

ICC-ES Evaluation Report

ESR-5121

Issued August 2026

This report also contains:

- [CA Supplement](#)

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DIVISION: 05 00 00 – METALS Section: 05 40 00 – Cold-Formed Metal Framing Section: 05 41 00 – Structural Metal Stud Framing DIVISION: 09 00 00 – FINISHES Section: 09 22 16.13 – Non-Structural Metal Stud Framing	REPORT HOLDER: RAPID EX FORMING CORP.	EVALUATION SUBJECT: COLD-FORMED STEEL STUDS AND TRACKS	
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1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2024, 2021, 2018 and 2015 [International Building Code® \(IBC\)](#)

Property evaluated:

- Structural

2.0 USES

The steel studs and tracks are cold-formed steel framing members comprised of the Rapid Ex Conventional Stud line and the Titan EQ Stud line. The Rapid Ex Conventional Studs are used for load bearing and nonload-bearing non-composite walls. The Titan EQ Studs are used for framing of interior nonload-bearing composite walls.

3.0 DESCRIPTION

3.1 General:

The cold-formed steel studs and tracks are factory-formed from coils of steel.

The Rapid Ex Conventional Stud line includes studs and tracks. The stud is roll-formed in a “C” shape with flanges. Studs equal or greater than 3⁵/₈ inches (92 mm) in depth, come standard with punchouts spaced at 24 inches (610 mm) on center along the centerline of the member, with the lead edge of the punch-out 12 inches (305 mm) from the end of the member. Standard punch-out sizing is 1¹/₂ inches (38 mm) by 4 inches (101 mm). Smaller stud depths may be requested with punch-outs. The tracks are roll-formed, channel-shaped, manufactured without punch-outs. See [Tables 1, 2, 3 and 4](#) for section dimensions and properties. See [Figures 1 and 2](#) for Rapid Ex Conventional Stud line profiles and punchouts.

The Titan EQ Stud line includes studs and tracks. The stud is roll-formed in a “C” shape with flanges and with punchouts spaced at 24 inches (610 mm) on center along the centerline of the member, with the lead edge of the punch-out 12 inches (305 mm) from the end of the member. Studs of 1½ inches (41 mm) and 2½ inches (64 mm) in depth come with standard punch-out sizing of ¾ inches (19 mm) by 2½ inches (64 mm). Studs of 3½ inches (92 mm) in depth come with keyway punch-out sizing of 1½ inches (38 mm) by 2½ inches (64 mm). The tracks are roll-formed, channel-shaped, manufactured without punch-outs. See [Tables 5, 6 and 7](#) for section dimensions and properties. See [Figures 3 and 4](#) for Titan EQ Stud line profiles and punchouts.

3.2 Material:

3.2.1 Steel: The Rapid Ex Conventional Stud line studs and tracks are cold-formed from steel coils complying with ASTM A653 Structural Steel (SS) Grade 33 or SS Grade 50 Class 1, as applicable. The Rapid Ex Conventional Stud line thicknesses measure between 18 mils to 97 mils having a minimum yield strength of 33 ksi (227.5 Mpa) or 50 ksi (344.7 Mpa), as applicable.

The Titan EQ Stud line studs and tracks are cold-formed from steel from steel coils complying with ASTM A653 Structural Steel (SS) Grade 33 or SS Grade 50 Class 1, as applicable. The Titan EQ Stud line studs and tracks have thicknesses of 15 mils and 19 mils and a minimum yield strength of 33 ksi (227.5 Mpa) or 50 ksi (344.7 Mpa), as applicable.

The Rapid Ex Conventional Stud line and Titan EQ Stud line studs and tracks have a minimum protective coating of G60 or G40 for structural and non-structural applications, respectively.

3.2.2 Gypsum: For composite wall assemblies, the gypsum wallboard must be a minimum of 5/8 inch (15.9 mm) thick, Type X, complying with ASTM C1396 and manufactured by the National Gypsum Company.

3.2.3 Fasteners: Fasteners for attaching the gypsum wallboard to studs and tracks must be No. 6 by 1¼ inch long (32 mm), drywall bugle head screws conforming to ASTM C1002.

4.0 DESIGN AND INSTALLATION

4.1 Non Composite Design:

Section properties and allowable moments for the cold-formed steel framing members evaluated have been determined in accordance with the North American Specification for Design of Cold-Formed Steel Structural Members, AISI S100-16(2020) w/ S2-20. The allowable moments, M_a , listed in this report, are for use with Allowable Strength Design (ASD) and for flexural members with the compression flange continuously braced. For other conditions of compression flange bracing, the allowable moment must be determined in accordance with the applicable edition of AISI S100. The design of members must address web crippling, combined bending and web crippling and combined bending and shear, as applicable, in accordance with AISI S100.

4.2 Composite Design:

Limiting heights for the Titan EQ Stud line interior, nonload-bearing composite walls are shown in [Table 8](#) and [Table 9](#).

4.3 Installation:

The framing 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.

For composite wall systems, fastening of the studs to tracks is optional. End bearing of the stud on the track must be a minimum of 1 inch (25mm). Gypsum wallboard must be installed on both sides of the wall framing for the full wall height. Where gypsum wallboard is installed vertically (long dimension of the gypsum wallboard is parallel to the studs), refer to [Table 8](#). Where gypsum wallboard is installed horizontally (short dimension of the gypsum wallboard is parallel to the studs), refer to [Table 9](#).

5.0 CONDITIONS OF USE:

The Rapid Ex Conventional Stud line and Titan EQ Stud line 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 Rapid Ex Conventional Stud line and Titan EQ Stud line must be installed in accordance with the applicable code, the approved plans and this report.
- 5.2** Minimum uncoated base-metal thickness of the framing 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 Per [Table 8](#) and [Table 9](#), the interior nonload-bearing composite wall assemblies are limited to interior installations where superimposed axial load is zero pounds.
- 5.5 Design of the attachment of the wall assemblies to the surrounding structure is outside the scope of this report.
- 5.6 Per [Table 8](#) and [Table 9](#), for composite wall systems, the installation of the gypsum wallboard must comply with the requirements of ASTM C840 or GA-216.
- 5.7 Use of Rapid Ex Conventional Non-Structural studs and Titan EQ Stud line, in other than non-structural applications, as defined by AISI S220, is outside the scope of this report.
- 5.8 The cold-formed steel framing members are manufactured under a quality control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

- 6.1 Data in accordance with the [ICC-ES Acceptance Criteria for Cold-Formed Steel Framing Members \(AC46\)](#), dated October 2024.
- 6.2 Data in accordance with the [ICC-ES Acceptance Criteria for Cold-Formed Steel Framing Members – Interior Nonload-Bearing Wall Assemblies \(AC86\)](#), dated June 2019 (editorially revised February 2024).

7.0 IDENTIFICATION

- 7.1 The ICC-ES mark of conformity, electronic labeling, or the evaluation report number (ICC-ES ESR-5121) along with the name, registered trademark, or registered logo of the report holder must be included in the product label.
- 7.2 At a spacing not exceeding 96 inches (2440 mm) on center, each cold-formed steel member is stamped with the report holder's name; the evaluation report number (ESR-5121); member designation; minimum base-metal thickness (uncoated) in decimal thickness or mils; minimum specified yield strength; and the G60 or G40 galvanization coating, as applicable.
- 7.3 The report holder's contact information is the following:

RAPID EX FORMING CORP.
3651 S CLINTON AVENUE
S PLAINFIELD NJ 07470
(973) 201-1155
www.rapidexforming.com

Definitions of symbols for use with Tables 1 through 7:

Gross Properties

- A_r : The cross-sectional area of the full unreduced cross-section of the studs, away from the punch-outs.
 W_t : The weight per foot 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.
 t : Design base metal thickness without coating.

Effective Properties

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

Torsional 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.
 β : Torsional flexural constant: $1 - (X_o / R_o)^2$
 L_u : The maximum of the unbraced length to preclude lateral-torsional buckling about the strong axis

TABLE 1— RAPID EX CONVENTIONAL STUD LINE SECTION DIMENSIONS³

SECTION	F _y (ksi)	DEPTH ¹ (in)	FLANGE (in)	DESIGN THICK., t ² (in)	LIP (in)	INSIDE CORNER RADII (in)	SECTION	F _y (ksi)	DEPTH ¹ (in)	FLANGE (in)	DESIGN THICK., t ² (in)	LIP (in)	INSIDE CORNER RADII (in)
NON-STRUCTURAL STUDS													
162S125-18	33	1.625	1.25	0.0188	0.188	0.0844	362S125-54	33	3.625	1.25	0.0566	0.188	0.0849
162S125-27	33	1.625	1.25	0.0283	0.188	0.0796	362S125-54	50	3.625	1.25	0.0566	0.188	0.0849
162S125-30	33	1.625	1.25	0.0312	0.188	0.0782	362S125-68	33	3.625	1.25	0.0713	0.188	0.1070
162S125-33	33	1.625	1.25	0.0346	0.188	0.0765	362S125-68	50	3.625	1.25	0.0713	0.188	0.1070
250S125-18	33	2.5	1.25	0.0188	0.188	0.0844	400S125-27	33	4	1.25	0.0283	0.188	0.0796
250S125-27	33	2.5	1.25	0.0283	0.188	0.0796	400S125-30	33	4	1.25	0.0312	0.188	0.0782
250S125-30	33	2.5	1.25	0.0312	0.188	0.0782	400S125-33	33	4	1.25	0.0346	0.188	0.0765
250S125-33	33	2.5	1.25	0.0346	0.188	0.0765	400S125-43	33	4	1.25	0.0451	0.188	0.0712
250S125-43	33	2.5	1.25	0.0451	0.188	0.0712	400S125-54	33	4	1.25	0.0566	0.188	0.0849
250S125-54	33	2.5	1.25	0.0566	0.188	0.0849	400S125-54	50	4	1.25	0.0566	0.188	0.0849
250S125-54	50	2.5	1.25	0.0566	0.188	0.0849	400S125-68	33	4	1.25	0.0713	0.188	0.1070
250S125-68	33	2.5	1.25	0.0713	0.188	0.1070	400S125-68	50	4	1.25	0.0713	0.188	0.1070
250S125-68	50	2.5	1.25	0.0713	0.188	0.1070	550S125-27	33	5.5	1.25	0.0283	0.188	0.0796
350S125-18	33	3.5	1.25	0.0188	0.188	0.0844	550S125-30	33	5.5	1.25	0.0312	0.188	0.0782
350S125-27	33	3.5	1.25	0.0283	0.188	0.0796	550S125-33	33	5.5	1.25	0.0346	0.188	0.0765
350S125-30	33	3.5	1.25	0.0312	0.188	0.0782	550S125-43	33	5.5	1.25	0.0451	0.188	0.0712
350S125-33	33	3.5	1.25	0.0346	0.188	0.0765	550S125-54	33	5.5	1.25	0.0566	0.188	0.0849
350S125-43	33	3.5	1.25	0.0451	0.188	0.0712	550S125-54	50	5.5	1.25	0.0566	0.188	0.0849
350S125-54	33	3.5	1.25	0.0566	0.188	0.0849	550S125-68	33	5.5	1.25	0.0713	0.188	0.1070
350S125-54	50	3.5	1.25	0.0566	0.188	0.0849	550S125-68	50	5.5	1.25	0.0713	0.188	0.1070
350S125-68	33	3.5	1.25	0.0713	0.188	0.1070	600S125-30	33	6	1.25	0.0312	0.188	0.0782
350S125-68	50	3.5	1.25	0.0713	0.188	0.1070	600S125-33	33	6	1.25	0.0346	0.188	0.0765
362S125-18	33	3.625	1.25	0.0188	0.188	0.0844	600S125-43	33	6	1.25	0.0451	0.188	0.0712
362S125-27	33	3.625	1.25	0.0283	0.188	0.0796	600S125-54	33	6	1.25	0.0566	0.188	0.0849
362S125-30	33	3.625	1.25	0.0312	0.188	0.0782	600S125-54	50	6	1.25	0.0566	0.188	0.0849
362S125-33	33	3.625	1.25	0.0346	0.188	0.0765	600S125-68	33	6	1.25	0.0713	0.188	0.1070
362S125-43	33	3.625	1.25	0.0451	0.188	0.0712	600S125-68	50	6	1.25	0.0713	0.188	0.1070
STRUCTURAL STUDS													
250S137-33	33	2.5	1.375	0.0346	0.375	0.0765	550S162-43	33	5.5	1.625	0.0451	0.5	0.0712
250S137-43	33	2.5	1.375	0.0451	0.375	0.0712	550S162-54	33	5.5	1.625	0.0566	0.5	0.0849
250S137-54	33	2.5	1.375	0.0566	0.375	0.0849	550S162-54	50	5.5	1.625	0.0566	0.5	0.0849
250S137-54	50	2.5	1.375	0.0566	0.375	0.0849	550S162-68	33	5.5	1.625	0.0713	0.5	0.1070
250S137-68	33	2.5	1.375	0.0713	0.375	0.1070	550S162-68	50	5.5	1.625	0.0713	0.5	0.1070
250S137-68	50	2.5	1.375	0.0713	0.375	0.1070	550S162-97	50	5.5	1.625	0.1017	0.5	0.1526
362S137-33	33	3.625	1.375	0.0346	0.375	0.0765	600S162-33	33	6	1.625	0.0346	0.5	0.0765
362S137-43	33	3.625	1.375	0.0451	0.375	0.0712	600S162-43	33	6	1.625	0.0451	0.5	0.0712

SECTION	Fy (ksi)	DEPTH' (in)	FLANGE (in)	DESIGN THICK., t ² (in)	LIP (in)	INSIDE CORNER RADII (in)	SECTION	Fy (ksi)	DEPTH' (in)	FLANGE (in)	DESIGN THICK., t ² (in)	LIP (in)	INSIDE CORNER RADII (in)
362S137-54	33	3.625	1.375	0.0566	0.375	0.0849	600S162-54	33	6	1.625	0.0566	0.5	0.0849
362S137-54	50	3.625	1.375	0.0566	0.375	0.0849	600S162-54	50	6	1.625	0.0566	0.5	0.0849
362S137-68	33	3.625	1.375	0.0713	0.375	0.1070	600S162-68	33	6	1.625	0.0713	0.5	0.1070
362S137-68	50	3.625	1.375	0.0713	0.375	0.1070	600S162-68	50	6	1.625	0.0713	0.5	0.1070
400S137-33	33	4	1.375	0.0346	0.375	0.0765	600S162-97	50	6	1.625	0.1017	0.5	0.1526
400S137-43	33	4	1.375	0.0451	0.375	0.0712	800S162-33	33	8	1.625	0.0346	0.5	0.0765
400S137-54	33	4	1.375	0.0566	0.375	0.0849	800S162-43	33	8	1.625	0.0451	0.5	0.0712
400S137-54	50	4	1.375	0.0566	0.375	0.0849	800S162-54	33	8	1.625	0.0566	0.5	0.0849
400S137-68	33	4	1.375	0.0713	0.375	0.1070	800S162-54	50	8	1.625	0.0566	0.5	0.0849
400S137-68	50	4	1.375	0.0713	0.375	0.1070	800S162-68	33	8	1.625	0.0713	0.5	0.1070
600S137-33	33	6	1.375	0.0346	0.375	0.0765	800S162-68	50	8	1.625	0.0713	0.5	0.1070
600S137-43	33	6	1.375	0.0451	0.375	0.0712	800S162-97	50	8	1.625	0.1017	0.5	0.1526
600S137-54	33	6	1.375	0.0566	0.375	0.0849	1000S162-54	50	10	1.625	0.0566	0.5	0.0849
600S137-54	50	6	1.375	0.0566	0.375	0.0849	1000S162-68	50	10	1.625	0.0713	0.5	0.1070
600S137-68	33	6	1.375	0.0713	0.375	0.1070	1000S162-97	50	10	1.625	0.1017	0.5	0.1526
600S137-68	50	6	1.375	0.0713	0.375	0.1070	1200S162-54	50	12	1.625	0.0566	0.5	0.0849
600S137-97	50	6	1.375	0.1017	0.375	0.1526	1200S162-68	50	12	1.625	0.0713	0.5	0.1070
800S125-43	33	8	1.25	0.0451	0.375	0.0712	1200S162-97	50	12	1.625	0.1017	0.5	0.1526
800S125-54	33	8	1.25	0.0566	0.375	0.0849	400S200-33	33	4	2	0.0346	0.625	0.0765
800S125-54	50	8	1.25	0.0566	0.375	0.0849	400S200-43	33	4	2	0.0451	0.625	0.0712
800S125-68	33	8	1.25	0.0713	0.375	0.1070	400S200-54	33	4	2	0.0566	0.625	0.0849
800S125-68	50	8	1.25	0.0713	0.375	0.1070	400S200-54	50	4	2	0.0566	0.625	0.0849
800S137-33	33	8	1.375	0.0346	0.375	0.0765	400S200-68	33	4	2	0.0713	0.625	0.1070
800S137-43	33	8	1.375	0.0451	0.375	0.0712	400S200-68	50	4	2	0.0713	0.625	0.1070
800S137-54	33	8	1.375	0.0566	0.375	0.0849	400S200-97	50	4	2	0.1017	0.625	0.1526
800S137-54	50	8	1.375	0.0566	0.375	0.0849	550S200-33	33	5.5	2	0.0346	0.625	0.0765
800S137-68	33	8	1.375	0.0713	0.375	0.1070	550S200-43	33	5.5	2	0.0451	0.625	0.0712
800S137-68	50	8	1.375	0.0713	0.375	0.1070	550S200-54	33	5.5	2	0.0566	0.625	0.0849
250S162-33	33	2.5	1.625	0.0346	0.5	0.0765	550S200-54	50	5.5	2	0.0566	0.625	0.0849
250S162-43	33	2.5	1.625	0.0451	0.5	0.0712	550S200-68	33	5.5	2	0.0713	0.625	0.1070
250S162-54	33	2.5	1.625	0.0566	0.5	0.0849	550S200-68	50	5.5	2	0.0713	0.625	0.1070
250S162-54	50	2.5	1.625	0.0566	0.5	0.0849	550S200-97	50	5.5	2	0.1017	0.625	0.1526
250S162-68	33	2.5	1.625	0.0713	0.5	0.1070	600S200-33	33	6	2	0.0346	0.625	0.0765
250S162-68	50	2.5	1.625	0.0713	0.5	0.1070	600S200-43	33	6	2	0.0451	0.625	0.0712
350S162-33	33	3.5	1.625	0.0346	0.5	0.0765	600S200-54	33	6	2	0.0566	0.625	0.0849
350S162-43	33	3.5	1.625	0.0451	0.5	0.0712	600S200-54	50	6	2	0.0566	0.625	0.0849
350S162-54	33	3.5	1.625	0.0566	0.5	0.0849	600S200-68	33	6	2	0.0713	0.625	0.1070
350S162-54	50	3.5	1.625	0.0566	0.5	0.0849	600S200-68	50	6	2	0.0713	0.625	0.1070
350S162-68	33	3.5	1.625	0.0713	0.5	0.1070	600S200-97	50	6	2	0.1017	0.625	0.1526
350S162-68	50	3.5	1.625	0.0713	0.5	0.1070	800S200-33	33	8	2	0.0346	0.625	0.0765
362S162-33	33	3.625	1.625	0.0346	0.5	0.0765	800S200-33	50	8	2	0.0346	0.625	0.0765
362S162-43	33	3.625	1.625	0.0451	0.5	0.0712	800S200-43	33	8	2	0.0451	0.625	0.0712
362S162-54	33	3.625	1.625	0.0566	0.5	0.0849	800S200-43	50	8	2	0.0451	0.625	0.0712
362S162-54	50	3.625	1.625	0.0566	0.5	0.0849	800S200-54	33	8	2	0.0566	0.625	0.0849
362S162-68	33	3.625	1.625	0.0713	0.5	0.1070	800S200-54	50	8	2	0.0566	0.625	0.0849
362S162-68	50	3.625	1.625	0.0713	0.5	0.1070	800S200-68	33	8	2	0.0713	0.625	0.1070
362S162-97	50	3.625	1.625	0.1017	0.5	0.1526	800S200-68	50	8	2	0.0713	0.625	0.1070
400S162-33	33	4	1.625	0.0346	0.5	0.0765	800S200-97	50	8	2	0.1017	0.625	0.1526
400S162-43	33	4	1.625	0.0451	0.5	0.0712	1000S200-54	50	10	2	0.0566	0.625	0.0849
400S162-54	33	4	1.625	0.0566	0.5	0.0849	1000S200-68	50	10	2	0.0713	0.625	0.1070
400S162-54	50	4	1.625	0.0566	0.5	0.0849	1000S200-97	50	10	2	0.1017	0.625	0.1526
400S162-68	33	4	1.625	0.0713	0.5	0.1070	1200S200-54	50	12	2	0.0566	0.625	0.0849
400S162-68	50	4	1.625	0.0713	0.5	0.1070	1200S200-68	50	12	2	0.0713	0.625	0.1070
400S162-97	50	4	1.625	0.1017	0.5	0.1526	1200S200-97	50	12	2	0.1017	0.625	0.1526
550S162-33	33	5.5	1.625	0.0346	0.5	0.0765							
TRACKS													
162T125-18	33	1.625	1.25	0.0188	0	0.084	362T150-97	50	3.625	1.5	0.1017	0	0.1526
162T125-27	33	1.625	1.25	0.0283	0	0.08	400T150-30	33	4	1.5	0.0312	0	0.0782
162T125-30	33	1.625	1.25	0.0312	0	0.078	400T150-33	33	4	1.5	0.0346	0	0.0765
162T125-33	33	1.625	1.25	0.0346	0	0.077	400T150-43	33	4	1.5	0.0451	0	0.0712
250T125-18	33	2.5	1.25	0.0188	0	0.084	400T150-54	33	4	1.5	0.0566	0	0.0849
250T125-27	33	2.5	1.25	0.0283	0	0.08	400T150-54	50	4	1.5	0.0566	0	0.0849
250T125-30	33	2.5	1.25	0.0312	0	0.078	400T150-68	33	4	1.5	0.0713	0	0.1070
350T125-30	33	3.5	1.25	0.0312	0	0.0782	400T150-68	50	4	1.5	0.0713	0	0.1070
350T125-33	33	3.5	1.25	0.0346	0	0.0765	400T150-97	50	4	1.5	0.1017	0	0.1526
350T125-43	33	3.5	1.25	0.0451	0	0.0712	550T150-30	33	5.5	1.5	0.0312	0	0.0782
362T125-30	33	3.625	1.25	0.0312	0	0.0782	550T150-33	33	5.5	1.5	0.0346	0	0.0765
362T125-33	33	3.625	1.25	0.0346	0	0.0765	550T150-43	33	5.5	1.5	0.0451	0	0.0712
362T125-43	33	3.625	1.25	0.0451	0	0.0712	550T150-54	33	5.5	1.5	0.0566	0	0.0849
362T125-54	33	3.625	1.25	0.0566	0	0.0849	550T150-54	50	5.5	1.5	0.0566	0	0.0849
362T125-54	50	3.625	1.25	0.0566	0	0.0849	550T150-68	33	5.5	1.5	0.0713	0	0.1070
400T125-30	33	4	1.25	0.0312	0	0.0782	550T150-68	50	5.5	1.5	0.0713	0	0.1070
400T125-33	33	4	1.25	0.0346	0	0.0765	550T150-97	50	5.5	1.5	0.1017	0	0.1526

SECTION	Fy (ksi)	DEPTH ¹ (in)	FLANGE (in)	DESIGN THICK., t ² (in)	LIP (in)	INSIDE CORNER RADI (in)	SECTION	Fy (ksi)	DEPTH ¹ (in)	FLANGE (in)	DESIGN THICK., t ² (in)	LIP (in)	INSIDE CORNER RADI (in)
400T125-43	33	4	1.25	0.0451	0	0.0712	600T150-30	33	6	1.5	0.0312	0	0.0782
400T125-54	33	4	1.25	0.0566	0	0.0849	600T150-33	33	6	1.5	0.0346	0	0.0765
400T125-54	50	4	1.25	0.0566	0	0.0849	600T150-43	33	6	1.5	0.0451	0	0.0712
600T125-30	33	6	1.25	0.0312	0	0.0782	600T150-54	33	6	1.5	0.0566	0	0.0849
600T125-33	33	6	1.25	0.0346	0	0.0765	600T150-54	50	6	1.5	0.0566	0	0.0849
600T125-43	33	6	1.25	0.0451	0	0.0712	600T150-68	33	6	1.5	0.0713	0	0.1070
600T125-54	33	6	1.25	0.0566	0	0.0849	600T150-68	50	6	1.5	0.0713	0	0.1070
600T125-54	50	6	1.25	0.0566	0	0.0849	600T150-97	50	6	1.5	0.1017	0	0.1526
600T125-68	33	6	1.25	0.0713	0	0.1070	800T150-30	33	8	1.5	0.0312	0	0.0782
600T125-68	50	6	1.25	0.0713	0	0.1070	800T150-33	33	8	1.5	0.0346	0	0.0765
350T150-30	33	3.5	1.5	0.0312	0	0.0782	800T150-33	50	8	1.5	0.0346	0	0.0765
350T150-33	33	3.5	1.5	0.0346	0	0.0765	800T150-43	33	8	1.5	0.0451	0	0.0712
350T150-43	33	3.5	1.5	0.0451	0	0.0712	800T150-43	50	8	1.5	0.0451	0	0.0712
350T150-54	33	3.5	1.5	0.0566	0	0.0849	800T150-54	33	8	1.5	0.0566	0	0.0849
350T150-54	50	3.5	1.5	0.0566	0	0.0849	800T150-54	50	8	1.5	0.0566	0	0.0849
350T150-68	33	3.5	1.5	0.0713	0	0.1070	800T150-68	33	8	1.5	0.0713	0	0.1070
350T150-68	50	3.5	1.5	0.0713	0	0.1070	800T150-68	50	8	1.5	0.0713	0	0.1070
362T150-30	33	3.625	1.5	0.0312	0	0.0782	800T150-97	50	8	1.5	0.1017	0	0.1526
362T150-33	33	3.625	1.5	0.0346	0	0.0765	1000T150-54	50	10	1.5	0.0566	0	0.0849
362T150-43	33	3.625	1.5	0.0451	0	0.0712	1000T150-68	50	10	1.5	0.0713	0	0.1070
362T150-54	33	3.625	1.5	0.0566	0	0.0849	1000T150-97	50	10	1.5	0.1017	0	0.1526
362T150-54	50	3.625	1.5	0.0566	0	0.0849	1200T150-54	50	12	1.5	0.0566	0	0.0849
362T150-68	33	3.625	1.5	0.0713	0	0.1070	1200T150-68	50	12	1.5	0.0713	0	0.1070
362T150-68	50	3.625	1.5	0.0713	0	0.1070	1200T150-97	50	12	1.5	0.1017	0	0.1526

For S1: 1 inch = 25.4 mm.

¹Depth measured from outside face to outside face of flanges.

²Members delivered to the jobsite must be a minimum of 95 percent of the design thickness.

³See Table 4 for web depth to thickness ratios for studs.

TABLE 2— RAPID EX CONVENTIONAL STUD SECTION PROPERTIES^{1,2,3,4}

Section	Fy	Design Thick.	Weight	Area	Gross Properties					Effective Properties					Torsional Properties							
	(ksi)	(in)	(lb/ft)	(in²)	Ix (in⁴)	Sx (in³)	rx (in)	Iy (in⁴)	ry (in)	Ixe (in⁴)	Sxe (in³)	Mal (lb-in)	Mad (lb-in)	Vag (lb)	Vanet⁵ (lb)	Jx10³⁴ (in⁴)	Cw (in⁶)	Xo (in)	m (in)	Ro (in)	β	Lu (in)
NON-STRUCTURAL STUDS																						
162S125-18	33	0.0188	0.273	0.080	0.038	0.047	0.686	0.016	0.447	0.031	0.033	659	650	302	—	0.009	0.009	-1.029	0.594	1.315	0.388	27.9
162S125-27	33	0.0283	0.408	0.120	0.056	0.069	0.682	0.024	0.443	0.049	0.056	1096	1138	494	—	0.032	0.013	-1.018	0.587	1.303	0.390	27.7
162S125-30	33	0.0312	0.448	0.132	0.061	0.075	0.681	0.026	0.441	0.055	0.063	1243	1295	543	—	0.043	0.014	-1.014	0.585	1.299	0.390	27.6
162S125-33	33	0.0346	0.495	0.145	0.067	0.083	0.679	0.028	0.440	0.062	0.072	1422	1483	601	—	0.058	0.016	-1.010	0.583	1.294	0.391	27.5
250S125-18	33	0.0188	0.329	0.097	0.099	0.080	1.014	0.019	0.439	0.083	0.060	1180	1030	258	—	0.011	0.023	-0.904	0.543	1.428	0.599	29.0
250S125-27	33	0.0283	0.492	0.144	0.147	0.118	1.009	0.027	0.434	0.131	0.098	1930	1830	685	—	0.039	0.034	-0.893	0.537	1.416	0.602	28.9
250S125-30	33	0.0312	0.541	0.159	0.161	0.129	1.008	0.030	0.433	0.146	0.110	2180	2090	833	—	0.052	0.037	-0.890	0.535	1.413	0.603	28.9
250S125-33	33	0.0346	0.599	0.176	0.178	0.142	1.007	0.033	0.431	0.165	0.126	2485	2408	975	—	0.070	0.040	-0.886	0.532	1.409	0.605	28.8
250S125-43	33	0.0451	0.774	0.227	0.228	0.182	1.002	0.041	0.427	0.224	0.177	3501	3436	1265	—	0.154	0.051	-0.874	0.526	1.396	0.608	28.6
250S125-54	33	0.0566	0.956	0.281	0.277	0.222	0.994	0.049	0.419	0.275	0.219	4318	4382	1553	—	0.300	0.061	-0.859	0.518	1.379	0.612	28.0
250S125-54	50	0.0566	0.956	0.281	0.277	0.222	0.994	0.049	0.419	0.268	0.210	6282	6171	2353	—	0.300	0.061	-0.859	0.518	1.379	0.612	22.7
250S125-68	33	0.0713	1.178	0.346	0.335	0.268	0.984	0.058	0.408	0.336	0.269	5319	5288	1897	—	0.586	0.072	-0.839	0.508	1.356	0.617	27.1
250S125-68	50	0.0713	1.178	0.346	0.335	0.268	0.984	0.058	0.408	0.332	0.264	7904	8012	2865	—	0.586	0.072	-0.839	0.508	1.356	0.617	22.0
350S125-18	33	0.0188	0.393	0.115	0.215	0.123	1.366	0.021	0.423	0.174	0.087	1726	1470	180	—	0.014	0.050	-0.798	0.495	1.638	0.763	28.8
350S125-27	33	0.0283	0.589	0.173	0.320	0.183	1.361	0.030	0.419	0.288	0.155	3064	2650	614	—	0.046	0.073	-0.788	0.489	1.627	0.766	28.7
350S125-30	33	0.0312	0.648	0.190	0.351	0.201	1.360	0.033	0.417	0.322	0.175	3450	3050	824	—	0.062	0.079	-0.784	0.488	1.624	0.767	28.6
350S125-33	33	0.0346	0.717	0.210	0.388	0.222	1.358	0.036	0.416	0.362	0.198	3920	3531	1024	—	0.084	0.087	-0.781	0.485	1.620	0.768	28.6
350S125-43	33	0.0451	0.928	0.272	0.498	0.284	1.352	0.046	0.411	0.490	0.277	5473	5119	1.74	—	0.185	0.109	-0.769	0.479	1.609	0.771	28.4
350S125-54	33	0.0566	1.149	0.337	0.609	0.348	1.344	0.055	0.403	0.603	0.343	6771	6872	2253	—	0.360	0.131	-0.755	0.472	1.593	0.775	28.3
350S125-54	50	0.0566	1.149	0.337	0.609	0.348	1.344	0.055	0.403	0.590	0.331	9900	9262	3372	—	0.360	0.131	-0.755	0.472	1.593	0.775	22.9
350S125-68	33	0.0713	1.421	0.417	0.739	0.422	1.332	0.064	0.392	0.741	0.424	8375	8348	2774	—	0.706	0.156	-0.737	0.462	1.572	0.780	27.5
350S125-68	50	0.0713	1.421	0.417	0.739	0.422	1.332	0.064	0.392	0.733	0.417	12473	12550	4202	—	0.706	0.156	-0.737	0.462	1.572	0.780	22.3
362S125-18	33	0.0188	0.401	0.118	0.234	0.129	1.409	0.021	0.421	0.187	0.090	1786	1520	173	163	0.014	0.054	-0.786	0.490	1.667	0.778	28.8
362S125-27	33	0.0283	0.601	0.176	0.347	0.192	1.404	0.031	0.416	0.313	0.163	3219	2760	592	370	0.047	0.079	-0.776	0.484	1.657	0.781	28.6
362S125-30	33	0.0312	0.661	0.194	0.381	0.210	1.402	0.033	0.415	0.349	0.183	3624	3170	793	449	0.063	0.086	-0.773	0.482	1.654	0.782	28.6
362S125-33	33	0.0346	0.731	0.215	0.421	0.232	1.401	0.037	0.413	0.393	0.208	4116	3675	1024	552	0.086	0.094	-0.770	0.480	1.651	0.783	28.5
362S125-43	33	0.0451	0.947	0.278	0.541	0.298	1.395	0.046	0.408	0.532	0.291	5740	5336	1740	935	0.188	0.118	-0.758	0.474	1.640	0.786	28.4
362S125-54	33	0.0566	1.173	0.344	0.661	0.365	1.386	0.055	0.401	0.655	0.360	7104	7198	2341	1455	0.368	0.142	-0.744	0.466	1.624	0.790	28.3
362S125-54	50	0.0566	1.173	0.344	0.661	0.365	1.386	0.055	0.401	0.641	0.347	10392	9663	3372	1455	0.368	0.142	-0.744	0.466	1.624	0.790	22.8
362S125-68	33	0.0713	1.451	0.426	0.804	0.444	1.374	0.065	0.390	0.805	0.445	8791	8763	2884	2084	0.721	0.170	-0.726	0.457	1.602	0.795	27.5
362S125-68	50	0.0713	1.451	0.426	0.804	0.444	1.374	0.065	0.390	0.797	0.437	13094	13120	4369	2266	0.721	0.170	-0.726	0.457	1.602	0.795	22.4
400S125-27	33	0.0283	0.637	0.187	0.438	0.219	1.531	0.031	0.410	0.396	0.187	3703	3070	533	398	0.050	0.099	-0.745	0.469	1.751	0.819	28.5
400S125-30	33	0.0312	0.701	0.206	0.481	0.240	1.529	0.034	0.409	0.442	0.211	4164	3535	715	484	0.067	0.108	-0.742	0.467	1.748	0.820	28.5
400S125-33	33	0.0346	0.776	0.228	0.531	0.265	1.527	0.038	0.407	0.497	0.239	4725	4105	976	595	0.091	0.118	-0.738	0.465	1.744	0.821	28.4
400S125-43	33	0.0451	1.004	0.295	0.682	0.341	1.522	0.048	0.402	0.672	0.333	6571	5993	1740	1009	0.200	0.148	-0.727	0.459	1.734	0.824	28.2
400S125-54	33	0.0566	1.245	0.365	0.836	0.418	1.512	0.057	0.394	0.828	0.412	8138	8128	2603	1574	0.390	0.178	-0.713	0.452	1.718	0.828	28.1
400S125-54	50	0.0566	1.245	0.365	0.836	0.418	1.512	0.057	0.394	0.811	0.398	11923	10877	3372	1574	0.390	0.178	-0.713	0.452	1.718	0.828	22.7
400S125-68	33	0.0713	1.542	0.453	1.018	0.509	1.500	0.067	0.383	1.019	0.510	10081	10054	3215	2294	0.767	0.213	-0.695	0.443	1.697	0.832	27.5
400S125-68	50	0.0713	1.542	0.453	1.018	0.509	1.500	0.067	0.383	1.009	0.502	15026	14855	4871	2464	0.767	0.213	-0.695	0.443	1.697	0.832	22.3

Section	Fy	Design Thick.	Weight	Area	Gross Properties					Effective Properties					Torsional Properties							
	(ksi)	(in)	(lb/ft)	(in^2)	Ix (in^4)	Sx (in^3)	rx (in)	Iy (in^4)	ry (in)	Ixe (in^4)	Sxe (in^3)	Mal (lb-in)	Mad (lb-in)	Vag (lb)	Vanet ⁵ (lb)	Jx10^4/3 (in^6)	Cw (in^6)	Xo (in)	m (in)	Ro (in)	β	Lu (in)
550S125-27	33	0.0283	0.781	0.229	0.939	0.341	2.023	0.034	0.385	0.776	0.246	4870	4270	382	382	0.061	0.205	-0.642	0.417	2.158	0.912	27.9
550S125-30	33	0.0312	0.860	0.252	1.032	0.375	2.022	0.037	0.384	0.882	0.286	5656	4951	512	512	0.082	0.224	-0.639	0.416	2.155	0.912	27.9
550S125-33	33	0.0346	0.952	0.279	1.140	0.415	2.020	0.041	0.382	1.010	0.336	6630	5791	698	698	0.112	0.246	-0.636	0.414	2.152	0.913	27.8
550S125-43	33	0.0451	1.235	0.362	1.469	0.534	2.013	0.052	0.377	1.419	0.501	9897	8621	1550	1199	0.246	0.309	-0.626	0.408	2.142	0.915	27.6
550S125-54	33	0.0566	1.535	0.450	1.806	0.657	2.003	0.062	0.370	1.790	0.648	12800	11934	2740	1881	0.481	0.374	-0.613	0.401	2.127	0.917	27.3
550S125-54	50	0.0566	1.535	0.450	1.806	0.657	2.003	0.062	0.370	1.726	0.607	18175	15770	3093	1881	0.481	0.374	-0.613	0.401	2.127	0.917	22.1
550S125-68	33	0.0713	1.907	0.559	2.210	0.804	1.988	0.072	0.359	2.211	0.805	15902	15880	4348	2967	0.948	0.448	-0.597	0.392	2.106	0.920	27.0
550S125-68	50	0.0713	1.907	0.559	2.210	0.804	1.988	0.072	0.359	2.191	0.794	23758	21994	5352	2967	0.948	0.448	-0.597	0.392	2.106	0.920	21.9
600S125-30	33	0.0312	0.913	0.027	1.276	0.425	2.182	0.038	0.376	1.073	0.315	6228	5394	467	467	0.087	0.274	-0.611	0.401	2.297	0.929	27.6
600S125-33	33	0.0346	1.011	0.297	1.410	0.470	2.180	0.042	0.375	1.230	0.370	7312	6322	638	638	0.118	0.300	-0.608	0.399	2.294	0.930	27.6
600S125-43	33	0.0451	1.312	0.385	1.818	0.606	2.173	0.053	0.370	1.735	0.555	10974	9469	1415	1240	0.261	0.379	-0.598	0.393	2.284	0.931	27.3
600S125-54	33	0.0566	1.631	0.479	2.237	0.746	2.162	0.063	0.362	2.206	0.728	14391	13189	2740	1947	0.511	0.458	-0.586	0.386	2.269	0.933	27.1
600S125-54	50	0.0566	1.631	0.479	2.237	0.746	2.162	0.063	0.362	2.114	0.674	20187	17359	2822	1947	0.511	0.458	-0.586	0.386	2.269	0.933	21.9
600S125-68	33	0.0713	2.028	0.595	2.742	0.914	2.146	0.073	0.351	2.743	0.915	18078	18058	4348	3075	1.008	0.549	-0.570	0.378	2.249	0.936	26.7
600S125-68	50	0.0713	2.028	0.595	2.742	0.914	2.146	0.073	0.351	2.716	0.901	26964	24359	5352	3075	1.008	0.549	-0.570	0.378	2.249	0.936	21.6
STRUCTURAL STUDS																						
250S137-33	33	0.0346	0.672	0.197	0.203	0.163	1.015	0.052	0.515	0.199	0.157	3105	3095	975	337	0.079	0.076	-1.141	0.677	1.612	0.499	34.1
250S137-43	33	0.0451	0.870	0.255	0.261	0.209	1.011	0.067	0.511	0.261	0.209	4128	4120	1265	567	0.173	0.096	-1.129	0.670	1.599	0.501	33.9
250S137-54	33	0.0566	1.076	0.316	0.318	0.255	1.004	0.080	0.504	0.319	0.255	5046	5030	1553	854	0.337	0.115	-1.115	0.663	1.583	0.504	33.3
250S137-54	50	0.0566	1.076	0.316	0.318	0.255	1.004	0.080	0.504	0.313	0.248	7409	7622	2353	854	0.337	0.115	-1.115	0.663	1.583	0.504	27.1
250S137-68	33	0.0713	1.329	0.390	0.386	0.309	0.995	0.096	0.495	0.387	0.310	6131	6100	1891	1024	0.661	0.138	-1.096	0.653	1.561	0.507	32.5
250S137-68	50	0.0713	1.329	0.390	0.386	0.309	0.995	0.096	0.495	0.387	0.310	9290	9242	2865	1024	0.661	0.138	-1.096	0.653	1.561	0.507	26.4
362S137-33	33	0.0346	0.805	0.236	0.479	0.264	1.424	0.059	0.501	0.470	0.257	5050	4731	1024	552	0.094	0.165	-1.003	0.615	1.813	0.694	34.7
362S137-43	33	0.0451	1.043	0.306	0.616	0.340	1.419	0.076	0.497	0.617	0.340	6726	6655	1740	935	0.207	0.208	-0.991	0.608	1.801	0.697	34.6
362S137-54	33	0.0566	1.293	0.380	0.756	0.417	1.412	0.091	0.490	0.757	0.418	8256	8243	2341	1455	0.405	0.251	-0.978	0.601	1.786	0.700	34.0
362S137-54	50	0.0566	1.293	0.380	0.756	0.417	1.412	0.091	0.490	0.743	0.405	12134	11911	3372	1455	0.405	0.251	-0.978	0.601	1.786	0.700	27.7
362S137-68	33	0.0713	1.603	0.470	0.923	0.509	1.401	0.109	0.481	0.924	0.511	10087	10059	2884	2084	0.797	0.302	-0.959	0.592	1.765	0.704	33.3
362S137-68	50	0.0713	1.603	0.470	0.923	0.509	1.401	0.109	0.481	0.924	0.511	14770	15241	4369	2266	0.797	0.302	-0.959	0.592	1.765	0.704	27.0
400S137-33	33	0.0346	0.849	0.249	0.603	0.302	1.556	0.061	0.496	0.591	0.292	5764	5287	976	595	0.099	0.204	-0.965	0.597	1.897	0.741	34.5
400S137-43	33	0.0451	1.100	0.323	0.776	0.388	1.551	0.078	0.491	0.777	0.389	7677	7472	1740	1009	0.219	0.257	-0.954	0.591	1.886	0.744	34.3
400S137-54	33	0.0566	1.366	0.401	0.953	0.477	1.543	0.094	0.484	0.954	0.477	9432	9420	2603	1574	0.428	0.311	-0.940	0.583	1.870	0.747	34.1
400S137-54	50	0.0566	1.366	0.401	0.953	0.477	1.543	0.094	0.484	0.937	0.463	13871	13380	3372	1574	0.428	0.311	-0.940	0.583	1.870	0.747	27.7
400S137-68	33	0.0713	1.694	0.497	1.165	0.583	1.531	0.112	0.475	1.167	0.584	11540	11513	3215	2294	0.842	0.375	-0.922	0.574	1.850	0.751	33.4
400S137-68	50	0.0713	1.694	0.497	1.165	0.583	1.531	0.112	0.475	1.167	0.584	17484	17444	4871	2464	0.842	0.375	-0.922	0.574	1.850	0.751	27.1
600S137-33	33	0.0346	1.085	0.318	1.583	0.528	2.230	0.069	0.464	1.465	0.454	8974	8187	638	638	0.127	0.500	-0.807	0.519	2.416	0.889	33.5
600S137-43	33	0.0451	1.408	0.413	2.042	0.681	2.224	0.087	0.459	1.991	0.645	12745	11824	1415	1240	0.280	0.633	-0.796	0.513	2.406	0.890	33.2
600S137-54	33	0.0566	1.751	0.514	2.518	0.839	2.214	0.105	0.452	2.509	0.833	16460	15954	2740	1947	0.549	0.769	-0.784	0.506	2.392	0.893	33.0
600S137-54	50	0.0566	1.751	0.514	2.518	0.839	2.214	0.105	0.452	2.417	0.777	23256	21248	2822	1947	0.549	0.769	-0.784	0.506	2.392	0.893	26.8
600S137-68	33	0.0713	2.180	0.640	3.095	1.032	2.200	0.126	0.443	3.097	1.033	20409	20388	4348	3075	1.084	0.930	-0.768	0.497	2.372	0.895	32.8
600S137-68	50	0.0713	2.180	0.640	3.095	1.032	2.200	0.126	0.443	3.095	1.032	30888	28902	5352	3075	1.084	0.930	-0.768	0.497	2.372	0.895	26.5
600S137-97	50	0.1017	3.031	0.889	4.190	1.397	2.171	0.159	0.423	4.195	1.400	41921	41813	10047	6194	3.066	1.216	-0.734	0.480	2.330	0.901	25.6
800S125-43	33	0.0451	1.677	0.492	3.957	0.989	2.836	0.073	0.366	3.668	0.852	16844	15286	1051	1051	0.334	0.968	-0.605	0.403	2.925	0.957	29.3
800S125-54	33	0.0566	2.089	0.613	4.888	1.222	2.824	0.088	0.379	4.688	1.124	22215	21063	2091	2091	0.655	1.176	-0.594	0.397	2.911	0.958	29.0
800S125-54	50	0.0566																				

Section	Fy	Design Thick.	Weight	Area	Gross Properties					Effective Properties					Torsional Properties							
	(ksi)	(in)	(lb/ft)	(in^2)	Ix (in^4)	Sx (in^3)	rx (in)	Iy (in^4)	ry (in)	Ixe (in^4)	Sxe (in^3)	Mal (lb-in)	Mad (lb-in)	Vag (lb)	Vanet ⁵ (lb)	Jx10^4 ³	Cw (in^6)	Xo (in)	m (in)	Ro (in)	β	Lu (in)
400S162-97	50	0.1017	2.597	0.762	1.813	0.907	1.542	0.250	0.572	1.818	0.911	27274	27145	6658	4636	2.628	0.889	-1.182	0.725	2.026	0.660	31.7
550S162-33	33	0.0346	1.114	0.327	1.459	0.531	2.112	0.113	0.589	1.426	0.512	10108	8629	698	698	0.131	0.713	-1.114	0.697	2.459	0.795	41.4
550S162-43	33	0.0451	1.446	0.424	1.884	0.685	2.107	0.145	0.584	1.884	0.685	13538	12311	1550	1199	0.288	0.905	-1.103	0.691	2.449	0.797	41.2
550S162-54	33	0.0566	1.800	0.528	2.325	0.845	2.098	0.176	0.577	2.325	0.846	16715	16437	2740	1881	0.564	1.105	-1.090	0.684	2.434	0.800	41.0
550S162-54	50	0.0566	1.800	0.528	2.325	0.845	2.098	0.176	0.577	2.282	0.820	24559	21992	3093	1881	0.564	1.105	-1.090	0.684	2.434	0.800	33.2
550S162-68	33	0.0713	2.240	0.657	2.862	1.041	2.087	0.213	0.569	2.863	1.042	20588	20565	4348	2967	1.114	1.342	-1.072	0.675	2.414	0.803	40.8
550S162-68	50	0.0713	2.240	0.657	2.862	1.041	2.087	0.213	0.569	2.863	1.042	31194	29588	5352	2967	1.114	1.342	-1.072	0.675	2.414	0.803	33.1
550S162-97	50	0.1017	3.117	0.915	3.887	1.414	2.062	0.276	0.550	3.893	1.417	42437	42322	9518	5961	3.154	1.775	-1.037	0.656	2.372	0.809	32.0
600S162-33	33	0.0346	1.173	0.344	1.793	0.598	2.282	0.116	0.581	1.754	0.577	11404	9468	638	638	0.137	0.862	-1.072	0.677	2.588	0.828	41.1
600S162-43	33	0.0451	1.523	0.447	2.316	0.772	2.277	0.148	0.576	2.316	0.772	15261	13562	1415	1240	0.303	1.095	-1.062	0.670	2.577	0.830	40.9
600S162-54	33	0.0566	1.896	0.556	2.861	0.954	2.268	0.181	0.570	2.862	0.954	18855	18186	2740	1947	0.594	1.337	-1.049	0.663	2.563	0.833	40.7
600S162-54	50	0.0566	1.896	0.556	2.861	0.954	2.268	0.181	0.570	2.809	0.926	27723	24235	2822	1947	0.594	1.337	-1.049	0.663	2.563	0.833	33.0
600S162-68	33	0.0713	2.362	0.693	3.526	1.175	2.255	0.218	0.561	3.527	1.176	23244	23222	4348	3075	1.174	1.626	-1.032	0.655	2.543	0.835	40.5
600S162-68	50	0.0713	2.362	0.693	3.526	1.175	2.255	0.218	0.561	3.527	1.176	35219	32755	5352	3075	1.174	1.626	-1.032	0.655	2.543	0.835	32.8
600S162-97	50	0.1017	3.291	0.966	4.799	1.600	2.229	0.283	0.542	4.805	1.603	48004	47893	10471	6194	3.329	2.153	-0.997	0.636	2.501	0.841	31.9
800S162-33	33	0.0346	1.409	0.414	3.583	0.896	2.944	0.125	0.550	3.168	0.710	14024	12612	474	474	0.165	1.630	-0.936	0.607	3.138	0.911	40.1
800S162-43	33	0.0451	1.830	0.537	4.635	1.159	2.938	0.160	0.546	4.353	1.020	20150	18334	1051	1051	0.364	2.076	-0.926	0.601	3.128	0.912	39.8
800S162-54	33	0.0566	2.282	0.670	5.738	1.434	2.927	0.195	0.539	5.541	1.335	26371	24989	2091	2091	0.715	2.539	-0.914	0.594	3.114	0.914	39.6
800S162-54	50	0.0566	2.282	0.670	5.738	1.434	2.927	0.195	0.539	5.290	1.228	36753	32822	2091	2091	0.715	2.539	-0.914	0.594	3.114	0.914	32.1
800S162-68	33	0.0713	2.848	0.836	7.092	1.773	2.913	0.235	0.530	7.025	1.739	34353	33850	4220	3367	1.416	3.093	-0.899	0.586	3.094	0.916	39.3
800S162-68	50	0.0713	2.848	0.836	7.092	1.773	2.913	0.235	0.530	6.880	1.665	49850	45122	4220	3367	1.416	3.093	-0.899	0.586	3.094	0.916	31.9
800S162-97	50	0.1017	3.984	1.169	9.717	2.429	2.883	0.305	0.511	9.722	2.432	72823	71959	10888	6816	4.030	4.114	-0.866	0.568	3.053	0.920	31.4
1000S162-54	50	0.0566	2.668	0.783	9.954	1.991	3.566	0.204	0.511	8.765	1.571	47029	40384	1660	1660	0.836	4.198	-0.812	0.538	3.693	0.952	31.3
1000S162-68	50	0.0713	3.334	0.978	12.330	2.466	3.550	0.247	0.502	11.521	2.156	64554	56373	3345	3345	1.658	5.121	-0.798	0.531	3.673	0.953	31.0
1000S162-97	50	0.1017	4.677	1.372	16.973	3.395	3.517	0.320	0.483	16.672	3.274	98020	92588	9862	7175	4.731	6.827	-0.768	0.514	3.632	0.955	30.4
1200S162-54	50	0.0566	3.053	0.896	15.736	2.623	4.191	0.212	0.486	13.213	1.913	57277	46775	1377	1377	0.957	6.340	-0.732	0.493	4.282	0.971	30.5
1200S162-68	50	0.0713	3.820	1.121	19.525	3.254	4.174	0.256	0.477	17.511	2.647	79243	66163	2770	2770	1.899	7.739	-0.719	0.485	4.262	0.972	30.1
1200S162-97	50	0.1017	5.370	1.576	26.976	4.496	4.138	0.332	0.459	25.718	4.096	122622	111345	8145	7410	5.433	10.331	-0.691	0.470	4.220	0.973	29.5
400S200-33	33	0.0346	1.055	0.310	0.812	0.406	1.619	0.183	0.769	0.760	0.365	7212	6900	976	595	0.124	0.697	-1.688	1.007	2.462	0.530	52.0
400S200-43	33	0.0451	1.369	0.402	1.048	0.524	1.615	0.235	0.764	1.030	0.509	10065	9738	1740	1009	0.272	0.886	-1.676	1.000	2.450	0.532	51.8
400S200-54	33	0.0566	1.703	0.500	1.292	0.646	1.608	0.287	0.758	1.293	0.647	12781	12768	2603	1574	0.534	1.083	-1.662	0.993	2.433	0.534	51.2
400S200-54	50	0.0566	1.703	0.500	1.292	0.646	1.608	0.287	0.758	1.219	0.586	17537	17316	3372	1574	0.534	1.083	-1.662	0.993	2.433	0.534	41.6
400S200-68	33	0.0713	2.119	0.622	1.590	0.795	1.599	0.349	0.750	1.591	0.796	15733	15705	3215	2294	1.054	1.318	-1.643	0.983	2.412	0.536	50.4
400S200-68	50	0.0713	2.119	0.622	1.590	0.795	1.599	0.349	0.750	1.568	0.776	23234	23038	4871	2464	1.054	1.318	-1.643	0.983	2.412	0.536	41.0
400S200-97	50	0.1017	2.944	0.864	2.156	1.078	1.580	0.463	0.732	2.160	1.082	32403	32270	6658	4636	2.978	1.749	-1.605	0.963	2.368	0.541	39.6
550S200-33	33	0.0346	1.232	0.362	1.694	0.616	2.164	0.204	0.751	1.591	0.559	11040	9798	698	698	0.144	1.326	-1.508	0.925	2.743	0.698	51.9
550S200-43	33	0.0451	1.600	0.469	2.189	0.796	2.159	0.261	0.746	2.155	0.776	15336	13967	1550	1199	0.318	1.691	-1.496	0.918	2.731	0.700	51.7
550S200-54	33	0.0566	1.992	0.585	2.707	0.984	2.152	0.320	0.739	2.708	0.985	19462	18667	2740	1881	0.624	2.072	-1.483	0.911	2.716	0.702	51.6
550S200-54	50	0.0566	1.992	0.585	2.707	0.984	2.152	0.320	0.739	2.560	0.898	26892	24850	3093	1881	0.624	2.072	-1.483	0.911	2.716	0.702	41.8
550S200-68	33	0.0713	2.483	0.729	3.341	1.215	2.141	0.389	0.731	3.343	1.216	24033	24009	4348	2967	1.235	2.531	-1.465	0.902	2.695	0.705	51.2
550S200-68	50	0.0713	2.483	0.729	3.341	1.215	2.141	0.389	0.731	3.294	1.186	35517	33456	5352	2967	1.235	2.531	-1.465	0.902	2.695	0.705	41.6
550S200-97	50	0.1017	3.464	1.016	4.565	1.660	2.119	0.516	0.713	4.570	1.664	49816	49697	9518	5961	3.504	3.384	-1.428	0.882	2.653	0.710	40.3
600S200-33	33	0.0346	1.291	0.379	2.076	0.692	2.340	0.209	0.743	1.939	0.622	12285	10766	638	638	0.151	1.593	-1.457	0.901	2.855	0.740	51.61

TABLE 3— RAPID EX CONVENTIONAL TRACK SECTION PROPERTIES^{1,2,3,4}

Section	Fy (ksi)	Design Thick. (in)	Weight (lb/ft)	Area (in^2)	Gross Properties					Effective Properties				Torsional Properties						
					I _x (in^4)	S _x (in^3)	r _x (in)	I _y (in^4)	r _y (in)	I _{xe} (in^4)	S _{xe} (in^3)	Mal (lb-in)	Vag (lb)	Jx10^4 (in^4)	Cw (in^6)	Xo (in)	m (in)	Ro (in)	β	
162T125-18	33	0.0188	0.2567	0.075	0.036	0.044	0.687	0.013	0.412	0.023	0.023	448	302	0.009	0.006	-0.895	0.510	1.201	0.445	
162T125-27	33	0.0283	0.3846	0.113	0.053	0.065	0.683	0.019	0.411	0.038	0.039	777	494	0.030	0.009	-0.892	0.508	1.196	0.444	
162T125-30	33	0.0312	0.4234	0.124	0.058	0.071	0.682	0.021	0.410	0.043	0.045	889	543	0.040	0.01	-0.891	0.508	1.195	0.444	
162T125-33	33	0.0346	0.4688	0.138	0.064	0.078	0.681	0.023	0.410	0.049	0.052	1026	601	0.055	0.011	-0.890	0.507	1.193	0.444	
250T125-18	33	0.0188	0.3128	0.092	0.093	0.075	1.009	0.015	0.401	0.064	0.042	834	258	0.011	0.016	-0.781	0.465	1.337	0.659	
250T125-27	33	0.0283	0.469	0.138	0.139	0.111	1.005	0.022	0.400	0.106	0.073	1441	685	0.037	0.024	-0.778	0.463	1.332	0.659	
250T125-30	33	0.0312	0.5165	0.152	0.153	0.122	1.003	0.024	0.399	0.119	0.083	1637	833	0.049	0.026	-0.777	0.463	1.330	0.659	
350T125-30	33	0.0312	0.623	0.183	0.333	0.190	1.349	0.027	0.382	0.267	0.137	2698	824	0.059	0.058	-0.681	0.420	1.559	0.809	
350T125-33	33	0.0346	0.690	0.202	0.368	0.210	1.348	0.030	0.382	0.302	0.156	3075	1024	0.081	0.064	-0.680	0.420	1.557	0.809	
350T125-43	33	0.0451	0.896	0.263	0.475	0.271	1.343	0.038	0.380	0.412	0.218	4315	1740	0.178	0.081	-0.676	0.418	1.551	0.810	
362T125-30	33	0.0312	0.636	0.187	0.361	0.199	1.391	0.027	0.380	0.291	0.144	2845	793	0.061	0.063	-0.670	0.416	1.590	0.822	
362T125-33	33	0.0346	0.705	0.207	0.399	0.220	1.390	0.030	0.380	0.329	0.164	3241	1024	0.083	0.069	-0.669	0.415	1.589	0.822	
362T125-43	33	0.0451	0.915	0.269	0.515	0.284	1.385	0.038	0.378	0.449	0.230	4543	1740	0.182	0.088	-0.666	0.413	1.583	0.823	
362T125-54	33	0.0566	1.141	0.335	0.637	0.351	1.379	0.047	0.376	0.585	0.308	6093	2341	0.358	0.109	-0.663	0.411	1.576	0.823	
362T125-54	50	0.0566	1.141	0.335	0.637	0.351	1.379	0.047	0.376	0.561	0.289	8650	3372	0.358	0.109	-0.663	0.411	1.576	0.823	
400T125-30	33	0.0312	0.676	0.198	0.456	0.228	1.516	0.028	0.374	0.371	0.167	3308	715	0.064	0.079	-0.642	0.402	1.688	0.856	
400T125-33	33	0.0346	0.749	0.220	0.504	0.252	1.515	0.031	0.373	0.418	0.190	3763	976	0.088	0.087	-0.641	0.401	1.686	0.856	
400T125-43	33	0.0451	0.973	0.286	0.651	0.326	1.510	0.039	0.372	0.570	0.266	5253	1740	0.194	0.111	-0.638	0.399	1.681	0.856	
400T125-54	33	0.0566	1.213	0.356	0.805	0.403	1.504	0.049	0.370	0.743	0.355	7023	2603	0.380	0.137	-0.635	0.397	1.674	0.856	
400T125-54	50	0.0566	1.213	0.356	0.805	0.403	1.504	0.049	0.370	0.712	0.334	10004	3372	0.380	0.137	-0.635	0.397	1.674	0.856	
600T125-30	33	0.0312	0.889	0.261	1.217	0.406	2.160	0.030	0.342	0.881	0.243	4797	467	0.085	0.204	-0.524	0.342	2.249	0.946	
600T125-33	33	0.0346	0.985	0.289	1.346	0.449	2.159	0.034	0.341	1.023	0.289	5714	638	0.115	0.225	-0.523	0.341	2.247	0.946	
600T125-43	33	0.0451	1.280	0.376	1.743	0.581	2.154	0.043	0.339	1.480	0.447	8832	1415	0.255	0.289	-0.520	0.339	2.242	0.946	
600T125-54	33	0.0566	1.599	0.469	2.163	0.721	2.147	0.054	0.338	2.001	0.639	12626	2740	0.501	0.356	-0.518	0.337	2.234	0.946	
600T125-54	50	0.0566	1.599	0.469	2.163	0.721	2.147	0.054	0.338	1.868	0.570	17063	2822	0.501	0.356	-0.518	0.337	2.234	0.946	
600T125-68	33	0.0713	2.001	0.587	2.683	0.894	2.138	0.066	0.336	2.617	0.861	17022	4348	0.995	0.439	-0.514	0.335	2.224	0.947	
600T125-68	50	0.0713	2.001	0.587	2.683	0.894	2.138	0.066	0.336	2.524	0.815	24392	5352	0.995	0.439	-0.514	0.335	2.224	0.947	
350T150-30	33	0.0312	0.676	0.198	0.380	0.217	1.383	0.044	0.472	0.286	0.141	2795	824	0.064	0.094	-0.881	0.534	1.707	0.734	
350T150-33	33	0.0346	0.749	0.220	0.420	0.240	1.382	0.049	0.471	0.323	0.161	3189	1024	0.088	0.104	-0.880	0.534	1.705	0.734	
350T150-43	33	0.0451	0.994	0.292	0.553	0.316	1.377	0.064	0.470	0.455	0.234	4628	1818	0.207	0.136	-0.876	0.531	1.699	0.734	
350T150-54	33	0.0566	1.213	0.356	0.670	0.383	1.372	0.078	0.468	0.582	0.308	6080	2253	0.380	0.164	-0.874	0.529	1.693	0.733	
350T150-54	50	0.0566	1.213	0.356	0.670	0.383	1.372	0.078	0.468	0.555	0.286	8574	3372	0.380	0.164	-0.874	0.529	1.693	0.733	
350T150-68	33	0.0713	1.515	0.445	0.827	0.473	1.364	0.097	0.466	0.765	0.418	8254	2774	0.753	0.202	-0.871	0.527	1.684	0.733	
350T150-68	50	0.0713	1.515	0.445	0.827	0.473	1.364	0.097	0.466	0.730	0.389	11637	4202	0.753	0.202	-0.871	0.527	1.684	0.733	
362T150-30	33	0.0312	0.689	0.202	0.412	0.227	1.427	0.045	0.470	0.311	0.149	2947	793	0.066	0.102	-0.869	0.529	1.735	0.749	
362T150-33	33	0.0346	0.764	0.224	0.455	0.251	1.425	0.049	0.469	0.352	0.170	3362	1024	0.089	0.113	-0.868	0.528	1.733	0.749	
362T150-43	33	0.0451	0.992	0.291	0.588	0.324	1.421	0.064	0.468	0.483	0.240	4733	1740	0.197	0.145	-0.865	0.526	1.728	0.750	
362T150-54	33	0.0566	1.237	0.363	0.727	0.401	1.415	0.079	0.466	0.633	0.324	6392	2341	0.388	0.178	-0.862	0.524	1.721	0.749	
362T150-54	50	0.0566	1.237	0.363	0.727	0.401	1.415	0.079	0.466	0.604	0.301	9024	3372	0.388	0.178	-0.862	0.524	1.721	0.749	
362T150-68	33	0.0713	1.545	0.454	0.898	0.495	1.407	0.098	0.464	0.831	0.439	8667	2881	0.768	0.220	-0.859	0.521	1.713	0.749	
362T150-68	50	0.0713	1.545	0.454	0.898	0.495	1.407	0.098	0.464	0.793	0.409	12232	4369	0.768	0.220	-0.859	0.521	1.713	0.749	
362T150-97	50	0.1017	2.165	0.635	1.229	0.678	1.391	0.134	0.460	1.192	0.646	19330	5943	2.190	0.299	-0.853	0.516	1.695	0.747	
400T150-30	33	0.0312	0.729	0.214	0.517	0.259	1.555	0.046	0.463	0.396	0.173	3426	715	0.069	0.129	-0.835	0.513	1.825	0.791	
400T150-33	33	0.0346	0.808	0.237	0.572	0.286	1.554	0.051	0.463	0.447	0.197	3901	976	0.095	0.142	-0.834	0.513	1.823	0.791	
400T150-43	33	0.0451	1.050	0.308	0.739	0.370	1.549	0.066	0.461	0.612	0.277	5470	1740	0.209	0.183	-0.831	0.511	1.817	0.791	
400T150-54	33	0.0566	1.310	0.384	0.915	0.458	1.543	0.081	0.459	0.801	0.373	7361	2603	0.410	0.225	-0.828	0.509	1.811	0.791	
400T150-54	50	0.0566	1.310	0.384	0.915	0.458	1.543	0.081	0.459	0.766	0.348	10430	3372	0.410	0.225	-0.828	0.509	1.811	0.791	
400T150-68	33	0.0713	1.637	0.480	1.132	0.567	1.535	0.101	0.457	1.050	0.504	9949	3215	0.814	0.277	-0.825	0.506	1.802	0.791	
400T150-68	50	0.0713	1.637	0.480	1.132	0.567	1.535	0.101	0.457	1.005	0.471	14088	4871	0.814	0.277					

Section	F _y (ksi)	Design Thick. (in)	Weight (lb/ft)	Area (in ²)	Gross Properties					Effective Properties				Torsional Properties					
					I _x (in ⁴)	S _x (in ³)	r _x (in)	I _y (in ⁴)	r _y (in)	I _{xe} (in ⁴)	S _{xe} (in ³)	Mal (lb-in)	Vag (lb)	J _x 10 ³ (in ⁴)	C _w (in ⁶)	X _o (in)	m (in)	R _o (in)	β
800T150-97	50	0.1017	3.682	1.080	8.494	2.124	2.804	0.164	0.390	8.297	2.051	61406	10888	3.724	1.953	-0.578	0.380	2.889	0.960
1000T150-54	50	0.0566	2.467	0.724	8.621	1.724	3.451	0.100	0.371	6.356	1.056	31613	1660	0.773	1.924	-0.516	0.346	3.509	0.978
1000T150-68	50	0.0713	3.095	0.908	10.749	2.150	3.441	0.124	0.369	8.910	1.576	47193	3345	1.539	2.383	-0.512	0.344	3.498	0.979
1000T150-97	50	0.1017	4.375	1.284	15.004	3.001	3.419	0.171	0.365	14.343	2.778	83181	9862	4.426	3.281	-0.506	0.339	3.475	0.979
1200T150-54	50	0.0566	2.853	0.837	13.785	2.298	4.058	0.102	0.350	9.597	1.290	38635	1377	0.894	2.922	-0.459	0.313	4.099	0.987
1200T150-68	50	0.0713	3.581	1.051	17.208	2.868	4.047	0.127	0.348	13.585	1.942	58144	2770	1.780	3.621	-0.456	0.311	4.088	0.988
1200T150-97	50	0.1017	5.068	1.487	24.082	4.014	4.024	0.176	0.344	22.256	3.492	104535	8145	5.127	4.990	-0.450	0.306	4.064	0.988

For SI: 1 inch = 25.4 mm.

¹Effective properties do not incorporate strength increase from the cold work of forming.

²Tabulated gross properties, including torsional properties, are based upon full-unreduced cross section of the studs, away from punch-outs.

³For deflection calculations, use the effective moment of inertia.

⁴Allowable moment includes cold-work of forming.

TABLE 4—WEB DEPTH TO THICKNESS RATIOS FOR RAPID EX CONVENTIONAL STUDS^{2,3}

Section	Web Depth (in)	18 mil	27 mil	30 mil	33 mil	43 mil	54 mil	68 mil	97 mil
162S	1.625	75	50	45	41	-	-	-	-
250S	2.500	122	81	73	66	50	39	30	-
350S	3.500	175	116	105	95	72	57	44	-
362S	3.625	182	120	109	98	75	59	46	31
400S	4.000	202 ¹	134	121	109	84	66	51	34
550S	5.500	-	187	169	153	117	92	72	49
600S	6.000	-	-	185	167	128	101	79	54
800S	8.000	-	-	-	-	172	136	107	74
1000S	10.000	-	-	-	-	-	172	135	93
1200S	12.000	-	-	-	-	-	207 ¹	163	113

For SI: 1 inch = 25.4 mm.

¹ Web height-to-thickness ratio, h/t, 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.

² Web height-to-thickness ratio, h/t, exceeding 260 are marked with a dash.

³ h value used for h/t calculation is the flat width of the web; this is the out to out member size minus twice the thickness, minus twice the inside bend radius.

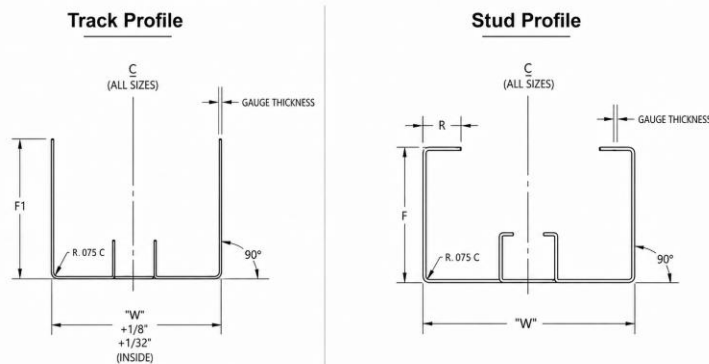


FIGURE 1— RAPID EX CONVENTIONAL STUD AND TRACK SECTION PROFILE



FIGURE 2— RAPID EX CONVENTIONAL STUD PUNCH OUT

TABLE 5—TITAN EQ STUD LINE SECTION DIMENSIONS

SECTION	DEPTH ¹ (in)	FLANGE (in)	DESIGN THICK., t (in)	MIN. THICK., t ² (in)	LIP (in)	INSIDE CORNER RADII (in)
NON-STRUCTURAL STUDS						
ST158125-15	1.625	1.25	0.0150	0.0143	0.25	0.04
ST212125-15	2.500	1.25	0.0150	0.0143	0.25	0.04
ST358125-15	3.625	1.25	0.0150	0.0143	0.25	0.04
ST4125-15	4.000	1.25	0.0150	0.0143	0.25	0.04
ST6125-15	6.000	1.25	0.0150	0.0143	0.25	0.04
ST158125-19	1.625	1.25	0.0190	0.0181	0.25	0.04
ST212125-19	2.500	1.25	0.0190	0.0181	0.25	0.04
ST358125-19	3.625	1.25	0.0190	0.0181	0.25	0.04
ST4125-19	4.000	1.25	0.0190	0.0181	0.25	0.04
ST6125-19	6.000	1.25	0.0190	0.0181	0.25	0.04
TRACKS						
T158125-15	1.660	1.25	0.0150	0.0143	0.25	0.04
T212125-15	2.530	1.25	0.0150	0.0143	0.25	0.04
T358125-15	3.660	1.25	0.0150	0.0143	0.25	0.04
T4125-15	4.030	1.25	0.0150	0.0143	0.25	0.04
T6125-15	6.030	1.25	0.0150	0.0143	0.25	0.04
T158125-19	1.660	1.25	0.0190	0.0181	0.25	0.04
T212125-19	2.530	1.25	0.0190	0.0181	0.25	0.04
T358125-19	3.660	1.25	0.0190	0.0181	0.25	0.04
T4125-19	4.030	1.25	0.0190	0.0181	0.25	0.04
T6125-19	6.030	1.25	0.0190	0.0181	0.25	0.04

For SI: 1 inch = 25.4 mm.

¹Depth measured from outside face to outside face of flanges.²Members delivered to the jobsite must be a minimum of 95 percent of the design thickness.TABLE 6— TITAN EQ STUD SECTION PROPERTIES^{1,2}

SECTION	Fy (ksi)	Design Thick. (in)	Weight (lb/ft)	Area (in ²)	Gross Properties					Effective Properties					Torsional Properties					
					Ix (in ⁴)	Sx (in ³)	rx (in)	Iy (in ⁴)	ry (in)	Ixe (in ⁴)	Sxe (in ³)	Mal (lb-in)	Mad (lb-in)	Vag (lb)	Jx10 ³ (in ⁴)	Cw (in ⁶)	Xo (in)	Ro (in)	β	Lu (in)
ST158125-15	33	0.0150	0.228	0.067	0.032	0.039	0.688	0.015	0.465	0.026	0.029	0.573	0.552	0.192	0.005	0.009	-1.089	1.369	0.368	29.7
ST212125-15	33	0.0150	0.273	0.080	0.083	0.067	1.019	0.017	0.458	0.069	0.049	0.976	0.865	0.127	0.006	0.022	-0.959	1.473	0.576	30.2
ST358125-15	33	0.0150	0.331	0.097	0.195	0.108	1.419	0.019	0.442	0.152	0.071	1.410	1.270	0.086	0.007	0.049	-0.837	1.706	0.759	30
ST4125-15	33	0.0150	0.350	0.103	0.246	0.123	1.548	0.020	0.435	0.188	0.079	1.555	1.402	0.078	0.008	0.061	-0.803	1.797	0.800	29.9
ST6125-15	33	0.0150	0.452	0.133	0.647	0.216	2.208	0.022	0.403	0.445	0.117	2.303	2.030	0.051	0.010	0.153	-0.666	2.341	0.919	29.1
ST158125-19	33	0.0190	0.288	0.085	0.040	0.049	0.686	0.018	0.463	0.034	0.038	0.749	0.760	0.309	0.010	0.011	-1.084	1.364	0.368	29.6
ST212125-19	33	0.0190	0.345	0.101	0.105	0.084	1.017	0.021	0.456	0.091	0.067	1.320	1.200	0.258	0.012	0.027	-0.954	1.468	0.577	30.2
ST358125-19	33	0.0190	0.417	0.123	0.246	0.136	1.417	0.024	0.440	0.206	0.102	2.006	1.777	0.175	0.015	0.061	-0.832	1.701	0.761	29.9
ST4125-19	33	0.0190	0.442	0.130	0.310	0.155	1.545	0.024	0.433	0.254	0.112	2.205	1.967	0.158	0.016	0.076	-0.799	1.793	0.801	29.8
ST6125-19	33	0.0190	0.571	0.168	0.815	0.272	2.205	0.027	0.401	0.599	0.162	3.197	2.884	0.104	0.020	0.192	-0.662	2.337	0.920	29.0

For SI: 1 inch = 25.4 mm.

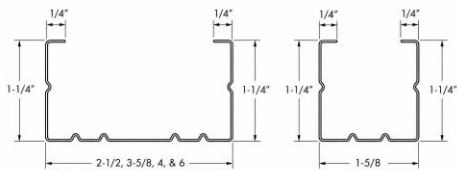
¹Effective properties do not incorporate the strength increase from the cold work of forming.²Gross properties including torsional properties, are based upon full-unreduced cross sections of the studs, away from punch-out.TABLE 7— TITAN EQ TRACK SECTION PROPERTIES¹

SECTION	Fy	Design Thick.	Weight	Area	Gross Properties					Effective Properties				Torsional Properties				
					Ix	Sx	rx	Iy	ry	Ixe	Sxe	Mal	Vag	Jx10^3	Cw	Xo	Ro	β
	(ksi)	(in)	(lb/ft)	(in^2)	(in^4)	(in^3)	(in)	(in^4)	(in)	(in^4)	(in^3)	(lb-in)	(lb)	(in^4)	(in^6)	(in)	(in)	
T158125-15	33	0.0150	0.210	0.062	0.032	0.037	0.715	0.011	0.412	0.019	0.017	0.340	0.192	0.005	0.005	-0.883	1.208	0.466
T212125-15	33	0.0150	0.255	0.075	0.080	0.063	1.035	0.012	0.401	0.046	0.027	0.530	0.123	0.006	0.014	-0.772	1.352	0.674
T358125-15	33	0.0150	0.313	0.092	0.186	0.101	1.423	0.013	0.381	0.099	0.039	0.773	0.084	0.007	0.032	-0.669	1.617	0.829
T4125-15	33	0.0150	0.332	0.097	0.233	0.115	1.548	0.014	0.375	0.122	0.043	0.854	0.076	0.007	0.040	-0.641	1.716	0.861
T6125-15	33	0.0150	0.434	0.127	0.612	0.202	2.192	0.015	0.343	0.284	0.065	1.280	0.051	0.010	0.103	-0.525	2.280	0.947
T158125-19	33	0.0190	0.266	0.078	0.040	0.047	0.716	0.013	0.411	0.026	0.024	0.476	0.309	0.009	0.007	-0.880	1.207	0.468
T212125-19	33	0.0190	0.323	0.095	0.102	0.079	1.036	0.015	0.400	0.067	0.043	0.840	0.251	0.011	0.017	-0.770	1.352	0.675
T358125-19	33	0.0190	0.396	0.116	0.235	0.127	1.423	0.017	0.380	0.145	0.061	1.211	0.171	0.014	0.041	-0.667	1.617	0.830
T4125-19	33	0.0190	0.420	0.123	0.296	0.145	1.548	0.017	0.374	0.179	0.068	1.334	0.155	0.015	0.051	-0.639	1.716	0.862
T6125-19	33	0.0190	0.550	0.161	0.775	0.255	2.193	0.019	0.342	0.416	0.100	1.967	0.103	0.019	0.130	-0.523	2.280	0.947

For SI: 1 inch = 25.4 mm.

¹Effective properties do not incorporate the strength increase from the cold work of forming.

Titan EQ Studs



Titan EQ Tracks

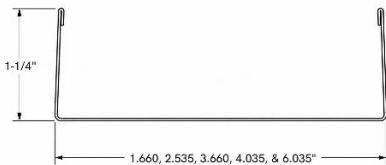


FIGURE 3—TITAN EQ STUD AND TRACK SECTION PROFILE

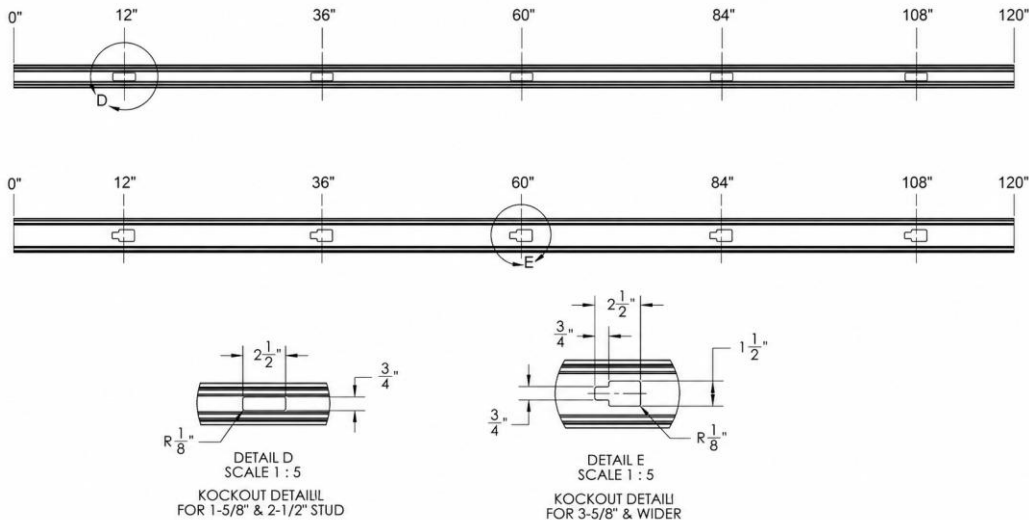


FIGURE 4—TITAN EQ STUD PUNCH OUT

TABLE 8—LIMITING HEIGHTS – TITAN EQ STUD LINE COMPOSITE WALLS WITH VERTICAL GYPSUM^{1,2,3,4,5}

Section	Depth (in)	Design thick. (in)	Fy (ksi)	Spacing (in. o.c.)	Limiting Wall Height (ft)											
					5 psf			7.5 psf			10 psf			15 psf		
					L/180	L/240	L/360	L/180	L/240	L/360	L/180	L/240	L/360	L/180	L/240	L/360
ST158125-19 ⁶	1.625	0.0190	50	12	11.21a	10.6c	9.49c	9.15a	9.15a	8.28c	—	—	—	—	—	—
				16	10.31c	9.59c	8.62c	8.90c	8.32c	—	—	—	—	—	—	—
				24	8.90c	8.32c	—	—	—	—	—	—	—	—	—	—
ST212125-19 ⁶	2.5	0.0190	50	12	13.54a	13.47c	11.95c	11.05a	11.05a	10.28c	9.57a	9.57a	9.26c	—	—	—
				16	13.34c	12.23c	10.74c	11.05a	10.52c	9.26c	9.57a	9.44c	8.34c	—	—	—
				24	11.59c	10.52c	9.26c	9.90c	9.04c	8.00c	8.87c	8.13c	—	—	—	—
ST358125-19	3.625	0.0190	50	12	17.77c	16.37c	14.54c	14.76a	14.30c	12.71c	12.78a	12.78a	11.53c	10.44a	10.44a	10.03c
				16	16.15c	14.87c	13.21c	13.7a	12.99c	11.53c	11.86a	11.79c	10.44c	9.69a	9.69a	9.09c
				24	14.10c	12.99c	11.53c	11.58a	11.30c	10.03c	10.03a	10.03a	9.09c	8.19a	8.19a	—
ST4125-19 ⁶	4	0.0190	50	12	15.76a	15.76a	15.76a	12.87a	12.87a	12.87a	11.14a	11.14a	11.14a	9.10a	9.10a	9.10a
				16	15.76a	15.76a	14.94c	12.87a	12.87a	12.87a	11.14a	11.14a	11.14a	9.10a	9.10a	9.10a
				24	15.76a	14.82c	13.06c	12.87a	12.87a	11.40c	11.14a	11.14a	10.36c	9.10a	9.10a	9.05c
ST6125-19 ⁶	6	0.0190	50	12	16.35a	16.35a	16.35a	13.35a	13.35a	13.35a	11.56a	11.56a	11.56a	9.44a	9.44a	9.44a
				16	16.35a	16.35a	16.35a	13.35a	13.35a	13.35a	11.56a	11.56a	11.56a	9.44a	9.44a	9.44a
				24	16.35a	16.35a	16.34c	13.35a	13.35a	13.35a	11.56a	11.56a	11.56a	9.44a	9.44a	9.44a

For SI: 1 inch = 25.4 mm.

¹ Gypsum wallboard, complying with Section 3.2.2, must be attached on both sides of the wall framing for the full height of the wall with the long dimension of the gypsum wallboard parallel to the studs.

² The gypsum board must be installed using minimum No. 6 Type S. Drywall screws spaced at 12 in. on-center, maximum.

³ No fasteners are required for attaching the stud to the track.

⁴ Stud end bearing must be a minimum of 1 inch.

⁵ "a" adjacent to the height value indicates that the allowable height is governed by bending strength.

"b" adjacent to the height value indicates that the allowable height is governed by bearing strength.

"c" adjacent to the height value indicates that the allowable height is governed by deflection.

⁶ Limiting heights are based on the maximum stud spacing of 24 in. on-center.

TABLE 9—LIMITING HEIGHTS – TITAN EQ STUD LINE COMPOSITE WALLS WITH HORIZONTAL GYPSUM^{1,2,3,4,5}

Section	Depth (in)	Design thick. (in)	Fy (ksi)	Spacing (in. o.c.)	Limiting Wall Height (ft)											
					5 psf			7.5 psf			10 psf			15 psf		
					L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
ST158125-15 ⁶	1.625	0.0150	50	12	-	-	-	-	-	-	-	-	-	-	-	-
				16	-	-	-	-	-	-	-	-	-	-	-	-
				24	8.15a	-	-	-	-	-	-	-	-	-	-	-
ST212125-15 ⁶	2.5	0.0150	50	12	-	-	-	-	-	-	-	-	-	-	-	-
				16	-	-	-	-	-	-	-	-	-	-	-	-
				24	10.42a	8.24c	-	8.50a	-	-	-	-	-	-	-	-
ST358125-15 ⁶	3.625	0.0150	50	12	-	-	-	-	-	-	-	-	-	-	-	-
				16	-	-	-	-	-	-	-	-	-	-	-	-
				24	12.29a	11.42c	10.09c	10.04a	10.04a	8.82c	8.69a	8.69a	8.01c	-	-	-
ST4125-15 ⁶	4	0.0150	50	12	-	-	-	-	-	-	-	-	-	-	-	-
				16	-	-	-	-	-	-	-	-	-	-	-	-
				24	12.64a	12.44c	10.87c	10.32a	10.32a	9.43c	8.94a	8.94a	8.47c	-	-	-
ST6125-15	6	0.0150	50	12	17.34c	17.34c	17.34c	14.82a	14.82a	14.82a	11.22b	11.22b	11.22b	-	-	-
				16	-	-	-	-	-	-	-	-	-	-	-	-
				24	14.07a	13.17c	14.06c	11.49a	11.49a	11.49a	9.95a	9.95a	9.95a	-	-	-
ST158125-19 ⁶	1.625	0.0190	50	12	-	8.99c	-	-	-	-	-	-	-	-	-	-
				16	-	8.07c	-	-	-	-	-	-	-	-	-	-
				24	8.99c	-	-	-	-	-	-	-	-	-	-	-
ST212125-19 ⁶	2.5	0.0190	50	12	-	11.76a	10.62c	-	9.6a	9.12c	-	8.31a	8.19c	-	-	-
				16	-	11.11c	9.53c	-	9.53c	8.19c	-	8.31a	-	-	-	-
				24	11.76a	9.53c	8.19c	9.60a	8.19c	-	8.31a	-	-	-	-	-
ST358125-19 ⁶	3.625	0.0190	50	12	-	14.52a	13.82c	-	11.85a	11.85a	-	10.27a	10.27a	-	8.38a	8.38a
				16	-	14.38c	12.56c	-	11.85a	10.91c	-	10.27a	9.85c	-	8.38a	8.38a
				24	14.52a	12.56c	10.91c	11.85a	10.91c	9.45c	10.27a	9.85c	8.55c	8.38a	8.38a	-
ST4125-19 ⁶	4	0.0190	50	12	-	14.73a	14.44c	-	12.03a	12.03a	-	10.41a	10.41a	-	8.5a	8.5a
				16	-	14.73a	13.12c	-	12.03a	11.44c	-	10.41a	10.37c	-	8.5a	8.5a
				24	14.73a	13.12c	11.44c	12.03a	11.44c	9.96c	10.41a	10.37c	9.02c	8.5a	8.5a	-
ST6125-19	6	0.0190	50	12	20.68a	20.68a	19.12c	16.24b	16.24b	16.24b	12.18b	12.18b	12.18b	8.12b	8.12b	8.12b
				16	-	15.51a	15.51a	-	12.66a	12.66a	-	10.97a	10.97a	-	8.12b	8.12b
				24	15.51a	15.51a	15.29c	12.66a	12.66a	12.66a	10.97a	10.97a	10.97a	8.12b	8.12b	8.12b

For SI: 1 inch = 25.4 mm.

¹ Gypsum wallboard, complying with Section 3.2.2, must be attached on both sides of the wall framing for the full height of the wall with the short dimension of the gypsum wallboard parallel to the studs.² The gypsum board must be installed using minimum No. 6 Type S. Drywall screws spaced at 12 in. on-center, maximum.³ No fasteners are required for attaching the stud to the track.⁴ Stud end bearing must be a minimum of 1 inch.⁵ "a" adjacent to the height value indicates that the allowable height is governed by bending strength.

"b" adjacent to the height value indicates that the allowable height is governed by bearing strength.

"c" adjacent to the height value indicates that the allowable height is governed by deflection.

⁶ Limiting heights are based on the maximum stud spacing of 24 in. on-center.

ICC-ES Evaluation Report

ESR-5121 CA Supplement

Issued August 2026

This report remains under an active [continuous compliance program](#) through the end of August 2027.

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DIVISION: 05 00 00—METALS

Section: 05 40 00—Cold-Formed Metal Framing

Section: 05 41 00—Structural Metal Stud Framing

DIVISION: 09 00 00—FINISHES

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

REPORT HOLDER:

RAPID EX FORMING CORP.

EVALUATION SUBJECT:

COLD-FORMED STEEL STUDS AND TRACKS

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that the cold-formed steel studs and tracks, described in ICC-ES evaluation report [ESR-5121](#), have also been evaluated for compliance with the code(s) noted below.

Applicable code edition:

- 2025 California Building Code (CBC)

For evaluation of applicable Chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) AKA: California Department of Health Care Access and Information (HCAI) and the Division of State Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

2.0 CONCLUSIONS

2.1 CBC:

The cold-formed steel studs and tracks, described in Sections 2.0 through 7.0 of the evaluation report [ESR-5121](#), comply with CBC Chapter 22, provided the design and installation are in accordance with the 2024 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of CBC Chapters 16, 17, and 22, as applicable.

2.1.1 OSHPD:

The applicable OSHPD Sections and Chapters of the CBC are beyond the scope of this supplement.

2.1.2 DSA:

The applicable DSA Sections and Chapters of the CBC are beyond the scope of this supplement.

This supplement expires concurrently with the evaluation report, issued August 2026.