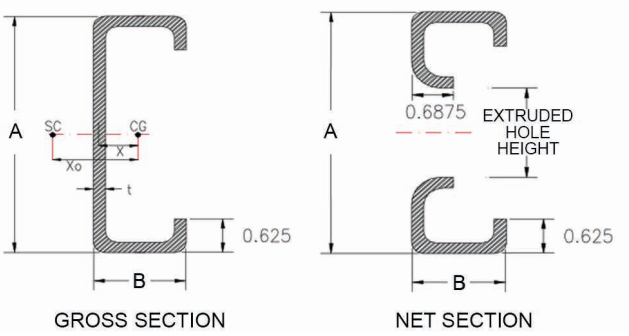
STRUCTURAL PROPERTIES TradeReady® STEEL JOIST

Product Code	Dimensions		Design Thickness (in)	Weight (lbs/ft)	Gross Section Properties					Net Section Properties (at Extruded Hole)					Allowable Capacities					
	A (in)	B (in)			Area (in^2)	I_x (in^4)	r_x (in)	I_y (in^4)	r_y (in)	Area (in^2)	$I_x$net (in^4)	$r_x$net (in)	$I_y$net (in^4)	$r_y$net (in)	M_{al} full (in-kips)	M_{ad} full (in-kips)	M_{al} exhole (in-kips)	M_{ad} exhole (in-kips)	V_a full (lbs)	V_a exhole (lbs)
725TDJ24-175-43	7.25	1.75	0.0451	1.721	0.526	3.898	2.723	0.206	0.626	0.390	3.868	3.149	0.160	0.639	18.11	18.89	21.09	17.95	1163	948
725TDJ24-175-54	7.25	1.75	0.0566	2.146	0.655	4.825	2.714	0.251	0.620	0.483	4.782	3.145	0.194	0.633	34.44	33.70	39.50	31.67	2316	1387
725TDJ24-175-68	7.25	1.75	0.0713	2.673	0.817	5.964	2.701	0.305	0.611	0.598	5.899	3.140	0.233	0.625	49.25	45.50	48.72	42.58	4679	1982
725TDJ24-175-97	7.25	1.75	0.1017	3.758	1.143	8.170	2.674	0.101	0.297	0.821	8.046	3.130	0.302	0.606	67.47	67.47	66.45	65.21	10888	2413
800TDJ24-175-43	8.00	1.75	0.0451	1.829	0.559	4.942	2.972	0.211	0.615	0.424	4.912	3.404	0.171	0.635	19.56	20.82	24.27	19.77	1051	949
800TDJ24-175-54	8.00	1.75	0.0566	2.284	0.698	6.122	2.962	0.258	0.608	0.526	6.079	3.400	0.208	0.629	37.23	37.10	45.50	34.86	2091	1436
800TDJ24-175-68	8.00	1.75	0.0713	2.850	0.871	7.573	2.949	0.313	0.599	0.652	7.508	3.394	0.251	0.621	53.58	50.39	56.20	46.92	4220	2082
800TDJ24-175-97	8.00	1.75	0.1017	4.007	1.219	10.396	2.920	0.411	0.581	0.898	10.272	3.383	0.326	0.603	77.82	77.82	76.88	73.14	10888	2947
925TDJ24-175-43	9.25	1.75	0.0451	2.015	0.616	7.037	3.380	0.219	0.597	0.390	6.676	4.137	0.160	0.639	21.94	23.65	28.52	21.66	905	817
925TDJ24-175-54	9.25	1.75	0.0566	2.516	0.768	8.725	3.370	0.268	0.590	0.483	8.258	4.133	0.194	0.633	41.78	42.10	53.46	37.94	1799	1500
925TDJ24-175-68	9.25	1.75	0.0713	3.141	0.960	10.809	3.355	0.324	0.581	0.598	10.196	4.128	0.233	0.625	60.41	57.70	66.00	51.32	3627	2212
925TDJ24-175-97	9.25	1.75	0.1017	4.423	1.346	14.880	3.325	0.426	0.563	0.821	13.932	4.119	0.302	0.606	96.33	91.97	90.19	80.11	10708	3772
1125TDJ24-175-54	11.25	1.75	0.0566	2.886	0.882	14.162	4.008	0.279	0.563	0.597	13.694	4.791	0.228	0.618	48.89	48.46	72.89	43.75	1471	1328
1125TDJ24-175-68	11.25	1.75	0.0713	3.605	1.103	17.574	3.992	0.339	0.554	0.741	16.959	4.785	0.275	0.610	71.02	67.33	90.27	59.81	2961	2357
1125TDJ24-175-97	11.25	1.75	0.1017	5.087	1.550	24.283	3.959	0.445	0.536	1.025	23.332	4.772	0.359	0.592	124.55	110.42	124.19	93.32	8714	4208
1000TDW24-200-54	10.00	2.00	0.0566	2.748	0.839	11.271	3.665	0.377	0.671	0.554	10.804	4.415	0.287	0.720	47.19	47.55	64.70	44.51	1660	1499
1000TDW24-200-68	10.00	2.00	0.0713	3.432	1.049	13.984	3.651	0.459	0.662	0.687	13.370	4.411	0.348	0.712	68.49	65.48	80.06	60.94	3345	2273
1000TDW24-200-97	10.00	2.00	0.1017	4.838	1.473	19.314	3.621	0.609	0.643	0.948	18.365	4.400	0.456	0.693	115.65	105.53	109.97	97.43	9862	3957
1200TDW24-200-54	12.00	2.00	0.0566	3.118	0.952	17.653	4.305	0.393	0.643	0.568	16.354	5.364	0.293	0.718	54.46	54.31	81.61	49.12	1377	1243
1200TDW24-200-68	12.00	2.00	0.0713	3.898	1.192	21.932	4.290	0.478	0.634	0.705	20.255	5.360	0.355	0.710	79.37	75.62	101.07	67.66	2770	2399
1200TDW24-200-97	12.00	2.00	0.1017	5.503	1.677	30.386	4.257	0.634	0.615	0.974	27.868	5.349	0.466	0.692	140.02	124.65	139.06	108.67	8145	4332
1400TDW24-200-68	14.00	2.00	0.0713	4.365	1.334	32.264	4.917	0.494	0.608	0.705	28.447	6.352	0.355	0.710	90.00	83.53	121.67	70.71	2364	2135
1400TDW24-200-97	14.00	2.00	0.1017	6.168	1.880	44.810	4.882	0.654	0.590	0.974	39.167	6.342	0.466	0.692	160.03	140.74	167.52	110.38	6938	4596

Product Code	Torsional Section Properties						Effective Section Properties		Unbraced Length
	X_o (in)	X (in)	J*1000 (in^4)	C_w (in^6)	R_o (in)	ß	I_{xe} (in^4)	S_{xe} (in^3)	L_u (in^3)
725TDJ24-175-43	-1.138	0.414	0.356	2.251	3.018	0.858	3.827	0.916	45.0
725TDJ24-175-54	-1.125	0.408	0.700	2.758	3.003	0.860	4.752	1.150	36.3
725TDJ24-175-68	-1.109	0.400	1.386	3.367	2.984	0.862	5.969	1.645	36.1
725TDJ24-175-97	-1.075	0.384	3.942	4.498	2.943	0.867	8.181	2.254	35.7
800TDJ24-175-43	-1.086	0.389	0.379	2.794	3.224	0.887	4.797	0.990	44.6
800TDJ24-175-54	-1.074	0.383	0.745	3.423	3.210	0.888	5.961	1.243	36.0
800TDJ24-175-68	-1.058	0.376	1.476	4.182	3.191	0.890	7.544	1.790	35.7
800TDJ24-175-97	-1.025	0.360	4.205	5.595	3.150	0.894	10.411	2.599	35.3
925TDJ24-175-43	-1.010	0.353	0.418	3.852	3.579	0.920	6.685	1.110	43.9
925TDJ24-175-54	-0.998	0.348	0.821	4.724	3.565	0.922	8.320	1.395	35.4
925TDJ24-175-68	-0.983	0.341	1.627	5.776	3.546	0.923	10.598	2.018	35.2
925TDJ24-175-97	-0.952	0.326	4.644	7.739	3.505	0.926	14.899	3.217	34.6
1125TDJ24-175-54	-0.899	0.303	0.942	7.319	4.148	0.953	13.019	1.633	34.6
1125TDJ24-175-68	-0.885	0.297	1.869	8.956	4.128	0.954	16.728	2.372	34.3
1125TDJ24-175-97	-0.856	0.284	5.345	12.023	4.087	0.956	24.200	4.160	33.7
1000TDW24-200-54	-1.135	0.398	0.896	7.665	3.896	0.915	10.652	1.576	39.8
1000TDW24-200-68	-1.120	0.391	1.779	9.401	3.877	0.917	13.596	2.288	39.6
1000TDW24-200-97	-1.088	0.376	5.082	12.679	3.836	0.920	19.337	3.863	39.1
1200TDW24-200-54	-1.032	0.351	1.017	11.550	4.475	0.947	16.107	1.819	39.0
1200TDW24-200-68	-1.017	0.344	2.020	14.176	4.456	0.948	20.712	2.651	38.7
1200TDW24-200-97	-0.987	0.331	5.783	19.150	4.415	0.950	30.071	4.677	38.1
1400TDW24-200-68	-0.932	0.308	2.262	20.083	5.043	0.966	29.518	3.006	37.9
1400TDW24-200-97	-0.904	0.295	6.484	27.156	5.002	0.967	43.378	5.345	37.3



Note:
See pages 8-9 for more information on extruded hole sizes and spacing.

Notes:

1 Allowable capacities are in accordance with AISI S100-16 w/S2-20 (Direct Strength Method (DSM) utilized for calculating flexural strength).

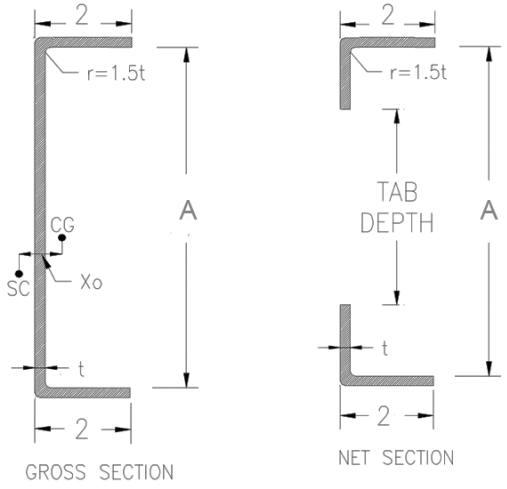
2 Fy = 33 ksi for 18ga, and 50 ksi for 16ga, 14ga and 12ga.

I_x = Moment of Inertia about X axis
I_y = Moment of Inertia about Y axis
r_x = Radius of Gyration about X axis
r_y = Radius of Gyration about Y axis
S_{xe} = Effective Section Modulus at Stress = Fy
I_{xe} = Effective Moment of Inertia of Full Section for Deflection Calculations
M_{al} full = Fully Braced Allowable Local Moment at Full Section
M_{ad} full = Fully Braced Allowable Distortional Moment at Full Section
M_{al} exhole = Fully Braced Allowable Local Moment at Extruded Hole
M_{ad} exhole = Fully Braced Allowable Distortional Moment at Extruded Hole
V_a full = Allowable Shear at Full Section
V_a exhole = Allowable Shear at Extruded Hole
X_0 = Distance between Centroid and Shear-center
X = Distance between Centroid and Web-centerline
J = St. Venant Torsional Constant
Cw = Torsional Warping Constant
R_0 = Radius of Gyration about Centroid
ß = $1-(X_0/R_0)^2$
L_u = Critical unbraced length for lateral-torsional buckling

STRUCTURAL PROPERTIES TradeReady® RIM TRACK

Product Code	Dimensions		Weight (lbs/ft)	Gross Section Properties					Net Section Properties (at Extruded Hole)					Effective Section Properties						
	Depth A (in)	Thickness (in)		Area (in^2)	I_x (in^4)	r_x (in)	I_y (in^4)	r_y (in)	Area (in^2)	$I_x$net (in^4)	$r_x$net (in)	$I_y$net (in^4)	$r_y$net (in)	A_e (in^2)	I_{xe} (in^4)	S_{xe} (in^3)	M_{al} full (in-kips)	M_{al} exhole (in-kips)	V_a full (lbs)	V_a exhole (lbs)
725TD200-43	7.34	0.0451	1.714	0.504	3.785	2.741	0.171	0.582	0.323	3.543	3.310	0.136	0.649	0.162	3.346	0.532	14.24	10.51	1148	733
725TD200-54	7.36	0.0566	2.148	0.631	4.746	2.742	0.212	0.580	0.405	4.443	3.313	0.170	0.647	0.213	4.273	0.697	28.32	20.88	2279	1148
725TD200-68	7.39	0.0713	2.700	0.793	5.969	2.743	2.666	0.578	0.508	5.587	3.316	0.211	0.645	0.328	5.713	1.054	40.96	31.56	4584	1807
725TD200-97	7.45	0.1017	3.833	1.126	8.482	2.744	0.369	0.572	0.720	7.938	3.321	0.294	0.639	0.624	8.966	1.935	66.15	57.94	10888	2919
800TD200-43	8.09	0.0451	1.829	0.538	4.785	2.984	0.175	0.570	0.357	4.543	3.567	0.145	0.638	0.164	3.966	0.592	14.23	11.70	1039	823
800TD200-54	8.11	0.0566	2.292	0.674	6.000	2.984	0.217	0.568	0.447	5.696	3.569	0.181	0.636	0.215	5.102	0.777	28.09	23.26	2061	1291
800TD200-68	8.14	0.0713	2.882	0.847	7.545	2.985	0.271	0.565	0.562	7.162	3.571	0.225	0.633	0.332	7.119	1.178	42.27	35.26	4143	2037
800TD200-97	8.20	0.1017	4.092	1.203	10.719	2.985	0.378	0.560	0.796	10.174	3.575	0.314	0.628	0.638	11.310	2.177	76.02	65.19	10888	3663
925TD200-43	9.34	0.0451	2.021	0.594	6.794	3.382	0.180	0.551	0.414	6.551	3.980	0.157	0.617	0.165	5.490	0.692	16.67	13.68	896	896
925TD200-54	9.36	0.0566	2.533	0.744	8.518	3.383	0.224	0.549	0.518	8.213	3.982	0.196	0.615	0.217	7.065	0.908	32.94	27.19	1777	1477
925TD200-68	9.39	0.0713	3.185	0.936	10.709	3.382	0.279	0.546	0.651	10.325	3.983	0.244	0.612	0.337	9.914	1.381	49.84	41.36	3570	2334
925TD200-97	9.45	0.1017	4.525	1.330	15.210	3.382	0.390	0.541	0.923	14.663	3.986	0.340	0.607	0.653	16.005	2.573	90.90	77.05	10464	4711
1000TD200-54	10.11	0.0566	2.678	0.787	10.304	3.619	0.228	0.538	0.447	9.282	4.555	0.181	0.636	0.215	8.412	0.987	35.84	29.56	1641	1028
1000TD200-68	10.14	0.0713	3.367	0.989	12.954	3.618	0.284	0.535	0.562	11.666	4.557	0.225	0.633	0.332	11.841	1.504	54.39	45.03	3296	1621
1000TD200-97	10.20	0.1017	4.784	1.406	18.398	3.617	0.396	0.530	0.796	16.561	4.562	0.314	0.628	0.638	19.329	2.802	99.86	83.91	9655	3248
1125TD200-54	11.36	0.0566	2.918	0.858	13.779	4.008	0.233	0.521	0.518	12.755	4.962	0.196	0.615	0.217	10.945	1.119	40.68	33.50	1456	1210
1125TD200-68	11.39	0.0713	3.670	1.079	17.322	4.007	0.290	0.519	0.651	16.032	4.963	0.244	0.612	0.337	15.482	1.709	61.97	51.18	2923	1911
1125TD200-97	11.45	0.1017	5.217	1.533	24.599	4.006	0.404	0.514	0.923	22.760	4.966	0.340	0.607	0.653	25.551	3.209	114.83	96.08	8552	3850
1200TD200-54	12.11	0.0566	3.063	0.900	16.182	4.240	0.235	0.511	0.561	15.157	5.200	0.203	0.601	0.218	12.641	1.197	43.58	35.84	1364	1301
1200TD200-68	12.14	0.0713	3.852	1.132	20.343	4.239	0.293	0.509	0.704	19.052	5.201	0.253	0.599	0.339	17.928	1.831	66.51	54.82	2737	2056
1200TD200-97	12.20	0.1017	5.477	1.609	28.889	4.237	0.409	0.504	0.999	27.048	5.203	0.352	0.594	0.658	29.714	3.448	123.82	103.23	8004	4150
1400TD200-68	14.14	0.0713	4.337	1.275	29.998	4.851	0.301	0.486	0.847	28.702	5.822	0.271	0.565	0.342	25.430	2.154	78.62	64.51	2340	2340
1400TD200-97	14.20	0.1017	6.169	1.813	42.602	4.848	0.420	0.481	1.203	40.754	5.821	0.378	0.560	0.668	42.590	4.078	147.82	122.11	6835	4788

Product Code	Torsional Section Properties						Unbraced Length
	X_o (in)	X (in)	J*1000 (in^4)	C_w (in^6)	R_o (in)	ß	L_u (in^3)
725TD200-43	-0.962	0.612	0.342	1.657	2.963	0.894	40.6
725TD200-54	-0.958	0.609	0.674	2.070	2.962	0.895	32.9
725TD200-68	-0.953	0.606	1.344	2.594	2.960	0.896	33.0
725TD200-97	-0.942	0.598	3.883	3.660	2.957	0.899	33.1
800TD200-43	-0.917	0.589	0.364	2.081	3.173	0.916	40.3
800TD200-54	-0.913	0.586	0.719	2.599	3.172	0.917	32.7
800TD200-68	-0.908	0.583	1.435	3.256	3.171	0.918	32.7
800TD200-97	-0.897	0.576	4.146	4.588	3.167	0.920	32.8
925TD200-43	-0.851	0.554	0.403	2.910	3.531	0.942	39.8
925TD200-54	-0.847	0.552	0.795	3.634	3.530	0.942	32.3
925TD200-68	-0.843	0.548	1.586	4.549	3.528	0.943	32.3
925TD200-97	-0.833	0.542	4.585	6.402	3.525	0.944	32.3
1000TD200-54	-0.813	0.533	0.840	4.348	3.748	0.953	32.1
1000TD200-68	-0.808	0.530	1.677	5.441	3.746	0.953	32.0
1000TD200-97	-0.798	0.523	4.848	7.654	3.742	0.955	32.0
1125TD200-54	-0.761	0.504	0.916	5.699	4.113	0.966	31.6
1125TD200-68	-0.756	0.501	1.828	7.128	4.111	0.966	31.6
1125TD200-97	-0.747	0.495	5.286	10.019	4.107	0.967	31.5
1200TD200-54	-0.733	0.488	0.961	6.607	4.333	0.971	31.3
1200TD200-68	-0.728	0.485	1.918	8.262	4.331	0.972	31.3
1200TD200-97	-0.719	0.479	5.549	11.607	4.327	0.972	31.2
1400TD200-68	-0.664	0.448	2.160	11.738	4.920	0.982	30.5
1400TD200-97	-0.655	0.442	6.250	16.473	4.915	0.982	30.4



Tab Depth:
4" inches (joist depths up to 9.25")
6" inches (joist depth greater than 9.25")
Prepunched tabs are located at 12", 16, 19.2" or 24" o.c.

Notes:

1 Allowable capacities are in accordance with AISI S100-16 w/S2-20 Supplement.

2 Fy = 33 ksi for 18ga, and 50 ksi for 16ga, 14ga and 12ga.

I_x = Moment of Inertia about X axis
I_y = Moment of Inertia about Y axis
r_x = Radius of Gyration about X axis
r_y = Radius of Gyration about Y axis
I_{xe} = Effective Moment of Inertia of Full Section for Deflection Calculations
S_{xe} = Effective Section Modulus at Stress = Fy
A_e = Effective Area
M_{al} full = Fully Braced Allowable Local Moment at Full Section
M_{al} exhole = Fully Braced Allowable Local Moment at Extruded Hole
V_a full = Allowable Shear at Full Section
V_a exhole = Allowable Shear at Extruded Hole
L_u = Critical unbraced length for lateral-torsional buckling
X_0 = Distance between Centroid and Shear-center
X = Distance between Shear-center and Web-centerline
J = St. Venant Torsional Constant
Cw = Torsional Warping Constant
R_0 = Radius of Gyration about Centroid
ß = $1-(X_0/R_0)^2$

The technical content of this literature is effective 3/11/22 and supersedes all previous information. Pub. No. CD-TradeReady 03/22