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

**REPORT HOLDER:**

**CORONADO STONE PRODUCTS**  
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FONTANA, CALIFORNIA 92337  
(909) 357-8295  
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**EVALUATION SUBJECT:**

**CORONADO STONE**

**1.0 EVALUATION SCOPE**

**Compliance with the following codes:**

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

**Properties evaluated:**

- Exterior veneer characteristics
- Surface burning characteristics

**2.0 USES**

Coronado Stone is used as an adhered, nonload-bearing exterior veneer or an interior finish and trim on nonfire-resistance-rated walls of wood stud or light-gage-steel stud construction, masonry walls, or walls with a galvanized sheet metal wall surface.

**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 complying with ASTM C 150, lightweight aggregates, mineral oxide coloring, air-entraining admixture and water. The veneer units are molded and cured at the plant.

The veneer units are  $\frac{5}{8}$  inch to  $2\frac{5}{8}$  inches (15.9 to 67 mm) thick, averaging  $1\frac{3}{4}$  inches (42 mm) thick, and have an area not exceeding 720 square inches (464 515 mm<sup>2</sup>) with a maximum dimension not exceeding 36 inches (914 mm). 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 veneer has a Class A finish rating when tested in accordance with ASTM E 84.

**4.0 INSTALLATION**

**4.1 General:**

Installation of Coronado 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 may be applied over painted exterior stucco, plywood, gypsum sheathing or galvanized sheet metal attached to steel studs; open wood or steel studs; or masonry walls. For interior applications, the veneer may also be installed over plaster or gypsum wallboard.

The veneer is adhered to the supporting walls with a Type S mortar setting bed. The mortar must comply with IBC Section 2103.8 and IRC Section R607.1. The ambient temperature must be 40°F (4°C) or higher at the time of veneer application.

**4.2 Application to Stud Construction:**

**4.2.1 Application to Wood Studs:** The veneer may be applied to open wood studs spaced a maximum of 16 inches on center (406 mm) or over plywood, gypsum sheathing or gypsum wallboard backed by wood studs spaced a maximum of 16 inches (406 mm) on center. The wood studs must have a minimum specific gravity of 0.42.

Prior to installation of metal lath or woven wire mesh, open studs are to be covered with wire backing and a water-resistive barrier in accordance with IBC Section 1404.2 or IRC Section R703.2, while plywood, gypsum sheathing and gypsum wallboard must be covered with a water-resistive barrier complying with IBC Section 2510.6 or IRC Section R703.6.3.

At exterior walls, weep screeds and/or code-complying flashing must be installed at the bottom of the wall and at all terminations of the stone veneer. The weep screed 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.

A 3.4-pound-per-square-yard (1.29 kg/m<sup>2</sup>), self-furring metal lath complying with ASTM C 847 is installed over the water-resistive barrier. For new wood-frame construction, No. 17 gage [0.0538 inch (1.31 mm)],  $1\frac{1}{2}$ -inch (38 mm) woven wire mesh complying with ASTM C 1032 may be used in place of the metal lath. The metal lath or woven wire mesh must be furred  $\frac{1}{4}$  inch (6.4 mm) from framing members or solid substrates. The metal lath or woven wire mesh is to be fastened to each of the wall studs at 6 inches (152 mm) on center vertically. The metal lath must be overlapped a minimum of 1 inch (25.4 mm) or the woven wire mesh must be overlapped a minimum of one mesh at sides and ends. Fasteners must be galvanized, 6d common or No. 11 [0.120 inch (3.06 mm) shank diameter] roofing nails or screws with a minimum head diameter of  $\frac{7}{16}$  inch (11.1 mm) and sufficient length to penetrate the studs a minimum of 1 inch (25.4 mm).

A  $\frac{1}{2}$ -inch-thick (12.7 mm) scratch coat of Type S mortar is applied over the metal lath or woven wire mesh, etched using a trowel, and allowed to cure for at least 48 hours before the mortar setting bed is applied. A coat of Type S mortar,  $\frac{1}{2}$  inch to  $\frac{3}{4}$  inch thick (12.7 to 19.1 mm), is applied to the moistened scratch coat in areas of approximately 10 square feet (0.929 m). The combined thickness of the scratch coat and mortar setting bed must be a minimum of  $\frac{7}{8}$  inch (22 mm). As an alternate to applying the mortar setting bed to the scratch coat, the mortar setting bed may be applied to the back of each piece of veneer and the veneer gently worked in place over the scratch coat with all joints tooled. The mortar bed consistency must be such as to allow mortar to be squeezed around all edges of the veneer unit to assure full bond.

**4.2.2 Application to Steel Studs:** Application to light-gage-steel studs spaced a maximum of 16 inches on center (406 mm) is the same as described in Section 4.2.1 except the studs must be minimum 43-mil [0.0478 inch (1.21 mm) design uncoated steel thickness] galvanized steel; the lath must be 3.4-pound-per-square-yard (1.29 kg/m<sup>2</sup>) metal lath complying with ASTM C 847; and the lath attachment fasteners must be corrosion-resistant, No. 8, self-drilling, self-tapping screws, spaced 6 inches on center, with sufficient length to penetrate the steel studs a minimum of  $\frac{3}{8}$  inch (9.5 mm) or a minimum of three exposed threads, whichever is greater. As an alternate to spacing the steel studs at 16 inches on center, the steel studs may be spaced a maximum of 24 inches on center (610 mm) provided the lath is corrosion-resistant,  $\frac{3}{8}$ -inch-high (9.5 mm), ribbed, expanded metal lath attached to the steel studs with corrosion-resistant, No. 8, self-drilling, self-tapping screws spaced 5 inches (127 mm) on center.

#### 4.3 Application to Masonry:

The veneer units may be applied directly to masonry backings, without the use of lath, provided the surface is clean. Painted, waterproofed or dirty masonry surfaces must be cleaned by sandblasting or other means to provide a good bond surface. A setting bed of Type S mortar, a minimum of  $\frac{1}{2}$  inch thick (12.7 mm), is applied to the moistened masonry backing in areas of approximately 10 square feet (0.929 m). As an alternate to applying the mortar setting bed to the masonry backing, the mortar setting bed may be applied to the back of each piece of veneer and the veneer gently worked in place over the masonry backing with all joints tooled.

#### 4.4 Application to Galvanized Sheet Steel:

The veneer units may be applied directly over minimum 43-mil [0.0478 inch (1.21 mm) design uncoated steel thickness] galvanized sheet metal wall surfaces that provide a firm base for the veneer and weather protection equivalent to the exterior wall envelope specified in Section 1403 of the IBC. A corrosion-resistant, 3.4-pound-per-square-yard (1.29 kg/m<sup>2</sup>), metal lath complying with ASTM C 847 is secured to the galvanized steel sheet with corrosion-resistant, No. 8, self-tapping screws, spaced 16 inches (406 mm) on center horizontally and 6 inches (152 mm) on center vertically. A  $\frac{1}{2}$ -

inch-thick (12.7 mm) scratch coat of Type S mortar is applied into the metal lath and allowed to cure for not less than 48 hours. The precast veneer units are then applied with a Type S mortar setting bed as described in Section 4.2.1.

## 5.0 CONDITIONS OF USE

The manufactured Coronado 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 there is a conflict between the manufacturer's published installation instructions and this report, this report governs.
- 5.2 The stone veneer must be installed on wood-framed, light-gage-steel-framed, or masonry walls, or to galvanized sheet steel as described in Section 4.0.
- 5.3 Expansion or control joints used to limit the effect of differential movement of precast stone veneer supports must 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 construction must be designed to support the weight of the veneer system. Additionally, horizontal framing members, at wall openings such as lintels and headers, that support the precast stone veneer must be designed to limit deflection to  $\frac{1}{600}$  of the span of the supporting members.
- 5.5 In jurisdictions adopting the IRC, installations of the precast stone veneer must comply with the seismic provisions of IRC Section R301.2.2, and the average weight of the wall supporting the precast stone veneer, including the weight of the veneer system, must be determined. If the average weight exceeds the applicable limits of IRC Section R301.2.2.2.1, or for buildings in Seismic Design Category E, 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 Data in accordance with ASTM E 84 as an interior finish.

## 7.0 IDENTIFICATION

Each package of veneer is labeled or stamped with the Coronado Stone Products name and address, the product name, the date of manufacture and the evaluation report number (ESR-2598 or [ER-1842](#)).