



NON-STRUCTURAL FRAMING PRODUCTS



7968 NW 56th St
Doral, FL 33166
305.477.3032
www.clarcompany.com



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This technical information reflects the most current information available and supersedes any and all previous publications
Effective August 29, 2017

GENERAL PRODUCT INFORMATION

STIFFENING LIP LENGTH

Section	Flange Width	Design Stiffening Lip Length (in)
S125	1 1/4"	0.188

STEEL THICKNESS TABLE

Designation Thickness (Mils)	Minimum Thickness ¹ (in)	Design Thickness (in)	Design Inside Corner Radii ² (in)	Reference Gauge No.	Minimum Coating
18	0.0179	0.0188	0.0844	25	G40
27	0.0269	0.0283	0.0796	22	G40
30	0.0296	0.0312	0.0782	20-Drywall	G40

¹ Minimum Thickness represents 95% of the design thickness and is the minimum acceptable thickness delivered to the job site based on section A2.4 of the AISI S100-12.

² The tables in this catalog are calculated based on inside corner radii listed in this table.

Definitions of Structural Property Symbols

Gross Properties

I_x: Moment of inertia of gross section about the X-X axis (strong axis).
 S_x: Section modulus about the X-X axis (strong axis).
 R_x: Radius of gyration of the gross section about the X-X axis.
 I_y: Moment of inertia of gross section about the Y-Y axis (weak axis).
 R_y: Radius of gyration of the gross section about the Y-Y axis.

Effective Properties

I_{xe}: Effective moment of inertia about the X-axis.
 S_{xe}: Effective section modulus about the X-X axis (strong axis) stress = F_y.
 M_a: Allowable Bending Moment - Based on the effective section modulus and the allowable stress including the strength increase from the cold-work of forming (Section A7.2) where applicable.
 M_{ad}: Allowable Bending Moment - Based on Distortional Buckling Strength calculated per AISI section C3.1.4
 V_{ag}: Allowable strong axis shear away from punchout, calculated in accordance with AISI Section C3.2.1.
 V_{anet}: Allowable strong axis shear at punchout, calculated in accordance with AISI Section C3.2.2.

Torsional and Other Properties

J: St. Venant Torsional Constant.
 C_w: Torsional warping constant.
 m: Distance from shear center to mid-plane of web.
 X_o: Distance from the shear center to the centroid along the principal X-axis. R_o: Polar radius of gyration about the centroidal principal axis.
 b: $1 - (X_o/R_o)^2$
 L_u: The longest weak axis (L_y) and torsional (L_t) unbraced length at which lateral torsional buckling is restrained in accordance with AISI C3.1.2.1.



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General Notes for all Tables

1. Where AISI S100-12 is referenced, it is the "North American Specification for the Design of Cold-Formed Steel Structural Members", 2012 Edition, with US provisions.
2. The strength increase from cold work of forming has been incorporated for flexural strength per Section A7.2 of AISI S100-12.
3. The effective moment of inertia for deflection is calculated at a stress which results in a section modulus such that the stress times the section modulus at that stress is equal to the allowable moment. AISI S100-12 Specification Procedure 1 for serviceability determination has been used. Increases in the effective moment of Inertia (I_{xe}) may be possible at lower stress levels. Any modified values would be required to be calculated by a qualified engineer.
4. Various sections may be manufactured with yield points of 33 or 50 ksi. The yield point used for calculations are listed in the tables.
5. For sections available in both 33 and 50 ksi, the specifier must be clearly indicate which yield point is required. For example: 362S162-68 (50ksi).
6. When provided, factory punchouts will be located along the centerline of the webs of the members and will have a minimum center-to-center spacing of 24 inches. Punchouts for members greater than 2.5 inches deep are a maximum of 1.5 inches wide x 4 inches long. Members with depths 2.5 inches and smaller are maximum of 3/4 inches wide x 4 inches long.

Section Properties Table Notes

1. Calculated properties are based on AISI S100-12, "North American Specification for the Design of Cold-Formed Steel Structural Members."
2. The centerline bend radius is based upon inside corner radii shown in the general notes for all tables.
3. Effective properties incorporate the strength increase from the cold work of forming as applicable per AISI A7.2.
4. Tabulated gross properties, including torsional properties, are based upon full-unreduced cross section of the studs, away from punchouts.
5. For deflection calculations, use the effective moment of inertia.
6. Allowable moment includes cold-work of forming.
7. For the steels that have both 33 and 50 ksi listing, if the design is based upon 50 ksi, the 50 ksi steel needs to be specified. (Example: 362S137 16-50 (50 ksi)).
8. Web depth for track sections is equal to the nominal stud width plus 2 times the design thickness plus the bend radius. Hems on nonstructural track sections are ignored.

Nomenclature

MEMBER DEPTH:

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

FLANGE WIDTH:

All flange widths are taken in 1/100 inches.

YIELD STRENGTH F_y (ksi)

COATING

600	S	162	33	33 Ksi	NS	G40	TAG
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STYLE:

The five alpha characters utilized by the designator system are:
S = Studor Joist Sections
T = Track Sections

MATERIAL THICKNESS:

Material thickness is the minimum base metal thickness in mils. Minimum base metal thickness represents 95% of the design thickness.

NON STRUCTURAL

Is a required marking on individual non structural studs

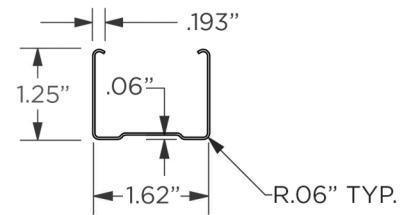
RAW MATERIAL TAG

STUDS

Interior Framing non-structural

1-5/8" DEPTH - FLANGE 125

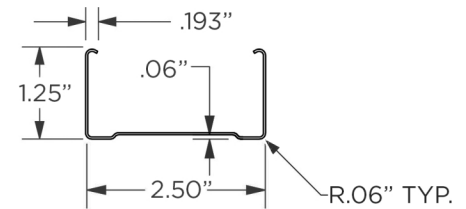
BUNDLE: 480 PIECES
HALF BUNDLE : 240 PIECES
 Custom lengths without restriction available upon request



Member	Design Thickness (in)	Fy (ksi)	Area (in ²)	Weight (lb/ft)	Gross Properties					Effective Properties					Torsional Properties							l _u (in)
					I (in ⁴)	S _x (in ³)	R _x (in)	I _y (in ⁴)	R _y (in)	I (in ⁴)	S (in ³)	M _a (in-k)	M _{ad} (in-k)	V _a (lb)	V _{net} (lb)	J x 1000 (in ⁴)	C _w (in ⁶)	X _o (in)	m (in)	R _o (in)	β	
162S125-18	0.0188	33	0.080	0.27	0.038	0.046	0.686	0.016	0.447	0.034	0.031	0.61	0.65	302	100	0.009	0.009	-1.029	0.594	1.315	0.388	29.0
162S125-27	0.0283	33	0.120	0.41	0.056	0.069	0.682	0.023	0.443	0.055	0.053	1.05	1.14	494	106	0.032	0.013	-1.018	0.587	1.303	0.390	29.1
162S125-30	0.0312	33	0.132	0.45	0.061	0.075	0.681	0.026	0.441	0.060	0.060	1.19	1.30	543	106	0.043	0.014	-1.014	0.585	1.299	0.390	29.2

2 - 1/2" DEPTH - FLANGE 125

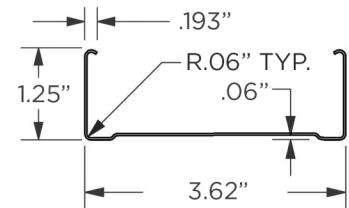
BUNDLE: 480 PIECES
HALF BUNDLE : 240 PIECES
 Custom lengths without restriction available upon request



Member	Design Thickness (in)	Fy (ksi)	Area (in ²)	Weight (lb/ft)	Gross Properties					Effective Properties					Torsional Properties							
					I (in ⁴)	S _x (in ³)	R _x (in)	I _y (in ⁴)	R _y (in)	I (in ⁴)	S (in ³)	M _a (in-k)	M _{ad} (in-k)	V _a _g (lb)	V _a _{net} (lb)	J x 1000 (in ⁴)	C _w (in ⁶)	X _o (in)	m (in)	R _o (in)	β	l _u (in)
250S125-18	0.0188	33	0.097	0.33	0.099	0.079	1.014	0.019	0.439	0.089	0.060	1.18	1.03	258	196	0.011	0.023	-0.904	0.543	1.428	0.599	29.0
250S125-27	0.0283	33	0.144	0.49	0.147	0.118	1.009	0.027	0.434	0.145	0.098	1.93	1.83	685	344	0.039	0.034	-0.893	0.537	1.416	0.602	28.9
250S125-30	0.0312	33	0.159	0.54	0.161	0.129	1.008	0.030	0.433	0.159	0.110	2.18	2.09	832	378	0.052	0.037	-0.890	0.535	1.413	0.603	28.9

3-5/8" DEPTH - FLANGE 125

BUNDLE: 360 PIECES
HALF BUNDLE : 180 PIECES
 Custom lengths without restriction available upon request



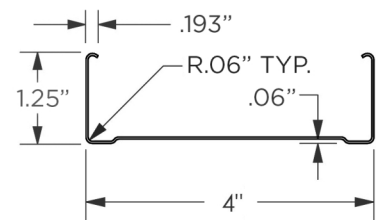
Member	Design Thickness (in)	Fy (ksi)	Area (in ²)	Weight (lb/ft)	Gross Properties					Effective Properties					Torsional Properties							L _u (in)
					I (in ⁴)	S _x (in ³)	R _x (in)	I _y (in ⁴)	R _y (in)	I (in ⁴)	S (in ³)	M _a (in-k)	M _{ad} (in-k)	V _{ag} (lb)	V _{net} (lb)	J x 1000 (in ⁴)	C _w (in ⁶)	X _c (in)	m (in)	R _o (in)	β	
362S125-18	0.0188	33	0.118	0.40	0.234	0.129	1.409	0.021	0.421	0.215	0.075	1.48	1.52	173	163	0.014	0.054	-0.786	0.490	1.667	0.778	28.8
362S125-27	0.0283	33	0.176	0.60	0.347	0.192	1.404	0.031	0.416	0.340	0.135	2.67	2.76	592	370	0.047	0.079	-0.776	0.484	1.657	0.781	28.6
362S125-30	0.0312	33	0.194	0.66	0.381	0.210	1.402	0.033	0.415	0.375	0.156	3.09	3.17	794	449	0.063	0.086	-0.773	0.482	1.654	0.782	28.6

STUDS

Interior Framing non-structural

4" DEPTH - FLANGE 125

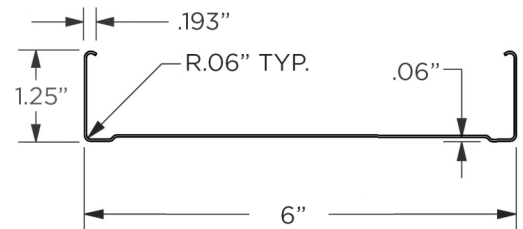
BUNDLE: 360 PIECES
HALF BUNDLE : 180 PIECES
 Custom lengths without restriction available upon request



Member	Design Thickness (in)	Fy (ksi)	Area (in ²)	Weight (lb/ft)	Gross Properties					Effective Properties					Torsional Properties							
					I (in ⁴)	S _x (in ³)	R _x (in)	I _y (in ⁴)	R _y (in)	I (in ⁴)	S (in ³)	M _z (in-k)	M _{ed} (in-k)	V _{az} (lb)	V _{az,net} (lb)	J x 1000 (in ⁴)	C _w (in ⁶)	X _o (in)	m (in)	R _o (in)	β	L _u (in)
400S125-181	0.0188	33	0.125	0.42	0.294	0.147	1.536	0.021	0.415	0.273	0.083	1.64	1.69	156	156	0.015	0.068	-0.755	0.475	1.761	0.816	28.7
400S125-27	0.0283	33	0.187	0.64	0.438	0.219	1.531	0.031	0.410	0.428	0.151	2.98	3.07	533	398	0.050	0.098	-0.745	0.469	1.751	0.819	28.5
400S125-30	0.0312	33	0.206	0.70	0.481	0.240	1.529	0.034	0.409	0.473	0.174	3.44	3.54	715	484	0.067	0.108	-0.742	0.467	1.748	0.820	28.5

6" DEPTH - FLANGE 125

BUNDLE: 180 PIECES
HALF BUNDLE : 90 PIECES
 Custom lengths without restriction available upon request



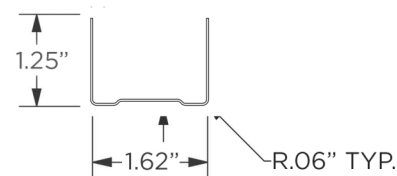
Member	Design Thickness (in)	Fy (ksi)	Area (in ²)	Weight (lb/ft)	Gross Properties					Effective Properties					Torsional Properties							
					I (in ⁴)	S _x (in ³)	R _x (in)	I _y (in ⁴)	R _y (in)	I (in ⁴)	S (in ³)	M _z (in-k)	M _{ed} (in-k)	V _{az} (lb)	V _{az,net} (lb)	J x 1000 (in ⁴)	C _w (in ⁶)	X _o (in)	m (in)	R _o (in)	β	L _u (in)
600S125-182	0.0188	33	0.162	0.55	0.779	0.260	2.190	0.024	0.382	0.648	0.145	2.86	2.48	102	102	0.019	0.172	-0.623	0.408	2.308	0.927	28.0
600S125-271	0.0283	33	0.243	0.83	1.161	0.387	2.184	0.035	0.378	1.097	0.271	5.35	4.64	349	349	0.065	0.251	-0.614	0.403	2.300	0.929	27.7
600S125-30	0.0312	33	0.268	0.91	1.276	0.425	2.182	0.038	0.376	1.219	0.315	6.22	5.40	468	468	0.087	0.274	-0.611	0.401	2.297	0.929	27.7

TRACK

Interior Framing non-structural

1-5/8" DEPTH - FLANGE 125

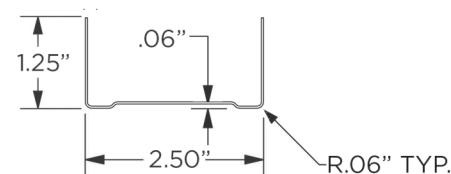
BUNDLE: 480 PIECES
HALF BUNDLE : 240 PIECES
 Custom lengths without restriction available upon request



			Gross Properties							Effective Properties				Torsional Properties					
Member	Design Thickness (in)	Fy (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 _x (in4)	S _x (in3)	M _a (in-k)	Va _g (lib)	J x 1000 (in ⁴)	C _w (in ⁶)	X ₀ (in)	m (in)	R ₀ (in)	β
162T125-18	0.0188	33	0.078	0.26	0.042	0.048	0.733	0.013	0.411	0.030	0.025	0.50	302	0.0091	0.007	-0.876	0.503	1.215	0.479
162T125-27	0.0283	33	0.117	0.40	0.063	0.072	0.735	0.020	0.410	0.051	0.044	0.87	541	0.0312	0.010	-0.872	0.501	1.211	0.482
162T125-30	0.0312	33	0.129	0.44	0.070	0.079	0.735	0.022	0.409	0.057	0.050	1.00	597	0.0417	0.012	-0.870	0.500	1.210	0.483

2 - 1/2" DEPTH - FLANGE 125

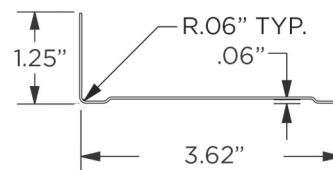
BUNDLE: 480 PIECES
HALF BUNDLE : 240 PIECES
 Custom lengths without restriction available upon request



			Gross Properties							Effective Properties				Torsional Properties					
Member	Design Thickness (in)	Fy (ksi)	Area (in ²)	Weight (lb/ft)	I _x (in ⁴)	S _x (in ³)	R _x (in)	I _y (in)	R _y (in)	I _x (in4)	S _x (in3)	M ₃ (in-k)	Va _g (lib)	J x 1000 (in ⁴)	C _w (in ⁶)	X ₀ (in)	m (in)	R ₀ (in)	β
250T125-18	0.0188	33	0.094	0.32	0.104	0.079	1.052	0.015	0.400	0.078	0.044	0.88	245	0.0111	0.018	-0.767	0.460	1.362	0.682
250T125-27	0.0283	33	0.141	0.48	0.157	0.119	1.053	0.022	0.398	0.129	0.079	1.56	685	0.0378	0.027	-0.763	0.457	1.360	0.685
250T125-30	0.0312	33	0.156	0.53	0.173	0.131	1.053	0.025	0.397	0.145	0.090	1.77	832	0.0506	0.030	-0.762	0.456	1.359	0.686

3-5/8" DEPTH - FLANGE 125

BUNDLE: 360 PIECES
HALF BUNDLE : 180 PIECES
 Custom lengths without restriction available upon request



Member	Design Thickness (in)	Fy (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 _x (in4)	S _x (in3)	M _a (in-k)	V _a (lib)	J x 1000 (in ⁴)	C _w (in ⁶)	X ₀ (in)	m (in)	R ₀ (in)	β
362T125-18	0.0188	33	0.115	0.39	0.238	0.127	1.437	0.017	0.380	0.189	0.064	1.26	167	0.0136	0.042	-0.665	0.413	1.628	0.833
362T125-27	0.0283	33	0.173	0.59	0.358	0.191	1.438	0.025	0.378	0.301	0.135	2.66	569	0.0463	0.062	-0.661	0.411	1.627	0.835
362T125-30	0.0312	33	0.191	0.65	0.395	0.210	1.438	0.027	0.378	0.339	0.152	3.01	762	0.0620	0.068	-0.659	0.410	1.627	0.836

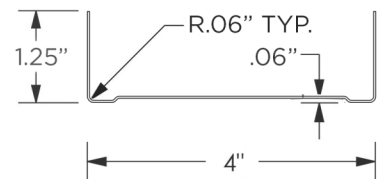
1 Web-height to thickness ratio exceeds 200. Web stiffeners are required at all support points and concentrated loads.

TRACK

Interior Framing non-structural

4" DEPTH - FLANGE 125

BUNDLE: 360 PIECES
HALF BUNDLE : 180 PIECES
 Custom lengths without restriction available upon request

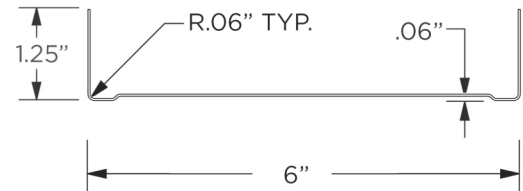


Member	Design Thickness (in)	Fy (ksi)	Gross Properties							Effective Properties				Torsional Properties					
			Area (in ²)	Weight (lb/ft)	I _x (in ⁴)	S _x (in ³)	R _x (in)	I _y (in)	R _y (in)	I _x (in4)	S _x (in3)	M _a (in-k)	V _a g (lib)	J x 1000 (in ⁴)	C _w (in ⁶)	X _o (in)	m (in)	R _o (in)	β
400T125-181	0.0188	33	0.122	0.42	0.298	0.145	1.562	0.017	0.374	0.241	0.070	1.39	151	0.0144	0.052	-0.637	0.400	1.727	0.864
400T125-27	0.0283	33	0.184	0.63	0.449	0.217	1.562	0.025	0.372	0.380	0.156	3.08	515	0.0491	0.078	-0.633	0.398	1.726	0.866
400T125-30	0.0312	33	0.203	0.69	0.495	0.239	1.563	0.028	0.371	0.427	0.176	3.49	689	0.0658	0.085	-0.632	0.397	1.726	0.866

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

6" DEPTH - FLANGE 125

BUNDLE: 180 PIECES
HALF BUNDLE : 90 PIECES
 Custom lengths without restriction available upon request



			Gross Properties							Effective Properties				Torsional Properties					
Member	Design Thickness (in)	Fy (ksi)	Area (in ²)	Weight (lb/ft)	I _x (in ⁴)	S _x (in ³)	R _x (in)	I _y (in)	R _y (in)	I _x (in4)	S _x (in3)	M _a (in-k)	V _a g (lib)	J x 1000 (in ⁴)	C _w (in ⁶)	X _o (in)	m (in)	R _o (in)	β
600T125-271	0.0283	33	0.241	0.82	1.169	0.381	2.204	0.028	0.340	0.958	0.211	4.16	341	0.0642	0.196	-0.519	0.339	2.290	0.949
600T125-30	0.0312	33	0.265	0.90	1.288	0.420	2.204	0.031	0.340	1.095	0.249	4.92	456	0.0860	0.215	-0.518	0.338	2.290	0.949

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

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