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**DIVISION: 04—MASONRY**  
**Section: 04730—Simulated Stone**

**REPORT HOLDER:**

**OWENS CORNING**  
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**EVALUATION SUBJECT:**

**CULTURED STONE®**

**1.0 EVALUATION SCOPE**

**Compliance with the following codes:**

- 2003 *International Building Code*® (IBC)
- 2003 *International Residential Code*® (IRC)
- BOCA® *National Building Code* 1999 (BNBC)
- 1999 *Standard Building Code*® (SBC)
- 1997 *Uniform Building Code*™ (UBC)

**Properties evaluated:**

- Interior finish and trim classification
- Thermal resistance
- Adhered exterior veneer

**2.0 USES**

Cultured Stone® is used as an adhered, non-bearing exterior veneer or an interior finish and trim on wood or light gage steel stud framing, concrete or masonry walls.

**3.0 DESCRIPTION**

The stone veneer is manufactured, precast, artificial stone similar in color and texture to natural stone. The stone veneer is made from portland cement, aggregate, and mineral oxide colors, which are then cured. The stone veneer has an average thickness of 1<sup>3</sup>/<sub>4</sub> inches (45 mm) and has a maximum area of 720 square inches (0.464 m<sup>2</sup>) with a maximum dimension of 36 inches (914 mm). The maximum veneer weight is 15 pounds per square foot (73.2 kg/m<sup>2</sup>).

The stone veneer has a Class A (Class I) finish rating when tested in accordance with ASTM E 84 (UBC Standard 8-1). Additionally, the stone veneer has an R-value of 0.355 when tested in a thickness of 1.0 inch (25.4 mm) in accordance with ASTM C 177.

**4.0 INSTALLATION**

**4.1 General:**

The stone veneer is to be applied to new or existing wood-framed, light gage steel framed, concrete or masonry walls. The stone veneer is to be adhered to the supporting walls with a Type N or S mortar setting bed. The mortar is to comply with IBC Table 2103.7(1), IRC Table R607.1, BNBC Section 2104.7, SBC Table 2104.7A or UBC Table 21-A. The ambient temperature is to be 40°F (4°C) or higher at the time of application.

The stone veneer is to be installed in accordance with this report, the manufacturer's published installation instructions, and IBC Section 1404.4, IRC Section R703.7, BNBC Section 1406.6, SBC Section 1403.3 or UBC Section 1403.5.

**4.2 Application to Stud Construction:**

The stone veneer is to be applied to open studs spaced a maximum of 16 inches on center (406 mm), or over existing exterior wall surfaces of plaster scratch coat, stucco, wood siding, or wood sheathing backed by studs spaced a maximum of 16 inches on center (406 mm).

Open studs are to be covered with a water-resistive barrier in accordance with IBC Section 1404.2, BNBC Section 1406.3.6, SBC Section 1403.3.7, a weather-resistant sheathing paper in accordance with IRC Section R703.2 or a weather-resistive barrier in accordance with UBC Section 1402.1. For installations over wood siding or wood sheathing, a water-resistive barrier, weather-resistant sheathing paper or weather-resistive barrier is to be installed over the wood siding or sheathing in accordance with the applicable code. Installations over exterior plaster or exterior plaster scratch coat walls require a water-resistive barrier, a weather-resistant sheathing paper or a weather-resistive barrier in accordance with the applicable code behind the plaster or plaster scratch coat.

At exterior walls, weep screeds and/or code-complying flashing is to be installed at the bottom of the wall and at all horizontal terminations of the stone veneer. The weep screed is to comply with and be installed in accordance with IBC Section 2512.1.2, IRC Section R703.6.2.1, BNBC Section 2506.3, SBC Section 2504.2 or UBC Section 2506.5, as applicable.

A 2.5-pound-per-square-yard (1.4 kg/m<sup>2</sup>), galvanized diamond mesh metal lath, or a 3.4-pound-per-square-yard (1.8 kg/m<sup>2</sup>), 3/8-inch-thick-rib (9.5 mm), paper-backed, galvanized expanded metal lath conforming to ASTM C 847, or a No. 18 gage [0.051-inch-thick (1.30 mm)] galvanized woven wire mesh conforming to ASTM C 1032 is to be installed in accordance with the manufacturer's published installation instructions over the water-resistive barrier, weather-resistant sheathing paper or weather-resistive

barrier. The lath or mesh is to be fastened to each of the wall studs at 6 inches (152 mm) on center vertically. For wood studs, fasteners are to be minimum 0.120-inch-shank-diameter galvanized nails or galvanized staples of sufficient length to penetrate the studs a minimum of  $1\frac{3}{8}$  inches (35 mm). For steel studs, fasteners are to be minimum  $\frac{7}{16}$ -inch-head-diameter (11.1 mm), corrosion-resistant, self-drilling, self-tapping, pancake head screws of sufficient length to penetrate the studs a minimum of  $\frac{3}{8}$  inch (9.5 mm). Wood studs are to have a minimum specific gravity of 0.42. Steel studs are to be 20 gage [0.033-inch-thick (0.84 mm)], minimum.

*Installations over wall surfaces of materials other than wood siding or wood sheathing require a  $\frac{1}{2}$ -inch-thick to  $\frac{3}{4}$ -inch-thick (12.7 to 19.1 mm) scratch coat of Type N or S mortar. The mortar is to be applied over the lath or mesh and allowed to cure for at least 48 hours before the mortar setting bed is applied. The scratch coat is to be moistened and a  $\frac{1}{2}$ -inch-thick to  $\frac{3}{4}$ -inch-thick (12.7 to 19.1 mm) Type N or S mortar setting bed is to be applied in areas of approximately 5 to 10 square feet (0.5 to 0.9 m<sup>2</sup>). The stone veneer is to be lightly but firmly tapped into the mortar setting bed to ensure bond while the mortar is soft and pliable. Alternatively, the setting bed is to be applied to the back of each stone veneer unit and the unit pressed into place. In either case, the mortar setting bed thickness and consistency must allow the mortar to be squeezed out around all edges of the stone veneer unit to assure full bond. All joints are to be tooled.*

#### 4.3 Application to Concrete and Masonry:

The stone veneer is to be applied directly to unsealed and unpainted masonry backing without the use of lath or mesh, provided the surface is clean. Painted, sealed, or dirty masonry surfaces are to be cleaned by sandblasting to provide a good bond surface. A  $\frac{1}{2}$ -inch-thick to  $\frac{3}{4}$ -inch-thick (12.7 to 19.1 mm), Type N or S mortar setting bed is to be applied to the masonry backing in areas of approximately 5 to 10 square feet (0.5 to 0.9 m<sup>2</sup>). The stone veneer is to be lightly but firmly tapped into the mortar setting bed to ensure bond while the mortar is soft and pliable. Alternatively, the setting bed is to be applied to the back of each stone veneer unit and the unit pressed into place. In either case, the mortar setting bed thickness and consistency must allow mortar to be squeezed out around all edges of the veneer unit to assure full bond. All joints are to be tooled.

#### 5.0 CONDITIONS OF USE

The Cultured Stone<sup>®</sup> 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 stone veneer is limited to installation on wood-frame, light gage steel framed, concrete or masonry walls.
- 5.3 Expansion or control joints used to limit the effect of differential movement of supports must be specified by the architect, designer or stone veneer manufacturer, in that order. Consideration must also be given to movement caused by temperature change, shrinkage, creep and deflection.
- 5.4 The stone veneer is limited to 30 feet (9144 mm) in height above the noncombustible foundation when used as an exterior veneer attached to wood-framed construction. Installations above the 30-foot (9144 mm) height are outside the scope of this report.
- 5.5 As an alternate, the scratch coat of mortar described in Section 4.2 of this report may be used with installations of stud framed walls faced with wood siding or wood sheathing, concrete or with masonry walls described in Section 4.3 of this report.
- 5.6 In jurisdictions adopting the IBC, the supporting wall framing must be designed to support the additional weight of the stone veneer and mortar setting bed. Additionally, when interior stone veneer is supported by wood construction, the supporting members must be designed to limit deflection to  $\frac{1}{600}$  of the span of the supporting members.
- 5.7 In jurisdictions adopting the IRC, installations of the stone veneer must comply with the seismic provisions of Section R301.2.2.

#### 6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Precast Stone Veneer (AC51), dated January 2001 (editorially revised April 2005).

#### 7.0 IDENTIFICATION

The Cultured Stone<sup>®</sup> described in this report is identified by the initials "C.S.V." cast into the side of each piece of stone. Additionally, the packaging of the stone products includes a stamp bearing the manufacturer's name (Owens Corning), the product name, the manufacturing plant location, the product code and the evaluation report number (ESR-1364).