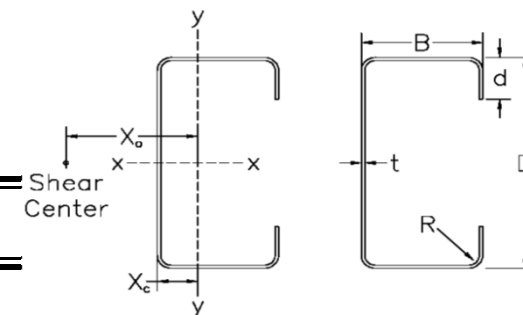




## Cee Sections: Effective Section Properties



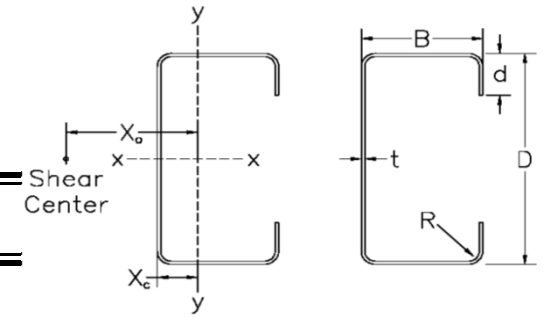
- Section properties are calculated in accordance with the 2016 AISI North American Specification for the Design of Cold-Formed Steel Structural Members.
- Material: A1011 HSLAS Grade 55 Class 1 Steel or A653 SS Grade 55 Steel
- Strength Increase due to Cold Working has been applied where applicable

- Web Crippling values are based on a 4 inch bearing length, one flange fastened to support
- Appropriate factors of safety have been applied for Allowable Stress Design (ASD)
- Strength calculations based on a fully braced condition
- Consult with an engineering professional before using the above design aids
- \* Section meets geometric criteria listed in I6.2.1 of the 2016 Ed. AISI NAS for CFS Members

Member	Ga.	Effective Section Properties																				Web Crippling		
		Compression		Tension	Shear		Positive Moment (X Axis)				Negative Moment (X Axis)				Positive Moment (Y Axis)				Negative Moment (Y Axis)				End	Interior
		A <sub>e</sub> (in <sup>2</sup> )	P <sub>a</sub> (kip)	T <sub>a</sub> (kip)	V <sub>ay</sub> (kip)	V <sub>ax</sub> (kip)	M <sub>ax</sub> (kip-in)	I <sub>x</sub> (in <sup>4</sup> )	S <sub>e</sub> TOP (in <sup>3</sup> )	S <sub>e</sub> BOT (in <sup>3</sup> )	M <sub>ax</sub> (kip-in)	I <sub>x</sub> (in <sup>4</sup> )	S <sub>e</sub> TOP (in <sup>3</sup> )	S <sub>e</sub> BOT (in <sup>3</sup> )	M <sub>ay</sub> (kip-in)	I <sub>y</sub> (in <sup>4</sup> )	S <sub>e</sub> LEFT (in <sup>3</sup> )	S <sub>e</sub> RIGHT (in <sup>3</sup> )	M <sub>ay</sub> (kip-in)	I <sub>y</sub> (in <sup>4</sup> )	S <sub>e</sub> LEFT (in <sup>3</sup> )	S <sub>e</sub> RIGHT (in <sup>3</sup> )	P <sub>a</sub> (kip)	P <sub>a</sub> (kip)
2.5 x 1.5	16	0.3385	10.342	12.193	2.3994	2.41	10.0746	0.3431	0.2745	0.275	10.07463	0.3431	0.2745	0.2745	4.6571	0.113	0.19295	0.1232	4.6571	0.113	0.193	0.1232	1.087	1.734
4 x 2	14	0.5463	16.694	21.365	4.9555	4.23	28.0485	1.5436	0.7718	0.772	28.04852	1.5436	0.7718	0.7718	10.864	0.368	0.49532	0.2932	9.4609	0.347	0.437	0.2873	1.443	2.451
4 x 2	16	0.4311	13.174	17.816	3.7015	3.6	21.2236	1.2965	0.6444	0.652	21.22356	1.2965	0.6521	0.6444	8.9684	0.31	0.42165	0.2452	7.77	0.277	0.336	0.2359	1.041	1.699
4 x 2.5	12	0.9926	30.33	35.57	7.1704	8.05	47.9173	2.6047	1.3024	1.302	47.91727	2.6047	1.3024	1.3024	23.265	0.923	0.93314	0.6105	23.265	0.923	0.933	0.6105	2.969	5.442
4 x 2.5	14	0.5379	16.437	23.634	4.9555	5.65	26.8715	1.7062	0.8159	0.894	26.87145	1.7062	0.8939	0.8159	15.026	0.625	0.65084	0.4055	13.025	0.584	0.57	0.3955	1.443	2.451
4 x 2.5	16	0.418	12.772	19.723	3.7015	4.8	21.8005	1.4064	0.6619	0.75	21.80048	1.4064	0.75	0.6619	12.399	0.525	0.55244	0.339	10.678	0.466	0.439	0.3242	1.041	1.699
4 x 3.5	12	1.0084	30.814	42.262	7.1704	12.2	48.2477	3.1173	1.465	1.665	48.24765	3.1173	1.6652	1.465	38.366	2.072	1.4377	1.0067	38.02	2.072	1.438	1.0067	2.969	5.442
4 x 3.5	14	0.561	17.141	28.172	4.9555	8.49	29.3318	1.9895	0.8906	1.126	29.33183	1.9895	1.1264	0.8906	24.8	1.4	0.99348	0.6692	21.357	1.298	0.866	0.6485	1.443	2.451
4 x 3.5	16	0.4319	13.198	23.537	3.7015	7.19	23.5892	1.629	0.7163	0.944	23.5892	1.629	0.9439	0.7163	20.465	1.176	0.8406	0.5596	17.488	1.039	0.674	0.531	1.041	1.699
4 x 4	12	1.0278	31.404	45.608	7.1704	14.3	49.9805	3.323	1.5176	1.836	49.98053	3.323	1.8355	1.5176	46.976	2.868	1.71402	1.2326	45.081	2.868	1.714	1.2326	2.969	5.442
4 x 4	14	0.5651	17.267	30.441	4.9555	9.91	30.0176	2.101	0.9114	1.24	30.01756	2.101	1.2396	0.9114	30.389	1.936	1.18112	0.82	26.112	1.792	1.031	0.7929	1.443	2.451
4 x 4	16	0.4319	11.878	25.444	3.7015	7.4	20.0073	1.7107	0.7275	1.038	20.00728	1.7107	1.0376	0.7275	24.555	1.626	0.9984	0.6858	21.382	1.437	0.805	0.6492	1.041	1.699
6 x 2.5	12	1.0408	31.803	42.262	11.361	8.05	82.4995	6.7269	2.2423	2.242	82.49949	6.7269	2.2423	2.2423	24.493	1.072	1.28746	0.6427	20.827	1.021	1.153	0.6324	2.868	5.355
6 x 2.5	14	0.5525	16.883	28.172	5.2415	5.65	45.8953	4.3538	1.3935	1.514	45.89531	4.3538	1.514	1.3935	15.804	0.723	0.898	0.4265	13.242	0.61	0.622	0.4021	1.383	2.403
6 x 2.5	16	0.4266	13.034	23.537	3.1352	4.8	37.4142	3.5937	1.136	1.267	37.41418	3.5937	1.2669	1.136	13.036	0.607	0.76228	0.3565	10.818	0.482	0.468	0.3285	0.992	1.663
6 x 3	12	1.0719	32.753	45.608	11.361	10.1	80.0035	7.4325	2.4292	2.528	80.00349	7.4325	2.5277	2.4292	32.194	1.661	1.6057	0.8447	27.256	1.568	1.418	0.8276	2.868	5.355
6 x 3	14	0.5652	17.269	30.441	5.2415	7.07	48.0102	4.6916	1.4578	1.687	48.01024	4.6916	1.6866	1.4578	20.78	1.119	1.11343	0.5608	17.277	0.936	0.77	0.5246	1.383	2.403
6 x 3	16	0.4354	13.305	25.444	3.1352	5.99	39.0685	3.8667	1.1863	1.411	39.06845	3.8667	1.411	1.1863	17.142	0.939	0.94324	0.4687	14.1	0.741	0.584	0.4281	0.992	1.663
6 x 3.5	12	1.0567	32.287	48.954	11.361	12.2	81.0363	7.8216	2.4606	2.772	81.03627	7.8216	2.7724	2.4606	40.68	2.409	1.9386	1.0674	34.306	2.259	1.696	1.0416	2.868	5.355
6 x 3.5	14	0.5755	17.586	32.711	5.2415	8.49	49.8071	5.002	1.5123	1.858	49.80709	5.002	1.8578	1.5123	26.278	1.623	1.33888	0.7091	21.71	1.349	0.929	0.6592	1.383	2.403
6 x 3.5	16	0.4405	13.46	27.351	3.1352	7.19	40.2738	4.1043	1.2229	1.552	40.27381	4.1043	1.5525	1.2229	21.68	1.362	1.13265	0.5928	17.711	1.07	0.708	0.5378	0.992	1.663
6 x 4	12	1.076	32.878	52.3	11.361	14.3	83.8475	8.2969	2.5459	3.027	83.84754	8.2969	3.0268	2.5459	49.931	3.332	2.28674	1.3102	41.962	3.106	1.988	1.2741	2.868	5.355
6 x 4	14	0.5797	17.712	34.98	5.2415	9.91	50.9665	5.2628	1.5475	2.025	50.96652	5.2628	2.0248	1.5475	32.282	2.243	1.57475	0.8711	26.536	1.859	1.098	0.8057	1.383	2.403
6 x 4	16	0.4405	12.114	29.258	3.1352	7.4	34.1885	4.2978	1.2432	1.69	34.18855	4.2978	1.69	1.2432	23.714	1.87	1.33232	0.7201	21.648	1.477	0.842	0.6573	0.992	1.663
7 x 2	12	0.9521	29.091	42.262	11.397	5.96	91.1724	8.4684	2.4196	2.42	91.17237	8.4684	2.4196	2.4196	17.87	0.661	1.11948	0.4689	15.149	0.619	0.948	0.46	2.825	5.318
7 x 2	14	0.5648	17.259	28.172	4.4866	4.23	60.2671	5.8044	1.6584	1.658	60.26713	5.8044	1.6584	1.6584	11.532	0.446	0.78881	0.3112	9.6576	0.369	0.496	0.2932	1.356	2.382
7 x 2	16	0.442	13.506	23.537	2.6536	3.6	45.5015	4.8581	1.3816	1.395	45.50147	4.8581	1.3945	1.3816	9.5144	0.375	0.67199	0.2602	7.8965	0.29	0.367	0.2398	0.971	1.647
*7 x 2.5	12	1.0537	32.196	45.608	11.397	8.05	101.729	9.6773	2.7649	2.765	101.729	9.6773	2.7649	2.7649	24.907	1.129	1.46195	0.6535	20.976	1.043	1.209	0.6369	2.825	5.318
*7 x 2.5	14	0.5564	17.002	30.441	4.4866	5.65	56.5904	6.2492	1.7183	1.858	56.59042	6.2492	1.8581	1.7183	16.066	0.761	1.02026	0.4335	13.302	0.618	0.637	0.4039	1.356	2.382
*7 x 2.5	16	0.4289	13.105	25.444	2.6536	4.8	46.2206	5.1617	1.4034	1.554	46.22057	5.1617	1.5538	1.4034	13.252	0.639	0.86625	0.3624	10.854	0.487	0.475	0.3296	0.971	1.647
7 x 3	12	1.0848	33.146	48.954	11.397	10.1	98.0233	10.619	2.9763	3.094	98.02331	10.619	3.0941	2.9763	32.793	1.752	1.8174	0.8605	27.455	1.6	1.48	0.8336	2.825	5.318
7 x 3	14	0.5691	17.389	32.711	4.4866	7.07	59.1176	6.7113	1.795	2.058	59.11764	6.7113	2.058	1.795	21.162	1.179	1.26058	0.5711	17.354	0.947	0.787	0.5269	1.356	2.382
7 x 3	16	0.4377	13.375	27.351	2.6536	5.99	48.1974	5.5355	1.4634	1.72	48.19743	5.5355	1.7204	1.4634	17.456	0.99	1.06802	0.4773	14.149	0.747	0.593	0.4296	0.971	1.647
7 x 3.5	12	1.0695	32.68	52.3	11.397	12.2	99.2186	11.143	3.0126	3.375	99.21859	11.143	3.3755	3.0126	41.496	2.544	2.18688	1.0888	34.559	2.302	1.763	1.0494	2.825	5.318
7 x 3.5	14	0.5795	17.706	34.98	4.4866	8.49	61.2792	7.1378	1.8607	2.256	61.27917	7.1378	2.2561	1.8607	26.801	1.712	1.51053	0.7232	21.806	1.364	0.947	0.6621	1.356	2.382
7 x 3.5	16	0.4428	13.531	29.258	2.6536	7.19	48.9255	5.8149	1.4856	1.884	48.92546	5.8149	1.8845	1.4856	22.109	1.436	1.27793	0.6046	17.771	1.078	0.718	0.5396	0.971	1.647



# Cee Sections: Effective Section Properties



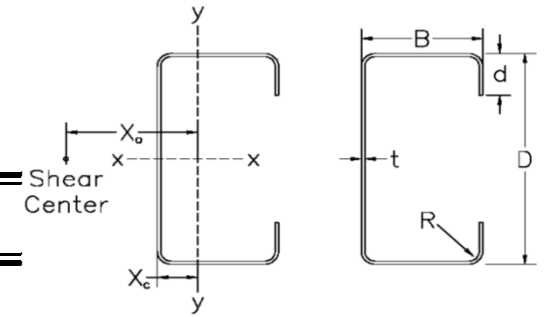
- 1. Section properties are calculated in accordance with the 2016 AISI North American Specification for the Design of Cold-Formed Steel Structural Members.
- 2. Material: A1011 HSLAS Grade 55 Class 1 Steel or A653 SS Grade 55 Steel
- 3. Strength Increase due to Cold Working has been applied where applicable

- 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
- \* Section meets geometric criteria listed in I6.2.1 of the 2016 Ed. AISI NAS for CFS Members

				Effective Section Properties																		Web Crippling		
Member	Ga.	Compression		Tension	Shear		Positive Moment (X Axis)				Negative Moment (X Axis)				Positive Moment (Y Axis)				Negative Moment (Y Axis)				End	Interior
		A <sub>e</sub> (in <sup>2</sup> )	P <sub>a</sub> (kip)	T <sub>a</sub> (kip)	V <sub>ay</sub> (kip)	V <sub>ax</sub> (kip)	M <sub>ax</sub> (kip-in)	I <sub>x</sub> (in <sup>4</sup> )	S <sub>e</sub> TOP (in <sup>3</sup> )	S <sub>e</sub> BOT (in <sup>3</sup> )	M <sub>ax</sub> (kip-in)	I <sub>x</sub> (in <sup>4</sup> )	S <sub>e</sub> TOP (in <sup>3</sup> )	S <sub>e</sub> BOT (in <sup>3</sup> )	M <sub>ay</sub> (kip-in)	I <sub>y</sub> (in <sup>4</sup> )	S <sub>e</sub> LEFT (in <sup>3</sup> )	S <sub>e</sub> RIGHT (in <sup>3</sup> )	M <sub>ay</sub> (kip-in)	I <sub>y</sub> (in <sup>4</sup> )	S <sub>e</sub> LEFT (in <sup>3</sup> )	S <sub>e</sub> RIGHT (in <sup>3</sup> )	P <sub>a</sub> (kip)	P <sub>a</sub> (kip)
7 x 4	12	1.0889	33.27	55.646	11.397	14.3	102.606	11.797	3.1155	3.671	102.6064	11.797	3.6709	3.1155	50.993	3.52	2.57112	1.338	42.273	3.163	2.06	1.2836	2.825	5.318
7 x 4	14	0.5836	17.832	37.249	4.4866	9.91	62.7046	7.4986	1.9039	2.449	62.70455	7.4986	2.4493	1.9039	32.964	2.368	1.77062	0.8895	26.651	1.877	1.117	0.8092	1.356	2.382
7 x 4	16	0.4428	12.177	31.164	2.6536	7.4	40.6099	6.0039	1.4767	2.046	40.60993	6.0039	2.0461	1.4767	23.996	1.961	1.49957	0.7286	21.72	1.488	0.853	0.6595	0.971	1.647
8 x 2	12	0.9615	29.378	45.608	11.397	5.96	110.253	11.704	2.9259	2.926	110.2526	11.704	2.9259	2.9259	18.079	0.688	1.25402	0.4744	15.221	0.629	0.986	0.4622	2.785	5.283
8 x 2	14	0.5677	17.347	30.441	3.8874	4.23	72.7082	8.003	2.0007	2.001	72.70824	8.003	2.0007	2.0007	11.663	0.464	0.88468	0.3147	9.6855	0.372	0.505	0.2941	1.332	2.363
8 x 2	16	0.4437	13.558	25.444	2.3002	3.6	54.8805	6.6949	1.6664	1.681	54.88055	6.6949	1.6811	1.6664	9.6219	0.39	0.75401	0.2631	7.9163	0.292	0.373	0.2404	0.952	1.632
*8 x 2.5	12	1.0631	32.483	48.954	11.397	8.05	122.228	13.288	3.3221	3.322	122.2278	13.288	3.3221	3.3221	25.24	1.178	1.63471	0.6623	21.086	1.059	1.253	0.6402	2.785	5.283
*8 x 2.5	14	0.5593	17.09	32.711	3.8874	5.65	68.0634	8.5715	2.0667	2.225	68.06335	8.5715	2.225	2.0667	16.277	0.793	1.14166	0.4392	13.341	0.623	0.647	0.4051	1.332	2.363
*8 x 2.5	16	0.4306	13.157	27.351	2.3002	4.8	54.4376	6.9987	1.6529	1.858	54.43766	6.9987	1.8585	1.6529	13.425	0.666	0.9696	0.3671	10.881	0.49	0.482	0.3304	0.952	1.632
8 x 3	12	1.0942	33.433	52.3	11.397	10.1	117.186	14.5	3.5582	3.694	117.1859	14.5	3.6943	3.5582	33.28	1.831	2.02753	0.8732	27.603	1.624	1.529	0.8381	2.785	5.283
8 x 3	14	0.572	17.477	34.98	3.8874	7.07	71.0156	9.178	2.1563	2.452	71.01559	9.178	2.4517	2.1563	21.473	1.231	1.40696	0.5795	17.407	0.954	0.799	0.5285	1.332	2.363
8 x 3	16	0.4394	13.427	29.258	2.3002	5.99	55.3722	7.3872	1.6813	2.048	55.3722	7.3872	2.0485	1.6813	17.711	1.033	1.19224	0.4843	14.182	0.751	0.599	0.4306	0.952	1.632
8 x 3.5	10	1.713	52.343	74.102	19.737	15.8	169.872	20.995	5.1579	5.343	169.8724	20.995	5.3429	5.1579	57.689	3.531	3.14483	1.4854	48.085	3.362	2.807	1.46	4.653	9.214
8 x 3.5	12	1.0789	32.967	55.646	11.397	12.2	118.57	15.179	3.6002	4.012	118.57	15.179	4.0116	3.6002	42.166	2.662	2.43373	1.1064	34.748	2.336	1.816	1.0551	2.785	5.283
8 x 3.5	14	0.5823	17.794	37.249	3.8874	8.49	73.5558	9.7398	2.2334	2.676	73.55576	9.7398	2.6765	2.2334	27.23	1.79	1.68149	0.7348	21.876	1.374	0.961	0.6642	1.332	2.363
8 x 4	16	0.4445	13.582	31.164	2.3002	7.19	55.8324	7.7157	1.6953	2.237	55.83239	7.7157	2.2373	1.6953	21.686	1.502	1.42271	0.6142	17.812	1.084	0.725	0.5408	0.952	1.632
8 x 4	12	1.0982	33.557	58.993	11.397	14.3	122.555	16.04	3.7212	4.348	122.5545	16.04	4.3475	3.7212	51.873	3.686	2.85419	1.3611	42.504	3.207	2.116	1.2906	2.785	5.283
8 x 2	14	0.5865	17.92	39.518	3.8874	9.91	74.6239	10.169	2.2659	2.896	74.62389	10.169	2.8957	2.2659	33.53	2.478	1.96586	0.9048	26.736	1.891	1.132	0.8118	1.332	2.363
9 x 2	12	0.9686	29.597	48.954	11.081	5.96	112.4	15.487	3.4129	3.471	112.4003	15.487	3.4706	3.4129	18.249	0.712	1.38667	0.4788	15.279	0.637	1.018	0.4639	2.747	5.251
9 x 2	14	0.5699	17.414	32.711	3.4294	4.23	71.0674	10.193	2.1579	2.383	71.06743	10.193	2.3834	2.1579	11.77	0.48	0.97958	0.3176	9.7086	0.375	0.513	0.2948	1.309	2.346
9 x 2	16	0.445	13.597	27.351	2.0299	3.6	56.8387	8.35	1.7258	2.006	56.8387	8.35	2.0064	1.7258	9.7094	0.403	0.83533	0.2655	7.9315	0.294	0.377	0.2408	0.934	1.619
*9 x 2.5	12	1.0702	32.701	52.3	11.081	8.05	143.988	17.611	3.9135	3.914	143.988	17.611	3.9135	3.9135	25.513	1.221	1.80576	0.6694	21.17	1.072	1.289	0.6428	2.747	5.251
*9 x 2.5	14	0.5615	17.157	34.98	3.4294	5.65	80.3093	11.355	2.4385	2.615	80.3093	11.355	2.6145	2.4385	16.451	0.821	1.26221	0.4439	13.374	0.627	0.656	0.4061	1.309	2.346
*9 x 2.5	16	0.4319	13.196	29.258	2.0299	4.8	60.8572	9.0022	1.8478	2.181	60.85721	9.0022	2.1806	1.8478	13.568	0.689	1.07233	0.371	10.902	0.492	0.486	0.331	0.934	1.619
*9 x 3	12	1.1013	33.651	55.646	11.081	10.1	137.485	19.125	4.1745	4.328	137.4848	19.125	4.3281	4.1745	33.683	1.9	2.2361	0.8838	27.716	1.643	1.568	0.8416	2.747	5.251
*9 x 3	14	0.5742	17.544	37.249	3.4294	7.07	82.6131	12.04	2.5084	2.867	82.61308	12.04	2.8666	2.5084	21.731	1.277	1.55258	0.5864	17.449	0.96	0.808	0.5298	1.309	2.346
9 x 3	16	0.4407	13.467	31.164	2.0299	5.99	62.0536	9.4926	1.8842	2.396	62.05362	9.4926	2.3959	1.8842	17.923	1.071	1.31591	0.4901	14.209	0.755	0.604	0.4314	0.934	1.619
9 x 3.5	12	1.0861	33.185	58.993	11.081	12.2	139.08	19.981	4.223	4.681	139.0801	19.981	4.6808	4.223	42.726	2.766	2.67916	1.1211	34.892	2.361	1.858	1.0595	2.747	5.251
9 x 3.5	14	0.5845	17.861	39.518	3.4294	8.49	83.6228	12.596	2.5391	3.118	83.62274	12.596	3.1182	2.5391	27.589	1.859	1.85176	0.7445	21.925	1.382	0.97	0.6657	1.309	2.346
9 x 4	12	1.1054	33.776	62.339	11.081	14.3	143.678	21.079	4.3626	5.057	143.6781	21.079	5.0568	4.3626	52.615	3.834	3.13596	1.3806	42.681	3.24	2.161	1.2959	2.747	5.251
9 x 4	14	0.5887	17.987	41.787	3.4294	9.91	83.7862	13.041	2.5441	3.366	83.7862	13.041	3.3661	2.5441	33.77	2.576	2.16047	0.9177	26.795	1.901	1.143	0.8136	1.309	2.346
10 x 2	12	0.9743	29.769	52.3	9.9053	5.96	128.091	19.843	3.8893	4.051	128.091	19.843	4.0512	3.8893	18.39	0.732	1.5175	0.4825	15.324	0.644	1.044	0.4653	2.712	5.221
10 x 2	14	0.5716	17.467	34.98	3.0679	4.23	80.1357	12.967	2.4332	2.776	80.13564	12.967	2.7763	2.4332	11.858	0.493	1.07355	0.32	9.7269	0.377	0.52	0.2953	1.288	2.329
10 x 2	16	0.446	13.629	29.258	1.8164	3.6	63.8761	10.593	1.9395	2.334	63.87612	10.593	2.3343	1.9395	9.782	0.414	0.91595	0.2675	7.9435	0.295	0.38	0.2412	0.917	1.606
10 x 2.5	10	1.5728	48.057	74.102	19.737	10.2	224.373	29.702	5.9404	5.94	224.3734	29.702	5.9404	5.9404	35.26	1.669	2.52231	0.9079	29.309	1.561	2.092	0.8899	4.549	9.12
*10 x 2.5	12	1.0759	32.874	55.646	9.9053	8.05	167.005	22.695	4.5391	4.539	167.0049	22.695	4.5391	4.5391	25.742	1.258	1.97512	0.6755	21.236	1.083	1.319	0.6448	2.712	5.221



## Cee Sections: Effective Section Properties



- Section properties are calculated in accordance with the 2016 AISI North American Specification for the Design of Cold-Formed Steel Structural Members.
  - Material: A1011 HSLAS Grade 55 Class 1 Steel or A653 SS Grade 55 Steel
  - Strength Increase due to Cold Working has been applied where applicable
  - Web Crippling values are based on a 4 inch bearing length, one flange fastened to support
  - Appropriate factors of safety have been applied for Allowable Stress Design (ASD)
  - Strength calculations based on a fully braced condition
  - Consult with an engineering professional before using the above design aids
- \* Section meets geometric criteria listed in I6.2.1 of the 2016 Ed. AISI NAS for CFS Members

Member	Ga.	Effective Section Properties																				Web Crippling		
		Compression		Tension	Shear		Positive Moment (X Axis)				Negative Moment (X Axis)				Positive Moment (Y Axis)				Negative Moment (Y Axis)				End	Interior
		A <sub>e</sub> (in <sup>2</sup> )	P <sub>a</sub> (kip)	T <sub>a</sub> (kip)	V <sub>ay</sub> (kip)	V <sub>ax</sub> (kip)	M <sub>ax</sub> (kip-in)	I <sub>x</sub> (in <sup>4</sup> )	S <sub>e</sub> TOP (in <sup>3</sup> )	S <sub>e</sub> BOT (in <sup>3</sup> )	M <sub>ax</sub> (kip-in)	I <sub>x</sub> (in <sup>4</sup> )	S <sub>e</sub> TOP (in <sup>3</sup> )	S <sub>e</sub> BOT (in <sup>3</sup> )	M <sub>ay</sub> (kip-in)	I <sub>y</sub> (in <sup>4</sup> )	S <sub>e</sub> LEFT (in <sup>3</sup> )	S <sub>e</sub> RIGHT (in <sup>3</sup> )	M <sub>ay</sub> (kip-in)	I <sub>y</sub> (in <sup>4</sup> )	S <sub>e</sub> LEFT (in <sup>3</sup> )	S <sub>e</sub> RIGHT (in <sup>3</sup> )	P <sub>a</sub> (kip)	P <sub>a</sub> (kip)
*10 x 2.5	14	0.5632	17.21	37.249	3.0679	5.65	89.5464	14.309	2.719	3.02	89.54633	14.309	3.0204	2.719	16.596	0.846	1.38192	0.4478	13.399	0.631	0.664	0.4069	1.288	2.329
10 x 2.5	16	0.4329	13.227	31.164	1.8164	4.8	67.2807	11.286	2.0429	2.522	67.28074	11.286	2.5217	2.0429	13.687	0.71	1.17444	0.3743	10.919	0.494	0.49	0.3315	0.917	1.606
*10 x 3	12	1.107	33.824	58.993	9.9053	10.1	158.916	24.545	4.8253	4.996	158.9157	24.545	4.9957	4.8253	34.024	1.962	2.44314	0.8928	27.805	1.658	1.6	0.8443	2.712	5.221
*10 x 3	14	0.5759	17.597	39.518	3.0679	7.07	91.1569	15.055	2.7679	3.301	91.15685	15.055	3.301	2.7679	21.949	1.317	1.69744	0.5923	17.483	0.965	0.816	0.5308	1.288	2.329
*10 x 3.5	10	1.7427	53.248	82.909	19.737	15.8	229.201	35.375	6.9594	7.194	229.2007	35.375	7.1944	6.9594	59.118	3.797	3.77469	1.5222	48.576	3.46	2.998	1.475	4.549	9.12
*10 x 3.5	12	1.0917	33.358	62.339	9.9053	12.2	160.741	25.598	4.8807	5.383	160.7407	25.598	5.3833	4.8807	43.201	2.859	2.92318	1.1336	35.006	2.382	1.892	1.0629	2.712	5.221
10 x 3.5	14	0.5863	17.914	41.787	3.0679	8.49	92.5213	15.746	2.8093	3.583	92.52133	15.746	3.5826	2.8093	27.894	1.92	2.02135	0.7527	21.967	1.388	0.979	0.667	1.288	2.329
10 x 4	12	1.111	33.948	65.685	9.9053	14.3	165.967	26.963	5.0394	5.799	165.9671	26.963	5.799	5.0394	53.247	3.967	3.41645	1.3972	42.82	3.267	2.197	1.3002	2.712	5.221
10 x 4	14	0.5904	18.04	44.056	3.0679	9.91	92.8887	16.296	2.8204	3.86	92.88863	16.296	3.8596	2.8204	32.917	2.664	2.35446	0.9286	26.846	1.909	1.152	0.8151	1.288	2.329
12 x 2.5	10	1.592	48.643	82.909	18.725	10.2	248.852	45.873	7.5561	7.737	248.8521	45.873	7.7372	7.5561	35.763	1.754	2.94326	0.9209	29.488	1.593	2.208	0.8954	4.456	9.035
*12 x 2.5	12	1.0842	33.128	62.339	8.1708	8.05	179.048	34.018	5.4365	5.924	179.048	34.018	5.9237	5.4365	26.103	1.321	2.30887	0.6849	21.327	1.097	1.361	0.6476	2.646	5.165
12 x 2.5	14	0.5658	17.289	41.787	2.5338	5.65	99.2235	20.525	3.0128	3.957	99.22344	20.525	3.9568	3.0128	16.826	0.886	1.61883	0.454	13.438	0.636	0.674	0.408	1.248	2.298
*12 x 3	12	1.1153	34.078	65.685	8.1708	10.1	205.161	37.975	6.2294	6.432	205.1612	37.975	6.4321	6.2294	34.565	2.065	2.85265	0.907	27.928	1.679	1.646	0.848	2.646	5.165
12 x 3	14	0.5784	17.675	44.056	2.5338	7.07	108.392	22.227	3.2912	4.237	108.3917	22.227	4.2366	3.2912	22.295	1.385	1.98491	0.6016	17.533	0.972	0.828	0.5324	1.248	2.298
*12 x 3.5	10	1.7618	53.834	91.715	18.725	15.8	294.486	54.482	8.9417	9.223	294.4863	54.482	9.2234	8.9417	60.169	4.009	4.39543	1.5493	48.898	3.526	3.135	1.4847	4.456	9.035
*12 x 3.5	12	1.1	33.612	69.031	8.1708	12.2	207.492	39.486	6.3002	6.888	207.4916	39.486	6.8881	6.3002	43.964	3.016	3.40706	1.1536	35.163	2.411	1.941	1.0677	2.646	5.165
12 x 3.5	14	0.5888	17.992	46.325	2.5338	8.49	110.385	23.219	3.3517	4.577	110.3846	23.219	4.5774	3.3517	28.383	2.024	2.35848	0.7659	22.029	1.398	0.991	0.6689	1.248	2.298
*12 x 4	12	1.1193	34.202	72.377	8.1708	14.3	214.011	41.473	6.4982	7.382	214.0113	41.473	7.3824	6.4982	54.271	4.193	3.97359	1.424	43.014	3.305	2.249	1.3061	2.646	5.165
14 x 2.5	10	1.6054	49.054	91.715	15.922	10.2	300.502	65.882	9.1243	9.718	300.502	65.882	9.7178	9.1243	36.144	1.821	3.35401	0.9306	29.614	1.615	2.296	0.8992	4.371	8.958
14 x 2.5	12	1.09	33.306	69.031	6.9533	8.05	213.718	48.474	6.4892	7.423	213.7175	48.474	7.4233	6.4892	26.376	1.37	2.63617	0.6921	21.394	1.108	1.394	0.6496	2.587	5.113
14 x 3	12	1.1211	34.256	72.377	6.9533	10.1	224.511	51.721	6.817	8.065	224.511	51.721	8.0653	6.817	34.977	2.148	3.25621	0.9178	28.019	1.695	1.682	0.8508	2.587	5.113
14 x 3.5	10	1.7753	54.245	100.52	15.922	15.8	365.702	78.853	11.104	11.43	365.7021	78.853	11.43	11.104	60.975	4.183	5.00724	1.57	49.124	3.574	3.237	1.4916	4.371	8.958
16 x 3.5	12	1.1897	36.351	83.888	6.0515	12.2	277.588	75.617	8.4286	10.76	277.588	75.617	10.759	8.4286	49.104	3.573	4.49523	1.3209	39.394	2.618	1.996	1.1962	2.531	5.065
16 x 3.5	10	1.9416	59.326	111.27	13.848	15.8	432.086	109.74	13.12	14.37	432.0864	109.74	14.372	13.12	66.89	4.738	5.78246	1.7675	54.676	3.859	3.283	1.6602	4.292	8.886
16 x 4	10	1.972	60.256	116.2	13.848	18.5	489.614	120.66	14.866	15.31	489.6139	120.66	15.306	14.866	83.712	6.703	6.79165	2.2246	68.17	5.346	3.773	2.0699	4.292	8.886
20 x 3.5	10	1.9553	59.745	128.88	10.987	15.8	556.108	182.59	16.885	19.88	556.1081	182.59	19.877	16.885	67.9	4.999	7.00438	1.7942	54.911	3.91	3.387	1.6673	4.149	8.755