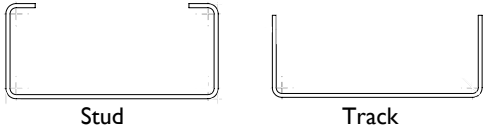


PROFILES:



COATINGS:

G60 (CP60) protective coating per ASTM C955 typ.
(G90 coating available upon request)

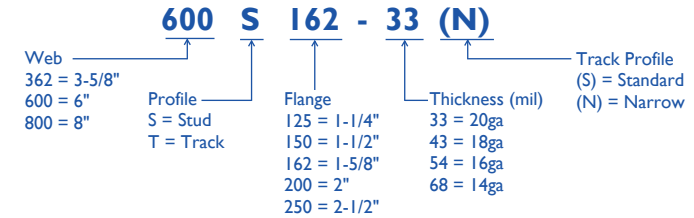
ASTM & CODE STANDARDS:

1. Members shall comply with manufacturing tolerances listed in section A5.3 of AISI S200.
2. Reference AISI S100 for Design of Cold Formed Structural Steel Members.

GENERAL FRAMING NOTES:

1. Physical properties have been calculated in accordance with AISI S100.
2. Gross properties are based on the cross-section away from web punchouts.
3. Allowable moments include cold work of forming.

NOMENCLATURE (Example):



THICKNESS IDENTIFICATION:

Designation (mils)	Gauge	Minimum Thickness (in.)	Design Thickness (in.)	Design Inside Corner Radii (in.)
33	20	0.0329	0.0346	0.0764
43	18	0.0428	0.0451	0.0712
54	16	0.0538	0.0566	0.0849
68	14	0.0677	0.0713	0.1069

¹ Minimum thickness represents 95% of the design thickness (per AISI S100)

² Section properties calculated based on inside corner radii above (per AISI S201)

PROJECT:

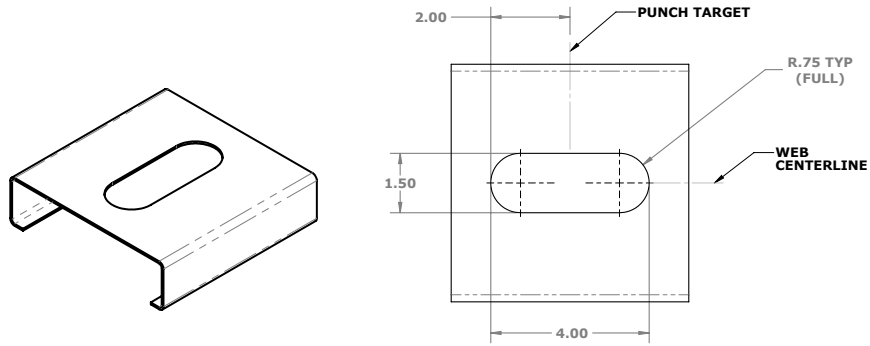
APPROVAL:

SUBMITTED TO:

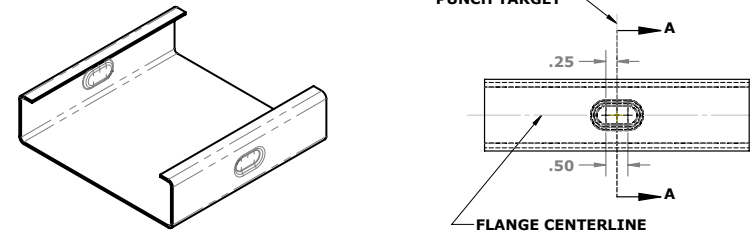
SUBMITTED BY:

DATE SUBMITTED:

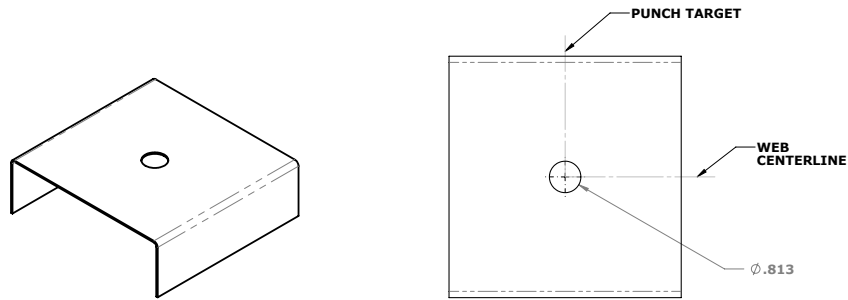
PUNCHES & POST ROLLING TREATMENTS:



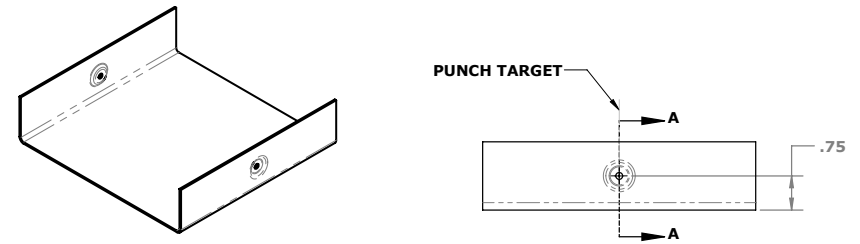
CRC Service Hole



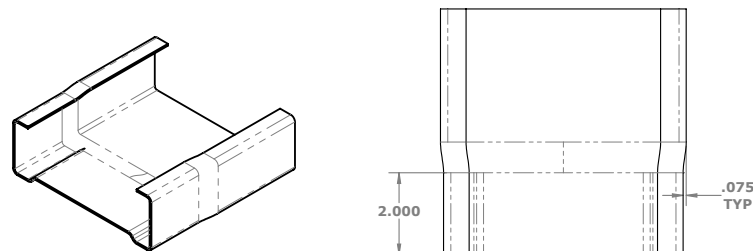
Boss Flange Stamp



Round Web Punch



Flange Dimple



Swage

Gross Properties:

- I_x = Moment of Inertia of cross-section about the x-axis
- S_x = Section Modulus about the x-axis
- R_x = Radius of Gyration of cross-section about the x-axis
- I_y = Moment of Inertia of cross-section about the y-axis
- R_y = Radius of Gyration of cross-section about the y-axis

Effective Properties:

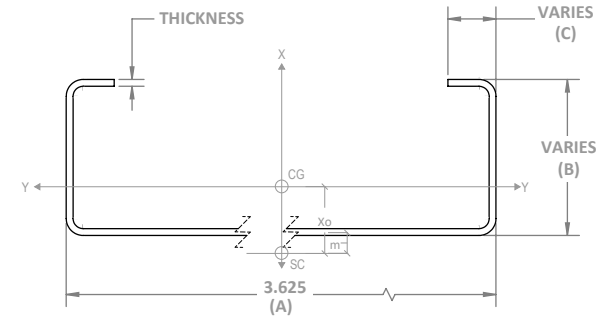
- I_{xe} = Effective Moment of Inertia of cross-section about the x-axis
- S_{xe} = Effective Section Modulus about the x-axis
- M_a = Allowable Moment based on local buckling
(add'l capacity possible by analyzing strength increase from cold-work forming)

Torsional Properties:

- J = St Vincent Torsional Constant
- C_w = Warping Torsion Constant
- R_o = Polar Radius of Gyration of cross-section about the shear center
- β = 1 - (X_o/R_o)²

Notes:

- CRC punchouts are min. 12" from leading edge
- CRC punchouts are min. 24" o.c.



3-5/8" STUD PROPERTIES

Member	Gross Properties							Effective Properties					Torsional Properties									
	Web Depth (A) (in.)	Flange Width (B) (in.)	Leg Width (C) (in.)	Design Thickness (in.)	Yield Strength F _y (ksi)	Ult Strength F _u (ksi)	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 _{xe} (in ⁴)	S _{xe} (in ³)	M _a (in-k)	Jx1000 (in ⁴)	C _w (in ⁴)	X _o (in ⁴)	m (in ⁴)	R _o (in ⁴)	β
362S162-33	3.625	1.625	0.5	0.0346	33	45	0.262	0.89	0.551	0.304	1.450	0.099	0.616	0.551	0.268	5.296	0.105	0.297	-1.308	0.789	2.048	0.592
362S162-43	3.625	1.625	0.5	0.0451	33	45	0.340	1.16	0.710	0.392	1.445	0.127	0.611	0.710	0.372	7.351	0.230	0.376	-1.297	0.782	2.036	0.594
362S162-54	3.625	1.625	0.5	0.0566	50	65	0.422	1.44	0.873	0.482	1.438	0.154	0.605	0.873	0.444	13.293	0.451	0.457	-1.282	0.774	2.020	0.597
362S162-68	3.625	1.625	0.5	0.0713	50	65	0.524	1.78	1.069	0.590	1.429	0.186	0.596	1.069	0.574	17.186	0.887	0.552	-1.264	0.765	1.999	0.600
362S200-33	3.625	2	0.625	0.0346	33	45	0.297	1.01	0.648	0.358	1.478	0.177	0.772	0.637	0.294	5.810	0.118	0.577	-1.741	1.030	2.411	0.479
362S200-43	3.625	2	0.625	0.0451	33	45	0.385	1.31	0.836	0.461	1.474	0.227	0.767	0.836	0.427	8.438	0.261	0.734	-1.729	1.024	2.398	0.480
362S200-54	3.625	2	0.625	0.0566	50	65	0.478	1.63	1.030	0.568	1.467	0.277	0.761	1.030	0.490	14.671	0.511	0.896	-1.715	1.016	2.382	0.482
362S200-68	3.625	2	0.625	0.0713	50	65	0.595	2.03	1.266	0.698	1.458	0.337	0.753	1.266	0.666	19.940	1.008	1.089	-1.696	1.006	2.360	0.484
362S250-33	3.625	2.5	0.625	0.0346	33	45	0.331	1.13	0.760	0.419	1.515	0.299	0.951	0.716	0.315	6.225	0.132	0.965	-2.211	1.284	2.844	0.395
362S250-43	3.625	2.5	0.625	0.0451	33	45	0.430	1.46	0.980	0.541	1.510	0.385	0.946	0.973	0.449	8.872	0.292	1.230	-2.199	1.277	2.830	0.396
362S250-54	3.625	2.5	0.625	0.0566	50	65	0.535	1.82	1.210	0.668	1.504	0.473	0.940	1.161	0.514	15.389	0.571	1.506	-2.184	1.269	2.813	0.397
362S250-68	3.625	2.5	0.625	0.0713	50	65	0.666	2.27	1.491	0.822	1.496	0.578	0.931	1.475	0.689	20.629	1.129	1.837	-2.165	1.259	2.791	0.398

Gross Properties:

- I_x = Moment of Inertia of cross-section about the x-axis
- S_x = Section Modulus about the x-axis
- R_x = Radius of Gyration of cross-section about the x-axis
- I_y = Moment of Inertia of cross-section about the y-axis
- R_y = Radius of Gyration of cross-section about the y-axis

Effective Properties:

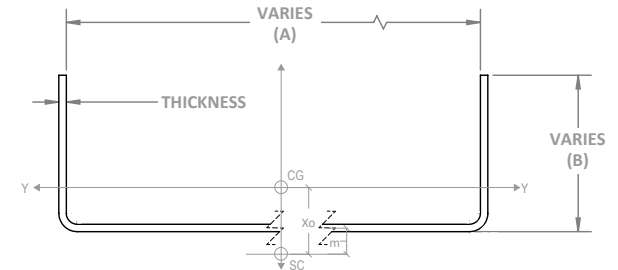
- I_{xe} = Effective Moment of Inertia of cross-section about the x-axis
- S_{xe} = Effective Section Modulus about the x-axis
- M_a = Allowable Moment based on local buckling
(add'l capacity possible by analyzing strength increase from cold-work forming)

Torsional Properties:

- J = St Vincent Torsional Constant
- C_w = Warping Torsion Constant
- R_o = Polar Radius of Gyration of cross-section about the shear center
- β = $I - (X_o/R_o)^2$

Notes:

Track width = (design thickness x 2) + design inside corner radius



3-5/8" STANDARD TRACK PROPERTIES

Member	Gross Properties											Effective Properties			Torsional Properties						
	Web Depth (A) (in.)	Flange Width (B) (in.)	Design Thickness (in.)	Yield Strength F_y (ksi)	Ult Strength F_u (ksi)	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_{xe} (in ⁴)	S_{xe} (in ³)	M_a (in-k)	$J \times 1000$ (in ⁴)	C_w (in ⁴)	X_o (in ⁴)	m (in ⁴)	R_o (in ⁴)	β
362T125-33(S)	3.771	1.25	0.0346	33	45	0.212	0.72	0.438	0.232	1.439	0.030	0.377	0.381	0.174	3.438	0.085	0.076	-0.658	0.409	1.626	0.836
362T125-43(S)	3.786	1.25	0.0451	33	45	0.276	0.94	0.571	0.302	1.439	0.039	0.375	0.526	0.245	4.841	0.187	0.098	-0.654	0.407	1.625	0.838
362T125-54(S)	3.823	1.25	0.0566	50	65	0.346	1.18	0.723	0.378	1.445	0.048	0.373	0.672	0.313	9.371	0.369	0.123	-0.648	0.404	1.627	0.841
362T125-68(S)	3.875	1.25	0.0713	50	65	0.436	1.48	0.921	0.475	1.454	0.060	0.370	0.902	0.428	12.814	0.738	0.156	-0.641	0.399	1.632	0.846
362T150-33(S)	3.771	1.5	0.0346	33	45	0.229	0.78	0.499	0.265	1.475	0.050	0.467	0.410	0.181	3.577	0.091	0.124	-0.854	0.522	1.768	0.766
362T150-43(S)	3.786	1.5	0.0451	33	45	0.298	1.02	0.650	0.343	1.476	0.064	0.465	0.568	0.256	5.059	0.202	0.160	-0.850	0.519	1.766	0.768
362T150-54(S)	3.823	1.5	0.0566	50	65	0.374	1.27	0.823	0.431	1.483	0.080	0.463	0.727	0.326	9.760	0.400	0.202	-0.844	0.516	1.768	0.772
362T150-68(S)	3.875	1.5	0.0713	50	65	0.471	1.60	1.050	0.542	1.493	0.100	0.460	0.984	0.450	13.473	0.799	0.257	-0.836	0.511	1.771	0.777
362T189-33(S)	3.771	1.89	0.0346	33	45	0.256	0.87	0.593	0.314	1.522	0.094	0.606	0.448	0.189	3.735	0.102	0.231	-1.177	0.703	2.017	0.660
362T189-43(S)	3.786	1.89	0.0451	33	45	0.334	1.14	0.773	0.408	1.523	0.122	0.604	0.626	0.268	5.296	0.226	0.300	-1.172	0.700	2.014	0.661
362T189-54(S)	3.823	1.89	0.0566	50	65	0.418	1.42	0.980	0.513	1.530	0.151	0.602	0.802	0.342	10.240	0.447	0.379	-1.165	0.696	2.015	0.666
362T189-68(S)	3.875	1.89	0.0713	50	65	0.527	1.79	1.251	0.646	1.541	0.189	0.599	1.095	0.476	14.251	0.893	0.484	-1.157	0.691	2.018	0.671
362T200-33(S)	3.771	2	0.0346	33	45	0.264	0.90	0.619	0.329	1.533	0.110	0.645	0.458	0.191	3.774	0.105	0.269	-1.270	0.754	2.093	0.631
362T200-43(S)	3.786	2	0.0451	33	45	0.343	1.17	0.808	0.427	1.534	0.142	0.643	0.640	0.271	5.355	0.233	0.350	-1.265	0.752	2.090	0.633
362T200-54(S)	3.823	2	0.0566	50	65	0.431	1.47	1.024	0.536	1.541	0.177	0.641	0.821	0.346	10.359	0.460	0.442	-1.259	0.748	2.091	0.638
362T200-68(S)	3.875	2	0.0713	50	65	0.543	1.85	1.308	0.675	1.553	0.221	0.638	1.123	0.482	14.431	0.919	0.564	-1.250	0.743	2.093	0.643
362T239-33(S)	3.771	2.39	0.0346	33	45	0.291	0.99	0.714	0.379	1.567	0.178	0.781	0.491	0.196	3.873	0.116	0.437	-1.610	0.940	2.379	0.542
362T239-43(S)	3.786	2.39	0.0451	33	45	0.379	1.29	0.931	0.492	1.568	0.230	0.780	0.689	0.280	5.533	0.257	0.567	-1.605	0.937	2.375	0.544
362T239-54(S)	3.823	2.39	0.0566	50	65	0.475	1.62	1.180	0.618	1.576	0.287	0.777	0.884	0.358	10.719	0.507	0.718	-1.598	0.933	2.375	0.548
362T239-68(S)	3.875	2.39	0.0713	50	65	0.598	2.04	1.509	0.779	1.588	0.359	0.775	1.215	0.500	14.970	1.014	0.918	-1.558	0.927	2.376	0.553
362T250-33(S)	3.771	2.5	0.0346	33	45	0.298	1.02	0.740	0.393	1.575	0.200	0.820	0.500	0.198	3.913	0.119	0.493	-1.708	0.992	2.464	0.520
362T250-43(S)	3.786	2.5	0.0451	33	45	0.389	1.32	0.966	0.510	1.577	0.260	0.818	0.701	0.282	5.572	0.263	0.641	-1.702	0.990	2.460	0.521
362T250-54(S)	3.823	2.5	0.0566	50	65	0.487	1.66	1.225	0.641	1.585	0.324	0.816	0.900	0.361	10.808	0.521	0.812	-1.695	0.986	2.460	0.525
362T250-68(S)	3.875	2.5	0.0713	50	65	0.614	2.09	1.566	0.808	1.597	0.406	0.813	1.239	0.504	15.090	1.040	1.038	-1.686	0.980	2.460	0.531
362T289-33(S)	3.771	2.89	0.0346	33	45	0.325	1.11	0.834	0.443	1.602	0.296	0.954	0.528	0.198	3.913	0.130	0.732	-2.058	1.180	2.777	0.451
362T289-43(S)	3.786	2.89	0.0451	33	45	0.424	1.44	1.089	0.575	1.603	0.384	0.952	0.743	0.289	5.711	0.287	0.952	-2.053	1.178	2.773	0.452
362T289-54(S)	3.823	2.89	0.0566	50	65	0.532	1.81	1.381	0.723	1.612	0.480	0.950	0.954	0.370	11.078	0.568	1.207	-2.046	1.173	2.772	0.456
362T289-68(S)	3.875	2.89	0.0713	50	65	0.669	2.28	1.767	0.912	1.625	0.601	0.947	1.318	0.518	15.509	1.134	1.545	-2.036	1.168	2.772	0.460

Gross Properties:

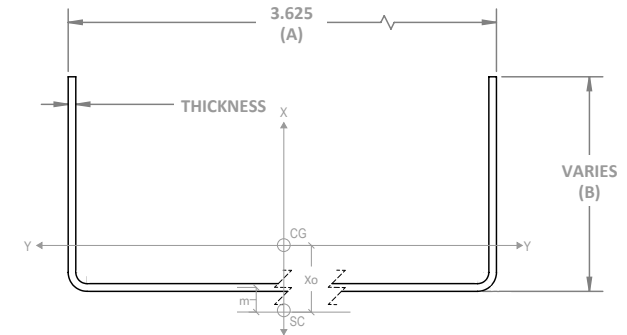
- I_x = Moment of Inertia of cross-section about the x-axis
- S_x = Section Modulus about the x-axis
- R_x = Radius of Gyration of cross-section about the x-axis
- I_y = Moment of Inertia of cross-section about the y-axis
- R_y = Radius of Gyration of cross-section about the y-axis

Effective Properties:

- I_{xe} = Effective Moment of Inertia of cross-section about the x-axis
- S_{xe} = Effective Section Modulus about the x-axis
- M_a = Allowable Moment based on local buckling
(add'l capacity possible by analyzing strength increase from cold-work forming)

Torsional Properties:

- J = St Vincent Torsional Constant
- C_w = Warping Torsion Constant
- R_o = Polar Radius of Gyration of cross-section about the shear center
- β = $I - (X_o/R_o)^2$



3-5/8" NARROW TRACK PROPERTIES

Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Design Thickness (in.)	Yield Strength F_y (ksi)	Ult Strength F_u (ksi)	Gross Properties						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_{xe} (in ⁴)	S_{xe} (in ³)	M_a (in-k)	$J \times 1000$ (in ⁴)	C_w (in ⁴)	X_o (in ⁴)	m (in ⁴)	R_o (in ⁴)	β
362T125-33(N)	3.625	1.25	0.0346	33	45	0.207	0.70	0.399	0.220	1.390	0.030	0.380	0.347	0.164	3.241	0.083	0.069	-0.669	0.415	1.589	0.822
362T125-43(N)	3.625	1.25	0.0451	33	45	0.269	0.91	0.515	0.284	1.385	0.038	0.378	0.474	0.230	4.545	0.182	0.088	-0.666	0.413	1.583	0.823
362T125-54(N)	3.625	1.25	0.0566	50	65	0.335	1.14	0.637	0.351	1.379	0.047	0.376	0.592	0.289	8.653	0.357	0.109	-0.664	0.411	1.576	0.823
362T125-68(N)	3.625	1.25	0.0713	50	65	0.418	1.42	0.785	0.433	1.371	0.059	0.374	0.769	0.389	11.647	0.708	0.133	-0.660	0.408	1.567	0.822
362T150-33(N)	3.625	1.5	0.0346	33	45	0.224	0.76	0.455	0.251	1.425	0.049	0.469	0.373	0.170	3.359	0.089	0.113	-0.868	0.528	1.733	0.749
362T150-43(N)	3.625	1.5	0.0451	33	45	0.291	0.99	0.588	0.324	1.421	0.064	0.468	0.512	0.240	4.743	0.197	0.145	-0.865	0.526	1.728	0.750
362T150-54(N)	3.625	1.5	0.0566	50	65	0.363	1.24	0.727	0.401	1.415	0.079	0.466	0.641	0.302	9.042	0.388	0.178	-0.862	0.524	1.721	0.749
362T150-68(N)	3.625	1.5	0.0713	50	65	0.453	1.54	0.898	0.495	1.407	0.098	0.464	0.840	0.409	12.246	0.768	0.220	-0.859	0.521	1.713	0.748
362T199-33(N)	3.625	1.99	0.0346	33	45	0.258	0.88	0.564	0.311	1.479	0.107	0.643	0.417	0.179	3.537	0.103	0.242	-1.279	0.757	2.058	0.614
362T199-43(N)	3.625	1.99	0.0451	33	45	0.335	1.14	0.729	0.402	1.475	0.138	0.642	0.577	0.254	5.019	0.227	0.311	-1.276	0.755	2.053	0.614
362T199-54(N)	3.625	1.99	0.0566	50	65	0.419	1.42	0.903	0.498	1.469	0.171	0.640	0.723	0.320	9.581	0.447	0.385	-1.273	0.753	2.047	0.613
362T199-68(N)	3.625	1.99	0.0713	50	65	0.523	1.78	1.118	0.617	1.462	0.213	0.638	0.959	0.437	13.084	0.887	0.475	-1.271	0.750	2.039	0.612
362T249-33(N)	3.625	2.49	0.0346	33	45	0.293	1.00	0.676	0.373	1.520	0.196	0.818	0.454	0.186	3.675	0.117	0.445	-1.719	0.995	2.436	0.502
362T249-43(N)	3.625	2.49	0.0451	33	45	0.380	1.29	0.874	0.482	1.516	0.253	0.816	0.633	0.264	5.217	0.258	0.573	-1.715	0.993	2.430	0.502
362T249-54(N)	3.625	2.49	0.0566	50	65	0.475	1.62	1.084	0.598	1.510	0.315	0.814	0.793	0.333	9.970	0.507	0.709	-1.713	0.991	2.425	0.501
362T249-68(N)	3.625	2.49	0.0713	50	65	0.595	2.02	1.344	0.741	1.503	0.392	0.812	1.060	0.458	13.713	1.008	0.878	-1.711	0.989	2.418	0.499
362T299-33(N)	3.625	2.99	0.0346	33	45	0.327	1.11	0.787	0.434	1.551	0.320	0.989	0.487	0.189	3.735	0.131	0.734	-2.172	1.237	2.847	0.418
362T299-43(N)	3.625	2.99	0.0451	33	45	0.425	1.45	1.018	0.562	1.547	0.415	0.987	0.680	0.272	5.375	0.288	0.945	-2.169	1.235	2.841	0.417
362T299-54(N)	3.625	2.99	0.0566	50	65	0.532	1.81	1.264	0.697	1.542	0.517	0.986	0.854	0.344	10.299	0.568	1.172	-2.167	1.233	2.836	0.416
362T299-68(N)	3.625	2.99	0.0713	50	65	0.666	2.27	1.569	0.865	1.535	0.644	0.983	1.147	0.473	14.162	1.128	1.452	-2.165	1.230	2.830	0.415

Gross Properties:

I_x = Moment of Inertia of cross-section about the x-axis
 S_x = Section Modulus about the x-axis
 R_x = Radius of Gyration of cross-section about the x-axis
 I_y = Moment of Inertia of cross-section about the y-axis
 R_y = Radius of Gyration of cross-section about the y-axis

Effective Properties:

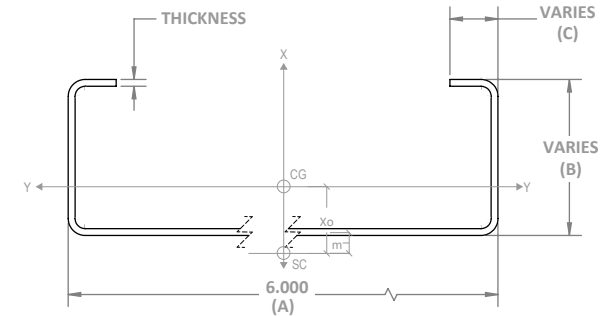
I_{xe} = Effective Moment of Inertia of cross-section about the x-axis
 S_{xe} = Effective Section Modulus about the x-axis
 M_a = Allowable Moment based on local buckling
 (add'l capacity possible by analyzing strength increase from cold-work forming)

Torsional Properties:

J = St Vincent Torsional Constant
 C_w = Warping Torsion Constant
 R_o = Polar Radius of Gyration of cross-section about the shear center
 β = $1 - (X_o/R_o)^2$

Notes:

CRC punchouts are min. 12" from leading edge
 CRC punchouts are min. 24" o.c.



6" STUD PROPERTIES

Member	Gross Properties							Effective Properties					Torsional Properties									
	Web Depth (A) (in.)	Flange Width (B) (in.)	Leg Width (C) (in.)	Design Thickness (in.)	Yield Strength F_y (ksi)	Ult Strength F_u (ksi)	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_{xe} (in ⁴)	S_{xe} (in ³)	M_a (in-k)	$J \times 1000$ (in ⁴)	C_w (in ⁴)	X_o (in ⁴)	m (in ⁴)	R_o (in ⁴)	β
600S162-33	6	1.625	0.5	0.0346	33	45	0.344	1.17	1.793	0.598	2.282	0.116	0.581	1.793	0.577	11.402	0.137	0.861	-1.072	0.677	2.588	0.828
600S162-43	6	1.625	0.5	0.0451	33	45	0.447	1.52	2.316	0.772	2.277	0.148	0.576	2.316	0.767	16.673	0.303	1.095	-1.062	0.670	2.577	0.830
600S162-54	6	1.625	0.5	0.0566	50	65	0.556	1.89	2.861	0.954	2.268	0.180	0.570	2.861	0.915	30.308	0.594	1.337	-1.049	0.663	2.563	0.833
600S162-68	6	1.625	0.5	0.0713	50	65	0.693	2.36	3.525	1.175	2.255	0.218	0.561	3.525	1.164	39.467	1.174	1.626	-1.032	0.655	2.543	0.835
600S200-33	6	2	0.625	0.0346	33	45	0.379	1.29	2.076	0.692	2.341	0.209	0.743	2.043	0.621	12.271	0.151	1.593	-1.457	0.901	2.856	0.740
600S200-43	6	2	0.625	0.0451	33	45	0.492	1.67	2.683	0.894	2.335	0.268	0.739	2.683	0.873	17.251	0.334	2.033	-1.446	0.894	2.844	0.742
600S200-54	6	2	0.625	0.0566	50	65	0.613	2.09	3.320	1.107	2.327	0.329	0.732	3.320	1.015	30.389	0.655	2.493	-1.432	0.887	2.829	0.744
600S200-68	6	2	0.625	0.0713	50	65	0.764	2.60	4.101	1.367	2.316	0.400	0.723	4.101	1.317	43.717	1.295	3.047	-1.415	0.878	2.809	0.746
600S250-33	6	2.5	0.625	0.0346	33	45	0.414	1.41	2.384	0.795	2.401	0.356	0.928	2.262	0.649	12.825	0.165	2.666	-1.886	1.143	3.191	0.651
600S250-43	6	2.5	0.625	0.0451	33	45	0.537	1.83	3.083	1.028	2.396	0.458	0.923	3.062	0.918	18.140	0.364	3.411	-1.874	1.136	3.179	0.652
600S250-54	6	2.5	0.625	0.0566	50	65	0.670	2.28	3.820	1.273	2.389	0.562	0.917	3.663	1.069	32.006	0.715	4.194	-1.860	1.129	3.163	0.654
600S250-68	6	2.5	0.625	0.0713	50	65	0.836	2.84	4.728	1.576	2.379	0.688	0.908	4.667	1.386	41.497	1.416	5.145	-1.841	1.119	3.142	0.657

Gross Properties:

- I_x = Moment of Inertia of cross-section about the x-axis
- S_x = Section Modulus about the x-axis
- R_x = Radius of Gyration of cross-section about the x-axis
- I_y = Moment of Inertia of cross-section about the y-axis
- R_y = Radius of Gyration of cross-section about the y-axis

Effective Properties:

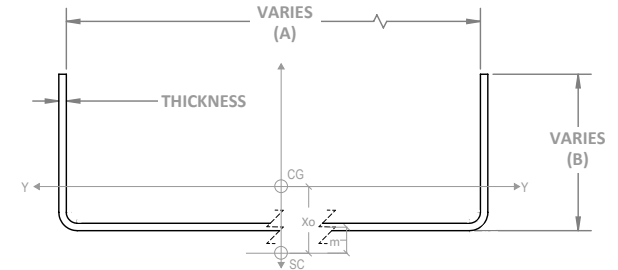
- I_{xe} = Effective Moment of Inertia of cross-section about the x-axis
- S_{xe} = Effective Section Modulus about the x-axis
- M_a = Allowable Moment based on local buckling
(add'l capacity possible by analyzing strength increase from cold-work forming)

Torsional Properties:

- J = St Vincent Torsional Constant
- C_w = Warping Torsion Constant
- R_o = Polar Radius of Gyration of cross-section about the shear center
- β = $I - (X_o/R_o)^2$

Notes:

Track width = (design thickness x 2) + design inside corner radius



6" STANDARD TRACK PROPERTIES

Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Design Thickness (in.)	Yield Strength F_y (ksi)	Ult Strength F_u (ksi)	Gross Properties						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_{xe} (in ⁴)	S_{xe} (in ³)	M_a (in-k)	$J \times 1000$ (in ⁴)	C_w (in ⁴)	X_o (in ⁴)	m (in ⁴)	R_o (in ⁴)	β
600T125-33(S)	6.146	1.25	0.0346	33	45	0.294	1.00	1.429	0.465	2.205	0.034	0.339	1.202	0.297	5.869	0.117	0.238	-0.516	0.337	2.290	0.949
600T125-43(S)	6.161	1.25	0.0451	33	45	0.383	1.30	1.861	0.604	2.205	0.044	0.337	1.720	0.462	9.129	0.260	0.307	-0.513	0.335	2.289	0.950
600T125-54(S)	6.198	1.25	0.0566	50	65	0.480	1.64	2.345	0.757	2.209	0.054	0.335	2.193	0.593	17.754	0.513	0.384	-0.508	0.332	2.292	0.951
600T125-68(S)	6.250	1.25	0.0713	50	65	0.605	2.06	2.971	0.951	2.216	0.067	0.332	2.919	0.859	25.719	1.025	0.483	-0.503	0.329	2.296	0.952
600T150-33(S)	6.146	1.5	0.0346	33	45	0.311	1.06	1.590	0.518	2.260	0.057	0.426	1.268	0.303	5.987	0.124	0.390	-0.684	0.439	2.400	0.919
600T150-43(S)	6.161	1.5	0.0451	33	45	0.405	1.38	2.072	0.673	2.261	0.073	0.424	1.828	0.474	9.366	0.275	0.504	-0.680	0.437	2.399	0.920
600T150-54(S)	6.198	1.5	0.0566	50	65	0.509	1.73	2.612	0.843	2.266	0.091	0.422	2.333	0.610	18.263	0.543	0.632	-0.675	0.434	2.402	0.921
600T150-68(S)	6.250	1.5	0.0713	50	65	0.641	2.18	3.311	1.059	2.273	0.113	0.419	3.137	0.892	26.707	1.086	0.797	-0.669	0.431	2.407	0.923
600T189-33(S)	6.146	1.89	0.0346	33	45	0.338	1.15	1.842	0.600	2.334	0.108	0.565	1.470	0.334	6.600	0.135	0.727	-0.965	0.606	2.588	0.861
600T189-43(S)	6.161	1.89	0.0451	33	45	0.441	1.50	2.401	0.779	2.334	0.140	0.563	2.017	0.559	11.046	0.299	0.943	-0.961	0.604	2.586	0.862
600T189-54(S)	6.198	1.89	0.0566	50	65	0.553	1.88	3.028	0.977	2.340	0.174	0.561	2.567	0.710	21.257	0.590	1.185	-0.956	0.601	2.589	0.864
600T189-68(S)	6.250	1.89	0.0713	50	65	0.696	2.37	3.842	1.229	2.349	0.217	0.558	3.434	0.963	28.832	1.180	1.498	-0.949	0.596	2.594	0.866
600T200-33(S)	6.146	2	0.0346	33	45	0.346	1.18	1.913	0.623	2.352	0.126	0.604	1.499	0.334	6.600	0.138	0.847	-1.048	0.655	2.645	0.843
600T200-43(S)	6.161	2	0.0451	33	45	0.451	1.53	2.494	0.810	2.353	0.163	0.602	2.059	0.565	11.165	0.305	1.098	-1.044	0.652	2.643	0.844
600T200-54(S)	6.198	2	0.0566	50	65	0.565	1.92	3.145	1.015	2.359	0.204	0.600	2.621	0.718	21.497	0.604	1.381	-1.038	0.649	2.646	0.846
600T200-68(S)	6.250	2	0.0713	50	65	0.712	2.42	3.991	1.277	2.368	0.254	0.597	3.511	0.974	29.162	1.206	1.747	-1.031	0.644	2.651	0.849
600T239-33(S)	6.146	2.39	0.0346	33	45	0.373	1.27	2.165	0.705	2.410	0.206	0.744	1.558	0.333	6.580	0.149	1.367	-1.353	0.830	2.862	0.777
600T239-43(S)	6.161	2.39	0.0451	33	45	0.486	1.65	2.823	0.916	2.411	0.267	0.742	2.199	0.566	11.184	0.329	1.775	-1.348	0.827	2.860	0.778
600T239-54(S)	6.198	2.39	0.0566	50	65	0.609	2.07	3.562	1.149	2.417	0.333	0.740	2.800	0.736	22.036	0.651	2.235	-1.342	0.824	2.862	0.780
600T239-68(S)	6.250	2.39	0.0713	50	65	0.768	2.61	4.522	1.447	2.427	0.417	0.737	3.766	1.010	30.240	1.301	2.831	-1.334	0.819	2.866	0.783
600T250-33(S)	6.146	2.5	0.0346	33	45	0.380	1.30	2.237	0.728	2.425	0.233	0.783	1.572	0.332	6.560	0.152	1.543	-1.441	0.880	2.927	0.758
600T250-43(S)	6.161	2.5	0.0451	33	45	0.496	1.69	2.916	0.946	2.425	0.303	0.781	2.236	0.564	11.145	0.336	2.003	-1.436	0.878	2.925	0.759
600T250-54(S)	6.198	2.5	0.0566	50	65	0.622	2.12	3.679	1.187	2.432	0.377	0.779	2.848	0.733	21.946	0.664	2.523	-1.430	0.874	2.927	0.761
600T250-68(S)	6.250	2.5	0.0713	50	65	0.783	2.67	4.672	1.495	2.442	0.472	0.776	3.833	1.019	30.509	1.327	3.198	-1.422	0.869	2.931	0.765
600T289-33(S)	6.146	2.89	0.0346	33	45	0.407	1.39	2.488	0.810	2.471	0.347	0.922	1.619	0.331	6.541	0.163	2.279	-1.761	1.060	3.172	0.692
600T289-43(S)	6.161	2.89	0.0451	33	45	0.531	1.81	3.245	1.053	2.472	0.450	0.920	2.360	0.558	11.026	0.360	2.961	-1.756	1.058	3.169	0.693
600T289-54(S)	6.198	2.89	0.0566	50	65	0.666	2.27	4.095	1.321	2.480	0.562	0.918	3.007	0.725	21.707	0.711	3.732	-1.750	1.054	3.171	0.695
600T289-68(S)	6.250	2.89	0.0713	50	65	0.839	2.86	5.203	1.665	2.490	0.703	0.915	4.058	1.048	31.377	1.421	4.735	-1.742	1.049	3.174	0.699

Gross Properties:

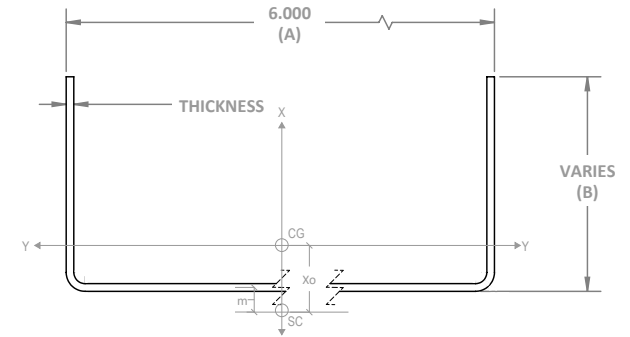
- I_x = Moment of Inertia of cross-section about the x-axis
- S_x = Section Modulus about the x-axis
- R_x = Radius of Gyration of cross-section about the x-axis
- I_y = Moment of Inertia of cross-section about the y-axis
- R_y = Radius of Gyration of cross-section about the y-axis

Effective Properties:

- I_{xe} = Effective Moment of Inertia of cross-section about the x-axis
- S_{xe} = Effective Section Modulus about the x-axis
- M_a = Allowable Moment based on local buckling
(add'l capacity possible by analyzing strength increase from cold-work forming)

Torsional Properties:

- J = St Vincent Torsional Constant
- C_w = Warping Torsion Constant
- R_o = Polar Radius of Gyration of cross-section about the shear center
- β = $I - (X_o/R_o)^2$



6" NARROW TRACK PROPERTIES

Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Design Thickness (in.)	Yield Strength F_y (ksi)	Ult Strength F_u (ksi)	Gross Properties						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_{xe} (in ⁴)	S_{xe} (in ³)	M_a (in-k)	$J \times 1000$ (in ⁴)	C_w (in ⁴)	X_o (in ⁴)	m (in ⁴)	R_o (in ⁴)	β
600T125-33(N)	6	1.25	0.0346	33	45	0.289	0.98	1.346	0.449	2.159	0.034	0.341	1.137	0.289	5.711	0.115	0.225	-0.523	0.341	2.247	0.946
600T125-43(N)	6	1.25	0.0451	33	45	0.376	1.28	1.743	0.581	2.154	0.043	0.339	1.615	0.447	8.833	0.255	0.289	-0.520	0.339	2.242	0.946
600T125-54(N)	6	1.25	0.0566	50	65	0.469	1.60	2.163	0.721	2.147	0.054	0.338	2.030	0.570	17.066	0.501	0.356	-0.518	0.337	2.234	0.946
600T125-68(N)	6	1.25	0.0713	50	65	0.587	2.00	2.683	0.894	2.138	0.066	0.336	2.636	0.815	24.401	0.995	0.439	-0.514	0.335	2.224	0.947
600T150-33(N)	6	1.5	0.0346	33	45	0.306	1.04	1.500	0.500	2.213	0.056	0.429	1.279	0.328	6.481	0.122	0.369	-0.692	0.444	2.358	0.914
600T150-43(N)	6	1.5	0.0451	33	45	0.398	1.36	1.943	0.648	2.209	0.073	0.427	1.738	0.513	10.137	0.270	0.474	-0.689	0.442	2.353	0.914
600T150-54(N)	6	1.5	0.0566	50	65	0.497	1.69	2.413	0.804	2.202	0.090	0.425	2.177	0.645	19.311	0.531	0.586	-0.686	0.440	2.346	0.914
600T150-68(N)	6	1.5	0.0713	50	65	0.623	2.12	2.996	0.999	2.193	0.112	0.423	2.836	0.859	25.719	1.055	0.724	-0.683	0.437	2.336	0.915
600T199-33(N)	6	1.99	0.0346	33	45	0.340	1.16	1.802	0.601	2.302	0.124	0.603	1.410	0.326	6.442	0.136	0.790	-1.052	0.656	2.602	0.837
600T199-43(N)	6	1.99	0.0451	33	45	0.442	1.51	2.335	0.778	2.297	0.160	0.601	1.926	0.542	10.710	0.300	1.018	-1.049	0.654	2.596	0.837
600T199-54(N)	6	1.99	0.0566	50	65	0.553	1.88	2.903	0.968	2.291	0.199	0.600	2.416	0.682	20.419	0.590	1.262	-1.046	0.652	2.589	0.837
600T199-68(N)	6	1.99	0.0713	50	65	0.693	2.36	3.610	1.203	2.283	0.248	0.598	3.174	0.915	27.395	1.174	1.565	-1.042	0.649	2.580	0.837
600T249-33(N)	6	2.49	0.0346	33	45	0.375	1.28	2.110	0.703	2.373	0.229	0.782	1.493	0.324	6.402	0.150	1.443	-1.446	0.882	2.887	0.749
600T249-43(N)	6	2.49	0.0451	33	45	0.487	1.66	2.735	0.912	2.368	0.297	0.780	2.094	0.550	10.868	0.331	1.863	-1.443	0.880	2.881	0.749
600T249-54(N)	6	2.49	0.0566	50	65	0.610	2.07	3.403	1.134	2.363	0.370	0.779	2.628	0.711	21.287	0.651	2.312	-1.441	0.878	2.875	0.749
600T249-68(N)	6	2.49	0.0713	50	65	0.764	2.60	4.237	1.412	2.355	0.461	0.777	3.470	0.957	28.653	1.295	2.873	-1.437	0.875	2.866	0.748
600T299-33(N)	6	2.99	0.0346	33	45	0.409	1.39	2.418	0.806	2.430	0.377	0.960	1.550	0.323	6.383	0.163	2.361	-1.861	1.114	3.208	0.664
600T299-43(N)	6	2.99	0.0451	33	45	0.533	1.81	3.135	1.045	2.426	0.489	0.959	2.242	0.542	10.710	0.361	3.051	-1.858	1.112	3.202	0.664
600T299-54(N)	6	2.99	0.0566	50	65	0.666	2.27	3.902	1.301	2.420	0.610	0.957	2.817	0.700	20.958	0.711	3.791	-1.855	1.110	3.196	0.663
600T299-68(N)	6	2.99	0.0713	50	65	0.835	2.84	4.863	1.621	2.413	0.762	0.955	3.731	0.991	29.671	1.415	4.717	-1.852	1.107	3.188	0.662

Gross Properties:

I_x = Moment of Inertia of cross-section about the x-axis
 S_x = Section Modulus about the x-axis
 R_x = Radius of Gyration of cross-section about the x-axis
 I_y = Moment of Inertia of cross-section about the y-axis
 R_y = Radius of Gyration of cross-section about the y-axis

Effective Properties:

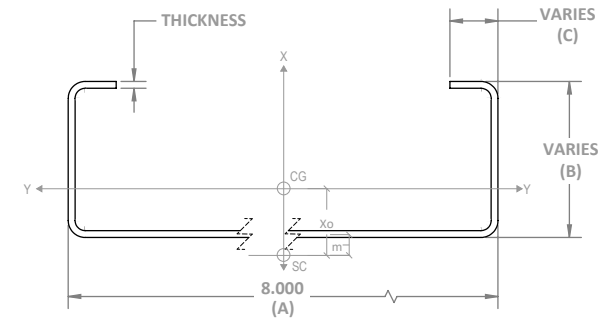
I_{xe} = Effective Moment of Inertia of cross-section about the x-axis
 S_{xe} = Effective Section Modulus about the x-axis
 M_a = Allowable Moment based on local buckling
 (add'l capacity possible by analyzing strength increase from cold-work forming)

Torsional Properties:

J = St Vincent Torsional Constant
 C_w = Warping Torsion Constant
 R_o = Polar Radius of Gyration of cross-section about the shear center
 β = $1 - (X_o/R_o)^2$

Notes:

CRC punchouts are min. 12" from leading edge
 CRC punchouts are min. 24" o.c.



8" STUD PROPERTIES

Member	Gross Properties							Effective Properties					Torsional Properties									
	Web Depth (A) (in.)	Flange Width (B) (in.)	Leg Width (C) (in.)	Design Thickness (in.)	Yield Strength F _y (ksi)	Ult Strength F _u (ksi)	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 _{xe} (in ⁴)	S _{xe} (in ³)	M _a (in-k)	Jx1000 (in ⁴)	C _w (in ⁴)	X _o (in ⁴)	m (in ⁴)	R _o (in ⁴)	β
800S162-33	8	1.625	0.5	0.0346	33	45	0.414	1.41	3.583	0.896	2.944	0.125	0.550	3.361	0.710	14.030	0.165	1.630	-0.936	0.607	3.138	0.911
800S162-43	8	1.625	0.5	0.0451	33	45	0.537	1.83	4.635	1.159	2.938	0.160	0.546	4.483	1.019	20.136	0.364	2.076	-0.926	0.601	3.128	0.912
800S162-54	8	1.625	0.5	0.0566	50	65	0.670	2.28	5.737	1.434	2.927	0.194	0.539	5.568	1.229	36.796	0.715	2.539	-0.914	0.594	3.114	0.914
800S162-68	8	1.625	0.5	0.0713	50	65	0.836	2.84	7.091	1.773	2.913	0.235	0.530	7.051	1.663	49.790	1.416	3.093	-0.898	0.586	3.094	0.916
800S200-33	8	2	0.625	0.0346	33	45	0.448	1.53	4.097	1.024	3.024	0.227	0.712	4.020	0.816	16.125	0.179	2.971	-1.288	0.817	3.363	0.853
800S200-43	8	2	0.625	0.0451	33	45	0.582	1.98	5.303	1.326	3.018	0.292	0.708	5.303	1.293	25.550	0.395	3.797	-1.277	0.811	3.353	0.855
800S200-54	8	2	0.625	0.0566	50	65	0.726	2.47	6.574	1.644	3.009	0.357	0.701	6.574	1.499	44.880	0.775	4.663	-1.265	0.804	3.338	0.856
800S200-68	8	2	0.625	0.0713	50	65	0.907	3.09	8.142	2.036	2.996	0.435	0.692	8.142	1.964	65.194	1.537	5.712	-1.248	0.796	3.319	0.859
800S250-33	8	2.5	0.625	0.0346	33	45	0.483	1.64	4.646	1.162	3.102	0.389	0.897	4.364	0.858	16.954	0.193	4.974	-1.686	1.049	3.643	0.786
800S250-43	8	2.5	0.625	0.0451	33	45	0.627	2.14	6.017	1.504	3.097	0.500	0.893	5.979	1.313	25.946	0.425	6.374	-1.675	1.043	3.632	0.787
800S250-54	8	2.5	0.625	0.0566	50	65	0.783	2.66	7.467	1.867	3.089	0.614	0.886	7.171	1.525	45.659	0.836	7.850	-1.661	1.036	3.617	0.789
800S250-68	8	2.5	0.625	0.0713	50	65	0.978	3.33	9.263	2.316	3.077	0.752	0.877	9.142	2.059	61.647	1.658	9.652	-1.644	1.027	3.597	0.791

Gross Properties:

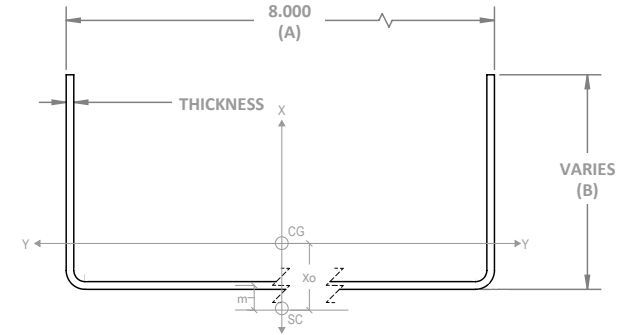
- I_x = Moment of Inertia of cross-section about the x-axis
- S_x = Section Modulus about the x-axis
- R_x = Radius of Gyration of cross-section about the x-axis
- I_y = Moment of Inertia of cross-section about the y-axis
- R_y = Radius of Gyration of cross-section about the y-axis

Torsional Properties:

- J = St Vincent Torsional Constant
- C_w = Warping Torsion Constant
- R_o = Polar Radius of Gyration of cross-section about the shear center
- β = $I - (X_o/R_o)^2$

Effective Properties:

- I_{xe} = Effective Moment of Inertia of cross-section about the x-axis
- S_{xe} = Effective Section Modulus about the x-axis
- M_a = Allowable Moment based on local buckling
(add'l capacity possible by analyzing strength increase from cold-work forming)



8" NARROW TRACK PROPERTIES

Member	Web Depth (A) (in.)	Flange Width (B) (in.)	Design Thickness (in.)	Yield Strength F_y (ksi)	Ult Strength F_u (ksi)	Gross Properties						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_{xe} (in ⁴)	S_{xe} (in ³)	M_a (in-k)	$J \times 1000$ (in ⁴)	C_w (in ⁴)	X_o (in ⁴)	m (in ⁴)	R_o (in ⁴)	β
800T125-33(N)	8	1.25	0.0346	33	45	0.358	1.22	2.767	0.692	2.780	0.035	0.315	2.209	0.399	7.884	0.143	0.438	-0.444	0.297	2.832	0.975
800T125-43(N)	8	1.25	0.0451	33	45	0.466	1.59	3.587	0.897	2.775	0.046	0.313	3.191	0.626	12.370	0.316	0.562	-0.441	0.295	2.827	0.976
800T125-54(N)	8	1.25	0.0566	50	65	0.582	1.98	4.460	1.115	2.767	0.057	0.312	4.025	0.802	24.012	0.622	0.695	-0.438	0.293	2.819	0.976
800T125-68(N)	8	1.25	0.0713	50	65	0.730	2.48	5.546	1.387	2.757	0.070	0.310	5.415	1.172	35.090	1.237	0.857	-0.435	0.291	2.808	0.976
800T150-33(N)	8	1.5	0.0346	33	45	0.375	1.28	3.041	0.760	2.846	0.060	0.399	2.312	0.406	8.023	0.150	0.721	-0.594	0.391	2.935	0.959
800T150-43(N)	8	1.5	0.0451	33	45	0.488	1.66	3.944	0.986	2.842	0.077	0.397	3.361	0.641	12.666	0.331	0.928	-0.591	0.389	2.929	0.959
800T150-54(N)	8	1.5	0.0566	50	65	0.611	2.08	4.906	1.227	2.834	0.096	0.396	4.246	0.821	24.581	0.652	1.148	-0.588	0.387	2.922	0.959
800T150-68(N)	8	1.5	0.0713	50	65	0.765	2.61	6.106	1.527	2.825	0.119	0.394	5.759	1.211	36.257	1.297	1.421	-0.585	0.385	2.911	0.960
800T199-33(N)	8	1.99	0.0346	33	45	0.409	1.39	3.579	0.895	2.957	0.133	0.570	2.485	0.415	8.201	0.163	1.550	-0.919	0.590	3.148	0.915
800T199-43(N)	8	1.99	0.0451	33	45	0.533	1.81	4.643	1.161	2.953	0.172	0.568	3.647	0.661	13.062	0.361	1.999	-0.916	0.588	3.143	0.915
800T199-54(N)	8	1.99	0.0566	50	65	0.666	2.27	5.781	1.445	2.946	0.214	0.566	4.615	0.848	25.389	0.711	2.481	-0.913	0.586	3.136	0.915
800T199-68(N)	8	1.99	0.0713	50	65	0.835	2.84	7.205	1.801	2.937	0.266	0.564	6.331	1.264	37.844	1.415	3.081	-0.909	0.583	3.126	0.915
800T249-33(N)	8	2.49	0.0346	33	45	0.444	1.51	4.128	1.032	3.049	0.248	0.747	2.734	0.435	8.596	0.177	2.832	-1.281	0.802	3.391	0.857
800T249-43(N)	8	2.49	0.0451	33	45	0.578	1.97	5.356	1.339	3.045	0.321	0.746	4.238	0.725	14.326	0.392	3.660	-1.278	0.803	3.385	0.858
800T249-54(N)	8	2.49	0.0566	50	65	0.723	2.46	6.674	1.668	3.039	0.400	0.744	5.320	0.937	28.054	0.772	4.549	-1.275	0.800	3.378	0.858
800T249-68(N)	8	2.49	0.0713	50	65	0.907	3.09	8.325	2.081	3.030	0.499	0.742	6.975	1.488	44.551	1.536	5.660	-1.272	0.798	3.369	0.858
800T299-33(N)	8	2.99	0.0346	33	45	0.479	1.63	4.677	1.169	3.126	0.411	0.926	2.841	0.435	8.596	0.191	4.628	-1.667	1.027	3.662	0.793
800T299-43(N)	8	2.99	0.0451	33	45	0.623	2.12	6.070	1.517	3.122	0.532	0.925	4.413	0.723	14.287	0.422	5.986	-1.663	1.026	3.656	0.793
800T299-54(N)	8	2.99	0.0566	50	65	0.779	2.65	7.567	1.892	3.116	0.664	0.923	5.628	0.934	27.964	0.832	7.448	-1.661	1.023	3.649	0.793
800T299-68(N)	8	2.99	0.0713	50	65	0.978	3.33	9.446	2.361	3.108	0.829	0.921	7.463	1.507	45.120	1.657	9.281	-1.657	1.021	3.641	0.793