



# ICC-ES Evaluation Report

## ESR-5191

Issued March 2024

This report is subject to renewal March 2025.

**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:**

STEEL TECH USA

**EVALUATION SUBJECT:**

STEEL STUD FRAMING

**1.0 EVALUATION SCOPE**

**Compliance with the following codes:**

- 2021, 2018 and 2015 *International Building Code*® (IBC)
- 2021, 2018 and 2015 *International Residential Code*® (IRC)

For evaluation for compliance with codes adopted by the Los Angeles Department of Building and Safety (LADBS), see [ESR-5191 LABC and LARC Supplement](#).

**Properties evaluated:**

- Structural

**2.0 USES**

Framing members with a minimum G60 coating are used as structural members as defined by the North American Standard for Cold-Formed Steel Structural Framing (AISI S240) and may also be used as nonstructural members.

Framing members with a minimum G40 coating are used only as nonstructural members as defined by the North American Standard for Cold-Formed Steel Nonstructural Framing (AISI S220).

**3.0 DESCRIPTION**

**3.1 General:**

The Steel Stud Framing is cold-formed steel studs and tracks that are factory-formed from steel coils. The studs are manufactured with and without web punchouts. Punchouts are a maximum of 1½ inches (38 mm) wide by 4 inches (102 mm) long as shown in Figure 1. The

punchouts are located along the centerline of the webs of the studs with a minimum center-to-center spacing of 24 inches (610 mm). The minimum distance between the end of the stud and the near edge of the web punchout is 12 inches (305 mm). The tracks are manufactured without punchouts. Dimensional properties of the studs and tracks are provided in Table 1 and Figure 1.

**3.2 Material:**

The studs and tracks are cold-formed from steel coils conforming to ASTM A1003 ST33H, ASTM A1003 ST37H, ASTM A1003 ST50H, or ASTM A653 Grade 50 Class 1. The members have a minimum G60 galvanized coating for structural members and a minimum G40 galvanized coating for nonstructural members.

**4.0 DESIGN AND INSTALLATION**

**4.1 General:**

The studs and track members and their connections must be designed and installed in accordance with IBC Section 2210, using the section properties referenced in Section 4.2.

**4.2 Design:**

The section properties and design values, indicated in Tables 2 through 4 are for the stud and track members. All values have been determined in accordance with the applicable edition of the North American Specification for the Design of Cold-Formed Steel Structural Members (AISI S100). The allowable moments,  $M_a$ , are for use with Allowable Strength Design (ASD) and are for flexural members installed with the compression flange continuously braced. For other conditions of compression flange bracing, the allowable moment must be determined in accordance with AISI S100. The design of members must address web crippling and combined loading conditions, as applicable, in accordance with AISI S100.

For use under the IRC, the cold-formed steel studs and tracks must be limited to engineered structures, in accordance with IRC Section R301.1.3.

**4.3 Installation:**

The studs and tracks 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 studs and tracks described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 Minimum base steel thickness of cold-formed steel members, as delivered to the jobsite, must be at least 95 percent of the design thickness (design base-metal thickness) as specified in Table 1.
- 5.2 The construction documents prepared or reviewed by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed specifying the Steel Stud Framing must indicate compliance with this evaluation report and applicable codes and must be submitted to the code official for approval.
- 5.3 Section properties and allowable capacities of sections with punchouts (except for  $V_{a(net)}$  of studs) and at swagged ends (for studs) are outside the scope of this evaluation report.
- 5.4 The cold-formed steel studs and tracks are manufactured 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 (editorially revised December 2020).

## 7.0 IDENTIFICATION

- 7.1 The ICC-ES mark of conformity, electronic labeling, or the evaluation report number (ICC-ES ESR-5191) along with the name, registered trademark, or registered logo of the report holder (Steel Tech USA) must be included in the product label.
- 7.2 In addition, at a spacing not exceeding 96 inches (2440 mm) on-center, each cold-formed steel member must have a legible label, stamp, or embossment, indicating the report holder's name (Steel Tech USA) or initials; the section name/designation as described in Table 1, which includes the minimum base metal thickness in mils; the evaluation report number (ICC-ES ESR-5191); the minimum specified yield strength; in addition to the following:
  - For nonstructural members, each member must have the designation "NS", and a designation for the coating if other than G40.
  - For structural members, each member must have the designation of coating (minimum G60).
- 7.3 The report holder's contact information is the following:

**STEEL TECH USA**  
**500 HUFFINES BOULEVARD**  
**LEWISVILLE, TEXAS 75056**  
**(646) 270-4305**  
[www.steeltechusa.com](http://www.steeltechusa.com)  
[info@steeltechusa.com](mailto:info@steeltechusa.com)

### Definitions of symbols for use with Tables 2 through 4:

$F_y$ :	Yield stress
$K_\phi$ :	Distortional buckling moment, $M_{ad}$ , is calculated without the beneficial effect of sheathing to rotational stiffness, $K_\phi = 0$ .

### Gross Properties (based on full section away from end swage and away from punchouts):

Area:	The cross-sectional area of the full unreduced cross-section of the member.
Wt:	The weight per foot of the full unreduced cross-section of the member.
$I_{xx}$ :	Moment of inertia of the gross section about the strong axis (X-X).
$R_x$ :	Radius of gyration of the gross section about the strong axis (X-X).
$S_{xx}$ :	Gross section-modulus about the strong axis (X-X).
$I_{yy}$ :	Moment of inertia of the gross section about the weak axis (Y-Y).
$S_{yy}$ :	Gross section-modulus about the weak axis (Y-Y).
$R_y$ :	Radius of gyration of the gross section about the weak axis (Y-Y).

### Effective Properties (based on full section away from end swage and away from punchouts, except $V_{a(net)}$ ):

$I_{xe}$ :	Effective moment of inertia about the strong axis (X-X) for deflection calculations.
$S_{xe}$ :	Effective section modulus about the strong axis (X-X) based on local buckling.
$M_{al}$ :	Allowable bending moment based on local buckling about the strong axis (X-X).
$M_{ad}$ :	Allowable distortional bending moment based on $K_\phi = 0$ .
$V_a$ :	Allowable strong axis shear away from punchout.
$V_{a(net)}$ :	Allowable strong axis shear at punchout.
$L_u$ :	Critical unbraced length for lateral-torsional buckling. Members are considered fully braced when unbraced length is less than $L_u$ . If the unbraced length exceeds $L_u$ , then lateral-torsional buckling must be evaluated independently.

### Torsional and Other Properties (based on full section away from end swage and away from punchouts)

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 shear center.
$\beta$ :	Torsional flexural constant = $1 - (x_o/r_o)^2$

**TABLE 1—COLD-FORMED STEEL FRAMING MEMBERS DESIGNATIONS AND DIMENSIONS**

MEMBER DESIGNATION <sup>1</sup>		WEB DEPTH <sup>2</sup> (in.)	FLANGE WIDTH <sup>3</sup> (in.)	LIP <sup>4</sup> (in.)	INSIDE BEND RADIUS (in.)	UNCOATED STEEL THICKNESS		
Studs	Tracks					Designation (mils)	Design Thick. (in.)	Min. Thick. (in.)
362S162-33	362T162-33	3.625	1.625	0.50	0.0629	33	0.0346	0.0329
362S162-43	362T162-43	3.625	1.625	0.50	0.0629	43	0.0451	0.0428
362S162-54	362T162-54	3.625	1.625	0.50	0.0629	54	0.0566	0.0538
362S200-33	362T200-33	3.625	2.0	0.625	0.0629	33	0.0346	0.0329
362S200-43	362T200-43	3.625	2.0	0.625	0.0629	43	0.0451	0.0428
362S200-54	362T200-54	3.625	2.0	0.625	0.0629	54	0.0566	0.0538
600S162-33	600T162-33	6.0	1.625	0.50	0.0787	33	0.0346	0.0329
600S162-43	600T162-43	6.0	1.625	0.50	0.0787	43	0.0451	0.0428
600S162-54	600T162-54	6.0	1.625	0.50	0.0787	54	0.0566	0.0538
600S162-68	600T162-68	6.0	1.625	0.50	0.0787	68	0.0713	0.0677
600S200-33	600T200-33	6.0	2.0	0.625	0.0787	33	0.0346	0.0329
600S200-43	600T200-43	6.0	2.0	0.625	0.0787	43	0.0451	0.0428
600S200-54	600T200-54	6.0	2.0	0.625	0.0787	54	0.0566	0.0538
600S200-68	600T200-68	6.0	2.0	0.625	0.0787	68	0.0713	0.0677

For SI units: 1 inch = 25.4 mm.

<sup>1</sup> Member designation identification provides nominal dimensions as shown in the example below:

Example: 362S162-33; 362 = 3.625-inch web depth (measured from outside face to outside face of flanges), S = stud, 162 = 1.625-inch flange width, and 33 = thickness designation of 33 mils. For tracks, "S" is replaced with "T".

<sup>2</sup> Web depth for both studs and track sections is measured from outside of flange to outside of flange.

<sup>3</sup> Track flange width, where the studs are fitted as shown in Figure 1, equals to the provided values after subtracting the inside bend radius and design thickness. Example: Flange width of 362T162-33 = 1.625 – 0.0629 – 0.0346 = 1.528 inches.

<sup>4</sup> Track flange stiffeners (lips) are removed at stud locations; studs are swaged to fit tightly in track.

**TABLE 2—GROSS AND TORSIONAL SECTION PROPERTIES**

MEMBER	GROSS SECTION PROPERTIES								TORSIONAL SECTION PROPERTIES						
	Area	Wt	I <sub>xx</sub>	S <sub>xx</sub>	R <sub>x</sub>	I <sub>yy</sub>	S <sub>yy</sub>	R <sub>y</sub>	Jx1000	C <sub>w</sub>	r <sub>o</sub>	x <sub>o</sub>	m	j	β
	in. <sup>2</sup>	lb/ft	in. <sup>4</sup>	in. <sup>3</sup>	in.	in. <sup>4</sup>	in. <sup>3</sup>	in.	in. <sup>4</sup>	in. <sup>6</sup>	in.	in.	in.	in.	
<b>STUDS (away from punched-out sections and away from swagged ends) and TRACKS (at sections with full lips) <sup>1</sup></b>															
362S162-33	0.2629	0.8947	0.5539	0.3056	1.4515	0.0999	0.0919	0.6165	0.1049	0.2969	2.050	-1.3092	0.7887	2.109	0.5920
362S162-43	0.3404	1.1583	0.7120	0.3929	1.4463	0.1273	0.1171	0.6115	0.2308	0.3759	2.037	-1.2971	0.7819	2.103	0.5944
362S162-54	0.4240	1.4429	0.8800	0.4855	1.4405	0.1558	0.1433	0.6061	0.4528	0.4569	2.023	-1.2839	0.7745	2.096	0.5971
362S200-33	0.2975	1.0124	0.6511	0.3592	1.4793	0.1777	0.1398	0.7729	0.1187	0.5772	2.412	-1.7418	1.0305	2.360	0.4787
362S200-43	0.3855	1.3118	0.8381	0.4624	1.4744	0.2274	0.1788	0.7680	0.2614	0.7337	2.399	-1.7294	1.0236	2.351	0.4803
362S200-54	0.4806	1.6355	1.0372	0.5723	1.4690	0.2796	0.2199	0.7627	0.5133	0.8955	2.384	-1.7159	1.0160	2.341	0.4820
600S162-33	0.3442	1.1711	1.7920	0.5973	2.2819	0.1161	0.0958	0.5808	0.1373	0.8615	2.587	-1.0722	0.6767	3.351	0.8283
600S162-43	0.4463	1.5187	2.3111	0.7704	2.2756	0.1479	0.1221	0.5757	0.3026	1.0952	2.576	-1.0612	0.6704	3.360	0.8303
600S162-54	0.5569	1.8951	2.8666	0.9555	2.2687	0.1810	0.1495	0.5701	0.5947	1.3372	2.564	-1.0491	0.6634	3.371	0.8325
600S162-68	0.6965	2.3700	3.5569	1.1856	2.2598	0.2207	0.1824	0.5629	1.1803	1.6259	2.548	-1.0338	0.6545	3.385	0.8354
600S200-33	0.3788	1.2888	2.0743	0.6914	2.3402	0.2092	0.1466	0.7431	0.1511	1.5934	2.855	-1.4570	0.9007	3.253	0.7396
600S200-43	0.4914	1.6721	2.6780	0.8927	2.3345	0.2677	0.1877	0.7381	0.3332	2.0332	2.843	-1.4455	0.8942	3.253	0.7415
600S200-54	0.6135	2.0877	3.3256	1.1085	2.3282	0.3292	0.2309	0.7325	0.6552	2.4925	2.830	-1.4329	0.8870	3.254	0.7437
600S200-68	0.7678	2.6126	4.1327	1.3776	2.3201	0.4041	0.2835	0.7255	1.3011	3.0466	2.814	-1.4168	0.8778	3.255	0.7464
<b>TRACKS (at sections where the lip is cut to fit the studs) <sup>2</sup></b>															
362T162-33	0.2264	0.7702	0.4625	0.2552	1.4295	0.0519	0.0447	0.4789	0.0903	0.1185	1.750	-0.8896	0.5408	2.009	0.7417
362T162-43	0.2929	0.9968	0.5937	0.3275	1.4236	0.0657	0.0571	0.4735	0.1986	0.1492	1.738	-0.8780	0.5340	2.000	0.7449
362T162-54	0.3648	1.2412	0.7324	0.4041	1.4170	0.0798	0.0701	0.4676	0.3895	0.1802	1.725	-0.8654	0.5266	1.991	0.7483
362T200-33	0.2264	0.7702	0.4625	0.2552	1.4295	0.0519	0.0447	0.4789	0.0903	0.1185	1.750	-0.8896	0.5408	2.009	0.7417
362T200-43	0.2929	0.9968	0.5937	0.3275	1.4236	0.0657	0.0571	0.4735	0.1986	0.1492	1.738	-0.8780	0.5340	2.000	0.7449
362T200-54	0.3648	1.2412	0.7324	0.4041	1.4170	0.0798	0.0701	0.4676	0.3895	0.1802	1.725	-0.8654	0.5266	1.991	0.7483
600T162-33	0.3070	1.0445	1.5069	0.5023	2.2156	0.0575	0.0463	0.4328	0.1225	0.3764	2.364	-0.7006	0.4487	3.651	0.9122
600T162-43	0.3980	1.3544	1.9414	0.6471	2.2086	0.0727	0.0591	0.4275	0.2699	0.4750	2.353	-0.6903	0.4424	3.659	0.9139
600T162-54	0.4966	1.6899	2.4054	0.8018	2.2008	0.0883	0.0725	0.4217	0.5303	0.5751	2.341	-0.6791	0.4355	3.667	0.9159
600T162-68	0.6210	2.1130	2.9804	0.9935	2.1908	0.1065	0.0887	0.4142	1.0523	0.6916	2.327	-0.6648	0.4267	3.679	0.9184
600T200-33	0.3070	1.0445	1.5069	0.5023	2.2156	0.0575	0.0463	0.4328	0.1225	0.3764	2.364	-0.7006	0.4487	3.651	0.9122
600T200-43	0.3980	1.3544	1.9414	0.6471	2.2086	0.0727	0.0591	0.4275	0.2699	0.4750	2.353	-0.6903	0.4424	3.659	0.9139
600T200-54	0.4966	1.6899	2.4054	0.8018	2.2008	0.0883	0.0725	0.4217	0.5303	0.5751	2.341	-0.6791	0.4355	3.667	0.9159
600T200-68	0.6210	2.1130	2.9804	0.9935	2.1908	0.1065	0.0887	0.4142	1.0523	0.6916	2.327	-0.6648	0.4267	3.679	0.9184

For SI units: 1 inch = 25.4 mm

<sup>1</sup> Tabulated properties are based on the full un-reduced cross section, away from punch-outs (for studs), swagged ends (for studs), and cut lips (for tracks).

<sup>2</sup> See track lip cut in Figure 1.

**TABLE 3—EFFECTIVE SECTION PROPERTIES FOR GRADE ST33H AND ST37H STEEL**

MEMBER	ST33H STEEL ( $F_y = 33$ ksi & $F_u = 45$ ksi)							ST37H STEEL ( $F_y = 37$ ksi & $F_u = 52$ ksi)						
	$I_{xe}^2$	$S_{xe}$	$M_{al}^3$	$M_{ad}^3$	$V_a$	$V_{anet}$	$L_u$	$I_{xe}^2$	$S_{xe}$	$M_{al}^3$	$M_{ad}^3$	$V_a$	$V_{anet}$	$L_u$
	in. <sup>4</sup>	in. <sup>3</sup>	in-k	in-k	lb	lb	in.	in. <sup>4</sup>	in. <sup>3</sup>	in-k	in-k	lb	lb	in.
<b>STUDS (away from punched-out sections and away from swagged ends) and TRACKS (at sections with full lips) <sup>1</sup></b>														
362S162-33	0.5412	0.2943	5.816	5.456	1024	529	42.32	0.5343	0.2882	6.385	5.899	1075	555	39.95
362S162-43	0.7119	0.3928	7.762	7.643	1740	682	42.00	0.7084	0.3892	8.622	8.302	1842	722	39.70
362S162-54	0.8800	0.4855	9.594	9.594	2372	732	41.47	0.8800	0.4855	10.757	10.757	2659	820	39.16
362S200-33	0.6065	0.3199	6.321	6.211	1024	529	51.80	0.5984	0.3130	6.934	6.706	1075	555	48.88
362S200-43	0.8240	0.4496	8.885	8.726	1740	682	51.91	0.8132	0.4397	9.743	9.460	1842	722	48.84
362S200-54	1.0373	0.5723	11.308	11.308	2372	732	51.81	1.0366	0.5715	12.663	12.571	2659	820	48.91
600S162-33	1.7515	0.5763	11.387	9.462	638	638	41.77	1.7071	0.5512	12.212	10.184	638	638	38.45
600S162-43	2.3102	0.7701	15.217	13.531	1419	1239	41.26	2.2968	0.7626	16.897	14.617	1419	1239	38.91
600S162-54	2.8658	0.9553	18.877	18.221	2740	1896	40.57	2.8658	0.9553	21.165	19.766	2816	1948	38.31
600S162-68	3.5568	1.1855	23.426	23.429	4348	2371	39.67	3.5568	1.1855	26.266	26.269	4604	2511	37.46
600S200-33	1.9428	0.6221	12.293	10.760	638	638	51.55	1.8901	0.5930	13.138	11.575	638	638	47.24
600S200-43	2.6329	0.8686	17.163	15.362	1419	1239	51.90	2.6000	0.8511	18.856	16.581	1419	1239	48.83
600S200-54	3.3248	1.1083	21.900	20.672	2740	1896	51.65	3.3211	1.1061	24.507	22.396	2816	1948	48.74
600S200-68	4.1326	1.3775	27.219	27.222	4348	2371	50.90	4.1326	1.3775	30.519	30.107	4604	2511	48.07
<b>TRACKS (at sections where the lip is cut to fit the studs)</b>														
362T162-33	0.3536	0.1700	3.359		1024			0.3493	0.1671	3.702		1075		
362T162-43	0.4840	0.2395	4.732		1740			0.4777	0.2349	5.205		1842		
362T162-54	0.6331	0.3222	6.366		2372			0.6246	0.3158	6.996		2659		
362T200-33	0.3536	0.1700	3.359		1024			0.3493	0.1671	3.702		1075		
362T200-43	0.4840	0.2395	4.732		1740			0.4777	0.2349	5.205		1842		
362T200-54	0.6331	0.3222	6.366		2372			0.6246	0.3158	6.996		2659		
600T162-33	1.1396	0.3287	6.494		638			1.0985	0.3102	6.874		638		
600T162-43	1.6603	0.5130	10.137		1419			1.6442	0.5059	11.208		1419		
600T162-54	2.0429	0.6085	12.024		2740			2.0073	0.5910	13.095		2816		
600T162-68	2.6974	0.8362	16.524		4348			2.6669	0.8219	18.209		4604		
600T200-33	1.1396	0.3287	6.494		638			1.0985	0.3102	6.874		638		
600T200-43	1.6603	0.5130	10.137		1419			1.6442	0.5059	11.208		1419		
600T200-54	2.0429	0.6085	12.024		2740			2.0073	0.5910	13.095		2816		
600T200-68	2.6974	0.8362	16.524		4348			2.6669	0.8219	18.209		4604		

For SI units: 1 inch = 25.4 mm; 1 in-k = 112.98 N-m; 1 lb = 4.448 N; 1 ksi = 6.895 MPa.

<sup>1</sup> All properties and design values are based on full-unreduced cross section of the member, away from the swaged end and web punchouts (except for  $V_{anet}$ ) for studs, and away from cut lip for tracks (See Figure 1).  $V_{anet}$  was calculated at a stud section where the punchout exists.

<sup>2</sup> For deflection calculations, use the effective moment of inertia,  $I_{xe}$ .

<sup>3</sup> Strength increase from cold work of forming was not considered in the calculation of capacities.

**TABLE 4—EFFECTIVE SECTION PROPERTIES FOR GRADE 50 OR ST50H STEEL**

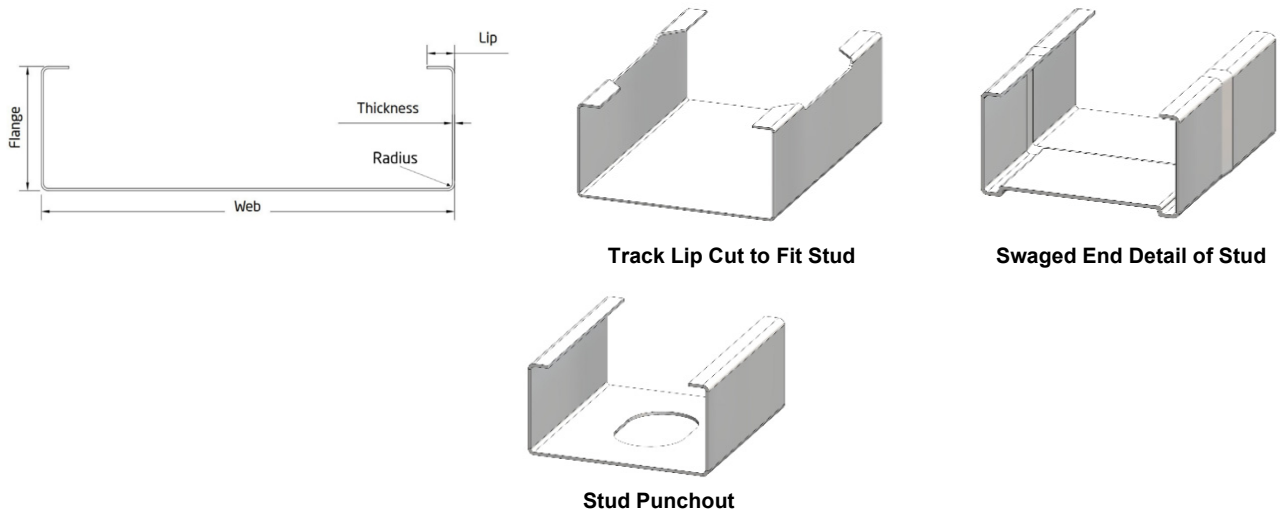
ST50H OR GRADE 50 STEEL ( $F_y = 50$ ksi & $F_u = 65$ ksi)														
STUDS (away from punched-out sections and away from swagged ends) and TRACKS (at sections with full lips) <sup>1</sup>								TRACKS (at sections where the lip is cut to fit the studs)						
Member	$I_{xe}^2$	$S_{xe}$	$M_{al}^3$	$M_{ad}^3$	$V_a$	$V_{anet}$	$L_u$	Member	$I_{xe}^2$	$S_{xe}$	$M_{al}^3$	$V_a$		
	in. <sup>4</sup>	in. <sup>3</sup>	in-k	in-k	lb	lb	in.		in. <sup>4</sup>	in. <sup>3</sup>	in-k	lb		
362S162-33	0.5139	0.2705	8.097	7.191	1075	555	34.47	362T162-33	0.3387	0.1600	4.791	1075		
362S162-43	0.6695	0.3541	10.602	10.228	2141	839	34.21	362T162-43	0.4619	0.2239	6.702	2141		
362S162-54	0.8656	0.4711	14.105	13.706	3372	1041	33.81	362T162-54	0.6031	0.2999	8.979	3372		
362S200-33	0.5768	0.2950	8.833	8.150	1075	555	42.07	362T200-33	0.3387	0.1600	4.791	1075		
362S200-43	0.7813	0.4114	12.319	11.605	2141	839	41.73	362T200-43	0.4619	0.2239	6.702	2141		
362S200-54	0.9797	0.5182	15.514	15.581	3372	1041	41.43	362T200-54	0.6031	0.2999	8.979	3372		
600S162-33	1.5772	0.4810	14.403	12.295	638	638	30.24	600T162-33	1.0007	0.2687	8.044	638		
600S162-43	2.1867	0.7054	21.120	17.792	1419	1239	33.27	600T162-43	1.5378	0.4555	13.638	1419		
600S162-54	2.8175	0.9287	27.805	24.282	2816	1948	32.83	600T162-54	1.9086	0.5446	16.305	2816		
600S162-68	3.5568	1.1855	35.495	33.046	5352	2919	32.23	600T162-68	2.5661	0.7711	23.087	5352		
600S200-33	1.7596	0.5247	15.709	13.958	638	638	37.52	600T200-33	1.0007	0.2687	8.044	638		
600S200-43	2.5102	0.8049	24.098	20.144	1419	1239	41.71	600T200-43	1.5378	0.4555	13.638	1419		
600S200-54	3.1519	1.0153	30.398	27.434	2816	1948	40.98	600T200-54	1.9086	0.5446	16.305	2816		
600S200-68	4.0776	1.3460	40.299	37.283	5352	2919	40.98	600T200-68	2.5661	0.7711	23.087	5352		

For SI units: 1 inch = 25.4 mm; 1 in-k = 112.98 N-m; 1 lb = 4.448 N; 1 ksi = 6.895 MPa.

<sup>1</sup> All properties and design values are based on full-unreduced cross section of the member, away from the swaged end and web punchouts (except for  $V_{anet}$ ) for studs, and away from cut lip for tracks (See Figure 1).  $V_{anet}$  was calculated at a stud section where the punchout exists.

<sup>2</sup> For deflection calculations, use the effective moment of inertia,  $I_{xe}$ .

<sup>3</sup> Strength increase from cold work of forming was not considered in the calculation of capacities.



**FIGURE 1—TYPICAL STUD AND TRACK DETAILS**

**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:**

**STEEL TECH USA**

**EVALUATION SUBJECT:**

**STEEL STUD FRAMING**

## 1.0 REPORT PURPOSE AND SCOPE

**Purpose:**

The purpose of this evaluation report supplement is to indicate that the Steel Stud Framing studs and tracks, described in ICC-ES evaluation report [ESR-5191](#), have also been evaluated for compliance with the codes noted below as adopted by the Los Angeles Department of Building and Safety (LADBS).

**Applicable code editions:**

- 2023 *City of Los Angeles Building Code* (LABC)
- 2023 *City of Los Angeles Residential Code* (LARC)

## 2.0 CONCLUSIONS

The Steel Stud Framing studs and tracks, described in Sections 2.0 through 7.0 of the evaluation report [ESR-5191](#), comply with the LABC Chapter 22, and the LARC, and are subject to the conditions of use described in this supplement.

## 3.0 CONDITIONS OF USE

The Steel Stud Framing studs and tracks described in this evaluation report supplement must comply with all of the following conditions:

- All applicable sections in the evaluation report [ESR-5191](#).
- The design, installation, conditions of use and identification of the Steel Stud Framing studs and tracks are in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the evaluation report [ESR-5191](#).
- The design, installation and inspection are in accordance with additional requirements of LABC Chapters 16, 17 and 22, as applicable.
- Under the LARC, an engineered design in accordance with LARC Section R301.1.3 must be submitted.

This supplement expires concurrently with the evaluation report, issued March 2024.

**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:**

STEEL TECH USA

**EVALUATION SUBJECT:**

STEEL STUD FRAMING

**1.0 REPORT PURPOSE AND SCOPE****Purpose:**

The purpose of this evaluation report supplement is to indicate that the Steel Stud Framing studs and tracks, described in ICC-ES evaluation report ESR-5191, have also been evaluated for compliance with the codes noted below.

**Applicable code edition(s):**

- 2022 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.

- 2022 California Residential Code (CRC)

**2.0 CONCLUSIONS****2.1 CBC:**

The Steel Stud Framing studs and tracks, described in Sections 2.0 through 7.0 of the evaluation report ESR-5191, comply with CBC Chapter 22, provided the design and installation are in accordance with the 2021 *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.

**2.2 CRC:**

The Steel Stud Framing studs and tracks, described in Sections 2.0 through 7.0 of the evaluation report ESR-5191, comply with the CRC, provided the design and installation are in accordance with the 2021 *International Residential Code*® (IRC) provisions noted in the evaluation report.

This supplement expires concurrently with the evaluation report, issued March 2024.