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ICC-ES Evaluation Report

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ESR-4205

Issued 11/2018

This report is subject to renewal 11/2019.

DIVISION: 05 00 00—METALS

SECTION: 05 40 00—COLD-FORMED METAL FRAMING

REPORT HOLDER:

STEEL FRAMING INDUSTRY ASSOCIATION

EVALUATION SUBJECT:

STEEL C-STUDS AND TRACKS



“2014 Recipient of Prestigious Western States Seismic Policy Council (WSSPC) Award in Excellence”



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DIVISION: 05 00 00—METALS

Section: 05 40 00—Cold-Formed Metal Framing

REPORT HOLDER:

STEEL FRAMING INDUSTRY ASSOCIATION

EVALUATION SUBJECT:

STEEL C-STUDS AND TRACKS

ADDITIONAL LISTEES:

CEMCO

FRAMETEK

J AND S LIVONIA dba JAIMES INDUSTRIES

MRI STEEL FRAMING

OLMAR SUPPLY, INC.

R & P SUPPLY

STATE BUILDING PRODUCTS

STEEL STRUCTURAL PRODUCTS

STEELER, INC.

1.0 EVALUATION SCOPE

Compliance with the following code:

2015 *International Building Code*® (IBC)

Property evaluated:

Structural

2.0 USES

The C-sections, tracks and channels are used for joists, rafters, nonload-bearing interior walls, curtain walls, and load-bearing walls.

3.0 DESCRIPTION

3.1 General:

The C-sections, tracks and channels recognized in this report are factory-formed from coils of steel at the facilities noted in Table 1.

The C-sections are manufactured with and without web punch-outs. When provided, the punch-outs have a width of 1 1/2 inches (38 mm) and a length of 4 inches (102 mm) in members with a depth of 3 1/2 inches (89 mm) or greater. In C-sections with a depth of 2 1/2 inches (64 mm), punch-outs have a width of 3/4 inch (19 mm) and a length of 4 inches (102 mm). The punch-outs are spaced a minimum of 24 inches (610 mm) on center and have a minimum distance between the end of the member and the near edge of the punch-out of 10 inches (254 mm). Tracks and channels are not manufactured with factory punch-outs.

The C-Sections and tracks are detailed in the SFIA “Technical Guide for Cold-Formed Steel Framing Products,” copyrighted 2015, which is distributed with this report. The following tables from the catalog are part of this report:

General Product Information.....	Pages 2-4
Stud Section Properties.....	Pages 5-12
Track Section Properties.....	Pages 13-17
Web Depth-to-Thickness Ratio.....	Page 18
Interior Non-Structural Limiting Heights.....	Pages 19-22
Curtain Wall Limiting Heights.....	Pages 25-36
Combined Axial Load and Lateral Loads....	Pages 37-61
Floor Joist Span Tables.....	Pages 62-75
Header Load Tables.....	Pages 76-80
Web Crippling Load Tables.....	Pages 81-85
Channel and Hat Section Properties.....	Pages 86-88

All other pages in the “Technical Guide for Cold-Formed Steel Framing Products” are outside the scope of this report.

3.2 Material:

The metal framing members recognized in this report are cold-formed from galvanized steel coils conforming to ASTM A1003 Non-structural Grade 33 (NS33), ASTM A1003 Non-structural Grade 50 (NS50), ASTM A1003 Structural Grade 50 Type H (ST50H), ASTM A1003 Structural Grade 33 Type H (ST33H), ASTM A653 SS Grade 50 Class I or ASTM A653 SS Grade 33. The steel conforming to ST50H and ST33H has a minimum metallic coating of G60 (ASTM A653), A60 (ASTM A653), AZ50 (ASTM A792), GF30 (ASTM A875), T1-25 (ASTM A463),

T2-100 (ASTM A463), 30Z/30Z (ASTM A879), or ZM20 (ASTM A1046). Steel conforming to ASTM A653 SS Grade 50 Class 1 has a minimum metallic coating designation of G60 or A60. The steel conforming to ASTM A653 SS Grade 33 may have either a minimum metallic coating designation of G60 or A60 or a minimum metallic coating designation of G40.

4.0 DESIGN AND INSTALLATION

4.1 Design:

The section properties for the cold-formed steel framing members recognized in this report have been determined in accordance with the 2012 edition of the North American Specification for Design of Cold-Formed Steel Members (AISI). The allowable moments, as indicated in this report, are for use with Allowable Strength Design (ASD), and are for flexural members with a compression flange continuously braced. For other conditions of compression flange bracing, the allowable moment must be determined in accordance with AISI. The design of flexural members must address combined bending and web crippling, and combined bending and shear, as applicable in accordance with AISI.

4.2 Installation:

The framing members must be installed in accordance with the 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 construction.

5.0 CONDITIONS OF USE

The cold-formed metal shapes 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 The cold-formed steel members are installed in accordance with the applicable code, the approved plans and this report.
- 5.2 Minimum uncoated steel thickness of the cold-formed steel members as delivered to the jobsite must be at least 95 percent of the design base-metal thickness. (See Page 3 of the SFIA "Technical Guide for Cold-Formed Steel Framing Products")
- 5.3 Complete plans and calculations verifying compliance with this report must be submitted to the code official for each project at the time of permit application. The

calculations and drawings must be prepared and sealed by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.

- 5.4 Framing members having a minimum metallic coating designation of G40 must be limited to use as nonload-bearing interior wall framing subject to a maximum transverse load of 10 psf (478 Pa).
- 5.5 Framing members with a height-to-thickness (h/t) ratio of more than 200 must be provided with web stiffeners in accordance with Sections B1.2 and C3.6.1 of AISI. Holes or punch-outs in the web for members with a h/t ratio of more than 200 are 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 (AC46), dated June 2012 (editorially revised April 2015).

7.0 IDENTIFICATION

- 7.1 At a spacing not exceeding 96 inches (2440 mm) on center, each cold-formed steel member is stamped with the name of the manufacturer, the section name, the evaluation report number (ESR-4205), the minimum uncoated base-metal thickness in mils or decimal inches. For structural applications, the minimum yield strength, and the metallic coating designation (CP60 or CP90, as defined by AISI S200 of ASTM C955) are included. For nonstructural applications, the minimum yield strength if over 33 ksi (230 MPa); the metallic coating type and weight of other than ASTM A653 G40; and the designation "NS" are included.
- 7.2 The report holder's contact information is the following:
STEEL FRAMING INDUSTRY ASSOCIATION
513 WEST BROAD STREET
SUITE 210
FALLS CHURCH, VIRGINIA 22046
(703) 538-1613
www.cfsteel.org
- 7.3 For the additional listees' contact information, see Table 2.

TABLE 1—MANUFACTURING LOCATIONS

LISTEE	LOCATION
CEMCO	City of Industry, California
	Denver, Colorado
	Pittsburg, California
	Fort Worth, Texas
Frametek	Riverside, California
J and S Livonia dba Jaimes Industries	Livonia, Michigan
MRI Steel	Gary, Indiana
Olmar Supply, Inc.	Livermore, California
R & P Supply	Las Vegas, Nevada
State Building Products	Warren, Michigan
Steel Structural Products	Jeffersonville, Indiana
	Birmingham, Alabama
Steeler, Inc.	Newark, California
	Seattle, Washington

TABLE 2—LISTEES

<p>CEMCO 13191 CROSSROADS PARKWAY NORTH SUITE 325 CITY OF INDUSTRY, CALIFORNIA 91746 (800) 775-2362 www.cemcosteel.com</p>	<p>R & P SUPPLY 2642 EAST LONE MOUNTAIN ROAD LAS VEGAS, NEVADA 89081 (702) 247-9500 www.rpsupplyinc.com</p>
<p>FRAMETEK 1495 COLUMBIA AVENUE, BUILDING 4 RIVERSIDE, CALIFORNIA 92507 (951) 369-5204 www.frameteksteel.com</p>	<p>STATE BUILDING PRODUCTS 21751 SCHMEMAN AVENUE WARREN, MICHIGAN 48089 (586) 772-8878 www.statebp.com</p>
<p>J AND S LIVONIA dba JAIMES INDUSTRIES 35305 GLENDALE STREET LIVONIA, MICHIGAN 48150 (734) 793-9000 www.jaimesind.com</p>	<p>STEEL STRUCTURAL PRODUCTS 1195 PORT ROAD JEFFERSONVILLE, INDIANA 47130 (812) 670-4195 www.steelstructuralproducts.com</p>
<p>MRI STEEL FRAMING 201 MISSISSIPPI STREET GARY, INDIANA 46402 (630) 616-1850 www.mristeel framing.com</p>	<p>STEELER, INC. 10023 MARTIN LUTHER KING JR WAY SOUTH SEATTLE, WASHINGTON 98178 (206) 725-2500 www.steeler.com</p>
<p>OLMAR SUPPLY, INC. 2140 RESEARCH DRIVE LIVERMORE, CALIFORNIA 94550 (925) 447-3500 www.olmarsupply.com</p>	

ICC-ES Evaluation Report

ESR-4205 CBC Supplement

Issued November 2018

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DIVISION: 05 00 00—METALS

Section: 05 40 00—Cold-Formed Metal Framing

REPORT HOLDER:

STEEL FRAMING INDUSTRY ASSOCIATION

EVALUATION SUBJECT:

STEEL C-STUDS AND TRACKS

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that steel C-studs and Tracks, recognized in ICC-ES master evaluation report ESR-4205, have also been evaluated for compliance with the code noted below.

Applicable code edition(s):

2016 *California Building Code* (CBC)

2.0 CONCLUSIONS

The C-studs and Tracks, described in Sections 2.0 through 7.0 of the master evaluation report ESR-4205, comply with CBC Chapters 22 and 22A, provided the design and installation are in accordance with the 2015 *International Building Code*® (IBC) provisions noted in the master report and the additional requirements of the 16, 16A, 17, 17A, 22, and 22A, as applicable.

This supplement expires concurrently with the master report, issued November 2018.

ICC-ES Evaluation Report

ESR-4205 FBC Supplement

Issued November 2018

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STEEL FRAMING INDUSTRY ASSOCIATION

EVALUATION SUBJECT:

STEEL C-STUDS AND TRACKS

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that the steel C-studs and Tracks, recognized in ICC-ES master evaluation report ESR-4205, have also been evaluated for compliance with the code noted below.

Applicable code editions:

2017 *Florida Building Code—Building*

2.0 CONCLUSIONS

The steel C-studs and Tracks, described in Sections 2.0 through 7.0 of the master evaluation report ESR-4205, comply with the 2017 *Florida Building Code—Building*, provided the design and installation are in accordance with the 2015 *International Building Code*® provisions noted in the master report.

Use of the steel C-studs and tracks for compliance with the High-Velocity Hurricane Zone provisions of the 2017 *Florida Building Code—Building* has not been evaluated and is outside the scope of this supplemental report.

For products falling under Florida Rule 9N-3, verification that the report holder's quality assurance program is audited by a quality assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official, when the report holder does not possess an approval by the Commission).

This supplement expires concurrently with the master report, issued November 2018.