ICC-ES Evaluation Report

ESR-2620*

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This report is subject to renewal in two years.

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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

REPORT HOLDER:

WARE INDUSTRIES, INC. (DBA Marino\WARE)
400 METUCHEN ROAD
SOUTH PLAINFIELD, NEW JERSEY 07080
(908) 757-9000
www.marinoware.com

EVALUATION SUBJECT:

VIPERSTUD DRYWALL FRAMING SYSTEM (NONLOAD-BEARING): VIPER25, VIPER20S, VIPER20D

ADDITIONAL LISTEE:

CALIFORNIA EXPANDED METAL COMPANY (CEMCO)
263 NORTH COVINA LANE
CITY OF INDUSTRY, CALIFORNIA 91746
(800) 775-2362
www.cemcosteel.com

TELLING INDUSTRIES, LLC
6272 CENTER STREET
MENTOR, OHIO 44060
(440) 974-3370

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2009 *International Building Code*® (2009 IBC)
- 2009 *International Residential Code*® (2009 IRC)
- 2006 *International Building Code*® (2006 IBC)
- 2006 *International Residential Code*® (2006 IRC)

Property evaluated:

Structural

2.0 USES

ViperStud studs and tracks are used for framing of interior nonload-bearing composite walls.

3.0 DESCRIPTION

3.1 General:

Products recognized under this report are limited to the ViperStud studs and tracks noted in Table 2. The studs are roll-formed in a "C" shape with a rib (ViperRib) in the flange and an offset in the web. The tracks are channel-shaped with offsets in the web. The studs are manufactured with and without punch-outs. The punch-outs are 0.75 inch by 1.7 inches (19 mm by 44 mm) for studs with web depth of 1.625 inches (41 mm). For all other studs, the punch-outs are 1.5 inches by 2.5 inches (38 mm by 64 mm) for the products produced under the Marino\Ware name and 1.5 inches by 2.75 inches (38 mm by 70 mm) for products produced under the California Expanded Metal Company name. Punch-outs are spaced 24 inches (610 mm) on center along the centerline of the member, with a minimum distance of 10 inches (254 mm) from the end of the member to the near edge of the punch-out, when provided. See Figure 1 for stud and track configurations. See Figure 2 for punch-out configurations. See Table 1 for manufacturing locations.

3.2 Material:

3.2.1 Steel: The studs and tracks are formed from coils of galvanized steel complying with ASTM A 653 SS, Grade 50, Class 1. The uncoated minimum base-metal thickness is specified in Table 2. The galvanized coating is minimum G40.

3.2.2 Gypsum Wallboard: Gypsum wallboard must be one of the following and comply with ASTM C 1396.

MANUFACTURER	BRAND	THICKNESS
American Gypsum	FireBlock	$^5/_8$ inch
Certainteed	ProRoc	$^5/_8$ inch
Lafarge	Firecheck	$^5/_8$ inch
Temple-Inland	Fire Resistant	$^5/_8$ inch
USG	Firecode	$^5/_8$ inch

3.2.3 Fasteners: Fasteners for attaching the gypsum wallboard to the studs and tracks must be No. 6, Type S, fine thread drywall pan head or bugle head screws conforming to ASTM C 1002. Fasteners for attaching the stud to the track must be No. 6 by $^3/_4$-inch screws.

4.0 DESIGN AND INSTALLATION

4.1 Design:

Allowable wall heights for interior nonload-bearing composite wall design are shown in Table 3.

4.2 Installation:

Installation of ViperStud studs and tracks must be in accordance with the approved plans and this report. The approved plans must be available on the jobsite at all times during installation.

***Revised September 2011**

Studs must be attached to tracks with one fastener in each flange. The gypsum wallboard must be installed on both sides of the wall framing for the full wall height, with the long dimension of the gypsum wallboard parallel to the studs. Placement of joints in the gypsum sheathing must be in accordance with Sections 4.6.3 and 4.6.4 of GA-216 (Gypsum Association Application and Finishing of Gypsum Panel Products) or Section 7.5 of ASTM C 840. The gypsum wallboard must be fastened to the studs with the fasteners spaced a maximum of 12 inches (305 mm) on center.

5.0 CONDITIONS OF USE

The ViperStud 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 Installation must comply with the approved plans and this report. In the event of a conflict, this report governs.

5.2 The interior nonload-bearing wall assemblies are limited to interior installations where the superimposed axial load is zero pounds.

5.3 Design of the attachment of the wall to the surrounding structure is outside the scope of this report.

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Cold-formed Steel Framing Members—Interior Nonload-bearing Wall Assemblies (AC86), dated February 2010.

7.0 IDENTIFICATION

Each ViperStud stud and track covered by this report must have a legible label or stamp, at a maximum spacing of 48 inches (1219 mm) on center, indicating the member designation; manufacturer's name or initials [Marino\WARE (M\W), California Expanded Metal Company (CEMCO) or Telling Industries, LLC]; the galvanization coating designation (if G60 or greater); and the evaluation report number (ESR-2620).

TABLE 1—MANUFACTURING LOCATIONS

MANUFACTURING LOCATION	CONTACT INFORMATION
Marino\WARE 400 Metuchen Road South Plainfield, NJ 07080	Paul Nicholson 908-757-9000
Marino\WARE 777 Greenbelt Parkway Griffin, GA 30223	Gary Allardyce 678-688-1312
Marino\WARE 4245 Railroad Avenue East Chicago, IN 46312	Pat Markovich 219-378-7100
Marino\WARE 10101 Bay Area Boulevard Pasadena, TX 77507	Rick Hargrove 281-283-8100
California Expanded Metal Company 263 North Covina Lane City of Industry, CA 91746	Brian Thornton 800-775-2362
California Expanded Metal Company 1001-A Pittsburg Antioch Highway Pittsburg, CA 94565	Todd McCrite 925-473-9340
California Expanded Metal Company 490 Osage Street Denver, CO 80204	Tim De Vos 303-572-3626
Telling Industries, LLC 2105 Larrick Rd. Cambridge, OH 43725	Dan Reed 740-435-8900
Telling Industries, LLC 1400 Southwire Dr. Osceola, AR 72370	Russell Ford 870-563-2597
Telling Industries, LLC 4425 Windrose Lane Kingman, AZ 86401	Jon Reed 928-681-2010

TABLE 2—MEMBER THICKNESS

MEMBER	STUD DESIGNATION[1]	TRACK DESIGNATION[1]	MINIMUM BASE-METAL THICKNESS (in)	DESIGN THICKNESS (in)	MINIMUM YIELD STRENGTH (ksi)
Viper25	xxxVS	xxxVT	0.0147	0.0155	50
Viper20S	xxxVSS	xxxVTS	0.0190	0.0200	50
Viper20D	xxxVSX	xxxVTX	0.0233	0.0245	50

For **SI:** 1 inch = 25.4 mm, 1 ksi = 6.895 MPa.

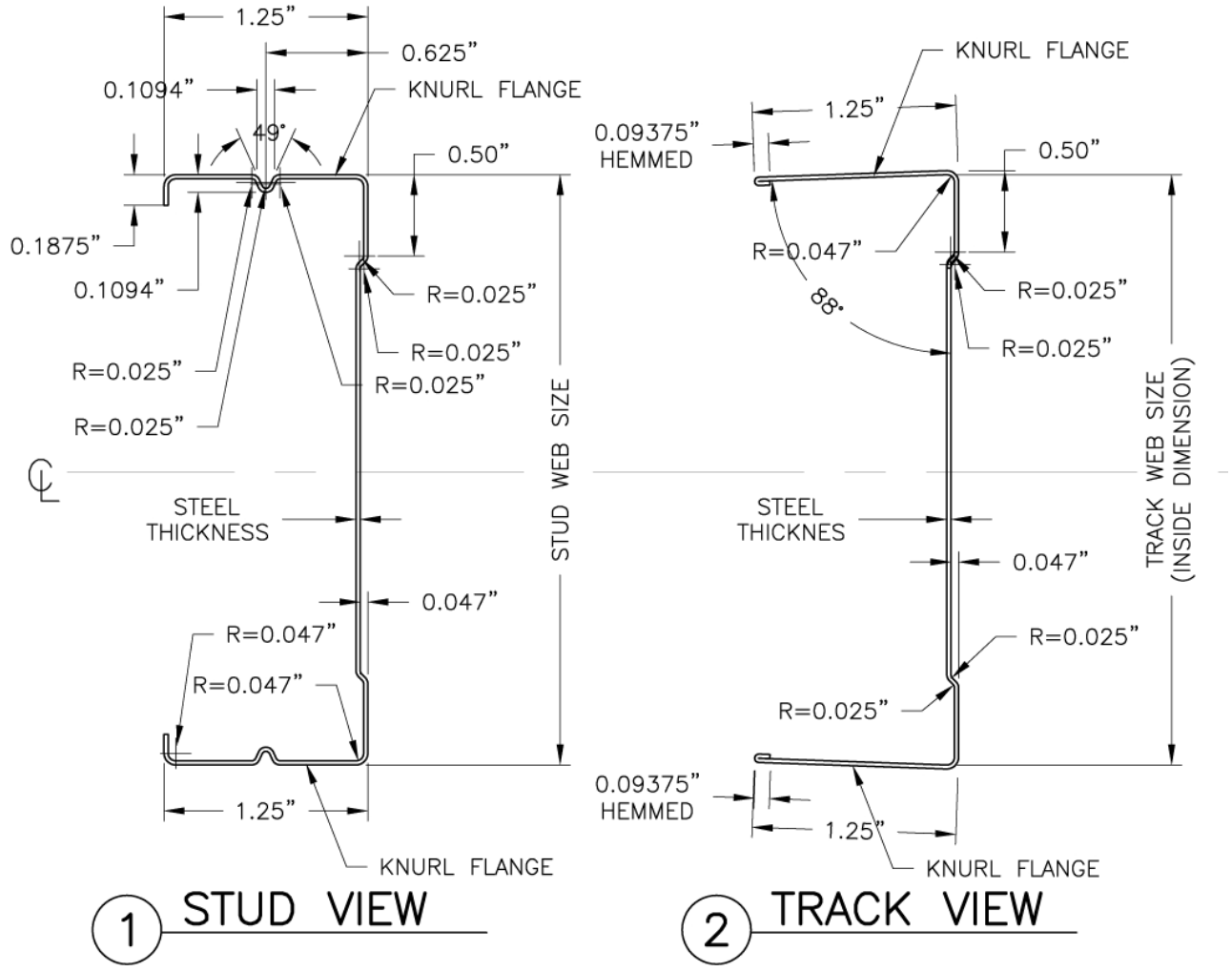
[1]xxx is the web size in $^{1}/_{100}$ of an inch.

TABLE 3—LIMITING HEIGHTS[1,2,3,4,] (ft-in)

DEPTH (in)	STUD (DESIGNATION)	SPACING (in)	5 psf			7.5 psf			10 psf		
			$L/120$	$L/240$	$L/360$	$L/120$	$L/240$	$L/360$	$L/120$	$L/240$	$L/360$
$1^5/_8$	Viper25 (162VS)	12	13-7	11-3	9-11	11-10	9-9	8-7	10-9	8-10	----
		16	12-4	10-2	9-0	10-9	8-10	----	9-6	7-11	----
		24	10-9	8-10	----	9-1	----	----	8-0	----	----
	Viper20S (162VSS)	12	13-10	11-4	10-1	12-1	9-11	8-9	11-0	8-11	7-11
		16	12-7	10-4	9-1	11-0	8-11	7-11	9-10	8-1	----
		24	11-0	8-11	7-11	9-4	----	----	8-4	----	----
	Viper20D (162VSX)	12	14-1	11-6	10-2	12-4	10-0	8-11	11-2	9-0	8-1
		16	12-10	10-5	9-3	11-2	9-0	8-1	10-1	8-2	----
		24	11-2	9-0	8-1	9-8	7-10	----	8-7	----	----
$2^1/_2$	Viper25 (250VS)	12	16-6	15-3	13-4	13-6	13-4	11-8	11-8	11-8	10-6
		16	14-4	13-11	12-2	11-8	11-8	10-6	10-1	10-1	9-5
		24	11-8	11-8	10-6	9-6	9-6	9-0	8-3	8-3	8-2
	Viper20S (250VSS)	12	19-7	15-6	13-7	17-1	13-7	11-10	15-4	12-4	10-8
		16	17-9	14-1	12-4	15-4	12-4	10-8	13-4	11-2	9-8
		24	15-4	12-4	10-8	12-6	10-8	9-3	10-10	9-8	8-4
	Viper20D (250VSX)	12	19-11	15-9	13-9	17-5	13-9	12-1	15-9	12-6	10-11
		16	18-1	14-4	12-6	15-9	12-6	10-11	14-4	11-5	9-11
		24	15-9	12-6	10-11	13-9	10-11	9-6	11-11	9-11	8-7
$3^5/_8$	Viper25 (362VS)	12	19-6	17-9	15-5	15-11	15-6	13-6	13-9	13-9	12-3
		16	16-10	16-2	14-0	13-9	13-9	12-3	11-11	11-11	11-0
		24	13-9	13-9	12-3	11-3	11-3	10-6	9-9 f	9-9	9-4
	Viper20S (362VSS)	12	21-10	18-2	16-1	19-1	15-11	14-1	17-4	14-5	12-9
		16	19-10	16-6	14-8	17-4	14-5	12-9	15-0	13-1	11-7
		24	17-4	14-5	12-9	14-2	12-7	11-0	12-3	11-5	9-9
	Viper20D (362VSX)	12	22-7	18-7	16-9	19-9	16-3	14-7	17-11	14-9	13-3
		16	20-6	16-11	15-2	17-11	14-9	13-3	16-3	13-5	12-1
		24	17-11	14-9	13-3	15-6	12-11	11-7	13-5	11-9	10-2
4	Viper25 (400VS)	12	20-1	17-8	15-4	17-7	15-5	13-5	15-3	14-0	12-2
		16	18-8	16-1	13-11	15-3	14-0	12-2	13-3	12-9	10-11
		24	15-3	14-0	12-2	12-5	12-3	10-5	10-9	10-9	9-3
	Viper20S (400VSS)	12	22-10	19-0	16-7	20-0	16-7	14-6	18-3	15-1	13-2
		16	20-10	17-3	15-1	18-3	15-1	13-2	16-4	13-8	11-11
		24	18-3	15-1	13-2	15-5	13-2	11-6	13-4	12-0	10-4
	Viper20D (400VSX)	12	23-7	19-10	17-6	20-11	17-4	15-4	19-2	15-10	13-11
		16	21-8	18-1	15-11	19-2	15-10	13-11	17-7	14-5	12-8
		24	19-2	15-10	13-11	16-11	13-11	12-2	14-10	12-8	11-1
6	Viper25 (600VS)	12	27-6	22-5	19-11	23-0	19-11	17-7	19-11	18-3	16-1
		16	24-5	20-7	18-3	19-11	18-3	16-1	17-3	16-8	14-8
		24	19-11	18-3	16-1	16-3	16-1	14-1	14-1	14-1	12-10
	Viper20S (600VSS)	12	30-0	24-3	21-5	26-6	21-5	18-10	24-0	19-7	17-3
		16	27-6	22-3	19-7	24-0	19-7	17-3	20-9	17-11	15-9
		24	24-0	19-7	17-3	19-7	17-3	15-2	17-0	15-9	13-9
	Viper20D (600VSX)	12	32-3	25-11	22-10	28-5	22-10	20-1	25-11	20-10	18-3
		16	29-6	23-8	20-10	25-11	20-10	18-3	23-0	19-0	16-8
		24	25-11	22-10	18-3	21-9	18-3	16-1	18-10	16-8	14-7

For **SI:** 1 inch = 25.4 mm, 1 psf = 47.88 Pa.

[1]Sheathing, as specified in Section 3.2.2, must be attached to both faces of the wall for the full height of the wall with the long dimension parallel to the studs.
[2]Sheathing must be fastened to the studs and tracks with fasteners as specified in Section 3.2.3 at a maximum spacing of 12 inches o.c. along the studs and tracks.
[3]Placement of joints in the gypsum sheathing must be in accordance with Sections 4.6.3 and 4.6.4 of GA-216 or Section 7.5 of ASTM C 840.
[4]End bearing must be a minimum of 1 inch.

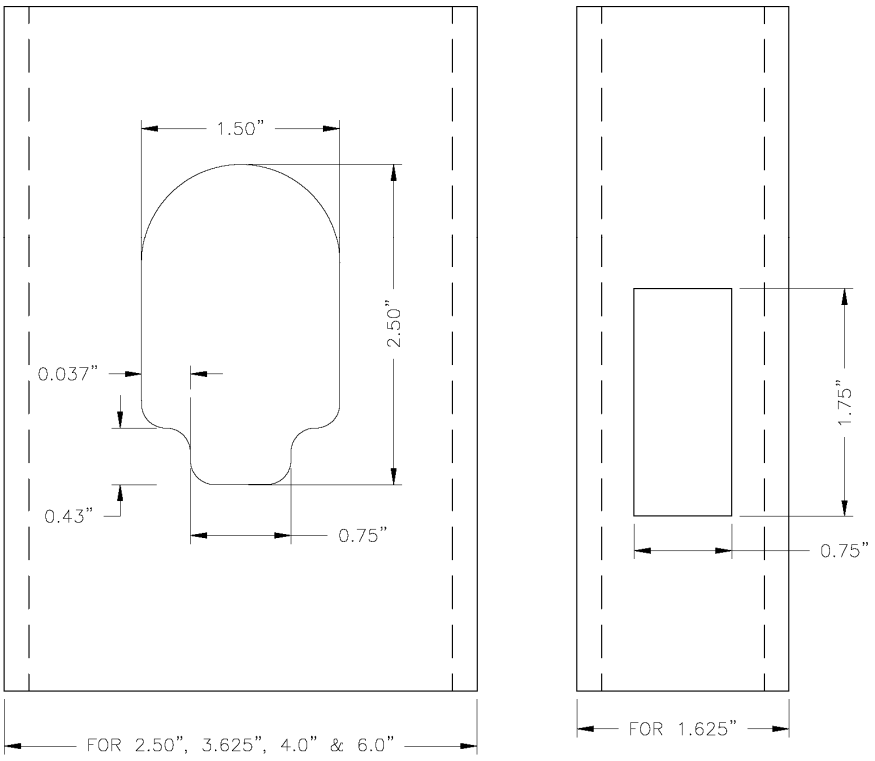


STUD WEB SIZES (OUTSIDE DIMENSIONS):
$1^{5}/_{8}$", $2^{1}/_{2}$", $3^{5}/_{8}$", 4" & 6"

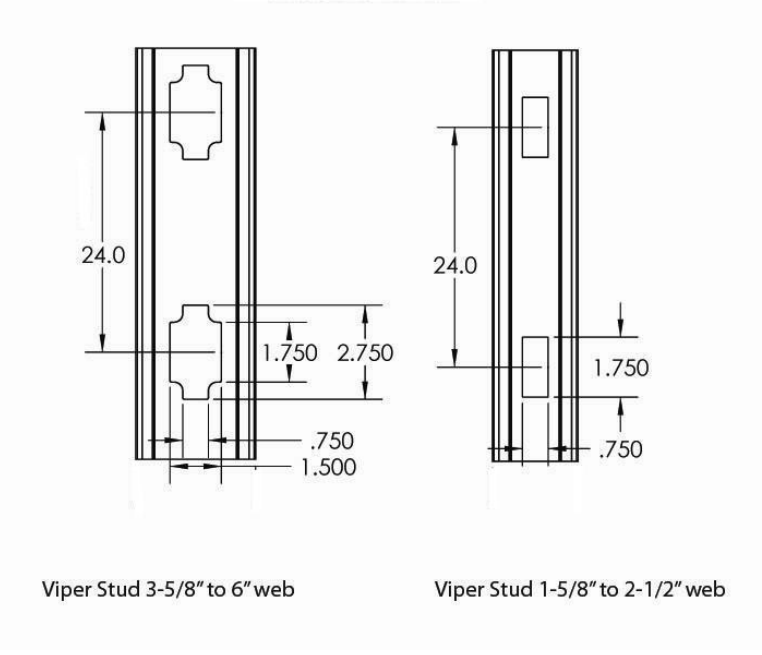
TRACK WEB SIZES (INSIDE DIMENSIONS):
$1^{5}/_{8}$", $2^{1}/_{2}$", $3^{5}/_{8}$", 4" & 6"

The hemmed track flange is limited to xxxVT members.

FIGURE 1—STUD AND TRACK CONFIGURATION



Knockout Configuration or Studs Marketed Under The Marino\WARE Name



Knockout Configuration For Studs Marketed Under The California Expanded Metal Company (CEMCO) Name

FIGURE 2—PUNCHOUT CONFIGURATIONS