

<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: 910h (Supersedes issue dated February 28, 2011)</p>
	<p>ISSUE DATE November 4, 2016</p>
	<p>REVIEW DATE November 4, 2019</p>
<p>SUBJECT: 1. Product Eldorado Stone Manufactured Stone and Brick Veneer</p> <p>2. Name and address of Manufacturer Eldorado Stone, LLC 1200 Industry Street Everett, WA 98203</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, concrete product that is similar in color and texture to natural stone and brick veneer. The products are produced from a lightweight concrete mix consisting of portland cement, lightweight aggregates, admixtures, and mineral oxide pigments. The stone are pre-cast in various sizes, shapes and surface textures. The stone has a maximum size of 720 in² (0.464m²), with no dimension exceeding 36 in. (914mm) in length. The stones have a maximum average thickness of 2.625 in. (64.3 mm) and a nominal saturated units weight equal to or less than 15 lb/ft².

REQUIREMENTS:

1. The composition of Eldorado Stone shall consist of one or more of the following:

Cement meeting the requirements of ASTM C150, C595, or C989

Pozzolans meeting the requirements of ASTM C618

Aggregates meeting the requirements of ASTM C33, C330, or C331

Admixtures meeting the requirements of ASTM C260, ASTM C494, and ASTM C1017

Coloring pigments meeting the requirements of ASTM C949

Potable water

Note: Batch size may vary from plant to plant depending on the equipment available at each manufacturing location

2. The Eldorado Stone shall have a minimum compressive strength of 1800 psi when tested in accordance with ASTM C 192 and ASTM C39, an a minimum average of 2100 psi when 5 samples are tested, and pass the freeze-thaw test described in ASTM C1670 with a mass loss no greater than 3%.

INSTALLATION:

Installation of Eldorado Stone shall be in strict accordance with the manufacturer's instructions and local building code requirements. A copy of Eldorado Stone's most current installation instructions can be found at www.eldoradostone.com.

PROCEDURES:

1. Application to Sheathed Wood Frame Construction:

Studs shall be spaced a maximum of 16 in. (406 mm) on center. The sheathed surface shall be covered with two layers of a water-resistive barrier complying with either ASTM D 226 for Type 1 No. 15 felt, UBC 14-1, or a water-resistive barrier meeting the requirements of ICC Acceptance Criteria AC38. Galvanized 2.5lb/yd² (1.4 kg/m²) or 3.4 lb/yd² expanded metal lath complying with ASTM C847, or 18-gauge woven wire mesh complying with ASTM C1032 or welded wire lath complying with ASTM C933, shall be attached to the studs using galvanized roofing nails, galvanized staples. The lath or mesh must be self-furred or use self-furred fasteners. The fasteners having a crown of at least 1 in. (25 mm) shall be spaced 7 in. on center vertically and shall have sufficient length to penetrate into the studs a minimum of ¾ in. (19 mm) in accordance with ASTM C1063. A nominal ½ in. (12.7 mm) thick scratch coat of Type S or Type N mortar complying with ASTM C270 shall be applied to the metal lath with enough pressure to key into the

lath. When the mortar has become thumbprint dry, score surface horizontally to create a rough surface. The stones shall be adhered to the scratch coat with a nominal ½ in. (12.7mm) thick bed of Type S mortar with enough mortar, or polymer modified mortar complying with ANSI A118.4 or ANSI 118.15 to squeeze around the edges. The exposed scratch coat or substrate surface shall not be visible in the joints between the stone.

2. Application to Open Wood Frame Construction:

Studs shall be spaced a maximum of 16 in. (406 mm) on center. The stud framing shall be covered with a minimum of one layer of a water-resistive barrier complying with either ASTM D 226 for Type 1 No. 15 felt, UBC 14-1, or a non-perforated water-resistive barrier meeting the requirements of ICC Acceptance Criteria AC38. Paperbacked 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 6 in. (152.4 mm) on center vertically with galvanized roofing nails having a crown of at least 1 in. (25 mm) or galvanized staples. The fasteners must penetrate the stud by a minimum of 1 in. (25 mm). The lath paper must be equivalent to the requirements of the water-resistive barrier listed above. If the lath paper does not meet the water-resistive barrier requirements, apply a second layer of water-resistive barrier meeting the requirements above. The fasteners 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 ¾ in. (19 mm) mortar complying with ASTM C270 shall be applied to the metal lath with enough pressure to key into the lath. When the mortar has become thumbprint dry, score surface horizontally to create a rough surface. The scratch coat shall cure for a minimum of 48 hours. The stone shall be adhered to the scratch coat with a nominal ½ in. (12.7mm) thick bed of Type S, Type N, or polymer modified mortar complying with ANSI A118.4 or ANSI A118.15 mortar with enough mortar to squeeze around the edges of the stone. The exposed scratch coat or surface shall not be visible in the joints between the stones.

3. Application to Masonry Surfaces:

Ensure the masonry surface is clean of debris, paint, release agents or other bond break material that could affect the adherence of the stone veneer. The surface can be cleaned by acid washing or by sand or bead blasting. Spray water onto the surface after cleaning to see if water beads on the surface. If it does, clean again or apply 2.5lb/yd² (1.4 kg/m²) or 3.4 lb/yd² metal lath meeting the requirements of ASTM C847 before applying the scratch coat and stone.

A nominal ½ in. (12.7mm) thick scratch coat of Type S or Type N mortar complying with ASTM C270 shall be applied to the concrete or masonry surface and scored horizontally. The stone shall be adhered to the scratch coat with a nominal ½ in. (12.7mm) thick bed of Type S or Type N mortar with enough mortar to squeeze around the edges. Alternatively, polymer modified mortar complying with ANSI 118.4 or ANSI A118.15 can be used. The exposed scratch coat, concrete or masonry surface shall not be visible in the joints between the stones. The exposed scratch coat or surface shall not be visible in the joints between the stones.

Check with your local building code to determining if there is a requirement for weather protection for the masonry wall.

4. Flashing

All flashing must be installed in accordance with building code requirements. 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. IBC/IRC requires termination of installations 4" above the earth or 2" above paved surfaces with a weep screed or code approved flashing to provide for drainage. If the paved surface is attached to the foundation wall, then a clearance of ½" if acceptable per IBC/IRC.

CERTIFICATION AND LABELING:

The certification label must comply with Underwriters Laboratory File No. R8022.

MANUFACTURING PLANTS:

The product covered under this MR will be produced at the following plants:

Eldorado Stone - Royal City
3997 Road 13.6 S.W
Royal City, WA 99357

Eldorado Stone - Greencastle
9156 Molly Pitcher Hwy.
Greencastle, PA 17225

Eldorado Stone - Dos Palmas
Camino Martin # 2500
Rancho Dos Palmas
Tijuana, B.C., 22640 Mexico

The contact representative for all matters concerning the manufacturing locations listed in this Materials Release shall be:

Rick Garagliano
Director of Quality
Eldorado Stone, LLC
425-407-0107, ext. 1344
rgaragliano@eldoradostone.com

MANUFACTURER'S WARRANTY:

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 the manufacturer's written instructions. Warranty coverage specifically excludes damage resulting from wall movement; settlement of the building's 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 transferrable to subsequent owners.

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 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
Office of Manufactured Housing Programs
451 7th Street, SW, Room 9168
Washington, DC 20410-8000

Appropriate User Fee(s) for the TSP program can be submitted through the Pay.gov website at <https://pay.gov/public/form/start/73881741>

The holder of this MR may apply for revision at any time prior to the Review Date. Minor revision 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 on a canceled document.

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