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**PLY GEM STONE**  
550 E. OLD HIGHWAY 56, SUITE B  
OLATHE, KANSAS 66061  
(913) 254-9300  
[www.plygem.com](http://www.plygem.com)

**ADDITIONAL COMPANY:**  
**CANYON STONE, INC.**  
550 E. OLD 56 HIGHWAY, SUITE B  
OLATHE, KANSAS 66061  
(913) 254-9300  
[www.canyon-stone.com](http://www.canyon-stone.com)

### **PLY GEM STONE (AND CANYON STONE) MANUFACTURED STONE AND BRICK VENEER**

#### **CSI Sections:**

- 04 71 00 Manufactured Brick Masonry
- 04 73 00 Manufactured Stone Masonry

#### **1.0 RECOGNITION**

Ply Gem Stone and Canyon Stone Manufactured Stone and Brick Veneer has been evaluated for use as a wall covering in compliance with Section 1404.2 of the 2018 IBC [Section 1405.2 of the 2015 and 2012 IBC] and Section R703.7 of the IRC over exterior or interior walls of wood studs, cold-formed steel framing or concrete masonry. The composition, strength, durability, surface burning characteristics, and thermal resistance of the Ply Gem Stone and Canyon Stone Manufactured Stone and Brick Veneer comply with the intent of the provisions of the following codes and regulations:

- 2018, 2015, and 2012, International Building Code® (IBC)
- 2018, 2015, and 2012, International Residential Code® (IRC)
- 2020 Florida Building Code—Building - attached Supplement
- 2020 Florida Building Code—Residential - attached Supplement

#### **2.0 LIMITATIONS**

Use of Ply Gem Stone and Canyon Stone Manufactured Stone and Brick Veneer recognized in this report is subject to the following limitations:

**2.1** “Expansion or control joints used to limit the effect of differential movement of adhered manufactured stone masonry veneer supports must be specified by the architect, designer or veneer manufacturer, in that order. Consideration must be given to movement caused by temperature changes, shrinkage, creep and deflection.” [AC51]

**2.2** “For installation in accordance with the IBC, supporting wall construction must be designed to support the weight of the veneer system. Horizontal framing members, such as lintels and headers, which support adhered manufactured stone masonry veneer, must be designed to limit deflection to 1/600 of the span.” [AC51]

**2.3** “In jurisdictions adopting the IRC, where the seismic provisions of Section R301.2.2 apply, the average weight of the wall supporting the adhered manufactured stone masonry veneer, including the weight of the veneer system, must be determined. When this weight exceeds the applicable limits of IRC Section R301.2.2.2, an engineered design of the wall construction must be performed in accordance with IRC Section R301.1.3.” [AC51]

**2.4** When installed on exterior framed walls, “the veneer must be installed with the clearances required by 2018 IBC Section 1404.10.1.3 (2015 IBC Section 1405.10.1.3) or 2018 and 2015 IRC Section R703.12.1, as applicable.” [AC51]

**2.5** When applied to a concrete wall or concrete masonry unit wall, the allowable wind load for the adhered veneer is limited to the allowable wind load for which the wall is designed for. Allowable wind load for the adhered veneer applied to wood stud or cold-formed steel framing walls is outside the scope of this report.

**2.6** Ply Gem Stone, Canyon Stone Manufactured Stone and Brick Veneer recognized in this report are produced by Ply Gem Stone and Canyon Stone Olathe, KS and Selinsgrove, PA.

#### **3.0 PRODUCT USE**

**3.1** The backing for Ply Gem Stone and Canyon Stone Manufactured Stone and Brick Veneer “shall be of concrete, masonry, steel framing or wood framing.” [Section 1403.4 of the 2018 IBC (Section 1404.4 of the 2015 and 2012 IBC)]. The veneer units shall be adhered to cement plaster, concrete or concrete masonry backings. Lath, lath accessories and fasteners shall be corrosion-resistant, as applicable.

**3.2** The Manufactured Stone and Brick Veneer shall be installed in accordance with Section 1404.10.1 of the 2018 IBC and Section 1405.10.1 of the 2015 and 2012 IBC, Section R703.12 of the IRC, as applicable, ASTM C1780 and the report holder’s published installation instructions. Where there is a conflict between the documents, the more restrictive shall govern. The manufacturer’s installation instructions shall be available at the jobsite during veneer application.

**3.3** The Manufactured Stone and Brick Veneer units may be applied over the assemblies described in Table 1 of this report when installed in accordance with the referenced code sections and this report.





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**3.4 Interior Use:** The veneer units have a Class A rating in accordance with Section 803.1.2 of the 2018 IBC and Section 803.1.1 of the 2015 and 2012 IBC. The veneer has a flame spread index and smoke-developed index that conforms to Section R302.9 of the IRC when tested in accordance with ASTM E84.

### 4.0 PRODUCT DESCRIPTION

**4.1** Ply Gem Stone and Canyon Stone Manufactured Stone and Brick Veneer are manufactured concrete products formed to resemble natural stone or brick in both texture and color.

The individual masonry veneer units shall be a minimum of 5/8 inch (15.9 mm) thick and a maximum of 2 5/8 inch (67 mm) thick with an average minimum compressive strength of 1,800 psi (12.4 MPa). The installed products “average saturated weight must not exceed 15 pounds per square foot (73 kg/m<sup>2</sup>)” [AC51]. The recognized veneer styles are shown in Table 2 of this report.

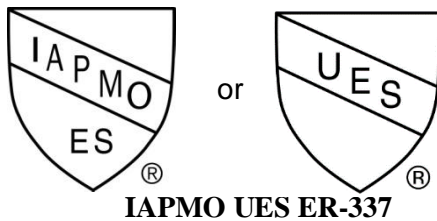
**Table 2 – Recognized Veneer Style Names**

True Stack, Manor Stone, Cascade Ledge, Ridge Stone, Cobble Stone, Tuscan Field, Fieldstone, Country Ledge, River Rock, Ledge Stone, Shadow Ledge, Brick Clean, Brick Weathered, Castle, Cathedral, Classic, Canyon Ledge, Limestone, Prostack Lite, Southern Ledge, Timber Ledge
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**4.2** The veneer, at an average thickness of 0.952 inches (24.2 mm), has an average thermal resistance (R-value) of 0.20 hr.ft<sup>2</sup>°F/Btu when tested in accordance with ASTM C518.

### 5.0 IDENTIFICATION

Boxes of Ply Gem Stone and Canyon Stone Manufactured Stone and Brick Veneer are identified with the manufacturer’s name, the pattern/style name, manufacturing date, manufacturing location, the IAPMO UES Uniform Evaluation Service mark of conformity, and the evaluation report number (ER-337). Either Mark of Conformity may be used as shown below:



### 6.0 SUBSTANTIATING DATA

Test results are from laboratories in compliance with ISO/IEC 17025.

**6.1** Data in accordance with ASTM C1670 and the Acceptance Criteria for Precast Stone Veneer (ICC-ES AC51), approved January 2016.

**6.2** Manufacturer’s descriptive literature and installation instructions.

**6.3** Reports of Thermal Transmission Properties testing in accordance with ASTM C518.

**6.4** Reports of Surface Burning Characteristics testing in accordance with ASTM E84.

### 7.0 REFERENCE CODE SECTIONS

#### International Building Code®:

**7.1** Section 104.11 - Alternative materials, design and methods of construction and equipment.

**7.2** Section 202 – DEFINITIONS. (Adhered Masonry Veneer)

**7.3** Section 803.1.2 – Interior wall and ceiling finish materials tested in accordance with ASTM E84 or UL 723. (2015 and 2012 IBC Section 803.1.1 – Interior wall and ceiling finish materials.)

**7.4** Section 1403.4 – Masonry. (2015 and 2012 IBC Section 1404.4 – Masonry.)

**7.5** Section 1404.10 – Adhered masonry veneer. (2015 and 2012 IBC Section 1405.10)

#### International Residential Code®:

**7.7** Section R104.11-Alternative materials, design and methods of construction and equipment.

**7.8** Section R202 – DEFINITIONS. (Adhered Stone or Masonry Veneer)

**7.9** Section R302.9 – Flame spread index and smoke-developed index for wall and ceiling finishes.

**7.10** Section R703.3 – Wall covering nominal thickness and attachments. (2012 IRC Section R703.4 – Attachments.)

**7.11** Section R703.12 – Adhered masonry veneer installation.

**7.12** Section N1101.6 – Defined terms. (R-Value) (2012 IRC Section N1101.9 – Defined terms. (R-Value))

**7.13** Section N1101.10.4 – Insulation product rating. (2012 IRC Section N1101.12.4 – Insulation product rating.)



## 8.0 STATEMENT OF RECOGNITION

This evaluation report describes the results of research completed by IAPMO Uniform Evaluation Service on Ply Gem Stone and Canyon Stone Manufactured Stone and Brick Veneer to assess its conformance to the codes and standards shown in Section 1.0 of this report and documents the product's certification. Products are manufactured at locations noted in section 2.6 of this report under a quality control program with periodic inspections under the supervision of IAPMO UES.

For additional information about this evaluation report please visit

[www.uniform-es.org](http://www.uniform-es.org) or email us at [info@uniform-es.org](mailto:info@uniform-es.org)



**Table 1 – Application of Masonry Veneer Units**

Item	Code Section	Notes
1. Cement Plaster	2018 IBC Section 1404.10 (2015 and 2012 IBC Section 1405.10.1); 2018 and 2015 IRC Section R703.7.2 (2012 IRC Section 703.6.2)	½-inch thick scratch coat of Type S mortar complying with ASTM C270, scored horizontally in accordance with IBC Section 2512.6.
2. Water Resistant Barrier	2018 IBC Section 1404.10.1.1 (2015 and 2012 IBC Section 1405.10.1.1); 2018 and 2015 IRC Section R703.7.3 (2012 IRC Section R703.6.3)	
3. Flashing	2018 IBC Section 14.04.4 (2015 and 2012 IBC Section 1405.4 ) and Section 1405.10.1.2; 2018 and 2015 IRC Section R703.4 (2012 IRC Sections R703.8) and R703.12.2	
4. Weep Screed	2018 IBC Section 14.04.10.1.2 (2015 and 2012 IBC Section 1405.10.1.2); IRC Section R703.12.1; and TMS 402-16 and TMS 402-13 Section 12.1.6.2 (TMS 402-11 Section 6.1.6.2, ACI 530 Section 6.1.5.2)	
5. Lath and Fasteners	IBC Section 2510.3 (ASTM C926 and ASTM C1063); 2018 and 2015 IRC Section R703.7.1 (2012 IRC Section R703.6.1)	For proprietary fasteners, shear and pull out capacities shall be justified to the satisfaction of the building official.
6. Over Wood Based or Gypsum Sheathing Supported by Steel or Wood Framing	See <b>Items 1, 2, 3, 4 and 5</b> and <b>Notes</b>	<b>Items 1, 2, 3, 4 and 5</b> with framing spaced at 16 inches on-center maximum, lath shall be 2.5 lb/yd <sup>2</sup> self-furring diamond metal lath complying with ASTM C847 fastened in accordance with the requirements of ASTM C1063, Section 7.10.2, and Section R703.7.1 of the 2018 and 2015 IRC (Section R703.6.1 of the 2012 IRC) with fasteners spaced a maximum of 6 inches on-center.
7. Open Studs	See <b>Items 1, 2, 3, 4, 5</b> and <b>Notes</b>	<b>Items 1, 2, 3, 4, 5 and 6</b> except with 3.4 lb/yd <sup>2</sup> , ⅜" rib lath complying with ASTM C847.
8. Over concrete or concrete masonry	Surfaces shall be prepared in accordance with IBC Section 2510.7 and Section 5.2 of ASTM C926.	<b>Items 1, 3, 4, 5 and 6</b> except with metal lath complying with ASTM C847; or 1.4 lb/yd <sup>2</sup> woven wire plaster base complying with ASTM C1032. The veneer may also be adhered to backings of clean concrete masonry without lath, in accordance with Section 2510.7 of the IBC and Section 5.2 of the ASTM C926.
9. Application of Veneer Units	IBC Section 2103.9	Nominal ½-inch thick setting bed of Type S mortar applied to the back of the veneer units in accordance with Ply Gem Stone's installation instructions.
10. For the Florida Building Code, including High-Velocity Hurricane Zones (HVHZ), see the attached Florida Building Code supplement		

SI conversions: 1 inch = 25.4 mm, 1 lb/yd<sup>2</sup> = 0.54 kg/m<sup>2</sup>



## FLORIDA SUPPLEMENT

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## PLY GEM STONE (and CANYON STONE) MANUFACTURED STONE AND BRICK VENEER

### CSI Sections:

- 04 71 00 Manufactured Brick Masonry
- 04 73 00 Manufactured Stone Masonry

### 1.0 RECOGNITION

Ply Gem Stone (and Canyon Stone) Manufactured Stone and Brick Veneer evaluated in IAPMO UES ER-337 is a satisfactory alternative exterior wall covering in accordance with the following codes and regulations:

- 2020 Florida Building Code—Building
- 2020 Florida Building Code—Residential

The wall systems described in Section 2.3 of this supplement, clad with Environmental Stoneworks Manufactured Stone Veneer, comply with the TAS 201 and TAS 203 testing requirements for cyclic wind pressure loading resistance (38 psf design load) and impact resistance described in Sections 1625 and 1626 of the Florida Building Code—Building, for High-Velocity Hurricane Zones.

### 2.0 LIMITATIONS

The Ply Gem Stone and Canyon Stone Manufactured Stone and Brick Veneer described in IAPMO UES ER-337 comply with or are suitable alternatives to what is specified in the codes listed in Section 1.0 of this supplement, subject to the following limitations:

**2.1** Design requirements shall be determined in accordance with the applicable code.

**2.2** Installation of Ply Gem Stone (and Canyon Stone) Manufactured Stone and Brick Veneer shall be in accordance with Florida Building Code—Building Sections 1403.8, 2114.2 and 2603.8 or Florida Building Code—Residential Sections R318.4 and R318.7, as applicable.

**2.3** For use in High-Velocity Hurricane Zones (HVHZ), the Manufactured Stone Veneer shall be installed over minimum <sup>15</sup>/<sub>32</sub>-inch-thick (11.9 mm) 4-ply Exterior Underlayment Plywood sheathing complying with DOC PS 1 over minimum nominally 2x4 SPF Stud Grade wood studs spaced 16 inches (406 mm) on center and constructed in accordance with the provisions of Florida Building Code—Building Chapter 23 for HVHZ.

Sheathing shall be fastened to studs with #8-10 x 1<sup>5</sup>/<sub>8</sub>-inch-long (41.3 mm) course thread bugle-head drywall screws spaced 6 inches (152 mm) apart at sheathing panel perimeters and 12 inches (305 mm) on center in the sheathing panels field. Lath shall be fastened to the sheathing with 0.120-inch by 1-<sup>1</sup>/<sub>4</sub>-inch-long (31.7 mm) roofing nails spaced 6 inches (152 mm) apart at sheathing panel perimeters and 12 inches (305 mm) on center in the sheathing panels field.

Alternatively, the Manufactured Stone Veneer may be applied over CMU walls constructed in accordance with the provisions of Florida Building Code—Building Chapter 21 for HVHZ, and the manufacturer’s published installation instructions. The wood or masonry walls, as applicable, shall be designed in accordance with the provisions of the Florida Building code to withstand the design loads applicable to the building location.

**2.4** Wall bracing shall be provided in accordance with FBC building and FBC residential when required.

**2.5** Verification that the report holder’s quality assurance program is audited by a quality assurance entity approved by the Florida Building Commission (or the building official when the report holder does not possess an approval by the Commission), to provide oversight and determine that the products are being manufactured as described in this evaluation report to establish continual product performance shall be provided for products falling under Section (5)(d) of Florida Rule 61G20-3.008.

### 3.0 SUBSTANTIATING DATA

The following data was submitted in addition to the data listed in Section 6.0 of IAPMO UES ER-337:

**3.1** Report of Large Missile Impact Tests in accordance TAS 201.

**3.2** Report of Cyclic Wind Pressure Loading tests in accordance with TAS 203.

For additional information about this evaluation report please visit [www.uniform-es.org](http://www.uniform-es.org) or email us at [info@uniform-es.org](mailto:info@uniform-es.org)