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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
Section: 05 42 00 – Cold-Formed Metal Joist
DIVISION: 09 00 00 – FINISHES
Section: 09 22 16 – Nonstructural Metal Framing

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CLARKDIETRICH™ BUILDING SYSTEMS
9050 CENTRE POINTE DR., SUITE 400
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FRAMETEK STEEL PRODUCTS INC.
1495 COLUMBIA AVE, BUILDING 4
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J AND S LIVONIA, INC. DBA JAIMES INDUSTRIES
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2140 RESEARCH DRIVE
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1325 RIVER ST.
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www.priefertsteel.com

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2102 W LONE CACTUS DR,
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www.QRBM.com

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**REPORT SUBJECT:****Standard Cold-Formed Steel Framing Members****1.0 SCOPE OF EVALUATION**

1.1. This research report addresses compliance with the following Codes:

- 2015 and 2012 *International Building Code*® (IBC)
- 2015 and 2012 *International Residential Code*® (IRC)
- 2017 *Florida Building Code - Building* (FBC-B) (see Section 9)
- 2017 *Florida Building Code - Residential* (FBC-R) (see Section 9)
- 2016 *California Building Code* (CBC) (see Section 10)
- 2016 *California Residential Code* (CRC) (see Section 10)

1.2. Standard Cold-Formed Steel Framing Members have been evaluated for the following properties:

- Structural
- Corrosion protection

1.3. Cold-formed steel framing members (studs, tracks, and U-channels) recognized in this report are used for framing of nonload-bearing interior walls, curtain walls, load-bearing walls, floor joists, headers, roof rafters and roof trusses.

2.0 STATEMENT OF COMPLIANCE

Cold-formed steel framing members comply 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. Materials**

3.1.1. Non-structural steel framing members are cold-formed from steel coils conforming to ASTM A 1003 Non-Structural Grade, Type NS. Non-structural members have a minimum protective coating of G40 galvanization conforming to ASTM A 653.

3.1.2. Structural steel framing members are cold-formed from steel coils conforming to ASTM A 1003 Structural Grade 33 Type H and Structural Grade 50 Type H. Structural members have a minimum protective coating in accordance with Table 1, CP 60 as listed in ASTM C 955.

3.2. Studs are manufactured with and without factory web punchouts. Web punchout holes are spaced a minimum of 24 inches on center along the stud length and shall not be located less than 10 inches from the end of the member to the near edge of the web punchout. Web punch-out widths shall not exceed 2.5 inches, or half of the member depth. Web punch-out length shall not exceed 4.5 inches. Tracks and U-channels are manufactured without web punch-outs.

3.3. See page 2 of the SFIA Technical Guide for Cold-Formed Steel Framing Products for member designations.

4.0 PERFORMANCE CHARACTERISTICS

4.1. Reference the SFIA Technical Guide for Cold-Formed Steel Framing Products (attached) for section properties and design capacities established in accordance with AISI S100 and, AISI S200 or S220, as applicable, where only the following pages are within the scope of this report:

4.1.1. General Product Information on pages 2-4.

4.1.2. Non-Structural Stud, Structural Stud, and Track Section Properties on pages 5-18

4.1.3. Limiting Wall Heights Tables for Interior Non-Structural Non-Composite on pages 19-22.

4.1.4. Limiting Wall Height Tables for Interior Non-Structural Composite on pages 23-24. Gypsum wall board must be a minimum of 5/8" thick and Type X, complying with ASTM C1396 and manufactured by American Gypsum, CertainTeed, Georgia Pacific, Lafarge, National Gypsum, Temple-Inland, or USG. The interior nonload-bearing wall assemblies shall be limited to interior installations where the superimposed axial load is zero pounds.

4.1.5. Limiting Wall Heights Tables for Curtain Wall Single-Span on pages 25-36.





4.1.6. Combined Axial and Lateral Allowable Load Tables on pages 37-61

4.1.7. Allowable Floor Joist Span Tables on pages 62-75

4.1.8. Header Allowable Load Tables on pages 76-80. Lateral bracing of the compression flange shall be spaced at intervals not exceeding L_u (see section properties) to develop full allowable bending strength, M_a .

4.1.9. Allowable Web Crippling Load Tables on pages 81-85

4.1.10. U-Channel Section Properties on page 86. Allowable moments (M_a) apply to flexural members with the compression flange continuously braced.

4.2. For construction governed by the FBC High Velocity Hurricane Zone (HVHZ), the interior wall heights are limited to the heights at the L/240 and L/360 deflection levels.

5.0 INSTALLATION

Standard cold-formed steel framing members must be installed in accordance with the manufacturer's published installation instructions, the applicable Code and referenced AISI standards therein for cold-formed steel light-frame construction, including Section 2211 of the IBC, FBC-B, and CBC, and Sections R505, R603, and R804 of the IRC, FBC-R, and CRC. The manufacturer's published installation instructions and this Research Report must be strictly adhered to, and a copy of the instructions must be available on the jobsite during installation.

6.0 CONDITION OF USE

The cold-formed steel framing members described in this Research Report comply with, or is a suitable alternative to, what is specified in those Codes listed in Sections 1.0 and 2.0 of this report, subject to the following conditions:

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 between

the manufacturer's instructions and this report, 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. Wall assemblies based upon non-composite construction, pages 19-22 of the attached SFIA Technical Guide, are limited to a lateral (transverse) load of not more than 10 lb/ft², a superimposed vertical load, exclusive of sheathing materials, of not more than 100 lbf/ft, or a superimposed vertical load of not more than 200 lbs per stud.

6.5. The minimum base steel thickness of the section delivered to the jobsite must be 95% of the design thickness noted on page 3 of the SFIA Technical Guide for Cold-Formed Steel Framing Products.

6.6. Cold-Formed steel framing members identified in this report are manufactured at the manufacturing facilities recognized in Table 2 in accordance with the manufacturer's approved quality control system with inspections by Intertek.

7.0 SUPPORTING EVIDENCE

7.1. Manufacturer's drawings and installation instructions.

7.2. Steel Framing Industry Association Technical Guide for Cold-Formed Steel Framing Products, Version 2015.101

7.3. Reports of testing and engineering analysis demonstrating compliance with ICC-ES AC46, *Acceptance Criteria for Cold-formed Steel Framing Members*, editorially revised April 2015.

7.4. Reports of evaluation and engineering analysis in accordance with AISI S100-12, North American Specification for the Design of Cold-Formed Steel Structural Members.





7.4.1. AISI S100-07 reviewed and deemed equivalent to AISI S100-12 for compliance with 2012 IBC and 2016 CBC.

7.5. Reports of testing and engineer analysis demonstrating compliance with ICC-ES AC86, Acceptance Criteria for Cold-Formed Steel Framing Members - Interior Nonload-Bearing Wall Assemblies, revised August 2015.

7.6. Documentation of an Intertek approved quality control system for the manufacturing of products recognized in this report.

8.0 IDENTIFICATION

The Standard Cold-Formed Steel Framing Members described in this Research Report are identified with labeling at a maximum of 96 inches that includes the following information:

8.1. Manufacturer’s name, logo, or other positive identification;

8.2. For structural steel framing members: framing member designation, uncoated metal thickness, yield strength, and galvanization coating designation, CP60

8.3. For non-structural steel framing members: framing member designation, uncoated metal thickness, yield strength if other than 33 ksi, galvanization coating if other than G40, and designation “NS”.

8.4. Intertek designation and Code Compliance Research Report number (Intertek CCRR-0224)

8.5. Bundles of like members shall be identified with the Intertek identification mark and Code Compliance Research Report number as shown:



9.0 FLORIDA BUILDING CODE

9.1. **Scope of Evaluation:** The Standard Cold-Formed Steel Framing Members were evaluated for compliance with the 2017 *Florida Building Code – Building and Florida Building Code – Residential*.

9.2. **Conclusion:** The Standard Cold-Formed Steel Framing Members, described in Sections 2.0 through 7.0 of this Research Report, comply with the 2017 *Florida Building Code – Building and Florida Building Code – Residential*, including the High-Velocity Hurricane Zone provisions.

10.0 CALIFORNIA BUILDING CODE

10.1. **Scope of Evaluation:** The Standard Cold-Formed Steel Framing Members were evaluated for compliance with the 2016 California Building Code and California Residential Code.

10.2. **Conclusion:** The Standard Cold-Formed Steel Framing Members, described in Sections 2.0 through 7.0 of this Research Report, comply with the 2016 *California Building Code and California Residential Code*.

11.0 CODE COMPLIANCE RESEARCH REPORT USE

11.1. 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.

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

11.3. Reference to the Intertek web site, <https://bpdirectory.intertek.com> is recommended to ascertain the current version and status of this report.





Table 1 – Code Referenced Standards

2015 IBC & 2017 FBC		2012 IBC		2016 CBC	
Structural members	Nonstructural members	Structural members	Nonstructural members	Structural members	Nonstructural members
AISI S100-12	AISI S100-12	AISI S100-07	AISI S100-07	AISI S100-07	AISI S100-07
AISI S200-12	AISI S220-11	AISI S200-07	AISI S200-07	AISI S200-12	AISI S220-11
ASTM C955-11c Section 8	ASTM C645-13 Section 10	ASTM C955-09	ASTM C645-08a	ASTM C955-11c Section 8	ASTM C645-13 Section 10

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Table 2 – Manufacturing Locations

Listee	Location
CEMCO	263 North Covina Lane, City of Industry, CA 91746
	490 Osage Street, Denver, CO 80204
	8600 Will Rodgers Boulevard, Fort Worth, TX 76140
	1741-A Pittsburg-Antioch Highway, Pittsburg, CA 94565
ClarkDietrich™ Building Systems	38020 Pulp Dr, Dade City, FL 33523
	91-300 Hanua St., Kapolei, HI 96707
	6510 General Drive, Riverside, CA 92509
	1685 Tide Court, Woodland, CA 95776
Frametek Steel Products	1495 Columbia Ave, Riverside, CA 92507
Jaimes Industries	35305 Glendale Road, Livonia, MI 48150
Jobsite Steel Manufacturing, LLC	5901 Industrial Park Drive, Lenoir City, TN 37771
	600 Spice Island Drive, Sparks, NV 89431
MB Steel Company	9 Fox Industrial Park, Madison, IL 62060
Olmar Supply, Inc.	2140 Research Drive, Livermore, CA 94550
Premier Steel Fabrication	10811 Rush Street, South El Monte, CA 91733
Priefert Manufacturing	1325 River Street, Benton, AR 72015
Quail Run Building Materials	2102 W Lone Cactus Dr, Phoenix, AZ 85027
R&P Supply, Inc.	2642 East Lone Mountain Rd, North Las Vegas, NV 89081