

Section properties and allowable are computed in accordance with AISI North American Specification, 2007 edition



I<sub>X</sub> and I<sub>Y</sub> are for deflection determination

 $S_{\text{e}}$  and  $S_{\text{Y}}$  are for bending

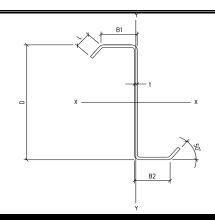
Material is either ASTM A653-06 Gr. 55 or A1011-04 HSLAS Gr. 55 Cl-1

Fy = 55 ksi

Fu = 70 ksi

	DI	MENSI	ONAL PRO	PERTIES	3		ALI	OWABLES	3		AXI	S X-X			AXIS Y-Y		
Section Name	D x B1 x B2 (in)	Gage	Thickness (in)	Weight (lb/ft)	Area (in²)	Lip (in)	Positive Ma (k-ft)	Negative Ma (k-ft)	Va (kips)	l <sub>X</sub> (in <sup>4</sup> )	Positive S <sub>xe</sub> (in <sup>3</sup> )	Negative S <sub>xe</sub> (in <sup>3</sup> )	R <sub>X</sub> (in)	l <sub>Y</sub> (in <sup>4</sup> )	S <sub>ye</sub> (in <sup>3</sup> )	R <sub>Y</sub> (in)	
3.5x1.5Z16	3.5 x 1.5 x 1.5	16	0.059	1.592	0.468	0.911	1.321	1.321	3.659	0.876	0.481	0.481	1.367	0.444	0.197	0.974	
3.5x1.5Z14	3.5 x 1.5 x 1.5	14	0.070	1.889	0.556	0.930	1.608	1.608	4.310	1.029	0.586	0.586	1.361	0.530	0.246	0.977	
3.5x1.5Z13	3.5 x 1.5 x 1.5	13	0.085	2.294	0.675	0.956	1.934	1.934	5.180	1.233	0.705	0.705	1.352	0.649	0.313	0.981	
3.5x1.5Z12	3.5 x 1.5 x 1.5	12	0.105	2.834	0.833	0.990	2.347	2.347	6.313	1.497	0.855	0.855	1.340	0.812	0.389	0.987	
4.0x3.5Z16	4.0 x 3.125 x 3.375	16	0.059	2.395	0.704	0.911	2.110	2.105	3.842	2.003	0.769	0.767	1.687	2.580	0.483	1.914	
4.0x3.5Z14	4.0 x 3.125 x 3.375	14	0.070	2.841	0.836	0.930	2.577	2.579	5.031	2.360	0.939	0.940	1.681	3.075	0.564	1.918	
4.0x3.5Z13	4.0 x 3.125 x 3.375	13	0.085	3.450	1.015	0.956	3.221	3.241	6.057	2.838	1.174	1.181	1.672	3.756	0.692	1.924	
4.0x3.5Z12	4.0 x 3.125 x 3.375	12	0.105	4.262	1.253	0.990	4.325	4.240	7.396	3.460	1.576	1.545	1.662	4.677	0.990	1.932	
4.0x3.0Z16	4.0 x 2.625 x 2.875	16	0.059	2.194	0.645	0.911	2.044	2.044	3.842	1.774	0.745	0.745	1.658	1.724	0.415	1.635	
4.0x3.0Z14	4.0 x 2.625 x 2.875	14	0.070	2.603	0.766	0.930	2.472	2.484	5.031	2.090	0.901	0.905	1.652	2.056	0.480	1.639	
4.0x3.0Z13	4.0 x 2.625 x 2.875	13	0.085	3.161	0.930	0.956	3.224	3.115	6.057	2.512	1.175	1.135	1.644	2.513	0.668	1.644	
4.0x3.0Z12	4.0 x 2.625 x 2.875	12	0.105	3.905	1.148	0.990	4.110	4.111	7.396	3.062	1.498	1.498	1.633	3.131	0.927	1.651	
4.0x2.5Z16	4.0 x 2.125 x 2.375	16	0.059	1.994	0.586	0.911	1.943	1.956	3.842	1.5447	0.70805	0.71267	1.6231	1.0797	0.34437	1.357	
4.0x2.5Z14	4.0 x 2.125 x 2.375	14	0.070	2.365	0.696	0.930	2.414	2.401	5.031	1.819	0.879	0.875	1.617	1.288	0.434	1.361	
4.0x2.5Z13	4.0 x 2.125 x 2.375	13	0.085	2.872	0.845	0.956	2.928	2.928	6.057	2.186	1.067	1.067	1.609	1.576	0.549	1.366	
4.0x2.5Z12	4.0 x 2.125 x 2.375	12	0.105	3.548	1.043	0.990	3.567	3.568	7.396	2.663	1.300	1.300	1.598	1.965	0.682	1.372	

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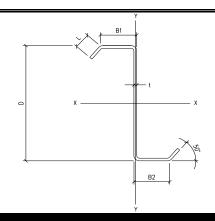
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	DI	MENSI	ONAL PRO	PERTIES	6		ALI	OWABLES	3		AXI	S X-X		AXIS Y-Y		
Section Name	D x B1 x B2 (in)	Gage	Thickness (in)	Weight (lb/ft)	Area (in²)	Lip (in)	Positive Ma (k-ft)	Negative Ma (k-ft)	Va (kips)	l <sub>X</sub> (in <sup>4</sup> )	Positive S <sub>xe</sub> (in <sup>3</sup> )	Negative S <sub>xe</sub> (in <sup>3</sup> )	R <sub>X</sub> (in)	l <sub>Y</sub> (in <sup>4</sup> )	S <sub>ye</sub> (in <sup>3</sup> )	R <sub>Y</sub> (in)
4.0x2.0Z16	4.0 x 2.0 x 2.0	16	0.059	1.994	0.586	1.161	1.801	1.801	3.842	1.473	0.656	0.656	1.585	1.027	0.311	1.324
4.0x2.0Z14	4.0 x 2.0 x 2.0	14	0.070	2.365	0.696	1.180	2.237	2.237	5.031	1.734	0.815	0.815	1.579	1.225	0.395	1.327
4.0x2.0Z13	4.0 x 2.0 x 2.0	13	0.085	2.872	0.845	1.206	2.831	2.831	6.057	2.081	1.032	1.032	1.570	1.498	0.510	1.332
4.0x2.0Z12	4.0 x 2.0 x 2.0	12	0.105	3.548	1.043	1.240	3.474	3.474	7.396	2.532	1.266	1.266	1.558	1.867	0.671	1.338
5.0x3.5Z16	5.0 x 3.125 x 3.375	16	0.059	2.595	0.763	0.911	2.816	2.805	3.842	3.306	1.026	1.022	2.081	2.581	0.486	1.839
5.0x3.5Z14	5.0 x 3.125 x 3.375	14	0.070	3.079	0.906	0.930	3.431	3.430	5.409	3.900	1.250	1.250	2.075	3.076	0.568	1.843
5.0x3.5Z13	5.0 x 3.125 x 3.375	13	0.085	3.739	1.100	0.956	4.286	4.306	7.810	4.701	1.562	1.569	2.068	3.757	0.695	1.848
5.0x3.5Z12	5.0 x 3.125 x 3.375	12	0.105	4.619	1.358	0.990	5.732	5.616	9.561	5.748	2.089	2.046	2.057	4.678	0.991	1.856
5.0x3.0Z16	5.0 x 2.625 x 2.875	16	0.059	2.395	0.704	0.911	2.732	2.727	3.842	2.945	0.995	0.994	2.045	1.725	0.416	1.565
5.0x3.0Z14	5.0 x 2.625 x 2.875	14	0.070	2.841	0.836	0.930	3.299	3.309	5.409	3.475	1.202	1.206	2.039	2.056	0.481	1.569
5.0x3.0Z13	5.0 x 2.625 x 2.875	13	0.085	3.450	1.015	0.956	4.294	4.143	7.810	4.187	1.565	1.510	2.031	2.513	0.668	1.574
5.0x3.0Z12	5.0 x 2.625 x 2.875	12	0.105	4.262	1.253	0.990	5.507	5.503	9.561	5.119	2.007	2.005	2.021	3.132	0.926	1.581
5.0x2.5Z16	5.0 x 2.125 x 2.375	16	0.059	2.194	0.645	0.911	2.608	2.617	3.842	2.585	0.950	0.954	2.001	1.080	0.344	1.294
5.0x2.5Z14	5.0 x 2.125 x 2.375	14	0.070	2.603	0.766	0.930	3.237	3.206	5.409	3.049	1.180	1.168	1.996	1.288	0.434	1.297
5.0x2.5Z13	5.0 x 2.125 x 2.375	13	0.085	3.161	0.930	0.956	3.944	3.944	7.810	3.674	1.437	1.437	1.988	1.576	0.548	1.302
5.0x2.5Z12	5.0 x 2.125 x 2.375	12	0.105	3.940	1.484	0.990	4.821	4.822	9.561	4.490	1.757	1.757	1.977	1.966	0.681	1.308

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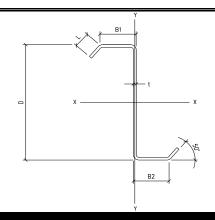
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Fy = 55 ksi

Fu = 70 ksi

	DI	MENSI	ONAL PRO	PERTIES	3		ALI	OWABLES	3		AXI	S X-X		AXIS Y-Y		
Section Name	D x B1 x B2 (in)	Gage	Thickness (in)	Weight (lb/ft)	Area (in²)	Lip (in)	Positive Ma (k-ft)	Negative Ma (k-ft)	Va (kips)	l <sub>X</sub> (in <sup>4</sup> )	Positive S <sub>xe</sub> (in <sup>3</sup> )	Negative S <sub>xe</sub> (in <sup>3</sup> )	R <sub>X</sub> (in)	l <sub>Y</sub> (in <sup>4</sup> )	S <sub>ye</sub> (in <sup>3</sup> )	R <sub>Y</sub> (in)
6.0x2.5Z16	6.0 x 2.125 x 2.375	16	0.059	2.395	0.704	0.911	3.330	3.333	3.319	3.948	1.213	1.215	2.368	1.080	0.344	1.239
6.0x2.5Z14	6.0 x 2.125 x 2.375	14	0.070	2.841	0.836	0.930	4.127	4.074	5.409	4.662	1.504	1.484	2.362	1.289	0.433	1.242
6.0x2.5Z13	6.0 x 2.125 x 2.375	13	0.085	3.450	1.015	0.956	5.042	5.042	7.975	5.626	1.837	1.837	2.355	1.577	0.547	1.246
6.0x2.5Z12	6.0 x 2.125 x 2.375	12	0.105	4.262	1.253	0.990	6.177	6.178	11.727	6.891	2.251	2.251	2.345	1.966	0.680	1.253
7.0x3.5Z16	7.0 x 3.125 x 3.375	16	0.059	2.997	0.881	0.911	4.399	4.380	2.809	7.085	1.603	1.596	2.835	2.582	0.491	1.712
7.0x3.5Z14	7.0 x 3.125 x 3.375	14	0.070	3.555	1.046	0.930	5.350	5.339	4.707	8.375	1.949	1.945	2.830	3.076	0.573	1.715
7.0x3.5Z13	7.0 x 3.125 x 3.375	13	0.085	4.317	1.270	0.956	6.671	6.686	7.975	10.118	2.431	2.436	2.823	3.758	0.701	1.720
7.0x3.5Z12	7.0 x 3.125 x 3.375	12	0.105	5.333	1.568	0.990	8.854	8.672	12.170	12.415	3.226	3.160	2.813	4.679	0.994	1.727
7.0x3.0Z16	7.0 x 2.625 x 2.875	16	0.059	2.796	0.822	0.911	4.280	4.263	2.809	6.374	1.560	1.553	2.784	1.725	0.418	1.448
7.0x3.0Z14	7.0 x 2.625 x 2.875	14	0.070	3.317	0.976	0.930	5.156	5.160	4.707	7.534	1.879	1.880	2.779	2.057	0.483	1.452
7.0x3.0Z13	7.0 x 2.625 x 2.875	13	0.085	4.028	1.185	0.956	6.679	6.443	7.975	9.102	2.434	2.348	2.772	2.514	0.668	1.457
7.0x3.0Z12	7.0 x 2.625 x 2.875	12	0.105	4.976	1.463	0.990	8.604	8.576	12.170	11.166	3.135	3.125	2.762	3.133	0.923	1.463
7.0x2.5Z16	7.0 x 2.125 x 2.375	16	0.059	2.595	0.763	0.911	4.107	4.105	2.809	5.663	1.496	1.496	2.724	1.081	0.344	1.190
7.0x2.5Z14	7.0 x 2.125 x 2.375	14	0.070	3.079	0.906	0.930	5.082	5.008	4.707	6.693	1.852	1.825	2.719	1.289	0.433	1.193
7.0x2.5Z13	7.0 x 2.125 x 2.375	13	0.085	3.739	1.100	0.956	6.221	6.222	7.975	8.085	2.267	2.267	2.712	1.577	0.546	1.198
7.0x2.5Z12	7.0 x 2.125 x 2.375	12	0.105	4.619	1.358	0.990	7.632	7.632	12.170	9.918	2.781	2.781	2.702	1.967	0.679	1.203



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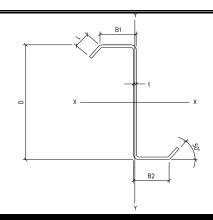
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	DI	MENSI	ONAL PRO	PERTIES	<b>)</b>		ALL	OWABLES	3	AXIS X-X					AXIS Y-Y		
Section Name	D x B1 x B2 (in)	Gage	Thickness (in)	Weight (lb/ft)	Area (in²)	Lip (in)	Positive Ma (k-ft)	Negative Ma (k-ft)	Va (kips)	l <sub>X</sub> (in <sup>4</sup> )	Positive S <sub>xe</sub> (in <sup>3</sup> )	Negative $S_{xe}$ (in <sup>3</sup> )	R <sub>X</sub> (in)	l <sub>Y</sub> (in <sup>4</sup> )	S <sub>ye</sub> (in <sup>3</sup> )	R <sub>Y</sub> (in)	
8.0x3.5Z16	8.0 x 3.125 x 3.375	16	0.059	3.197	0.940	0.911	5.016	5.049	2.435	9.620	1.828	1.840	3.199	2.581	0.493	1.657	
8.0x3.5Z14	8.0 x 3.125 x 3.375	14	0.070	3.793	1.116	0.930	6.412	6.394	4.078	11.378	2.336	2.330	3.194	3.076	0.575	1.661	
8.0x3.5Z13	8.0 x 3.125 x 3.375	13	0.085	4.606	1.355	0.956	7.987	7.999	7.330	13.758	2.910	2.915	3.187	3.759	0.703	1.666	
8.0x3.5Z12	8.0 x 3.125 x 3.375	12	0.105	5.690	1.673	0.990	10.565	10.350	12.170	16.898	3.850	3.771	3.178	4.680	0.995	1.672	
8.0x3.0Z16	8.0 x 2.625 x 2.875	16	0.059	2.997	0.881	0.911	4.985	5.041	2.435	8.690	1.816	1.837	3.140	1.725	0.418	1.399	
8.0x3.0Z14	8.0 x 2.625 x 2.875	14	0.070	3.555	1.046	0.930	6.186	6.184	4.078	10.278	2.254	2.253	3.135	2.057	0.484	1.403	
8.0x3.0Z13	8.0 x 2.625 x 2.875	13	0.085	4.317	1.270	0.956	7.992	7.713	7.330	12.426	2.912	2.810	3.128	2.514	0.667	1.407	
8.0x3.0Z12	8.0 x 2.625 x 2.875	12	0.105	5.333	1.568	0.990	10.301	10.350	12.170	15.261	3.753	3.771	3.119	3.133	0.922	1.413	
8.0x2.5Z16	8.0 x 2.125 x 2.375	16	0.059	2.796	0.822	0.911	4.909	4.932	2.435	7.759	1.789	1.797	3.072	1.081	0.344	1.146	
8.0x2.5Z14	8.0 x 2.125 x 2.375	14	0.070	3.317	0.976	0.930	6.103	6.006	4.078	9.177	2.224	2.189	3.067	1.289	0.432	1.150	
8.0x2.5Z13	8.0 x 2.125 x 2.375	13	0.085	4.028	1.185	0.956	7.480	7.479	7.330	11.095	2.725	2.725	3.060	1.577	0.546	1.154	
8.0x2.5Z12	8.0 x 2.125 x 2.375	12	0.105	4.976	1.463	0.990	9.185	9.186	12.170	13.624	3.347	3.347	3.051	1.967	0.678	1.160	
9.0x3.5Z16	9.0 x 3.125 x 3.375	16	0.059	3.398	0.999	0.911	5.630	5.659	2.148	12.625	2.051	2.062	3.555	2.581	0.494	1.607	
9.0x3.5Z14	9.0 x 3.125 x 3.375	14	0.070	4.031	1.186	0.930	7.353	7.440	3.597	14.939	2.679	2.711	3.550	3.077	0.577	1.611	
9.0x3.5Z13	9.0 x 3.125 x 3.375	13	0.085	4.895	1.440	0.956	9.385	9.392	6.463	18.075	3.419	3.422	3.543	3.759	0.705	1.616	
9.0x3.5Z12	9.0 x 3.125 x 3.375	12	0.105	6.047	1.778	0.990	12.376	12.127	12.170	22.217	4.509	4.419	3.535	4.680	0.996	1.622	

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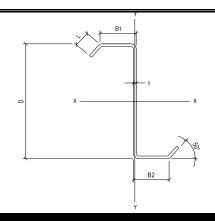
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Section Name	D x B1 x B2 (in)	Gage	Thickness (in)	Weight (lb/ft)	Area (in²)	Lip (in)	Positive Ma (k-ft)	Negative Ma (k-ft)	Va (kips)	l <sub>X</sub> (in <sup>4</sup> )	Positive $S_{xe}$ (in <sup>3</sup> )	Negative S <sub>xe</sub> (in <sup>3</sup> )	R <sub>X</sub> (in)	l <sub>Y</sub> (in <sup>4</sup> )	S <sub>ye</sub> (in <sup>3</sup> )	R <sub>Y</sub> (in)
9.0x3.0Z16	9.0 x 2.625 x 2.875	16	0.059	3.197	0.940	0.911	5.584	5.634	2.148	11.446	2.035	2.053	3.489	1.726	0.419	1.355
9.0x3.0Z14	9.0 x 2.625 x 2.875	14	0.070	3.793	1.116	0.930	7.257	7.275	3.597	13.544	2.644	2.651	3.484	2.057	0.485	1.358
9.0x3.0Z13	9.0 x 2.625 x 2.875	13	0.085	4.606	1.355	0.956	9.385	9.063	6.463	16.386	3.420	3.302	3.478	2.515	0.667	1.363
9.0x3.0Z12	9.0 x 2.625 x 2.875	12	0.105	5.690	1.673	0.990	12.096	12.037	12.170	20.140	4.407	4.386	3.469	3.134	0.921	1.369
9.0x2.5Z16	9.0 x 2.125 x 2.375	16	0.059	2.997	0.881	0.911	5.077	5.575	2.148	10.267	1.850	2.031	3.413	1.081	0.344	1.108
9.0x2.5Z14	9.0 x 2.125 x 2.375	14	0.070	3.555	1.046	0.930	6.563	7.070	3.597	12.148	2.391	2.576	3.409	1.290	0.432	1.111
9.0x2.5Z13	9.0 x 2.125 x 2.375	13	0.085	4.317	1.270	0.956	8.388	8.817	6.463	14.696	3.056	3.213	3.402	1.577	0.545	1.115
9.0x2 5Z12	9.0 x 2.125 x 2.375	12	0.105	5.333	1.568	0.990	10.701	10.837	12.170	18.062	3.899	3.949	3.394	1.968	0.677	1.120
10.0x3.5Z16	10.0 x 3.125 x 3.375	16	0.059	3.598	1.058	0.911	6.245	6.270	1.922	16.130	2.275	2.284	3.904	2.582	0.496	1.562
10.0x3.5Z14	10.0 x 3.125 x 3.375	14	0.070	4.269	1.256	0.930	8.132	8.215	3.218	19.094	2.963	2.993	3.900	3.077	0.578	1.565
10.0x3.5Z13	10.0 x 3.125 x 3.375	13	0.085	5.184	1.525	0.956	10.863	10.866	5.780	23.113	3.958	3.959	3.893	3.759	0.707	1.570
10.0x3.5Z12	10.0 x 3.125 x 3.375	12	0.105	6.404	1.883	0.990	14.286	14.002	10.941	28.426	5.205	5.102	3.885	4.681	0.997	1.576
10.0x3.0Z16	10.0 x 2.625 x 2.875	16	0.059	3.398	0.999	0.911	6.184	6.230	1.922	14.673	2.253	2.270	3.832	1.726	0.420	1.314
10.0x3.0Z14	10.0 x 2.625 x 2.875	14	0.070	4.031	1.186	0.930	8.007	8.134	3.218	17.368	2.917	2.964	3.827	2.058	0.485	1.317
10.0x3.0Z13	10.0 x 2.625 x 2.875	13	0.085	4.895	1.440	0.956	10.858	10.492	5.780	21.022	3.956	3.823	3.821	2.515	0.667	1.322
10.0x3.0Z12	10.0 x 2.625 x 2.875	12	0.105	6.047	1.778	0.990	13.988	10.517	10.941	25.856	5.097	3.832	3.813	3.134	0.920	1.328
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Section properties and allowable are computed in accordance with AISI North American Specification, 2007 edition



I<sub>X</sub> and I<sub>Y</sub> are for deflection determination

 $S_{\text{e}}$  and  $S_{\text{Y}}$  are for bending

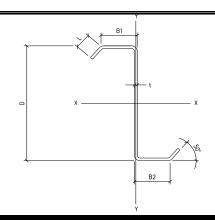
Material is either ASTM A653-06 Gr. 55 or A1011-04 HSLAS Gr. 55 Cl-1

Fy = 55 ksi

Fu = 70 ksi

	DI	MENSI	ONAL PRO	PERTIES	6		ALI	OWABLES	S		AXI	AXIS Y-Y				
Section Name	D x B1 x B2 (in)	Gage	Thickness (in)	Weight (lb/ft)	Area (in²)	Lip (in)	Positive Ma (k-ft)	Negative Ma (k-ft)	Va (kips)	l <sub>X</sub> (in <sup>4</sup> )	Positive S <sub>xe</sub> (in <sup>3</sup> )	Negative S <sub>xe</sub> (in <sup>3</sup> )	R <sub>X</sub> (in)	l <sub>Y</sub> (in <sup>4</sup> )	S <sub>ye</sub> (in <sup>3</sup> )	R <sub>Y</sub> (in)
10.0x2.5Z16	10.0 x 2.125 x 2.375	16	0.059	3.197	0.940	0.911	5.695	5.732	1.922	13.215	2.075	2.089	3.749	1.081	0.344	1.072
10.0x2.5Z14	10.0 x 2.125 x 2.375	14	0.070	3.793	1.116	0.930	7.384	7.286	3.218	15.642	2.690	2.655	3.745	1.290	0.431	1.075
10.0x2.5Z13	10.0 x 2.125 x 2.375	13	0.085	4.606	1.355	0.956	9.483	9.913	5.780	18.933	3.455	3.612	3.738	1.578	0.544	1.079
10.0x2.5Z12	10.0 x 2.125 x 2.375	12	0.105	5.690	1.673	0.990	12.170	12.612	10.941	23.285	4.434	4.595	3.730	1.968	0.676	1.085
11.0x3.5Z16	11.0 x 3.125 x 3.375	16	0.059	3.799	1.117	0.911	6.860	6.882	1.739	20.165	2.500	2.508	4.248	2.582	0.496	1.520
11.0x3.5Z14	11.0 x 3.125 x 3.375	14	0.070	4.507	1.326	0.930	8.913	8.992	2.911	23.876	3.247	3.276	4.244	3.077	0.580	1.524
11.0x3.5Z13	11.0 x 3.125 x 3.375	13	0.085	5.473	1.610	0.956	12.184	12.390	5.227	28.911	4.439	4.514	4.238	3.760	0.708	1.528
11.0x3.5Z12	11.0 x 3.125 x 3.375	12	0.105	6.761	1.988	0.990	16.294	15.975	9.891	35.577	5.937	5.821	4.230	4.681	0.997	1.534
11.0x2.5Z16	11.0 x 2.125 x 2.375	16	0.059	3.398	0.999	0.911	6.313	6.353	1.739	16.634	2.300	2.315	4.080	1.081	0.344	1.040
11.0x2.5Z14	11.0 x 2.125 x 2.375	14	0.070	4.031	1.186	0.930	8.203	8.092	2.911	19.694	2.989	2.948	4.076	1.290	0.431	1.043
11.0x2.5Z13	11.0 x 2.125 x 2.375	13	0.085	4.895	1.440	0.956	10.577	11.058	5.227	23.846	3.854	4.029	4.070	1.578	0.544	1.047
11.0x2.5Z12	11.0 x 2.125 x 2.375	12	0.105	6.047	1.778	0.990	13.642	14.203	9.891	29.344	4.971	5.175	4.062	1.968	0.676	1.052
12.0x3.5Z16	12.0 x 3.125 x 3.375	16	0.059	3.999	1.176	0.911	7.528	7.496	1.588	24.758	2.743	2.7313	4.588	2.582	0.497	1.482
12.0x3.5Z14	12.0 x 3.125 x 3.375	14	0.070	4.745	1.396	0.930	9.695	9.771	2.658	29.320	3.532	3.560	4.583	3.077	0.581	1.485
12.0x3.5Z13	12.0 x 3.125 x 3.375	13	0.085	5.762	1.695	0.956	13.207	13.408	4.771	35.515	4.812	4.885	4.578	3.760	0.710	1.490
12.0x3.5Z12	12.0 x 3.125 x 3.375	12	0.105	7.118	2.093	0.990	18.401	18.046	9.024	43.721	6.705	6.575	4.570	4.681	0.998	1.495

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Section properties and allowable are computed in accordance with AISI North American Specification, 2007 edition



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I<sub>X</sub> and I<sub>Y</sub> are for deflection determination

 $S_{\text{e}}$  and  $S_{\text{Y}}$  are for bending

Material is either ASTM A653-06 Gr. 55 or A1011-04 HSLAS Gr. 55 Cl-1

Fy = 55 ksi

Fu = 70 ksi

	DI	MENSI	ONAL PRO	OPERTIES !	3		ALI	OWABLES	3		AXI	S X-X		AXIS Y-Y		
Section Name	D x B1 x B2 (in)	Gage	Thickness (in)	Weight (lb/ft)	Area (in²)	Lip (in)	Positive Ma (k-ft)	Negative Ma (k-ft)	Va (kips)	l <sub>X</sub> (in <sup>4</sup> )	Positive S <sub>xe</sub> (in <sup>3</sup> )	Negative S <sub>xe</sub> (in <sup>3</sup> )	R <sub>x</sub> (in)	l <sub>Y</sub> (in <sup>4</sup> )	S <sub>ye</sub> (in <sup>3</sup> )	R <sub>Y</sub> (in)
12.0x3.0Z16	12.0 x 2.625 x 2.875	16	0.059	3.799	1.117	0.911	7.124	7.140	1.588	22.656	2.596	2.602	4.503	1.726	0.420	1.243
12.0x3.0Z14	12.0 x 2.625 x 2.875	14	0.070	4.507	1.326	0.930	8.976	9.037	2.658	26.830	3.270	3.293	4.499	2.058	0.486	1.246
12.0x3.0Z13	12.0 x 2.625 x 2.875	13	0.085	5.473	1.610	0.956	12.297	11.877	4.771	32.497	4.481	4.327	4.493	2.516	0.667	1.250
12.0x3.0Z12	12.0 x 2.625 x 2.875	12	0.105	6.761	1.988	0.990	16.791	16.813	9.024	40.007	6.118	6.126	4.486	3.135	0.919	1.256
12.0x2.5Z16	12.0 x 2.125 x 2.375	16	0.059	3.598	1.058	0.911	6.930	6.973	1.588	20.552	2.525	2.541	4.407	1.081	0.343	1.011
12.0x2.5Z14	12.0 x 2.125 x 2.375	14	0.070	4.269	1.256	0.930	9.021	8.896	2.658	24.339	3.287	3.241	4.403	1.290	0.431	1.014
12.0x2.5Z13	12.0 x 2.125 x 2.375	13	0.085	5.184	1.525	0.956	11.671	12.204	4.771	29.480	4.252	4.447	4.397	1.578	0.544	1.017
12.0x2.5Z12	12.0 x 2.125 x 2.375	12	0.105	6.404	1.883	0.990	15.113	15.738	9.024	36.292	5.507	5.734	4.390	1.969	0.675	1.022
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