

ICC-ES Evaluation Report

ESR-3151

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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:

QUALITY STONE VENEER, INC.
50 REFTON ROAD
REFTON, PENNSYLVANIA 17568
(717) 786-3229
www.qualitystoneveneer.com

EVALUATION SUBJECT:

QUALITY STONE VENEER MANUFACTURED STONE VENEER

1.0 EVALUATION SCOPE
Compliance with the following codes:

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

Property evaluated:

Veneer strength and durability

2.0 USES

Quality Stone Veneer is a manufactured stone veneer that is 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 block masonry walls.

3.0 DESCRIPTION

Quality Stone Veneer is a lightweight, architectural, non-load-bearing, thin veneer product that is manufactured from a mixture of portland cement, lightweight aggregate and sand, iron oxide pigments, admixtures and water. The stone veneer units are intended to appear as natural stone, and are molded and cured at the manufacturing plant. The units are 1 inch (25.4 mm) to 2¹/₂ inches (63.5 mm) thick. The average saturated weight of the installed veneer units does not exceed 15 pounds per square foot (73.2 kg/m²). Recognized patterns of veneer and accents are listed in Table 1.

4.0 DESIGN AND INSTALLATION
4.1 General:

Installation of Quality 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 units must be applied over a cement plaster backing.

4.2 Preparation of Cement Plaster Backing:

Cement plaster backing may be applied over plywood, OSB, gypsum sheathing, concrete board and fiberboard, supported by wood or steel studs; and over concrete and concrete masonry walls, when installed as described in Sections 4.2.1 and 4.2.2.

4.2.1 Installation over Sheathing: Cement plaster backing 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 1405.4 or IRC Section R703.8, 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 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 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/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/yd² (1.4 kg/m²), galvanized, expanded 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, or IRC Section R703.6.1, as applicable. Fasteners must be spaced a maximum of 6 inches (152 mm) on center, must penetrate a minimum of 1 inch (25.4 mm) into wood framing and must penetrate a minimum of ³/₈ inch (9.5 mm) through steel framing. A scratch coat of Type S mortar (cement plaster) complying with ASTM C 926 must be applied over the lath to a minimum thickness of ¹/₂ 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.

4.2.2 Installation over Concrete or Masonry Walls:

The veneer units must be installed over concrete and masonry with corrosion-resistant metal lath complying with ASTM C 847, without a water-resistive barrier over the wall. The lath must be fastened to the wall in accordance with Section 7.10 of ASTM C 1063 and Section R703.6.1 of the IRC, 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:

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 S mortar, complying with ASTM C 270, must be applied to the back of the veneer units, and the veneer units must be pressed firmly in place, with the mortar being squeezed 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.

5.0 CONDITIONS OF USE

The Quality 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 walls with a cement plaster scratch coat.

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 February 2008 (editorially revised September 2010).

7.0 IDENTIFICATION

Packaged precast stone veneer units are identified with the manufacturer’s name (Quality Stone Veneer, Inc.), the pattern name, the manufacturing date and location, and the evaluation report number (ESR-3151).

TABLE 1—RECOGNIZED PATTERNS and TYPES

PRODUCT	PATTERNS
Quality Stone Veneer, Inc., Manufactured Stone Veneer	Fieldstone, Chester, Cobblestone, Sandstone, Preset Drystack, Drystack, Ohio Cobblestone, Ohio Drystack, Brookstone, River Rock, Ashlar, Regal Ashlar, Cobblestone Sandstone, and Preset Ledgestone