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# ICC-ES Report

## ESR-2677

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Reissued 03/2015  
This report is subject to renewal 03/2016

**DIVISION: 04 00 00—MASONRY**

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

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

**REPORT HOLDER:**

**UNLIMITED DESIGNS DBA ROCKY MOUNTAIN STONE**

**780 NORTH WARM SPRINGS ROAD  
SALT LAKE CITY, UTAH 84116**

**EVALUATION SUBJECT:**

**ROCKY MOUNTAIN STONE PRODUCTS**



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## ICC-ES Evaluation Report

ESR-2677

Reissued March 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:**

**UNLIMITED DESIGNS dba ROCKY MOUNTAIN STONE**  
**780 NORTH WARM SPRINGS ROAD**  
**SALT LAKE CITY, UTAH 84116**  
**(801) 355-3221**  
[www.rockymountainstoneproducts.com](http://www.rockymountainstoneproducts.com)

**EVALUATION SUBJECT:****ROCKY MOUNTAIN STONE PRODUCTS****1.0 EVALUATION SCOPE****Compliance with the following codes:**

- 2015 *International Building Code*® (IBC)
- 2015 *International Residential Code*® (IRC)
- Other Codes (see Section 8.0)

**Property evaluated:**

Veneer strength and durability

**2.0 USES**

Rocky Mountain Stone Products are used as an adhered, non-load-bearing exterior veneer on non-fire-resistance-rated wood-framed or light gage steel stud walls, concrete walls or concrete masonry walls.

**3.0 DESCRIPTION**

Rocky Mountain Stone Products are precast concrete products made to resemble natural stone in color and in texture. The concrete is composed of cement, aggregate, water, admixtures and coloring. The veneer units are molded and cured at the manufacturing facility. The average saturated weight of the installed veneer units does not exceed 15 pounds per square foot (73.2 kg/m<sup>2</sup>). Recognized patterns of veneer and accents are listed in Table 1.

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

Installation of Rocky Mountain Stone precast stone veneer 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 may be applied over backings of cement plaster, concrete or concrete masonry.

**4.2 Preparation of Backing:**

**4.2.1 Cement Plaster Backings:** Cement plaster backings may be applied over plywood, OSB or gypsum sheathing, supported by wood or steel studs; over open wood or steel studs; over concrete walls; and over concrete masonry walls, when installed as described in Sections 4.2.1.1 through 4.2.1.3.

**4.2.1.1 Installation over Sheathing:** The cement plaster backing must be installed over a water-resistive barrier complying with IBC Section 1405.10.1.1 or IRC Section R703.12.3, as applicable. Also, flashing must be installed as required by IBC Section 1405.10.1.2 or IRC Sections R703.4 and R703.12.2, as applicable, and weep screeds must be installed at the bottom of the stone veneer. The weep screeds must comply with, and be installed in accordance with, IBC Section 1405.10.1.2.1 or IRC Section R703.12.2, as applicable. In addition, the weep screeds must have holes with a minimum diameter of <sup>3</sup>/<sub>16</sub> inch (4.8 mm) spaced at a maximum of 33 inches (838 mm) on center, as required by Section 12.1.6.2 of TMS 402/ACI 530/ASCE 5, which is referenced in IBC Section 1405.10.

Studs must be spaced no more than 16 inches (406 mm) on center. Lath must be a corrosion-resistant, self-furred, 2.5 lb/yd<sup>2</sup> (1.4 kg/m<sup>2</sup>) diamond mesh metal lath complying with ASTM C847. The lath must be fastened to the wall framing in accordance with the minimum requirements of Section 7.10 of ASTM C1063, or IRC Section R703.7.1, as applicable. In addition, fasteners must be spaced a maximum of 6 inches (152 mm) on center vertically, must penetrate a minimum of 1 inch (25.4 mm) into wood framing and must penetrate a minimum of <sup>3</sup>/<sub>8</sub> inch (9.5 mm) through steel framing. A scratch coat of Type N or S mortar (cement plaster) complying with ASTM C926 must be applied over the lath to a minimum thickness of <sup>1</sup>/<sub>2</sub> inch (12.7 mm). The scratch coat must be scored horizontally in accordance with the manufacturer's published installation instructions, and must be allowed to cure in accordance with IBC Section 2512.6, prior to the application of the veneer units.

**4.2.1.2 Installation over Open Studs:** The layers of a water-resistive barrier, flashing and weep screeds as described in Section 4.2.1.1. Studs must be spaced no more than 16 inches (406 mm) on center. Lath must be a paper-backed, corrosion-resistant, 3.4 lb/yd<sup>2</sup> (1.8 kg/m<sup>2</sup>), <sup>3</sup>/<sub>8</sub>-inch (9.5 mm) rib lath complying with ASTM C847. The

lath must be fastened to wall framing and the scratch coat applied as described in Section 4.2.1.1.

**4.2.1.3 Installation over Concrete and Concrete Masonry:** The veneer units may be applied directly to concrete and concrete masonry backing without lath, provided the concrete or masonry surface is clean. Where lath is used, it must be corrosion-resistant metal lath complying with ASTM C847, or 1.4 lb/yd<sup>2</sup> (0.760 kg/m<sup>2</sup>), corrosion-resistant, woven wire plaster base complying with ASTM C1032. The lath must be fastened to the wall in accordance with Section 7.10 of ASTM C1063, and IRC Section R703.7.1, 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 4.2.1.1.

**4.2.2 Concrete and Concrete Masonry Backing:** Concrete masonry and poured concrete wall surfaces must be prepared in accordance with Section 5.2 of ASTM C926, and IBC Section 2510.7, as applicable. Alternatively, a cement plaster backing may be installed as described in Section 4.2.1.3.

#### 4.3 Application of Veneer Units:

Prior to the application of the veneer units, the scratch coat or other backing and the back of the veneer units must be moistened in accordance with the manufacturer's instructions. Veneer units must be installed in accordance with IBC Section 1405.10.1.4.3. Under the IRC, a minimum 1/2-inch-thick (12.7 mm) setting bed of Type N or S mortar must be applied to the back of the veneer units, and the veneer units must be pressed firmly in place, squeezing the mortar out around all veneer unit edges. Joints between veneer units must be grouted and tooled in accordance with the veneer manufacturer's published installation instructions. Veneer units must be installed in accordance with the clearance requirements of IBC Section 1405.10.1.3 and IRC Section R703.12.1.

#### 5.0 CONDITIONS OF USE

The 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, concrete or concrete masonry 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  $1/600$  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

Data in accordance with the ICC-ES Acceptance Criteria for Precast Stone Veneer (AC51), dated June 2013 (editorially revised September 2014).

#### 7.0 IDENTIFICATION

Boxes of precast stone veneer units are identified with the manufacturer's name (Rocky Mountain Stone), the pattern name, the manufacturing date and location, and the evaluation report number (ESR-2677).

#### 8.0 OTHER CODES

##### 8.1 Evaluation Scope:

In addition to the codes referenced in Section 1.0, the products described in this report were evaluated for compliance with the following codes:

- 2012 *International Building Code*<sup>®</sup> (2012 IBC)
- 2012 *International Residential Code*<sup>®</sup> (2012 IRC)
- 2009 *International Building Code*<sup>®</sup> (2009 IBC)
- 2009 *International Residential Code*<sup>®</sup> (2009 IRC)
- 2006 *International Building Code*<sup>®</sup> (2006 IBC)
- 2006 *International Residential Code*<sup>®</sup> (2006 IRC)

The Rocky Mountain stone products described in this report comply with, or are suitable alternatives to what is specified in the codes listed above, subject to the provisions of Sections 8.2 through 8.7.

##### 8.2 Uses:

See Section 2.0.

##### 8.3 Description:

See Section 3.0.

##### 8.4 Installation:

**8.4.1 General:** See Section 4.1

##### 8.4.2 Preparation of Backing:

**8.4.2.1 Cement Plaster Backings:** See Section 4.2.1.

**8.4.2.1.1 Installation over Sheathing:** Replace the first paragraph of Section 4.2.1.1 with the following: A cement plaster backing must be installed over a water-resistive barrier complying with 2012 IBC Section 1405.10.1.1; 2009 and 2006 IBC Sections 1404.2 and 2510.6; 2012, 2009 and 2006 IRC Section R703.2 and R703.6.3, as applicable. Also, flashing must be installed as required by 2012 IBC Sections 1405.4 and 1405.10.1.2; 2009 IBC Section 1405.4, 2006 IBC 1405.3 or 2012, 2009 and 2006 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, 2012 IBC Section 1405.10.1.2, 2009 and 2006 IBC Section 2512.1.2, 2012 IRC Section R703.12.2 or 2009 and 2006 IRC, Section R703.6.2.1, as applicable. In addition, the weep screeds must have holes with a minimum diameter of  $3/16$  inch (4.8 mm) spaced at a maximum of 33 inches (838 mm) on center, as required by

Section 6.1.6.2 of TMS 402-11, which is referenced in 2012 IBC Section 1405.10; Section 6.1.5.2 of TMS 402-08, which is referenced in 2009 IBC Section 1405.10; or Section 6.1.5.2 of ACI 530-05/ASCE 5-05/TMS-402-05, which is referenced in 2006 IBC Section 1405.9.

See the remainder of Section 4.2.1.1 for additional requirements, but replace 2015 IRC Section R703.7.1 with 2012, 2009 and 2006 IRC Section R703.6.1.

**8.4.2.1.2 Installation over Open Studs:** See Section 4.2.1.2.

**8.4.2.1.3 Installation over Concrete and Masonry:** See Section 4.2.1.3, but replace 2015 IRC Section R703.7.1 with 2012, 2009 and 2006 IRC Section R703.6.1.

**8.4.2.2 Concrete and Masonry Backing:** See Section 4.2.2.

**8.4.3 Application of Veneer Units:** Prior to the application of the veneer units, the scratch coat or other backing and the back of the veneer units must be moistened in accordance with the manufacturer’s instructions. A minimum 1/2-inch-thick (12.7 mm) setting bed of Type N or

S mortar must be applied to the back of the veneer units, and the veneer units must be pressed firmly in place, squeezing the mortar out around all veneer unit edges. Joints between veneer units must be grouted and tooled in accordance with the veneer manufacturer’s published installation instructions. Under the 2012 IBC and 2012 IRC, veneer units must be installed in accordance with the clearance requirements of 2012 IBC, Section 1405.10.1.3 and 2012 IRC Section R703.12.1.

**8.5 Conditions of Use:**

See Section 5.0.

**8.6 Evidence Submitted:**

See Section 6.0.

**8.7 Identification:**

See Section 7.0.

**TABLE 1—RECOGNIZED PRODUCTS**

VENEER STYLE NAME
Ashlar, Cascajo Villa, Castle, Cottage, Fieldstone, Kwik Fit, Mountain Ledge, Olympus Field, Olympus Ledge, Rubble Ledge, Rubble, Sandstone, Stream, Thin Brick, Mattone Brick