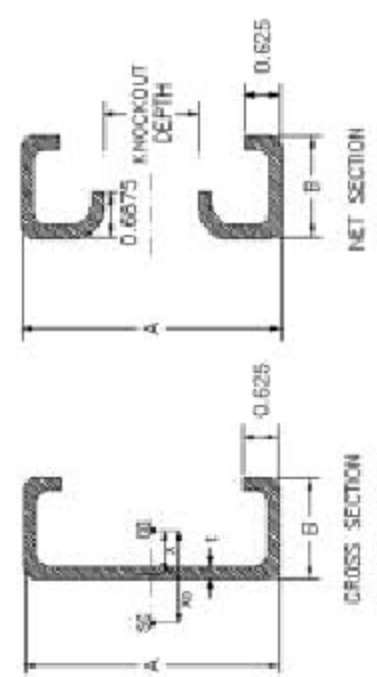


# Structural Properties of TradeReady® Joist: 7 1/4" to 14" Web

SECTION ID	DIMENSION			GROSS SECTION PROPERTIES										NET SECTION PROPERTIES				CAPACITY			
	A, in.	B, in.	L, in.	Area, in <sup>2</sup>	Weight, lbs/ft	I <sub>x</sub> , in <sup>4</sup>	I <sub>y</sub> , in <sup>4</sup>	S <sub>x</sub> , in <sup>3</sup>	S <sub>y</sub> , in <sup>3</sup>	X <sub>c</sub> , in.	Y <sub>c</sub> , in.	J, in <sup>4</sup>	C <sub>r</sub> , in <sup>2</sup>	r <sub>g</sub> , in.	r <sub>h</sub> , in.	r <sub>l</sub> , in.	r <sub>ts</sub> , in.	V <sub>max</sub> , lbs	V <sub>max</sub> , lbs		
TDV7.25x1.25x18	7.25	1.75	0.0481	0.658	1.721	3.801	0.296	1.878	0.187	0.414	-1.145	0.00058	2.228	3.925	0.054	0.372	3.787	31.874	2321.6	451	1887
TDV7.25x1.25x16	7.25	1.75	0.0566	0.658	2.148	4.832	0.292	1.233	0.192	4.088	-1.146	0.000761	2.725	3.911	0.055	0.401	4.889	40295	43848	1298	2177
TDV7.25x1.25x14	7.25	1.75	0.0713	0.657	2.673	5.967	0.295	1.848	0.232	0.880	-1.116	0.001384	3.313	2.984	0.056	0.370	5.784	49745	55259	1989	4329
TDV7.25x1.25x12	7.25	1.75	0.1017	1.148	3.757	8.248	0.488	2.278	0.311	0.388	-1.048	0.003959	4.183	2.346	0.058	0.287	7.954	67504	74859	2722	592
TDV8.25x1.25x18	8.00	1.75	0.0451	0.658	1.829	4.940	0.212	1.238	0.168	0.388	-1.102	0.000378	2.766	3.230	0.084	0.405	4.843	23687	28678	722	892
TDV8.25x1.25x16	8.00	1.75	0.0566	0.698	2.284	6.131	0.288	1.083	0.183	0.383	-1.093	0.001466	3.380	3.217	0.084	0.403	5.887	44813	58418	1832	1945
TDV8.25x1.25x14	8.00	1.75	0.0713	0.675	2.850	7.578	0.313	1.865	0.234	0.376	-1.082	0.001474	4.130	3.158	0.086	0.423	7.366	57486	63703	2286	3153
TDV8.25x1.25x12	8.00	1.75	0.1017	1.225	4.007	10.491	0.419	2.823	0.313	0.282	-1.017	0.004222	5.288	3.153	0.088	0.463	10.197	71887	77887	851	848
TDV9.25x1.25x18	9.25	1.75	0.0451	0.618	2.015	7.942	0.219	1.523	0.160	0.293	-1.074	0.000817	3.819	3.584	0.078	0.461	6.958	53885	58298	1286	1681
TDV9.25x1.25x16	9.25	1.75	0.0566	0.798	2.518	8.788	0.288	1.889	0.185	0.348	-1.016	0.000922	4.879	3.579	0.078	0.470	8.937	65569	70627	1909	2387
TDV9.25x1.25x14	9.25	1.75	0.0713	0.955	3.141	10.815	0.325	2.229	0.228	0.241	-1.005	0.001025	5.700	3.552	0.028	0.478	11.699	73598	79627	2448	3195
TDV9.25x1.25x12	9.25	1.75	0.1017	1.392	4.423	15.008	0.434	3.245	0.316	0.228	-0.943	0.004860	7.315	3.509	0.028	0.478	13.699	81824	87989	2984	3764
TDU11.25x1.75x18	11.25	1.75	0.0566	0.882	2.889	14.162	0.280	2.521	0.187	0.302	-0.914	0.000943	7.263	4.181	0.052	0.674	13.489	63588	63588	1389	1383
TDU11.25x1.75x16	11.25	1.75	0.0713	1.102	3.608	17.384	0.338	3.126	0.238	0.287	-0.903	0.001866	8.860	4.125	0.052	0.712	16.707	81182	88141	2079	2174
TDU11.25x1.75x12	11.25	1.75	0.1017	1.595	5.067	24.467	0.451	4.350	0.319	0.285	-0.880	0.005359	11.865	4.059	0.054	0.801	23.144	124635	13082	5541	8130
TDW10x2x18	10.00	2.00	0.0566	0.848	2.748	11.287	0.378	2.257	0.248	0.288	-1.143	0.000888	7.580	3.981	0.072	0.521	10.597	54175	54175	1458	1461
TDW10x2x16	10.00	2.00	0.0713	1.048	3.432	13.991	0.480	2.789	0.293	0.291	-1.142	0.001776	9.266	3.883	0.074	0.559	13.114	77288	91103	2246	3129
TDW10x2x12	10.00	2.00	0.1017	1.479	4.828	18.458	0.616	3.892	0.382	0.278	-1.117	0.005096	12.499	3.859	0.076	0.614	18.138	118949	122745	4488	6195
TDW12x2x18	12.00	2.00	0.0566	0.953	3.118	17.877	0.384	2.946	0.243	0.281	-1.047	0.001019	11.467	4.478	0.045	0.645	16.028	57817	64822	1323	1329
TDW12x2x16	12.00	2.00	0.0713	1.192	3.898	21.943	0.478	3.857	0.288	0.244	-1.016	0.002017	14.831	4.460	0.046	0.677	18.608	82859	97798	2580	2853
TDW12x2x12	12.00	2.00	0.1017	1.682	5.503	30.195	0.642	5.889	0.387	0.232	-1.012	0.005787	18.873	4.427	0.048	0.640	25.282	121854	125234	4811	7779
TDW14x2x18	14.00	2.00	0.0713	1.334	4.165	32.379	0.484	4.811	0.288	0.288	-0.949	0.002280	19.811	5.046	0.045	0.844	31.408	87484	112335	3284	3764
TDW14x2x12	14.00	2.00	0.1017	1.885	6.168	45.987	0.682	6.442	0.400	0.286	-0.926	0.006488	26.877	5.013	0.048	1.321	43.772	130851	221989	5028	6626

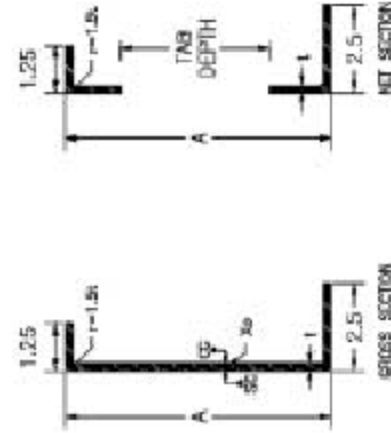
- I<sub>x</sub> - Fully Effective Moment of Inertia about X axis
- I<sub>y</sub> - Fully Effective Moment of Inertia about Y axis
- S<sub>x</sub> - Fully Effective Section Modulus about X axis
- S<sub>y</sub> - Fully Effective Section Modulus about Y axis
- X<sub>c</sub> - Distance between centroid and web centerline
- X<sub>o</sub> - Distance Between Centroid and Shear Center
- J - St. Venant Torsional Constant
- C<sub>w</sub> - Warping Constant
- r<sub>c</sub> - Moment of inertia at Knickout about X axis
- M<sub>max</sub> - Fully Braced Allowable Moment at Knickout
- M<sub>ts</sub> - Fully Braced Allowable Moment at Full Section
- V<sub>max</sub> - Allowable Shear at Knickout
- V<sub>ts</sub> - Allowable Shear at Full Section
- P<sub>y</sub> - 33 ksi for 48 ga. and 50 ksi for 16, 14, 12, & 10 ga.
- Knickout/loss Depth - 4.25 inches (joist depth upto 8.00")  
6.25 inches (joist depth greater than 8", including 12")  
8 in raised opening (joist depth = 12", 10 in raised opening (joist depth = 14")



### Structural Properties of TradeReady® Rim Track

SECTION ID	DIMENSION		FULLY EFFECTIVE CROSS SECTION PROPERTIES										NET SECTION PROPERTIES				CAPACITY @ HOLE	
	A, in.	L, in.	Weight, lb/ft	I <sub>x</sub> , in <sup>4</sup>	I <sub>y</sub> , in <sup>4</sup>	S <sub>x</sub> , in <sup>3</sup>	S <sub>y</sub> , in <sup>3</sup>	x <sub>c</sub> , in.	y <sub>c</sub> , in.	J, in <sup>4</sup>	C <sub>w</sub> , in <sup>6</sup>	R <sub>x</sub> , in.	β	Area <sub>net</sub> , in <sup>2</sup>	M <sub>net</sub> , in <sup>3</sup>	M <sub>req</sub> , in-lbs	V <sub>a</sub> , lbs	
TD 7.25 x 18	7.36	0.0066	1.812	3.580	0.196	0.888	0.092	0.300	-0.788	0.000334	0.822	3.500	1.060	0.312	8629	9040	591	
TD 7.25 x 16	7.36	0.0066	1.617	4.448	0.244	1.085	0.115	0.296	-0.736	0.000658	1.020	3.500	1.060	0.391	17414	17861	1173	
TD 7.25 x 14	7.29	0.0713	1.571	5.291	0.305	1.288	0.164	0.347	-0.732	0.001314	1.265	3.506	1.060	0.490	26184	27234	2320	
TD 7.25 x 12	7.49	0.1017	1.103	7.974	0.427	1.921	0.202	0.342	-0.722	0.002834	1.785	3.517	1.058	0.627	46744	51107	3875	
TD 8 x 18	8.09	0.0451	1.723	4.596	0.203	1.007	0.093	0.328	-0.698	0.000357	1.026	3.524	1.048	0.346	9354	9954	597	
TD 8 x 16	8.11	0.0666	1.568	5.546	0.245	1.268	0.118	0.328	-0.695	0.000704	1.276	3.527	1.047	0.435	19341	19871	1165	
TD 8 x 14	8.14	0.0713	1.525	7.087	0.311	1.676	0.148	0.325	-0.692	0.001405	1.686	3.531	1.047	0.544	29549	30311	2362	
TD 8 x 12	8.20	0.1017	1.160	9.899	0.435	2.229	0.205	0.321	-0.692	0.004057	2.194	3.543	1.045	0.773	52299	56911	3889	
TD 9.25 x 18	9.34	0.0451	1.807	6.424	0.205	1.297	0.094	0.298	-0.640	0.000326	1.029	4.376	1.033	0.407	11230	11423	584	
TD 9.25 x 16	9.36	0.0666	1.703	8.060	0.266	1.571	0.118	0.295	-0.637	0.000760	1.272	4.383	1.033	0.506	22157	22576	1161	
TD 9.25 x 14	9.39	0.0713	1.618	10.131	0.333	1.968	0.147	0.293	-0.634	0.001656	2.113	4.317	1.028	0.633	33594	34805	2317	
TD 9.25 x 12	9.46	0.1017	1.207	14.485	0.448	2.786	0.207	0.290	-0.625	0.004666	3.047	4.309	1.022	0.900	61008	66679	3797	
TD 10 x 18	10.11	0.0666	1.773	2.528	0.278	1.355	1.373	0.118	0.275	-0.607	2.113	4.717	1.027	0.433	24471	25142	783	
TD 10 x 14	10.14	0.0713	1.779	12.291	0.324	2.221	0.148	0.277	-0.631	0.001647	2.621	4.722	1.028	0.544	38997	39869	1307	
TD 10 x 12	10.20	0.1017	1.263	17.510	0.454	3.186	0.209	0.274	-0.693	0.006768	3.631	4.738	1.026	0.773	66707	72892	4543	
TD 11.25 x 18	11.36	0.0666	1.844	2.760	0.265	2.132	0.119	0.265	-0.693	0.000901	2.769	5.295	1.020	0.504	27459	28117	811	
TD 11.25 x 14	11.39	0.0713	1.951	16.905	0.320	2.674	0.148	0.264	-0.699	0.001799	3.415	5.292	1.020	0.639	41678	43095	1515	
TD 11.25 x 12	11.45	0.1017	1.510	23.920	0.463	3.789	0.210	0.261	-0.691	0.006206	4.729	5.311	1.020	0.900	79169	82960	4989	
TD 12 x 18	12.11	0.0666	1.899	16.497	0.267	2.364	0.120	0.262	-0.699	0.000946	3.181	6.430	1.017	0.546	29181	29849	811	
TD 12 x 14	12.14	0.0713	1.944	19.437	0.334	2.964	0.150	0.262	-0.696	0.001888	3.946	6.437	1.017	0.686	44370	46126	1817	
TD 12 x 12	12.20	0.1017	1.596	27.687	0.467	4.201	0.211	0.258	-0.628	0.006468	5.462	6.457	1.016	0.976	81073	86046	4988	
TD 14 x 14	14.14	0.0713	1.257	20.791	0.341	3.693	0.152	0.214	-0.482	0.002130	5.581	6.467	1.011	0.829	27248	30281	1374	
TD 14 x 12	14.20	0.1017	1.790	30.996	0.478	5.592	0.214	0.211	-0.474	0.006171	7.698	6.590	1.011	1.180	54430	102214	4577	

- I<sub>x</sub> Fully Effective Moment of Inertia about X axis
- I<sub>y</sub> Fully Effective Moment of Inertia about Y axis
- S<sub>x</sub> Fully Effective Section Modulus about X axis (parallel flange)
- S<sub>y</sub> Fully Effective Section Modulus about Y axis (parallel flange)
- X Distance Between Centroid and Web Centerline
- X<sub>0</sub> Distance Between Centroid and Shear Center
- J St. Venant Torsional Constant
- C<sub>w</sub> Warping Constant
- I<sub>cr</sub> Fully Effective Moment of Inertia at Neutral Axis about X axis
- M<sub>gross</sub> Fully Gross Allowable Moment at Hole when Small Flange is in Compression
- M<sub>net</sub> Fully Gross Allowable Moment at Hole when Large Flange is in Compression
- V<sub>g</sub> Allowable Shear at Hole
- V<sub>y</sub> 33.0 lb for 18 ga. and 50 lb for 16, 14, 12, and 10 ga.



- τ<sub>max</sub> 4.00 inches (hole depth up to 9.25 inches)
- 6.00 inches (hole depth greater than 9.25 inches)

## TradeReady® Hole Placements

### General Manufacturing Rules

- 18" to center of first hole
- 48" to center of each additional hole
- No hole 10' from end of east

		4 1/4" x 7" hole										in the 7.25" and 8" Web Joist																	
<b>INCHES</b>		1st hole	2nd hole	3rd hole	4th hole	5th hole	6th hole	7th hole	8th hole	9th hole	10th hole	11th hole	12th hole	13th hole	14th hole	1st hole	2nd hole	3rd hole	4th hole	5th hole	6th hole	7th hole	8th hole	9th hole	10th hole	11th hole	12th hole	13th hole	14th hole
Leading Edge		14.5	62.5	110.5	158.5	206.5	254.5	302.5	350.5	398.5	446.5	494.5	542.5	590.5	638.5	14.5	62.5	110.5	158.5	206.5	254.5	302.5	350.5	398.5	446.5	494.5	542.5	590.5	638.5
Trailing Edge		21.5	69.5	117.5	165.5	213.5	261.5	309.5	357.5	405.5	453.5	501.5	549.5	597.5	645.5	21.5	69.5	117.5	165.5	213.5	261.5	309.5	357.5	405.5	453.5	501.5	549.5	597.5	645.5

		6 1/4" x 9" hole										in the 9.25", 10" and 11.25" Web Joist																	
<b>INCHES</b>		1st hole	2nd hole	3rd hole	4th hole	5th hole	6th hole	7th hole	8th hole	9th hole	10th hole	11th hole	12th hole	13th hole	14th hole	1st hole	2nd hole	3rd hole	4th hole	5th hole	6th hole	7th hole	8th hole	9th hole	10th hole	11th hole	12th hole	13th hole	14th hole
Leading Edge		13.5	61.5	109.5	157.5	205.5	253.5	301.5	349.5	397.5	445.5	493.5	541.5	589.5	637.5	13.5	61.5	109.5	157.5	205.5	253.5	301.5	349.5	397.5	445.5	493.5	541.5	589.5	637.5
Trailing Edge		22.5	70.5	118.5	166.5	214.5	262.5	310.5	358.5	406.5	454.5	502.5	550.5	598.5	646.5	22.5	70.5	118.5	166.5	214.5	262.5	310.5	358.5	406.5	454.5	502.5	550.5	598.5	646.5

		8" Round Hole										in the 12" Web Joist																	
<b>INCHES</b>		1st hole	2nd hole	3rd hole	4th hole	5th hole	6th hole	7th hole	8th hole	9th hole	10th hole	11th hole	12th hole	13th hole	14th hole	1st hole	2nd hole	3rd hole	4th hole	5th hole	6th hole	7th hole	8th hole	9th hole	10th hole	11th hole	12th hole	13th hole	14th hole
Leading Edge		14	62	110	158	206	254	302	350	398	446	494	542	590	638	14	62	110	158	206	254	302	350	398	446	494	542	590	638
Trailing Edge		22	70	118	166	214	262	310	358	406	454	502	550	598	646	22	70	118	166	214	262	310	358	406	454	502	550	598	646

		10" Round Hole										in the 14" Web Joist																	
<b>INCHES</b>		1st hole	2nd hole	3rd hole	4th hole	5th hole	6th hole	7th hole	8th hole	9th hole	10th hole	11th hole	12th hole	13th hole	14th hole	1st hole	2nd hole	3rd hole	4th hole	5th hole	6th hole	7th hole	8th hole	9th hole	10th hole	11th hole	12th hole	13th hole	14th hole
Leading Edge		13	61	109	157	205	253	301	349	397	445	493	541	589	637	13	61	109	157	205	253	301	349	397	445	493	541	589	637
Trailing Edge		23	71	119	167	215	263	311	359	407	455	503	551	599	647	23	71	119	167	215	263	311	359	407	455	503	551	599	647