

Stud Designation	DIMENSIONS				UNPERFORATED PROPERTIES																			
	Thickness t (in.)	Depth A (in.)	Flange B (in.)	Lip C (in.)	Weight (lbs./ft.)	Yield F <sub>y</sub> (ksi)	Area (in. <sup>2</sup> )	x <sub>cg</sub> (in.)	m (in.)	x <sub>c</sub> (in.)	C <sub>w</sub> (in. <sup>4</sup> )	J (in. <sup>4</sup> )	j (in.)	r <sub>x</sub> (in.)	r <sub>y</sub> (in.)	M <sub>rx,lb</sub> (in.kips)	L <sub>v</sub>	M <sub>ry,lb web.comp</sub> (in.kips)	M <sub>ry,lb lips.comp</sub> (in.kips)	Shear V <sub>v</sub> (kips)	Web Cripp. P <sub>v</sub> (kips)	I <sub>x</sub> (in. <sup>4</sup> )	I <sub>y</sub> (in. <sup>4</sup> )	S <sub>x</sub> (in. <sup>3</sup> )
362S125-33	0.0346	3.625	1.250	0.188	0.73	33	0.215	0.306	0.480	0.769	0.094	0.000086	2.11	1.40	0.413	6.17	28.5	1.12	1.15	1.31	0.318	0.421	0.0367	0.232
362S125-43	0.0451	3.625	1.250	0.188	0.95	33	0.278	0.307	0.473	0.758	0.118	0.000188	2.11	1.39	0.418	8.61	28.4	1.45	1.46	2.22	0.531	0.540	0.0463	0.298
362S125-54	0.0566	3.625	1.250	0.188	1.17	50	0.344	0.306	0.466	0.744	0.142	0.000367	2.15	1.39	0.401	15.60	22.8	2.62	2.63	4.31	1.200	0.661	0.0552	0.365
362S162-33	0.0346	3.625	1.625	0.500	0.89	33	0.262	0.537	0.789	1.310	0.297	0.000105	2.12	1.45	0.616	8.66	42.6	2.55	2.71	1.31	0.318	0.551	0.0993	0.304
362S162-43	0.0451	3.625	1.625	0.500	1.16	33	0.340	0.537	0.782	1.300	0.376	0.000230	2.11	1.45	0.611	11.60	42.5	3.37	3.46	2.22	0.531	0.710	0.1270	0.392
362S162-54	0.0566	3.625	1.625	0.500	1.44	50	0.422	0.536	0.774	1.280	0.457	0.000451	2.11	1.44	0.605	21.00	34.3	6.22	6.38	4.31	1.200	0.873	0.1540	0.482
362S162-68	0.0713	3.625	1.625	0.500	1.78	50	0.524	0.535	0.765	1.260	0.552	0.000887	2.12	1.43	0.596	26.50	34.3	7.66	7.68	5.59	1.780	1.070	0.1860	0.590
362S162-97	0.1017	3.625	1.625	0.500	2.46	50	0.724	0.532	0.745	1.230	0.723	0.002500	2.14	1.41	0.578	35.60	34.5	9.95	9.95	7.61	2.400	1.440	0.2420	0.792
362S200-33	0.0346	3.625	2.000	0.625	1.01	33	0.297	0.728	1.030	1.740	0.577	0.000118	2.36	1.48	0.772	9.52	53.5	3.84	3.96	1.31	0.318	0.648	0.1770	0.358
362S200-43	0.0451	3.625	2.000	0.625	1.31	33	0.385	0.728	1.020	1.730	0.734	0.000261	2.35	1.47	0.768	13.30	53.5	5.10	5.29	2.22	0.531	0.836	0.2270	0.461
362S200-54	0.0566	3.625	2.000	0.625	1.63	50	0.479	0.727	1.020	1.710	0.896	0.000511	2.35	1.47	0.761	23.30	33.3	9.47	9.80	4.31	1.200	1.030	0.2770	0.568
362S200-68	0.0713	3.625	2.000	0.625	2.02	50	0.595	0.726	1.010	1.700	1.090	0.001010	2.35	1.46	0.753	30.80	43.3	11.80	11.90	5.59	1.780	1.270	0.3770	0.698
362S200-97	0.1017	3.625	2.000	0.625	2.81	50	0.826	0.722	0.986	1.660	1.440	0.002850	2.34	1.44	0.735	42.50	43.6	15.70	15.70	7.61	2.400	1.710	0.4460	0.945
362S250-43	0.0451	3.625	2.500	0.625	1.46	33	0.430	0.944	1.280	2.200	1.230	0.000292	2.75	1.51	0.946	14.10	64.1	7.03	7.35	2.22	0.531	0.980	0.3850	0.541
362S250-54	0.0566	3.625	2.500	0.625	1.82	50	0.535	0.943	1.270	2.180	1.510	0.000571	2.74	1.50	0.940	24.60	51.9	13.10	13.70	4.31	1.200	1.210	0.4730	0.668
362S250-68	0.0713	3.625	2.500	0.625	2.27	50	0.666	0.941	1.260	2.170	1.840	0.001130	2.73	1.50	0.931	32.10	52.0	16.50	16.70	5.59	1.780	1.490	0.5780	0.822
362S250-97	0.1017	3.625	2.500	0.625	3.16	50	0.927	0.938	1.240	2.130	2.450	0.003200	2.72	1.48	0.913	48.40	52.4	22.30	22.30	7.61	2.400	2.030	0.7730	1.120
400S125-33	0.0346	4.000	1.250	0.188	0.77	33	0.228	0.290	0.465	0.738	0.118	0.000091	2.36	1.53	0.407	7.09	28.4	1.12	1.17	1.25	0.314	0.531	0.0377	0.265
400S125-43	0.0451	4.000	1.250	0.188	1.00	33	0.295	0.291	0.459	0.727	0.148	0.000200	2.36	1.52	0.402	9.85	28.2	1.45	1.47	2.22	0.525	0.682	0.0476	0.341
400S125-54	0.0566	4.000	1.250	0.188	1.24	50	0.365	0.290	0.451	0.713	0.178	0.000390	2.41	1.51	0.394	17.90	22.7	2.63	2.66	4.31	1.190	0.835	0.0568	0.418
400S162-33	0.0346	4.000	1.625	0.500	0.94	33	0.275	0.512	0.768	1.260	0.363	0.000110	2.25	1.59	0.611	9.87	42.3	2.56	2.74	1.25	0.314	0.692	0.1030	0.346
400S162-43	0.0451	4.000	1.625	0.500	1.21	33	0.357	0.513	0.761	1.250	0.460	0.000242	2.25	1.58	0.606	13.20	42.1	3.38	3.50	2.22	0.525	0.892	0.1310	0.446
400S162-54	0.0566	4.000	1.625	0.500	1.51	50	0.443	0.512	0.754	1.240	0.560	0.000473	2.25	1.57	0.600	24.00	34.1	6.25	6.45	4.31	1.190	1.000	0.1590	0.549
400S162-68	0.0713	4.000	1.625	0.500	1.87	50	0.550	0.511	0.745	1.220	0.677	0.000933	2.26	1.56	0.591	30.30	34.0	7.71	7.77	6.23	1.760	1.350	0.1920	0.673
400S162-97	0.1017	4.000	1.625	0.500	2.59	50	0.762	0.508	0.725	1.180	0.889	0.002630	2.30	1.54	0.573	40.80	34.0	10.10	10.10	8.52	2.380	1.810	0.2500	0.907
400S200-33	0.0346	4.000	2.000	0.625	1.05	33	0.310	0.698	1.010	1.690	0.697	0.000124	2.46	1.62	0.769	10.80	53.1	3.85	4.01	1.25	0.314	0.812	0.1830	0.406
400S200-43	0.0451	4.000	2.000	0.625	1.37	33	0.402	0.698	1.000	1.680	0.886	0.000272	2.45	1.61	0.764	15.10	53.0	5.12	5.36	2.22	0.525	1.050	0.2350	0.524
400S200-54	0.0566	4.000	2.000	0.625	1.70	50	0.500	0.697	0.993	1.660	1.080	0.000534	2.45	1.61	0.758	26.50	42.9	9.51	9.92	4.31	1.190	1.290	0.2870	0.646
400S200-68	0.0713	4.000	2.000	0.625	2.12	50	0.622	0.696	0.983	1.640	1.320	0.001050	2.45	1.60	0.750	35.00	42.9	11.90	12.10	6.23	1.760	1.590	0.3500	0.795
400S200-97	0.1017	4.000	2.000	0.625	2.94	50	0.864	0.693	0.963	1.600	1.750	0.002980	2.45	1.58	0.732	48.50	43.0	15.90	15.90	8.52	2.380	2.160	0.4630	1.080
400S250-43	0.0451	4.000	2.500	0.625	1.52	33	0.447	0.909	1.250	2.140	1.490	0.000303	2.81	1.65	0.945	16.00	63.6	7.06	7.45	2.22	0.525	1.220	0.3990	0.612
400S250-54	0.0566	4.000	2.500	0.625	1.89	50	0.556	0.908	1.240	2.120	1.820	0.000594	2.81	1.65	0.938	28.00	51.5	13.20	13.80	4.31	1.190	1.510	0.4900	0.756
400S250-68	0.0713	4.000	2.500	0.625	2.36	50	0.693	0.906	1.230	2.110	2.230	0.001170	2.80	1.64	0.930	36.50	51.6	16.60	16.90	6.23	1.760	1.860	0.5990	0.932
400S250-97	0.1017	4.000	2.500	0.625	3.29	50	0.966	0.903	1.210	2.070	2.980	0.003330	2.80	1.62	0.911	54.90	51.8	22.60	22.60	8.52	2.380	2.540	0.8020	1.270
600S125-33	0.0346	6.000	1.250	0.188	1.01	33	0.297	0.226	0.399	0.608	0.300	0.000118	4.18	2.18	0.375	11.00	27.5	1.13	1.21	0.82	0.296	1.410	0.0416	0.470
600S125-43	0.0451	6.000	1.250	0.188	1.31	33	0.385	0.228	0.393	0.598	0.378	0.000261	4.20	2.17	0.370	16.50	27.3	1.48	1.53	1.81	0.499	1.820	0.0526	0.606
600S125-54	0.0566	6.000	1.250	0.188	1.63	50	0.479	0.228	0.386	0.586	0.457	0.000511	4.32	2.16	0.362	30.30	21.9	2.68	2.76	3.61	1.130	2.240	0.0627	0.745
600S162-33	0.0346	6.000	1.625	0.500	1.17	33	0.344	0.413	0.677	1.070	0.861	0.000137	3.35	2.28	0.581	17.10	41.1	2.58	2.85	0.82	0.296	1.790	0.1160	0.598
600S162-43	0.0451	6.000	1.625	0.500	1.52	33	0.447	0.414	0.670	1.060	1.100	0.000303	3.35	2.28	0.576	22.90	40.9	3.42	3.64	1.81	0.499	2.320	0.1480	0.772
600S162-54	0.0566	6.000	1.625	0.500	1.89	50	0.556	0.414	0.663	1.050	1.340	0.000594	3.38	2.27	0.570	41.70	33.0	6.33	6.71	3.61	1.130	2.860	0.1810	0.953
600S162-68	0.0713	6.000	1.625	0.500	2.36	50	0.693	0.413	0.655	1.030	1.630	0.001170	3.43	2.26	0.562	52.90	32.8	7.85	8.09	6.84	1.700	3.520	0.2180	1.170
600S162-97	0.1017	6.000	1.625	0.500	3.29	50	0.966	0.411	0.636	0.997	2.150	0.003330	3.56	2.23	0.541	72.00	32.5	10.50	10.50	13.40	2.300	4.800	0.2840	1.600
600S200-33	0.0346	6.000	2.000	0.625	1.29	33	0.379	0.574	0.901	1.460	1.590	0.000151	3.25	2.34	0.743	18.40	51.6	3.88	4.19	0.82	0.296	2.080	0.2090	0.692
600S200-43	0.0451	6.000	2.000	0.625	1.67	33	0.492	0.574	0.894	1.450	2.030	0.000334	3.25	2.34	0.739	25.90	51.4	5.18	5.59	1.81	0.499	2.680	0.2680	0.894
600S200-54	0.0566	6.000	2.000	0.625	2.09	50	0.613	0.574	0.887	1.430	2.490	0.000655	3.26	2.33	0.732	45.70	41.5	9.64	10.40	3.61	1.130	3.320	0.3290	1.110
600S200-68	0.0713	6.000	2.000	0.625	2.60	50	0.764	0.573	0.878	1.410	3.050	0.001300	3.28	2.32	0.724	60.10	41.4	12.10	12.60	6.84	1.700	4.100		

PERFORATED PROPERTIES					BEAM DISTORTIONAL BUCKLING PROPERTIES							COLUMN DISTORTIONAL BUCKLING PROPERTIES										
$M_{x, LB}$	$M_{y, LB}$	$M_{z, LB}$	Shear $V_x$	$I_x$	$M_{x, Fy}$	$M_{x, DB}$	$L_{cr}$	$K_{eff}$	$\bar{K}_{dip}$	$K_{min}$	$\bar{K}_{wing}$	$K_{min}$	$F_d$	$P_{r, Fy}$	$P_{r, DB}$	$L_{cr}$	$K_{eff}$	$\bar{K}_{dip}$	$K_{min}$	$\bar{K}_{wing}$	$K_{min}$	$F_d$
(in.kips)	web.comp (in.kips)	lips.comp (in.kips)	(kips)	defl. (in. <sup>4</sup> )	(in.kips)	(in.kips)	(in.)	(kips)	(in. <sup>2</sup> )	(kips)	(in. <sup>2</sup> )	(kips)	(ksi)	(kips)	(kips)	(in.)	(kips)	(in. <sup>2</sup> )	(kips)	(in. <sup>2</sup> )	(kips)	(ksi)
5.40	1.03	1.08	0.667	0.414	6.51	5.21	6.79	0.1380	0.00635	0.1210	0.000957	0.273	35.4	5.66	3.08	7.49	0.0997	0.00521	0.0616	0.004830	0.892	16.10
7.98	1.35	1.36	0.864	0.535	8.36	7.57	5.91	0.3350	0.01060	0.2890	0.001610	0.263	51.3	7.33	4.67	6.51	0.2470	0.00870	0.1360	0.008340	1.400	22.50
14.40	2.44	2.45	1.300	0.855	15.50	13.70	5.27	0.7210	0.01600	0.6160	0.002480	0.708	72.2	13.80	8.34	5.79	0.5420	0.01330	0.2700	0.013200	3.400	30.60
7.95	2.38	2.53	0.667	0.551	8.53	7.70	15.70	0.1050	0.00379	0.0976	0.000193	0.087	51.0	6.92	5.22	17.30	0.0722	0.00310	0.0616	0.000901	0.285	33.50
11.00	3.13	3.23	0.864	0.710	11.00	10.80	13.60	0.2430	0.00642	0.2200	0.000332	0.029	68.5	8.97	7.53	15.00	0.1670	0.00524	0.1360	0.001560	0.410	44.70
20.00	5.78	5.94	1.300	0.873	20.50	19.30	12.00	0.5000	0.01010	0.4430	0.000530	0.227	89.0	16.90	13.40	13.30	0.3480	0.00823	0.2700	0.002510	1.090	57.50
25.80	7.13	7.13	1.280	1.070	25.10	25.10	10.60	1.0500	0.01590	0.9090	0.000855	0.000	117.0	20.90	18.20	11.70	0.7380	0.01300	0.5390	0.004090	1.430	74.90
34.90	9.18	9.18	1.120	1.440	33.70	33.70	8.64	3.3700	0.03160	2.7900	0.001790	0.000	184.0	29.00	28.10	9.55	2.4100	0.02590	1.5600	0.008730	1.530	115.00
8.73	3.58	3.69	0.667	0.637	10.00	8.77	20.70	0.1020	0.00417	0.0954	0.000112	0.115	46.1	7.83	5.90	22.90	0.0692	0.00340	0.0616	0.000518	0.280	33.40
12.70	4.74	4.92	0.864	0.836	12.90	12.30	18.00	0.2320	0.00706	0.2130	0.000193	0.083	61.4	10.20	8.51	19.90	0.1590	0.00577	0.1360	0.000895	0.404	44.30
22.00	8.80	9.10	1.300	1.030	24.20	22.00	15.90	0.4720	0.01110	0.4270	0.000307	0.359	78.9	19.10	15.10	17.60	0.3250	0.00906	0.2700	0.001430	1.070	56.70
30.00	11.00	11.00	1.280	1.270	29.70	29.10	14.00	0.9810	0.01750	0.8660	0.000496	0.142	103.0	23.80	20.50	15.50	0.6810	0.01430	0.5390	0.002330	1.420	73.30
41.80	14.50	14.50	1.120	1.710	40.10	40.10	11.50	3.0800	0.03520	2.5900	0.001040	0.000	156.0	33.00	31.80	12.70	2.1600	0.02880	1.5600	0.004930	1.630	111.00
13.30	6.53	6.80	0.864	0.973	15.20	13.30	20.50	0.2300	0.00941	0.2110	0.000149	0.255	46.1	11.40	8.72	22.70	0.1570	0.00768	0.1360	0.000688	0.585	35.00
23.10	12.20	12.60	1.300	1.160	28.40	23.50	18.10	0.4670	0.01480	0.4220	0.000237	0.772	59.1	21.40	15.30	20.10	0.3210	0.01210	0.2700	0.001100	1.510	44.80
31.00	15.30	15.40	1.280	1.470	35.00	31.50	16.00	0.9670	0.02340	0.8520	0.000382	0.810	76.4	26.70	21.10	17.70	0.6690	0.01910	0.5390	0.001780	2.120	57.70
47.50	20.40	20.40	1.120	2.030	47.50	47.50	13.20	3.0200	0.04730	2.5300	0.000798	0.000	115.0	37.10	33.70	14.60	2.1100	0.03860	1.5600	0.003750	3.060	86.80
6.03	1.04	1.10	0.760	0.523	7.44	5.82	6.96	0.1270	0.00603	0.1140	0.001210	0.287	33.2	6.01	2.97	7.68	0.0921	0.00496	0.0558	0.006180	1.020	13.30
8.95	1.36	1.39	1.040	0.675	9.57	8.50	6.07	0.3080	0.01000	0.2740	0.002030	0.295	48.3	7.78	4.54	6.67	0.2290	0.00829	0.1240	0.010700	1.640	18.60
16.20	2.46	2.51	1.560	0.828	17.80	15.40	5.42	0.6630	0.01520	0.5900	0.003120	0.769	68.4	14.60	8.10	5.94	0.5040	0.01270	0.2440	0.016900	3.950	25.30
8.87	2.39	2.59	0.760	0.692	9.71	8.61	16.10	0.0961	0.00361	0.0892	0.000246	0.096	48.1	7.26	5.22	17.80	0.0660	0.00295	0.0558	0.001150	0.308	29.70
12.40	3.15	3.31	1.040	0.892	12.50	12.10	13.90	0.2210	0.00611	0.2020	0.000423	0.053	64.8	9.42	7.58	15.40	0.1530	0.00499	0.1240	0.002000	0.456	39.60
22.40	5.83	6.08	1.560	1.100	23.30	21.60	12.30	0.4570	0.00958	0.4080	0.000675	0.268	84.3	17.70	13.40	13.60	0.3190	0.00783	0.2440	0.003210	1.190	51.00
29.20	7.21	7.31	1.740	1.350	28.60	28.60	10.80	0.9630	0.01510	0.8390	0.001090	0.000	111.0	22.00	18.40	12.00	0.6780	0.01230	0.4890	0.005230	1.630	66.40
40.20	9.43	9.43	1.550	1.810	38.50	38.50	8.86	3.1000	0.03010	2.5900	0.002270	0.000	176.0	30.50	28.80	9.79	2.2200	0.02460	1.4200	0.011200	2.050	102.00
9.75	3.60	3.77	0.760	0.798	11.40	9.79	21.20	0.0926	0.00397	0.0869	0.000143	0.120	43.7	8.18	5.94	23.40	0.0631	0.00324	0.0558	0.000663	0.290	30.50
14.20	4.77	5.04	1.040	1.050	14.70	13.80	18.40	0.2110	0.00672	0.1950	0.000246	0.102	58.2	10.60	8.60	20.40	0.1450	0.00549	0.1240	0.001140	0.427	40.50
24.70	8.87	9.32	1.560	1.290	27.50	24.60	16.30	0.4310	0.01060	0.3900	0.000392	0.388	75.0	20.00	15.20	18.00	0.2970	0.00862	0.2440	0.001830	1.120	51.80
33.80	11.10	11.30	1.740	1.590	33.80	32.70	14.40	0.8970	0.01670	0.7930	0.000632	0.221	97.6	24.90	20.80	15.90	0.6230	0.01360	0.4890	0.002970	1.530	67.00
47.90	14.90	14.90	1.550	2.160	45.80	45.80	11.80	2.8200	0.03350	2.3900	0.001320	0.000	149.0	34.60	32.60	13.00	1.9900	0.02740	1.4200	0.006310	1.950	101.00
14.90	6.57	6.97	1.040	1.220	17.20	14.80	21.00	0.2090	0.00896	0.1930	0.000190	0.265	43.9	11.80	8.80	23.20	0.1430	0.00731	0.1240	0.000880	0.593	32.50
25.90	12.30	12.90	1.560	1.450	32.10	26.10	18.60	0.4260	0.01410	0.3840	0.000302	0.779	56.3	22.30	15.50	20.60	0.2930	0.01150	0.2440	0.001410	1.510	41.60
34.80	15.40	15.80	1.740	1.840	39.60	35.10	16.40	0.8840	0.02230	0.7790	0.000487	0.854	72.9	27.70	21.40	18.20	0.6120	0.01820	0.4890	0.002280	2.160	53.70
54.10	21.00	21.00	1.550	2.540	54.00	54.00	13.50	2.7600	0.04500	2.3200	0.001020	0.000	111.0	38.60	34.30	14.90	1.9400	0.03680	1.4200	0.004800	3.250	80.80
11.00	1.06	1.18	0.815	1.340	13.20	8.96	7.77	0.0885	0.00484	0.0932	0.003110	0.397	22.9	7.83	2.30	8.49	0.0668	0.00405	0.0372	0.017000	2.110	4.93
16.50	1.39	1.49	1.580	1.790	17.00	13.40	6.81	0.2140	0.00794	0.2340	0.005150	0.506	34.2	10.20	3.59	7.38	0.1680	0.00677	0.0824	0.029400	3.540	6.93
30.30	2.53	2.69	2.490	2.220	31.70	24.60	6.14	0.4570	0.01180	0.5180	0.007860	1.200	49.5	19.10	6.39	6.57	0.3740	0.01030	0.1630	0.046600	8.510	9.44
17.10	2.42	2.77	0.815	1.790	16.80	13.40	17.80	0.0658	0.00294	0.0626	0.000665	0.135	35.6	9.09	4.75	19.70	0.0455	0.00241	0.0372	0.003180	0.503	14.80
22.90	3.21	3.55	1.580	2.320	21.70	19.20	15.40	0.1530	0.00498	0.1440	0.001140	0.150	48.4	11.80	7.07	17.10	0.1070	0.00408	0.0824	0.005500	0.815	19.70
41.70	5.94	6.53	2.490	2.860	40.50	34.40	13.60	0.3170	0.00781	0.2950	0.001800	0.449	63.7	22.30	12.30	15.10	0.2240	0.00639	0.1630	0.008850	2.040	25.40
52.90	7.41	7.87	3.680	3.520	49.90	46.50	12.00	0.6730	0.01230	0.6200	0.002880	0.382	85.2	27.70	17.40	13.30	0.4810	0.01010	0.3260	0.014400	3.080	32.90
72.00	10.00	10.20	4.870	4.800	68.00	68.00	9.84	2.1900	0.02440	1.9900	0.005940	0.000	138.0	38.60	29.00	10.80	1.6000	0.02010	0.9450	0.030000	5.540	50.10
18.40	3.63	4.06	0.815	2.040	19.40	15.30	23.40	0.0630	0.00324	0.0597	0.000390	0.142	33.8	10.00	5.74	25.90	0.0431	0.00264	0.0372	0.001830	0.388	18.00
25.90	4.84	5.43	1.580	2.680	25.10	21.80	20.40	0.1450	0.00549	0.1350	0.000668	0.169	45.4	13.00	8.94	22.50	0.0966	0.00448	0.0824	0.003150	0.619	23.80
45.70	9.02	10.10	2.490	3.320	47.00	38.80	18.00	0.2970	0.00862	0.2730	0.001060	0.498	58.9	24.50	14.80	19.90	0.2060	0.00704	0.1630	0.005060	1.550	30.50
60.10	11.40	12.20	3.680	4.100	58.10	52.50	15.90	0.6220	0.01360	0.5630	0.001700	0.506	77.4	30.60	20.80	17.60	0.4360	0.01110	0.3260	0.008200	2.310	39.40
84.20	15.80	16.20	4.870	5.610	79.50	79.50	13.00	1.9800	0.02730	1.7400	0.003530	0.000	121.0	42.70	34.20	14.40	1.4100	0.02240	0.9450	0.017400	3.960	59.30
27.30	6.6																					

Stud Designation	DIMENSIONS				UNPERFORATED PROPERTIES																				
	Thickness t (mm)	Depth A (mm)	Flange B (mm)	Lip C (mm)	Weight (kg/m)	Yield F <sub>y</sub> (MPa)	Area (E+03mm <sup>2</sup> )	x <sub>cg</sub> (mm)	m (mm)	x <sub>e</sub> (mm)	C <sub>e</sub> (E+06mm <sup>6</sup> )	J (mm <sup>4</sup> )	j (mm)	r <sub>e</sub> (mm)	r <sub>y</sub> (mm)	M <sub>xx, LB</sub> (kN.m)	L <sub>x</sub> (mm)	M <sub>yy, LB web.comp</sub> (kN.m)	M <sub>xx, LB lips.comp</sub> (kN.m)	Shear V <sub>n</sub> (kN)	Web Cripp. P <sub>n</sub> (kN)	I <sub>x</sub> (E+06mm <sup>4</sup> )	I <sub>y</sub> (E+06mm <sup>4</sup> )	S <sub>x</sub> (E+03mm <sup>3</sup> )	
362S125-33	0.879	92.075	31.750	4.76	1.09	230	0.138	7.78	12.2	19.5	25.2	35.6	53.7	35.6	10.5	0.697	724	0.126	0.130	5.82	1.41	0.175	0.0153	3.80	
362S125-43	1.146	92.075	31.750	4.76	1.41	230	0.179	7.80	12.0	19.3	31.6	78.4	53.7	35.4	10.4	0.972	721	0.164	0.165	9.89	2.36	0.225	0.0193	4.89	
362S125-54	1.438	92.075	31.750	4.76	1.74	345	0.222	7.77	11.8	18.9	38.1	153.0	54.5	35.2	10.2	1.760	580	0.296	0.298	19.20	5.33	0.275	0.0230	5.98	
362S162-33	0.879	92.075	41.275	12.70	1.33	230	0.169	13.60	20.0	33.2	79.7	43.5	53.7	36.8	15.6	0.979	1080	0.288	0.306	5.82	1.41	0.229	0.0413	4.98	
362S162-43	1.146	92.075	41.275	12.70	1.72	230	0.219	13.60	19.9	32.9	101.0	95.9	53.5	36.7	15.5	1.310	1080	0.380	0.391	9.89	2.36	0.295	0.0528	6.42	
362S162-54	1.438	92.075	41.275	12.70	2.14	345	0.272	13.60	19.7	32.6	123.0	188.0	53.6	36.5	15.4	2.380	872	0.703	0.720	19.20	5.33	0.363	0.0642	7.89	
362S162-68	1.811	92.075	41.275	12.70	2.65	345	0.338	13.60	19.4	32.1	148.0	369.0	53.7	36.3	15.1	3.000	872	0.866	0.868	24.90	7.91	0.445	0.0774	9.66	
362S162-97	2.583	92.075	41.275	12.70	3.67	345	0.467	13.50	18.9	31.1	194.0	1040.0	54.2	35.8	14.7	4.030	876	1.120	1.120	33.80	10.70	0.597	0.1010	13.00	
362S200-33	0.879	92.075	50.800	15.90	1.50	230	0.191	18.50	26.2	44.2	155.0	49.3	60.1	37.5	19.6	1.080	1360	0.448	0.448	5.82	1.41	0.270	0.0736	5.86	
362S200-43	1.146	92.075	50.800	15.90	1.95	230	0.248	18.50	26.0	43.9	197.0	109.0	59.8	37.4	19.5	1.500	1360	0.598	0.598	9.89	2.36	0.348	0.0944	7.56	
362S200-54	1.438	92.075	50.800	15.90	2.42	345	0.309	18.50	25.8	43.6	240.0	213.0	59.7	37.3	19.3	2.630	1100	1.110	1.110	19.20	5.33	0.429	0.1150	9.31	
362S200-68	1.811	92.075	50.800	15.90	3.01	345	0.384	18.40	25.6	43.1	292.0	420.0	59.6	37.0	19.1	3.480	1100	1.350	1.350	24.90	7.91	0.527	0.1400	11.40	
362S200-97	2.583	92.075	50.800	15.90	4.18	345	0.533	18.30	25.1	42.1	387.0	1180.0	59.5	36.6	18.7	4.800	1100	1.780	1.780	33.80	10.70	0.713	0.1860	15.50	
362S250-43	1.146	92.075	63.500	15.90	2.18	230	0.277	24.00	32.4	55.8	330.0	121.0	69.8	38.4	24.0	1.590	1630	0.830	0.830	9.89	2.36	0.408	0.1600	8.86	
362S250-54	1.438	92.075	63.500	15.90	2.71	345	0.345	24.00	32.2	55.5	404.0	238.0	69.6	38.2	23.9	2.780	1320	1.540	1.540	19.20	5.33	0.504	0.1970	10.90	
362S250-68	1.811	92.075	63.500	15.90	3.37	345	0.430	23.90	32.0	55.0	493.0	470.0	69.4	38.0	23.7	3.630	1320	1.880	1.880	24.90	7.91	0.620	0.2400	13.50	
362S250-97	2.583	92.075	63.500	15.90	4.70	345	0.598	23.80	31.5	54.0	658.0	1330.0	69.1	37.6	23.2	5.470	1330	2.520	2.520	33.80	10.70	0.844	0.3220	18.30	
400S125-33	0.879	101.600	31.750	4.76	1.15	230	0.147	7.37	11.8	18.7	31.6	37.8	60.0	38.8	10.3	0.801	721	0.127	0.132	5.54	1.40	0.221	0.0157	4.35	
400S125-43	1.146	101.600	31.750	4.76	1.49	230	0.190	7.39	11.6	18.5	39.7	83.2	60.0	38.6	10.2	1.110	717	0.164	0.167	9.89	2.34	0.284	0.0198	5.59	
400S125-54	1.438	101.600	31.750	4.76	1.85	345	0.236	7.36	11.5	18.1	47.9	162.0	61.1	38.4	10.0	2.020	576	0.298	0.301	19.20	5.28	0.348	0.0236	6.85	
400S162-33	0.879	101.600	41.275	12.70	1.39	230	0.177	13.00	19.5	32.1	97.4	45.7	57.3	40.3	15.5	1.120	1070	0.289	0.310	5.54	1.40	0.288	0.0427	5.67	
400S162-43	1.146	101.600	41.275	12.70	1.81	230	0.230	13.00	19.3	31.8	123.0	101.0	57.1	40.2	15.4	1.500	1070	0.382	0.396	9.89	2.34	0.371	0.0546	7.31	
400S162-54	1.438	101.600	41.275	12.70	2.24	345	0.286	13.00	19.2	31.4	150.0	197.0	57.2	40.0	15.2	2.170	865	0.706	0.728	19.20	5.28	0.457	0.0664	8.99	
400S162-68	1.811	101.600	41.275	12.70	2.79	345	0.355	13.00	18.9	31.0	182.0	388.0	57.5	39.7	15.0	3.420	864	0.871	0.878	27.70	7.85	0.560	0.0801	11.00	
400S162-97	2.583	101.600	41.275	12.70	3.86	345	0.492	12.90	18.4	30.0	239.0	1090.0	58.3	39.2	14.5	4.610	864	1.140	1.140	37.90	10.60	0.755	0.1040	14.90	
400S200-33	0.879	101.600	50.800	15.90	1.57	230	0.200	17.70	25.6	42.9	187.0	51.4	62.4	41.1	19.5	1.220	1350	0.435	0.453	5.54	1.40	0.338	0.0762	6.65	
400S200-43	1.146	101.600	50.800	15.90	2.03	230	0.259	17.70	25.4	42.6	238.0	113.0	62.2	41.0	19.4	1.710	1350	0.578	0.605	9.89	2.34	0.436	0.0977	8.58	
400S200-54	1.438	101.600	50.800	15.90	2.53	345	0.322	17.70	25.2	42.2	291.0	222.0	62.1	40.8	19.3	2.990	1090	1.080	1.120	19.20	5.28	0.538	0.1200	10.60	
400S200-68	1.811	101.600	50.800	15.90	3.15	345	0.401	17.70	25.0	41.7	354.0	439.0	62.1	40.6	19.0	3.950	1090	1.340	1.360	27.70	7.85	0.662	0.1450	13.00	
400S200-97	2.583	101.600	50.800	15.90	4.37	345	0.557	17.60	24.5	40.8	470.0	1240.0	62.2	40.1	18.6	5.480	1090	1.800	1.800	37.90	10.60	0.897	0.1930	17.70	
400S250-43	1.146	101.600	63.500	15.90	2.26	230	0.288	23.10	31.8	54.3	399.0	126.0	71.5	42.0	24.0	1.810	1620	0.798	0.841	9.89	2.34	0.509	0.1660	10.00	
400S250-54	1.438	101.600	63.500	15.90	2.82	345	0.359	23.10	31.6	54.0	489.0	247.0	71.3	41.9	23.8	3.160	1310	1.490	1.560	19.20	5.28	0.629	0.2040	12.40	
400S250-68	1.811	101.600	63.500	15.90	3.51	345	0.447	23.10	31.4	53.5	598.0	489.0	71.2	41.7	23.6	4.120	1310	1.870	1.910	27.70	7.85	0.776	0.2490	15.30	
400S250-97	2.583	101.600	63.500	15.90	4.89	345	0.623	22.90	30.8	52.5	800.0	1390.0	71.0	41.2	23.1	6.210	1320	2.550	2.550	37.90	10.60	1.060	0.3340	20.80	
600S125-33	0.879	152.400	31.750	4.76	1.50	230	0.191	5.75	10.1	15.4	80.6	49.3	106.0	55.2	9.5	1.240	700	0.128	0.137	3.63	1.31	0.587	0.0173	7.70	
600S125-43	1.146	152.400	31.750	4.76	1.95	230	0.248	5.79	10.0	15.2	102.0	109.0	107.0	55.2	9.4	1.860	694	0.167	0.173	8.04	2.22	0.756	0.0219	9.92	
600S125-54	1.438	152.400	31.750	4.76	2.42	345	0.309	5.79	9.8	14.9	123.0	213.0	110.0	54.9	9.2	3.420	557	0.302	0.312	16.00	5.05	0.931	0.0261	12.20	
600S162-33	0.879	152.400	41.275	12.70	1.74	230	0.222	10.50	17.2	27.2	231.0	57.2	85.0	58.0	14.8	1.940	1040	0.292	0.322	3.63	1.31	0.746	0.0484	9.79	
600S162-43	1.146	152.400	41.275	12.70	2.26	230	0.288	10.50	17.0	27.0	294.0	126.0	85.0	57.8	14.6	2.590	1040	0.387	0.411	8.04	2.22	0.964	0.0618	12.60	
600S162-54	1.438	152.400	41.275	12.70	2.82	345	0.359	10.50	16.9	26.6	359.0	247.0	85.8	57.6	14.5	4.710	838	0.715	0.758	16.00	5.05	1.190	0.0752	15.60	
600S162-68	1.811	152.400	41.275	12.70	3.51	345	0.447	10.50	16.6	26.2	437.0	489.0	87.2	57.3	14.2	5.970	833	0.887	0.914	30.40	7.55	1.470	0.0907	19.30	
600S162-97	2.583	152.400	41.275	12.70	4.89	345	0.623	10.40	16.2	25.3	578.0	1390.0	90.3	56.6	13.8	8.130	825	1.190	1.190	59.60	10.20	2.000	0.1180	26.20	
600S200-33	0.879	152.400	50.800	15.90	1.92	230	0.244	14.60	22.9	37.0	428.0	62.9	82.6	59.4	18.9	2.080	1310	0.439	0.473	3.63	1.31	0.864	0.0871	11.30	
600S200-43	1.146	152.400	50.800	15.90	2.49	230	0.317	14.60	22.7	36.7	546.0	139.0	82.4	59.3	18.8	2.930	1310	0.585	0.632	8.04	2.22	1.120	0.1120	14.70	
600S200-54	1.438	152.400	50.800	15.90	3.10	345	0.395	14.60	22.5	36.4	669.0	272.0	82.8	59.1	18.6	5.160	1060	1.090	1.170	16.00	5.05	1.380	0.1370	18.10	
600S200-68	1.811	152.400	50.800	15.90	3.87	345	0.493	14.50	22.3	35.9	818.0	539.0	83.8	58.8	18.4	6.800	1050	1.370	1.430	30.40	7.55	1.710	0.1670	22.40	
600S200-97	2.583	152.400	50.800	15.90	5.40	345	0.689	14.50	21.8	35.0	1100.0	1530.0	84.9	58.2	17.9	9.510	1								

PERFORATED PROPERTIES					BEAM DISTORTIONAL BUCKLING PROPERTIES										COLUMN DISTORTIONAL BUCKLING PROPERTIES							
$M_{r, LB}$	$M_{y, LB}$	$M_{z, LB}$	Shear $V_r$	$I_p$	$M_{r, Fy}$	$M_{r, DB}$	$L_{cr}$	$K_{fle}$	$K_{sig}$	$K_{we}$	$K_{wng}$	$K_{vmin}$	$F_d$	$P_{r, Fy}$	$P_{r, DB}$	$L_{cr}$	$K_{fle}$	$K_{sig}$	$K_{we}$	$K_{wng}$	$K_{vmin}$	$F_d$
(kN.m)	web.comp (kN.m)	lips.comp (kN.m)	(kN)	(E+06 mm <sup>4</sup> )	(kN.m)	(kN.m)	(mm)	(kN)	(mm <sup>2</sup> )	(kN)	(mm <sup>2</sup> )	(kN)	(MPa)	(kN)	(kN)	(mm)	(kN)	(mm <sup>2</sup> )	(kN)	(mm <sup>2</sup> )	(kN)	(MPa)
0.610	0.117	0.122	2.97	0.172	0.736	0.588	172.0	0.613	4.100	0.538	0.618	1.220	244.0	25.20	13.70	190.0	0.444	3.360	0.274	3.120	3.970	111.0
0.902	0.152	0.154	3.84	0.223	0.945	0.855	150.0	1.490	6.810	1.280	1.040	1.170	353.0	32.60	20.80	165.0	1.100	5.620	0.607	5.380	6.250	155.0
1.630	0.275	0.277	5.78	0.273	1.750	1.550	134.0	3.210	10.300	2.740	1.600	3.150	498.0	61.20	37.10	147.0	2.410	8.580	1.200	8.530	15.100	211.0
0.898	0.268	0.286	2.97	0.229	0.964	0.870	398.0	0.469	2.450	0.434	0.125	0.388	351.0	30.80	23.20	441.0	0.321	2.000	0.274	0.581	1.270	231.0
1.250	0.354	0.365	3.84	0.295	1.240	1.220	345.0	1.080	4.140	0.979	0.214	0.131	472.0	39.90	33.50	382.0	0.745	3.380	0.607	1.010	1.820	308.0
2.250	0.654	0.671	5.78	0.363	2.310	2.180	305.0	2.220	6.500	1.970	0.342	1.010	613.0	75.10	59.40	338.0	1.550	5.310	1.200	1.620	4.840	396.0
2.920	0.805	0.806	5.71	0.445	2.830	2.830	268.0	4.680	10.200	4.050	0.552	0.000	808.0	93.20	80.90	297.0	3.280	8.370	2.400	2.640	6.370	516.0
3.950	1.040	1.040	4.98	0.597	3.800	3.800	219.0	15.000	20.400	12.400	1.160	0.000	1270.0	129.00	125.00	243.0	10.700	16.700	6.960	5.630	6.780	792.0
0.987	0.405	0.416	2.97	0.265	1.130	0.991	525.0	0.452	2.690	0.424	0.072	0.509	318.0	34.80	26.30	581.0	0.308	2.190	0.274	0.334	1.250	230.0
1.430	0.535	0.556	3.84	0.348	1.460	1.400	456.0	1.030	4.560	0.949	0.124	0.371	423.0	45.20	37.80	505.0	0.705	3.720	0.607	0.577	1.790	305.0
2.490	0.995	1.030	5.78	0.429	2.730	2.480	404.0	2.100	7.160	1.900	0.198	1.600	544.0	85.10	67.10	447.0	1.450	5.840	1.200	0.925	4.770	391.0
3.390	1.240	1.250	5.71	0.527	3.350	3.290	356.0	4.370	11.300	3.850	0.320	0.633	707.0	106.00	91.30	394.0	3.030	9.230	2.400	1.500	6.330	505.0
4.720	1.640	1.640	4.98	0.713	4.540	4.540	292.0	13.700	22.700	11.500	0.671	0.000	1080.0	147.00	141.00	323.0	9.630	18.600	6.960	3.180	7.230	763.0
1.510	0.738	0.768	3.84	0.405	1.710	1.500	520.0	1.020	6.070	0.940	0.096	1.140	318.0	50.50	38.80	576.0	0.697	4.960	0.607	0.444	2.600	242.0
2.610	1.380	1.430	5.78	0.483	3.210	2.650	461.0	2.080	9.550	1.870	0.153	3.430	407.0	95.20	68.30	510.0	1.430	7.800	1.200	0.710	6.700	309.0
3.500	1.720	1.740	5.71	0.614	3.950	3.550	407.0	4.300	15.100	3.790	0.246	3.600	527.0	119.00	94.00	450.0	2.980	12.300	2.400	1.150	9.410	398.0
5.370	2.310	2.310	4.98	0.844	5.370	5.370	334.0	13.400	30.500	11.300	0.515	0.000	796.0	165.00	150.00	370.0	9.400	24.900	6.960	2.420	13.600	598.0
0.681	0.118	0.125	3.38	0.217	0.841	0.657	177.0	0.563	3.890	0.506	0.780	1.280	229.0	26.70	13.20	195.0	0.410	3.200	0.248	3.990	4.540	91.5
1.010	0.154	0.158	4.60	0.281	1.080	0.960	154.0	1.370	6.460	1.220	1.310	1.310	333.0	34.60	20.20	169.0	1.020	5.350	0.550	0.689	7.270	128.0
1.830	0.278	0.284	6.96	0.345	2.010	1.740	138.0	2.950	9.800	2.620	2.010	3.420	472.0	65.00	36.00	151.0	2.240	8.170	1.090	1.090	17.600	174.0
1.000	0.270	0.293	3.38	0.288	1.100	0.972	408.0	0.427	2.330	0.397	0.159	0.425	332.0	32.30	23.20	452.0	0.293	1.900	0.248	0.743	1.370	205.0
1.400	0.356	0.374	4.60	0.371	1.410	1.370	354.0	0.985	3.940	0.897	0.273	0.236	446.0	41.90	33.70	392.0	0.682	3.220	0.550	1.290	2.030	273.0
2.530	0.659	0.687	6.96	0.557	2.640	2.440	313.0	2.030	6.180	1.810	0.435	1.190	581.0	78.80	59.60	346.0	1.420	5.050	1.090	2.070	5.300	352.0
3.300	0.815	0.826	7.72	0.560	3.230	3.230	275.0	4.280	9.740	3.730	0.701	0.000	768.0	97.90	81.70	304.0	3.020	7.960	2.170	3.370	7.230	458.0
4.540	1.070	1.070	6.87	0.755	4.350	4.350	225.0	13.800	19.400	11.500	1.460	0.000	1210.0	136.00	128.00	249.0	9.890	15.900	6.310	7.200	9.110	701.0
1.100	0.406	0.426	3.38	0.332	1.290	1.110	538.0	0.412	2.560	0.386	0.092	0.533	301.0	36.40	26.40	595.0	0.281	2.090	0.248	0.428	1.290	210.0
1.600	0.539	0.569	4.60	0.436	1.660	1.560	467.0	0.940	4.340	0.866	0.159	0.453	402.0	47.20	38.30	517.0	0.644	3.540	0.550	0.739	1.900	279.0
2.790	1.000	1.050	6.96	0.538	3.100	2.780	414.0	1.920	6.810	1.730	0.253	1.730	517.0	88.90	67.60	458.0	1.320	5.560	1.090	1.180	4.980	357.0
3.820	1.250	1.280	7.72	0.662	3.820	3.690	365.0	3.990	10.800	3.530	0.407	0.984	673.0	111.00	92.60	403.0	2.770	8.790	2.170	1.920	6.790	462.0
5.410	1.680	1.680	6.87	0.897	5.180	5.180	299.0	12.600	21.600	10.600	0.853	0.000	1030.0	154.00	145.00	331.0	8.850	17.700	6.310	4.070	8.660	697.0
1.690	0.743	0.787	4.60	0.506	1.940	1.670	533.0	0.930	5.780	0.857	0.122	1.180	303.0	52.50	39.10	590.0	0.636	4.720	0.550	0.567	2.640	224.0
2.930	1.390	1.460	6.96	0.603	3.630	2.950	472.0	1.890	9.090	1.710	0.195	3.460	388.0	99.00	68.80	523.0	1.300	7.430	1.090	0.908	6.740	287.0
3.940	1.740	1.780	7.72	0.767	4.480	3.970	417.0	3.930	14.400	3.460	0.314	3.800	503.0	123.00	95.10	461.0	2.720	11.800	2.170	1.470	9.590	370.0
6.110	2.370	2.370	6.87	1.060	6.100	6.100	343.0	12.300	29.000	10.300	0.655	0.000	762.0	172.00	153.00	379.0	8.630	23.700	6.310	3.100	14.400	557.0
1.240	0.120	0.133	3.63	0.560	1.490	1.010	197.0	0.394	3.120	0.415	2.000	1.770	158.0	34.80	10.30	216.0	0.297	2.610	0.166	11.000	9.370	34.0
1.860	0.157	0.169	7.05	0.747	1.920	1.520	173.0	0.954	5.120	1.040	3.320	2.250	236.0	45.20	16.00	187.0	0.749	4.360	0.367	19.000	15.800	47.8
3.420	0.285	0.304	11.10	0.922	3.580	2.780	156.0	2.030	7.640	2.310	5.070	5.340	341.0	85.10	28.40	167.0	1.670	6.670	0.725	30.100	37.800	65.1
1.940	0.273	0.313	3.63	0.746	1.890	1.520	452.0	0.293	1.900	0.278	0.429	0.599	245.0	40.40	21.10	500.0	0.202	1.550	0.166	2.050	2.240	102.0
2.590	0.362	0.401	7.05	0.964	2.450	2.170	392.0	0.680	3.220	0.638	0.734	0.666	334.0	52.50	31.50	433.0	0.474	2.630	0.367	3.550	3.630	136.0
4.710	0.671	0.738	11.10	1.190	4.580	3.880	346.0	1.410	5.040	1.310	1.160	2.000	439.0	99.00	54.90	383.0	0.994	4.120	0.725	5.710	9.050	175.0
5.970	0.837	0.889	16.40	1.470	5.640	5.250	305.0	3.000	7.930	2.760	1.860	1.700	587.0	123.00	77.30	337.0	2.140	6.500	1.450	9.300	13.700	227.0
8.130	1.130	1.150	21.70	2.000	7.680	7.680	250.0	9.740	15.800	8.870	3.830	0.000	950.0	172.00	129.00	275.0	7.130	13.000	4.210	19.900	24.600	345.0
2.080	0.411	0.459	3.63	0.850	2.190	1.730	595.0	0.280	2.090	0.265	0.251	0.629	233.0	44.50	25.50	659.0	0.192	1.710	0.166	1.180	1.730	124.0
2.930	0.547	0.613	7.05	1.120	2.830	2.470	517.0	0.643	3.540	0.600	0.431	0.751	313.0	57.80	37.80	572.0	0.443	2.890	0.367	2.040	2.750	164.0
5.160	1.020	1.140	11.10	1.380	5.310	4.390	458.0	1.320	5.560	1.210	0.684	2.220	406.0	109.00	66.00	507.0	0.917	4.540	0.725	3.260	6.910	210.0
6.800	1.280	1.380	16.40	1.710	6.560	5.930	404.0	2.770	8.780	2.500	1.100	2.250	533.0	136.00	92.30	447.0	1.940	7.180	1.450	5.290	10.300	272.0
9.510	1.780	1.830	21.70	2.340	8.980	8.980	331.0	8.800	17.600	7.740	2.270	0.000	831.0	190.00	152.00	366.0	6.280	14.400	4.210	11.200	17.600	409.0
3.080	0.754	0.854	7.05	1.270	3.260	2.600	590.0	0.636	4.720	0.589	0.333	1.310	242.0	63.10	39.40	653.0	0.437	3.850	0.367	1.560	3.110	148.0
5.430	1.410	1.590	11.10	1.520	6.110	4.600	523.0	1.300	7.420	1.180	0.530	3.570	313.0	119.00	68.70	578.0	0.901	6.060	0.725	2.500	7.760	190.0
7.040	1.790	1.940	16.40	1.940	7.5																	

**Joist Section Properties Table**

Joist Designation	DIMENSIONS				UNPERFORATED PROPERTIES																			
	Thickness t (in.)	Depth A (in.)	Flange B (in.)	Lip C (in.)	Weight (lbs./ft.)	Yield $F_y$ (ksi)	Area (in. <sup>2</sup> )	$x_{cg}$ (in.)	m (in.)	$x_c$ (in.)	$C_w$ (in. <sup>4</sup> )	J (in. <sup>4</sup> )	j (in.)	$r_x$ (in.)	$r_y$ (in.)	$M_{rx, LB}$ (in.kips)	$L_w$ (in.)	$M_{wy, LB}$ web.comp (in.kips)	$M_{wy, LB}$ lips.comp (in.kips)	Shear $V_r$ (kips)	Web Cripp. P (kips)	$I_x$ (in. <sup>4</sup> )	$I_y$ (in. <sup>4</sup> )	$S_x$ (in. <sup>3</sup> )
600S162-43	0.0451	6.000	1.625	0.500	1.52	33	0.447	0.414	0.670	1.060	1.10	0.000303	3.35	2.28	0.576	22.90	40.9	3.42	3.64	1.81	0.524	2.32	0.148	0.772
600S162-54	0.0566	6.000	1.625	0.500	1.89	50	0.556	0.414	0.663	1.050	1.34	0.000594	3.38	2.27	0.570	41.70	33.0	6.33	6.71	3.61	1.190	2.86	0.181	0.953
600S162-68	0.0713	6.000	1.625	0.500	2.36	50	0.693	0.413	0.655	1.030	1.63	0.001170	3.43	2.26	0.561	52.90	32.8	7.85	8.09	6.84	1.790	3.52	0.218	1.170
600S162-97	0.1017	6.000	1.625	0.500	3.29	50	0.966	0.411	0.636	0.997	2.15	0.003330	3.56	2.23	0.542	72.00	32.5	10.50	10.50	13.40	3.350	4.80	0.284	1.600
600S200-43	0.0451	6.000	2.000	0.625	1.67	33	0.492	0.574	0.894	1.450	2.03	0.000334	3.25	2.34	0.739	25.90	51.4	5.18	5.59	1.81	0.524	2.68	0.268	0.894
600S200-54	0.0566	6.000	2.000	0.625	2.09	50	0.613	0.574	0.887	1.430	2.49	0.000655	3.26	2.33	0.732	45.70	41.5	9.64	10.40	3.61	1.190	3.32	0.329	1.110
600S200-68	0.0713	6.000	2.000	0.625	2.60	50	0.764	0.573	0.878	1.410	3.05	0.001300	3.28	2.32	0.724	60.10	41.4	12.10	12.60	6.84	1.790	4.10	0.400	1.370
600S200-97	0.1017	6.000	2.000	0.625	3.63	50	1.070	0.570	0.859	1.380	4.08	0.003680	3.34	2.29	0.705	84.20	41.2	16.60	16.70	13.40	3.350	5.61	0.531	1.870
800S162-43	0.0451	8.000	1.625	0.500	1.83	33	0.537	0.348	0.601	0.926	2.08	0.000364	5.04	2.94	0.546	30.30	39.8	3.44	3.72	1.34	0.500	4.63	0.160	1.160
800S162-54	0.0566	8.000	1.625	0.500	2.28	50	0.670	0.348	0.594	0.914	2.54	0.000715	5.11	2.93	0.539	55.30	32.1	6.37	6.86	2.67	1.150	5.74	0.195	1.430
800S162-68	0.0713	8.000	1.625	0.500	2.84	50	0.836	0.349	0.586	0.899	3.09	0.001420	5.22	2.91	0.530	74.80	31.9	7.92	8.28	5.39	1.730	7.09	0.235	1.770
800S162-97	0.1017	8.000	1.625	0.500	3.98	50	1.170	0.349	0.568	0.866	4.11	0.004030	5.47	2.88	0.511	109.00	31.4	10.60	10.80	13.90	3.250	9.71	0.306	2.430
800S200-43	0.0451	8.000	2.000	0.625	1.98	33	0.582	0.489	0.811	1.280	3.80	0.000395	4.52	3.02	0.708	38.40	50.3	5.21	5.73	1.34	0.500	5.30	0.292	1.330
800S200-54	0.0566	8.000	2.000	0.625	2.47	50	0.726	0.489	0.804	1.260	4.66	0.000775	4.56	3.01	0.701	67.40	40.6	9.69	10.60	2.67	1.150	6.57	0.357	1.640
800S200-68	0.0713	8.000	2.000	0.625	3.09	50	0.907	0.488	0.796	1.250	5.71	0.001540	4.62	3.00	0.692	89.60	40.4	12.20	12.90	5.39	1.730	8.14	0.435	2.040
800S200-97	0.1017	8.000	2.000	0.625	4.32	50	1.270	0.487	0.777	1.210	7.68	0.004380	4.76	2.97	0.674	126.00	40.0	16.80	17.20	13.90	3.250	11.20	0.577	2.800
800S250-43	0.0451	8.000	2.500	0.625	2.13	33	0.627	0.654	1.040	1.670	6.37	0.000425	4.39	3.10	0.893	39.00	61.5	7.19	8.04	1.34	0.500	6.02	0.500	1.500
800S250-54	0.0566	8.000	2.500	0.625	2.66	50	0.783	0.654	1.040	1.660	7.85	0.000836	4.42	3.09	0.886	68.60	49.7	13.40	15.00	2.67	1.150	7.47	0.614	1.870
800S250-68	0.0713	8.000	2.500	0.625	3.33	50	0.978	0.653	1.030	1.640	9.65	0.001660	4.45	3.08	0.877	92.60	49.5	17.00	18.30	5.39	1.730	9.26	0.752	2.320
800S250-97	0.1017	8.000	2.500	0.625	4.67	50	1.370	0.650	1.010	1.610	13.10	0.004730	4.54	3.05	0.858	138.00	49.2	23.90	24.60	13.90	3.250	12.80	1.010	3.200
800S300-54	0.0566	8.000	3.000	0.625	2.86	50	0.839	0.830	1.270	2.070	12.10	0.000896	4.47	3.16	1.070	69.00	58.5	17.60	19.90	2.67	1.150	8.36	0.960	2.909
800S300-68	0.0713	8.000	3.000	0.625	3.57	50	1.050	0.829	1.260	2.050	14.90	0.001780	4.49	3.15	1.060	96.50	58.3	22.50	24.40	5.39	1.730	10.40	1.180	2.600
800S300-97	0.1017	8.000	3.000	0.625	5.02	50	1.470	0.825	1.240	2.020	20.30	0.005080	4.54	3.12	1.040	149.00	58.0	31.90	33.00	13.90	3.250	14.40	1.600	3.590
1000S162-54	0.0566	10.000	1.625	0.500	2.66	50	0.783	0.302	0.538	0.812	4.20	0.000836	7.42	3.57	0.511	70.70	31.3	6.39	6.96	2.12	1.100	9.95	0.205	1.990
1000S162-68	0.0713	10.000	1.625	0.500	3.33	50	0.978	0.303	0.531	0.798	5.12	0.001660	7.61	3.55	0.502	96.90	31.0	7.95	8.40	4.27	1.670	12.30	0.247	2.470
1000S162-97	0.1017	10.000	1.625	0.500	4.67	50	1.370	0.305	0.514	0.768	6.83	0.004730	8.03	3.52	0.484	147.00	30.4	10.70	10.90	12.60	3.170	17.00	0.321	3.390
1000S200-54	0.0566	10.000	2.000	0.625	2.86	50	0.839	0.427	0.737	1.140	7.67	0.000896	6.33	3.67	0.671	76.70	39.8	9.73	10.80	2.12	1.100	11.30	0.378	2.260
1000S200-68	0.0713	10.000	2.000	0.625	3.57	50	1.050	0.427	0.729	1.120	9.40	0.001780	6.44	3.65	0.662	109.00	39.5	12.30	13.20	4.27	1.670	14.00	0.460	2.800
1000S200-97	0.1017	10.000	2.000	0.625	5.02	50	1.470	0.427	0.711	1.090	12.70	0.005080	6.68	3.62	0.644	168.00	39.0	16.90	17.50	12.60	3.170	19.30	0.611	3.870
1000S250-54	0.0566	10.000	2.500	0.625	3.05	50	0.896	0.575	0.958	1.500	12.90	0.000957	5.81	3.76	0.854	84.50	49.0	13.50	15.30	2.12	1.100	12.70	0.653	2.540
1000S250-68	0.0713	10.000	2.500	0.625	3.81	50	1.120	0.574	0.950	1.490	15.90	0.001900	5.88	3.75	0.845	124.00	48.8	17.10	18.70	4.27	1.670	15.80	0.800	3.150
1000S250-97	0.1017	10.000	2.500	0.625	5.36	50	1.580	0.573	0.932	1.450	21.60	0.005430	6.03	3.72	0.825	189.00	48.3	24.10	25.10	12.60	3.170	21.80	1.070	4.370
1000S300-54	0.0566	10.000	3.000	0.625	3.24	50	0.953	0.735	1.190	1.890	19.90	0.001020	5.60	3.84	1.040	85.50	58.0	17.70	20.30	2.12	1.100	14.10	1.020	2.820
1000S300-68	0.0713	10.000	3.000	0.625	4.06	50	1.190	0.734	1.180	1.870	24.60	0.002020	5.64	3.83	1.030	126.00	57.8	22.60	25.00	4.27	1.670	17.50	1.260	3.500
1000S300-97	0.1017	10.000	3.000	0.625	5.71	50	1.680	0.731	1.160	1.840	33.60	0.005780	5.75	3.81	1.010	202.00	57.3	32.20	33.80	12.60	3.170	24.30	1.700	4.860
1200S162-68	0.0713	12.000	1.625	0.500	3.81	50	1.120	0.269	0.485	0.719	7.74	0.001900	10.60	4.17	0.478	119.00	30.1	7.98	8.49	3.54	1.620	19.50	0.256	3.250
1200S162-97	0.1017	12.000	1.625	0.500	5.36	50	1.580	0.272	0.470	0.691	10.30	0.005430	11.20	4.14	0.460	184.00	29.5	10.80	11.10	10.40	3.090	27.00	0.333	4.490
1200S200-68	0.0713	12.000	2.000	0.625	4.06	50	1.190	0.380	0.673	1.020	14.20	0.002020	8.74	4.29	0.634	133.00	38.7	12.30	13.30	3.54	1.620	21.90	0.479	3.660
1200S200-97	0.1017	12.000	2.000	0.625	5.71	50	1.680	0.381	0.656	0.987	19.10	0.005780	9.10	4.26	0.616	210.00	38.1	17.00	17.70	10.40	3.090	30.40	0.636	5.070
1200S250-68	0.0713	12.000	2.500	0.625	4.30	50	1.260	0.513	0.884	1.360	24.00	0.002140	7.69	4.40	0.814	135.00	48.0	17.20	18.90	3.54	1.620	24.50	0.836	4.080
1200S250-97	0.1017	12.000	2.500	0.625	6.05	50	1.780	0.513	0.867	1.330	32.70	0.006130	7.93	4.37	0.794	227.00	47.5	24.20	25.40	10.40	3.090	34.00	1.120	5.670
1200S300-68	0.0713	12.000	3.000	0.625	4.54	50	1.330	0.659	1.100	1.730	37.10	0.002260	7.13	4.50	0.995	149.00	57.1	22.70	25.40	3.54	1.620	27.00	1.320	4.500
1200S300-97	0.1017	12.000	3.000	0.625	6.40	50	1.880	0.658	1.080	1.690	50.90	0.006480	7.29	4.47	0.975	262.00	56.6	32.30	34.30	10.40	3.090	37.60	1.790	6.270
1400S162-68	0.0713	14.000	1.625	0.500	4.30	50	1.260	0.243	0.447	0.654	11.00	0.002140	14.20	4.79	0.456	141.00	29.3	8.00	8.55	3.02	1.580	29.00	0.263	4.140
1400S162-97	0.1017	14.000	1.625	0.500	6.05	50	1.780	0.247	0.433	0.628	14.70	0.006130	15.10	4.75	0.438	221.00	28.7	10.80	11.20	8.86	3.020	40.10	0.342	5.730
1400S200-68	0.0713	14.000	2.000	0.625	4.54	50	1.330	0.343	0.625	0.932	20.10	0.002260	11.50	4.92	0.609	158.00	37.9	12.30	13.40	3.02				



PERFORATED PROPERTIES					BEAM DISTORTIONAL BUCKLING PROPERTIES									COLUMN DISTORTIONAL BUCKLING PROPERTIES								
M <sub>FL</sub> LB (in kips)	M <sub>PL</sub> LB web.comp (in.kips)	M <sub>PL</sub> LB lips.comp (in.kips)	Shear V <sub>r</sub> (kips)	I <sub>c</sub> defl. (in. <sup>4</sup> )	M <sub>FL</sub> Fy (in kips)	M <sub>FL</sub> OB (in kips)	L <sub>cr</sub> (in.)	K <sub>eff</sub> (kips)	K <sub>diag</sub> (in. <sup>2</sup> )	K <sub>web</sub> (kips)	K <sub>web</sub> (in. <sup>2</sup> )	K <sub>min</sub> (kips)	F <sub>d</sub> (ksi)	P <sub>r</sub> Fy (kips)	P <sub>r</sub> OB (kips)	L <sub>cr</sub> (in.)	K <sub>eff</sub> (kips)	K <sub>diag</sub> (in. <sup>2</sup> )	K <sub>web</sub> (kips)	K <sub>web</sub> (in. <sup>2</sup> )	K <sub>min</sub> (kips)	F <sub>d</sub> (ksi)
22.9	3.21	3.55	1.58	2.32	21.7	19.2	15.40	0.153	0.00498	0.144	0.001140	0.150	48.4	11.8	7.07	17.1	0.1070	0.00408	0.0824	0.00550	0.815	19.70
41.7	5.94	6.53	2.49	2.86	40.5	34.4	13.60	0.317	0.00781	0.295	0.001800	0.449	63.7	22.3	12.30	15.1	0.2240	0.00639	0.1630	0.00885	2.040	25.40
52.9	7.41	7.87	3.68	3.52	49.9	46.5	12.00	0.673	0.01230	0.620	0.002880	0.382	85.2	27.7	17.40	13.3	0.4810	0.01010	0.3260	0.01440	3.080	32.90
72.0	10.00	10.20	4.87	4.80	68.0	68.0	9.84	2.190	0.02440	1.990	0.005940	0.000	138.0	38.6	29.00	10.8	1.6000	0.02010	0.9450	0.03080	5.540	50.10
25.9	4.84	5.43	1.58	2.68	25.1	21.8	20.40	0.145	0.00549	0.135	0.000668	0.169	45.4	13.0	8.49	22.5	0.0996	0.00448	0.0824	0.00315	0.619	23.80
45.7	9.02	10.10	2.49	3.32	47.0	38.8	18.00	0.297	0.00862	0.273	0.001060	0.498	58.9	24.5	14.80	19.9	0.2060	0.00704	0.1630	0.00506	1.550	30.50
60.1	11.40	12.20	3.68	4.10	58.1	52.5	15.90	0.622	0.01360	0.563	0.001700	0.506	77.4	30.6	20.80	17.6	0.4360	0.01110	0.3260	0.00820	2.310	39.40
84.2	15.80	16.20	4.87	5.61	79.5	79.5	13.00	1.980	0.02730	1.740	0.003530	0.000	121.0	42.7	34.20	14.4	1.4100	0.02240	0.9450	0.01740	3.960	59.30
30.3	3.23	3.66	1.34	4.48	32.5	26.0	16.60	0.118	0.00431	0.116	0.002270	0.246	35.5	14.2	6.00	18.3	0.0827	0.00353	0.0618	0.01130	1.410	9.75
55.3	5.97	6.75	2.67	5.57	60.9	46.6	14.70	0.245	0.00674	0.242	0.003590	0.653	47.2	26.8	10.40	16.2	0.1750	0.00554	0.1220	0.01820	3.470	12.50
74.8	7.47	8.15	4.30	7.05	75.3	64.0	12.90	0.522	0.01060	0.520	0.005690	0.756	64.0	33.4	14.90	14.2	0.3780	0.00873	0.2440	0.02960	5.460	16.30
109.0	10.20	10.60	7.59	9.71	103.0	102.0	10.60	1.700	0.02090	1.740	0.011600	0.156	106.0	46.8	25.60	11.6	1.2800	0.01740	0.7090	0.06320	10.800	24.70
38.4	4.87	5.63	1.34	5.30	37.2	29.8	21.90	0.111	0.00475	0.106	0.001350	0.228	35.5	15.4	7.64	24.2	0.0767	0.00388	0.0618	0.00648	0.948	13.40
67.4	9.07	10.40	2.67	6.57	69.8	53.0	19.40	0.228	0.00745	0.217	0.002130	0.613	46.4	29.0	13.30	21.4	0.1600	0.00610	0.1220	0.01040	2.340	17.10
89.6	11.50	12.70	4.30	8.14	86.5	72.5	17.10	0.480	0.01180	0.452	0.003400	0.741	61.5	36.3	18.80	18.9	0.3400	0.00964	0.2440	0.01680	3.620	22.10
126.0	16.00	16.80	7.59	11.20	119.0	115.0	14.00	1.540	0.02360	1.440	0.006990	0.394	97.5	50.8	31.90	15.5	1.1100	0.01940	0.7090	0.03570	6.930	33.10
39.0	6.71	7.88	1.34	5.98	42.2	31.3	25.00	0.109	0.00633	0.103	0.001050	0.325	28.8	16.6	8.28	27.6	0.0755	0.00517	0.0618	0.00498	0.927	13.50
68.6	12.50	14.70	2.67	7.17	79.3	55.5	22.10	0.225	0.00996	0.209	0.001660	0.849	37.3	31.3	14.40	24.5	0.1560	0.00814	0.1220	0.00796	2.280	17.30
92.6	15.90	17.90	4.30	9.14	98.4	76.3	19.50	0.472	0.01580	0.432	0.002650	1.130	49.1	39.1	20.40	21.6	0.3320	0.01290	0.2440	0.01290	3.520	22.40
138.0	22.60	24.00	7.59	12.80	136.0	122.0	16.10	1.500	0.03170	1.350	0.005440	1.250	76.7	54.9	34.70	17.8	1.0800	0.02600	0.7090	0.02720	6.660	33.60
69.0	16.50	19.50	2.67	7.66	88.8	57.1	24.60	0.222	0.01290	0.204	0.001350	1.140	30.0	33.6	15.00	27.2	0.1540	0.01050	0.1220	0.00643	2.410	16.30
96.5	21.00	23.90	4.30	9.84	110.0	78.7	21.80	0.466	0.02040	0.419	0.002160	1.600	39.3	42.0	21.30	24.1	0.3260	0.01670	0.2440	0.01040	3.730	21.10
149.0	30.00	32.20	7.59	14.10	153.0	128.0	17.90	1.480	0.04120	1.290	0.004440	2.260	60.7	59.0	36.40	19.8	1.0600	0.03370	0.7090	0.02180	7.050	31.80
70.7	5.99	6.89	2.12	9.31	84.6	57.3	15.60	0.200	0.00600	0.213	0.006060	0.918	34.3	31.3	8.61	17.1	0.1450	0.00495	0.0978	0.03170	5.590	6.61
96.9	7.51	8.32	4.27	11.90	105.0	80.0	13.70	0.426	0.00938	0.466	0.009570	1.200	47.1	39.1	12.40	15.1	0.3150	0.00781	0.1950	0.05170	8.940	8.59
147.0	10.30	10.80	9.17	17.00	144.0	131.0	11.40	1.380	0.01830	1.610	0.019300	1.170	79.3	54.9	21.80	12.3	1.0800	0.01560	0.5670	0.11000	18.400	13.10
76.7	9.09	10.70	2.12	10.60	95.9	66.1	20.50	0.186	0.00665	0.184	0.003640	0.767	36.0	33.6	11.40	22.7	0.1310	0.00545	0.0978	0.01810	3.520	9.71
109.0	11.50	13.00	4.27	13.60	119.0	91.5	18.10	0.393	0.01050	0.390	0.005790	1.010	48.1	42.0	16.30	20.0	0.2810	0.00862	0.1950	0.02940	5.560	12.50
168.0	16.10	17.30	9.17	19.30	164.0	149.0	14.90	1.260	0.02090	1.270	0.011800	1.070	77.5	59.0	28.20	16.4	0.9280	0.01730	0.5670	0.06240	11.200	18.80
84.5	12.60	15.10	2.12	12.20	108.0	69.7	23.40	0.183	0.00889	0.175	0.002850	0.937	30.5	35.8	12.80	25.9	0.1280	0.00728	0.0978	0.01390	3.140	10.70
124.0	16.00	18.40	4.27	15.60	134.0	96.7	20.70	0.386	0.01410	0.367	0.004530	1.300	40.5	44.8	18.30	22.8	0.2740	0.01150	0.1950	0.02250	4.940	13.80
189.0	22.70	24.70	9.17	21.80	186.0	158.0	17.00	1.240	0.02830	1.170	0.009240	1.730	64.2	63.0	31.70	18.8	0.8970	0.02330	0.5670	0.04750	9.770	20.70
85.5	16.50	20.00	2.12	12.80	120.0	71.9	26.00	0.181	0.01150	0.170	0.002320	1.170	25.4	38.1	13.70	28.8	0.1270	0.00940	0.0978	0.01120	3.050	10.90
126.0	21.10	24.60	4.27	16.60	149.0	99.9	23.00	0.381	0.01820	0.352	0.003700	1.690	33.5	47.7	19.70	25.4	0.2690	0.01490	0.1950	0.01810	4.780	14.10
202.0	30.20	33.20	9.17	23.90	207.0	164.0	19.00	1.220	0.03670	1.110	0.007560	2.560	52.5	67.1	34.10	21.0	0.8770	0.03010	0.5670	0.03810	9.400	21.20
119.0	7.53	8.43	3.54	18.30	138.0	93.8	14.50	0.358	0.00845	0.435	0.014600	1.750	34.5	44.8	10.40	15.8	0.2720	0.00713	0.1630	0.08150	13.600	4.91
184.0	10.30	11.00	9.47	26.60	191.0	158.0	12.10	1.150	0.01620	1.530	0.029200	2.330	59.0	63.0	18.60	12.9	0.9380	0.01420	0.4730	0.17400	28.500	7.49
133.0	11.50	13.20	3.54	20.70	155.0	109.0	19.00	0.333	0.00953	0.351	0.008890	1.350	37.2	47.7	14.00	20.9	0.2410	0.00787	0.1630	0.04640	8.210	7.44
210.0	16.20	17.50	9.47	30.10	215.0	180.0	15.70	1.070	0.01890	1.170	0.018000	1.830	60.9	67.1	24.50	17.1	0.8020	0.01580	0.4730	0.09840	16.900	11.20
135.0	16.00	18.80	3.54	22.90	173.0	116.0	21.70	0.328	0.01280	0.326	0.006980	1.530	33.0	50.5	16.10	23.9	0.2340	0.01050	0.1630	0.03550	6.910	8.63
227.0	22.80	25.20	9.47	33.70	241.0	192.0	17.90	1.050	0.02560	1.060	0.014200	2.280	53.1	71.2	28.20	19.7	0.7740	0.02120	0.4730	0.07490	14.000	13.00
149.0	21.10	25.10	3.54	25.70	191.0	120.0	24.10	0.324	0.01660	0.309	0.005730	1.830	28.4	53.4	17.70	26.6	0.2300	0.01360	0.1630	0.02860	6.310	9.31
262.0	30.40	33.90	9.47	37.00	266.0	200.0	19.90	1.040	0.03340	0.990	0.011600	2.940	45.1	75.2	31.00	21.9	0.7550	0.02750	0.4730	0.06010	12.700	14.00
141.0	7.54	8.51	3.02	26.10	176.0	106.0	15.20	0.307	0.00768	0.415	0.020700	2.410	25.5	50.5	8.93	16.4	0.2410	0.00660	0.1400	0.12000	19.700	3.01
221.0	10.30	11.10	8.86	38.60	244.0	182.0	12.80	0.962	0.01450	1.490	0.041000	3.670	44.1	71.2	16.00	13.4	0.8360	0.01320	0.4050	0.25600	41.500	4.61
158.0	11.60	13.40	3.02	29.50	196.0	124.0	19.80	0.289	0.00877	0.326	0.012700	1.760	28.6	53.4	12.10	21.7	0.2120	0.00728	0.1400	0.06820	11.600	4.65
251.0	16.20	17.70	8.86	43.40	272.0	209.0	16.40	0.924	0.01730	1.110	0.025600	2.700	47.5	75.2	21.40	17.8	0.7100	0.01460	0.4050	0.14500	24.200	7.00
160.0	16.10	19.00	3.02	32.50	217.0	133.0	22.60	0.285	0.01180	0.298	0.010000	1.830	26.7	56.2	14.10	24.8	0.2060	0.00974	0.1400	0.05220	9.490	5.58
270.0	22.90	25.50	8.86	48.30	302.0	224.0	18.70	0.916	0.02360	0.990	0.020200	2.930	43.5	79.3	24.90	20.4						

**Joist Section Properties Table**

Joist Designation	DIMENSIONS				UNPERFORATED PROPERTIES																			
	Thickness t (mm)	Depth A (mm)	Flange B (mm)	Lip C (mm)	Weight (kg/m)	Yield F <sub>y</sub> (MPa)	Area (E+03mm <sup>2</sup> )	x <sub>cg</sub> (mm)	m (mm)	x <sub>e</sub> (mm)	C <sub>w</sub> (E+06mm <sup>4</sup> )	J (mm <sup>2</sup> )	j (mm)	r <sub>x</sub> (mm)	r <sub>y</sub> (mm)	M <sub>rx, LB</sub> (kN.m)	L <sub>x</sub> (mm)	M <sub>rx, LB web.comp</sub> (kN.m)	M <sub>ry, LB lips.comp</sub> (kN.m)	Shear V <sub>r</sub> (kN)	Web Cripp. P <sub>r</sub> (kN)	I <sub>x</sub> (E+06mm <sup>4</sup> )	I <sub>y</sub> (E+06mm <sup>4</sup> )	S <sub>x</sub> (E+03mm <sup>3</sup> )
600S162-43	1.146	152.400	41.275	12.7	2.26	230	0.288	10.50	17.0	27.0	294.0	126.0	85.0	57.8	14.6	2.590	1040	0.387	0.411	8.04	2.33	0.964	0.0618	12.60
600S162-54	1.438	152.400	41.275	12.7	2.82	345	0.359	10.50	16.9	26.6	359.0	247.0	85.8	57.6	14.5	4.710	838	0.715	0.758	16.00	5.31	1.190	0.0752	15.60
600S162-68	1.811	152.400	41.275	12.7	3.51	345	0.447	10.50	16.6	26.2	437.0	489.0	87.2	57.3	14.2	5.970	833	0.887	0.914	30.40	7.98	1.470	0.0907	19.30
600S162-97	2.583	152.400	41.275	12.7	4.89	345	0.623	10.40	16.2	25.3	578.0	1390.0	90.3	56.6	13.8	8.130	825	1.190	1.190	59.60	14.90	2.000	0.1180	26.20
600S200-43	1.146	152.400	50.800	15.9	2.49	230	0.317	14.60	22.7	36.7	546.0	139.0	82.4	59.3	18.8	2.930	1310	0.585	0.632	8.04	2.33	1.120	0.1120	14.70
600S200-54	1.438	152.400	50.800	15.9	3.10	345	0.395	14.60	22.5	36.4	669.0	272.0	82.8	59.1	18.6	5.160	1060	1.090	1.090	16.00	5.31	1.380	0.1370	18.10
600S200-68	1.811	152.400	50.800	15.9	3.87	345	0.493	14.50	22.3	35.9	818.0	539.0	83.4	58.8	18.4	6.800	1050	1.370	1.430	30.40	7.98	1.710	0.1670	22.40
600S200-97	2.583	152.400	50.800	15.9	5.40	345	0.689	14.50	21.8	35.0	1100.0	1530.0	84.9	58.2	17.9	9.510	1050	1.880	1.890	59.60	14.90	2.340	0.2210	30.70
800S162-43	1.146	203.200	41.275	12.7	2.72	230	0.347	8.84	15.3	23.5	557.0	152.0	128.0	74.6	13.9	3.420	1010	0.389	0.420	5.97	2.22	1.930	0.0666	19.00
800S162-54	1.438	203.200	41.275	12.7	3.39	345	0.432	8.85	15.1	23.2	682.0	298.0	130.0	74.3	13.7	6.240	816	0.720	0.775	11.90	5.09	2.390	0.0810	23.50
800S162-68	1.811	203.200	41.275	12.7	4.23	345	0.539	8.85	14.9	22.8	831.0	589.0	132.0	74.0	13.5	8.460	809	0.894	0.936	24.00	7.69	2.950	0.0978	29.00
800S162-97	2.583	203.200	41.275	12.7	5.92	345	0.754	8.86	14.4	22.0	1100.0	1680.0	139.0	73.2	13.0	12.300	797	1.200	1.220	61.90	14.50	4.040	0.1270	39.80
800S200-43	1.146	203.200	50.800	15.9	2.95	230	0.376	12.40	20.6	32.4	1020.0	164.0	115.0	76.7	18.0	4.330	1280	0.588	0.648	5.97	2.22	2.210	0.1210	21.70
800S200-54	1.438	203.200	50.800	15.9	3.68	345	0.468	12.40	20.4	32.1	1250.0	323.0	116.0	76.4	17.8	7.610	1030	1.100	1.200	11.90	5.09	2.740	0.1490	26.90
800S200-68	1.811	203.200	50.800	15.9	4.59	345	0.585	12.40	20.2	31.7	1530.0	640.0	117.0	76.1	17.6	10.100	1030	1.380	1.460	24.00	7.69	3.390	0.1810	33.40
800S200-97	2.583	203.200	50.800	15.9	6.43	345	0.820	12.40	19.7	30.8	2060.0	1820.0	121.0	75.4	17.1	14.200	1020	1.900	1.940	61.90	14.50	4.660	0.2400	45.90
800S250-43	1.146	203.200	63.500	15.9	3.18	230	0.405	16.60	26.5	42.5	1710.0	177.0	112.0	78.7	22.7	4.400	1560	0.812	0.909	5.97	2.22	2.500	0.2080	24.60
800S250-54	1.438	203.200	63.500	15.9	3.96	345	0.505	16.60	26.3	42.2	2110.0	348.0	112.0	78.4	22.5	7.750	1260	1.520	1.690	11.90	5.09	3.110	0.2560	30.60
800S250-68	1.811	203.200	63.500	15.9	4.95	345	0.631	16.60	26.1	41.7	2590.0	690.0	113.0	78.2	22.3	10.500	1260	1.930	2.070	24.00	7.69	3.850	0.3130	37.90
800S250-97	2.583	203.200	63.500	15.9	6.95	345	0.885	16.50	25.6	40.8	3520.0	1970.0	115.0	77.5	21.8	15.600	1250	2.700	2.780	61.90	14.50	5.320	0.4200	52.40
800S300-54	1.438	203.200	76.200	15.9	4.25	345	0.542	21.10	32.3	52.7	3240.0	373.0	113.0	80.2	27.2	7.800	1490	1.990	2.250	11.90	5.09	3.480	0.3990	34.20
800S300-68	1.811	203.200	76.200	15.9	5.31	345	0.677	21.00	32.1	52.2	4000.0	740.0	114.0	79.9	26.9	10.900	1480	2.540	2.760	24.00	7.69	4.320	0.4910	42.50
800S300-97	2.583	203.200	76.200	15.9	7.46	345	0.951	21.00	31.6	51.2	5450.0	2120.0	115.0	79.3	26.4	16.800	1470	3.610	3.730	61.90	14.50	5.980	0.6640	58.90
1000S162-54	1.438	254.000	41.275	12.7	3.96	345	0.505	7.67	13.7	20.6	1130.0	348.0	189.0	90.6	13.0	7.990	794	0.722	0.786	9.44	4.90	4.140	0.0851	32.60
1000S162-68	1.811	254.000	41.275	12.7	4.95	345	0.631	7.69	13.5	20.3	1380.0	690.0	193.0	90.2	12.8	11.000	787	0.899	0.949	19.00	7.45	5.130	0.1030	40.40
1000S162-97	2.583	254.000	41.275	12.7	6.95	345	0.885	7.73	13.1	19.5	1830.0	1970.0	204.0	89.3	12.3	16.600	772	1.210	1.240	56.00	14.10	7.060	0.1340	55.60
1000S200-54	1.438	254.000	50.800	15.9	4.25	345	0.542	10.80	18.7	28.8	2060.0	373.0	161.0	93.1	17.0	8.660	1010	1.100	1.220	9.44	4.90	4.690	0.1570	37.00
1000S200-68	1.811	254.000	50.800	15.9	5.31	345	0.677	10.80	18.5	28.4	2520.0	740.0	164.0	92.8	16.8	12.300	1000	1.380	1.490	19.00	7.45	5.830	0.1920	45.90
1000S200-97	2.583	254.000	50.800	15.9	7.46	345	0.951	10.80	18.1	27.6	3400.0	2120.0	170.0	92.0	16.4	19.000	991	1.910	1.970	56.00	14.10	8.050	0.2540	63.40
1000S250-54	1.438	254.000	63.500	15.9	4.54	345	0.578	14.60	24.3	38.2	3470.0	398.0	147.0	95.5	21.7	9.550	1250	1.520	1.720	9.44	4.90	5.280	0.2720	41.50
1000S250-68	1.811	254.000	63.500	15.9	5.68	345	0.723	14.60	24.1	37.8	4270.0	791.0	149.0	95.2	21.5	14.100	1240	1.930	2.110	19.00	7.45	6.560	0.3330	51.60
1000S250-97	2.583	254.000	63.500	15.9	7.98	345	1.020	14.50	23.7	36.9	5810.0	2260.0	153.0	94.5	21.0	21.400	1230	2.720	2.830	56.00	14.10	9.09	0.4470	71.50
1000S300-54	1.438	254.000	76.200	15.9	4.82	345	0.615	18.70	30.1	48.1	5340.0	423.0	142.0	97.6	26.3	9.670	1470	2.000	2.300	9.44	4.90	5.860	0.4260	46.10
1000S300-68	1.811	254.000	76.200	15.9	6.04	345	0.769	18.60	29.9	47.6	6590.0	841.0	143.0	97.3	26.1	14.200	1470	2.550	2.820	19.00	7.45	7.290	0.5240	57.40
1000S300-97	2.583	254.000	76.200	15.9	8.49	345	1.080	18.60	29.4	46.7	9010.0	2410.0	146.0	96.7	25.6	22.900	1460	3.640	3.820	56.00	14.10	10.100	0.7090	79.70
1200S162-68	1.811	304.800	41.275	12.7	5.68	345	0.723	6.83	12.3	18.3	2080.0	791.0	269.0	106.0	12.1	13.400	766	0.901	0.959	15.70	7.22	8.120	0.1060	53.30
1200S162-97	2.583	304.800	41.275	12.7	7.98	345	1.020	6.90	11.9	17.5	2770.0	2260.0	285.0	105.0	11.7	20.800	749	1.220	1.250	46.30	13.70	11.200	0.1390	73.70
1200S200-68	1.811	304.800	50.800	15.9	6.04	345	0.769	9.65	17.1	25.8	3810.0	841.0	222.0	109.0	16.1	15.100	983	1.390	1.500	15.70	7.22	9.140	0.2000	59.90
1200S200-97	2.583	304.800	50.800	15.9	8.49	345	1.080	9.69	16.7	25.1	5140.0	2410.0	231.0	108.0	15.6	23.700	968	1.920	2.000	46.30	13.70	12.700	0.2650	83.10
1200S250-68	1.811	304.800	63.500	15.9	6.40	345	0.815	13.00	22.5	34.6	6450.0	891.0	195.0	112.0	20.7	15.300	1220	1.940	2.140	15.70	7.22	10.200	0.3480	66.90
1200S250-97	2.583	304.800	63.500	15.9	9.01	345	1.150	13.00	22.0	33.8	8790.0	2550.0	201.0	111.0	20.2	25.600	1210	2.740	2.870	46.30	13.70	14.200	0.4670	92.90
1200S300-68	1.811	304.800	76.200	15.9	6.76	345	0.861	16.70	28.0	43.8	9970.0	941.0	181.0	114.0	25.3	16.900	1450	2.560	2.870	15.70	7.22	11.200	0.5500	73.80
1200S300-97	2.583	304.800	76.200	15.9	9.52	345	1.210	16.70	27.5	43.0	13700.0	2700.0	185.0	114.0	24.8	29.600	1440	3.650	3.880	46.30	13.70	15.700	0.7440	103.00
1400S162-68	1.811	355.600	41.275	12.7	6.40	345	0.815	6.16	11.4	16.6	2940.0	891.0	361.0	122.0	11.6	15.900	745	0.903	0.966	13.40	7.02	12.100	0.1090	67.80
1400S162-97	2.583	355.600	41.275	12.7	9.01	345	1.150	6.26	11.0	16.0	3930.0	2550.0	382.0	121.0	11.1	25.000	728	1.220	1.260	39.40	13.40	16.700	0.1420	93.90
1400S200-68	1.811	355.600	50.800	15.9	6.76	345	0.861	8.72	15.9	23.7	5390.0	941.0	292.0	125.0	15.5	17.800	962	1.390	1.					

PERFORATED PROPERTIES						BEAM DISTORTIONAL BUCKLING PROPERTIES												COLUMN DISTORTIONAL BUCKLING PROPERTIES									
M <sub>xx, LB</sub>	M <sub>yy, LB</sub>	M <sub>zz, LB</sub>	Shear V <sub>y</sub>	I <sub>xx</sub>	I <sub>yy</sub>	M <sub>xx, Fy</sub>	M <sub>xx, DB</sub>	L <sub>cr</sub>	K <sub>xx</sub>	K <sub>yy</sub>	K <sub>zz</sub>	K <sub>xy</sub>	K <sub>yz</sub>	K <sub>yx</sub>	F <sub>d</sub>	P <sub>r, Fy</sub>	P <sub>r, DB</sub>	L <sub>cr</sub>	K <sub>xx</sub>	K <sub>yy</sub>	K <sub>zz</sub>	K <sub>xy</sub>	K <sub>yz</sub>	K <sub>yx</sub>	K <sub>zy</sub>	F <sub>d</sub>	
(kN.m)	(kN.m)	(kN.m)	(kN)	(E+06mm <sup>4</sup> )	(kN.m)	(kN.m)	(mm)	(kN)	(mm <sup>2</sup> )	(kN)	(mm <sup>2</sup> )	(kN)	(mm <sup>2</sup> )	(kN)	(MPa)	(kN)	(kN)	(mm)	(kN)	(mm <sup>2</sup> )	(kN)	(mm <sup>2</sup> )	(kN)	(mm <sup>2</sup> )	(kN)	(MPa)	
2.590	0.362	0.401	7.05	0.964	2.450	2.170	392.0	0.680	3.220	0.638	0.734	0.666	334.0	334.0	52.50	31.50	433.0	0.474	2.630	0.367	3.550	3.630	136.0	136.0	136.0		
4.710	0.671	0.738	11.10	1.190	4.580	3.880	346.0	1.410	5.040	1.310	1.160	2.000	439.0	439.0	99.00	54.90	383.0	0.994	4.120	0.725	5.710	9.050	175.0	175.0	175.0		
5.970	0.837	0.889	16.40	1.470	5.640	5.250	305.0	3.000	7.930	2.760	1.860	1.700	587.0	587.0	123.00	77.30	337.0	2.140	6.500	1.450	9.300	13.700	227.0	227.0	227.0		
8.130	1.130	1.150	21.70	2.000	7.680	7.680	250.0	9.740	15.800	8.870	3.830	0.000	950.0	950.0	172.00	129.00	275.0	7.130	13.000	4.210	19.900	24.600	345.0	345.0	345.0		
2.930	0.547	0.613	7.05	1.120	2.830	2.470	517.0	0.643	3.540	0.600	0.431	0.751	313.0	313.0	57.80	37.80	572.0	0.443	2.890	0.367	2.040	2.750	164.0	164.0	164.0		
5.160	1.020	1.140	11.10	1.380	5.310	4.390	458.0	1.320	5.560	1.210	0.684	2.220	406.0	406.0	109.00	66.00	507.0	0.917	4.540	0.725	3.260	6.910	210.0	210.0	210.0		
6.800	1.280	1.380	16.40	1.710	6.560	5.930	404.0	2.770	8.780	2.500	1.100	2.250	533.0	533.0	136.00	92.30	447.0	1.940	7.180	1.450	5.290	10.300	272.0	272.0	272.0		
9.510	1.780	1.830	21.70	2.340	8.980	8.980	331.0	8.800	17.600	7.740	2.270	0.000	831.0	831.0	190.00	152.00	366.0	6.280	14.400	4.210	11.200	17.600	409.0	409.0	409.0		
3.420	0.365	0.414	5.97	1.870	3.670	2.940	422.0	0.523	2.780	0.515	1.470	1.090	245.0	245.0	63.10	26.70	466.0	0.368	2.280	0.275	7.290	6.270	67.2	67.2	67.2		
6.240	0.675	0.763	11.90	2.320	6.890	5.260	373.0	1.090	4.350	1.080	2.310	2.900	325.0	325.0	119.00	46.30	411.0	0.777	3.570	0.544	11.700	15.400	86.4	86.4	86.4		
8.460	0.844	0.921	19.10	2.940	8.510	7.230	329.0	2.320	6.830	2.310	3.670	3.360	441.0	441.0	149.00	66.10	362.0	1.680	5.630	1.090	19.100	24.300	112.0	112.0	112.0		
12.300	1.150	1.200	33.80	4.040	11.700	11.500	270.0	7.560	13.500	7.720	7.480	0.666	729.0	729.0	208.00	114.00	296.0	5.690	11.200	3.150	40.800	48.100	170.0	170.0	170.0		
4.330	0.550	0.637	5.97	2.210	4.200	3.360	556.0	0.493	3.060	0.471	0.869	1.010	245.0	245.0	68.40	34.00	615.0	0.341	2.500	0.275	4.180	4.210	92.2	92.2	92.2		
7.610	1.020	1.180	11.90	2.740	7.890	5.990	492.0	1.020	4.810	0.963	1.380	2.730	320.0	320.0	129.00	59.00	544.0	0.710	3.930	0.544	6.700	10.400	118.0	118.0	118.0		
10.100	1.290	1.440	19.10	3.390	9.770	8.190	434.0	2.140	7.590	2.010	2.200	3.300	424.0	424.0	161.00	83.70	480.0	1.510	6.220	1.090	10.900	16.100	152.0	152.0	152.0		
14.200	1.810	1.900	33.80	4.660	13.500	13.000	357.0	6.850	15.200	6.400	4.510	1.750	672.0	672.0	226.00	142.00	393.0	4.950	12.500	3.150	23.000	30.800	228.0	228.0	228.0		
4.400	0.758	0.891	5.97	2.490	4.770	3.540	634.0	0.486	4.080	0.457	0.675	1.450	198.0	198.0	73.70	36.80	702.0	0.336	3.340	0.275	3.210	4.120	93.3	93.3	93.3		
7.750	1.420	1.660	11.90	2.980	8.960	6.270	562.0	1.000	6.420	0.928	1.070	3.770	257.0	257.0	139.00	64.00	622.0	0.696	5.250	0.544	5.100	11.000	119.0	119.0	119.0		
10.500	1.800	2.030	19.10	3.800	11.100	8.620	496.0	2.100	10.200	1.920	1.710	5.010	359.0	359.0	174.00	90.80	549.0	1.480	8.310	1.090	8.310	15.600	154.0	154.0	154.0		
15.600	2.550	2.720	33.80	5.320	15.400	13.800	408.0	6.690	20.500	5.990	3.510	5.560	529.0	529.0	244.00	155.00	451.0	4.800	16.800	3.150	17.500	29.600	232.0	232.0	232.0		
7.800	1.860	2.200	11.90	3.190	10.000	6.450	625.0	0.990	8.300	0.906	0.871	5.080	207.0	207.0	149.00	66.60	692.0	0.687	6.780	0.635	4.150	10.700	113.0	113.0	113.0		
10.900	2.370	2.700	19.10	4.100	12.500	8.890	552.0	2.070	13.100	1.860	1.390	7.130	271.0	271.0	187.00	94.70	611.0	1.450	10.800	1.090	6.690	16.600	146.0	146.0	146.0		
16.800	3.390	3.640	33.80	5.880	17.300	14.400	456.0	6.590	26.600	5.740	2.860	10.100	419.0	419.0	262.00	162.00	503.0	4.690	21.700	3.150	14.100	31.400	219.0	219.0	219.0		
7.990	0.677	0.778	9.44	3.870	9.560	6.470	395.0	0.890	3.870	0.948	3.910	4.080	236.0	236.0	139.00	38.30	435.0	0.644	3.200	0.435	20.500	24.800	45.6	45.6	45.6		
11.000	0.848	0.940	19.00	4.960	11.800	9.030	349.0	1.900	6.050	2.070	6.180	5.340	325.0	325.0	174.00	55.20	383.0	1.400	5.040	0.869	33.300	39.800	59.2	59.2	59.2		
16.600	1.160	1.220	40.80	7.060	16.300	14.800	289.0	6.140	11.800	7.150	12.500	5.200	547.0	547.0	244.00	96.90	313.0	4.790	10.100	2.520	71.200	81.700	90.0	90.0	90.0		
8.660	1.030	1.210	9.44	4.430	10.800	7.470	521.0	0.829	4.290	0.819	2.350	3.410	248.0	248.0	149.00	50.60	576.0	0.583	3.520	0.435	11.700	15.600	66.9	66.9	66.9		
12.300	1.300	1.470	19.00	5.660	13.400	10.300	460.0	1.750	6.770	1.740	3.730	4.510	332.0	332.0	187.00	72.50	507.0	1.250	5.560	0.869	19.000	24.700	86.3	86.3	86.3		
19.000	1.820	1.950	40.80	8.050	18.600	16.800	379.0	5.620	13.500	5.660	7.610	4.780	535.0	535.0	262.00	125.00	416.0	4.130	11.200	2.520	40.200	49.700	129.0	129.0	129.0		
9.550	1.420	1.700	9.44	5.080	12.200	7.880	595.0	0.816	5.740	0.779	1.840	4.170	211.0	211.0	159.00	56.90	657.0	0.571	4.700	0.435	8.970	14.000	73.6	73.6	73.6		
14.100	1.810	2.080	19.00	6.470	15.100	10.900	525.0	1.720	9.070	1.630	2.920	5.780	279.0	279.0	199.00	81.40	580.0	1.220	7.440	0.869	14.500	22.000	95.1	95.1	95.1		
21.400	2.570	2.790	40.80	9.090	21.000	17.800	433.0	5.510	18.200	5.200	5.960	7.700	443.0	443.0	280.00	141.00	477.0	3.990	15.000	2.520	30.600	43.500	143.0	143.0	143.0		
9.670	1.860	2.260	9.44	5.330	13.500	8.120	661.0	0.807	7.420	0.755	1.500	5.220	175.0	175.0	169.00	61.10	731.0	0.563	6.060	0.435	7.240	13.600	75.0	75.0	75.0		
14.200	2.380	2.780	19.00	6.930	16.800	11.300	585.0	1.700	11.700	1.570	2.390	7.500	231.0	231.0	212.00	87.50	646.0	1.200	9.620	0.869	11.700	21.300	96.9	96.9	96.9		
22.900	3.410	3.760	40.80	9.950	23.400	18.500	482.0	5.420	23.700	4.920	4.880	11.400	362.0	362.0	298.00	152.00	532.0	3.900	19.400	2.520	24.600	41.800	146.0	146.0	146.0		
13.400	0.850	0.952	15.70	7.600	15.600	10.600	368.0	1.590	5.450	1.930	9.390	7.770	238.0	238.0	199.00	46.50	401.0	1.210	4.600	0.725	52.600	60.700	33.9	33.9	33.9		
20.800	1.160	1.240	42.10	11.100	21.600	17.800	306.0	5.100	10.500	6.820	18.800	10.400	407.0	407.0	280.00	82.60	327.0	4.170	9.180	2.100	112.000	127.000	51.6	51.6	51.6		
15.100	1.300	1.490	15.70	8.620	17.600	12.300	482.0	1.480	6.150	1.560	5.730	6.000	256.0	256.0	212.00	62.20	531.0	1.070	5.080	0.725	29.900	36.500	51.3	51.3	51.3		
23.700	1.830	1.980	42.10	12.500	24.300	20.300	398.0	4.760	12.200	5.230	11.600	8.130	420.0	420.0	298.00	109.00	435.0	3.570	10.200	2.100	63.500	75.000	77.0	77.0	77.0		
15.300	1.810	2.120	15.70	9.530	19.600	13.100	550.0	1.460	8.260	1.450	4.500	6.810	228.0	228.0	225.00	71.50	607.0	1.040	6.790	0.725	22.900	30.700	59.5	59.5	59.5		
25.600	2.580	2.840	42.10	14.000	27.200	21.700	454.0	4.690	16.500	4.720	9.130	10.100	366.0	366.0	317.00	125.00	499.0	3.440	13.700	2.100	48.300	62.400	89.5	89.5	89.5		
16.900	2.390	2.840	15.70	10.700	21.600	13.600	612.0	1.440	10.700	1.380	3.700	8.140	196.0	196.0	237.00	78.70	676.0	1.020	8.780	0.725	18.400	28.100	64.2	64.2	64.2		
29.600	3.430	3.840	42.10	15.400	30.100	22.600	506.0	4.620	21.500	4.400	7.500	13.100	311.0	311.0	335.00	138.00	557.0	3.360	17.800	2.100	38.800						



Track Designation	DIMENSIONS			PROPERTIES																
	Thickness t (in.)	Depth A (in.)	Flange B (in.)	Weight (lbs./ft.)	Yield F <sub>y</sub> (ksi)	Area (in. <sup>2</sup> )	x <sub>cg</sub> (in.)	x <sub>c</sub> (in.)	C <sub>w</sub> (in. <sup>4</sup> )	J (in. <sup>4</sup> )	j (in.)	r <sub>x</sub> (in.)	r <sub>y</sub> (in.)	I <sub>x</sub> (in. <sup>4</sup> )	I <sub>y</sub> (in. <sup>4</sup> )	S <sub>x</sub> (in. <sup>3</sup> )	M <sub>x</sub> (in.kips)	L <sub>x</sub> (in.)	Shear V <sub>p</sub> (kips)	I <sub>z</sub> def. (in. <sup>2</sup> )
362T125-33	0.0346	3.701	1.25	0.721	33	0.212	0.266	0.658	0.0756	0.0000845	2.09	1.44	0.377	0.438	0.0301	0.232	5.17	25.7	1.310	0.381
362T125-43	0.0451	3.696	1.25	0.939	33	0.276	0.269	0.654	0.0978	0.0001870	2.09	1.44	0.375	0.571	0.0389	0.302	7.27	25.8	2.220	0.525
362T125-54	0.0566	3.710	1.25	1.180	50	0.346	0.273	0.648	0.1230	0.0003690	2.11	1.45	0.373	0.723	0.0482	0.378	14.00	20.9	4.310	0.671
362T125-68	0.0713	3.732	1.25	1.480	50	0.436	0.277	0.641	0.1560	0.0007380	2.13	1.45	0.370	0.921	0.0598	0.475	19.20	21.0	6.020	0.901
362T125-97	0.1017	3.778	1.25	2.110	50	0.621	0.287	0.626	0.2260	0.0021400	2.17	1.47	0.365	1.340	0.0825	0.675	30.40	21.4	8.480	1.340
362T150-33	0.0346	3.701	1.50	0.780	33	0.229	0.350	0.854	0.1240	0.0000914	2.08	1.48	0.467	0.499	0.0499	0.264	5.36	30.9	1.310	0.409
362T150-43	0.0451	3.696	1.50	1.020	33	0.298	0.353	0.850	0.1600	0.0002020	2.08	1.48	0.465	0.650	0.0645	0.343	7.57	31.0	2.220	0.567
362T150-54	0.0566	3.710	1.50	1.270	50	0.374	0.356	0.844	0.2020	0.0004000	2.09	1.48	0.463	0.823	0.0801	0.431	14.60	25.2	4.310	0.726
362T150-68	0.0713	3.732	1.50	1.600	50	0.471	0.361	0.836	0.2570	0.0007990	2.10	1.49	0.460	1.050	0.0996	0.542	20.20	25.3	6.020	0.982
362T150-97	0.1017	3.778	1.50	2.290	50	0.672	0.370	0.820	0.3740	0.0023200	2.13	1.51	0.454	1.530	0.1380	0.771	33.00	25.8	8.480	1.530
362T200-33	0.0346	3.701	2.00	0.897	33	0.264	0.533	1.270	0.2690	0.0001050	2.23	1.53	0.645	0.619	0.1100	0.328	5.65	41.0	1.310	0.458
362T200-43	0.0451	3.696	2.00	1.170	33	0.343	0.536	1.270	0.3500	0.0002330	2.23	1.53	0.643	0.808	0.1420	0.427	8.03	41.1	2.220	0.640
362T200-54	0.0566	3.710	2.00	1.470	50	0.431	0.539	1.260	0.4420	0.0004600	2.24	1.54	0.641	1.020	0.1770	0.536	15.50	33.4	4.310	0.819
362T200-68	0.0713	3.732	2.00	1.850	50	0.543	0.543	1.250	0.5640	0.0009190	2.24	1.55	0.638	1.310	0.2210	0.675	21.60	33.6	6.020	1.120
362T200-97	0.1017	3.778	2.00	2.630	50	0.773	0.551	1.230	0.8250	0.0026700	2.25	1.57	0.632	1.920	0.3090	0.963	36.20	34.3	8.480	1.820
400T125-33	0.0346	4.076	1.25	0.765	33	0.225	0.251	0.630	0.0946	0.0000897	2.35	1.56	0.371	0.549	0.0309	0.265	5.97	25.6	1.200	0.480
400T125-43	0.0451	4.071	1.25	0.996	33	0.293	0.255	0.626	0.1220	0.0001980	2.35	1.56	0.369	0.716	0.0398	0.344	8.37	25.6	2.220	0.660
400T125-54	0.0566	4.085	1.25	1.250	50	0.367	0.259	0.621	0.1540	0.0003920	2.37	1.57	0.367	0.904	0.0494	0.431	16.10	20.8	4.310	0.842
400T125-68	0.0713	4.107	1.25	1.570	50	0.462	0.264	0.614	0.1940	0.0007830	2.39	1.58	0.364	1.150	0.0612	0.541	22.00	20.9	6.660	1.130
400T125-97	0.1017	4.153	1.25	2.240	50	0.659	0.274	0.600	0.2800	0.0022700	2.44	1.59	0.358	1.670	0.0846	0.768	34.60	21.1	9.930	1.670
400T150-33	0.0346	4.076	1.50	0.824	33	0.242	0.332	0.821	0.1550	0.0000966	2.28	1.60	0.460	0.622	0.0513	0.300	6.19	30.8	1.300	0.514
400T150-43	0.0451	4.071	1.50	1.070	33	0.315	0.335	0.817	0.2000	0.0002140	2.28	1.60	0.458	0.811	0.0662	0.390	8.71	30.9	2.220	0.711
400T150-54	0.0566	4.085	1.50	1.350	50	0.396	0.339	0.811	0.2520	0.0004220	2.30	1.61	0.456	1.030	0.0823	0.489	16.80	25.1	4.310	0.908
400T150-68	0.0713	4.107	1.50	1.690	50	0.498	0.343	0.804	0.3200	0.0008440	2.31	1.62	0.453	1.310	0.1020	0.615	23.10	25.2	6.660	1.220
400T150-97	0.1017	4.153	1.50	2.410	50	0.710	0.353	0.788	0.4630	0.0024500	2.35	1.64	0.447	1.900	0.1420	0.874	37.40	25.6	9.930	1.900
400T200-33	0.0346	4.076	2.00	0.941	33	0.277	0.509	1.230	0.3360	0.0001100	2.37	1.67	0.639	0.768	0.1130	0.371	6.53	41.0	1.200	0.574
400T200-43	0.0451	4.071	2.00	1.230	33	0.360	0.512	1.220	0.4360	0.0002440	2.37	1.67	0.637	1.000	0.1460	0.482	9.23	41.1	2.220	0.799
400T200-54	0.0566	4.085	2.00	1.540	50	0.452	0.515	1.220	0.5510	0.0004830	2.38	1.67	0.635	1.270	0.1820	0.604	17.80	33.4	4.310	1.020
400T200-68	0.0713	4.107	2.00	1.940	50	0.569	0.519	1.210	0.7020	0.0009650	2.39	1.69	0.632	1.620	0.2270	0.761	24.70	33.6	6.660	1.390
400T200-97	0.1017	4.153	2.00	2.760	50	0.811	0.528	1.190	1.0200	0.0028000	2.40	1.71	0.626	2.360	0.3180	1.090	41.00	34.1	9.930	2.240
600T125-33	0.0346	6.076	1.25	1.000	33	0.294	0.196	0.516	0.2380	0.0001170	4.22	2.20	0.339	1.430	0.0338	0.465	8.81	24.8	0.795	1.200
600T125-43	0.0451	6.071	1.25	1.300	33	0.383	0.200	0.513	0.3070	0.0002600	4.24	2.20	0.337	1.860	0.0436	0.640	13.70	24.8	1.760	1.720
600T125-54	0.0566	6.085	1.25	1.630	50	0.480	0.204	0.508	0.3840	0.0005130	4.27	2.21	0.335	2.340	0.0540	0.756	26.60	20.1	3.480	2.190
600T125-68	0.0713	6.107	1.25	2.060	50	0.605	0.210	0.503	0.4830	0.0010300	4.32	2.22	0.333	2.970	0.0670	0.950	38.60	20.1	6.840	2.920
600T125-97	0.1017	6.153	1.25	2.930	50	0.862	0.221	0.491	0.6850	0.0029700	4.41	2.23	0.327	4.280	0.0925	1.350	60.60	20.1	13.900	4.280
600T150-33	0.0346	6.076	1.50	1.060	33	0.311	0.262	0.684	0.3900	0.0001240	3.80	2.26	0.426	1.590	0.0566	0.517	8.99	30.3	0.795	1.270
600T150-43	0.0451	6.071	1.50	1.380	33	0.405	0.265	0.680	0.5040	0.0002750	3.81	2.26	0.425	2.070	0.0731	0.673	14.10	30.2	1.760	1.830
600T150-54	0.0566	6.085	1.50	1.730	50	0.509	0.269	0.675	0.6320	0.0005430	3.83	2.27	0.422	2.610	0.0908	0.843	27.40	24.5	3.480	2.330
600T150-68	0.0713	6.107	1.50	2.180	50	0.641	0.275	0.669	0.7970	0.0010900	3.87	2.27	0.420	3.310	0.1130	1.060	40.10	24.5	6.840	3.130
600T150-97	0.1017	6.153	1.50	3.110	50	0.913	0.285	0.656	1.1400	0.0031500	3.94	2.29	0.414	4.780	0.1570	1.500	65.00	24.6	13.900	4.780
600T200-33	0.0346	6.076	2.00	1.180	33	0.346	0.411	1.050	0.8470	0.0001380	3.44	2.35	0.604	1.910	0.1260	0.622	9.89	40.9	0.795	1.500
600T200-43	0.0451	6.071	2.00	1.530	33	0.451	0.414	1.040	1.1000	0.0003050	3.45	2.35	0.602	2.490	0.1630	0.809	16.80	40.9	1.760	2.060
600T200-54	0.0566	6.085	2.00	1.920	50	0.565	0.418	1.040	1.3800	0.0006040	3.46	2.36	0.600	3.140	0.2040	1.010	32.30	33.2	3.480	2.620
600T200-68	0.0713	6.107	2.00	2.420	50	0.712	0.422	1.030	1.7500	0.0012100	3.48	2.37	0.597	3.990	0.2540	1.280	43.80	33.3	6.840	3.510
600T200-97	0.1017	6.153	2.00	3.450	50	1.010	0.432	1.020	2.5100	0.0035000	3.52	2.39	0.592	5.770	0.3550	1.820	70.50	33.5	13.900	5.510
800T125-43	0.0451	8.071	1.25	1.610	33	0.473	0.166	0.436	0.5890	0.0003210	6.95	2.82	0.311	3.770	0.0459	0.924	19.00	23.8	1.320	3.340
800T125-54	0.0566	8.085	1.25	2.020	50	0.594	0.171	0.432	0.7350	0.0006340	7.01	2.83	0.310	4.750	0.0569	1.160	37.00	19.3	2.600	4.260
800T125-68	0.0713	8.107	1.25	2.540	50	0.748	0.177	0.427	0.9200	0.0012700	7.08	2.83	0.307	6.000	0.0705	1.450	54.70	19.2	5.220	5.830
800T125-97	0.1017	8.153	1.25	3.630	50	1.070	0.189	0.417	1.3000	0.0036700	7.21	2.84	0.302	8.610	0.0974	2.060	92.80	19.2	13.900	8.610
800T150-43	0.0451	8.071	1.50	1.690	33	0.496	0.221	0.584	0.9720	0.0003360	6.03	2.89	0.395	4.140	0.0775	1.020	19.40	29.3	1.320	3.520
800T150-54	0.0566	8.085	1.50	2.120	50	0.622	0.226	0.580	1.2200	0.0006640	6.07	2.90	0.393	5.210	0.0962	1.270	38.00	23.8	2.600	4.490
800T150-68	0.0713	8.107	1.50	2.670	50	0.783	0.231	0.575	1.5300	0.0013300	6.12	2.90	0.391	6.590	0.1200	1.600	56.50	23.8	5.220	6.190
800T150-97	0.1017	8.153	1.50	3.800	50	1.120	0.243	0.564	2.1600	0.0038500	6.23	2.91	0.386	9.480	0.1660	2.270	98.60	23.7	13.900	9.480
800T200-43	0.0451	8.071	2.00	1.840	33	0.541	0.349	0.913	2.1200	0.0003670	5.04	3.01	0.569	4.890	0.1750	1.200				

Track Designation	DIMENSIONS			PROPERTIES																	
	Thickness t (mm)	Depth A (mm)	Flange B (mm)	Weight (kg/m)	Yield F <sub>y</sub> (MPa)	Area (E+03mm <sup>2</sup> )	x <sub>cg</sub> (mm)	x <sub>e</sub> (mm)	C <sub>w</sub> (E+06mm <sup>4</sup> )	J (mm <sup>4</sup> )	j (mm)	r <sub>x</sub> (mm)	r <sub>y</sub> (mm)	I <sub>x</sub> (E+06mm <sup>4</sup> )	I <sub>y</sub> (E+06mm <sup>4</sup> )	S <sub>x</sub> (E+03mm <sup>3</sup> )	M <sub>rx</sub> (kN.m)	L <sub>x</sub> (mm)	Shear V <sub>x</sub> (kN)	I <sub>z</sub> defl. (E+06mm <sup>4</sup> )	
362T125-33	0.879	94	32	1.07	230	0.137	6.75	16.7	20.3	35.2	53.1	36.5	9.58	0.182	0.0125	3.81	0.584	653	5.82	0.158	
362T125-43	1.146	94	32	1.40	230	0.178	6.84	16.6	26.3	77.8	53.2	36.6	9.53	0.238	0.0162	4.95	0.822	654	9.89	0.219	
362T125-54	1.438	94	32	1.75	345	0.223	6.93	16.5	33.1	154.0	53.5	36.7	9.48	0.301	0.0201	6.20	1.590	531	19.20	0.279	
362T125-68	1.811	95	32	2.21	345	0.281	7.05	16.3	41.9	307.0	54.0	36.9	9.41	0.383	0.0249	7.79	2.170	534	26.80	0.375	
362T125-97	2.583	96	32	3.14	345	0.400	7.30	15.9	60.6	891.0	55.0	37.4	9.26	0.559	0.0343	11.10	3.430	543	37.70	0.559	
362T150-33	0.879	94	38	1.16	230	0.148	8.88	21.7	33.2	38.1	52.7	37.5	11.90	0.207	0.0208	4.33	0.605	785	5.82	0.170	
362T150-43	1.146	94	38	1.51	230	0.192	8.96	21.6	43.1	84.2	52.8	37.5	11.80	0.271	0.0268	5.63	0.856	787	9.89	0.236	
362T150-54	1.438	94	38	1.90	345	0.241	9.05	21.4	54.3	166.0	53.0	37.7	11.80	0.343	0.0333	7.06	1.650	639	19.20	0.302	
362T150-68	1.811	95	38	2.39	345	0.304	9.16	21.2	69.1	332.0	53.3	37.9	11.70	0.437	0.0415	8.88	2.280	643	26.80	0.409	
362T150-97	2.583	96	38	3.40	345	0.433	9.39	20.8	100.0	964.0	54.0	38.4	11.50	0.639	0.0576	12.60	3.730	655	37.70	0.639	
362T200-33	0.879	94	51	1.34	230	0.170	13.50	32.3	72.3	43.8	56.7	38.9	16.40	0.258	0.0456	5.38	0.638	1040	5.82	0.191	
362T200-43	1.146	94	51	1.74	230	0.222	13.60	32.1	93.9	96.9	56.7	39.0	16.30	0.336	0.0591	6.99	0.907	1040	9.89	0.266	
362T200-54	1.438	94	51	2.18	345	0.278	13.70	32.0	119.0	192.0	56.8	39.2	16.30	0.426	0.0736	8.78	1.760	849	19.20	0.341	
362T200-68	1.811	95	51	2.75	345	0.350	13.80	31.8	151.0	383.0	56.9	39.4	16.20	0.544	0.0919	11.10	2.440	855	26.80	0.466	
362T200-97	2.583	96	51	3.92	345	0.499	14.00	31.3	222.0	1110.0	57.2	40.0	16.10	0.798	0.1290	15.80	4.080	870	37.70	0.756	
400T125-33	0.879	104	32	1.14	230	0.145	6.39	16.0	25.4	37.3	59.6	39.7	9.42	0.228	0.0129	4.34	0.674	650	5.34	0.200	
400T125-43	1.146	103	32	1.48	230	0.189	6.47	15.9	32.8	82.6	59.8	39.7	9.37	0.298	0.0166	5.64	0.945	651	9.89	0.275	
400T125-54	1.438	104	32	1.86	345	0.237	6.57	15.8	41.3	163.0	60.2	39.9	9.31	0.376	0.0206	7.06	1.820	528	19.20	0.351	
400T125-68	1.811	104	32	2.34	345	0.298	6.69	15.6	52.2	326.0	60.8	40.1	9.24	0.479	0.0255	8.87	2.480	530	29.60	0.469	
400T125-97	2.583	105	32	3.34	345	0.425	6.95	15.2	75.1	945.0	62.0	40.5	9.10	0.697	0.0352	12.60	3.910	537	41.80	0.697	
400T150-33	0.879	104	38	1.23	230	0.156	8.43	20.9	41.5	40.2	58.0	40.7	11.70	0.259	0.0213	4.92	0.699	784	5.34	0.214	
400T150-43	1.146	103	38	1.60	230	0.203	8.51	20.7	53.8	89.0	58.0	40.7	11.60	0.338	0.0276	6.39	0.984	785	9.89	0.296	
400T150-54	1.438	104	38	2.00	345	0.255	8.60	20.6	67.8	176.0	58.3	40.9	11.60	0.427	0.0342	8.01	1.900	637	19.20	0.378	
400T150-68	1.811	104	38	2.52	345	0.321	8.71	20.4	86.0	351.0	58.7	41.1	11.50	0.544	0.0426	10.10	2.610	641	29.60	0.510	
400T150-97	2.583	105	38	3.59	345	0.458	8.96	20.0	124.0	1020.0	59.6	41.6	11.40	0.792	0.0591	14.30	4.230	650	41.80	0.792	
400T200-33	0.879	104	51	1.40	230	0.178	12.90	31.2	90.3	46.0	60.3	42.3	16.20	0.320	0.0470	6.07	0.737	1040	5.34	0.239	
400T200-43	1.146	103	51	1.82	230	0.233	13.00	31.1	117.0	102.0	60.3	42.4	16.20	0.417	0.0608	7.89	1.040	1040	9.89	0.333	
400T200-54	1.438	104	51	2.29	345	0.292	13.10	30.9	148.0	201.0	60.4	42.5	16.10	0.528	0.0758	9.90	2.020	849	19.20	0.426	
400T200-68	1.811	104	51	2.88	345	0.367	13.20	30.7	188.0	402.0	60.6	42.8	16.00	0.673	0.0946	12.50	2.790	854	29.60	0.579	
400T200-97	2.583	105	51	4.11	345	0.523	13.40	30.3	275.0	1160.0	61.1	43.4	15.90	0.984	0.1320	17.80	4.630	867	41.80	0.933	
600T125-33	0.879	154	32	1.49	230	0.190	4.99	13.1	63.8	48.8	107.0	56.0	8.61	0.594	0.0141	7.62	0.996	630	3.54	0.500	
600T125-43	1.146	154	32	1.94	230	0.247	5.08	13.0	82.4	108.0	108.0	56.0	8.57	0.775	0.0181	9.90	1.550	629	7.82	0.715	
600T125-54	1.438	155	32	2.43	345	0.310	5.19	12.9	103.0	214.0	109.0	56.1	8.52	0.976	0.0225	12.40	3.010	510	15.50	0.912	
600T125-68	1.811	155	32	3.06	345	0.390	5.33	12.8	130.0	427.0	110.0	56.3	8.45	1.240	0.0279	15.60	4.360	509	30.40	1.210	
600T125-97	2.583	156	32	4.37	345	0.556	5.62	12.5	184.0	1240.0	112.0	56.6	8.32	1.780	0.0385	22.10	6.850	510	61.90	1.780	
600T150-33	0.879	154	38	1.58	230	0.201	6.65	17.4	105.0	51.7	96.5	57.4	10.80	0.662	0.0236	8.48	1.020	768	3.54	0.527	
600T150-43	1.146	154	38	2.05	230	0.262	6.74	17.3	135.0	114.0	96.8	57.4	10.80	0.862	0.0304	11.00	1.590	768	7.82	0.760	
600T150-54	1.438	155	38	2.58	345	0.328	6.84	17.1	170.0	226.0	97.4	57.5	10.70	1.090	0.0378	13.00	3.100	623	15.50	0.970	
600T150-68	1.811	155	38	3.24	345	0.413	6.98	17.0	214.0	452.0	98.3	57.7	10.70	1.380	0.0470	17.40	4.530	623	30.40	1.300	
600T150-97	2.583	156	38	4.62	345	0.589	7.25	16.7	305.0	1310.0	100.0	58.1	10.50	1.990	0.0652	24.60	7.340	625	61.90	1.990	
600T200-33	0.879	154	51	1.75	230	0.223	10.40	26.6	227.0	57.4	87.4	59.7	15.30	0.796	0.0526	10.20	1.120	1040	3.54	0.623	
600T200-43	1.146	154	51	2.28	230	0.291	10.50	26.5	295.0	127.0	87.5	59.8	15.30	1.040	0.0680	13.30	1.890	1040	7.82	0.857	
600T200-54	1.438	155	51	2.86	345	0.365	10.60	26.4	371.0	251.0	87.9	59.9	15.20	1.310	0.0847	16.60	3.650	844	15.50	1.090	
600T200-68	1.811	155	51	3.60	345	0.459	10.70	26.2	469.0	502.0	88.4	60.1	15.20	1.660	0.1060	20.90	4.940	845	30.40	1.460	
600T200-97	2.583	156	51	5.14	345	0.655	11.00	25.8	674.0	1460.0	89.5	60.6	15.00	2.400	0.1480	29.80	7.970	850	61.90	2.290	
800T125-43	1.146	205	32	2.40	230	0.305	4.22	11.1	158.0	134.0	177.0	71.7	7.91	1.570	0.0191	15.10	2.150	605	5.85	1.390	
800T125-54	1.438	205	32	3.01	345	0.383	4.34	11.0	197.0	264.0	178.0	71.8	7.86	1.980	0.0237	19.00	4.190	490	11.60	1.770	
800T125-68	1.811	206	32	3.79	345	0.482	4.48	10.8	247.0	527.0	180.0	71.9	7.80	2.500	0.0294	23.80	6.180	489	23.20	2.430	
800T125-97	2.583	207	32	5.40	345	0.687	4.79	10.6	348.0	1530.0	183.0	72.2	7.68	3.590	0.0405	33.80	10.500	487	61.90	3.590	
800T150-43	1.146	205	38	2.51	230	0.320	5.62	14.8	261.0	140.0	153.0	73.4	10.00	1.720	0.0322	16.60	2.200	745	5.85	1.460	
800T150-54	1.438	205	38	3.15	345	0.401	5.73	14.7	326.0	276.0	154.0	73.5	9.99	2.170	0.0400	20.80	4.290	604	11.60	1.870	
800T150-68	1.811	206	38	3.97	345	0.505	5.87	14.6	410.0	552.0	155.0	73.7	9.92	2.740	0.0498	26.20	6.380	603	23.20	2.580	
800T150-97	2.583	207	38	5.65	345	0.720	6.16	14.3	581.0	1600.0	158.0	74.0	9.79	3.950	0.0691	37.20	11.100	603	61.90	3.950	
800T200-43	1.146	205	51	2.74	230	0.349	8.86	23.2	570.0	153.0	128.0	76.4	14.40	2.030	0.0728	19.60	2.270	1020	5.85	1.590	
800T200-54	1.438	205	51	3.44	345	0.438	8.96	23.1	715.0	302.0	129.0	76.5	14.40	2.560	0.0907	24.60	4.430	830	11.60	2.030	
800T200-68	1.811	206	51	4.33	345	0.551	9.09	22.9	901.0	603.0	130.0	76.7	14.30	3.240	0.1130	30.90	6.660	830	23.20	2.830	
800T200-97	2.583	207	51	6.17	345	0.786	9.36	22.6	1290.0	1750.0	131.0	77.1	14.20	4.670	0.1580	44.00	11.900	831	61.90	4.480	
1000T125-54	1.438	256	32	3.58	345	0.456	3.76	9.6	326.0	314.0	268.0	87.2	7.33	3.470	0.0245	26.80	5.360	471	9.		