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Legacy report on the 2000 *International Building Code*[®], 2000 *International Residential Code*[™] for One- and Two-Family Dwellings, and the 2002 Accumulative Supplement to the International Codes[™], BOCA[®] National Building Code/1999, 1999 *Standard Building Code*[®], and the 1997 *Uniform Building Code*[™]

DIVISION 04 – MASONRY

Section 04730 –Simulated Stone

REPORT HOLDER:

EVALUATION SUBJECT:

ELDORADO STONE OPERATIONS L.L.C.
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**ELDORADO STONE[®] MANUFACTURED
BUILDING STONE**

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Product Evaluation Listing**1.0 SUBJECT****2.0 PROPERTY FOR WHICH EVALUATION IS SOUGHT****3.0 DESCRIPTION****4.0 INSTALLATION****5.0 IDENTIFICATION****6.0 EVIDENCE SUBMITTED****7.0 CONDITIONS OF USE***Re-Issued March 1, 2003***1.0 SUBJECT**

Eldorado Stone® precast concrete stone veneer

2.0 PROPERTY FOR WHICH EVALUATION IS SOUGHT

2.1 Interior finish and trim classification

2.2 Adhered exterior veneer

3.0 DESCRIPTION

Eldorado Stone is a manufactured, precast, artificial stone product that is similar in color and texture to natural stone. The products are produced from a lightweight concrete mix consisting of Portland cement (ASTM C150, Type I or III), lightweight aggregates (ASTM C330 or ASTM C332), sand (ASTM C144), air entrainment and mineral oxide colors (ASTM C979). The stones are pre-cast in various sizes, shapes and surface textures. The stones vary in size from 9 to 396 in² (0.006 to 0.255 m²), with no side exceeding 36 in. (914 mm) in length. The stones have an average thickness of 1 3/4 in. (44 mm) and a nominal oven dry weight of 75 lb/ft³ (1203 kg/m³).

The stones are used as a non loadbearing exterior veneer or interior finish and trim. The stones are installed on concrete or masonry walls, stud-framed walls, or metal buildings. The stone products have a Class I (Class A) interior finish rating when tested in accordance with ASTM E84.

4.0 INSTALLATION

4.1 General: The stone shall be installed in accordance with the manufacturer's installation instructions, titled *Eldorado Stone Installation Procedures*, dated January 2002, subject to the limitations of this report.

4.2 Application to Sheathed Wood Frame Construction: Exterior wall surfaces shall be covered with a minimum of one layer of a water-resistive barrier complying with the requirements of the applicable code. Galvanized expanded diamond mesh metal lath complying with ASTM C847, with a minimum weight of 2.5 lb/yd² (1.4 kg/m²), shall be attached to studs spaced 16 in. (406 mm) on center with galvanized roofing nails. The nails shall be spaced 6 in. (152 mm) on center vertically and shall have sufficient length to penetrate into the studs a minimum of 1 in. (25 mm). A minimum 1/2 in. (12.7 mm) thick scratch coat of Type S or Type N Portland cement mortar complying with ASTM C270 shall be applied to the metal lath and shall cure for a minimum of 48 hours. The stones shall be adhered to the cured scratch coat with a nominal 1/2 in. (12.7 mm) thick bed of Type S or Type N mortar. Joints between the stones shall be grouted.

4.3 Application to Open Wood Frame Construction: Open stud framing shall be spaced a maximum of 16 in. (406 mm) on center. The studs shall be covered with a minimum of one layer of a water-resistive barrier complying with the requirements of the applicable code. Galvanized expanded 3/8 in. (9.5 mm) rib metal lath complying with ASTM C847, with a minimum weight of 3.4 lb/yd² (1.8 kg/m²), shall be attached to studs spaced 16 in. (406 mm) on center with galvanized roofing nails. The nails shall be spaced 6 in. (152 mm) on center vertically and shall have sufficient length to penetrate into the studs a minimum of 1 in. (25 mm). A nominal 1/2 in. (12.7 mm) thick scratch coat of Type S or Type N Portland cement mortar complying with ASTM C270 shall be applied to the metal lath and shall cure for a minimum of 48 hours. The stones shall be adhered to the cured scratch coat with a nominal 1/2 in. (12.7 mm) thick bed of Type S or Type N mortar. Joints between the stones shall be grouted.

4.4 Application to Concrete and Masonry Construction: The stones are permitted to be adhered directly to the clean, unpainted concrete or masonry substrates with a nominal 1/2 to 3/4 in. (12.7 to 19.1 mm) thick bed of Type S or Type N mortar. Joints between the stones shall be grouted.

4.5 Application to Metal Building Panels: Installation shall be as described in Section 4.2 of this report, with the exception that the lath shall be attached with corrosion-resistant self-drilling, self-taping screws having a minimum 1/2 in. (12.7 mm) length with a 3/8 in. (9.5 mm) diameter head. The scratch coat thickness shall be a minimum of 1/2 in. (12.7 mm). The metal panels shall be a minimum of No. 18 gage galvanized steel with a minimum base metal thickness of 0.0478 in. (1.21 mm).

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Re-Issued March 1, 2003

5.0 IDENTIFICATION

Each carton of Eldorado Stone pieces shall bear a label identifying the product name, manufacturer's name and identifying logo, and the evaluation report number (NER-602).

6.0 EVIDENCE SUBMITTED

- 6.1** Manufacturer's descriptive literature and published installation instructions.
- 6.2** Letter report on surface-burning characteristics in accordance with ASTM E84, prepared by Underwriters Laboratories Inc, dated November 19, 2000.
- 6.3** Report on unit weight determination, prepared by AGRA Earth & Environmental, Inc., Report 9-91M-12782-0, dated August 27, 1999.
- 6.4** Report on freeze-thaw testing in accordance with ASTM C67, prepared by AGRA Earth & Environmental, Inc., Project No. 11-9844.
- 6.5** Report on compressive strength testing, prepared by AGRA Earth & Environmental, Inc., Project No. 9-91M-12782-0, dated April 16, 1999.
- 6.6** Report on flexural strength in accordance with ASTM C348, prepared by AGRA Earth & Environmental, Inc., Project No. VA-03603, dated October 13, 1995.
- 6.7** Report on tensile strength testing in accordance with ASTM C190, prepared by AGRA Earth & Environmental, Inc., Project No. VA-03603, dated October 13, 1995.
- 6.8** Report on shear bond testing in accordance with ASTM C482, prepared by Testing Engineers, Inc., Project No. MN006, dated February 25, 1998 and S202, dated May 22, 2001.

7.0 CONDITIONS OF USE

The National Evaluation Service Committee finds that the stone veneer products described in this report are acceptable alternative materials to those specified in the 2000 *International Building Code*[®], 2000 *International Residential Code*[™] for One- and Two-Family Dwellings, and the 2002 Accumulative Supplement to the International Codes[™], BOCA[®] *National Building Code/1999*, 1999 *Standard Building Code*[®], and the 1997 *Uniform Building Code*[™] subject to the following conditions:

- 7.1** The precast stone veneer shall be installed in accordance with the manufacturer's installation instructions, subject to the conditions of this report.
- 7.2** The precast stone veneer shall be limited to 30 ft (9144 mm) in height above the noncombustible foundation when used as an exterior veneer attached to wood-framed construction.
- 7.3** Each precast stone unit shall not exceed 36 in. (914 mm) in the largest dimension, shall not exceed 720 in² (0.46 m²) in area, and shall not weigh more than 15 lb/ft² (73.2 kg/m².)
- 7.4** All exterior wall substrates shall be covered with a minimum of one layer of a water-resistive barrier complying with the requirements of the applicable code, except where the substrate is of concrete or masonry construction.
- 7.5** To maintain the weather-resistance of the exterior wall on which the stone products are installed, rigid, corrosion-resistant flashing and a means of drainage shall be installed at all penetrations and terminations of the stone cladding. Flashing type and locations shall be in accordance with the requirements of the applicable code.
- 7.6** The use of the stone veneer as a component of a fire resistance rated assembly is outside the scope of this report.
- 7.7** This report is subject to periodic re-examination. For information on the current status of this report, contact the ICC-ES.