

Structural Studs & Track

Industry standard nomenclature is used to identify MBA's products. The Steel Framing Industry Association has established standard designation codes for structural studs and track. In each case, the identification starts with the measurement of the width of the member, followed by a letter (S = stud and T = track) followed by the flange dimension. A hyphen is used to separate all of this from the thickness of the metal.

Member Depth:

(Example: 6" = 600 x 1/100 inches)

All member depths are taken in 1/100 inches. For all "T" sections member depth is the inside to inside dimension.

Flange Width:

(Example: 1 5/8" = 1.625" 162 x 1/100 inches)

All flange widths are taken in 1/100 inches.

Style:

(Example: Stud or Joist Section = S)

Relevant alpha characters utilized by the designation system are:

S = Stud or Joist Sections

T = Track Sections

Material Thickness:

(Example: 0.054" = 54 mils; 1 mil = 1/1000 in.)

Material thickness is the minimum base metal thickness in mils.

Minimum base metal thickness represents 95% of the design thickness.

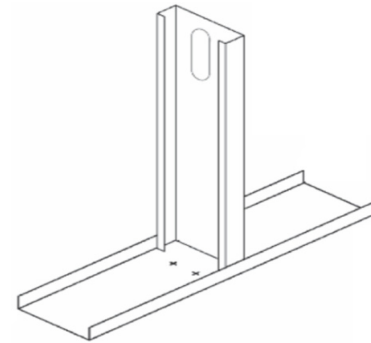
Steel Thickness

Mils	Gauge	Thickness (in)	
		Design	Minimum ¹
33	20	0.0346	0.0329
43	18	0.0451	0.0428
54	16	0.0566	0.0538
68	14	0.0713	0.0677
97	12	0.1017	0.0966
118	10	0.1242	0.1180

¹ Minimum Thickness represents 95% of the design thickness and is the minimum acceptable thickness delivered to the job site based on AISI S100-16/S2-20.

Design Stiffening Lip Length

Section	Flange Width	Design Stiffening Lip Length (in)
S137	1-3/8"	0.375
S162	1-5/8"	0.500
S200	2"	0.625
S250	2-1/2"	0.625
S300	3"	1.000
S350	3-1/2"	1.000



Structural Stud Punchouts

Punchouts for structural studs are ovals. These punchouts begin 12" from the lead end and are spaced at 24" o.c. intervals. The last punchout is 12" minimum from the trailing end of the stud. Care should be taken during installation to be sure the studs are oriented in the same direction to facilitate plumbing and electrical installation.

General Notes

- Physical properties and load tables have been calculated in conformance with the AISI S100-16/S2-20.
- All structural framing members have a protective coating conforming to ASTM C 955.
- Reference ASTM specification A 1003/A 1003 M table 1 for the universe of allowable coatings for light gauge steel framing.
- Stud/joists are manufactured to custom lengths. Stud/joists are manufactured with punched webs unless otherwise specified at time of order.
- Track is produced in standard lengths of 10 feet unless a custom track length is indicated. Track is manufactured with unpunched webs.
- Structural framing members are marked with product information per the requirements of ASTM C 955 section 12.
- All delivered material must be kept dry, preferably by being stored inside a building under a roof. If it is necessary to store material outside, it must be stacked off the ground, properly supported on a level platform, and fully protected from the weather. Reference ASTM C 754 section 8 and ASTM C 1007 section 4.

LEED Green Building Credits

MR Credit 2: Construction Waste Management – MBA steel framing is 100% recyclable.

MR Credit 4: Recycled Content – MBA steel framing is formed from no less than 25.5% post-consumer and 6.8% pre-consumer recycled content.

MR Credit 5: Regional Materials – MBA has manufacturing facilities in multiple states.

Section Properties

Section Properties Table Notes

1. Web depth for track sections is equal to the nominal height plus 2 times design thickness plus the bend radius.
2. Effective properties incorporate the strength increase from the cold work of forming as applicable per the AISI S100-16/S2-20.
3. Tabulated gross properties are based on the full, unreduced section away from punchouts.
4. Effective properties of all 'S' sections based on punched sections. Track sections are considered unpunched.
5. For deflection calculations, use the effective moment of inertia.
6. Where effective properties are not listed for a section at 33 or 50 ksi yield, web depth-to-thickness or flange width-to-thickness limits from the AISI are exceeded. Only gross properties are available.

Structural (S) Stud Section Properties

Section	Design Thickness (in)	Gross Properties										Effective Properties (33ksi)										Effective 50ksi										Torsional					
		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)	M _a	I _y (in ⁴)	V _{ag} (lb)	Vanet (lb)	I _{xx} (in ⁴)	I _{yy} (in ⁴)	S _{xx} (in ³)	M _a	I _{xx} (in ⁴)	V _{ag} (lb)	Vanet (lb)	J ^{x1000} (in ⁴)	C _w (in ⁴)	I _{xx} (in ⁴)	X _o (in)	m (in)	Ro (in)	β									
250S137-33	0.0346	0.197	0.67	0.203	0.163	1.015	0.052	0.515	0.203	0.158	3.11	975	399								0.079	0.076	-1.141	0.677	1.612	0.499											
250S137-43	0.0451	0.255	0.87	0.261	0.208	1.01	0.067	0.511	0.261	0.205	4.53 ²	1265	394								0.173	0.096	-1.129	0.67	1.599	0.501											
250S137-54	0.0566	0.316	1.07	0.318	0.255	1.004	0.08	0.504	0.318	0.255	5.76 ²	1553	373	0.318	0.244	8.22 ²	2353	565	0.337	0.115	-1.115	0.663	1.583	0.504													
250S137-68	0.0713	0.39	1.33	0.386	0.309	0.994	0.095	0.495	0.386	0.309	7.19 ²	1891	342	0.386	0.308	10.65 ²	2866	519	0.661	0.138	-1.096	0.653	1.561	0.507													
250S162-33	0.0346	0.223	0.76	0.235	0.188	1.027	0.087	0.624	0.235	0.18	3.55	975	399							0.089	0.146	-1.47	0.859	1.898	0.401												
250S162-43	0.0451	0.289	0.98	0.302	0.242	1.022	0.111	0.62	0.302	0.24	5.22 ²	1265	394							0.196	0.184	-1.457	0.852	1.885	0.402												
250S162-54	0.0566	0.358	1.22	0.37	0.296	1.016	0.135	0.613	0.37	0.296	6.57 ²	1553	373	0.37	0.284	9.42 ²	2353	565	0.383	0.223	-1.443	0.845	1.868	0.403													
250S162-68	0.0713	0.443	1.51	0.45	0.36	1.007	0.162	0.605	0.45	0.36	8.21 ²	1891	342	0.45	0.357	12.11 ²	2866	519	0.752	0.268	-1.424	0.835	1.846	0.405													
350S162-33	0.0346	0.258	0.88	0.508	0.29	1.404	0.098	0.617	0.508	0.257	5.08	1024	487							0.103	0.277	-1.324	0.796	2.026	0.573												
350S162-43	0.0451	0.334	1.14	0.654	0.374	1.4	0.125	0.612	0.654	0.357	7.05	1739	631							0.227	0.35	-1.312	0.789	2.014	0.575												
350S162-54	0.0566	0.415	1.41	0.804	0.46	1.392	0.152	0.606	0.804	0.447	8.83	2253	633	0.804	0.426	12.74	3372	947	0.443	0.426	-1.298	0.782	1.998	0.578													
350S162-68	0.0713	0.515	1.75	0.985	0.563	1.383	0.184	0.597	0.985	0.551	10.89	2774	592	0.985	0.549	16.44	4202	897	0.872	0.514	-1.28	0.772	1.977	0.581													
362S137-33	0.0346	0.236	0.8	0.479	0.264	1.424	0.059	0.501	0.479	0.232	4.59	1024	521							0.094	0.165	-1.003	0.615	1.813	0.694												
362S137-43	0.0451	0.306	1.04	0.616	0.34	1.419	0.075	0.497	0.616	0.32	6.32	1739	676							0.207	0.208	-0.991	0.608	1.801	0.697												
362S137-54	0.0566	0.379	1.29	0.756	0.417	1.411	0.091	0.48	0.756	0.402	7.94	2341	705	0.756	0.381	11.42	3372	1016	0.405	0.251	-0.978	0.601	1.785	0.7													
362S137-68	0.0713	0.47	1.6	0.922	0.509	1.401	0.109	0.48	0.922	0.498	9.84	2884	662	0.922	0.493	14.77	4370	1004	0.797	0.302	-0.959	0.592	1.764	0.704													
362S162-33	0.0346	0.262	0.89	0.551	0.304	1.45	0.099	0.616	0.551	0.268	5.29	1024	521							0.105	0.297	-1.308	0.789	2.048	0.592												
362S162-43	0.0451	0.34	1.16	0.71	0.392	1.445	0.127	0.611	0.71	0.372	7.34	1739	676							0.23	0.376	-1.297	0.782	2.036	0.594												
362S162-54	0.0566	0.422	1.44	0.873	0.481	1.438	0.154	0.604	0.873	0.466	9.22	2341	705	0.873	0.444	13.28	3372	1016	0.451	0.457	-1.283	0.774	2.02	0.597													
362S162-68	0.0713	0.524	1.78	1.069	0.59	1.429	0.186	0.596	1.069	0.579	11.43	2884	662	1.069	0.574	17.18	4370	1004	0.887	0.552	-1.264	0.765	1.998	0.6													
362S200-33	0.0346	0.297	1.01	0.648	0.358	1.478	0.177	0.772	0.647	0.294	5.81	1024	521							0.118	0.577	-1.741	1.03	2.411	0.478												
362S200-43	0.0451	0.385	1.31	0.836	0.461	1.474	0.227	0.767	0.836	0.427	8.43	1739	676							0.261	0.734	-1.729	1.024	2.398	0.48												
362S200-54	0.0566	0.479	1.63	1.03	0.568	1.467	0.277	0.761	1.03	0.553	10.93	2341	705	1.03	0.49	14.66	3372	1016	0.511	0.896	-1.715	1.016	2.382	0.482													
362S200-68	0.0713	0.595	2.02	1.265	0.698	1.458	0.337	0.753	1.265	0.687	13.58	2884	662	1.265	0.666	19.95	4370	1004	1.008	1.089	-1.696	1.006	2.36	0.484													
400S137-33	0.0346	0.249	0.85	0.603	0.301	1.556	0.061	0.496	0.603	0.259	5.12	976	595							0.099	0.204	-0.965	0.597	1.897	0.741												
400S137-43	0.0451	0.323	1.1	0.776	0.388	1.551	0.078	0.491	0.776	0.359	7.09	1739	810							0.219	0.257	-0.954	0.591	1.885	0.744												
400S137-54	0.0566	0.401	1.36	0.953	0.477	1.542	0.094	0.484	0.953	0.453	8.96	2603	944	0.953	0.428	12.82	3372	1223	0.428	0.311	-0.94	0.583	1.87	0.747													
400S137-68	0.0713	0.497	1.69	1.165	0.582	1.531	0.112	0.475	1.165	0.567	11.21	3215	895	1.165	0.558	16.7	4871	1356	0.842	0.375	-0.922	0.574	1.849	0.751													
400S162-33	0.0346	0.275	0.94	0.692	0.346	1.586	0.103	0.611	0.692	0.299	5.91	976	595							0.11	0.363	-1.263	0.768	2.118	0.644												
400S162-43	0.0451	0.357	1.21	0.892	0.446	1.581	0.131	0.606	0.892	0.417	8.23	1739	810							0.242	0.46	-1.252	0.761	2.106	0.647												
400S162-54	0.0566	0.443	1.51	1.098	0.549	1.574	0.159	0.6	1.098	0.526	10.39	2603	944	1.098	0.498	14.9	3372	1223	0.473	0.56	-1.238	0.754	2.09	0.649													
400S162-68	0.0713	0.55	1.87	1.346	0.673	1.564	0.192	0.591	1.346	0.658	13	3215	895	1.346	0.648	19.41	4871	1356	0.933	0.677	-1.22	0.745	2.069	0.653													
400S200-33	0.0346	0.31	1.05	0.812	0.406	1.619	0.183	0.769	0.812	0.328	6.49	976	595							0.124	0.697	-1.688	1.007	2.462	0.53												
400S200-43	0.0451	0.402	1.37	1.047	0.524	1.615	0.235	0.764	1.047	0.478	9.45	1739	810							0.272	0.886	-1.676	1	2.449	0.532												
400S200-54	0.0566	0.5	1.7	1.292	0.646	1.608	0.287	0.758	1.292	0.623	12.3	2603	944	1.292	0.549	16.43	3372	1223	0.534	1.083	-1.662	0.993	2.433	0.534													
400S200-68	0.0713	0.622	2.12	1.589	0.795	1.599	0.349	0.75	1.589	0.78	15.4	3215	895	1.589	0.751	22.48	4871	1356	1.054	1.318	-1.643	0.983	2.412	0.536													
550S162-33	0.0346	0.327	1.11	1.458	0.53	2.112	0.113	0.589	1.458	0.512	10.11	699	699							0.13	0.713	-1.114	0.697	2.459	0.795												
550S162-43	0.0451	0.424	1.44	1.883	0.685	2.107	0.145	0.584	1.883	0.681	14.79 ²	1550	1199							0.288	0.905	-1.103	0.691	2.448	0.797												
550S162-54	0.0566	0.528	1.8	2.324	0.845	2.098	0.176	0.577	2.324	0.845	18.76 ²	2739	1666	2.324	0.811	26.86 ²	3093	1881	0.564	1.105	-1.09	0.684	2.434	0.8													
550S162-68	0.0713	0.657	2.24	2.861	1.04	2.086	0.212	0.568	2.861	1.04	23.72 ²	4347	2057	2.861	1.031	34.94 ²	5350	2532	1.114	1.342	-1.072	0.675	2.414	0.803													
600S137-33	0.0346	0.318	1.08	1.582	0.527	2.229	0.069	0.464	1.548	0.455	8.98	638	638							0.127	0.5	-0.807	0.519	2.416	0.889												
600S137-43	0.0451	0.413	1.41	2.042	0.681	2.223	0.087	0.459	2.041	0.645	12.74	1416	1240							0.28	0.633	-0.796	0.513	2.406	0.89												
600S137-54	0.0566	0.514	1.75	2.518	0.839	2.213	0.105	0.452	2.518	0.832	16.44	2739	1890	2.518	0.777	23.26	2823	1947	0.549	0.769	-0.784	0.506	2.391	0.893													
600S137-68	0.0713	0.64	2.18	3.094	1.031	2.2	0.125	0.443	3.094	1.031	24.05 ²	4347	2339	3.094	1.03	30.84	5350	2879	1.084	0.93	-0.768	0.497	2.371	0.895													
600S137-97	0.1017	0.889	3.03	4.188	1.396	2.17	0.159	0.422	4.188	1.396	34.48 ²	6911	2512	4.188	1.396	50.80 ²	10472	3805	3.066	1.216	-0.734	0.48	2.33	0.901													
600S162-33	0.0346	0.344	1.17	1.793	0.598	2.282	0.116	0.581	1.793	0.577	11.41	638	638							0.137																	

Section Properties (Continued)

Structural (S) Stud Section Properties

Section	Design Thickness (in)	Gross Properties							Effective Properties (33ksi)					Effective 50ksi					Torsional					
		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)	V _{ag} (lb)	Vanet (lb)	I _{xx} (in ⁴)	S _{xx} (in ³)	Ma (in-k)	V _{ag} (lb)	Vanet (lb)	J ^{x1000} (in ⁴)	C _w (in ⁶)	X _o (in)	m (in)	R _o (in)	β
600S200-33	0.0346	0.379	1.29	2.075	0.692	2.340	0.209	0.743	2.058	0.621	12.28 ²	638	638						0.151	1.593	-1.457	0.901	2.855	0.740
600S200-43	0.0451	0.492	1.67	2.683	0.894	2.335	0.268	0.739	2.683	0.873	17.24	1416	1240						0.334	2.033	-1.446	0.894	2.844	0.742
600S200-54	0.0566	0.613	2.09	3.319	1.106	2.327	0.328	0.732	3.319	1.106	24.07 ²	2739	1890	3.319	1.015	30.40	2823	1947	0.655	2.493	-1.432	0.887	2.829	0.744
600S200-68	0.0713	0.764	2.60	4.101	1.367	2.316	0.400	0.723	4.101	1.367	30.42 ²	4347	2339	4.101	1.317	43.71 ²	5350	2879	1.295	3.047	-1.415	0.878	2.809	0.746
600S200-97	0.1017	1.067	3.63	5.612	1.871	2.293	0.530	0.705	5.612	1.871	43.49 ²	6911	2512	5.612	1.871	64.53 ²	10472	3805	3.679	4.080	-1.378	0.859	2.767	0.752
600S250-43	0.0451	0.537	1.83	3.082	1.027	2.396	0.458	0.923	3.082	0.918	18.14	1416	1240						0.364	3.411	-1.874	1.136	3.179	0.652
600S250-54	0.0566	0.670	2.28	3.819	1.273	2.388	0.562	0.917	3.819	1.159	22.90	2739	1890	3.766	1.069	32.00	2823	1947	0.715	4.194	-1.860	1.129	3.163	0.654
600S250-68	0.0713	0.836	2.84	4.727	1.576	2.378	0.688	0.908	4.727	1.508	32.82 ²	4347	2339	4.723	1.386	41.49	5350	2879	1.416	5.145	-1.842	1.119	3.142	0.656
600S250-97	0.1017	1.169	3.98	6.496	2.165	2.357	0.923	0.889	6.496	2.161	48.81 ²	6911	2512	6.496	2.063	69.38 ²	10472	3805	4.030	6.947	-1.803	1.100	3.098	0.661
800S137-33 ¹	0.0346	0.388	1.32	3.198	0.799	2.873	0.073	0.435	2.998	0.622	12.30	474	474						0.155	0.957	-0.696	0.460	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	1051						0.341	1.214	-0.687	0.454	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	2091	4.974	1.083	32.42	2091	2091	0.670	1.478	-0.676	0.448	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	3367	6.285	1.468	43.96	4221	3367	1.325	1.789	-0.661	0.440	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 ²	8843	4824	8.597	2.149	64.35	10885	5938	3.767	2.349	-0.630	0.423	2.902	0.953
800S162-33 ¹	0.0346	0.413	1.41	3.582	0.896	2.943	0.125	0.550	3.384	0.710	14.03	474	474						0.165	1.630	-0.936	0.607	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	1051						0.364	2.076	-0.926	0.601	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	2091	5.600	1.229	36.79	2091	2091	0.715	2.539	-0.914	0.594	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	3367	7.070	1.663	49.80	4221	3367	1.416	3.093	-0.899	0.586	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 ²	8843	4824	9.713	2.428	72.70	10885	5938	4.030	4.114	-0.866	0.568	3.053	0.919
800S200-33 ¹	0.0346	0.448	1.52	4.096	1.024	3.023	0.227	0.712	4.096	0.816	16.12	474	474						0.179	2.971	-1.288	0.817	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	1051						0.395	3.797	-1.277	0.811	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 ²	2091	2091	6.573	1.499	44.87	2091	2091	0.775	4.663	-1.265	0.804	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 ²	4221	3367	8.140	1.964	65.21 ²	4221	3367	1.537	5.712	-1.248	0.796	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 ²	8843	4824	11.203	2.801	96.63 ²	10885	5938	4.381	7.684	-1.214	0.777	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	1051						0.425	6.374	-1.675	1.043	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	2091	7.378	1.525	45.66	2091	2091	0.836	7.850	-1.661	1.036	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 ²	4221	3367	9.240	2.059	61.65	4221	3367	1.658	9.652	-1.644	1.027	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 ²	8843	4824	12.789	3.054	102.70 ²	10885	5938	4.731	13.091	-1.607	1.008	3.555	0.796
1000S162-43 ¹	0.0451	0.627	2.13	8.025	1.605	3.577	0.168	0.518	7.523	1.302	25.74	836	836						0.425	3.430	-0.823	0.545	3.707	0.951
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	1661	9.391	1.572	47.07	1661	1661	0.836	4.198	-0.812	0.538	3.692	0.952
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	3345	11.978	2.154	64.51	3345	3345	1.658	5.121	-0.798	0.531	3.673	0.953
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	6434	16.967	3.269	97.89	9864	7177	4.731	6.827	-0.768	0.514	3.631	0.955
1000S200-43 ¹	0.0451	0.672	2.29	9.085	1.817	3.676	0.309	0.677	8.602	1.470	29.05	836	836						0.456	6.236	-1.147	0.743	3.910	0.914
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	1661	10.769	1.705	51.05	1661	1661	0.896	7.665	-1.135	0.737	3.896	0.915
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	3345	13.665	2.420	72.46	3345	3345	1.779	9.401	-1.120	0.729	3.876	0.917
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	6434	19.336	3.741	112.00	9864	7177	5.082	12.679	-1.088	0.711	3.836	0.920
1000S250-43 ¹	0.0451	0.717	2.44	10.203	2.041	3.771	0.531	0.860	10.203	1.617	31.95	836	836						0.486	10.481	-1.518	0.965	4.155	0.867
1000S250-54	0.0566	0.896	3.05	12.677	2.535	3.762	0.653	0.854	12.677	2.277	44.99	1661	1661	12.660	1.879	56.26	1661	1661	0.957	12.922	-1.505	0.958	4.140	0.868
1000S250-68	0.0713	1.121	3.81	15.751	3.150	3.749	0.799	0.844	15.751	3.028	65.93 ²	3345	3345	15.741	2.768	82.89	3345	3345	1.899	15.909	-1.488	0.950	4.121	0.870
1000S250-97	0.1017	1.576	5.36	21.827	4.365	3																		

Section Properties

Section Properties Table Notes

1. Web depth for track sections is equal to the nominal height plus 2 times design thickness plus the bend radius.
2. Effective properties incorporate the strength increase from the cold work of forming as applicable per the AISI S100-16/S2-20
3. Tabulated gross properties are based on the full, unreduced section away from punchouts.
4. Effective properties of all 'S' sections based on punched sections. Track sections are considered unpunched.
5. For deflection calculations, use the effective moment of inertia.
6. Where effective properties are not listed for a section at 33 or 50 ksi yield, web depth-to-thickness or flange width-to-thickness limits from the AISI are exceeded. Only gross properties are available.

Structural (T) Track Section Properties

Section	Design Thickness (in)	Gross Properties							Effective Properties (33ksi)				Effective 50ksi				Torsional					
		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)	V _{ag} (lb)	I _{xx} (in ⁴)	S _{xx} (in ³)	Ma (in-k)	V _a (lb)	J ^{x1000} (in ⁴)	C _w (in ⁶)	X _o (in)	m (in)	R _o (in)	β
162T125-18	0.0188	0.077	0.26	0.041	0.047	0.733	0.013	0.411	0.030	0.025	0.50	302					0.009	0.007	-0.878	0.503	1.215	0.478
162T125-27	0.0283	0.117	0.40	0.063	0.072	0.735	0.020	0.410	0.050	0.044	0.87	541					0.031	0.010	-0.872	0.501	1.211	0.482
162T125-30	0.0312	0.129	0.44	0.070	0.079	0.735	0.022	0.409	0.057	0.050	1.00	597					0.042	0.012	-0.870	0.500	1.210	0.483
162T125-33	0.0346	0.143	0.49	0.077	0.087	0.736	0.024	0.408	0.066	0.058	1.15	663					0.057	0.013	-0.868	0.499	1.209	0.484
250T125-18	0.0188	0.094	0.32	0.103	0.079	1.051	0.015	0.400	0.078	0.045	0.90	249					0.011	0.018	-0.769	0.460	1.362	0.681
250T125-27	0.0283	0.141	0.48	0.157	0.119	1.053	0.022	0.398	0.129	0.079	1.56	685					0.038	0.027	-0.763	0.457	1.360	0.685
250T125-30	0.0312	0.156	0.53	0.173	0.131	1.053	0.025	0.397	0.145	0.090	1.77	832					0.051	0.030	-0.762	0.456	1.359	0.686
250T125-33	0.0346	0.173	0.59	0.192	0.145	1.054	0.027	0.397	0.166	0.103	2.03	1024					0.069	0.033	-0.760	0.456	1.358	0.687
250T125-43	0.0451	0.225	0.77	0.250	0.188	1.055	0.035	0.395	0.231	0.147	2.91	1356					0.153	0.042	-0.755	0.453	1.356	0.690
250T125-54	0.0566	0.282	0.96	0.318	0.236	1.062	0.043	0.392	0.310	0.203	4.01	1692	0.297	0.188	5.64	2563	0.301	0.054	-0.749	0.449	1.357	0.696
250T125-68	0.0713	0.355	1.21	0.408	0.297	1.072	0.054	0.389	0.408	0.281	5.56	2111	0.402	0.262	7.85	3199	0.602	0.069	-0.740	0.444	1.360	0.704
250T150-27	0.0283	0.156	0.53	0.181	0.137	1.078	0.037	0.486	0.139	0.082	1.61	685					0.042	0.044	-0.976	0.575	1.534	0.595
250T150-30	0.0312	0.172	0.58	0.199	0.151	1.078	0.040	0.486	0.157	0.093	1.83	832					0.056	0.049	-0.975	0.574	1.533	0.595
250T150-33	0.0346	0.190	0.65	0.221	0.167	1.079	0.045	0.485	0.179	0.107	2.11	1024					0.076	0.054	-0.973	0.573	1.532	0.596
250T150-43	0.0451	0.248	0.84	0.289	0.217	1.080	0.058	0.483	0.252	0.154	3.03	1356					0.168	0.070	-0.968	0.570	1.529	0.599
250T150-54	0.0566	0.311	1.06	0.368	0.273	1.088	0.072	0.481	0.342	0.213	4.22	1692	0.325	0.197	5.89	2563	0.332	0.089	-0.961	0.566	1.529	0.605
250T150-68	0.0713	0.391	1.33	0.472	0.344	1.099	0.089	0.478	0.465	0.299	5.92	2111	0.445	0.276	8.27	3199	0.663	0.114	-0.953	0.561	1.531	0.613
250T200-33	0.0346	0.225	0.76	0.280	0.212	1.117	0.097	0.658	0.203	0.112	2.22	1024					0.090	0.118	-1.418	0.813	1.921	0.455
250T200-43	0.0451	0.293	1.00	0.366	0.275	1.118	0.126	0.657	0.288	0.163	3.21	1356					0.198	0.153	-1.413	0.810	1.918	0.457
250T200-54	0.0566	0.367	1.25	0.466	0.346	1.127	0.157	0.654	0.396	0.228	4.51	1692	0.371	0.209	6.25	2563	0.392	0.195	-1.405	0.806	1.917	0.462
250T200-68	0.0713	0.462	1.57	0.600	0.437	1.139	0.196	0.652	0.548	0.324	6.41	2111	0.517	0.296	8.86	3199	0.783	0.251	-1.396	0.800	1.916	0.469
350T125-18	0.0188	0.113	0.38	0.219	0.121	1.394	0.016	0.383	0.174	0.063	1.25	175					0.013	0.038	-0.675	0.418	1.595	0.821
350T125-27	0.0283	0.170	0.58	0.331	0.182	1.396	0.025	0.381	0.277	0.128	2.53	590					0.045	0.057	-0.670	0.416	1.595	0.823
350T125-30	0.0312	0.187	0.64	0.365	0.200	1.396	0.027	0.380	0.312	0.145	2.86	790					0.061	0.063	-0.669	0.415	1.594	0.824
350T125-33	0.0346	0.207	0.71	0.405	0.222	1.397	0.030	0.379	0.354	0.165	3.27	1024					0.083	0.070	-0.668	0.414	1.594	0.824
350T125-43	0.0451	0.270	0.92	0.528	0.288	1.397	0.038	0.377	0.490	0.233	4.61	1739					0.183	0.090	-0.663	0.412	1.592	0.826
350T125-54	0.0566	0.339	1.15	0.668	0.361	1.404	0.048	0.375	0.651	0.317	6.26	2392	0.626	0.297	8.89	3372	0.362	0.114	-0.658	0.408	1.595	0.830
350T125-68	0.0713	0.427	1.45	0.851	0.454	1.412	0.059	0.372	0.851	0.433	8.55	2994	0.839	0.407	12.18	4536	0.723	0.144	-0.650	0.403	1.599	0.835
350T150-27	0.0283	0.184	0.63	0.377	0.207	1.431	0.041	0.470	0.298	0.132	2.62	590					0.049	0.094	-0.869	0.529	1.739	0.750
350T150-30	0.0312	0.203	0.69	0.416	0.228	1.432	0.045	0.469	0.336	0.150	2.96	790					0.066	0.103	-0.867	0.528	1.739	0.751
350T150-33	0.0346	0.225	0.76	0.461	0.253	1.432	0.049	0.469	0.382	0.171	3.39	1024					0.090	0.114	-0.866	0.527	1.738	0.752
350T150-43	0.0451	0.293	1.00	0.601	0.328	1.433	0.064	0.467	0.531	0.243	4.80	1739					0.198	0.148	-0.861	0.525	1.736	0.754
350T150-54	0.0566	0.367	1.25	0.761	0.412	1.440	0.079	0.465	0.712	0.332	6.57	2392	0.679	0.31	9.28	3372	0.392	0.187	-0.855	0.521	1.738	0.758
350T150-68	0.0713	0.462	1.57	0.972	0.518	1.450	0.099	0.462	0.957	0.459	9.07	2994	0.919	0.428	12.81	4536	0.783	0.238	-0.847	0.516	1.741	0.763
350T200-33	0.0346	0.259	0.88	0.574	0.315	1.487	0.108	0.647	0.428	0.181	3.57	1024					0.103	0.249	-1.285	0.761	2.069	0.614
350T200-43	0.0451	0.338	1.15	0.749	0.409	1.489	0.140	0.645	0.600	0.257	5.09	1739					0.229	0.323	-1.280	0.758	2.066	0.616
350T200-54	0.0566	0.424	1.44	0.949	0.513	1.496	0.175	0.642	0.814	0.355	7.01	2392	0.77	0.329	9.85	3372	0.453	0.409	-1.273	0.754	2.067	0.621
350T200-68	0.0713	0.534	1.82	1.213	0.647	1.508	0.218	0.639	1.112	0.496	9.80	2994	1.054	0.458	13.71	4536	0.904	0.522	-1.264	0.749	2.069	0.626
362T125-18	0.0188	0.115	0.39	0.237	0.126	1.435	0.017	0.380	0.189	0.065	1.29	169					0.014	0.042	-0.665	0.413	1.627	0.833
362T125-27	0.0283	0.173	0.59	0.358	0.191	1.438	0.025	0.378	0.301	0.135	2.66	569					0.046	0.062	-0.661	0.411	1.627	0.835
362T125-30	0.0312	0.191	0.65	0.395	0.210	1.438	0.027	0.378	0.339	0.152	3.01	762					0.062	0.068	-0.659	0.410	1.626	0.836

¹ Web-height to thickness ratio exceeds 200. Web Stiffeners are required at all support points and concentrated loads.

² Allowable moment includes cold-work of forming.

Section Properties (Continued)

Structural (T) Track Section Properties

Section	Design Thickness (in)	Gross Properties							Effective Properties (33ksi)				Effective 50ksi				Torsional					
		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)	M _a (in-k)	V _{ag} (lb)	I _{xx} (in ⁴)	S _{xx} (in ³)	M _a (in-k)	V _a (lb)	J ^{x1000} (in ⁴)	C _w (in ⁶)	X _o (in)	m (in)	R _o (in)	β
362T125-33	0.0346	0.212	0.72	0.438	0.232	1.438	0.030	0.377	0.384	0.174	3.44	1024					0.085	0.076	-0.658	0.409	1.626	0.836
362T125-43	0.0451	0.276	0.94	0.571	0.302	1.439	0.039	0.375	0.531	0.245	4.84	1739					0.187	0.098	-0.654	0.407	1.625	0.838
362T125-54	0.0566	0.346	1.18	0.723	0.378	1.445	0.048	0.373	0.705	0.332	6.57	2480	0.678	0.312	9.34	3372	0.369	0.123	-0.648	0.404	1.627	0.841
362T125-68	0.0713	0.436	1.48	0.921	0.475	1.454	0.060	0.370	0.921	0.453	8.95	3104	0.907	0.427	12.78	4703	0.738	0.156	-0.641	0.399	1.631	0.846
362T150-27	0.0283	0.187	0.64	0.408	0.217	1.475	0.041	0.468	0.323	0.140	2.76	569					0.050	0.102	-0.857	0.524	1.769	0.765
362T150-30	0.0312	0.207	0.70	0.449	0.239	1.475	0.045	0.467	0.364	0.158	3.12	762					0.067	0.112	-0.856	0.523	1.768	0.766
362T150-33	0.0346	0.229	0.78	0.499	0.264	1.475	0.050	0.467	0.414	0.180	3.56	1024					0.091	0.124	-0.854	0.522	1.767	0.766
362T150-43	0.0451	0.298	1.02	0.650	0.343	1.476	0.064	0.465	0.574	0.255	5.04	1739					0.202	0.160	-0.850	0.519	1.766	0.768
362T150-54	0.0566	0.374	1.27	0.823	0.431	1.483	0.080	0.462	0.769	0.349	6.89	2480	0.735	0.325	9.74	3372	0.400	0.202	-0.844	0.516	1.768	0.772
362T150-68	0.0713	0.471	1.60	1.050	0.542	1.492	0.099	0.459	1.034	0.480	9.49	3104	0.993	0.449	13.43	4703	0.799	0.257	-0.836	0.511	1.771	0.777
362T200-33	0.0346	0.264	0.90	0.619	0.328	1.532	0.110	0.645	0.464	0.190	3.76	1024					0.105	0.269	-1.270	0.754	2.092	0.631
362T200-43	0.0451	0.343	1.17	0.808	0.427	1.534	0.142	0.643	0.649	0.270	5.34	1739					0.233	0.350	-1.265	0.752	2.090	0.633
362T200-54	0.0566	0.431	1.47	1.024	0.536	1.541	0.177	0.640	0.879	0.372	7.35	2480	0.832	0.345	10.34	3372	0.460	0.442	-1.259	0.748	2.091	0.637
362T200-68	0.0713	0.543	1.85	1.307	0.675	1.552	0.221	0.638	1.199	0.519	10.26	3104	1.138	0.48	14.37	4703	0.919	0.564	-1.250	0.743	2.093	0.643
400T125-18 ¹	0.0188	0.122	0.41	0.297	0.144	1.560	0.017	0.374	0.241	0.072	1.42	153					0.014	0.052	-0.637	0.400	1.726	0.864
400T125-27	0.0283	0.184	0.63	0.449	0.217	1.562	0.025	0.372	0.380	0.156	3.08	515					0.049	0.078	-0.633	0.398	1.726	0.866
400T125-30	0.0312	0.203	0.69	0.495	0.239	1.562	0.028	0.371	0.427	0.176	3.49	689					0.066	0.085	-0.632	0.397	1.726	0.866
400T125-33	0.0346	0.225	0.76	0.549	0.265	1.563	0.031	0.371	0.484	0.201	3.97	940					0.090	0.095	-0.630	0.396	1.725	0.867
400T125-43	0.0451	0.293	1.00	0.716	0.344	1.563	0.040	0.369	0.666	0.282	5.57	1739					0.198	0.122	-0.626	0.394	1.724	0.868
400T125-54	0.0566	0.367	1.25	0.904	0.431	1.569	0.049	0.366	0.882	0.381	7.53	2739	0.849	0.359	10.74	3372	0.392	0.154	-0.621	0.390	1.727	0.871
400T125-68	0.0713	0.462	1.57	1.150	0.541	1.577	0.061	0.363	1.150	0.517	10.22	3435	1.134	0.488	14.62	5205	0.783	0.194	-0.614	0.386	1.731	0.874
400T150-27	0.0283	0.198	0.67	0.509	0.246	1.602	0.042	0.461	0.409	0.154	3.04	515					0.053	0.127	-0.824	0.509	1.860	0.804
400T150-30	0.0312	0.218	0.74	0.561	0.271	1.603	0.046	0.461	0.458	0.183	3.61	689					0.071	0.140	-0.823	0.508	1.859	0.804
400T150-33	0.0346	0.242	0.82	0.622	0.300	1.603	0.051	0.460	0.519	0.208	4.12	940					0.097	0.155	-0.821	0.507	1.859	0.805
400T150-43	0.0451	0.315	1.07	0.811	0.390	1.604	0.066	0.458	0.719	0.293	5.80	1739					0.214	0.200	-0.817	0.504	1.857	0.807
400T150-54	0.0566	0.396	1.35	1.025	0.489	1.610	0.082	0.456	0.960	0.399	7.89	2739	0.918	0.374	11.19	3372	0.422	0.252	-0.811	0.501	1.860	0.810
400T150-68	0.0713	0.498	1.69	1.306	0.615	1.619	0.102	0.453	1.286	0.548	10.82	3435	1.237	0.513	15.35	5205	0.844	0.320	-0.804	0.496	1.864	0.814
400T200-33	0.0346	0.277	0.94	0.768	0.371	1.666	0.113	0.639	0.581	0.220	4.34	940					0.110	0.336	-1.229	0.737	2.166	0.678
400T200-43	0.0451	0.360	1.23	1.002	0.482	1.668	0.146	0.637	0.811	0.311	6.14	1739					0.244	0.436	-1.224	0.734	2.164	0.680
400T200-54	0.0566	0.452	1.54	1.268	0.604	1.675	0.182	0.635	1.093	0.426	8.42	2739	1.037	0.397	11.88	3372	0.483	0.551	-1.217	0.730	2.165	0.684
400T200-68	0.0713	0.569	1.94	1.617	0.761	1.685	0.227	0.632	1.485	0.591	11.68	3435	1.412	0.549	16.42	5205	0.965	0.702	-1.209	0.725	2.168	0.689
550T125-27	0.0283	0.226	0.77	0.948	0.336	2.046	0.027	0.348	0.786	0.192	3.79	372					0.060	0.160	-0.543	0.352	2.145	0.936
550T125-30	0.0312	0.250	0.85	1.045	0.370	2.046	0.030	0.347	0.897	0.226	4.47	499					0.081	0.176	-0.542	0.351	2.145	0.936
550T125-33	0.0346	0.277	0.94	1.159	0.410	2.046	0.033	0.346	1.029	0.270	5.33	680					0.110	0.195	-0.541	0.350	2.145	0.936
550T125-43	0.0451	0.360	1.23	1.510	0.533	2.047	0.043	0.344	1.428	0.416	8.23	1504					0.244	0.252	-0.537	0.348	2.144	0.937
550T125-54	0.0566	0.452	1.54	1.903	0.668	2.052	0.053	0.342	1.862	0.597	11.80	2739	1.811	0.535	16.01	2980	0.483	0.315	-0.532	0.345	2.147	0.939
550T125-68	0.0713	0.569	1.94	2.412	0.839	2.058	0.066	0.339	2.412	0.807	15.95	4347	2.379	0.769	23.02	5350	0.965	0.397	-0.526	0.341	2.152	0.940
550T150-27	0.0283	0.241	0.82	1.059	0.376	2.098	0.046	0.436	0.893	0.207	4.10	372					0.064	0.263	-0.716	0.456	2.259	0.900
550T150-30	0.0312	0.265	0.90	1.168	0.414	2.098	0.050	0.435	0.995	0.251	4.96	499					0.086	0.289	-0.715	0.455	2.259	0.900
550T150-33	0.0346	0.294	1.00	1.295	0.459	2.099	0.055	0.434	1.115	0.310	6.12	680					0.117	0.320	-0.714	0.455	2.259	0.900
550T150-43	0.0451	0.383	1.30	1.688	0.596	2.099	0.072	0.432	1.516	0.468	9.25	1504					0.260	0.414	-0.709	0.452	2.258	0.901
550T150-54	0.0566	0.480	1.63	2.128	0.747	2.105	0.089	0.430	2.005	0.628	12.41	2739	1.928	0.595	17.81	2980	0.513	0.519	-0.704	0.449	2.261	0.903
550T150-68	0.0713	0.605	2.06	2.699	0.939	2.112	0.110	0.427	2.660	0.850	16.80	4347	2.569	0.804	24.07	5350	1.025	0.655	-0.698	0.445	2.265	0.905
550T200-33	0.0346	0.329	1.12	1.567	0.555	2.184	0.123	0.613	1.246	0.307	6.06	680					0.131	0.694	-1.088	0.674	2.516	0.813
550T200-43	0.0451	0.428	1.46	2.043	0.722	2.185	0.160	0.611	1.690	0.495	9.79	1504					0.290	0.900	-1.083	0.671	2.514	0.814
550T200-54	0.0566	0.537	1.83	2.578	0.905	2.191	0.199	0.609	2.253	0.669	13.21	2739	2.153	0.63	18.86	2980	0.573	1.133	-1.077	0.668	2.517	0.817
550T200-68	0.0713	0.676	2.30	3.274	1.139	2.200	0.248	0.606	3.027	0.914	18.06	4347	2.894	0.857	25.67	5350	1.146	1.434	-1.070	0.663	2.521	0.820
600T125-27 ¹	0.0283	0.241	0.82	1.168	0.381	2.204	0.028	0.340	0.958	0.210	4.16	341					0.064	0.196	-0.519	0.339	2.290	0.949
600T125-30	0.0312	0.265	0.90	1.288	0.419	2.204	0.031	0.340	1.095	0.249	4.92	456					0.086	0.215	-0.518	0.338	2.289	0.949
600T125-33	0.0346	0.294	1.00	1.428	0.465	2.204	0.034	0.339	1.258	0.297	5.87	622					0.117	0.238	-0.516	0.337	2.289	0.949
600T125-43	0.0451	0.383	1.30	1.861	0.604	2.205	0.044	0.337	1.768	0.461	9.11	1377					0.260	0.307	-0.513	0.335	2.288	0.950
600T125-54	0.0566	0.480	1.63	2.344	0.756	2.209	0.054	0.335	2.299	0.666	13.15	2728	2.241	0.592	17.73	2728	0.513	0.384	-0.508	0.332	2.291	0

Section Properties (Continued)

Structural (T) Track Section Properties

Section	Design Thickness (in)	Gross Properties							Effective Properties (33ksi)				Effective 50ksi				Torsional					
		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)	V _{ag} (lb)	I _{xx} (in ⁴)	S _{xx} (in ³)	Ma (in-k)	V _a (lb)	J ^{x1000} (in ⁴)	C _w (in ⁶)	X _o (in)	m (in)	R _o (in)	β
600T200-54	0.0566	0.565	1.92	3.145	1.015	2.359	0.203	0.600	2.759	0.759	15.00	2728	2.641	0.717	21.48	2728	0.604	1.381	-1.038	0.649	2.646	0.846
600T200-68	0.0713	0.712	2.42	3.990	1.277	2.367	0.254	0.597	3.696	1.034	20.42	4347	3.54	0.973	29.12	5350	1.206	1.746	-1.031	0.644	2.650	0.849
600T200-97	0.1017	1.015	3.45	5.773	1.816	2.385	0.354	0.591	5.758	1.667	32.95	7359	5.558	1.568	46.94	10885	3.499	2.510	-1.016	0.635	2.659	0.854
800T125-33 ¹	0.0346	0.363	1.24	2.895	0.711	2.824	0.036	0.313	2.441	0.407	8.03	465					0.145	0.456	-0.439	0.294	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					0.321	0.589	-0.436	0.292	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	0.289	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	0.286	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	0.279	2.889	0.979
800T150-33 ¹	0.0346	0.380	1.29	3.180	0.781	2.891	0.060	0.397	2.569	0.414	8.18	465					0.152	0.751	-0.588	0.388	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					0.336	0.972	-0.584	0.386	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	0.383	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	0.379	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	0.372	2.993	0.965
800T200-33 ¹	0.0346	0.415	1.41	3.749	0.921	3.005	0.135	0.571	2.788	0.424	8.37	465					0.166	1.638	-0.917	0.589	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					0.367	2.124	-0.913	0.587	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	0.584	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	1.31	39.22	4087	1.448	3.357	-0.902	0.580	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	0.571	3.210	0.923
1000T125-43 ¹	0.0451	0.563	1.92	6.630	1.305	3.431	0.047	0.290	5.886	0.819	16.19	822					0.382	0.973	-0.379	0.259	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	-0.376	0.256	3.466	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	1.515	-0.372	0.253	3.470	0.989
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	2.123	-0.363	0.247	3.477	0.989
1000T150-43 ¹	0.0451	0.586	1.99	7.207	1.419	3.507	0.080	0.370	6.195	0.837	16.54	822					0.397	1.612	-0.513	0.345	3.564	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	7.88	1.079	32.29	1628	0.785	2.013	-0.509	0.342	3.567	0.980
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	2.522	-0.505	0.339	3.571	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	86.9	9507	4.550	3.557	-0.495	0.332	3.579	0.981
1000T200-43 ¹	0.0451	0.631	2.15	8.361	1.646	3.640	0.183	0.539	6.722	0.861	17.01	822					0.428	3.540	-0.813	0.534	3.769	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	8.56	1.111	33.26	1628	0.845	4.434	-0.809	0.531	3.772	0.954
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	11.82	1.684	50.42	3261	1.690	5.576	-0.803	0.527	3.776	0.955
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	7.924	-0.791	0.519	3.786	0.956
1200T125-54 ¹	0.0566	0.820	2.79	13.335	2.186	4.033	0.060	0.271	12.296	1.491	29.47	1354	11.46	1.286	38.51	1354	0.876	1.820	-0.333	0.230	4.055	0.993
1200T125-68	0.0713	1.033	3.51	16.826	2.747	4.036	0.074	0.268	16.246	2.206	43.60	2713	15.686	1.934	57.9	2713	1.750	2.270	-0.329	0.227	4.059	0.993
1200T125-97	0.1017	1.472	5.01	24.078	3.897	4.044	0.102	0.263	24.078	3.690	72.92	7902	23.751	3.442	103.06	7902	5.076	3.171	-0.322	0.222	4.065	0.994
1200T150-54 ¹	0.0566	0.848	2.89	14.378	2.357	4.117	0.103	0.348	12.962	1.530	30.23	1354	12.02	1.313	39.31	1354	0.906	3.033	-0.454	0.310	4.156	0.988
1200T150-68	0.0713	1.068	3.64	18.148	2.963	4.121	0.127	0.345	17.568	2.281	45.08	2713	16.566	1.987	59.48	2713	1.810	3.795	-0.450	0.307	4.160	0.988
1200T150-97	0.1017	1.523	5.18	25.987	4.206	4.130	0.176	0.340	25.987	3.996	78.97	7902	25.719	3.616	108.27	7902	5.252	5.335	-0.441	0.301	4.168	0.989
1200T200-54 ¹	0.0566	0.905	3.08	16.464	2.699	4.265	0.236	0.510	14.078	1.582	31.26	1354	12.962	1.35	40.41	1354	0.966	6.714	-0.730	0.487	4.357	0.972
1200T200-68	0.0713	1.140	3.88	20.791	3.395	4.271	0.294	0.508	19.277	2.383	47.09	2713	18.026	2.058	61.62	2713	1.931	8.431	-0.725	0.483	4.362	0.972
1200T200-97	0.1017	1.625	5.53	29.805	4.824	4.283	0.410	0.502	29.805	4.298	84.93	7902	28.959	3.819	114.35	7902	5.602	11.945	-0.714	0.476	4.371	0.973