

<p align="center">DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT Housing - Federal Housing Commissioner</p> <p>TO: DIRECTORS, SINGLE FAMILY HOCs DIRECTORS, MULTIFAMILY HUBs</p>	<p>Series and Series Number: MATERIALS RELEASE NO: 910e (Supersedes issue dated March 5, 2001)</p>
	<p>ISSUE DATE March 2, 2004</p>
	<p>REVIEW DATE March 2, 2007</p>
<p>SUBJECT: 1. Product Eldorado Stone Manufactured Stone Veneer</p> <p>2. Name and address of Manufacturer Eldorado Stone Operations LLC P. O. Box 489 Carnation, WA 98014</p>	

Data on the nonstandard product described herein have been reviewed by the Department of Housing and Urban Development (HUD) and determination has been made that it is considered suitable from a technical standpoint for the use indicated herein. This Release does not purport to establish a comparative quality or value rating for this product as compared to standard products normally used in the same manner.

This Materials Release cannot be used as an indication of endorsement or approval by HUD of the described product, and any statement or representation, however made, indicating such approval or endorsement by HUD is unauthorized. See Code 18, U.S.C. 709.

Any reproduction of this Release must be in its entirety.

USE: Interior and Exterior Wall Veneer

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 stone are pre-cast in various size, shapes and surface textures. The stone vary in size from 9 to 396 in² (0.006 to 0.255m²), with no side exceeding 36 in. (914mm) in length. The stones have an average thickness of 1¾ in. (44mm) and a nominal oven dry weight of 75 lb/ft³ (1203 kg/m³).

REQUIREMENTS:

1. The composition of Eldorado Stone shall be as follows:

Portland Cement	27 percent
Lightweight aggregates	70 percent
Air Entrainment	.01 percent
Water Reducer (SPC)	.1 percent
Calcium Chloride (BCN)	.9 percent
Mineral Oxide Colors	2 percent

2. The Eldorado Stone shall have a minimum compressive strength of 1800 psi when tested in accordance with ASTM C 513, and pass the freeze-thaw test described in ASTM C 666.

INSTALLATION:

Installation of Eldorado Stone shall be in strict accordance with the manufacturer's instructions and specifications shown in the ELDORADO STONE INSTALLATION PROCEDURES.

1. 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 the studs spaced 16 in. (406mm) on center with galvanized roofing nails. The nails shall be spaced 6 in. (152mm) on center vertically and shall have sufficient length to penetrate into the studs a minimum of 1 in. (25mm). A nominal ½ in. (12.7mm) 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 ½ in. (12.7mm) thick bed of Type S or Type N mortar. Joints between the stone shall be grouted.

2. Application to Open Wood Frame Construction:

Open stud framing shall be spaced a maximum of 16 in. (406mm) on center. The stud 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. (9.5mm) rib metal lath complying with ASTM C847, with a minimum weight of 3.4 lb/yd² (1.8 kg/mm²), shall be attached to studs spaced 16 in. (406mm) on center with galvanized roofing nails. The nails shall be spaced 6 in. (152mm) on center vertically and shall have sufficient length to penetrate into the studs a minimum of 1 in. (25mm). A nominal 1/2 in. (12.7mm) 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 stone shall be adhered to the cured scratch coat with a nominal 1/2 in. (12.7mm) thick bed of Type S or Type N mortar. Joints between the stone shall be grouted.

3. 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 19.1mm) thick bed of Type S or Type N mortar. Joints between the stones shall be grouted.

4. Application to Metal Building Panels:

Installation shall be as described in paragraph 1 of this installation section, with the exception that the lath shall be attached with corrosion-resistant self-drilling, self-tapping screws having a minimum 1/2 in. (12.7mm) length with a 3/8 in. (9.5mm) diameter head. The scratch coat thickness shall be a minimum of 1/2 in. (12.7mm). 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).

MANUFACTURER'S WARRANTY:

Eldorado Stone LLC guarantees the Eldorado Man-made Stone Veneer masonry units covered by this Materials Release (MR) against defects in materials and workmanship, under normal use, for 50 years.

Manufacturer warrants Eldorado Stone Wall Veneers for a period of 50 years against manufacturing defects when used on structures conforming to local building codes and when installed in accordance with manufacturer's written instructions. Warranty coverage specifically excludes damage resulting from wall movement; settlement of the building; contact with chemicals or paint; and discoloration due to contaminants, staining, or oxidation. Warranty coverage is limited to replacement or repair of defective materials only and does not cover labor to remove or replace materials. Warranty coverage is limited to the original purchaser.

MANUFACTURER'S RESPONSIBILITIES:

Issuance of this MR commits the manufacturer to fulfill, as a minimum, the following:

1. Produce, label and certify the material, product or system in strict accordance with the terms of this MR.
2. Provide necessary corrective action in a timely manner for all cases of justified complaint, poor performance or failure reported by HUD.
3. When requested, provide the FHA Standards, Office of Manufactured Housing Programs, HUD Headquarters, with a representative list of properties, in which the material, product or system has been used, including complete addresses or descriptions of locations and dates of installation.
4. Inform HUD in advance of changes in production facilities, methods, design of the product, company name, ownership or mailing address.

EVALUATION:

This MR shall be valid for a period of three years from the date of initial issuance or most recent renewal or revision, whichever is later. The holder of this MR shall apply for a renewal or revision 90 days prior to the Review Date printed on this MR. Submittals for renewal or revision shall be sent to:

U. S. Department of Housing and Urban Development
FHA Standards, Office of Manufactured Housing Programs
451 7th Street, SW, Room 9168
Washington, DC 20410-8000

Appropriate User Fee shall be sent to:

U.S. Department of Housing and Urban Development
Miscellaneous Income - Technical Suitability of Products Fees
Bank of Atlanta
P. O. Box 198762
Atlanta, GA 30384-9862

The holder of this MR may apply for revision at any time prior to the Review Date. Minor revisions may be in the form of a supplement to the MR.

If the Department determines that a proposed renewal or supplement constitutes a revision, the appropriate User Fee for a revision will need to be submitted in accordance with Code of Federal Regulations 24 CFR 200.934, "User Fee System for the Technical Suitability of Products Program," and current User Fee Schedule.

CANCELLATION:

Failure to apply for a renewal or revision shall constitute a basis for cancellation of this MR. HUD will notify the manufacturer that the MR may be canceled when:

1. conditions under which the document was issued have changed so as to affect production of, or to compromise the integrity of the accepted material, product or system,
2. the manufacturer has changed its organizational form without notifying HUD, or
3. the manufacturer has not complied with responsibilities it assumed as a condition of HUD's acceptance.

However, before cancellation, HUD will give the manufacturer a written notice of the specific reasons for cancellation, and the opportunity to present views on why the MR should not be canceled. No refund of fees will be made for a canceled document.

This Materials Release is issued solely for the captioned firm, and is not transferable to any person or successor entity.
