

Member	Thickness in	Area in ²	Weight lb/ft	Gross properties					33 ksi effective properties				50 ksi effective properties				Torsional properties				
				Ix in ⁴	Sx in ³	Rx in	Iy in ⁴	Ry in	Ix in ⁴	Sx in ³	Ma in-k	Va lb	Ix in ⁴	Sx in ³	Ma in-k	Va lb	Jx1000 in ⁴	Cw in ⁶	Xo in	Ro in	Beta
1000S137-33 ⁵	0.0346	0.457	1.55	5.589	1.118	3.498	0.077	0.409	-	-	-	-	-	-	-	-	0.182	1.576	-0.624	3.577	0.970
1000S137-43 ⁵	0.0451	0.593	2.02	7.232	1.446	3.491	0.097	0.405	6.727	1.147	22.66	836	6.536	1.015	30.39	836	0.402	1.999	-0.615	3.568	0.970
1000S137-54	0.0566	0.740	2.52	8.956	1.791	3.478	0.117	0.398	8.636	1.526	30.15	1661	8.393	1.389	41.58	1661	0.791	2.431	-0.607	3.553	0.971
1000S137-68	0.0713	0.925	3.15	11.076	2.215	3.461	0.140	0.389	11.010	2.029	40.09	3345	10.732	1.908	57.13	3345	1.567	2.940	-0.597	3.533	0.971
1000S137-97	0.1017	1.296	4.41	15.192	3.038	3.424	0.177	0.369	15.192	3.038	60.04	8843	15.192	2.917	87.32	9864	4.468	3.845	-0.576	3.491	0.973
1000S162-43 ⁵	0.0451	0.627	2.13	8.025	1.605	3.577	0.168	0.518	7.523	1.302	25.74	836	7.370	1.099	32.91	836	0.425	3.404	-0.836	3.709	0.949
1000S162-54	0.0566	0.783	2.66	9.950	1.990	3.565	0.204	0.511	9.627	1.722	34.02	1661	9.391	1.572	47.07	1661	0.836	4.160	-0.827	3.696	0.950
1000S162-68	0.0713	0.978	3.33	12.325	2.465	3.550	0.246	0.502	12.256	2.276	44.98	3345	11.978	2.154	64.51	3345	1.658	5.060	-0.817	3.677	0.951
1000S162-97	0.1017	1.372	4.67	16.967	3.393	3.516	0.320	0.483	16.967	3.393	67.06	8843	16.967	3.269	97.89	9864	4.731	6.708	-0.795	3.637	0.952
1000S200-43 ⁵	0.0451	0.672	2.29	9.085	1.817	3.676	0.309	0.677	8.602	1.470	29.05	836	8.443	1.269	38.00	836	0.456	6.189	-1.162	3.914	0.912
1000S200-54	0.0566	0.839	2.86	11.278	2.256	3.666	0.378	0.671	10.953	1.984	39.20	1661	10.769	1.706	51.07	1661	0.896	7.595	-1.153	3.901	0.913
1000S200-68	0.0713	1.050	3.57	13.994	2.799	3.652	0.460	0.662	13.920	2.607	51.51	3345	13.665	2.420	72.46	3345	1.779	9.291	-1.142	3.883	0.913
1000S200-97	0.1017	1.474	5.02	19.336	3.867	3.622	0.609	0.643	19.336	3.867	76.42	8843	19.336	3.741	112.00	9864	5.082	12.460	-1.120	3.845	0.915
1000S250-43 ⁵	0.0451	0.717	2.44	10.203	2.041	3.771	0.531	0.860	10.203	1.622	32.05	836	10.128	1.356	40.60	836	0.486	10.404	-1.535	4.161	0.864
1000S250-54	0.0566	0.896	3.05	12.677	2.535	3.762	0.653	0.854	12.677	2.279	45.03	1661	12.644	1.900	56.90	1661	0.957	12.806	-1.525	4.148	0.865
1000S250-68	0.0713	1.121	3.81	15.751	3.150	3.749	0.799	0.844	15.751	3.028	65.93	3345	15.737	2.773	83.02	3345	1.899	15.726	-1.514	4.130	0.866
1000S250-97	0.1017	1.576	5.36	21.827	4.365	3.722	1.072	0.825	21.827	4.357	98.41	8843	21.827	4.181	140.63	9864	5.433	21.268	-1.491	4.093	0.867
1000S300-97	0.102	1.754	5.97	25.660	5.130	3.820	2.060	1.084	25.656	5.131	113.59	8843	25.660	4.980	164.74	9864	6.046	42.868	-2.120	4.506	0.779
1000S300-118	0.1240	2.121	7.22	30.740	6.150	3.810	2.430	1.070	30.743	6.148	139.18	13189	30.740	6.148	207.18	16235	10.905	50.631	-2.104	4.479	0.779
1000S350-97	0.1020	1.855	6.31	28.150	5.630	3.890	2.990	1.270	28.147	5.517	120.33	8843	28.158	5.126	153.46	9864	6.396	61.429	-2.540	4.820	0.722
1000S350-118	0.1240	2.245	7.64	33.770	6.750	3.880	3.540	1.256	33.772	6.754	150.23	13189	33.772	6.427	213.25	16235	11.544	72.774	-2.524	4.795	0.723
1000T100-43 ⁵	0.0451	0.541	1.84	6.053	1.191	3.346	0.025	0.213	5.525	0.795	15.71	822	5.140	0.685	20.51	822	0.367	0.521	-0.262	3.363	0.994
1000T100-54	0.0566	0.679	2.31	7.606	1.492	3.348	0.030	0.212	7.277	1.169	23.10	1628	7.008	1.022	30.61	1628	0.725	0.647	-0.260	3.365	0.994
1000T100-68	0.0713	0.854	2.91	9.598	1.873	3.352	0.037	0.209	9.507	1.667	32.95	3261	9.219	1.509	45.19	3261	1.448	0.804	-0.257	3.368	0.994
1000T100-97	0.1017	1.218	4.15	13.740	2.654	3.358	0.051	0.204	13.740	2.649	52.34	8843	13.740	2.497	74.77	9507	4.200	1.117	-0.251	3.374	0.994
1000T125-43 ⁵	0.0451	0.563	1.92	6.630	1.305	3.431	0.047	0.290	5.886	0.819	16.19	822	5.442	0.702	21.02	822	0.382	0.973	-0.383	3.464	0.988
1000T125-54	0.0566	0.707	2.41	8.333	1.634	3.434	0.059	0.288	7.960	1.216	24.03	1628	7.479	1.055	31.59	1628	0.755	1.212	-0.380	3.467	0.988
1000T125-68	0.0713	0.890	3.03	10.522	2.053	3.438	0.073	0.286	10.452	1.781	35.19	3261	10.155	1.575	47.15	3261	1.508	1.514	-0.377	3.470	0.988
1000T125-97	0.1017	1.269	4.32	15.077	2.912	3.447	0.100	0.280	15.077	2.907	57.44	8843	15.077	2.753	82.42	9507	4.375	2.121	-0.371	3.478	0.989
1000T125-118	0.1240	1.549	5.27	18.470	3.54	3.453	0.118	0.276	18.471	3.540	82.05	13189	18.471	3.535	105.85	16235	7.966	2.556	-0.366	3.483	0.989
1000T150-43 ⁵	0.0451	0.58	1.99	7.207	1.419	3.507	0.080	0.370	6.195	0.837	16.54	822	5.703	0.714	21.39	822	0.397	1.610	-0.518	3.565	0.979
1000T150-54	0.0566	0.735	2.50	9.061	1.777	3.511	0.100	0.368	8.430	1.249	24.69	1628	7.880	1.079	32.29	1628	0.785	2.011	-0.515	3.567	0.979
1000T150-68	0.0713	0.926	3.15	11.445	2.233	3.516	0.124	0.366	11.342	1.846	36.48	3261	10.774	1.621	48.53	3261	1.569	2.519	-0.511	3.572	0.980
1000T150-97	0.1017	1.320	4.49	16.413	3.170	3.526	0.171	0.360	16.413	3.165	62.54	8843	16.413	2.902	86.90	9507	4.550	3.551	-0.504	3.580	0.980
1000T200-43 ⁵	0.0451	0.631	2.15	8.361	1.646	3.640	0.183	0.539	6.722	0.861	17.01	822	6.145	0.731	21.89	822	0.428	3.535	-0.819	3.770	0.953
1000T200-54	0.0566	0.792	2.69	10.516	2.062	3.645	0.228	0.537	9.231	1.295	25.60	1628	8.560	1.111	33.26	1628	0.845	4.426	-0.816	3.773	0.953
1000T200-68	0.0713	0.997	3.39	13.292	2.594	3.651	0.284	0.534	12.551	1.936	38.26	3261	11.820	1.684	50.42	3261	1.690	5.564	-0.812	3.778	0.954
1000T200-97	0.1017	1.422	4.84	19.087	3.686	3.664	0.397	0.528	19.031	3.427	67.72	8843	18.583	3.081	92.25	9507	4.901	7.899	-0.804	3.788	0.955
1000T200-118	0.1240	1.736	5.91	23.422	4.489	3.674	0.476	0.523	23.422	4.420	87.35	13189	23.422	4.208	125.99	16235	8.924	9.612	-0.799	3.796	0.956
1000T250-43 ⁵	0.0451	0.676	2.30	9.515	1.873	3.751	0.344	0.713	7.172	0.876	17.32	822	6.519	0.742	22.22	822	0.458	6.466	-1.154	3.989	0.916
1000T250-54	0.0566	0.848	2.89	11.972	2.348	3.757	0.429	0.711	9.913	1.326	26.20	1628	9.141	1.132	33.89	1628	0.906	8.109	-1.150	3.993	0.917
1000T250-68	0.0713	1.068	3.64	15.138	2.954	3.764	0.536	0.708	13.578	1.997	39.46	3261	12.708	1.726	51.68	3261	1.81	10.214	-1.146	3.998	0.918
1000T250-97	0.1017	1.523	5.18	21.760	4.202	3.780	0.751	0.702	20.871	3.596	71.05	8843	20.254	3.201	95.84	9507	5.252	14.565	-1.138	4.009	0.919
1000T300-54	0.0566	0.905	3.08	13.427	2.633	3.852	0.714	0.888	11.083	1.452	28.69	1628	10.826	1.191	35.65	1628	0.966	13.262	-1.510	4.232	0.873
1000T300-68	0.0713	1.140	3.88	16.985	3.314	3.860	0.893	0.885	14.416	2.377	46.96	3261	14.106	1.904	57.01	3261	1.931	16.728	-1.505	4.237	0.874
1000T300-97	0.1017	1.625	5.53	24.434	4.719	3.878	1.257	0.879	22.441	3.798	75.04	8843	21.530	3.589	107.45	9507	5.602	23.921	-1.496	4.248	0.876

For section properties table notes see page 5

- A = Cross sectional area
- Ix = Moment of inertia (x-axis)
- Sx = Section modulus (x-axis)

- Rx = Radius of gyration (x-axis)
- Iy = Moment of inertia (y-axis)
- Ry = Radius of gyration (y-axis)
- Ma = Allowable bending moment

- Va = Allowable shear force
- J = St. Venant torsion constant
- Cw = Torsional warping constant
- Xo = Distance from center of gravity to shear center along x-axis

- Ro = Polar radius of gyration about the centroidal principal axis
- β = Beta coefficient