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ICC-ES Evaluation Report
ESR-4738

Reissued May 2023
This report is subject to renewal May 2024.

DIVISION: 05 00 00—METALS
Section: 05 40 00—Cold-Formed Metal Framing
Section: 05 41 00—Structural Metal Stud Framing
Section: 05 42 00—Cold-Formed Metal Joist Framing

DIVISION: 09 00 00—FINISHES
Section: 09 22 16.13—Non-Structural Metal Stud Framing

REPORT HOLDER:

STALO FRAMES

EVALUATION SUBJECT:

COLD-FORMED STEEL STUDS, TRACKS, AND JOISTS

1.0 EVALUATION SCOPE

Compliance with the following codes:

2021, 2018 and 2015 *International Building Code* (IBC)

Property evaluated:

Structural

2.0 USES

The cold-formed steel members with a minimum G40 coating are used only as nonstructural members as defined by AISI S220.

The cold-formed steel members with a minimum G60, A60, AZ50, or GF30 coating are used as structural members as defined by AISI S240 and may also be used as nonstructural members.

3.0 DESCRIPTION

The cold-formed steel members designations and dimensions are provided in Table 1 for structural studs and tracks and in Table 2 for non-structural studs. Figure 1 includes profiles of the members. The members are manufactured with and without web punch-outs. When provided, the punch-outs have a width of $1^1/_2$ inches (38 mm) and a length of 4 inches (102 mm) in members with a depth greater than $2^1/_2$ inches (63.5 mm). In members with a depth of $2^1/_2$ inches (63.5 mm) and smaller, punch-outs have a width of $^3/_4$ inch (19 mm) and a length of 4 inches (102 mm). The punch-outs are spaced a minimum of 24 inches (610 mm) on center and have a minimum distance between the end of the member and the near edge of the punch-out of 10 inches (254 mm). Studs ends are swaged to fit inside the track as shown in Figure 1. The effective height of swage, hsw, equals to the track's total flange width plus $^3/_8$ inch (9.5 mm). The swaged depth of the stud's end equals to the stud's total web depth minus two times the design base metal thickness

The members are cold-formed from steel coils conforming to ASTM A653 SS Grade 50 Class 1 with a minimum G40 or G60 coating or ASTM A1003 Structural Grade 50 Type H (ST50H) with a minimum G60, A60, AZ50, or GF30 coating.

4.0 DESIGN AND INSTALLATION

4.1 General:

The cold-formed steel members and their connections must be designed and installed in accordance with IBC Section 2210 and 2211 using the section properties referenced in Section 3.0.

4.2 Design:

All section properties and allowable capacities in Tables 3, 4, and 5, except for V_{anet}, are for cold-formed steel sections away from punch-outs. The web crippling capacities are provided in Table 6. All values have been determined in accordance with the North American Specification for Design of Cold-Formed Steel Structural Members (AISI S100) based on the Allowable Strength Design (ASD) method. However, additional design considerations per AISI S100 must be considered, such as the design of flexural members must address combined bending and web crippling, and combined bending and shear, as applicable.

The allowable moment capacities, M_{al}, in Table 3, 4, and 5 are for flexural members installed with the compression flange continuously braced. For other conditions of compression flange bracing, the allowable moment capacities, M_{al}, must be determined in accordance with AISI S100.

4.3 Installation:

The cold-formed steel members must be installed in accordance with the applicable code, the approved plans, and this report. If there is a conflict between the plans submitted for approval and this report, this report governs.

The approved plans must be available at the jobsite at all times during installation.

5.0 CONDITIONS OF USE

The cold-formed steel members described in this report comply with, or are a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

5.1 The cold-formed steel members must be installed in accordance with the applicable code, the approved plans and this report.

5.2 Minimum uncoated base-metal thickness of the cold-formed steel members as delivered to the jobsite must be at least 95 percent of the design base-metal thickness.

5.3 Complete plans and calculations verifying compliance with this report must be submitted to the code official for each project at the time of permit application. The calculations and drawings must be prepared and sealed by a registered design professional, where required by the statutes of the jurisdiction in which the project is to be constructed.

5.4 Framing members with a height-to-thickness (h/t) ratio of more than 200 must be provided with web stiffeners in accordance with Sections B4.1 and F5 of AISI S100-16 (2020) w/S2-20. Holes or punch-outs in the web of framing members with a height-to-thickness (h/t) ratio of more than 200 are outside the scope of this report.

5.5 Effective section properties and allowable capacities, except V_{anet}, are for cold-formed steel sections away from punch-outs.

5.6 The cold-formed steel members are manufactured in Miami, Florida under an approved quality control program by ICC-ES.

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Cold-formed Steel Framing Members (AC46), dated October 2019 and editorially revised December 2020.

7.0 IDENTIFICATION

7.1 At a spacing not exceeding 96 inches (2440 mm) on center, each cold-formed steel member is stamped, stenciled or embossed with the company name or initials; the acronym "ICC-ES"; the evaluation report number (ESR-4738); the minimum uncoated base-metal thickness in mils or decimal inches; in addition to the following:

- For nonstructural members, each member must have the designation "NS", the minimum specified yield strength, and a designation for the metallic coating if other than G40.
- For structural members, the minimum specified yield strength and a designation for the metallic coating (minimum G60, A60, AZ50, or GF30).

7.2 The report holder's contact information is the following:

STALO FRAMES
5400 NORTHWEST 32ND AVENUE, BAY B
MIAMI, FLORIDA 33132
(786) 713-2410
info@stalo-us.com

Definitions of symbols for use with Tables 1 through 3:

F_y: Yield Strength
L_u: Critical Unbraced Length for lateral-torsional buckling. Members are considered fully braced when unbraed length is less than L_u.
K_ϕ: Distortional buckling moment (M_{ad}) is calculated without the beneficial effect of sheathing to rotational stiffness, $K_\phi = 0$.

Gross Properties (based on full cross section away from punch-outs)

A_g: Gross area: cross-sectional area of the full unreduced cross-section of the studs, away from the punch-outs.
I_x: Moment of inertia of the gross section about the strong axis (X-X).
r_x: Radius of gyration of the gross section about the X-X axis.
S_x: Gross section-modulus about the strong axis (X-X).
I_y: Moment of inertia of the gross section about the weak axis (Y-Y).
r_y: Radius of gyration of the gross section about the Y-Y axis.

Effective Properties (based on full cross section away from punch-outs, except for V_{anet})

I_{xe}: Effective moment of inertia about the strong axis (X-X).
S_{xe}: Effective section-modulus about the strong axis (X-X).
M_{al}: Allowable bending moment based on local buckling.
M_{ad}: Allowable bending moment based on distortional buckling, assuming $K_\phi = 0$.
V_{ag}: Allowable strong axis shear.
V_{anet}: Allowable strong axis shear at punch-out.

Torsional Properties (based on full cross section away from punch-outs)

J: St. Venant torsional constant.
C_w: Torsional warping constant.
m_c: 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.
β: Torsional flexural constant: $1 - (X_o / R_o)^2$

TABLE 1—STRUCTURAL STUDS AND TRACKS SECTION DIMENSIONS[1]

STUD DESIGNATION	TRACK DESIGNATION[2]	MILS	F_y (ksi)	DESIGN BASE STEEL THICKNESS (in.)	UNCOATED MIN. BASE STEEL THICKNESS (in.)	TOTAL WEB DEPTH[4] (in.)	FLANGE (in.)	LIP[2] (in.)	CORNER INTERIOR RADIUS (in.)
250S162-33	250T162-33	33	50	0.0346	0.0329	2.5	1.625	0.5	0.09
250S162-43	250T162-43	43	50	0.0451	0.0428	2.5	1.625	0.5	0.09
250S162-54	250T162-54	54	50	0.0566	0.0538	2.5	1.625	0.5	0.09
300S162-33	300T162-33	33	50	0.0346	0.0329	3.0	1.625	0.5	0.09
300S162-43	300T162-43	43	50	0.0451	0.0428	3.0	1.625	0.5	0.09
300S162-54	300T162-54	54	50	0.0566	0.0538	3.0	1.625	0.5	0.09
300S200-33	300T200-33	33	50	0.0346	0.0329	3.0	2.0	0.625	0.11
300S200-43	300T200-43	43	50	0.0451	0.0428	3.0	2.0	0.625	0.11
300S200-54	300T200-54	54	50	0.0566	0.0538	3.0	2.0	0.625	0.11
350S162-33	350T162-33	33	50	0.0346	0.0329	3.5	1.625	0.5	0.09
350S162-43	350T162-43	43	50	0.0451	0.0428	3.5	1.625	0.5	0.09
350S162-54	350T162-54	54	50	0.0566	0.0538	3.5	1.625	0.5	0.09
350S200-33	350T200-33	33	50	0.0346	0.0329	3.5	2.0	0.625	0.11
350S200-43	350T200-43	43	50	0.0451	0.0428	3.5	2.0	0.625	0.11
350S200-54	350T200-54	54	50	0.0566	0.0538	3.5	2.0	0.625	0.11
350S200-68	350T200-68	68	50	0.0713	0.0677	3.5	2.0	0.625	0.11
362S162-33	362T162-33	33	50	0.0346	0.0329	3.625	1.625	0.5	0.09
362S162-43	362T162-43	43	50	0.0451	0.0428	3.625	1.625	0.5	0.09
362S162-54	362T162-54	54	50	0.0566	0.0538	3.625	1.625	0.5	0.09
362S200-33	362T200-33	33	50	0.0346	0.0329	3.625	2.0	0.625	0.11
362S200-43	362T200-43	43	50	0.0451	0.0428	3.625	2.0	0.625	0.11
362S200-54	362T200-54	54	50	0.0566	0.0538	3.625	2.0	0.625	0.11
362S200-68	362T200-68	68	50	0.0713	0.0677	3.625	2.0	0.625	0.11
400S162-33	400T162-33	33	50	0.0346	0.0329	4.0	1.625	0.500	0.090
400S162-43	400T162-43	43	50	0.0451	0.0428	4.0	1.625	0.500	0.090
400S162-54	400T162-54	54	50	0.0566	0.0538	4.0	1.625	0.500	0.090
400S200-33	400T200-33	33	50	0.0346	0.0329	4.0	2.0	0.625	0.110
400S200-43	400T200-43	43	50	0.0451	0.0428	4.0	2.0	0.625	0.110
400S200-54	400T200-54	54	50	0.0566	0.0538	4.0	2.0	0.625	0.110
400S200-68	400T200-68	68	50	0.0713	0.0677	4.0	2.0	0.625	0.110
550S162-33	550T162-33	33	50	0.0346	0.0329	5.5	1.625	0.5	0.09
550S162-43	550T162-43	43	50	0.0451	0.0428	5.5	1.625	0.5	0.09
550S162-54	550T162-54	54	50	0.0566	0.0538	5.5	1.625	0.5	0.09
550S200-33	550T200-33	33	50	0.0346	0.0329	5.5	2.0	0.625	0.11
550S200-43	550T200-43	43	50	0.0451	0.0428	5.5	2.0	0.625	0.11
550S200-54	550T200-54	54	50	0.0566	0.0538	5.5	2.0	0.625	0.11
550S200-68	550T200-68	68	50	0.0713	0.0677	5.5	2.0	0.625	0.11
600S162-33	600T162-33	33	50	0.0346	0.0329	6.0	1.625	0.5	0.09
600S162-43	600T162-43	43	50	0.0451	0.0428	6.0	1.625	0.5	0.09
600S162-54	600T162-54	54	50	0.0566	0.0538	6.0	1.625	0.5	0.09
600S200-33	600T200-33	33	50	0.0346	0.0329	6.0	2.0	0.625	0.11
600S200-43	600T200-43	43	50	0.0451	0.0428	6.0	2.0	0.625	0.11
600S200-54	600T200-54	54	50	0.0566	0.0538	6.0	2.0	0.625	0.11
600S200-68	600T200-68	68	50	0.0713	0.0677	6.0	2.0	0.625	0.11

(Continued)

TABLE 1—STRUCTURAL STUDS AND TRACKS SECTION DIMENSIONS[1] (CONTINUED)

STUD DESIGNATION	TRACK DESIGNATION[2]	MILS	F_y (ksi)	DESIGN BASE STEEL THICKNESS (in.)	UNCOATED MIN. BASE STEEL THICKNESS (in.)	TOTAL WEB DEPTH[4] (in.)	FLANGE (in.)	LIP[2] (in.)	CORNER INTERIOR RADIUS (in.)
600S200-97	600T200-97	97	50	0.1017	0.0966	6.0	2.0	0.625	0.11
800S162-33[3]	800T162-33[3]	33	50	0.0346	0.0329	8.0	1.625	0.5	0.09
800S162-43	800T162-43	43	50	0.0451	0.0428	8.0	1.625	0.5	0.09
800S162-54	800T162-54	54	50	0.0566	0.0538	8.0	1.625	0.5	0.09
800S200-33[3]	800T200-33[3]	33	50	0.0346	0.0329	8.0	2.0	0.625	0.11
800S200-43	800T200-43	43	50	0.0451	0.0428	8.0	2.0	0.625	0.11
800S200-54	800T200-54	54	50	0.0566	0.0538	8.0	2.0	0.625	0.11
800S200-68	800T200-68	68	50	0.0713	0.0677	8.0	2.0	0.625	0.11
800S200-97	800T200-97	97	50	0.1017	0.0966	8.0	2.0	0.625	0.11
1000S200-54	1000T200-54	54	50	0.0566	0.0538	10.0	2.0	0.625	0.11
1000S200-68	1000T200-68	68	50	0.0713	0.0677	10.0	2.0	0.625	0.11
1000S200-97	1000T200-97	97	50	0.1017	0.0966	10.0	2.0	0.625	0.11
1200S200-54[3]	1200T200-54[3]	54	50	0.0566	0.0538	12.0	2.0	0.625	0.11
1200S200-68	1200T200-68	68	50	0.0713	0.0677	12.0	2.0	0.625	0.11
1200S200-97	1200T200-97	97	50	0.1017	0.0966	12.0	2.0	0.625	0.11
1400S200-54[3]	1400T200-54	54	50	0.0566	0.0538	14.0	2.0	0.625	0.11
1400S200-68	1400T200-68	68	50	0.0713	0.0677	14.0	2.0	0.625	0.11
1400S200-97	1400T200-97	97	50	0.1017	0.0966	14.0	2.0	0.625	0.11

For **SI:** 1 inch = 25.4 mm 1 kip = 4448 N, 1 ksi = 6.895 MPa

[1] See Figure 1 for Section Profiles.

[2] For Tracks at location 2 (Figure 1), there are no lips.

[3] Web height-to-thickness ratio exceeds 200 but is less than 260. Web must have bearing stiffeners at all support points and concentrated loads in accordance with AISI S100. No holes or punch-outs are permitted in the web at these locations.

[4] Depth measured from outside face to outside face of flanges.

TABLE 2—NON-STRUCTURAL STUDS SECTION DIMENSIONS[1]

STUD DESIGNATION	MILS	F_y (ksi)	DESIGN BASE STEEL THICKNESS, in.	UNCOATED MIN. BASE STEEL THICKNESS, in.	TOTAL WEB DEPTH[3], in.	FLANGE, in.	LIP, in.	CORNER INTERIOR RADIUS, in.
250S162-27	27	50	0.0283	0.0269	2.5	1.625	0.500	0.090
300S162-27	27	50	0.0283	0.0269	3.0	1.625	0.500	0.090
300S200-27	27	50	0.0283	0.0269	3.0	2.0	0.625	0.110
350S162-27	27	50	0.0283	0.0269	3.5	1.625	0.500	0.090
350S200-27	27	50	0.0283	0.0269	3.5	2.0	0.625	0.110
362S162-27	27	50	0.0283	0.0269	3.625	1.625	0.500	0.090
362S200-27	27	50	0.0283	0.0269	3.625	2.0	0.625	0.110
400S162-27	27	50	0.0283	0.0269	4.0	1.625	0.500	0.090
400S200-27	27	50	0.0283	0.0269	4.0	2.0	0.625	0.110
550S162-27	27	50	0.0283	0.0269	5.5	1.625	0.500	0.090
550S200-27	27	50	0.0283	0.0269	5.5	2.0	0.625	0.110
600S162-27[2]	27	50	0.0283	0.0269	6.0	1.625	0.500	0.090
600S200-27[2]	27	50	0.0283	0.0269	6.0	2.0	0.625	0.110

For **SI:** 1 inch = 25.4 mm, 1 kip = 4448 N, 1 ksi = 6.895 MPa

[1] See Figure 1 for Section Profiles.

[2] Web height-to-thickness ratio exceeds 200 but is less than 260. Web must have bearing stiffeners at all support points and concentrated loads in accordance with AISI S100. No holes or punch-outs are permitted in the web at these locations.

[3] Depth measured from outside face to outside face of flanges.

TABLE 3—SECTION PROPERTIES @ STRUCTURAL STUD AND TRACK LOCATION 1 [2,7]

STUD SECTION	TRACK SECTION	Weight (lb/ft)	GROSS SECTION PROPERTIES					EFFECTIVE PROPERTIES (Based on F_y = 50 ksi)						TORSIONAL SECTION PROPERTIES						
			A_g (in^2)	I_x (in^4)	r_x (in)	I_y (in^4)	r_y (in)	I_{xe}[3] (in^4)	S_{xe}[4] (in^3)	M_{al}[5] (in.kip)	M_{ad}[6] (in.kip)	V_{ag} (lb)	V_{anet} (lb)	x_o (in)	JX1000 (in^4)	C_w (in^6)	m_c (in.)	r_o (in)	β	L_u (in.)
250S162-33	250T162-33	0.757	0.222	0.234	1.026	0.086	0.623	0.23	0.163	4.87	4.905	1260	506	-1.469	0.089	0.146	0.859	1.897	0.400	35.7
250S162-43	250T162-43	0.979	0.288	0.300	1.021	0.110	0.618	0.3	0.217	6.503	6.529	1886	573	-1.456	0.195	0.184	0.852	1.883	0.402	35.7
250S162-54[8]	250T162-54[8]	1.217	0.358	0.369	1.016	0.134	0.613	0.369	0.288	8.614	8.839	2342	558	-1.443	0.382	0.223	0.845	1.868	0.403	35.8
300S162-33	300T162-33	0.816	0.240	0.355	1.217	0.092	0.621	0.349	0.207	6.19	6.036	1260	422	-1.392	0.096	0.205	0.826	1.950	0.491	35.1
300S162-43	300T162-43	1.055	0.310	0.456	1.212	0.118	0.616	0.456	0.275	8.241	8.484	2141	541	-1.379	0.210	0.259	0.819	1.937	0.493	35.0
300S162-54[8]	300T162-54[8]	1.314	0.386	0.562	1.206	0.144	0.610	0.562	0.364	10.91	11.215	2873	567	-1.366	0.412	0.314	0.812	1.922	0.495	35.0
300S200-33	300T200-33	0.929	0.273	0.417	1.236	0.163	0.772	0.396	0.233	6.973	6.838	1260	408	-1.837	0.109	0.409	1.072	2.345	0.386	44.3
300S200-43	300T200-43	1.204	0.354	0.536	1.231	0.208	0.768	0.535	0.314	9.394	9.627	2141	523	-1.825	0.240	0.519	1.065	2.331	0.387	44.3
300S200-54	300T200-54	1.500	0.441	0.662	1.225	0.256	0.762	0.662	0.405	12.123	12.852	2830	540	-1.811	0.471	0.633	1.058	2.316	0.388	44.3
350S162-33	350T162-33	0.875	0.257	0.506	1.403	0.098	0.616	0.498	0.254	7.601	7.196	1134	531	-1.323	0.103	0.277	0.796	2.025	0.573	34.6
350S162-43	350T162-43	1.132	0.333	0.650	1.398	0.124	0.611	0.65	0.337	10.097	10.133	2141	760	-1.311	0.226	0.350	0.789	2.012	0.575	34.5
350S162-54[8]	350T162-54[8]	1.410	0.414	0.803	1.392	0.152	0.606	0.803	0.446	15.083	15.241	3372	942	-1.298	0.442	0.426	0.782	1.997	0.578	34.5
350S200-33	350T200-33	0.990	0.290	0.592	1.428	0.172	0.771	0.563	0.286	8.548	8.123	1148	526	-1.758	0.116	0.541	1.039	2.392	0.460	43.6
350S200-43	350T200-43	1.280	0.376	0.762	1.423	0.221	0.766	0.762	0.384	11.491	11.463	2141	743	-1.745	0.255	0.687	1.032	2.379	0.462	43.6
350S200-54	350T200-54	1.596	0.469	0.943	1.418	0.271	0.760	0.943	0.494	14.798	15.398	3361	916	-1.732	0.501	0.838	1.024	2.364	0.463	43.5
350S200-68[8]	350T200-68[8]	1.933	0.586	1.166	1.411	0.333	0.753	1.166	0.653	19.545	19.948	4194	892	-1.715	0.993	1.018	1.014	2.345	0.465	43.5
362S162-33	362T162-33	0.889	0.261	0.549	1.449	0.099	0.615	0.54	0.266	7.968	7.491	1092	548	-1.308	0.104	0.297	0.789	2.046	0.592	34.6
362S162-43	362T162-43	1.151	0.338	0.705	1.444	0.126	0.610	0.705	0.353	10.58	10.55	2141	815	-1.295	0.229	0.376	0.782	2.033	0.594	34.4
362S162-54[8]	362T162-54[8]	1.434	0.421	0.871	1.438	0.154	0.604	0.871	0.467	15.799	15.881	3372	1011	-1.282	0.450	0.457	0.774	2.019	0.597	34.4
362S200-33	362T200-33	1.003	0.295	0.642	1.476	0.175	0.770	0.611	0.299	8.956	8.470	1105	543	-1.739	0.118	0.577	1.030	2.407	0.478	43.5
362S200-43	362T200-43	1.299	0.382	0.826	1.471	0.223	0.765	0.824	0.402	12.035	11.94	2141	798	-1.727	0.259	0.734	1.024	2.394	0.480	43.4
362S200-54	362T200-54	1.620	0.476	1.022	1.465	0.275	0.759	1.022	0.517	15.49	16.042	3372	989	-1.713	0.508	0.896	1.016	2.379	0.481	43.4
362S200-68[8]	362T200-68[8]	2.023	0.595	1.264	1.458	0.337	0.753	1.265	0.683	20.46	20.887	4361	998	-1.696	1.008	1.089	1.006	2.360	0.484	43.3
400S162-33	400T162-33	0.93	0.274	0.689	1.585	0.102	0.610	0.678	0.304	9.103	8.374	983	592	-1.262	0.109	0.363	0.768	2.116	0.644	34.3
400S162-43	400T162-43	1.21	0.355	0.886	1.579	0.130	0.605	0.886	0.403	12.071	11.82	2141	980	-1.250	0.241	0.460	0.761	2.103	0.647	34.2
400S162-54[8]	400T162-54[8]	1.51	0.443	1.096	1.574	0.159	0.599	1.096	0.532	18.007	17.852	3372	1218	-1.237	0.473	0.560	0.754	2.090	0.649	34.1
400S200-33	400T200-33	1.05	0.308	0.804	1.616	0.181	0.767	0.766	0.341	10.215	9.422	993	588	-1.686	0.123	0.697	1.007	2.458	0.530	43.2
400S200-43	400T200-43	1.36	0.399	1.035	1.611	0.231	0.762	1.035	0.458	13.71	13.308	2141	963	-1.674	0.270	0.886	1.000	2.445	0.531	43.0
400S200-54	400T200-54	1.69	0.497	1.282	1.606	0.284	0.756	1.282	0.589	17.623	16.481	3372	1195	-1.660	0.531	1.083	0.993	2.430	0.533	43.0
400S200-68[8]	400T200-68[8]	2.11	0.621	1.588	1.599	0.349	0.749	1.588	0.777	23.273	23.773	4863	1350	-1.643	1.053	1.318	0.983	2.412	0.536	42.9
550S162-33	550T162-33	1.110	0.326	1.453	2.110	0.113	0.588	1.432	0.446	13.208	11.873	702	702	-1.113	0.130	0.713	0.697	2.457	0.795	33.6
550S162-43	550T162-43	1.439	0.423	1.872	2.104	0.144	0.583	1.872	0.624	18.687	16.852	1561	1195	-1.102	0.287	0.905	0.691	2.446	0.797	33.4
550S162-54[8]	550T162-54[8]	1.795	0.528	2.321	2.098	0.176	0.577	2.321	0.821	24.567	22.798	3099	1879	-1.089	0.563	1.105	0.684	2.433	0.800	33.3
550S200-33	550T200-33	1.224	0.360	1.679	2.161	0.201	0.748	1.607	0.473	14.711	13.491	707	702	-1.506	0.143	1.326	0.925	2.738	0.698	42.2
550S200-43	550T200-43	1.587	0.466	2.166	2.155	0.258	0.743	2.162	0.704	21.073	19.028	1573	1192	-1.494	0.316	1.691	0.918	2.725	0.700	42.0

(Continued)

TABLE 3—SECTION PROPERTIES @ STRUCTURAL STUD AND TRACK LOCATION 1 [2,7] (CONTINUED)

STUD SECTION	TRACK SECTION	Weight (lb/ft)	GROSS SECTION PROPERTIES					EFFECTIVE PROPERTIES (Based on F_y = 50 ksi)						TORSIONAL SECTION PROPERTIES						
			A_g (in^2)	I_x (in^4)	r_x (in)	I_y (in^4)	r_y (in)	I_{xe}[3] (in^4)	S_{xe}[4] (in^3)	M_{al}[5] (in.kip)	M_{ad}[6] (in.kip)	V_{ag} (lb)	V_{anet} (lb)	x_o (in)	JX1000 (in^4)	C_w (in^6)	m_c (in.)	r_o (in)	β	L_u (in.)
550S200-54	550T200-54	1.981	0.582	2.688	2.149	0.317	0.738	2.688	0.901	26.98	25.908	3123	1873	-1.481	0.622	2.072	0.911	2.712	0.702	41.9
550S200-68[8]	550T200-68[8]	2.478	0.728	3.338	2.141	0.389	0.731	3.339	1.188	40.25	39.279	5352	2528	-1.465	1.234	2.531	0.902	2.695	0.705	41.7
600S162-33	600T162-33	1.169	0.343	1.786	2.280	0.116	0.580	1.761	0.488	14.359	12.925	641	641	-1.071	0.137	0.861	0.677	2.585	0.828	33.4
600S162-43	600T162-43	1.516	0.445	2.303	2.274	0.147	0.575	2.303	0.705	21.122	16.668	1425	1237	-1.060	0.302	1.095	0.670	2.574	0.830	33.2
600S162-54[8]	600T162-54[8]	1.891	0.556	2.857	2.267	0.180	0.569	2.856	0.926	27.728	25.123	2827	1946	-1.048	0.594	1.337	0.663	2.562	0.833	33.0
600S200-33	600T200-33	1.283	0.377	2.057	2.336	0.207	0.741	1.972	0.518	16.039	14.82	645	645	-1.455	0.150	1.593	0.901	2.850	0.739	41.9
600S200-43	600T200-43	1.664	0.489	2.656	2.331	0.265	0.736	2.651	0.794	23.76	20.967	1435	1234	-1.443	0.332	2.033	0.894	2.838	0.741	41.8
600S200-54	600T200-54	2.077	0.610	3.298	2.324	0.326	0.730	3.298	1.015	30.389	28.536	2847	1941	-1.431	0.652	2.493	0.887	2.825	0.744	41.6
600S200-68[8]	600T200-68[8]	2.600	0.764	4.098	2.316	0.400	0.723	4.098	1.336	40.01	38.423	5352	2875	-1.415	1.295	3.047	0.878	2.809	0.746	41.4
600S200-97[8]	600T200-97[8]	3.657	1.075	5.681	2.299	0.539	0.708	5.681	1.894	56.706	56.694	10634	3947	-1.381	3.705	4.080	0.859	2.774	0.752	41.1
800S162-33[1]	800T162-33[1]	1.404	0.413	3.570	2.941	0.125	0.549	3.237	0.628	18.716	16.705	476	476	-0.935	0.165	1.630	0.607	3.135	0.911	32.5
800S162-43	800T162-43	1.823	0.536	4.611	2.934	0.159	0.544	4.371	0.917	26.325	24.197	1056	1056	-0.925	0.363	2.076	0.601	3.124	0.912	32.3
800S162-54	800T162-54	2.277	0.669	5.730	2.926	0.194	0.539	5.565	1.232	36.89	33.923	2094	2094	-0.914	0.714	2.539	0.594	3.113	0.914	32.1
800S200-33[1]	800T200-33[1]	1.508	0.446	4.065	3.019	0.225	0.710	3.695	0.701	21.491	19.932	478	478	-1.286	0.178	2.971	0.817	3.357	0.853	41.1
800S200-43	800T200-43	1.958	0.579	5.255	3.012	0.288	0.705	5.246	1.082	31.623	28.257	1062	1062	-1.275	0.393	3.797	0.811	3.346	0.855	40.9
800S200-54	800T200-54	2.446	0.724	6.535	3.005	0.354	0.699	6.534	1.519	45.466	38.692	2105	2105	-1.263	0.773	4.663	0.804	3.334	0.856	40.7
800S200-68[8]	800T200-68[8]	3.064	0.907	8.137	2.996	0.434	0.692	8.137	1.992	59.632	53.055	4223	3366	-1.248	1.536	5.712	0.796	3.318	0.859	40.4
800S200-97[8]	800T200-97[8]	4.319	1.278	11.326	2.977	0.586	0.677	11.326	2.832	100.274	99.355	10888	6024	-1.217	4.406	7.684	0.777	3.286	0.863	40.0
1000S200-54	1000T200-54	2.848	0.837	11.220	3.662	0.374	0.669	10.633	1.761	51.821	47.339	1669	1669	-1.134	0.894	7.665	0.737	3.891	0.915	39.8
1000S200-68	1000T200-68	3.570	1.049	13.989	3.652	0.459	0.662	13.594	2.427	72.658	65.804	3347	3347	-1.119	1.778	9.401	0.729	3.876	0.917	39.6
1000S200-97	1000T200-97	5.041	1.481	19.529	3.631	0.620	0.647	19.527	3.766	112.749	106.755	9774	7187	-1.090	5.108	12.679	0.711	3.846	0.920	39.0
1200S200-54[1]	1200T200-54[1]	3.233	0.950	17.580	4.302	0.390	0.641	16.157	2.163	63.667	47.762	1383	1383	-1.030	1.015	11.550	0.681	4.469	0.947	39.0
1200S200-68	1200T200-68	4.055	1.192	21.941	4.291	0.479	0.634	20.742	2.986	89.399	71.728	2772	2772	-1.017	2.020	14.176	0.673	4.455	0.948	38.7
1200S200-97	1200T200-97	5.733	1.685	30.696	4.268	0.646	0.619	30.297	4.688	140.359	125.883	8085	7418	-0.989	5.809	19.150	0.656	4.425	0.950	38.1
1400S200-54[1]	1400T200-54[1]	3.618	1.063	25.841	4.930	0.402	0.615	23.054	2.580	75.946	52.469	1181	1181	-0.945	1.135	16.355	0.633	5.057	0.965	38.2
1400S200-68	1400T200-68	4.541	1.334	32.278	4.918	0.494	0.608	29.664	3.559	106.549	79.665	2365	2365	-0.932	2.261	20.083	0.625	5.043	0.966	37.9
1400S200-97	1400T200-97	6.425	1.888	45.235	4.894	0.666	0.594	43.675	5.620	168.278	142.197	6894	6894	-0.907	6.510	27.156	0.609	5.013	0.967	37.2

For **SI:** 1 lbf = 4.448 N, 1 kip = 4448 N, 1 inch = 25.4 mm, 1 lb/ft = 14.5939 N/m, 1 inch-kip = 112.984 N-m

[1] Web height-to-thickness ratio, h/t, exceeds 200. Web must have bearing stiffeners at all support points and concentrated loads.
[2] All properties are based on the full-unreduced cross section, away from web punch-outs, except for V_{anet}.
[3] I_{xe} is for deflection calculation (the calculated deflection is for member without punch-outs)
[4] S_{xe} is for strength calculations.
[5] M_{al} is based on the compression flange fully braced. For other conditions of compression flange bracing, the allowable moment must be determined in accordance with AISI S100.
[6] M_{ad} is calculated without the beneficial effect of sheathing to rotational stiffness. K_o =0.
[7] For definition of symbols, see page 2.
[8] The calculated M_{al} and M_{ad} include the effect of cold work of forming.

TABLE 4—SECTION PROPERTIES OF NON-STRUCTURAL STUDS[2,7]

STUD SECTION	Weight (lb/ft)	GROSS SECTION PROPERTIES					EFFECTIVE PROPERTIES (Based on F_y = 50 ksi)						TORSIONAL SECTION PROPERTIES						
		A_g (in^2)	I_x (in^4)	r_x (in)	I_y (in^4)	r_y (in)	I_{xe}[3] (in^4)	S_{xe}[4] (in^3)	M_{al}[5] (in.kip)	M_{ad}[6] (in.kip)	V_{ag} (lb)	V_{anet} (lb)	x_o (in)	JX1000 (in^4)	C_w (in^6)	m_c (in.)	r_o (in)	β	L_u (in.)
250S162-27	0.62	0.18	0.193	1.029	0.072	0.626	0.184	0.130	3.91	3.8	843	420	-1.476	0.049	0.122	0.863	1.905	0.400	35.7
300S162-27	0.67	0.20	0.293	1.220	0.077	0.624	0.279	0.166	4.97	4.64	730	302	-1.399	0.053	0.171	0.830	1.958	0.490	35.1
300S200-27	0.76	0.22	0.344	1.238	0.135	0.775	0.312	0.177	5.30	5.15	741	296	-1.845	0.060	0.340	1.077	2.353	0.385	44.4
350S162-27	0.72	0.21	0.417	1.406	0.081	0.619	0.399	0.204	6.11	5.51	618	357	-1.331	0.056	0.230	0.800	2.033	0.571	34.7
350S200-27	0.81	0.24	0.488	1.431	0.143	0.773	0.444	0.217	6.51	6.27	626	353	-1.765	0.064	0.449	1.043	2.401	0.459	43.7
362S162-27	0.73	0.22	0.452	1.452	0.082	0.618	0.433	0.214	6.41	5.72	595	368	-1.315	0.057	0.247	0.793	2.054	0.590	34.6
362S200-27	0.82	0.24	0.529	1.479	0.144	0.773	0.482	0.228	6.83	6.53	602	364	-1.747	0.065	0.479	1.035	2.415	0.477	43.6
400S162-27	0.77	0.23	0.568	1.588	0.085	0.613	0.544	0.245	7.33	6.36	536	397	-1.270	0.060	0.302	0.772	2.124	0.643	34.4
400S200-27	0.86	0.25	0.662	1.620	0.150	0.770	0.605	0.261	7.80	7.26	542	394	-1.693	0.067	0.578	1.011	2.466	0.529	43.2
550S162-27	0.91	0.27	1.196	2.114	0.093	0.591	1.134	0.328	9.83	8.89	383	383	-1.120	0.071	0.592	0.701	2.464	0.794	33.7
550S200-27	1.00	0.30	1.381	2.164	0.166	0.751	1.270	0.348	10.36	10.21	386	386	-1.513	0.079	1.099	0.929	2.745	0.696	33.7
600S162-27[1]	0.96	0.28	1.470	2.284	0.096	0.583	1.366	0.359	10.74	9.67	350	350	-1.078	0.075	0.715	0.681	2.592	0.827	33.5
600S200-27[1]	1.05	0.31	1.692	2.340	0.171	0.744	1.493	0.379	11.35	11.14	352	352	-1.462	0.083	1.320	0.905	2.857	0.738	42.1

For **SI:** 1 lbf = 4.448 N, 1 kip = 4448 N, 1 inch = 25.4 mm, 1 lb/ft = 14.5939 N/m, 1 inch-kip = 112.984 N-m

[1] Web height-to-thickness ratio, h/t, exceeds 200. Web must have bearing stiffeners at all support points and concentrated loads.
[2] All properties are based on the full-unreduced cross section, away from web punch-outs, except for V_{anet}.
[3] I_{xe} is for deflection calculation (the calculated deflection is for member without punch-outs) and
[4] S_{xe} is for strength calculations.
[5] M_{al} is based on the compression flange fully braced. For other conditions of compression flange bracing, the allowable moment must be determined in accordance with AISI S100.
[6] M_{ad} is calculated without the beneficial effect of sheathing to rotational stiffness. K_o =0.
[7] For definition of symbols, see page 2.

TABLE 5—SECTION PROPERTIES @ TRACK LOCATION 2 [2,6]

SECTION	GROSS SECTION PROPERTIES					EFFECTIVE PROPERTIES (Based on F_y = 50 ksi)					TORSIONAL SECTION PROPERTIES					
	A_g (in^2)	I_x (in^4)	r_x (in)	I_y (in^4)	r_y (in)	I_{xe}[3] (in^4)	S_{xe}[4] (in^3)	M_{al}[5] (in.kip)	V_{ag} (lb)	V_{anet} (lb)	x_o (in)	JX1000 (in^4)	C_w (in^6)	m_c (in.)	r_o (in)	β
250T162-33	0.185	0.194	1.025	0.044	0.487	0.147	0.092	2.749	1260	506	-0.993	0.074	0.047	0.581	1.508	0.567
250T162-43	0.239	0.248	1.020	0.055	0.482	0.202	0.130	3.900	1886	573	-0.981	0.162	0.059	0.574	1.495	0.569
250T162-54	0.297	0.305	1.014	0.067	0.476	0.266	0.176	5.282	2342	558	-0.968	0.317	0.071	0.566	1.480	0.573
300T162-33	0.202	0.294	1.206	0.047	0.480	0.226	0.121	3.608	1260	422	-0.933	0.081	0.072	0.556	1.598	0.659
300T162-43	0.261	0.376	1.200	0.059	0.475	0.310	0.170	5.080	2141	541	-0.921	0.177	0.091	0.549	1.586	0.662
300T162-54	0.325	0.463	1.194	0.071	0.469	0.406	0.23	6.839	2873	567	-0.908	0.347	0.110	0.542	1.572	0.666
300T200-33	0.226	0.346	1.238	0.083	0.605	0.246	0.126	3.771	1260	408	-1.242	0.090	0.129	0.724	1.855	0.552
300T200-43	0.293	0.444	1.232	0.105	0.600	0.340	0.178	5.323	2141	523	-1.230	0.198	0.163	0.717	1.841	0.554
300T200-54	0.364	0.548	1.227	0.128	0.594	0.448	0.240	7.196	2830	540	-1.216	0.389	0.197	0.710	1.827	0.557
350T162-33	0.219	0.418	1.381	0.049	0.472	0.327	0.152	4.561	1134	531	-0.881	0.088	0.104	0.534	1.705	0.733
350T162-43	0.284	0.537	1.375	0.062	0.466	0.448	0.213	6.380	2141	760	-0.869	0.192	0.131	0.527	1.692	0.736
350T162-54	0.353	0.662	1.369	0.075	0.460	0.585	0.285	8.544	3372	942	-0.857	0.377	0.158	0.519	1.679	0.740
350T200-33	0.243	0.490	1.420	0.087	0.598	0.356	0.159	4.766	1148	526	-1.180	0.097	0.185	0.699	1.940	0.630
350T200-43	0.315	0.630	1.414	0.111	0.593	0.489	0.223	6.684	2141	743	-1.168	0.214	0.234	0.692	1.927	0.633
350T200-54	0.393	0.778	1.408	0.135	0.587	0.643	0.300	8.985	3361	916	-1.155	0.419	0.283	0.685	1.913	0.636
350T200-68	0.490	0.960	1.400	0.164	0.579	0.846	0.407	12.181	4194	892	-1.138	0.830	0.342	0.675	1.895	0.639
362T162-33	0.224	0.454	1.424	0.049	0.470	0.356	0.161	4.813	1092	548	-0.869	0.089	0.113	0.528	1.733	0.749
362T162-43	0.289	0.582	1.418	0.062	0.464	0.487	0.225	6.723	2141	815	-0.857	0.196	0.142	0.522	1.721	0.752
362T162-54	0.360	0.718	1.412	0.076	0.458	0.636	0.300	8.993	3372	1011	-0.845	0.385	0.171	0.514	1.708	0.755
362T200-33	0.248	0.531	1.464	0.088	0.596	0.387	0.168	5.029	1105	543	-1.166	0.099	0.200	0.693	1.964	0.648
362T200-43	0.321	0.682	1.459	0.112	0.591	0.532	0.235	7.043	2141	798	-1.154	0.217	0.254	0.686	1.951	0.650
362T200-54	0.400	0.843	1.452	0.137	0.585	0.698	0.316	9.456	3372	1011	-1.141	0.427	0.308	0.679	1.937	0.653
362T200-68	0.503	1.054	1.448	0.172	0.584	0.923	0.427	12.789	4415	1033	-1.140	0.852	0.383	0.679	1.933	0.652
400T162-33	0.237	0.571	1.553	0.051	0.463	0.452	0.183	5.478	983	592	-0.835	0.094	0.142	0.513	1.823	0.790
400T162-43	0.306	0.733	1.547	0.064	0.458	0.617	0.260	7.798	2141	980	-0.823	0.208	0.179	0.506	1.811	0.793
400T162-54	0.382	0.905	1.540	0.078	0.452	0.804	0.347	10.395	3372	1218	-0.811	0.407	0.216	0.499	1.798	0.797
400T200-33	0.261	0.665	1.597	0.091	0.590	0.491	0.184	5.499	993	588	-1.125	0.104	0.252	0.676	2.041	0.696
400T200-43	0.338	0.855	1.591	0.115	0.585	0.672	0.273	8.166	2141	963	-1.113	0.229	0.320	0.669	2.028	0.699
400T200-54	0.421	1.057	1.585	0.141	0.579	0.881	0.365	10.925	3372	1195	-1.100	0.449	0.388	0.662	2.014	0.702
400T162-33	0.525	1.306	1.577	0.171	0.571	1.157	0.492	14.744	4863	1350	-1.084	0.890	0.469	0.652	1.997	0.705
550T162-33	0.289	1.213	2.051	0.055	0.437	0.982	0.250	7.485	702	702	-0.723	0.115	0.301	0.459	2.218	0.894
550T162-43	0.374	1.562	2.044	0.070	0.432	1.345	0.425	12.726	1561	1195	-0.713	0.254	0.379	0.453	2.207	0.896
550T162-54	0.467	1.934	2.036	0.085	0.426	1.745	0.562	16.822	3099	1879	-0.701	0.498	0.459	0.446	2.195	0.898
550T200-33	0.313	1.392	2.111	0.099	0.564	1.033	0.255	7.639	707	702	-0.989	0.125	0.533	0.615	2.398	0.830

(Continued)

TABLE 5—SECTION PROPERTIES @ TRACK LOCATION 2 [2,6] (CONTINUED)

SECTION	GROSS SECTION PROPERTIES					EFFECTIVE PROPERTIES (Based on F_y = 50 ksi)					TORSIONAL SECTION PROPERTIES					
	A_g (in^2)	I_x (in^4)	r_x (in)	I_y (in^4)	r_y (in)	I_{xe}[3] (in^4)	S_{xe}[4] (in^3)	M_{al}[5] (in.kip)	V_{ag} (lb)	V_{anet} (lb)	x_o (in)	JX1000 (in^4)	C_w (in^6)	m_c (in.)	r_o (in)	β
550T200-43	0.405	1.794	2.104	0.127	0.559	1.455	0.426	12.748	1573	1192	-0.978	0.275	0.676	0.608	2.387	0.832
550T200-54	0.506	2.224	2.097	0.155	0.553	1.895	0.589	17.635	3123	1873	-0.966	0.540	0.823	0.601	2.374	0.835
550T200-68	0.632	2.758	2.088	0.188	0.545	2.476	0.786	23.541	5352	2528	-0.950	1.072	0.998	0.591	2.358	0.838
600T162-33	0.306	1.497	2.212	0.056	0.429	1.179	0.273	8.182	641	641	-0.693	0.122	0.369	0.444	2.358	0.914
600T162-43	0.397	1.928	2.205	0.071	0.424	1.596	0.401	12.001	1425	1237	-0.683	0.269	0.465	0.438	2.347	0.915
600T162-54	0.495	2.389	2.197	0.086	0.418	2.150	0.587	17.561	2827	1946	-0.672	0.528	0.563	0.431	2.335	0.917
600T200-33	0.330	1.710	2.277	0.102	0.555	1.242	0.280	8.381	645	645	-0.951	0.132	0.654	0.596	2.529	0.859
600T200-43	0.428	2.205	2.270	0.129	0.550	1.934	0.462	13.847	1435	1234	-0.940	0.290	0.830	0.590	2.518	0.861
600T200-54	0.534	2.735	2.263	0.158	0.544	2.344	0.673	20.164	2847	1941	-0.928	0.570	1.011	0.583	2.506	0.863
600T200-68	0.668	3.394	2.254	0.192	0.537	3.059	0.896	26.840	5352	2875	-0.913	1.132	1.225	0.574	2.490	0.866
600T200-97	0.939	4.690	2.235	0.255	0.521	4.564	1.393	41.721	10634	3947	-0.882	3.238	1.611	0.555	2.458	0.871
800T162-33[1]	0.375	3.035	2.845	0.060	0.399	2.152	0.370	11.091	476	476	-0.594	0.150	0.721	0.391	2.934	0.959
800T162-43	0.487	3.918	2.837	0.076	0.394	3.110	0.570	17.056	1056	1056	-0.585	0.330	0.911	0.385	2.923	0.960
800T162-54	0.608	4.864	2.828	0.092	0.388	4.233	0.827	24.760	2094	2094	-0.575	0.649	1.103	0.379	2.912	0.961
800T200-33[1]	0.399	3.415	2.926	0.109	0.523	2.285	0.384	11.488	478	478	-0.827	0.159	1.283	0.534	3.085	0.928
800T200-43	0.518	4.412	2.918	0.139	0.517	3.312	0.590	17.657	1062	1062	-0.817	0.351	1.629	0.527	3.074	0.929
800T200-54	0.647	5.482	2.910	0.169	0.511	4.527	0.858	25.678	2105	2105	-0.806	0.691	1.986	0.521	3.063	0.931
800T200-68	0.811	6.818	2.900	0.206	0.504	6.140	1.250	37.419	4223	3366	-0.792	1.374	2.411	0.512	3.048	0.933
800T200-97	1.143	9.468	2.879	0.273	0.489	9.242	2.144	64.203	10888	6024	-0.763	3.939	3.179	0.494	3.018	0.936
1000T200-54	0.760	9.524	3.539	0.177	0.483	7.599	1.117	33.432	1669	1669	-0.713	0.812	3.341	0.471	3.642	0.962
1000T200-68	0.953	11.864	3.528	0.215	0.475	10.390	1.631	48.828	3347	3347	-0.700	1.615	4.058	0.462	3.628	0.963
1000T200-97	1.346	16.534	3.505	0.285	0.460	16.177	2.863	85.722	9774	7187	-0.674	4.641	5.329	0.446	3.599	0.965
1200T200-54[1]	0.874	15.087	4.156	0.183	0.458	11.631	1.391	41.635	1383	1383	-0.641	0.933	5.092	0.429	4.230	0.977
1200T200-68	1.096	18.818	4.144	0.222	0.451	15.959	2.025	60.638	2772	2772	-0.629	1.857	6.186	0.422	4.215	0.978
1200T200-97	1.549	26.292	4.119	0.295	0.436	25.324	3.587	107.393	8085	7418	-0.604	5.342	8.178	0.406	4.186	0.979
1400T200-54[1]	0.987	22.399	4.764	0.187	0.436	16.725	1.682	50.372	1181	1181	-0.582	1.054	7.250	0.395	4.819	0.985
1400T200-68	1.238	27.965	4.752	0.228	0.429	22.963	2.437	72.971	2365	2365	-0.570	2.099	8.811	0.387	4.805	0.986
1400T200-97	1.753	39.152	4.726	0.302	0.415	36.753	4.324	129.454	6894	6894	-0.548	6.043	11.652	0.372	4.776	0.987

For **SI:** 1 lbf = 4.448 N, 1 kip = 4448 N, 1 inch = 25.4 mm, 1 lb/ft = 14.5939 N/m, 1 inch-kip = 112.984 N-m

[1] Web height-to-thickness ratio, h/t, exceeds 200. Web must have bearing stiffeners at all support points and concentrated loads.

[2] All properties are based on the full-unreduced cross section, away from web punch-outs, except for V_{anet}

[3] I_{xe} is for deflection calculation (the calculated deflection is for member without punch-outs)

[4] S_{xe} is for strength calculations.

[5] M_{al} is based on the compression flange fully braced. For other conditions of compression flange bracing, the allowable moment must be determined in accordance with AISI S100.

[6] For definition of symbols, see page 2.

TABLE 6—ALLOWABLE WEB CRIPPLING LOADS FOR STRUCTURAL STUDS (lbs)[1,3,4]

MEMBER DESIGNATION	Condition 1	Condition 2	Condition 3	Condition 4
	End One Flange Loading	Interior One Flange Loading	End Two Flange Loading	Interior Two Flange Loading
	Min. Bearing Length = 2 in.	Min. Bearing Length = 3.625 in.	Min. Bearing Length = 2 in.	Min. Bearing Length = 3.625 in.
250S162-33	325	664	262	783
250S162-43	534	1134	461	1340
250S162-54	813	1781	741	2116
300S162-33	319	657	244	755
300S162-43	524	1125	436	1301
300S162-54	800	1768	706	2061
300S200-33	309	617	242	742
300S200-43	512	1068	432	1281
300S200-54	783	1693	701	2034
350S162-33	313	652	228	730
350S162-43	516	1117	413	1264
350S162-54	789	1757	675	2012
350S200-33	303	612	226	717
350S200-43	503	1061	409	1245
350S200-54	772	1682	670	1985
350S200-68	1188	2669	1094	3174
362S162-33	311	650	225	724
362S162-43	514	1115	408	1256
362S162-54	786	1754	668	2000
362S200-33	302	610	222	711
362S200-43	501	1059	404	1237
362S200-54	769	1679	662	1973
362S200-68	1184	2665	1084	3158
400S162-33	307	647	214	707
400S162-43	508	1109	392	1231
400S162-54	778	1746	647	1966
400S200-33	298	607	212	694
400S200-43	496	1053	388	1212
400S200-54	762	1672	641	1939
400S200-68	1174	2654	1055	3111
550S162-33	292	633	175	645
550S162-43	487	1089	336	1142
550S162-54	751	1718	571	1844
550S200-33	284	594	173	633
550S200-43	475	1034	333	1124
550S200-54	734	1644	566	1819
550S200-68	1137	2616	951	2944
600S162-33	288	629	163	627
600S162-43	481	1082	319	1115
600S162-54	742	1709	548	1807
600S200-33	279	590	161	615
600S200-43	469	1028	316	1098
600S200-54	726	1636	543	1782
600S200-68	1126	2604	920	2894
600S200-97	2196	5269	2007	6029
800S162-33[2]	---	---	---	---
800S162-43	458	1060	258	1018
800S162-54	712	1678	465	1675
800S200-33[2]	---	---	---	---
800S200-43	447	1007	256	1002
800S200-54	696	1606	461	1652
800S200-68	1086	2563	807	2714
800S200-97	2133	5200	1823	5731
1000S200-54	670	1580	389	1537
1000S200-68	1051	2526	709	2555
1000S200-97	2077	5139	1663	5471
1200S200-54[2]	---	---	---	---
1200S200-68	1020	2493	621	2413
1200S200-97	2027	5084	1519	5237
1400S200-54[2]	---	---	---	---
1400S200-68	991	2463	539	2282
1400S200-97	1982	5033	1387	5022

For **SI:** 1 inch = 25.4 mm, 1 pound = 4.4482 N

[1] Values are based on full-unreduced cross section of the member away from punch-outs, where the clear distance between the edge of the bearing and the edge of the punch-out is larger than 2 times the full-depth of the web.

[2] Web depth-to-thickness ratio exceeds 200. Web must have bearing stiffeners at all support points and concentrated loads.

[3] Flanges are fastened to the support and are stiffened or partially stiffened.

[4] See Figure 2 for web crippling conditions.

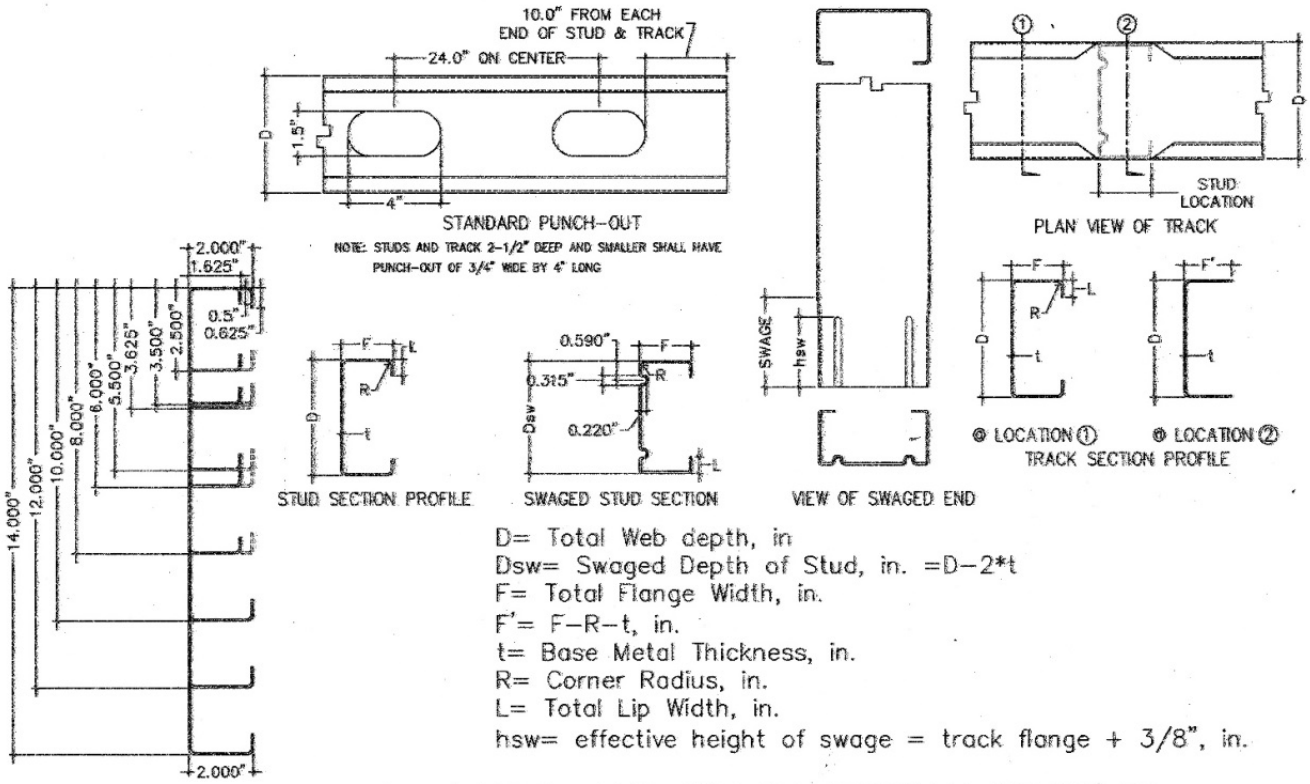
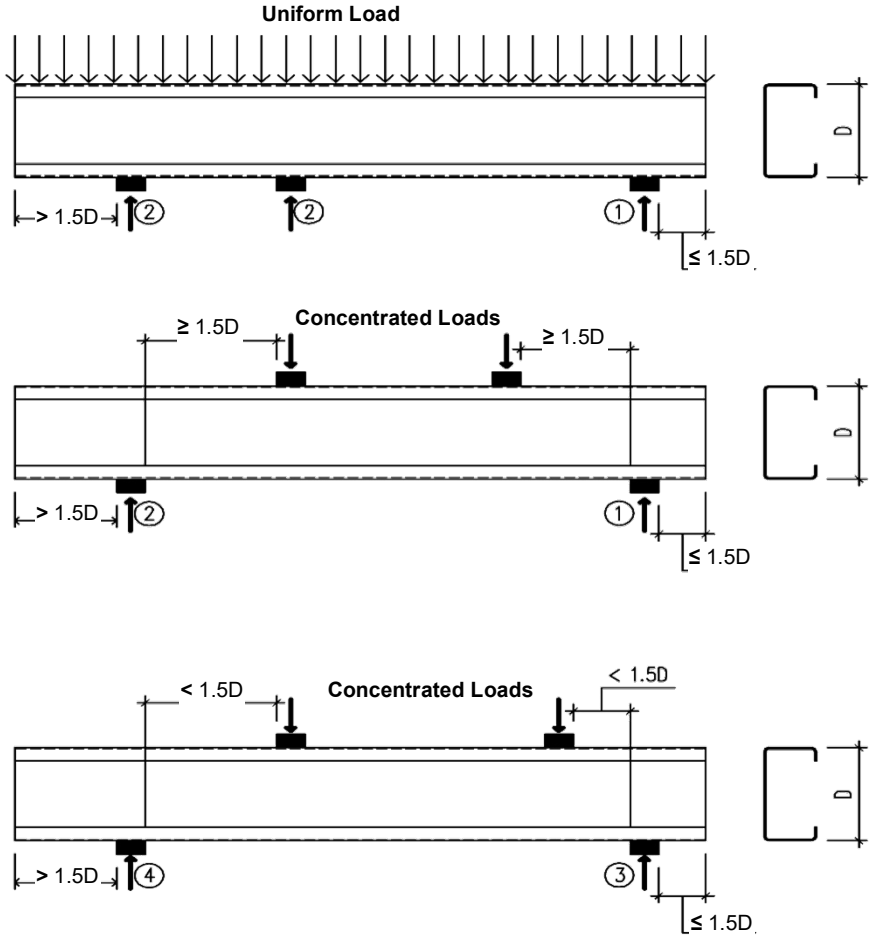


FIGURE 1—STUD AND TRACK SECTION PROFILES



(#) is the web crippling condition number

FIGURE 2—WEB CRIPPLING CONDITIONS

DIVISION: 05 00 00—METALS
Section: 05 40 00—Cold-Formed Metal Framing
Section: 05 41 00—Structural Metal Stud Framing
Section: 05 42 00—Cold-Formed Metal Joist Framing

DIVISION: 09 00 00—FINISHES
Section: 09 22 16.13—Non-Structural Metal Stud Framing

REPORT HOLDER:

STALO FRAMES

EVALUATION SUBJECT:

COLD-FORMED STEEL STUDS, TRACKS, AND JOISTS

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that Cold-Formed Steel Studs, Tracks, and Joists, described in ICC-ES evaluation report ESR-4738, has also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2020 *Florida Building Code—Building*

2.0 CONCLUSIONS

The Cold-Formed Steel Studs, Tracks, and Joists, described in Sections 2.0 through 7.0 of ICC-ES evaluation report ESR-4738, comply with the 2020 *Florida Building Code—Building*. The design requirements shall be determined in accordance with the *Florida Building Code—Building*. The installation requirements noted in ICC-ES evaluation report ESR-4738 for the 2018 *International Building Code®* meet the requirements of the *Florida Building Code—Building.*

Use of the Cold-Formed Steel Studs, Tracks, and Joists has also been found to be in compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code—Building* with the following exceptions:

- Cold-formed steel members of base metal thickness thinner than 20 gauge shall be galvanized in accordance with ASTM A1003 with a minimum metallic coating of G90 as specified in Section 2222.6 of the *Florida Building Code—Building*.
- The allowable moment values, M_{al} and M_{ad}, for the members in Table 3 of the evaluation report ESR-4738 with Footnote 8 include the effect of cold-work of forming. These members are outside the scope of this supplemental report for High-Velocity Hurricane Zones according to Section 2222.3.5 of the *Florida Building Code—Building*.

For products falling under Florida Rule 61G20-3, verification that the report holder's quality assurance program is audited by a quality assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official when the report holder does not possess an approval by the Commission).

This supplement expires concurrently with the evaluation report, reissued May 2023.