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# ICC-ES Report

## ESR-2665

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Reissued 03/2015  
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**DIVISION: 04 00 00—MASONRY**

**SECTION: 04 71 00—MANUFACTURED BRICK MASONRY**

**SECTION: 04 73 00—MANUFACTURED STONE MASONRY**

**REPORT HOLDER:**

**BOULDER CREEK STONE**

**8282 ARTHUR STREET NE  
MINNEAPOLIS, MINNESOTA 55432**

**EVALUATION SUBJECT:**

**BOULDER CREEK STONE**



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**DIVISION: 04 00 00—MASONRY**  
**Section: 04 71 00—Manufactured Brick Masonry**  
**Section: 04 73 00—Manufactured Stone Masonry**

**REPORT HOLDER:**

**BOULDER CREEK STONE**  
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MINNEAPOLIS, MINNESOTA 55432  
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[www.bouldercreekstone.com](http://www.bouldercreekstone.com)

**EVALUATION SUBJECT:****BOULDER CREEK STONE****1.0 EVALUATION SCOPE****Compliance with the following codes:**

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

**Properties evaluated:**

- Veneer strength and durability
- Surface-burning characteristics
- Thermal resistance

**2.0 USES**

Boulder Creek Stone is used as an adhered, non-load-bearing veneer on interior and exterior, non-fire-resistance-rated wood-framed or light gage steel stud walls, concrete walls and masonry walls.

**3.0 DESCRIPTION**

The veneer is a precast concrete product made to resemble natural stone in color and in texture. The concrete is composed of portland cement, aggregate, water, admixtures and coloring. The veneer units are molded and cured at the plant. The average saturated weight of the installed veneer units does not exceed 15 pounds per square foot (73.2 kg/m<sup>2</sup>). The precast stone veneer has a Class A finish rating in accordance with IBC Section 803.1, and complies with the flame-spread and smoke-development requirements of IRC Section R315. The veneer units have an *R*-value (°F·ft<sup>2</sup>·h/Btu) of 0.87 (0.15 m<sup>2</sup>K/W) when tested in accordance with ASTM C 518 at an average thickness of 1.7 inches (43 mm). Recognized patterns are listed below:

- Bavarian Castle
- Bluffstone
- Cliffstone
- Country Ledge
- Eastern Fieldstone
- Fast Stak
- Italian Fieldstone
- Montana Ledge
- Mountain Blend
- Nuggets
- Ohio Rubble
- Pebble Stone
- Prairie Bluff
- River Rock
- Sangria
- Southeast Ledgestone
- Splitface
- Venetian Cobble
- Weathered Edge
- Washed River Rock
- Western Ledge Stak
- Thin Brick – Tumbled

**4.0 INSTALLATION****4.1 General:**

Installation of Boulder Creek Stone must comply with this report, the manufacturer's published installation instructions, and the applicable code. The manufacturer's published installation instructions must be available at the jobsite at all times during installation. The veneer must be applied to backings of cement plaster.

**4.2 Preparation of Cement Plaster Backings:**

Cement plaster backings may be applied over sheathing, supported by wood or steel studs, and over concrete or masonry walls.

**4.2.1 Installation over Sheathing:** For exterior installations, cement plaster backings must be installed over a water-resistive barrier complying with IBC Sections

1404.2 and 2510.6 or IRC Sections R703.2 and R703.6.3, as applicable. Also, flashing must be installed as required by IBC Section 1405.3 or IRC Section R703.8, as applicable, and weep screeds must be installed at the bottom of the veneer. The weep screeds must comply with, and be installed in accordance with, IBC Section 2512.1.2 or IRC Section R703.6.2.1, as applicable. In addition, the weep screeds must have holes with a minimum diameter of  $\frac{3}{16}$  inch (4.8 mm) spaced at a maximum of 33 inches (838 mm) on center, as required by Section 6.1.5.2 of ACI 530/ASCE 5/TMS 402, which is referenced in IBC Section 1405.9.

Studs must be spaced no more than 16 inches (406 mm) on center. Lath must be minimum 2.5 lb/yd<sup>2</sup> (1.4 kg/m<sup>2</sup>) diamond mesh metal lath, complying with ASTM C 847. The lath must be fastened to the wall framing in accordance with the minimum requirements of Section 7.10 of ASTM C 1063, and IRC Section R703.6.1, as applicable. In addition, fasteners must be spaced a maximum of 6 inches (152 mm) on center along each stud. Fasteners used with wood studs must be minimum 6d common nails or 1 $\frac{3}{4}$ -inch-long (44 mm) roofing nails, having a length sufficient to penetrate 1 inch (25.4 mm) into the studs, or staples with minimum  $\frac{3}{4}$ -inch (19.1 mm) crowns and sufficient length to penetrate 1 inch (25.4 mm) into studs. Fasteners used with cold-formed steel studs must be No. 8 self-tapping screws with a minimum head diameter of  $\frac{3}{8}$  inch (9.5 mm) and sufficient length to penetrate  $\frac{1}{2}$  inch (12.7 mm) through the stud. A scratch coat of Type S mortar (cement plaster) complying with ASTM C 926 must be applied over the lath to a nominal thickness of  $\frac{3}{8}$  inch (9.5 mm). The scratch coat must be allowed to cure in accordance with IBC Section 2512.6, prior to the application of the veneer units.

**4.2.2 Installation over Concrete and Masonry:** Lath must be minimum 2.5 lb/yd<sup>2</sup> (1.4 kg/m<sup>2</sup>) diamond mesh metal lath, complying with ASTM C 847. The lath must be fastened to the wall as described in Section 7.10 of ASTM C 1063 and IRC Section R703.6.1, as applicable. The fasteners must be spaced a maximum of 6 inches (152 mm) on center vertically and 16 inches (406 mm) on center horizontally. The gravity load (shear) capacity and negative wind load (pull-out) capacity of the proprietary fasteners must be justified to the satisfaction of the code official. The scratch coat must be applied as described in Section 4.2.1.

#### 4.3 Application of Veneer Units:

Veneer units must be adhered to the backing with a setting bed of Type S mortar applied to the back of the veneer units. The setting bed thickness must be a minimum of  $\frac{1}{2}$  inch (12.7 mm). Joints between veneer units are to be grouted and tooled in accordance with the manufacturer's published installation instructions.

## 5.0 CONDITIONS OF USE

The Boulder Creek Stone precast stone veneer described in this report complies with, or is a suitable alternative 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 this report, the manufacturer's published installation instructions and the applicable code. In the event of a conflict between the manufacturer's published installation instructions and this report, this report governs.
- 5.2 The use of the precast stone veneer is limited to installation on walls with cement plaster backings.
- 5.3 Expansion or control joints, used to limit the effect of differential movement of supports on the veneer system, are to be specified by the architect, designer or veneer manufacturer, in that order. Consideration must also be given to movement caused by temperature change, shrinkage, creep and deflection.
- 5.4 In jurisdictions adopting the IBC, the supporting wall must be designed to support the installed weight of the veneer system, including veneer, setting bed and cement plaster backing, as applicable. At wall openings, the supporting members must be designed to limit deflection to  $\frac{1}{600}$  of the span of the supporting members.
- 5.5 In jurisdictions adopting the IRC, where the seismic provisions of IRC Section R301.2.2 apply, the average weight of the wall supporting the precast stone veneer, including the weight of the veneer system, must be determined. When this weight exceeds the applicable limits of IRC Section R301.2.2.2.1, an engineered design of the wall construction must be performed in accordance with IRC Section R301.1.3.

## 6.0 EVIDENCE SUBMITTED

- 6.1 Data in accordance with the ICC-ES Acceptance Criteria for Precast Stone Veneer (AC51), dated February 2008.
- 6.2 Report of testing in accordance with ASTM C 518.
- 6.3 Report of testing in accordance with ASTM E 84.

## 7.0 IDENTIFICATION

Boxes containing precast stone veneer units are identified with the manufacturer's name (Boulder Creek Stone), the pattern name, and the evaluation report number (ESR-2665).