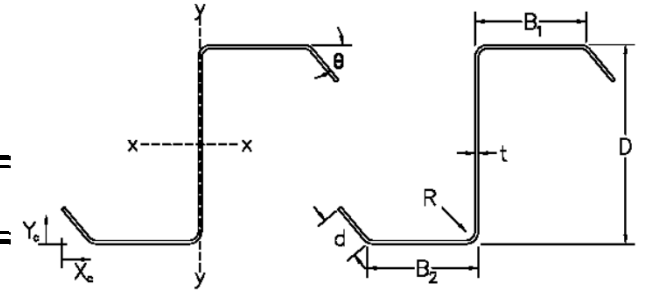
Table with 25 columns: Member, Ga., Dimensions (D, B1, B2, d, t, R, theta), Area, Weight, Axis X-X (Ix, Sx TOP, Sx BOT, rx), Axis Y-Y (Iy, Sy LEFT, Sy RIGHT, ry), Centroid (Xc, Yc), Shear Center (Xo, Yo), Product of Inertia (Ixy, deg), and Torsional Properties (J, Cw, Jx, Jy).

- 1. Section properties are calculated in accordance with the 2007 AISI North American Specification for the Design of Cold-Formed Steel Structural Members.
2. Material: A1011 HSLAS Grade 55 Class 1 Steel or A653 SS Grade 55 Steel
3. Strength Increase due to Cold Working has been applied where applicable
4. Web Crippling values are based on a 4 inch bearing length, one flange fastened to support

- 5. Appropriate factors of safety have been applied for Allowable Stress Design (ASD)
6. Strength calculations based on a fully braced condition
7. Consult with an engineering professional before using the above design aids
8. Shear center coordinates are measured from the centroid of the part
* Section meets geometric criteria listed in D6.1.1 of the 2007 Ed. AISI NAS for CFS Members



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Member	Ga.	Dimensions							Gross Section Properties																				
		D (in)	B ₁ (in)	B ₂ (in)	d (in)	t (in)	R (in)	γ (deg)	Area (in ²)	Weight (lb/ft)	Axis X-X				Axis Y-Y				Centroid		Shear Center		Product of Inertia		Torsional Properties				
									A	Weight	I _x	S _{x TOP}	S _{x BOT}	r _x	I _y	S _{y LEFT}	S _{y RIGHT}	r _y	X _c	Y _c	X _o	Y _o	I _{xy}	θ	J	C _w	J _x	J _y	
8	x 3.5	14	8	3.375	3.125	0.93	0.07	0.1875	50	1.116	3.79	11.378	2.889	2.801	3.194	3.076	0.820	0.794	1.661	3.752	4.062	0.023	0.350	4.428	-23.42	0.0018	32.23	0.0359	-0.3800
8	x 3.5	16	8	3.375	3.125	0.91125	0.059	0.1875	50	0.940	3.20	9.620	2.443	2.368	3.199	2.581	0.689	0.668	1.657	3.745	4.062	0.023	0.350	3.729	-23.33	0.0011	27.08	0.0363	-0.3803
9	x 2.5	12*	9	2.375	2.125	0.99025	0.105	0.1875	50	1.569	5.33	18.063	4.082	3.949	3.394	1.968	0.713	0.677	1.120	2.761	4.574	0.023	0.549	4.225	-13.85	0.0058	28.89	0.0779	-0.5839
9	x 2.5	14*	9	2.375	2.125	0.93	0.07	0.1875	50	1.046	3.56	12.148	2.745	2.655	3.409	1.289	0.471	0.447	1.110	2.740	4.575	0.023	0.552	2.802	-13.65	0.0017	19.02	0.0809	-0.5866
9	x 2.5	16*	9	2.375	2.125	0.91125	0.059	0.1875	50	0.881	3.00	10.267	2.320	2.244	3.413	1.081	0.396	0.375	1.107	2.733	4.575	0.022	0.552	2.358	-13.59	0.0010	15.97	0.0818	-0.5875
9	x 3	12*	9	2.875	2.625	0.99025	0.105	0.1875	50	1.674	5.69	20.140	4.546	4.407	3.469	3.134	0.960	0.921	1.369	3.266	4.570	0.023	0.460	5.763	-17.06	0.0062	44.18	0.0555	-0.4931
9	x 3	14*	9	2.875	2.625	0.93	0.07	0.1875	50	1.116	3.79	13.544	3.057	2.964	3.484	2.057	0.634	0.608	1.358	3.244	4.570	0.023	0.462	3.826	-16.84	0.0018	29.12	0.0575	-0.4955
9	x 3	16*	9	2.875	2.625	0.91125	0.059	0.1875	50	0.940	3.20	11.446	2.584	2.505	3.489	1.725	0.533	0.511	1.355	3.238	4.570	0.022	0.463	3.221	-16.77	0.0011	24.46	0.0581	-0.4963
9	x 3.5	12	9	3.375	3.125	0.99025	0.105	0.1875	50	1.778	6.05	22.217	5.010	4.866	3.535	4.680	1.242	1.201	1.622	3.770	4.566	0.023	0.395	7.534	-20.33	0.0065	63.45	0.0432	-0.4264
9	x 3.5	14	9	3.375	3.125	0.93	0.07	0.1875	50	1.186	4.03	14.939	3.369	3.272	3.550	3.077	0.821	0.794	1.611	3.748	4.566	0.023	0.397	5.006	-20.08	0.0019	41.90	0.0446	-0.4286
10	x 2.5	12	10	2.375	2.125	0.99025	0.105	0.1875	50	1.674	5.69	23.285	4.731	4.586	3.730	1.968	0.714	0.676	1.085	2.758	5.078	0.022	0.613	4.723	-11.95	0.0062	36.39	0.1028	-0.6493
10	x 2.5	14	10	2.375	2.125	0.93	0.07	0.1875	50	1.116	3.79	15.642	3.178	3.080	3.745	1.289	0.471	0.446	1.075	2.736	5.078	0.022	0.616	3.129	-11.78	0.0018	23.95	0.1064	-0.6521
10	x 2.5	16	10	2.375	2.125	0.91125	0.059	0.1875	50	0.940	3.20	13.215	2.685	2.602	3.749	1.081	0.396	0.375	1.072	2.730	5.078	0.021	0.617	2.633	-11.73	0.0011	20.11	0.1076	-0.6529
10	x 3	12*	10	2.875	2.625	0.99025	0.105	0.1875	50	1.779	6.05	25.856	5.248	5.097	3.813	3.135	0.961	0.920	1.328	3.263	5.073	0.022	0.514	6.437	-14.77	0.0065	55.77	0.0714	-0.5489
10	x 3	14*	10	2.875	2.625	0.93	0.07	0.1875	50	1.186	4.03	17.368	3.525	3.423	3.827	2.057	0.635	0.608	1.317	3.241	5.073	0.022	0.516	4.271	-14.58	0.0019	36.76	0.0737	-0.5514
10	x 3.5	12*	10	3.375	3.125	0.99025	0.105	0.1875	50	1.883	6.40	28.426	5.765	5.608	3.885	4.681	1.243	1.200	1.576	3.766	5.069	0.022	0.442	8.411	-17.66	0.0069	80.25	0.0539	-0.4751
10	x 3.5	14*	10	3.375	3.125	0.93	0.07	0.1875	50	1.256	4.27	19.094	3.872	3.767	3.900	3.077	0.822	0.793	1.565	3.745	5.069	0.022	0.444	5.585	-17.45	0.0021	52.97	0.0555	-0.4773
12	x 2.5	12	12	2.375	2.125	0.99025	0.105	0.1875	50	1.884	6.40	36.293	6.134	5.966	4.390	1.969	0.715	0.675	1.023	2.753	6.083	0.020	0.741	5.717	-9.21	0.0069	54.20	0.1687	-0.7789
12	x 2.5	14	12	2.375	2.125	0.93	0.07	0.1875	50	1.256	4.27	24.338	4.113	4.001	4.403	1.290	0.472	0.446	1.014	2.731	6.083	0.020	0.744	3.784	-9.09	0.0021	35.65	0.1739	-0.7819
12	x 3	12	12	2.875	2.625	0.99025	0.105	0.1875	50	1.989	6.76	40.008	6.756	6.582	4.486	3.135	0.963	0.919	1.256	3.257	6.079	0.021	0.623	7.786	-11.45	0.0073	83.38	0.1138	-0.6597
12	x 3	14	12	2.875	2.625	0.93	0.07	0.1875	50	1.326	4.51	26.829	4.531	4.414	4.499	2.058	0.636	0.607	1.246	3.235	6.079	0.020	0.625	5.159	-11.31	0.0022	54.93	0.1172	-0.6624
12	x 3.5	12	12	3.375	3.125	0.99025	0.105	0.1875	50	2.093	7.12	43.721	7.379	7.197	4.570	4.681	1.245	1.198	1.495	3.761	6.075	0.021	0.536	10.167	-13.76	0.0077	120.37	0.0827	-0.5719

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