

# Stud Section Properties

## Table Notes

- 1 Inside bend radius values are shown in the General Notes.
- 2 Gross section properties are based on the full-unreduced cross section of the stud sections, away from the punchouts.
- 3 The factored moment resistance for design is based on the lesser of local and distortional buckling. Distortional buckling is based on an assumed rotational stiffness of  $K_{\phi} = 0$ .

Stud Designation	Lip (in.)	Base Design Thickness (in.)	F <sub>y</sub> (ksi)	GROSS							PERFORATED EFFECTIVE										TORSIONAL						
				Weight (lb/ft)	Area (in. <sup>2</sup> )	I <sub>x</sub> (in. <sup>4</sup> )	r <sub>x</sub> (in.)	I <sub>y</sub> (in. <sup>4</sup> )	r <sub>y</sub> (in.)	V <sub>rg</sub> (kip)	I <sub>xd</sub> (in. <sup>4</sup> )	S <sub>xe</sub> (in. <sup>3</sup> )	M <sub>rxLB</sub> (k-in.)	M <sub>rxDB</sub> (k-in.)	V <sub>rn</sub> (kip)	M <sub>ryLB</sub> web comp. (k-in.)	M <sub>ryLB</sub> lip comp. (k-in.)	M <sub>ryDB</sub> lip comp. (k-in.)	Jx1000 (in. <sup>4</sup> )	C <sub>w</sub> (in. <sup>6</sup> )	x <sub>o</sub> (in.)	m (in.)	r <sub>o</sub> (in.)	β	L <sub>u</sub> (in.)		
162S125-18	0.188	0.0188	33	0.273	0.0802	0.0378	0.686	0.0160	0.447	0.387	0.0330	0.0307	0.912	0.865	0.127	0.523	0.532	0.443	0.00944	0.00918	1.03	0.594	1.32	0.388	29.0		
162S125-33	0.188	0.0346	33	0.495	0.145	0.0671	0.679	0.0281	0.440	0.769	0.0660	0.0692	2.06	1.92	0.134	0.931	0.931	0.988	0.0580	0.0157	1.01	0.583	1.29	0.391	29.2		
250S125-18	0.188	0.0188	33	0.329	0.0966	0.0993	1.01	0.0186	0.439	0.329	0.0880	0.0594	1.77	1.38	0.250	0.538	0.597	0.457	0.0114	0.0233	0.904	0.543	1.43	0.599	28.9		
250S125-33	0.188	0.0346	33	0.598	0.176	0.178	1.01	0.0327	0.431	1.248	0.175	0.125	3.72	3.16	0.510	1.02	1.05	1.03	0.0701	0.0404	0.885	0.532	1.41	0.605	28.8		
250S125-43	0.188	0.0451	33	0.772	0.227	0.228	1.00	0.0413	0.426	1.62	0.225	0.177	5.24	4.48	0.505	1.32	1.32	1.39	0.154	0.0504	0.873	0.525	1.40	0.608	28.8		
362S125-18	0.188	0.0188	33	0.401	0.118	0.234	1.41	0.0209	0.421	0.221	0.210	0.0747	2.22	2.07	0.209	0.540	0.614	0.475	0.0139	0.0539	0.786	0.490	1.67	0.778	28.8		
362S125-33	0.188	0.0346	33	0.730	0.215	0.421	1.40	0.0366	0.413	1.31	0.414	0.182	5.40	4.89	0.667	1.03	1.08	1.08	0.0856	0.0939	0.769	0.480	1.65	0.783	28.5		
362S125-43	0.188	0.0451	33	0.945	0.278	0.541	1.40	0.0463	0.408	2.22	0.535	0.269	7.98	7.05	0.864	1.35	1.36	1.46	0.188	0.118	0.758	0.473	1.64	0.786	28.4		
362S125-54	0.188	0.0566	50	1.17	0.344	0.661	1.39	0.0552	0.400	4.31	0.655	0.321	14.4	12.5	1.30	2.44	2.45	2.63	0.367	0.142	0.744	0.466	1.62	0.790	22.8		
362S162-33	0.500	0.0346	33	0.892	0.262	0.551	1.45	0.0993	0.616	1.31	0.551	0.268	7.95	7.79	0.667	2.38	2.53	2.64	0.105	0.297	1.31	0.789	2.05	0.592	42.6		
362S162-43	0.500	0.0451	33	1.16	0.340	0.710	1.45	0.127	0.611	2.22	0.710	0.372	11.0	10.9	0.864	3.13	3.23	3.46	0.230	0.376	1.30	0.782	2.04	0.594	42.5		
362S162-54	0.500	0.0566	50	1.44	0.422	0.873	1.44	0.154	0.604	4.31	0.873	0.443	20.0	19.3	1.30	5.78	5.94	6.37	0.451	0.457	1.28	0.774	2.02	0.597	34.4		
362S162-68	0.500	0.0713	50	1.78	0.524	1.07	1.43	0.186	0.596	5.59	1.07	0.574	25.8	25.4	1.29	7.12	7.13	7.67	0.887	0.552	1.26	0.765	2.00	0.600	34.4		
362S162-97	0.500	0.1017	50	2.46	0.724	1.44	1.41	0.241	0.577	7.61	1.44	0.776	41.4*	41.4	1.12	9.17	9.17	9.93	2.50	0.723	1.23	0.745	1.95	0.606	31.5		
362S200-33	0.625	0.0346	33	1.01	0.297	0.648	1.48	0.177	0.772	1.31	0.637	0.294	8.73	8.96	0.667	3.58	3.69	3.79	0.118	0.577	1.74	1.03	2.41	0.478	53.5		
362S200-43	0.625	0.0451	33	1.31	0.385	0.836	1.47	0.227	0.767	2.22	0.836	0.427	12.7	12.6	0.864	4.74	4.92	5.28	0.261	0.734	1.73	1.02	2.40	0.480	53.5		
362S200-54	0.625	0.0566	50	1.63	0.479	1.03	1.47	0.277	0.761	4.31	1.03	0.489	22.0	22.2	1.30	8.80	9.10	9.39	0.511	0.896	1.72	1.02	2.38	0.482	43.3		
362S200-68	0.625	0.0713	50	2.03	0.595	1.27	1.46	0.337	0.753	5.59	1.27	0.666	30.0	29.5	1.29	11.0	11.0	11.9	1.01	1.09	1.70	1.01	2.36	0.484	43.3		
362S200-97	0.625	0.1017	50	2.81	0.826	1.71	1.44	0.446	0.735	7.61	1.71	0.929	48.1*	48.2	1.12	14.5	14.5	15.7	2.85	1.44	1.66	0.986	2.32	0.487	40.4		
362S250-33	0.625	0.0346	33	1.13	0.331	0.760	1.51	0.299	0.951	1.31	0.715	0.315	9.36	9.56	0.667	4.93	5.10	4.68	0.132	0.965	2.21	1.28	2.84	0.395	64.1		
362S250-43	0.625	0.0451	33	1.46	0.430	0.980	1.51	0.385	0.946	2.22	0.973	0.449	13.3	13.6	0.864	6.53	6.80	6.63	0.292	1.23	2.20	1.28	2.83	0.396	64.1		
362S250-54	0.625	0.0566	50	1.82	0.535	1.21	1.50	0.473	0.940	4.31	1.16	0.514	23.1	23.8	1.30	12.2	12.6	11.7	0.571	1.51	2.18	1.27	2.81	0.397	51.9		
362S250-68	0.625	0.0713	50	2.27	0.666	1.49	1.50	0.578	0.931	5.59	1.47	0.689	31.0	31.8	1.29	15.3	15.4	15.6	1.13	1.84	2.17	1.26	2.79	0.398	52.0		
362S250-97	0.625	0.1017	50	3.16	0.927	2.03	1.48	0.773	0.913	7.61	2.03	1.05	52.9*	48.7	1.12	20.4	20.4	22.3	3.20	2.45	2.13	1.24	2.75	0.401	49.3		
362S300-33	0.625	0.0346	33	1.25	0.366	0.871	1.54	0.463	1.13	1.31	0.781	0.328	9.74	9.98	0.667	6.45	6.69	5.54	0.146	1.48	2.69	1.54	3.30	0.336	74.2		
362S300-43	0.625	0.0451	33	1.62	0.475	1.12	1.54	0.596	1.12	2.22	1.06	0.459	13.6	14.3	0.864	8.55	8.91	7.91	0.322	1.89	2.67	1.53	3.28	0.336	74.3		
362S300-54	0.625	0.0566	50	2.01	0.592	1.39	1.53	0.734	1.11	4.31	1.26	0.528	23.8	25.0	1.30	16.0	16.6	13.9	0.632	2.32	2.66	1.52	3.27	0.337	60.2		
362S300-68	0.625	0.0713	50	2.51	0.738	1.72	1.53	0.900	1.11	5.59	1.62	0.716	32.2	33.7	1.29	20.1	20.3	18.8	1.25	2.83	2.64	1.51	3.24	0.337	60.3		
362S300-97	0.625	0.1017	50	3.50	1.03	2.34	1.51	1.21	1.09	7.61	2.31	1.15	51.7	52.3	1.12	27.1	27.1	28.9	3.55	3.80	2.60	1.49	3.20	0.338	60.8		
400S125-18	0.188	0.0188	33	0.425	0.125	0.294	1.54	0.0214	0.414	0.199	0.264	0.0829	2.46	2.31	0.199	0.542	0.628	0.481	0.0147	0.0676	0.754	0.475	1.76	0.817	28.7		
400S125-33	0.188	0.0346	33	0.774	0.228	0.531	1.53	0.0377	0.407	1.25	0.523	0.203	6.02	5.48	0.760	1.04	1.10	1.09	0.0908	0.118	0.738	0.465	1.74	0.821	28.4		
400S125-43	0.188	0.0451	33	1.00	0.295	0.682	1.52	0.0476	0.402	2.22	0.675	0.301	8.95	7.94	1.04	1.36	1.39	1.47	0.200	0.148	0.727	0.459	1.73	0.824	28.2		
400S125-54	0.188	0.0566	50	1.24	0.365	0.836	1.51	0.0567	0.394	4.31	0.828	0.361	16.2	14.1	1.56	2.46	2.51	2.66	0.390	0.178	0.713	0.451	1.72	0.828	22.7		
400S162-33	0.500	0.0346	33	0.936	0.275	0.692	1.59	0.103	0.611	1.25	0.692	0.299	8.87	8.71	0.760	2.39	2.59	2.67	0.110	0.363	1.26	0.768	2.12	0.644	42.3		
400S162-43	0.500	0.0451	33	1.21	0.357	0.892	1.58	0.131	0.606	2.22	0.892	0.417	12.4	12.3	1.04	3.15	3.31	3.50	0.242	0.460	1.25	0.761	2.11	0.647	42.1		
400S162-54	0.500	0.0566	50	1.51	0.443	1.10	1.57	0.159	0.600	4.31	1.10	0.497	22.4	21.7	1.56	5.83	6.08	6.44	0.473	0.560	1.24	0.754	2.09	0.649	34.0		
400S162-68	0.500	0.0713	50	1.87	0.550	1.35	1.56	0.192	0.591	6.24	1.35	0.648	29.2	28.7	1.74	7.21	7.31	7.76	0.933	0.677	1.22	0.745	2.07	0.653	34.0		
400S162-97	0.500	0.1017	50	2.59	0.762	1.81	1.54	0.250	0.572	8.52	1.81	0.892	47.6*	47.6	1.55	9.42	9.42	10.1	2.627	0.889	1.18	0.725	2.03	0.660	31.1		
400S200-33	0.625	0.0346	33	1.05	0.310	0.812	1.62	0.183	0.769	1.25	0.798	0.328	9.75	10.0	0.760	3.60	3.77	3.82	0.124	0.697							

Stud Designation	Lip (in.)	Base Design Thickness (in.)	F <sub>y</sub> (ksi)	GROSS							PERFORATED EFFECTIVE								TORSIONAL						
				Weight (lb/ft)	Area (in. <sup>2</sup> )	I <sub>x</sub> (in. <sup>4</sup> )	r <sub>x</sub> (in.)	I <sub>y</sub> (in. <sup>4</sup> )	r <sub>y</sub> (in.)	V <sub>rg</sub> (kip)	I <sub>xd</sub> (in. <sup>4</sup> )	S <sub>xe</sub> (in. <sup>3</sup> )	M <sub>rxLB</sub> (k-in.)	M <sub>rxDB</sub> (k-in.)	V <sub>rn</sub> (kip)	M <sub>ryLB</sub> web comp. (k-in.)	M <sub>ryLB</sub> lip comp. (k-in.)	M <sub>ryDB</sub> lip comp. (k-in.)	Jx1000 (in. <sup>4</sup> )	C <sub>w</sub> (in. <sup>6</sup> )	x <sub>o</sub> (in.)	m (in.)	r <sub>o</sub> (in.)	β	L <sub>u</sub> (in.)
				(lb/ft)	(in. <sup>2</sup> )	(in. <sup>4</sup> )	(in.)	(in. <sup>4</sup> )	(in.)	(kip)	(in. <sup>4</sup> )	(in. <sup>3</sup> )	(k-in.)	(k-in.)	(kip)	(k-in.)	(k-in.)	(k-in.)	(in. <sup>4</sup> )	(in. <sup>6</sup> )	(in.)	(in.)	(in.)		(in.)
600S125-33	0.188	0.0346	33	1.01	0.297	1.41	2.18	0.0416	0.375	0.815	1.34	0.369	11.0	8.60	0.815	1.06	1.18	1.13	0.118	0.300	0.608	0.399	2.29	0.930	27.5
600S125-43	0.188	0.0451	33	1.31	0.385	1.82	2.17	0.0526	0.370	1.81	1.79	0.554	16.5	12.7	1.58	1.39	1.49	1.53	0.261	0.378	0.598	0.393	2.28	0.931	27.3
600S125-54	0.188	0.0566	50	1.63	0.479	2.24	2.16	0.0626	0.362	3.61	2.22	0.672	30.3	22.9	2.49	2.52	2.69	2.76	0.511	0.457	0.586	0.386	2.27	0.933	21.9
600S162-33	0.500	0.0346	33	1.17	0.344	1.79	2.28	0.116	0.581	0.815	1.79	0.577	17.1	13.7	0.815	2.41	2.77	2.85	0.137	0.861	1.07	0.677	2.59	0.828	41.1
600S162-43	0.500	0.0451	33	1.52	0.447	2.32	2.28	0.148	0.576	1.81	2.32	0.767	25.1*	19.5	1.58	3.21	3.54	3.64	0.303	1.10	1.06	0.670	2.58	0.830	38.9
600S162-54	0.500	0.0566	50	1.89	0.556	2.86	2.27	0.181	0.570	3.61	2.86	0.915	45.6*	34.6	2.49	5.93	6.53	6.70	0.594	1.34	1.05	0.663	2.56	0.833	31.3
600S162-68	0.500	0.0713	50	2.36	0.693	3.53	2.26	0.218	0.561	6.84	3.52	1.16	59.3*	46.7	3.68	7.40	7.86	8.09	1.17	1.63	1.03	0.655	2.54	0.835	30.8
600S162-97	0.500	0.1017	50	3.29	0.966	4.80	2.23	0.283	0.542	13.4	4.80	1.60	85.3*	71.4	4.87	10.0	10.2	10.5	3.33	2.15	1.00	0.636	2.50	0.841	29.7
600S200-33	0.625	0.0346	33	1.29	0.379	2.08	2.34	0.209	0.743	0.815	2.04	0.621	18.4	15.7	0.815	3.63	4.06	3.97	0.151	1.59	1.46	0.901	2.86	0.740	51.6
600S200-43	0.625	0.0451	33	1.67	0.492	2.68	2.34	0.268	0.739	1.81	2.68	0.872	25.9	22.3	1.58	4.84	5.43	5.54	0.334	2.03	1.45	0.894	2.84	0.742	51.4
600S200-54	0.625	0.0566	50	2.09	0.613	3.32	2.33	0.329	0.732	3.61	3.32	1.01	45.7	39.5	2.49	9.01	10.1	9.87	0.655	2.49	1.43	0.887	2.83	0.744	41.5
600S200-68	0.625	0.0713	50	2.60	0.764	4.10	2.32	0.400	0.723	6.84	4.10	1.32	65.7*	53.3	3.68	11.4	12.2	12.6	1.30	3.05	1.42	0.878	2.81	0.746	39.3
600S200-97	0.625	0.1017	50	3.63	1.07	5.61	2.29	0.530	0.705	13.4	5.61	1.87	97.0*	82.6	4.87	15.7	16.2	16.7	3.68	4.08	1.38	0.859	2.77	0.752	38.3
600S250-33	0.625	0.0346	33	1.41	0.414	2.38	2.40	0.356	0.928	0.815	2.26	0.649	19.3	16.4	0.815	5.00	5.67	4.84	0.165	2.67	1.89	1.14	3.19	0.651	62.5
600S250-43	0.625	0.0451	33	1.83	0.537	3.08	2.40	0.458	0.923	1.81	3.06	0.918	27.3	23.6	1.58	6.67	7.56	6.87	0.364	3.41	1.87	1.14	3.18	0.652	62.3
600S250-54	0.625	0.0566	50	2.28	0.670	3.82	2.39	0.562	0.917	3.61	3.66	1.07	48.1	41.5	2.49	12.5	14.1	12.2	0.715	4.19	1.86	1.13	3.16	0.654	50.4
600S250-68	0.625	0.0713	50	2.84	0.836	4.73	2.38	0.688	0.908	6.84	4.67	1.39	62.3	56.3	3.68	15.8	17.2	16.3	1.42	5.15	1.84	1.12	3.14	0.657	50.3
600S250-97	0.625	0.1017	50	3.98	1.17	6.50	2.36	0.923	0.889	13.4	6.50	2.06	104*	88.7	4.87	22.2	23.0	23.8	4.03	6.95	1.80	1.10	3.10	0.661	47.2
600S300-33	0.625	0.0346	33	1.53	0.448	2.69	2.45	0.552	1.11	0.815	2.45	0.663	19.7	16.8	0.815	6.53	7.48	5.67	0.179	4.09	2.33	1.39	3.56	0.572	73.0
600S300-43	0.625	0.0451	33	1.98	0.582	3.48	2.45	0.711	1.11	1.81	3.30	0.944	28.0	24.4	1.58	8.73	10.0	8.13	0.395	5.24	2.31	1.38	3.54	0.574	72.8
600S300-54	0.625	0.0566	50	2.47	0.726	4.32	2.44	0.875	1.10	3.61	3.94	1.11	49.8	42.9	2.49	16.4	18.6	14.3	0.775	6.45	2.30	1.37	3.53	0.575	59.0
600S300-68	0.625	0.0713	50	3.09	0.907	5.35	2.43	1.08	1.09	6.84	5.06	1.45	65.0	58.5	3.68	20.8	22.8	19.4	1.54	7.94	2.28	1.36	3.51	0.577	58.9
600S300-97	0.625	0.1017	50	4.32	1.27	7.38	2.41	1.45	1.07	13.4	7.25	2.25	101	93.2	4.87	29.6	30.7	30.3	4.38	10.8	2.24	1.34	3.46	0.581	58.8
800S162-43	0.500	0.0451	33	1.83	0.537	4.63	2.94	0.160	0.546	1.34	4.48	1.02	30.3	26.5	1.34	3.23	3.66	3.72	0.364	2.08	0.926	0.601	3.13	0.912	39.8
800S162-54	0.500	0.0566	50	2.28	0.670	5.74	2.93	0.194	0.539	2.67	5.57	1.23	55.3	47.1	2.67	5.97	6.75	6.85	0.715	2.54	0.914	0.594	3.11	0.914	32.1
800S162-68	0.500	0.0713	50	2.84	0.836	7.09	2.91	0.235	0.530	5.39	7.05	1.66	74.8	64.5	4.30	7.47	8.14	8.27	1.42	3.09	0.898	0.586	3.09	0.916	31.8
800S162-97	0.500	0.1017	50	3.98	1.17	9.72	2.88	0.305	0.511	13.9	9.71	2.43	109	103	7.60	10.2	10.6	10.8	4.03	4.11	0.866	0.568	3.05	0.920	31.3
800S200-43	0.625	0.0451	33	1.98	0.582	5.30	3.02	0.292	0.708	1.34	5.30	1.29	38.4	30.5	1.34	4.87	5.63	5.72	0.395	3.80	1.28	0.811	3.35	0.855	50.3
800S200-54	0.625	0.0566	50	2.47	0.726	6.57	3.01	0.357	0.701	2.67	6.57	1.50	67.4	54.1	2.67	9.06	10.4	10.2	0.775	4.66	1.27	0.804	3.34	0.856	40.6
800S200-68	0.625	0.0713	50	3.09	0.907	8.14	3.00	0.435	0.692	5.39	8.14	1.96	98.0*	73.8	4.30	11.4	12.7	12.9	1.54	5.71	1.25	0.796	3.32	0.859	38.4
800S200-97	0.625	0.1017	50	4.32	1.27	11.2	2.97	0.576	0.674	13.9	11.2	2.80	145*	117	7.60	16.0	16.8	17.1	4.38	7.68	1.21	0.777	3.28	0.863	37.2
800S250-43	0.625	0.0451	33	2.13	0.627	6.02	3.10	0.500	0.893	1.34	5.98	1.31	39.0	32.1	1.34	6.71	7.88	7.09	0.425	6.37	1.68	1.04	3.63	0.787	61.5
800S250-54	0.625	0.0566	50	2.66	0.783	7.47	3.09	0.614	0.886	2.67	7.17	1.52	68.6	56.7	2.67	12.5	14.7	12.6	0.836	7.85	1.66	1.04	3.62	0.789	49.7
800S250-68	0.625	0.0713	50	3.33	0.978	9.26	3.08	0.752	0.877	5.39	9.14	2.06	92.6	77.7	4.30	15.9	17.9	16.8	1.66	9.65	1.64	1.03	3.60	0.791	49.5
800S250-97	0.625	0.1017	50	4.67	1.37	12.8	3.05	1.01	0.857	13.9	12.8	3.05	154*	125	7.60	22.6	24.0	24.5	4.73	13.1	1.61	1.01	3.56	0.796	46.3
800S300-43	0.625	0.0451	33	2.29	0.672	6.73	3.16	0.779	1.08	1.34	6.40	1.31	39.0	33.0	1.34	8.77	10.4	8.33	0.456	9.79	2.09	1.28	3.94	0.719	72.3
800S300-54	0.625	0.0566	50	2.86	0.839	8.36	3.16	0.959	1.07	2.67	7.66	1.53	69.0	58.3	2.67	16.5	19.4	14.7	0.896	12.1	2.07	1.27	3.92	0.721	58.5
800S300-68	0.625	0.0713	50	3.57	1.05	10.4	3.15	1.18	1.06	5.39	9.84	2.14	96.5	80.3	4.30	21.0	23.9	20.0	1.78	14.9	2.06	1.26	3.90	0.723	58.3
800S300-97	0.625	0.1017	50	5.02	1.47	14.4	3.12	1.60	1.04	13.9	14.1	3.30	149	130	7.60	30.0	32.2	31.3	5.08	20.3	2.02	1.24	3.86	0.727	58.0

\* Cold work of forming applies

# Joist Section Properties

## Table Notes

- 1 Inside bend radius values are shown in the General Notes.
- 2 Gross section properties are based on the full-unreduced cross section of the joist sections, away from the punchouts.
- 3 The factored moment resistance for design is based on the lesser of local and distortional buckling. Distortional buckling is based on an assumed rotational stiffness of  $K_\phi = 0$ .

Joist Designation	Lip  (in.)	Base Design Thickness  (in.)	F <sub>y</sub>  (ksi)	GROSS							PERFORATED EFFECTIVE							TORSIONAL						L <sub>u</sub>  (in.)	
				Weight  (lb/ft)	Area  (in. <sup>2</sup> )	I <sub>x</sub>  (in. <sup>4</sup> )	r <sub>x</sub>  (in.)	I <sub>y</sub>  (in. <sup>4</sup> )	r <sub>y</sub>  (in.)	V <sub>rg</sub>  (kip)	I <sub>xd</sub>  (in. <sup>4</sup> )	S <sub>xe</sub>  (in. <sup>3</sup> )	M <sub>rx</sub> LB  (k-in.)	M <sub>rx</sub> DB  (k-in.)	V <sub>rn</sub>  (kip)	M <sub>ry</sub> LB web comp.  (k-in.)	M <sub>ry</sub> LB lip comp.  (k-in.)	M <sub>ry</sub> DB lip comp.  (k-in.)	Jx1000  (in. <sup>4</sup> )	C <sub>w</sub>  (in. <sup>6</sup> )	x <sub>o</sub>  (in.)	m  (in.)	r <sub>o</sub>  (in.)		β
600S162-43	0.500	0.0451	33	1.52	0.447	2.32	2.28	0.148	0.576	1.81	2.32	0.767	25.1*	19.5	1.58	3.21	3.54	3.64	0.303	1.10	1.06	0.670	2.58	0.830	39.0
600S162-54	0.500	0.0566	50	1.89	0.556	2.86	2.27	0.181	0.570	3.61	2.86	0.915	45.6*	34.6	2.49	5.93	6.53	6.70	0.594	1.34	1.05	0.663	2.56	0.833	31.4
600S162-68	0.500	0.0713	50	2.36	0.693	3.53	2.26	0.218	0.561	6.84	3.53	1.16	59.3*	46.7	3.68	7.40	7.86	8.09	1.17	1.63	1.03	0.655	2.54	0.835	30.8
600S162-97	0.500	0.1017	50	3.29	0.966	4.80	2.23	0.283	0.542	13.4	4.80	1.60	85.3*	71.4	4.87	10.0	10.2	10.5	3.33	2.15	1.00	0.636	2.50	0.841	29.8
600S200-43	0.625	0.0451	33	1.67	0.492	2.68	2.34	0.268	0.739	1.81	2.68	0.872	25.9	22.3	1.58	4.84	5.43	5.54	0.334	2.03	1.45	0.894	2.84	0.742	51.4
600S200-54	0.625	0.0566	50	2.09	0.613	3.32	2.33	0.329	0.732	3.61	3.32	1.02	45.7	39.5	2.49	9.01	10.1	9.87	0.655	2.49	1.43	0.887	2.83	0.744	41.6
600S200-68	0.625	0.0713	50	2.60	0.764	4.10	2.32	0.400	0.723	6.84	4.10	1.32	65.7*	53.3	3.68	11.4	12.2	12.6	1.30	3.05	1.42	0.878	2.81	0.746	39.3
600S200-97	0.625	0.1017	50	3.63	1.07	5.61	2.29	0.530	0.705	13.4	5.61	1.87	97.0*	82.6	4.87	15.8	16.2	16.7	3.68	4.08	1.38	0.859	2.77	0.752	38.3
600S250-43	0.625	0.0451	33	1.83	0.537	3.08	2.40	0.458	0.923	1.81	3.06	0.918	27.3	23.6	1.58	6.67	7.56	6.87	0.364	3.41	1.87	1.14	3.18	0.652	62.3
600S250-54	0.625	0.0566	50	2.28	0.670	3.82	2.39	0.562	0.917	3.61	3.66	1.07	48.1	41.5	2.49	12.5	14.1	12.2	0.715	4.19	1.86	1.13	3.16	0.654	50.4
600S250-68	0.625	0.0713	50	2.84	0.836	4.73	2.38	0.688	0.908	6.84	4.67	1.39	62.3	56.3	3.68	15.8	17.2	16.3	1.42	5.15	1.84	1.12	3.14	0.657	50.3
600S250-97	0.625	0.1017	50	3.98	1.17	6.50	2.36	0.923	0.889	13.4	6.50	2.06	104*	88.7	4.87	22.2	23.0	23.8	4.03	6.95	1.80	1.10	3.10	0.661	47.2
600S300-43	0.625	0.0451	33	1.98	0.582	3.48	2.45	0.711	1.11	1.81	3.30	0.944	28.0	24.4	1.58	8.73	10.0	8.13	0.395	5.24	2.31	1.38	3.54	0.574	72.8
600S300-54	0.625	0.0566	50	2.47	0.726	4.32	2.44	0.875	1.10	3.61	3.94	1.11	49.8	42.9	2.49	16.4	18.6	14.3	0.775	6.45	2.30	1.37	3.53	0.575	59.0
600S300-68	0.625	0.0713	50	3.09	0.907	5.35	2.43	1.08	1.09	6.84	5.06	1.45	65.0	58.5	3.68	20.8	22.8	19.4	1.54	7.94	2.28	1.36	3.51	0.577	58.9
600S300-97	0.625	0.1017	50	4.32	1.27	7.38	2.41	1.45	1.07	13.4	7.25	2.25	101	93.2	4.87	29.6	30.7	30.3	4.38	10.8	2.24	1.34	3.46	0.581	58.8
800S162-43	0.500	0.0451	33	1.83	0.537	4.64	2.94	0.160	0.546	1.34	4.48	1.02	30.3	26.5	1.34	3.23	3.66	3.72	0.364	2.08	0.926	0.601	3.13	0.912	39.8
800S162-54	0.500	0.0566	50	2.28	0.670	5.74	2.93	0.194	0.539	2.67	5.57	1.23	55.3	47.1	2.67	5.97	6.75	6.85	0.715	2.54	0.914	0.594	3.11	0.914	32.1
800S162-68	0.500	0.0713	50	2.84	0.836	7.09	2.91	0.235	0.530	5.39	7.05	1.66	74.8	64.5	4.30	7.47	8.14	8.27	1.42	3.09	0.898	0.586	3.09	0.916	31.9
800S162-97	0.500	0.1017	50	3.98	1.17	9.72	2.88	0.305	0.511	13.9	9.71	2.43	109	103	7.60	10.2	10.6	10.8	4.03	4.11	0.866	0.568	3.05	0.920	31.4
800S200-43	0.625	0.0451	33	1.98	0.582	5.30	3.02	0.292	0.708	1.34	5.30	1.29	38.4	30.5	1.34	4.87	5.63	5.72	0.395	3.80	1.28	0.811	3.35	0.855	50.3
800S200-54	0.625	0.0566	50	2.47	0.726	6.57	3.01	0.357	0.701	2.67	6.57	1.50	67.4	54.1	2.67	9.06	10.4	10.2	0.775	4.66	1.27	0.804	3.34	0.856	40.7
800S200-68	0.625	0.0713	50	3.09	0.907	8.14	3.00	0.435	0.692	5.39	8.14	1.96	98.0*	73.8	4.30	11.5	12.7	12.9	1.54	5.71	1.25	0.796	3.32	0.859	38.4
800S200-97	0.625	0.1017	50	4.32	1.27	11.2	2.97	0.576	0.674	13.9	11.2	2.80	145*	117	7.60	16.0	16.8	17.1	4.38	7.68	1.21	0.777	3.28	0.863	37.2
800S250-43	0.625	0.0451	33	2.13	0.627	6.02	3.10	0.500	0.893	1.34	5.98	1.31	39.0	32.1	1.34	6.71	7.88	7.09	0.425	6.37	1.68	1.04	3.63	0.787	61.5
800S250-54	0.625	0.0566	50	2.66	0.783	7.47	3.09	0.614	0.886	2.67	7.17	1.52	68.6	56.7	2.67	12.5	14.7	12.6	0.836	7.85	1.66	1.04	3.62	0.789	49.8
800S250-68	0.625	0.0713	50	3.33	0.978	9.26	3.08	0.752	0.877	5.39	9.14	2.06	92.6	77.7	4.30	15.9	17.9	16.8	1.66	9.65	1.64	1.03	3.60	0.791	49.6
800S250-97	0.625	0.1017	50	4.67	1.37	12.8	3.05	1.01	0.857	13.9	12.8	3.05	154*	125	7.60	22.6	24.0	24.5	4.73	13.1	1.61	1.01	3.56	0.796	46.4
800S300-43	0.625	0.0451	33	2.29	0.672	6.73	3.16	0.779	1.08	1.34	6.40	1.31	39.0	33.0	1.34	8.77	10.4	8.33	0.456	9.79	2.09	1.28	3.94	0.719	72.3
800S300-54	0.625	0.0566	50	2.86	0.839	8.36	3.16	0.959	1.07	2.67	7.66	1.53	69.0	58.3	2.67	16.5	19.4	14.7	0.896	12.1	2.07	1.27	3.92	0.721	58.5
800S300-68	0.625	0.0713	50	3.57	1.05	10.4	3.15	1.18	1.06	5.39	9.84	2.14	96.5	80.3	4.30	21.0	23.9	20.0	1.78	14.9	2.06	1.26	3.90	0.723	58.3
800S300-97	0.625	0.1017	50	5.02	1.47	14.4	3.12	1.60	1.04	13.9	14.1	3.30	149	130	7.60	30.0	32.2	31.3	5.08	20.3	2.02	1.24	3.86	0.727	58.0

\* Cold work of forming applies

Joist Designation	Lip (in.)	Base Design Thickness (in.)	F <sub>y</sub> (ksi)	GROSS							PERFORATED EFFECTIVE							TORSIONAL						L <sub>u</sub>	
				Weight	Area	I <sub>x</sub>	r <sub>x</sub>	I <sub>y</sub>	r <sub>y</sub>	V <sub>rg</sub>	I <sub>xd</sub>	S <sub>xe</sub>	M <sub>rxLB</sub>	M <sub>rxDB</sub>	V <sub>m</sub>	M <sub>ryLB</sub> web comp.	M <sub>ryLB</sub> lip comp.	M <sub>ryDB</sub> lip comp.	Jx1000	C <sub>w</sub>	x <sub>o</sub>	m	r <sub>o</sub>		β
				(lb/ft)	(in. <sup>2</sup> )	(in. <sup>4</sup> )	(in.)	(in. <sup>4</sup> )	(in.)	(kip)	(in <sup>4</sup> )	(in. <sup>3</sup> )	(k-in.)	(k-in.)	(kip)	(k-in.)	(k-in.)	(k-in.)	(in. <sup>4</sup> )	(in. <sup>6</sup> )	(in.)	(in.)	(in.)		(in.)
1000S162-54	0.500	0.0566	50	2.66	0.783	9.95	3.57	0.204	0.511	2.12	9.31	1.57	71	58.2	2.12	5.99	6.88	6.95	0.836	4.20	0.812	0.538	3.69	0.952	31.3
1000S162-68	0.500	0.0713	50	3.33	0.978	12.3	3.55	0.247	0.502	4.27	11.9	2.15	96.9	80.9	4.27	7.50	8.31	8.39	1.66	5.12	0.798	0.531	3.67	0.953	31.0
1000S162-97	0.500	0.1017	50	4.67	1.37	17.0	3.52	0.320	0.483	12.6	17.0	3.27	147	132	9.17	10.2	10.8	10.9	4.73	6.83	0.768	0.514	3.63	0.955	30.4
1000S200-54	0.625	0.0566	50	2.86	0.839	11.3	3.67	0.378	0.671	2.12	10.6	1.70	76.7	67.7	2.12	9.09	10.7	10.4	0.896	7.67	1.14	0.737	3.90	0.915	39.8
1000S200-68	0.625	0.0713	50	3.57	1.05	14.0	3.65	0.460	0.662	4.27	13.6	2.42	109	93.5	4.27	11.5	13.0	13.2	1.78	9.40	1.12	0.729	3.88	0.917	39.6
1000S200-97	0.625	0.1017	50	5.02	1.47	19.3	3.62	0.610	0.643	12.6	19.3	3.74	168	151	9.17	16.1	17.2	17.4	5.08	12.7	1.09	0.711	3.84	0.920	39.0
1000S250-54	0.625	0.0566	50	3.05	0.896	12.7	3.76	0.653	0.854	2.12	12.2	1.88	84.5	71.5	2.12	12.6	15.1	12.9	0.957	12.9	1.51	0.958	4.14	0.868	49.1
1000S250-68	0.625	0.0713	50	3.81	1.12	15.8	3.75	0.799	0.844	4.27	15.6	2.77	124	98.8	4.27	16.0	18.4	17.2	1.90	15.9	1.49	0.950	4.12	0.870	48.8
1000S250-97	0.625	0.1017	50	5.36	1.58	21.8	3.72	1.07	0.825	12.6	21.8	4.18	211*	161	9.17	22.7	24.7	25.0	5.43	21.6	1.45	0.932	4.08	0.873	45.6
1000S300-54	0.625	0.0566	50	3.24	0.953	14.1	3.85	1.02	1.04	2.12	12.8	1.90	85.5	73.6	2.12	16.5	20.0	15.1	1.02	19.9	1.89	1.19	4.41	0.816	58.0
1000S300-68	0.625	0.0713	50	4.06	1.19	17.5	3.83	1.26	1.03	4.27	16.6	2.80	126	102	4.27	21.1	24.6	20.5	2.02	24.6	1.87	1.18	4.39	0.818	57.8
1000S300-97	0.625	0.1017	50	5.71	1.68	24.3	3.81	1.70	1.01	12.6	23.9	4.50	202	167	9.17	30.2	33.2	32.1	5.78	33.6	1.84	1.16	4.35	0.821	57.4
1200S162-68	0.500	0.0713	50	3.81	1.12	19.5	4.17	0.255	0.477	3.54	18.3	2.64	119	95.2	3.54	7.52	8.42	8.48	1.90	7.74	0.719	0.485	4.26	0.972	30.2
1200S162-97	0.500	0.1017	50	5.36	1.58	27.0	4.14	0.332	0.459	10.4	26.6	4.09	184	159	9.47	10.3	11.0	11.0	5.43	10.3	0.691	0.470	4.22	0.973	29.5
1200S200-68	0.625	0.0713	50	4.06	1.19	22.0	4.29	0.479	0.634	3.54	20.7	2.96	133	111	3.54	11.5	13.2	13.3	2.02	14.2	1.02	0.673	4.46	0.948	38.7
1200S200-97	0.625	0.1017	50	5.71	1.68	30.4	4.26	0.635	0.615	10.4	30.1	4.66	210	184	9.47	16.1	17.5	17.7	5.78	19.1	0.987	0.656	4.42	0.950	38.1
1200S250-68	0.625	0.0713	50	4.30	1.26	24.5	4.40	0.836	0.813	3.54	22.9	3.01	135	119	3.54	16.0	18.8	17.5	2.14	24.0	1.36	0.884	4.68	0.915	48.1
1200S250-97	0.625	0.1017	50	6.05	1.78	34.0	4.37	1.12	0.794	10.4	33.7	5.04	227	196	9.47	22.8	25.2	25.4	6.13	32.7	1.33	0.867	4.64	0.918	47.5
1200S300-68	0.625	0.0713	50	4.54	1.33	27.0	4.50	1.32	0.994	3.54	25.7	3.32	149	123	3.54	21.1	25.1	20.9	2.26	37.1	1.73	1.10	4.92	0.877	57.2
1200S300-97	0.625	0.1017	50	6.40	1.88	37.6	4.47	1.79	0.975	10.4	37.0	5.83	262	205	9.47	30.3	33.9	32.7	6.48	50.9	1.69	1.09	4.88	0.880	56.7
1400S162-68	0.500	0.0713	50	4.30	1.26	29.0	4.79	0.262	0.456	3.02	26.1	3.13	141	107	3.02	7.53	8.49	8.54	2.14	11.0	0.654	0.447	4.85	0.982	29.4
1400S162-97	0.500	0.1017	50	6.05	1.78	40.1	4.75	0.341	0.438	8.86	38.6	4.91	221	183	8.86	10.3	11.1	11.1	6.13	14.7	0.628	0.433	4.81	0.983	28.7
1400S200-68	0.625	0.0713	50	4.54	1.33	32.3	4.92	0.494	0.608	3.02	29.5	3.50	158	127	3.02	11.5	13.3	13.4	2.26	20.1	0.932	0.625	5.04	0.966	37.9
1400S200-97	0.625	0.1017	50	6.40	1.88	44.9	4.88	0.655	0.590	8.86	43.4	5.58	251	213	8.86	16.2	17.7	17.8	6.48	27.2	0.904	0.609	5.00	0.967	37.3
1400S250-68	0.625	0.0713	50	4.78	1.41	35.8	5.04	0.865	0.784	3.02	32.5	3.55	160	137	3.02	16.1	19.0	17.6	2.38	34.1	1.26	0.827	5.26	0.943	47.3
1400S250-97	0.625	0.1017	50	6.75	1.98	49.8	5.01	1.16	0.765	8.86	48.3	6.01	270	229	8.86	22.9	25.5	25.7	6.83	46.5	1.23	0.811	5.22	0.945	46.7
1400S300-68	0.625	0.0713	50	5.03	1.48	39.2	5.15	1.37	0.963	3.02	34.3	3.65	164	143	3.02	21.2	25.5	21.2	2.50	52.8	1.60	1.04	5.48	0.915	56.5
1400S300-97	0.625	0.1017	50	7.09	2.08	54.7	5.12	1.85	0.943	8.86	52.2	6.37	287	240	8.86	30.4	34.4	33.1	7.19	72.4	1.57	1.02	5.44	0.917	55.9

\* Cold work of forming applies

## Track Section Properties

### Table Notes

- 1 Track web depths are equal to the nominal stud depth plus two times the design thickness plus the inside bend radius.
- 2 If present, hems are ignored.

Track Designation	Base Design Thickness (in.)	F <sub>y</sub> (ksi)	GROSS							EFFECTIVE			TORSIONAL						L <sub>u</sub> (in.)
			Weight (lb/ft)	Area (in. <sup>2</sup> )	I <sub>x</sub> (in. <sup>4</sup> )	r <sub>x</sub> (in.)	I <sub>y</sub> (in. <sup>4</sup> )	r <sub>y</sub> (in.)	V <sub>rg</sub> (kip)	I <sub>xd</sub> (in. <sup>4</sup> )	S <sub>xe</sub> (in. <sup>3</sup> )	M <sub>rx</sub> (k-in.)	Jx1000 (in. <sup>4</sup> )	C <sub>w</sub> (in. <sup>6</sup> )	x <sub>o</sub> (in.)	m (in.)	r <sub>o</sub> (in.)	β	
162T125-18	0.0188	33	0.264	0.0776	0.0417	0.733	0.0131	0.411	0.386	0.0292	0.0252	0.747	0.00915	0.00699	0.876	0.503	1.21	0.479	25.4
250T125-18	0.0188	33	0.320	0.0941	0.104	1.05	0.0150	0.400	0.313	0.0766	0.0443	1.32	0.0111	0.0180	0.767	0.460	1.36	0.682	25.7
362T125-18	0.0188	33	0.392	0.115	0.238	1.44	0.0167	0.380	0.213	0.176	0.0636	1.89	0.0136	0.0416	0.665	0.413	1.63	0.833	25.7
362T125-33	0.0346	33	0.721	0.212	0.438	1.44	0.0301	0.377	1.31	0.381	0.174	5.17	0.0845	0.0756	0.658	0.409	1.63	0.836	25.7
362T125-43	0.0451	33	0.939	0.276	0.571	1.44	0.0388	0.375	2.22	0.525	0.245	7.27	0.187	0.0978	0.654	0.407	1.62	0.838	25.7
362T125-54	0.0566	50	1.18	0.346	0.723	1.45	0.0481	0.373	4.31	0.671	0.312	14.0	0.369	0.123	0.648	0.404	1.63	0.841	20.9
362T125-68	0.0713	50	1.48	0.436	0.921	1.45	0.0597	0.370	6.02	0.901	0.427	19.2	0.738	0.156	0.641	0.399	1.63	0.846	21.0
362T125-97	0.1017	50	2.11	0.621	1.34	1.47	0.0822	0.364	8.48	1.34	0.675	30.4	2.14	0.226	0.626	0.390	1.64	0.854	21.4
362T150-33	0.0346	33	0.780	0.229	0.499	1.48	0.0499	0.467	1.31	0.409	0.180	5.36	0.0914	0.124	0.854	0.522	1.77	0.766	30.9
362T150-43	0.0451	33	1.02	0.298	0.650	1.48	0.0644	0.465	2.23	0.568	0.255	7.58	0.202	0.160	0.850	0.519	1.77	0.768	31.0
362T150-54	0.0566	50	1.27	0.374	0.823	1.48	0.0801	0.463	4.32	0.726	0.325	14.7	0.400	0.202	0.844	0.516	1.77	0.772	25.2
362T150-68	0.0713	50	1.60	0.471	1.05	1.49	0.100	0.460	6.02	0.982	0.449	20.2	0.799	0.257	0.836	0.511	1.77	0.777	25.3
362T150-97	0.1017	50	2.29	0.672	1.54	1.51	0.138	0.453	8.48	1.54	0.733	33.0	2.32	0.374	0.820	0.501	1.78	0.787	25.8
362T200-33	0.0346	33	0.897	0.264	0.619	1.53	0.110	0.645	1.31	0.458	0.190	5.65	0.105	0.269	1.27	0.754	2.09	0.631	41.0
362T200-43	0.0451	33	1.17	0.343	0.808	1.53	0.142	0.643	2.23	0.640	0.270	8.03	0.233	0.350	1.27	0.752	2.09	0.633	41.1
362T200-54	0.0566	50	1.47	0.431	1.02	1.54	0.177	0.641	4.32	0.820	0.345	15.5	0.460	0.442	1.26	0.748	2.09	0.638	33.4
362T200-68	0.0713	50	1.85	0.543	1.31	1.55	0.221	0.638	6.02	1.12	0.480	21.6	0.919	0.564	1.25	0.743	2.09	0.643	33.6
362T200-97	0.1017	50	2.63	0.773	1.92	1.58	0.308	0.632	8.48	1.82	0.804	36.2	2.67	0.825	1.23	0.732	2.10	0.655	34.3
362T300-33	0.0346	33	1.13	0.333	0.861	1.61	0.327	0.992	1.31	0.534	0.197	5.85	0.133	0.811	2.16	1.23	2.87	0.434	60.1
362T300-43	0.0451	33	1.48	0.434	1.12	1.61	0.425	0.990	2.22	0.753	0.290	8.61	0.294	1.05	2.15	1.23	2.86	0.435	60.4
362T300-54	0.0566	50	1.85	0.544	1.43	1.62	0.531	0.988	4.31	0.966	0.371	16.7	0.581	1.34	2.15	1.23	2.86	0.439	49.1
362T300-68	0.0713	50	2.33	0.685	1.82	1.63	0.665	0.985	6.02	1.34	0.519	23.4	1.16	1.71	2.14	1.22	2.86	0.443	49.5
362T300-97	0.1017	50	3.32	0.977	2.68	1.66	0.937	0.979	8.48	2.22	0.886	39.9	3.37	2.52	2.12	1.21	2.86	0.453	50.4
400T125-18	0.0188	33	0.416	0.122	0.298	1.56	0.0171	0.374	0.193	0.216	0.0701	2.08	0.0144	0.0520	0.637	0.400	1.73	0.864	25.6
400T125-33	0.0346	33	0.765	0.225	0.549	1.56	0.0309	0.371	1.20	0.480	0.201	5.97	0.0897	0.0946	0.630	0.396	1.73	0.867	25.6
400T125-43	0.0451	33	1.00	0.293	0.716	1.56	0.0398	0.369	2.22	0.660	0.282	8.37	0.198	0.122	0.626	0.394	1.72	0.868	25.6
400T125-54	0.0566	50	1.25	0.367	0.904	1.57	0.0493	0.367	4.31	0.842	0.359	16.1	0.392	0.154	0.621	0.390	1.73	0.871	20.8
400T125-68	0.0713	50	1.57	0.462	1.15	1.58	0.0611	0.364	6.66	1.13	0.488	22.0	0.783	0.194	0.614	0.386	1.73	0.874	20.9
400T125-97	0.1017	50	2.24	0.659	1.67	1.59	0.0842	0.358	9.39	1.67	0.768	34.6	2.27	0.280	0.600	0.377	1.74	0.881	21.1
400T150-33	0.0346	33	0.824	0.242	0.622	1.60	0.0513	0.460	1.20	0.514	0.208	6.19	0.0966	0.155	0.821	0.507	1.86	0.805	30.8
400T150-43	0.0451	33	1.07	0.315	0.811	1.60	0.0662	0.458	2.23	0.711	0.293	8.71	0.214	0.200	0.817	0.504	1.86	0.807	30.9
400T150-54	0.0566	50	1.35	0.396	1.03	1.61	0.0822	0.456	4.32	0.909	0.374	16.8	0.422	0.252	0.811	0.501	1.86	0.810	25.1
400T150-68	0.0713	50	1.70	0.498	1.31	1.62	0.102	0.453	6.66	1.23	0.513	23.1	0.844	0.320	0.804	0.496	1.86	0.814	25.2
400T150-97	0.1017	50	2.42	0.710	1.90	1.64	0.142	0.447	9.39	1.90	0.832	37.5	2.45	0.463	0.788	0.487	1.87	0.823	25.6



Track Designation	Base Design Thickness (in.)	F <sub>y</sub> (ksi)	GROSS							EFFECTIVE			TORSIONAL							L <sub>u</sub> (in.)
			Weight (lb/ft)	Area (in. <sup>2</sup> )	I <sub>x</sub> (in. <sup>4</sup> )	r <sub>x</sub> (in.)	I <sub>y</sub> (in. <sup>4</sup> )	r <sub>y</sub> (in.)	V <sub>rg</sub> (kip)	I <sub>xd</sub> (in. <sup>4</sup> )	S <sub>xe</sub> (in. <sup>3</sup> )	M <sub>rx</sub> (k-in.)	Jx1000 (in. <sup>4</sup> )	C <sub>w</sub> (in. <sup>6</sup> )	x <sub>o</sub> (in.)	m (in.)	r <sub>o</sub> (in.)	β		
400T200-33	0.0346	33	0.941	0.277	0.768	1.67	0.113	0.639	1.20	0.574	0.220	6.53	0.110	0.336	1.23	0.737	2.17	0.678	41.0	
400T200-43	0.0451	33	1.23	0.360	1.00	1.67	0.146	0.637	2.23	0.800	0.311	9.23	0.244	0.437	1.22	0.734	2.16	0.680	41.1	
400T200-54	0.0566	50	1.54	0.452	1.27	1.68	0.182	0.635	4.32	1.02	0.397	17.9	0.483	0.551	1.22	0.730	2.17	0.684	33.4	
400T200-68	0.0713	50	1.94	0.569	1.62	1.69	0.227	0.632	6.66	1.39	0.549	24.7	0.965	0.702	1.21	0.725	2.17	0.689	33.6	
400T200-97	0.1017	50	2.76	0.811	2.36	1.71	0.318	0.626	9.39	2.24	0.911	41.0	2.80	1.02	1.19	0.715	2.17	0.699	34.1	
400T300-33	0.0346	33	1.18	0.346	1.06	1.75	0.338	0.989	1.20	0.670	0.218	6.48	0.138	1.01	2.10	1.21	2.91	0.478	60.4	
400T300-43	0.0451	33	1.53	0.451	1.38	1.75	0.439	0.987	2.22	0.939	0.334	9.91	0.306	1.31	2.10	1.21	2.91	0.479	60.6	
400T300-54	0.0566	50	1.92	0.565	1.75	1.76	0.548	0.985	4.31	1.20	0.426	19.2	0.604	1.66	2.09	1.21	2.91	0.482	49.3	
400T300-68	0.0713	50	2.42	0.712	2.24	1.77	0.686	0.982	6.66	1.66	0.594	26.7	1.21	2.12	2.08	1.20	2.90	0.487	49.6	
400T300-97	0.1017	50	3.45	1.01	3.28	1.80	0.967	0.976	9.39	2.73	1.00	45.2	3.50	3.11	2.06	1.19	2.90	0.497	50.4	
600T125-18	0.0188	33	0.544	0.160	0.776	2.20	0.0187	0.342	0.128	0.493	0.103	3.06	0.0188	0.131	0.522	0.341	2.29	0.948	24.9	
600T125-33	0.0346	33	1.00	0.294	1.43	2.20	0.0338	0.339	0.795	1.20	0.297	8.82	0.117	0.238	0.516	0.337	2.29	0.949	24.8	
600T125-43	0.0451	33	1.30	0.383	1.86	2.21	0.0435	0.337	1.76	1.72	0.461	13.7	0.260	0.307	0.513	0.335	2.29	0.950	24.7	
600T125-54	0.0566	50	1.64	0.480	2.34	2.21	0.0539	0.335	3.49	2.19	0.592	26.6	0.513	0.384	0.508	0.332	2.29	0.951	20.1	
600T125-68	0.0713	50	2.06	0.605	2.97	2.22	0.0668	0.332	6.84	2.92	0.858	38.6	1.03	0.483	0.503	0.329	2.30	0.952	20.0	
600T125-97	0.1017	50	2.93	0.862	4.28	2.23	0.0919	0.327	13.9	4.28	1.35	60.6	2.97	0.685	0.491	0.321	2.31	0.955	20.1	
600T150-33	0.0346	33	1.06	0.311	1.59	2.26	0.0566	0.426	0.800	1.27	0.303	9.00	0.124	0.390	0.684	0.439	2.40	0.919	30.2	
600T150-43	0.0451	33	1.38	0.405	2.07	2.26	0.0730	0.424	1.76	1.83	0.474	14.1	0.275	0.504	0.680	0.437	2.40	0.920	30.2	
600T150-54	0.0566	50	1.73	0.509	2.61	2.27	0.0907	0.422	3.49	2.33	0.609	27.4	0.543	0.633	0.675	0.434	2.40	0.921	24.5	
600T150-68	0.0713	50	2.18	0.641	3.31	2.27	0.113	0.419	6.85	3.13	0.891	40.1	1.09	0.797	0.669	0.430	2.41	0.923	24.5	
600T150-97	0.1017	50	3.11	0.913	4.78	2.29	0.156	0.414	13.9	4.78	1.44	65.0	3.15	1.14	0.656	0.421	2.42	0.926	24.6	
600T200-33	0.0346	33	1.18	0.346	1.91	2.35	0.126	0.604	0.800	1.50	0.333	9.90	0.138	0.847	1.05	0.655	2.64	0.843	40.9	
600T200-43	0.0451	33	1.53	0.451	2.49	2.35	0.163	0.602	1.76	2.06	0.565	16.8	0.306	1.10	1.04	0.652	2.64	0.844	40.9	
600T200-54	0.0566	50	1.92	0.565	3.15	2.36	0.204	0.600	3.49	2.62	0.717	32.3	0.604	1.38	1.04	0.649	2.65	0.846	33.2	
600T200-68	0.0713	50	2.42	0.712	3.99	2.37	0.254	0.597	6.85	3.51	0.973	43.8	1.21	1.75	1.03	0.644	2.65	0.849	33.3	
600T200-97	0.1017	50	3.45	1.02	5.77	2.39	0.355	0.591	13.9	5.51	1.57	70.6	3.50	2.51	1.02	0.635	2.66	0.854	33.4	
600T300-33	0.0346	33	1.41	0.415	2.56	2.48	0.384	0.962	0.795	1.63	0.331	9.82	0.166	2.52	1.85	1.11	3.24	0.674	61.3	
600T300-43	0.0451	33	1.84	0.541	3.34	2.48	0.498	0.960	1.76	2.39	0.555	16.5	0.367	3.28	1.85	1.11	3.24	0.675	61.4	
600T300-54	0.0566	50	2.31	0.679	4.21	2.49	0.622	0.957	3.49	3.05	0.721	32.5	0.725	4.13	1.84	1.11	3.24	0.677	49.9	
600T300-68	0.0713	50	2.91	0.855	5.35	2.50	0.779	0.954	6.84	4.11	1.05	47.4	1.45	5.24	1.83	1.10	3.25	0.681	50.0	
600T300-97	0.1017	50	4.15	1.22	7.76	2.52	1.10	0.949	13.9	6.59	1.72	77.6	4.20	7.58	1.82	1.09	3.25	0.688	50.4	
800T125-43	0.0451	33	1.61	0.473	3.77	2.82	0.0458	0.311	1.32	3.34	0.640	19.0	0.321	0.589	0.436	0.292	2.87	0.977	23.8	
800T125-54	0.0566	50	2.02	0.594	4.75	2.83	0.0568	0.309	2.61	4.26	0.824	37.1	0.634	0.735	0.432	0.289	2.88	0.977	19.3	
800T125-68	0.0713	50	2.54	0.748	6.00	2.83	0.0703	0.307	5.23	5.83	1.22	54.7	1.27	0.920	0.427	0.286	2.88	0.978	19.2	
800T125-97	0.1017	50	3.63	1.07	8.61	2.84	0.0967	0.301	13.9	8.61	2.06	92.8	3.67	1.30	0.417	0.279	2.89	0.979	19.1	

			GROSS							EFFECTIVE			TORSIONAL							
Track Designation	Base Design Thickness (in.)	F <sub>y</sub>	Weight	Area	I <sub>x</sub>	r <sub>x</sub>	I <sub>y</sub>	r <sub>y</sub>	V <sub>rg</sub>	I <sub>xd</sub>	S <sub>xe</sub>	M <sub>rx</sub>	Jx1000	C <sub>w</sub>	x <sub>o</sub>	m	r <sub>o</sub>	β	L <sub>u</sub>	
		(ksi)	(lb/ft)	(in. <sup>2</sup> )	(in. <sup>4</sup> )	(in.)	(in. <sup>4</sup> )	(in.)	(kip)	(in. <sup>4</sup> )	(in. <sup>3</sup> )	(k-in.)	(in. <sup>4</sup> )	(in. <sup>6</sup> )	(in.)	(in.)	(in.)	(in.)	(in.)	
800T150-43	0.0451	33	1.69	0.496	4.14	2.89	0.0774	0.395	1.32	3.52	0.655	19.5	0.336	0.972	0.584	0.386	2.98	0.961	29.3	
800T150-54	0.0566	50	2.12	0.622	5.21	2.90	0.0961	0.393	2.61	4.49	0.844	38.0	0.664	1.22	0.580	0.383	2.98	0.962	23.8	
800T150-68	0.0713	50	2.67	0.783	6.59	2.90	0.119	0.390	5.23	6.20	1.26	56.5	1.33	1.53	0.575	0.379	2.98	0.963	23.7	
800T150-97	0.1017	50	3.80	1.12	9.48	2.91	0.165	0.385	13.9	9.48	2.19	98.6	3.85	2.16	0.564	0.372	2.99	0.965	23.7	
800T200-43	0.0451	33	1.84	0.541	4.89	3.01	0.175	0.569	1.32	3.82	0.676	20.1	0.367	2.12	0.913	0.587	3.19	0.918	40.3	
800T200-54	0.0566	50	2.31	0.679	6.15	3.01	0.218	0.567	2.61	4.89	0.872	39.2	0.725	2.66	0.908	0.584	3.20	0.919	32.7	
800T200-68	0.0713	50	2.91	0.854	7.79	3.02	0.272	0.564	5.23	6.81	1.31	59.0	1.45	3.36	0.902	0.580	3.20	0.921	32.7	
800T200-97	0.1017	50	4.15	1.22	11.2	3.03	0.379	0.558	13.9	10.8	2.35	106	4.20	4.79	0.889	0.571	3.21	0.923	32.7	
800T300-43	0.0451	33	2.15	0.631	6.37	3.18	0.540	0.925	1.32	4.60	0.736	21.9	0.428	6.33	1.66	1.02	3.70	0.800	61.4	
800T300-54	0.0566	50	2.69	0.792	8.03	3.18	0.675	0.923	2.60	5.92	0.955	43.0	0.845	7.96	1.65	1.02	3.70	0.801	49.9	
800T300-68	0.0713	50	3.39	1.00	10.2	3.19	0.844	0.920	5.22	8.05	1.55	69.6	1.69	10.1	1.64	1.02	3.71	0.803	49.9	
800T300-97	0.1017	50	4.84	1.42	14.7	3.21	1.19	0.914	13.9	12.7	2.59	116	4.90	14.5	1.63	1.01	3.72	0.808	50.1	
1000T125-54	0.0566	50	2.41	0.707	8.33	3.43	0.0587	0.288	2.08	7.13	1.06	47.5	0.755	1.21	0.376	0.256	3.47	0.988	18.5	
1000T125-68	0.0713	50	3.03	0.890	10.5	3.44	0.0727	0.286	4.17	9.86	1.58	70.9	1.51	1.51	0.372	0.253	3.47	0.989	18.4	
1000T125-97	0.1017	50	4.32	1.27	15.1	3.45	0.100	0.281	12.2	15.1	2.75	124	4.38	2.12	0.363	0.247	3.48	0.989	18.3	
1000T150-54	0.0566	50	2.50	0.735	9.06	3.51	0.100	0.368	2.08	7.47	1.08	48.5	0.785	2.01	0.509	0.342	3.57	0.980	23.0	
1000T150-68	0.0713	50	3.15	0.926	11.4	3.52	0.124	0.366	4.17	10.4	1.62	73.0	1.57	2.52	0.505	0.339	3.57	0.980	23.0	
1000T150-97	0.1017	50	4.49	1.32	16.4	3.53	0.172	0.361	12.2	16.4	2.90	131	4.55	3.56	0.495	0.332	3.58	0.981	22.9	
1000T200-54	0.0566	50	2.69	0.792	10.5	3.65	0.228	0.537	2.08	8.04	1.11	50.0	0.845	4.43	0.809	0.531	3.77	0.954	32.0	
1000T200-68	0.0713	50	3.39	1.00	13.3	3.65	0.284	0.534	4.17	11.3	1.68	75.8	1.69	5.58	0.803	0.527	3.78	0.955	32.0	
1000T200-97	0.1017	50	4.84	1.42	19.1	3.66	0.397	0.528	12.2	18.4	3.08	139	4.90	7.92	0.791	0.519	3.79	0.956	31.9	
1000T300-54	0.0566	50	3.08	0.905	13.4	3.85	0.714	0.888	2.08	9.36	1.19	53.6	0.966	13.3	1.50	0.947	4.23	0.874	49.6	
1000T300-68	0.0713	50	3.88	1.14	17.0	3.86	0.894	0.885	4.17	13.7	1.90	85.6	1.93	16.8	1.49	0.943	4.23	0.876	49.6	
1000T300-97	0.1017	50	5.53	1.63	24.4	3.88	1.26	0.880	12.1	21.4	3.59	161	5.60	24.0	1.48	0.934	4.24	0.879	49.6	
1200T125-68	0.0713	50	3.51	1.03	16.8	4.04	0.0744	0.268	3.47	15.1	1.93	87.0	1.75	2.27	0.329	0.227	4.06	0.993	17.7	
1200T125-97	0.1017	50	5.01	1.47	24.1	4.04	0.102	0.264	10.1	23.6	3.44	155	5.08	3.17	0.322	0.222	4.07	0.994	17.6	
1200T150-68	0.0713	50	3.64	1.07	18.1	4.12	0.127	0.345	3.47	15.9	1.99	89.4	1.81	3.79	0.450	0.307	4.16	0.988	22.2	
1200T150-97	0.1017	50	5.18	1.52	26.0	4.13	0.176	0.340	10.1	25.5	3.62	163	5.25	5.33	0.441	0.301	4.17	0.989	22.1	
1200T200-68	0.0713	50	3.88	1.14	20.8	4.27	0.294	0.508	3.47	17.1	2.06	92.6	1.93	8.43	0.725	0.483	4.36	0.972	31.2	
1200T200-97	0.1017	50	5.53	1.63	29.8	4.28	0.410	0.502	10.1	28.2	3.82	172	5.60	11.9	0.714	0.476	4.37	0.973	31.1	
1200T300-68	0.0713	50	4.36	1.28	26.1	4.51	0.932	0.852	3.47	19.0	2.14	96.2	2.17	25.5	1.37	0.880	4.79	0.918	49.0	
1200T300-97	0.1017	50	6.22	1.83	37.4	4.53	1.31	0.847	10.1	32.1	4.05	182	6.30	36.4	1.36	0.871	4.80	0.920	49.0	
1400T125-68	0.0713	50	4.00	1.18	25.2	4.63	0.0757	0.254	2.97	21.6	2.29	103	1.99	3.19	0.296	0.206	4.65	0.996	17.1	
1400T125-97	0.1017	50	5.70	1.68	36.0	4.64	0.104	0.249	8.65	34.2	4.13	186	5.78	4.44	0.289	0.201	4.65	0.996	16.9	
1400T150-68	0.0713	50	4.12	1.21	27.0	4.72	0.130	0.328	2.97	22.6	2.35	106	2.05	5.35	0.407	0.280	4.75	0.993	21.5	
1400T150-97	0.1017	50	5.88	1.73	38.6	4.73	0.180	0.323	8.65	36.8	4.33	195	5.95	7.50	0.399	0.275	4.76	0.993	21.3	
1400T200-68	0.0713	50	4.36	1.28	30.6	4.88	0.301	0.485	2.97	24.2	2.43	109	2.17	11.9	0.661	0.446	4.95	0.982	30.5	
1400T200-97	0.1017	50	6.22	1.83	43.8	4.89	0.420	0.479	8.65	40.4	4.56	205	6.30	16.9	0.651	0.439	4.96	0.983	30.3	
1400T300-68	0.0713	50	4.85	1.42	37.7	5.15	0.963	0.822	2.97	26.7	2.52	113	2.41	36.3	1.27	0.825	5.36	0.944	48.4	
1400T300-97	0.1017	50	6.91	2.03	54.1	5.16	1.35	0.816	8.64	45.5	4.81	217	7.00	51.6	1.25	0.817	5.37	0.946	48.3	