Code Compliance Research Report
CCRR-0540

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DIVISION: 05 00 00 - METALS
Section: 05 40 00 – Cold-Formed Metal Framing
DIVISION: 09 00 00 - FINISHES
Section: 09 22 16.13 – Non-Structural Metal Stud Framing

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REPORT SUBJECT:
UMS EQ Stud and UMS EQ Track Cold-Formed Steel Non-Structural Studs and Tracks

1.0 SCOPE OF EVALUATION

1.1 This Research Report addresses compliance with the following Codes:

- 2024, 2021 and 2018 *International Building Code®* (IBC)
- 2024, 2021 and 2018 *International Residential Code®* (IRC)

NOTE: This report references the most recent Code editions noted. Section numbers in earlier editions may differ.

1.2 UMS Non-structural EQ Studs and EQ Tracks have been evaluated for the following properties (see Table 1):

- Structural

1.3 UMS Non-structural EQ Studs and EQ Tracks have been evaluated for use as interior non-load bearing (non-structural), gypsum board sheathed walls in compliance with IBS Sections 2210.1 and 2508 and IRC sections R603 and R702.3

2.0 STATEMENT OF COMPLIANCE

UMS Cold-Formed Steel Non-structural EQ Studs and EQ Tracks complies with the Codes listed in Section 1.1, for the properties stated in Section 1.2 and uses stated in Section 1.3, when installed as described in this report, including the Conditions of Use stated in Section 6.

3.0 DESCRIPTION

3.1 UMS cold-formed, non-structural EQ Studs are "C" shaped member with web embossment (except 1 5/8" web depths) and stiffing lip. UMS Cold-formed, non-structural EQ Tracks are "U" shaped members with web embossment (except 1 5/8" web depths). See Figures 1 - 21 in this report. The UMS framing members recognized in this report are limited to UMS EQ Studs and UMS EQ Track members found in Table 2.

3.2 UMS cold-formed, non-structural UMS EQ Studs and UMS EQ Tracks are made with ASTM A1003 Steel Coils. Grades for UMS EQ Studs and UMS EQ Tracks are found in Table 2. The UMS EQ Studs and UMS EQ Tracks have a protective coating in accordance with AISI S220 conforming to ASTM A653 G40.

3.3 UMS EQ Studs are available in two design thicknesses with multiple web depths. UMS EQ Tracks are available in two design thicknesses and multiple web depths. UMS EQ Studs and UMS EQ Tracks with a design thickness of 0.0158 inches are available in web widths of 1- 5/8", 2 - 1/2", 3 – 1/2", 3 – 5/8" and 4". UMS EQ Studs and UMS EQ Tracks with a design thickness of 0.0190 inches are available in web widths of 1 – 5/8", 2 – 1/2", 3 – 1/2", 3 – 5/8", 4" and 6". See Figures 1 - 21 for stud and track profiles. See Table 2 for product designations.

3.4 UMS EQ Studs can be manufactured with pre-punched knockouts. The knockout sizes and shapes vary with the stud web depth. Knockouts shall be spaced along the centerline of the web. Knockouts shall be spaced at minimum of 24" on center and shall be located not less than 12" from the end of the stud. Knockouts shall have a width not greater than half the member depth or 2 1/2", whichever is less. Knockouts shall have a length not exceeding 4 1/2".

4.0 PERFORMANCE CHARACTERISTICS

4.1 Section Properties have been determined in accordance with AISI S100 and provided in Table 3.

4.2 Non-load bearing (non-structural), non-composite wall heights are determined by the lesser of the limiting conditions which include: deflection, shear strength, web crippling strength, or flexural strength of the stud. The allowable heights for interior, non-load bearing walls are shown in Table 4 and Table 5.

4.3 Allowable Screw Connection Capacities for limited screw types are found in Table 6.

5.0 INSTALLATION

5.1 UMS cold-formed, non-structural UMS EQ Studs and UMS EQ Tracks must be installed in accordance with the manufacture's published installation instruction, the applicable Code and this Research Report. A copy of the manufacturer's instruction must be available on the jobsite during installation.

5.2 Installation shall be in accordance with the code requirements and references AISI standard therein for cold-formed steel light frame construction, including IBC Section 2206 and IRC Section R603 for One- and Two-Family Dwellings regulated by the IRC.

6.0 CONDITIONS OF USE

6.1 Installation must comply with this Research Report, the manufacturer's published installation instructions, and the applicable Code. In the event of a conflict, this report governs.

6.2 All designs and calculations shall be prepared by a licensed design professional according to the requirements in the jurisdiction where the project is located.

6.3 Jobsite manufacturing of studs or tracks is outside the scope of this report.

6.4 The minimum base steel thickness of the section delivered to the jobsite shall be a minimum of 95% of the design thickness.

6.5 The UMS EQ Studs and UMS EQ Tracks are manufactured under a quality control program with inspections by Intertek Testing Services NA, Inc.

7.0 SUPPORTING EVIDENCE

7.1 Manufacturer's drawings and installation instructions.

7.2 Report of engineering and evaluation analysis in accordance with AISI S100-16/S2-20, North American Specification for eth Design of Cold-Formed Steel Structural member and AISI S220-20, North American Standard for Cold-Formed Stel Nonstructural Framing.

7.3 Intertek Listing Report "UMS – Metal Steel Profiles", on the Intertek Directory of Building Products.

8.0 OTHER CODES

This section is not applicable.

9.0 CODE COMPLIANCE RESEARCH REPORT USE

9.1 Approval of building products and/or materials can only be granted by a building official having legal authority in the specific jurisdiction where approval is sought.

9.2 Code Compliance Research Reports shall not be used in any manner that implies an endorsement of the product by Intertek.

9.3 Reference to the https://bpdirectory.intertek.com is recommended to ascertain the current version and status of this report.

TABLE 1 – CODE REFERENCED STANDARDS

2021, 2018 IBC	2021, 2018 IRC
AISI S100-16/S2-20 ASIS S220-20	AISI S100-16/S2-20 ASIS S220-20

Table 2 – Member Designations

Member Designation	Design Thickness	Minimum Base Steel Thickness	Web Depth	Flange Width	Return Lip	Yield Strength
162S125-15 (25 EQ)	0.0158 in.	0.0150 in.	1-5/8 in.	1-1/4 in.	3/16 in.	50 ksi
250S125-15 (25 EQ)	0.0158 in.	0.0150 in.	2-1/2 in.	1-1/4 in.	3/16 in.	50 ksi
350S125-15 (25 EQ)	0.0158 in.	0.0150 in.	3-1/2 in.	1-1/4 in.	3/16 in.	50 ksi
362S125-15 (25 EQ)	0.0158 in.	0.0150 in.	3-5/8 in.	1-1/4 in.	3/16 in.	50 ksi
400S125-15 (25 EQ)	0.0158 in.	0.0150 in.	4 in.	1-1/4 in.	3/16 in.	50 ksi
162S125-18 (20 EQ)	0.0190 in.	0.0181 in.	1-5/8 in.	1-1/4 in.	3/16 in.	70 ksi
250S125-18 (20 EQ)	0.0190 in.	0.0181 in.	2-1/2 in.	1-1/4 in.	3/16 in.	70 ksi
350S125-18 (20 EQ)	0.0190 in.	0.0181 in.	3-1/2 in.	1-1/4 in.	3/16 in.	70 ksi
362S125-18 (20 EQ)	0.0190 in.	0.0181 in.	3-5/8 in.	1-1/4 in.	3/16 in.	70 ksi
400S125-18 (20 EQ)	0.0190 in.	0.0181 in.	4 in.	1-1/4 in.	3/16 in.	70 ksi
600S125-18 (20 EQ)	0.0190 in.	0.0181 in.	6 in.	1-1/4 in.	3/16 in.	70 ksi
162T125-15 (25 EQ)	0.0158 in.	0.0150 in.	1-5/8 in.	1-1/4 in.	N.A.	50 ksi
250T125-15 (25 EQ)	0.0158 in.	0.0150 in.	2-1/2 in.	1-1/4 in.	N.A.	50 ksi
350T125-15 (25 EQ)	0.0158 in.	0.0150 in.	3-1/2 in.	1-1/4 in.	N.A.	50 ksi
362T125-15 (25 EQ)	0.0158 in.	0.0150 in.	3-5/8 in.	1-1/4 in.	N.A.	50 ksi
400T125-15 (25 EQ)	0.0158 in.	0.0150 in.	4 in.	1-1/4 in.	N.A.	50 ksi
162T125-18 (20 EQ)	0.0190 in.	0.0181 in.	1-5/8 in.	1-1/4 in.	N.A.	50 ksi
250T125-18 (20 EQ)	0.0190 in.	0.0181 in.	2-1/2 in.	1-1/4 in.	N.A.	50 ksi
350T125-18 (20 EQ)	0.0190 in.	0.0181 in.	3-1/2 in.	1-1/4 in.	N.A.	50 ksi
362T125-18 (20 EQ)	0.0190 in.	0.0181 in.	3-5/8 in.	1-1/4 in.	N.A.	50 ksi
400T125-18 (20 EQ)	0.0190 in.	0.0181 in.	4 in.	1-1/4 in.	N.A.	50 ksi
600T125-18 (20 EQ)	0.0190 in.	0.0181 in.	6 in.	1-1/4 in.	N.A.	50 ksi

Note:

1. See Figures 1 to 11 for UMS EQ Studs Drawings.
2. See Figures 12 to 21 for UMS EQ Tracks Drawings.

TABLE 3 – UMS EQ STUD AND UMS EQ TRACKS SECTION PROPERTIES

Member				Gross Properties							Effective Properties						Torsional Prop				
	Design Thickness (in.)	Minimum Base Steel Thickness (in.)	F_y (ksi)	Area (in^2)	Weight (lb/ft)	I_x (in^4)	S_x (in^3)	R_x (in)	I_y (in^4)	Ry (in)	I_x (in^4)	S_x (in^3)	M_a (in-k)	M_{ad} (in-k)	Va_g (lb)	Va_{net} (lb)	J x 1000 (in^4)	C_w (In^6)	X_s (in)	R_{os} (in)	β_{rf}
162S125-15 (25 EQ)	0.0158	0.0150	50	0.068	0.231	0.032	0.039	0.686	0.013	0.443	0.026	0.029	0.683	0.570	170	100	0.0060	0.007	0.9993	0.620	1.29
250S125-15 (25 EQ)	0.0158	0.0150	50	0.082	0.276	0.084	0.067	1.01	0.015	0.432	0.077	0.059	1.03	0.983	250	175	0.0068	0.018	0.9304	0.574	1.50
350S125-15 (25 EQ)	0.0158	0.0150	50	0.098	0.324	0.184	0.104	1.37	0.017	0.416	0.179	0.101	1.53	0.773	240	240	0.0081	0.039	0.7616	0.502	1.62
362S125-15 (25 EQ)	0.0158	0.0150	50	0.100	0.336	0.198	0.109	1.41	0.017	0.413	0.195	0.107	1.59	0.773	245	245	0.0082	0.042	0.7502	0.500	1.65
400S125-15 (25 EQ)	0.0158	0.0150	50	0.105	0.360	0.249	0.125	1.54	0.017	0.407	0.247	0.127	1.79	1.79	284	284	0.0090	0.052	0.7190	0.484	1.75
162S125-18 (20 EQ)	0.0190	0.0181	70	0.082	0.276	0.038	0.053	0.686	0.016	0.443	0.034	0.039	0.864	0.69	264	150	0.0098	0.008	1.0900	0.628	1.40
250S125-18 (20 EQ)	0.0190	0.0181	70	0.098	0.336	0.101	0.081	1.01	0.018	0.432	0.100	0.079	1.89	1.690	290	286	0.0120	0.022	0.8686	0.578	1.40
350S125-18 (20 EQ)	0.0190	0.0181	70	0.117	0.396	0.219	0.125	1.37	0.020	0.416	0.219	0.125	2.80	2.54	373	373	0.0140	0.047	0.7614	0.507	1.62
362S125-18 (20 EQ)	0.0190	0.0181	70	0.120	0.408	0.238	0.131	1.41	0.020	0.413	0.238	0.131	2.92	2.63	418	418	0.0140	0.050	0.7500	0.500	1.65
400S125-18 (20 EQ)	0.0190	0.0181	70	0.127	0.432	0.300	0.150	1.54	0.021	0.407	0.300	0.150	3.27	2.88	402	402	0.0154	0.063	0.7190	0.483	1.96
600S125-18 (20 EQ)	0.0190	0.0181	70	0.164	0.552	0.783	0.261	2.18	0.022	0.369	0.783	0.262	4.42	4.08	409	409	0.0200	0.189	0.6084	0.417	2.36
162T125-15 (25 EQ)	0.0158	0.0150	50	0.064	0.22	0.032	0.038	0.702	0.013	0.404	0.017	0.016	0.389	-	481	-	0.005	0.005	0.8525	0.493	1.18
250T125-15 (25 EQ)	0.0158	0.0150	50	0.079	0.268	0.082	0.065	1.02	0.012	0.390	0.057	0.038	0.696	-	481	-	0.007	0.014	0.7349	0.474	1.32
350T125-15 (25 EQ)	0.0158	0.0150	50	0.095	0.324	0.178	0.100	1.37	0.013	0.371	0.137	0.069	0.914	-	481	-	0.008	0.030	0.6399	0.423	1.56
362T125-15 (25 EQ)	0.0158	0.0150	50	0.097	0.328	0.193	0.105	1.41	0.013	0.369	0.151	0.073	0.946	-	481	-	0.008	0.033	0.6299	0.418	1.57
400T125-15 (25 EQ)	0.0158	0.0150	50	0.102	0.348	0.242	0.120	1.54	0.013	0.362	0.194	0.086	1.79	-	290	-	0.008	0.041	0.6021	0.446	1.69
162T125-18 (20 EQ)	0.0190	0.0181	50	0.078	0.264	0.040	0.046	0.702	0.010	0.404	0.025	0.023	0.511	-	674	-	0.009	0.006	0.8528	0.474	1.20
250T125-18 (20 EQ)	0.0190	0.0181	50	0.095	0.324	0.099	0.078	1.02	0.014	0.390	0.075	0.051	0.885	-	674	-	0.011	0.017	0.7351	0.472	1.32
350T125-18 (20 EQ)	0.0190	0.0181	50	0.114	0.387	0.213	0.121	1.37	0.015	0.371	0.178	0.091	1.25	-	674	-	0.014	0.036	0.6401	0.425	1.56
362T125-18 (20 EQ)	0.0190	0.0181	50	0.116	0.395	0.232	0.126	1.41	0.016	0.369	0.195	0.097	1.30	-	674	-	0.013	0.039	0.6301	0.418	1.59
400T125-18 (20 EQ)	0.0190	0.0181	50	0.123	0.418	0.291	0.144	1.54	0.016	0.362	0.247	0.113	2.36	-	423	-	0.014	0.049	0.6021	0.446	1.69
600T125-18 (20 EQ)	0.0190	0.0181	50	0.161	0.547	0.769	0.254	2.19	0.017	0.327	0.723	0.232	2.24	-	666	-	0.019	0.122	0.4859	0.336	2.26

Notes:

1 - Section properties were determined in accordance with AISI S100, North American Specification for Design of Cold Formed Steel Structural Members.

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

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

4 - Distortional buckling strength is based on a k-phi = 0

5 - Where web-height to thickness ratio exceeds 200, web stiffeners are required at all support points and concentrated loads

TABLE 4 – UMS EQ STUDS AND UMS EQ TRACKS ALLOWALBE LIMITING HEIGHTS: INTERIOR NON-STRUCTRUAL, NON-COMPOSITE FULLY BRACED

Member	Spacing in, O.C.	F_y, ksi	5 psf			7.5 psf			10 psf		
			L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
162S125-15 (25 EQ)	12	50	8' 9"	6' 11"	6' 0"	7' 7"	6' 0"	5' 3"	6' 11"	5' 6"	4' 9"
	16		7' 11"	6' 3"	5' 6"	6' 11"	5' 6"	4' 9"	5' 6"	5' 0"	4' 4"
	24		6' 11"	5' 6"	4' 9"	4' 11"	4' 9"	3' 8"	3' 8"	3' 8"	3' 8"
250S125-15 (25 EQ)	12	50	12' 6"	9' 11"	8' 8"	10' 11"	8' 8"	7' 7"	9' 0"	7' 11"	6' 10"
	16		11' 5"	9' 0"	7' 11"	9' 0"	7' 11"	6' 11"	6' 9"	6' 9"	6' 3"
	24		9' 0"	7' 11"	6' 10"	6' 0"	6' 0"	5' 3"	4' 6"	4' 6"	4' 6"
350S125-15 (25 EQ)	12	50	16' 7"	13' 2"	11' 6"	14' 6"	11' 6"	10' 1"	11' 0"	10' 5"	9' 1"
	16		15' 1"	12' 0"	10' 5"	11' 0"	10' 5"	9' 2"	8' 3"	8' 3"	8' 3"
	24		11' 0"	10' 5"	9' 1"	7' 4"	7' 4"	6' 11"	5' 6"	5' 6"	5' 6"
362S125-15 (25 EQ)	12	50	17' 1"	13' 7"	11' 10"	14' 11"	11' 10"	10' 4"	11' 3"	10' 9"	9' 5"
	16		15' 6"	12' 4"	10' 9"	11' 3"	10' 9"	9' 5"	8' 5"	8' 5"	8' 5"
	24		11' 3"	10' 9"	9' 5"	7' 6"	7' 6"	7' 2"	5' 7"	5' 7"	5' 7"
400S125-15 (25 EQ)	12	50	18' 6"	14' 8"	12' 10"	15' 11"	12' 10"	11' 2"	11' 11"	11' 8"	10' 2"
	16		16' 10"	13' 2"	11' 8"	11' 11"	11' 8"	10' 2"	8' 11"	8' 11"	8' 11"
	24		11' 11"	11' 8"	10' 2"	7' 11"	7' 11"	7' 9"	5' 11"	5' 11"	5' 11"
162S125-18 (20 EQ)	12	70	9' 6"	7' 7"	6' 7"	8' 4"	6' 7"	5' 9"	7' 7"	6' 0"	5' 3"
	16		8' 8"	6' 10"	6' 0"	7' 7"	6' 0"	5' 3"	6' 2"	5' 5"	4' 9"
	24		7' 7"	6' 0"	5' 3"	5' 6"	5' 3"	4' 0"	4' 1"	4' 1"	4' 1"
250S125-18 (20 EQ)	12	70	13' 8"	10' 10"	9' 5"	11' 11"	9' 5"	8' 3"	10' 10"	8' 7"	7' 6"
	16		12' 5"	9' 10"	8' 7"	10' 10"	8' 7"	7' 6"	9' 2"	7' 10"	6' 10"
	24		10' 10"	8' 7"	7' 6"	8' 2"	7' 6"	5' 9"	6' 1"	6' 1"	5' 11"
350S125-18 (20 EQ)	12	70	17' 9"	14' 1"	12' 4"	15' 6"	12' 4"	10' 9"	14' 1"	11' 2"	9' 9"
	16		16' 2"	12' 10"	11' 2"	14' 1"	11' 2"	9' 9"	11' 2"	10' 2"	8' 10"
	24		14' 1"	11' 2"	9' 9"	9' 11"	9' 9"	7' 5"	7' 5"	7' 5"	7' 5"
362S125-18 (20 EQ)	12	70	18' 3"	14' 6"	12' 8"	15' 11"	12' 8"	11' 1"	14' 6"	11' 6"	10' 0"
	16		16' 7"	13' 2"	11' 6"	14' 6"	11' 6"	10' 0"	11' 5"	10' 5"	9' 1"
	24		14' 6"	11' 6"	10' 0"	10' 2"	10' 0"	7' 8"	7' 7"	7' 7"	7' 7"
400S125-18 (20 EQ	12	70	19' 9"	15' 8"	13' 8"	17' 3"	13' 8"	11' 11"	15' 8"	12' 5"	10' 10"
	16		17' 11"	14' 3"	12' 5"	15' 8"	12' 5"	10' 10"	12' 1"	11' 3"	9' 10"
	24		15' 8"	12' 5"	10' 10"	10' 9"	10' 9"	8' 3"	8' 1"	8' 1"	8' 1"
600S125-18 (20 EQ)	12	70	27' 2"	21' 7"	18' 10"	23' 9"	18' 10"	16' 5"	18' 9"	17' 1"	14' 11"
	16		24' 8"	19' 7"	17' 1"	18' 9"	17' 1"	14' 11"	14' 1"	14' 1"	13' 7"
	24		18' 9"	17' 1"	14' 11"	12' 6"	12' 6"	11' 5"	9' 4"	9' 4"	9' 4"

Notes:

1 – 5 psf, 7.5 psf, and 10 psf lateral loads have NOT been reduced for strength or deflection checks.

2 – Calculations are based on steel properties only. (For non-composite).

3 – Calculations are based on effective section properties for deflection checks.

4 – Calculations are performed for studs simply supported on both ends.

TABLE 5 – UMS EQ STUDS AND UMS EQ TRACKS ALLOWALBE LIMITING HEIGHTS: INTERIOR NON-STRUCTRUAL, NON-COMPOSITE BRACED 48 INCHES ON CENTER

Member	Spacing in, O.C.	F_y, ksi	5 psf			7.5 psf			10 psf		
			L/120	L/240	L/360	L/120	L/240	L/360	L/120	L/240	L/360
162S125-15 (25 EQ)	12	50	8' 9"	6' 11"	6' 0"	7' 7"	6' 0"	5' 3"	6' 9"	5' 6"	4' 9"
	16		7' 11"	6' 3"	5' 6"	6' 9"	5' 6"	4' 9"	5' 0"	5' 0"	4' 4"
	24		6' 9"	5' 6"	4' 9"	4' 6"	4' 6"	4' 2"	3' 4"	3' 4"	3' 4"
250S125-15 (25 EQ)	12	50	12' 6"	9' 11"	8' 8"	10' 11"	8' 8"	7' 7"	8' 10"	7' 11"	6' 10"
	16		11' 5"	9' 0"	7' 11"	8' 10"	7' 11"	6' 11"	6' 7"	6' 7"	6' 3"
	24		8' 10"	7' 11"	6' 10"	5' 10"	5' 10"	5' 10"	4' 5"	4' 5"	4' 5"
350S125-15 (25 EQ)	12	50	15' 8"	13' 2"	11' 6"	10' 5"	10' 5"	10' 1"	7' 10"	7' 10"	7' 10"
	16		11' 9"	11' 9"	10' 5"	7' 10"	7' 10"	7' 10"	5' 10"	5' 10"	5' 10"
	24		7' 10"	7' 10"	7' 10"	5' 2"	5' 2"	5' 2"	3' 11"	3' 11"	3' 11"
362S125-15 (25 EQ)	12	50	15' 8"	13' 7"	11' 10"	10' 5"	10' 5"	10' 4"	7' 10"	7' 10"	7' 10"
	16		11' 9"	11' 9"	10' 9"	7' 10"	7' 10"	7' 10"	5' 10"	5' 10"	5' 10"
	24		7' 10"	7' 10"	7' 10"	5' 2"	5' 2"	5' 2"	3' 11"	3' 11"	3' 11"
400S125-15 (25 EQ)	12	50	18' 6"	14' 8"	12' 10"	15' 11"	12' 10"	11' 2"	11' 11"	11' 8"	10' 2"
	16		16' 10"	13' 2"	11' 8"	11' 11"	11' 8"	10' 2"	8' 11"	8' 11"	8' 11"
	24		11' 11"	11' 8"	10' 2"	7' 11"	7' 11"	7' 11"	5' 11"	5' 11"	5' 11"
162S125-18 (20 EQ)	12	70	9' 6"	7' 7"	6' 7"	8' 4"	6' 7"	5' 9"	7' 5"	6' 0"	5' 3"
	16		8' 8"	6' 10"	6' 0"	7' 5"	6' 0"	5' 3"	5' 6"	5' 5"	4' 9"
	24		7' 5"	6' 0"	5' 3"	4' 11"	4' 11"	4' 7"	3' 8"	3' 8"	3' 8"
250S125-18 (20 EQ)	12	70	13' 8"	10' 10"	9' 5"	11' 11"	9' 5"	8' 3"	10' 10"	8' 7"	7' 6"
	16		12' 5"	9' 10"	8' 7"	10' 10"	8' 7"	7' 6"	8' 8"	7' 10"	6' 10"
	24		10' 10"	8' 7"	7' 6"	7' 9"	7' 6"	6' 6"	5' 9"	5' 9"	5' 9"
350S125-18 (20 EQ)	12	70	17' 9"	14' 1"	12' 4"	15' 6"	12' 4"	10' 9"	14' 1"	11' 2"	9' 9"
	16		16' 2"	12' 10"	11' 2"	14' 1"	11' 2"	9' 9"	10' 8"	10' 2"	8' 10"
	24		14' 1"	11' 2"	9' 9"	9' 6"	9' 6"	8' 6"	7' 1"	7' 1"	7' 1"
362S125-18 (20 EQ)	12	70	18' 3"	14' 6"	12' 8"	15' 11"	12' 8"	11' 1"	14' 6"	11' 6"	10' 0"
	16		16' 7"	13' 2"	11' 6"	14' 6"	11' 6"	10' 0"	10' 10"	10' 5"	9' 1"
	24		14' 6"	11' 6"	10' 0"	9' 8"	9' 8"	8' 9"	7' 3"	7' 3"	7' 3"
400S125-18 (20 EQ	12	70	19' 9"	15' 8"	13' 8"	17' 3"	13' 8"	11' 11"	15' 2"	12' 5"	10' 10"
	16		17' 11"	14' 3"	12' 5"	15' 2"	12' 5"	10' 10"	11' 4"	11' 3"	9' 10"
	24		15' 2"	12' 5"	10' 10"	10' 1"	10' 1"	9' 6"	7' 7"	7' 7"	7' 7"
600S125-18 (20 EQ)	12	70	27' 2"	21' 7"	18' 10"	23' 9"	18' 10"	16' 5"	18' 0"	17' 1"	14' 11"
	16		24' 8"	19' 7"	17' 1"	18' 0"	17' 1"	14' 11"	13' 6"	13' 6"	13' 7"
	24		18' 0"	17' 1"	14' 11"	12' 0"	12' 0"	12' 0"	9' 0"	9' 0"	9' 0"

Notes:

1 – 5 psf, 7.5 psf, and 10 psf lateral loads have NOT been reduced for strength or deflection checks.

2 – Calculations are based on steel properties only. (For non-composite).

3 – Calculations are based on effective section properties for deflection checks.

4 – Calculations are performed for studs simply supported on both ends.

Table 6 – UMS EQ Studs and UMSEQ Tracks Allowable Screw Connections

Thickness (in.)	Yield Strength, F_y (ksi)	Tensile Strength, F_u (ksi)	#6 Screw (0.138" Dia, 1/4" Head)		#8 Screw (0.164" Dia, 5/16" Head)		#10 Screw (0.190" Dia, 0.340" Head)		#12 Screw (0.216" Dia, 0.340" Head)		1/4" Screw (0.250" Dia, 0.409" Head)	
			Shear	Tension	Shear	Tension	Shear	Tension	Shear	Tension	Shear	Tension
0.015	50	65	62	38	68	45	73	52	78	60	84	69
0.018	70	80	100	56	110	67	118	78	126	88	135	102

Notes:

1. Calculated properties are based on AISI S100-16 (2020) w/ S2-20, *North American Specification for the Design of Cold-Formed Steel Structural Members 2016 Edition (Reaffirmed 2020) with Supplement 2, 2020 Edition*.
2. When connecting materials of different steel thickness or steel strength, use the lowest values. Tabulated values assume two sheets of equal thickness are joined.
3. Screw shear and tension capacities are developed using screw manufacturer data and evaluation reports available at the time of publication.
4. A Nominal shear stress of 42.85 ksi and Nominal tension stress of 40.84 ksi is used for calculations based on screw manufacturer data (ITW-Buildex).
5. Screw capacities are based on Allowable Strength Design (ASD) and include a safety factor of 3.0.
6. When multiple fasteners are used, screws are assumed to have a center-to-center spacing of at least 3 times the nominal diameter (d).
7. Screws are assumed to a to have a center-of-screw to edge-of-steel dimension of at least 1.5 times the nominal diameter (d) of the screw.
8. Tension capacity is based on the lesser of pullout capacity in the connected sheet (closest to tip), or pullover capacity for sheet closest to head (using head diameter)
9. Note that for all tension values calculated in screw table, pullover values have been reduced by 50% assuming eccentrically load connections that produce a non-uniform pullover force of the fastener.
10. Screw capacities are governed by a conservative estimate of screw capacity, not the sheet steel failure.
11. For higher screw capacities, especially for screw strength, use specific screws from a specific manufacturer. See Manufacturer's data for specific allowable values and installation instructions.

Figure 1: UMS EQ Stud 162S125-15 (25 EQ)

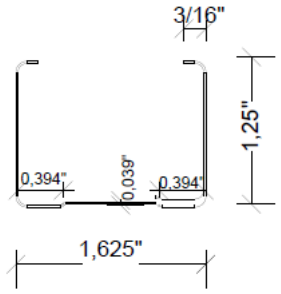

Figure 2: UMS EQ Stud 250S125-15 (25 EQ)

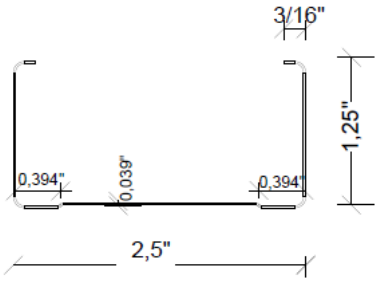

Figure 3: UMS EQ Stud 350S125-15 (25 EQ)

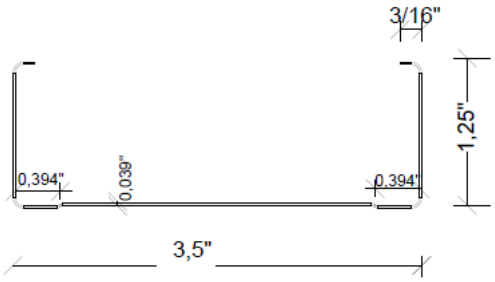

Figure 4: UMS EQ Stud 362S125-15 (25 EQ)

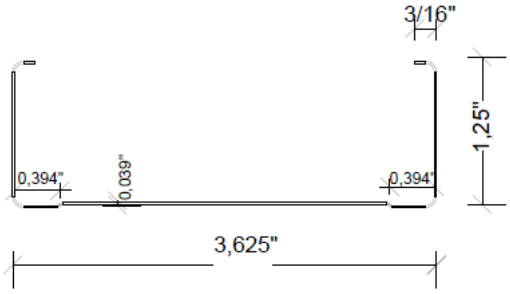

Figure 5: UMS EQ Stud 400S125-15 (25 EQ)

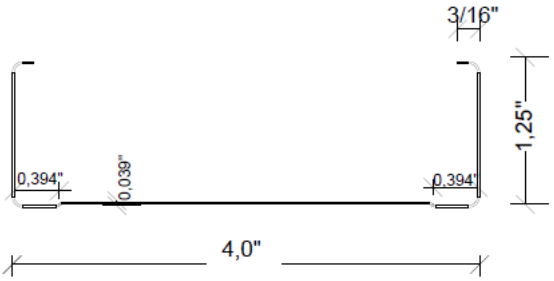

Figure 6: UMS EQ Stud 162S125-18 (20 EQ)

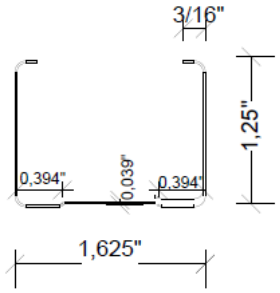

Figure 7: UMS EQ Stud 250S125-18 (20 EQ)

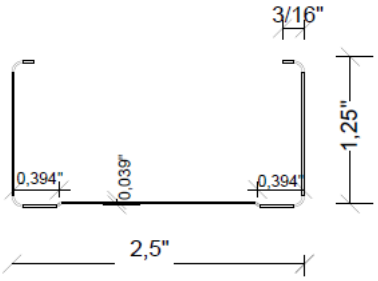

Figure 8: UMS EQ Stud 350S125-18 (20 EQ)

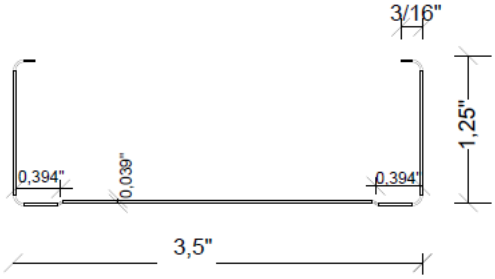

Figure 9: UMS EQ Stud 362S125-18 (20 EQ)

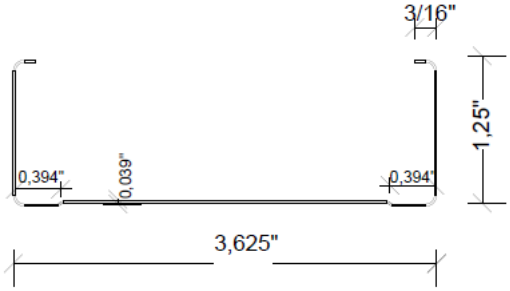

Figure 10: UMS EQ Stud 400S125-18 (20 EQ)

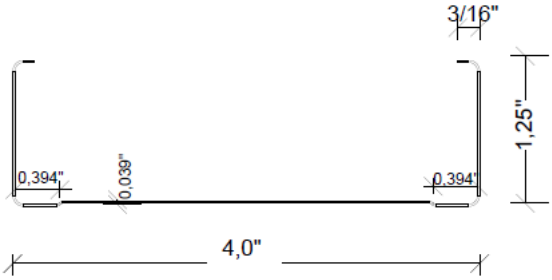

Figure 11: UMS EQ Stud 600S125-18 (20 EQ)

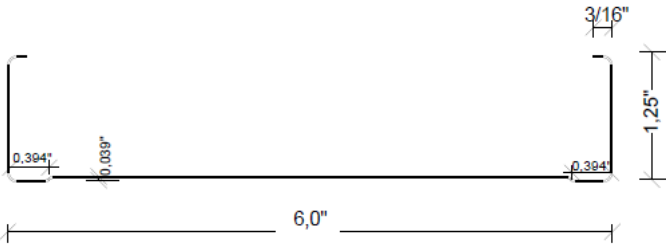

Figure 12: UMS EQ Track 162T125-15 (25 EQ)

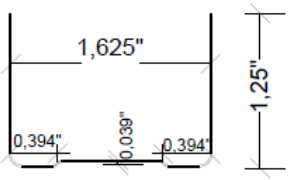

Figure 13: UMS EQ Track 250T125-15 (25 EQ)

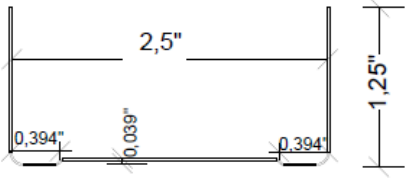

Figure 13: UMS EQ Track 350T125-15 (25 EQ)

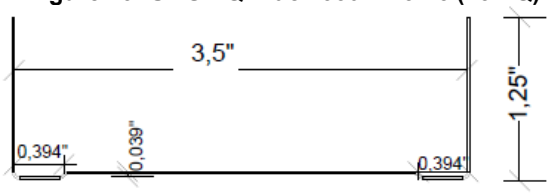

Figure 14: UMS EQ Track 362T125-15 (25 EQ)

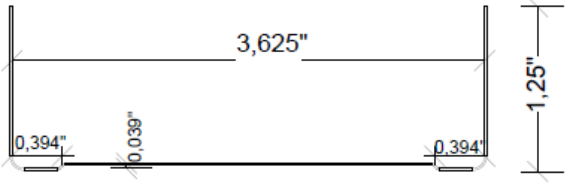

Figure 15: UMS EQ Track 400T125-15 (25 EQ)

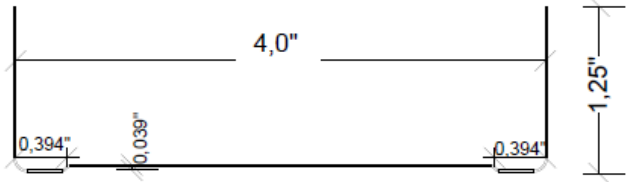

Figure 16: UMS EQ Track 162T125-15 (20 EQ)

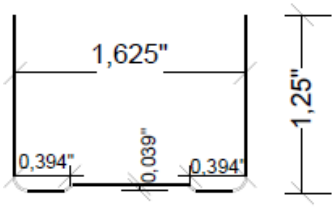

Figure 17: UMS EQ Track 250T125-15 (20 EQ)

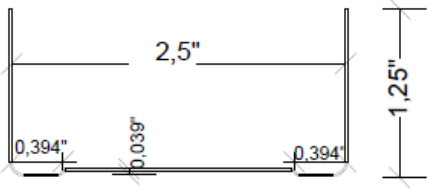

Figure 18: UMS EQ Track 350T125-15 (20 EQ)

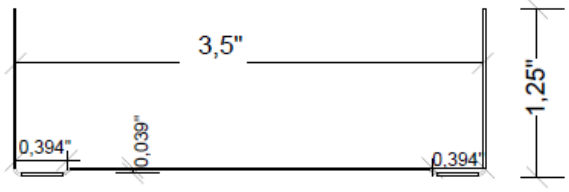

Figure 19: UMS EQ Track 362T125-15 (20 EQ)

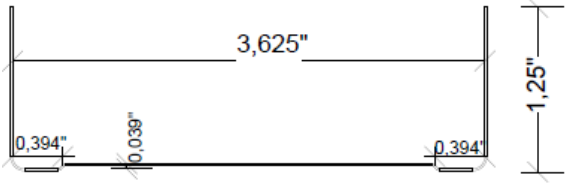

Figure 20: UMS EQ Track 400T125-15 (20 EQ)

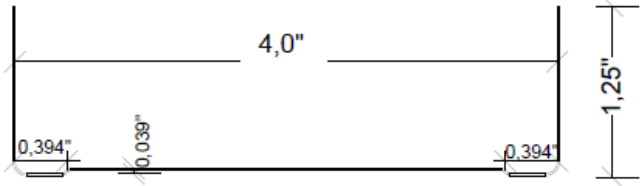

Figure 21: UMS EQ Track 600T125-15 (20 EQ)