

Structural studs & track 8"

	Member	Design Thickness (in)	Gross Properties							33 ksi Effective Properties				50 ksi Effective Properties				Torsional Properties				
			Area (in ²)	Weight (lb/ft)	I _x (in ⁴)	S _x (in ³)	R _x (in)	I _y (in ⁴)	R _y (in)	I _x (in ⁴)	S _x (in ³)	Ma (in-k)	Va (lb)	I _x (in ⁴)	S _x (in ³)	Ma (in-k)	Va (lb)	J _x 1000 (in ⁴)	C _w (in ⁶)	X _o (in)	R _o (in)	Beta
8" Studs	800S137-33'	0.0346	0.388	1.32	3.198	0.799	2.873	0.073	0.435	2.998	0.622	12.30	474	2.939	0.525	15.71	474	0.155	0.957	-0.696	2.987	0.946
	800S137-43	0.0451	0.503	1.71	4.134	1.033	2.866	0.093	0.430	4.001	0.896	17.70	1051	3.913	0.795	23.80	1051	0.341	1.214	-0.687	2.978	0.947
	800S137-54	0.0566	0.627	2.13	5.110	1.277	2.855	0.112	0.423	5.077	1.179	23.29	2091	4.974	1.083	32.42	2091	0.670	1.478	-0.676	2.964	0.948
	800S137-68	0.0713	0.782	2.66	6.303	1.576	2.839	0.134	0.414	6.303	1.541	30.45	4221	6.285	1.468	43.96	4221	1.325	1.789	-0.661	2.944	0.950
	800S137-97	0.1017	1.093	3.72	8.597	2.149	2.805	0.169	0.394	8.597	2.149	53.09	8843	8.597	2.149	64.35	10885	3.767	2.349	-0.630	2.902	0.953
	800S162-33'	0.0346	0.413	1.41	3.582	0.896	2.943	0.125	0.550	3.384	0.710	14.03	474	3.323	0.614	18.39	474	0.165	1.630	-0.936	3.137	0.911
	800S162-43	0.0451	0.537	1.83	4.633	1.158	2.937	0.160	0.546	4.500	1.019	20.14	1051	4.428	0.866	25.93	1051	0.364	2.076	-0.926	3.128	0.912
	800S162-54	0.0566	0.670	2.28	5.736	1.434	2.927	0.194	0.539	5.702	1.334	26.36	2091	5.600	1.229	36.79	2091	0.715	2.539	-0.914	3.113	0.914
	800S162-68	0.0713	0.836	2.84	7.089	1.772	2.913	0.235	0.530	7.089	1.737	34.32	4221	7.070	1.663	49.80	4221	1.416	3.093	-0.899	3.094	0.916
	800S162-97	0.1017	1.169	3.98	9.713	2.428	2.883	0.305	0.510	9.713	2.428	58.27	8843	9.713	2.428	72.70	10885	4.030	4.114	-0.866	3.053	0.919
	800S200-33'	0.0346	0.448	1.52	4.096	1.024	3.023	0.227	0.712	4.096	0.816	16.12	474	3.936	0.696	20.84	474	0.179	2.971	-1.288	3.363	0.853
	800S200-43	0.0451	0.582	1.98	5.302	1.325	3.018	0.292	0.708	5.302	1.293	25.54	1051	5.302	1.065	31.90	1051	0.395	3.797	-1.277	3.353	0.855
	800S200-54	0.0566	0.726	2.47	6.573	1.643	3.009	0.357	0.701	6.573	1.643	35.75	2091	6.573	1.499	44.87	2091	0.775	4.663	-1.265	3.338	0.856
	800S200-68	0.0713	0.907	3.09	8.140	2.035	2.996	0.435	0.692	8.140	2.035	45.29	4221	8.140	1.964	65.21	4221	1.537	5.712	-1.248	3.319	0.859
	800S200-97	0.1017	1.271	4.32	11.203	2.801	2.969	0.576	0.673	11.203	2.801	65.12	8843	11.203	2.801	96.63	10885	4.381	7.684	-1.214	3.278	0.863
	800S250-43	0.0451	0.627	2.13	6.015	1.504	3.097	0.500	0.893	6.015	1.313	25.95	1051	5.909	1.079	32.32	1051	0.425	6.374	-1.675	3.632	0.787
	800S250-54	0.0566	0.783	2.66	7.465	1.866	3.088	0.614	0.886	7.465	1.712	33.82	2091	7.378	1.525	45.66	2091	0.836	7.850	-1.661	3.617	0.789
	800S250-68	0.0713	0.978	3.33	9.261	2.315	3.077	0.752	0.877	9.261	2.220	48.33	4221	9.240	2.059	61.65	4221	1.658	9.652	-1.644	3.597	0.791
	800S250-97	0.1017	1.372	4.67	12.789	3.197	3.053	1.009	0.857	12.789	3.191	72.07	8843	12.789	3.054	102.70	10885	4.731	13.091	-1.607	3.555	0.796
	800S300-54	0.0566	0.839	2.86	8.358	2.090	3.156	0.960	1.069	8.249	1.785	35.28	2091	7.862	1.535	45.96	2091	0.896	12.076	-2.073	3.924	0.721
	800S300-68	0.0713	1.050	3.57	10.382	2.595	3.145	1.179	1.060	10.351	2.321	45.86	4221	10.082	2.145	64.21	4221	1.779	14.888	-2.055	3.903	0.723
	800S300-97	0.1017	1.474	5.02	14.375	3.594	3.123	1.595	1.040	14.375	3.443	76.21	8843	14.170	3.304	98.92	10885	5.082	20.304	-2.017	3.860	0.727
	800S350-54	0.0566	0.938	3.19	9.683	2.421	3.212	1.646	1.325	9.477	2.125	41.98	2091	9.191	1.869	55.96	2091	1.002	22.897	-2.766	4.441	0.612
	800S350-68	0.0713	1.174	4.00	12.046	3.012	3.203	2.034	1.316	12.046	2.837	56.07	4221	11.909	2.596	77.73	4221	1.990	28.308	-2.748	4.421	0.614
800S350-97	0.1017	1.652	5.62	16.737	4.184	3.183	2.784	1.298	16.737	4.101	89.43	8843	16.737	3.785	113.34	10885	5.696	38.834	-2.710	4.377	0.617	
8" Track	800T125-33'	0.0346	0.363	1.24	2.895	0.711	2.824	0.036	0.313	2.441	0.407	8.03	465	2.243	0.348	10.41	465	0.145	0.456	-0.439	2.875	0.977
	800T125-43	0.0451	0.473	1.61	3.773	0.924	2.824	0.046	0.311	3.484	0.640	12.65	1030	3.252	0.552	16.54	1030	0.321	0.589	-0.436	2.874	0.977
	800T125-54	0.0566	0.594	2.02	4.745	1.158	2.827	0.057	0.309	4.668	0.940	18.58	2039	4.426	0.824	24.66	2039	0.634	0.735	-0.432	2.877	0.977
	800T125-68	0.0713	0.748	2.54	5.998	1.454	2.833	0.070	0.306	5.998	1.356	26.80	4087	5.956	1.216	36.39	4087	1.267	0.920	-0.427	2.881	0.978
	800T125-97	0.1017	1.066	3.63	8.613	2.062	2.843	0.096	0.301	8.613	2.062	40.74	8843	8.613	2.062	61.72	10885	3.674	1.296	-0.417	2.889	0.979
	800T150-33'	0.0346	0.380	1.29	3.180	0.781	2.891	0.060	0.397	2.569	0.414	8.18	465	2.350	0.353	10.57	465	0.152	0.751	-0.588	2.977	0.961
	800T150-43	0.0451	0.496	1.69	4.144	1.015	2.891	0.077	0.395	3.689	0.655	12.95	1030	3.427	0.563	16.85	1030	0.336	0.972	-0.584	2.976	0.961
	800T150-54	0.0566	0.622	2.12	5.214	1.272	2.896	0.096	0.393	4.976	0.969	19.15	2039	4.692	0.844	25.27	2039	0.664	1.215	-0.580	2.979	0.962
	800T150-68	0.0713	0.783	2.67	6.594	1.599	2.902	0.119	0.390	6.527	1.412	27.91	4087	6.361	1.255	37.58	4087	1.327	1.526	-0.575	2.984	0.963
	800T150-97	0.1017	1.116	3.80	9.479	2.269	2.914	0.165	0.384	9.479	2.269	44.83	8843	9.479	2.192	65.62	10885	3.849	2.162	-0.564	2.993	0.965
	800T200-33'	0.0346	0.415	1.41	3.749	0.921	3.005	0.135	0.571	2.788	0.424	8.37	465	2.532	0.360	10.77	465	0.166	1.638	-0.917	3.194	0.918
	800T200-43	0.0451	0.541	1.84	4.887	1.197	3.006	0.175	0.569	4.043	0.676	13.35	1030	3.728	0.577	17.28	1030	0.367	2.124	-0.913	3.193	0.918
	800T200-54	0.0566	0.679	2.31	6.152	1.501	3.011	0.218	0.567	5.505	1.009	19.93	2039	5.149	0.871	26.09	2039	0.725	2.664	-0.908	3.196	0.919
	800T200-68	0.0713	0.854	2.91	7.786	1.888	3.019	0.272	0.564	7.306	1.490	29.45	4087	7.051	1.310	39.22	4087	1.448	3.357	-0.902	3.201	0.921
	800T200-97	0.1017	1.218	4.15	11.212	2.683	3.034	0.379	0.558	11.176	2.491	49.22	8843	10.833	2.347	70.27	10885	4.200	4.792	-0.889	3.210	0.923
	800T250-43	0.0451	0.586	1.99	5.629	1.380	3.100	0.326	0.746	4.593	0.739	14.60	1030	4.485	0.607	18.18	1030	0.397	3.877	-1.274	3.433	0.862
	800T250-54	0.0566	0.735	2.50	7.090	1.730	3.106	0.407	0.744	5.948	1.193	23.57	2039	5.816	0.959	28.71	2039	0.785	4.870	-1.268	3.436	0.864
	800T250-68	0.0713	0.926	3.15	8.978	2.177	3.114	0.509	0.741	7.917	1.648	32.57	4087	7.588	1.560	46.72	4087	1.569	6.151	-1.261	3.441	0.866
	800T250-97	0.1017	1.320	4.49	12.944	3.098	3.132	0.713	0.735	12.361	2.641	52.19	8843	11.872	2.487	74.47	10885	4.550	8.818	-1.247	3.450	0.869
	800T300-54	0.0566	0.792	2.69	8.028	1.958	3.184	0.675	0.923	6.396	1.178	23.28	2039	6.237	0.956	28.62	2039	0.845	7.960	-1.652	3.704	0.801
	800T300-68	0.0713	0.997	3.39	10.171	2.466	3.194	0.844	0.920	8.497	1.709	33.76	4087	8.160	1.548	46.36	4087	1.690	10.067	-1.644	3.708	0.803
	800T300-97	0.1017	1.422	4.84	14.676	3.513	3.213	1.188	0.914	13.395	2.757	54.49	8843	12.794	2.586	77.43	10885	4.901	14.472	-1.628	3.716	0.808

For section properties table notes see page 4

A = Cross-sectional area

I_x = Moment of inertia (x-axis)

S_x = Section modulus (x-axis)

R_x = Radius of gyration (x-axis)

I_y = Moment of inertia (y-axis)

R_y = Radius of gyration (y-axis)

Ma = Allowable bending moment

Va = Allowable shear force

J = St. Vennant torsion constant

C_w = Torsional warping constant

X_o = Distance from center of gravity to shear center along x-axis

R_o = Polar radius of gyration about the centroidal principal axis

β = Beta coefficient