

NOTES:

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

I_x and I_y are for deflection determination

S_x and S_y are for bending

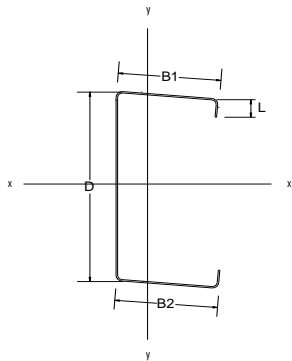
Material is either ASTM A653-06 Gr. 55 or A1011-04 HSLAS Gr. 55 CI-1

$F_y = 55$ ksi

$F_u = 70$ ksi



Section Name	DIMENSIONAL PROPERTIES						ALLOWABLES			AXIS X-X				AXIS Y-Y		
	D x B1 x B2 x Slope (in)	Gage	Thickness (in)	Weight (lb/ft)	Area (in ²)	Lip (in)	Positive Ma (k-ft)	Negative Ma (k-ft)	Va (kips)	I_x (in ⁴)	Positive S_{xe} (in ³)	Negative S_{xe} (in ³)	R_x (in)	I_y (in ⁴)	S_{ye} (in ³)	R_y (in)
6DSE16	6.0 x 4.0 x 4.0 x 1	16	0.059	2.997	0.881	0.775	3.489	3.204	3.349	5.544	1.271	1.167	2.508	1.899	0.650	1.468
6DSE14	6.0 x 4.0 x 4.0 x 1	14	0.070	3.555	1.046	0.802	4.316	3.974	5.456	6.546	1.573	1.448	2.502	2.253	0.792	1.468
6DSE13	6.0 x 4.0 x 4.0 x 1	13	0.085	4.317	1.270	0.838	5.507	5.100	8.045	7.896	2.007	1.858	2.494	2.735	0.991	1.468
6DSE12	6.0 x 4.0 x 4.0 x 1	12	0.105	5.333	1.568	0.887	7.165	6.698	11.824	9.666	2.611	2.441	2.483	3.377	1.262	1.468
6DSE16	6.0 x 4.0 x 4.0 x 4	16	0.059	2.997	0.881	0.800	3.470	2.676	3.376	5.701	1.264	0.975	2.543	1.734	0.580	1.403
6DSE14	6.0 x 4.0 x 4.0 x 4	14	0.070	3.555	1.046	0.828	4.444	3.318	6.097	6.731	1.619	1.209	2.537	2.058	0.706	1.403
6DSE13	6.0 x 4.0 x 4.0 x 4	13	0.085	4.317	1.270	0.866	5.607	4.274	8.986	8.119	2.043	1.557	2.529	2.499	0.883	1.403
6DSE12	6.0 x 4.0 x 4.0 x 4	12	0.105	5.333	1.568	0.916	7.190	5.652	13.131	9.939	2.620	2.059	2.517	3.087	1.122	1.403
6DSE14	6.0 x 2.75 x 5.0 x 1	14	0.070	3.555	1.046	0.927	4.540	4.005	5.454	6.492	1.654	1.459	2.492	2.764	0.728	1.626
6DSE12	6.0 x 2.75 x 5.0 x 1	12	0.105	5.333	1.568	1.012	7.396	6.765	11.821	9.578	2.695	2.465	2.471	4.146	1.156	1.626
6DSE14	6.0 x 2.75 x 5.0 x 4	14	0.070	3.555	1.046	0.953	4.783	3.382	6.072	7.357	1.743	1.232	2.653	2.560	0.668	1.565
6DSE12	6.0 x 2.75 x 5.0 x 4	12	0.105	5.333	1.568	1.041	7.728	5.701	13.076	10.859	2.816	2.077	2.631	3.857	1.060	1.568
6DSE14	6.0 x 5.0 x 5.0 x 1	14	0.070	4.031	1.186	0.802	4.463	3.979	5.47	7.788	1.626	1.450	2.563	3.893	1.121	1.812
6DSE12	6.0 x 5.0 x 5.0 x 1	12	0.105	6.047	1.778	0.887	7.538	6.822	11.854	11.506	2.747	2.486	2.544	5.840	1.789	1.812
6DSE14	6.0 x 5.0 x 5.0 x 4	14	0.070	4.031	1.186	0.828	4.612	3.164	6.295	8.119	1.681	1.153	2.617	3.549	1.011	1.730
6DSE12	6.0 x 5.0 x 5.0 x 4	12	0.105	6.047	1.778	0.916	7.793	5.485	13.564	11.999	2.840	1.999	2.598	5.326	1.609	1.731



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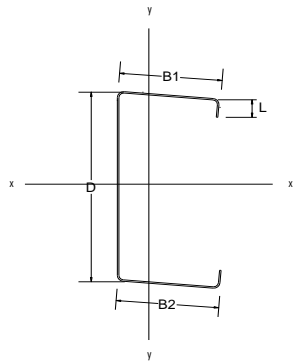
Material is either ASTM A653-06 Gr. 55 or A1011-04 HSLAS Gr. 55 CI-1

$F_y = 55$ ksi

$F_u = 70$ ksi



Section Name	DIMENSIONAL PROPERTIES						ALLOWABLES			AXIS X-X				AXIS Y-Y		
	D x B1 x B2 x Slope (in)	Gage	Thickness (in)	Weight (lb/ft)	Area (in ²)	Lip (in)	Positive Ma (k-ft)	Negative Ma (k-ft)	Va (kips)	I_x (in ⁴)	Positive S_{xe} (in ³)	Negative S_{xe} (in ³)	R_x (in)	I_y (in ⁴)	S_{ye} (in ³)	R_y (in)
7DSE16	7.0 x 4.0 x 4.0 x 1	16	0.059	3.197	0.940	0.775	4.116	3.981	2.830	7.834	1.500	1.450	2.886	2.004	0.652	1.460
7DSE14	7.0 x 4.0 x 4.0 x 1	14	0.070	3.793	1.116	0.802	5.317	4.933	4.743	9.257	1.938	1.798	2.881	2.379	0.796	1.460
7DSE13	7.0 x 4.0 x 4.0 x 1	13	0.085	4.606	1.355	0.838	6.771	6.311	8.034	11.178	2.467	2.300	2.873	2.889	0.997	1.460
7DSE12	7.0 x 4.0 x 4.0 x 1	12	0.105	5.690	1.673	0.887	8.791	8.263	12.259	13.704	3.203	3.011	2.862	3.568	1.273	1.460
7DSE16	7.0 x 4.0 x 4.0 x 4	16	0.059	3.197	0.940	0.800	4.098	3.379	3.124	7.999	1.493	1.231	2.917	1.831	0.582	1.396
7DSE14	7.0 x 4.0 x 4.0 x 4	14	0.070	3.793	1.116	0.828	5.410	4.181	5.235	9.451	1.971	1.523	2.911	2.174	0.710	1.396
7DSE13	7.0 x 4.0 x 4.0 x 4	13	0.085	4.606	1.355	0.866	6.893	5.367	8.829	11.413	2.512	1.956	2.903	2.640	0.890	1.396
7DSE12	7.0 x 4.0 x 4.0 x 4	12	0.105	5.690	1.673	0.916	8.839	7.070	13.466	13.992	3.221	2.576	2.892	3.263	1.133	1.396
7DSE14	7.0 x 2.75 x 5.0 x 1	14	0.070	3.793	1.116	0.927	5.519	4.956	4.741	9.178	2.011	1.806	2.868	2.902	0.732	1.613
7DSE12	7.0 x 2.75 x 5.0 x 1	12	0.105	5.690	1.673	1.012	9.109	8.324	12.256	13.576	3.319	3.033	2.848	4.357	1.168	1.614
7DSE14	7.0 x 2.75 x 5.0 x 4	14	0.070	3.793	1.116	0.953	5.642	4.229	5.217	10.186	2.056	1.541	3.026	2.689	0.672	1.552
7DSE12	7.0 x 2.75 x 5.0 x 4	12	0.105	5.690	1.673	1.041	9.458	7.101	13.418	15.072	3.446	2.588	3.001	4.052	1.073	1.556
7DSE14	7.0 x 5.0 x 5.0 x 1	14	0.070	4.269	1.256	0.802	5.419	4.957	4.753	10.949	1.975	1.806	2.953	4.111	1.126	1.810
7DSE12	7.0 x 5.0 x 5.0 x 1	12	0.105	6.404	1.883	0.887	9.239	8.439	12.285	16.217	3.367	3.075	2.934	6.172	1.803	1.810
7DSE14	7.0 x 5.0 x 5.0 x 4	14	0.070	4.269	1.256	0.828	5.448	4.012	5.381	11.298	1.985	1.462	3.000	3.750	1.016	1.728
7DSE12	7.0 x 5.0 x 5.0 x 4	12	0.105	6.404	1.883	0.916	9.529	6.902	13.847	16.736	3.472	2.515	2.981	5.633	1.624	1.729



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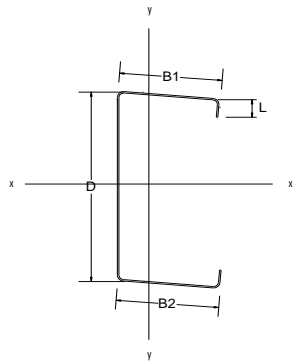
Material is either ASTM A653-06 Gr. 55 or A1011-04 HSLAS Gr. 55 CI-1

$F_y = 55$ ksi

$F_u = 70$ ksi



Section Name	DIMENSIONAL PROPERTIES						ALLOWABLES			AXIS X-X				AXIS Y-Y		
	D x B1 x B2 x Slope (in)	Gage	Thickness (in)	Weight (lb/ft)	Area (in ²)	Lip (in)	Positive Ma (k-ft)	Negative Ma (k-ft)	Va (kips)	I_x (in ⁴)	Positive S_{xe} (in ³)	Negative S_{xe} (in ³)	R_x (in)	I_y (in ⁴)	S_{ye} (in ³)	R_y (in)
8DSE16	8.0 x 3.375 x 5.0 x 1	16	0.059	3.598	1.058	1.087	5.387	5.481	2.452	11.375	1.963	1.997	3.279	2.925	0.702	1.663
8DSE14	8.0 x 3.375 x 5.0 x 1	14	0.070	4.269	1.256	1.114	7.147	6.697	4.106	13.444	2.604	2.440	3.272	3.470	0.859	1.662
8DSE13	8.0 x 3.375 x 5.0 x 1	13	0.085	5.184	1.525	1.151	9.106	8.434	7.382	16.239	3.318	3.073	3.264	4.212	1.079	1.662
8DSE12	8.0 x 3.375 x 5.0 x 1	12	0.105	6.404	1.883	1.199	11.907	10.869	12.251	19.915	4.339	3.960	3.216	5.199	1.379	1.662
8DSE16	8.0 x 3.375 x 5.0 x 4	16	0.059	3.598	1.058	1.112	5.328	4.892	2.684	12.230	1.942	1.783	3.400	2.700	0.634	1.597
8DSE14	8.0 x 3.375 x 5.0 x 4	14	0.070	4.269	1.256	1.140	7.067	5.908	4.495	14.455	2.575	2.153	3.393	3.206	0.776	1.598
8DSE13	8.0 x 3.375 x 5.0 x 4	13	0.085	5.184	1.525	1.178	9.396	7.386	8.079	17.461	3.424	2.691	3.384	3.897	0.974	1.599
8DSE12	8.0 x 3.375 x 5.0 x 4	12	0.105	6.404	1.883	1.229	12.334	9.477	13.352	21.418	4.494	3.453	3.372	4.820	1.245	1.600
8DSE16	8.0 x 4.0 x 4.0 x 1	16	0.070	3.398	0.999	0.775	4.720	4.571	2.451	10.594	1.720	1.666	3.256	2.097	0.654	1.449
8DSE14	8.0 x 4.0 x 4.0 x 1	14	0.105	4.031	1.186	0.802	6.287	5.963	4.105	12.526	2.291	2.173	3.250	2.489	0.798	1.449
8DSE13	8.0 x 4.0 x 4.0 x 1	13	0.070	4.895	1.440	0.838	8.115	7.608	7.379	15.138	2.957	2.772	3.243	3.024	1.002	1.449
8DSE12	8.0 x 4.0 x 4.0 x 1	12	0.105	6.047	1.778	0.887	10.518	9.932	12.247	18.579	3.832	3.619	3.232	3.737	1.281	1.450
8DSE16	8.0 x 4.0 x 4.0 x 4	16	0.070	3.398	0.999	0.800	4.720	4.146	2.671	10.765	1.720	1.511	3.282	1.917	0.584	1.385
8DSE14	8.0 x 4.0 x 4.0 x 4	14	0.105	4.031	1.186	0.828	6.236	5.119	4.474	12.728	2.272	1.865	3.277	2.276	0.713	1.385
8DSE13	8.0 x 4.0 x 4.0 x 4	13	0.070	4.895	1.440	0.866	8.261	6.554	8.041	15.382	3.010	2.388	3.269	2.765	0.895	1.386
8DSE12	8.0 x 4.0 x 4.0 x 4	12	0.105	6.047	1.778	0.916	10.591	8.601	13.290	18.879	3.859	3.134	3.258	3.418	1.142	1.386



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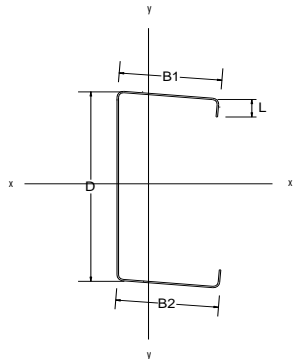
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$F_y = 55$ ksi

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Section Name	DIMENSIONAL PROPERTIES						ALLOWABLES			AXIS X-X				AXIS Y-Y		
	D x B1 x B2 x Slope (in)	Gage	Thickness (in)	Weight (lb/ft)	Area (in ²)	Lip (in)	Positive Ma (k-ft)	Negative Ma (k-ft)	Va (kips)	I_x (in ⁴)	Positive S_{xe} (in ³)	Negative S_{xe} (in ³)	R_x (in)	I_y (in ⁴)	S_{ye} (in ³)	R_y (in)
8DSE14	8.0 x 2.75 x 5.0 x 1	14	0.059	4.031	1.186	0.927	6.348	5.975	4.104	12.418	2.313	2.177	3.236	3.025	0.735	1.597
8DSE12	8.0 x 2.75 x 5.0 x 1	12	0.070	6.047	1.778	1.012	10.930	9.985	12.244	18.408	3.982	3.638	3.217	4.543	1.177	1.598
8DSE14	8.0 x 2.75 x 5.0 x 4	14	0.085	4.031	1.186	0.953	6.491	5.149	4.460	13.572	2.365	1.876	3.383	2.802	0.676	1.537
8DSE12	8.0 x 2.75 x 5.0 x 4	12	0.105	6.047	1.778	1.041	11.296	8.610	13.249	20.122	4.116	3.137	3.364	4.224	1.082	1.541
8DSE14	8.0 x 5.0 x 5.0 x 1	14	0.059	4.507	1.326	0.802	6.230	5.947	4.112	14.739	2.270	2.167	3.334	4.307	1.130	1.803
8DSE12	8.0 x 5.0 x 5.0 x 1	12	0.070	6.760	1.988	0.887	11.047	10.166	12.269	21.870	4.025	3.704	3.316	6.470	1.814	1.804
8DSE14	8.0 x 5.0 x 5.0 x 4	14	0.085	4.507	1.326	0.828	6.276	4.940	4.584	15.103	2.287	1.800	3.375	3.930	1.020	1.722
8DSE12	8.0 x 5.0 x 5.0 x 4	12	0.105	6.760	1.988	0.916	11.373	8.442	13.620	22.412	4.144	3.076	3.357	5.907	1.635	1.724
10DSE14	10.0 x 4.0 x 4.0 x 1	14	0.070	4.507	1.326	0.802	7.858	7.652	3.235	20.877	2.863	2.788	3.968	2.675	0.802	1.421
10DSE13	10.0 x 4.0 x 4.0 x 1	13	0.105	5.473	1.610	0.838	10.995	10.454	5.810	25.259	4.006	3.809	3.961	3.251	1.008	1.421
10DSE12	10.0 x 4.0 x 4.0 x 1	12	0.070	6.760	1.988	0.887	14.271	13.580	10.998	31.049	5.200	4.948	3.952	4.020	1.291	1.422
10DSE14	10.0 x 4.0 x 4.0 x 4	14	0.105	4.507	1.326	0.828	7.858	7.166	3.464	21.093	2.863	2.611	3.989	2.447	0.717	1.360
10DSE13	10.0 x 4.0 x 4.0 x 4	13	0.070	5.473	1.610	0.866	10.860	9.191	6.221	25.520	3.957	3.349	3.982	2.975	0.900	1.360
10DSE12	10.0 x 4.0 x 4.0 x 4	12	0.105	6.760	1.988	0.916	14.397	11.991	11.774	31.371	5.246	4.369	3.972	3.680	1.157	1.360
10DSE14	10.0 x 2.75 x 5.0 x 1	14	0.070	4.507	1.326	0.927	7.991	8.209	3.234	20.707	2.912	2.991	3.952	3.231	0.740	1.561
10DSE12	10.0 x 2.75 x 5.0 x 1	12	0.105	6.760	1.988	1.012	14.883	13.600	10.996	30.782	5.423	4.956	3.935	4.856	1.190	1.563



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Section Name	DIMENSIONAL PROPERTIES						ALLOWABLES			AXIS X-X				AXIS Y-Y		
	D x B1 x B2 x Slope (in)	Gage	Thickness (in)	Weight (lb/ft)	Area (in ²)	Lip (in)	Positive Ma (k-ft)	Negative Ma (k-ft)	Va (kips)	I_x (in ⁴)	Positive S_{xe} (in ³)	Negative S_{xe} (in ³)	R_x (in)	I_y (in ⁴)	S_{ye} (in ³)	R_y (in)
10DSE14	10.0 x 2.75 x 5.0 x 4	14	0.059	4.507	1.326	0.953	8.176	7.198	3.456	22.156	2.979	2.623	4.088	2.992	0.680	1.502
10DSE12	10.0 x 2.75 x 5.0 x 4	12	0.070	6.760	1.988	1.041	15.284	11.941	11.744	32.938	5.569	4.351	4.070	4.514	1.094	1.507
10DSE14	10.0 x 5.0 x 5.0 x 1	14	0.085	4.983	1.466	0.802	7.830	7.514	3.240	24.340	2.853	2.738	4.075	4.642	1.135	1.780
10DSE12	10.0 x 5.0 x 5.0 x 1	12	0.105	7.475	2.198	0.887	14.969	13.939	11.014	36.209	5.454	5.079	4.058	6.979	1.829	1.782
10DSE14	10.0 x 5.0 x 5.0 x 4	14	0.059	4.983	1.466	0.828	7.918	6.848	3.533	24.731	2.885	2.495	4.108	4.239	1.025	1.701
10DSE12	10.0 x 5.0 x 5.0 x 4	12	0.070	7.475	2.198	0.916	15.372	11.865	12.008	36.791	5.601	4.323	4.091	6.376	1.650	1.703