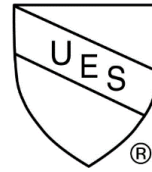




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IAPMO UES ER-337

Scope of Evaluation Report – ER 337

Ply Gem Stone (and Canyon Stone) Manufactured Stone and Brick Veneer Units			
CSI Categories: 04 71 00 Manufactured Brick Masonry, 04 73 00 Manufactured Stone Masonry			
Codes or Standards	Version	Evaluated Characteristics	Evaluated Uses
International Building Code® (IBC)	2021, 2018, 2015	Quality Strength Effectiveness Fire Resistance Durability Safety	Exterior Wall Covering and Interior Wall Finish
International Residential Code® (IRC)	2021, 2018, 2015		
Florida Building Code, Building (FBC, Building)	2023		
Florida Building Code, Residential (FBC, Residential)	2023		
California Building Code (CBC)	2022		
California Residential Code (CRC)	2022		
Code Referenced Sections	IBC: 803.1.2, 1403.4, 1404, 1404.2, 1404.4, 2103.1 IRC: 301.1.1.3, 301.2.2, R703.12.1, 606.2, 703.12.1		

1.0 RECOGNITION

This report describes the results of research completed by IAPMO Uniform Evaluation Service on Ply Gem Stone and Canyon Stone Manufactured Stone and Brick Veneer units to assess conformance to the codes shown at the beginning of this report and serves as documentation of the product certification. Products are manufactured under a quality control program with periodic inspection under the supervision of IAPMO UES. Ply Gem Stone and Canyon Stone Manufactured Stone and Brick Veneer recognized in this report are manufactured in Selinsgrove, PA.

2.0 PRODUCT DESCRIPTION AND FIELD IDENTIFICATION OF PLY GEM AND CANYON STONE MANUFACTURED STONE AND BRICK VENEER UNITS

Ply Gem and Canyon Stone Manufactured Stone and Brick Veneer units are concrete formed units manufactured to resemble natural stone or brick. The adhered manufactured stone masonry veneer units (AMSMV) have a minimum thickness of 5/8 inch (15.9 mm) and a thickness no greater than 2 5/8 inches (67 mm), meeting the requirements of ASTM C1670. 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, and evaluation report number (ER-337). The recognized veneer styles are detailed in Table 2 of this report.

3.0 EVALUATION OF PLY GEM AND CANYON STONE MANUFACTURED STONE AND BRICK VENEER UNITS TO REFERENCED CODES AND STANDARDS

The structural performance, durability, physical characteristics, and thermal resistance properties of the AMSMV units comply with the intent of the provisions of the codes and regulations of defined in this report. Ply Gem and Canyon Stone Manufactured Stone and Brick veneer units, when used as an exterior wall covering or interior finish, conform to the requirements as defined by Section 1404.2 and 2103.1 of the IBC or Section 606.2.6 of the IRC.

The product described in this Uniform Evaluation Service (UES) Report has been evaluated as an alternative material, design or method of construction in order to satisfy and comply with the intent of the provision of the code, as noted in this report, and for at least equivalence to that prescribed in the code in quality, strength, effectiveness, fire resistance, durability and safety, as applicable, in accordance with IBC Section 104.11. This document shall only be reproduced in its entirety.





3.1 Installation Requirements and Limitations: The Ply Gemstone and Canyon Stone AMSMV units shall be installed in accordance with the applicable code (2021 and 2018 IBC Section 1404.10.1, 2015 IBC Section 1405.10.1, Section R703.12 of the IRC), ASTM C1670, the manufacturer's published installation instructions, and this report. Where there is a conflict, the most restrictive requirements shall govern.

Ply Gem and Canyon Stone AMSMV units shall be installed to backing as defined in Section 1403.4 of the 2021 and 2018 IBC or Section 1404.4 of the 2015 IBC, as applicable. Details of the backing and installation are detailed in Table 1 of this report.

3.1.1 Exterior Walls: AMSMV units which are installed as an exterior covering on wood stud walls, shall have clearances above the earth, paved areas or exterior walking surfaces which are supported by the same foundation that supports the exterior wall shall meet the requirements of the 2021 and 2018 IBC Section 1404, 2015 IBC Section 1405.10.1.3, or IRC Section R703.12.1, as applicable.

3.1.2 Interior Finish: Ply Gem and Canyon Stone AMSMV units, when tested in accordance with ASTM E84, are classified as Class A in accordance with Section 803.1.2 of the 2021 and 2018 IBC and Section 803.1.1 of the 2015 IBC and meet the requirements of Section R302.9 of the IRC.

3.2 Design Requirements and Limitations: Ply Gem and Canyon Stone AMSMV units have been evaluated to meet the design requirements of this section.

3.2.1 Wall Design and Installation: The design of the AMSMV, as it relates to the installation, shall consider movement caused by temperature changes, shrinkage, creep and deflection as required by the general design requirements of TMS 402. An approved source may detail how to utilize expansion or control joints to limit movement to control the movement of AMSMV.

Wall structural components which are designed in accordance with the IBC, including lintels and headers, shall consider the weight of the veneer system. The deflection caused by carrying dead load shall be limited to a deflection of 1/600 as required by the design of beam requirements of TMS 402.

3.2.2 Seismic Requirements for the IRC: The average weight of the wall, including the installation of the AMSMV shall be determined when the provisions of Section R301.2.2 of the IRC are applicable. Average weights of the walls that exceed the limits of IRC Section R301.2.2.2 shall require engineer design in accordance with the IBC as defined by Section 301.1.3 of the IRC.

3.2.3 Strength, Durability, and Effectiveness: The units have an average compressive strength of 2100 psi (15 MPa) with no individual specimen having a compressive strength less than 1800 psi (12,410 kPa).

The average saturated weight of the units do not exceed 15 pounds per square foot (73 kg/m³) as required by ASTM C1670.

Units testing in accordance with ASTM C518 have a thermal resistance (R-value) of 0.20 hr.ft²°F/Btu per inch (0.0016 Km²/W per mm) when tested at an average thickness of 0.952 inches (24.2 mm).

The allowable wind load performance for AMSMV units which are used as an exterior wall covering and installed on concrete or concrete masonry unit walls are limited to the wind load performance of the designed wall. Allowable wind load performance of AMSMV units installed on walls constructed of wood and cold-formed steel framing is outside the scope of this report.

3.2.4 Fire Resistance and Safety: Ply Gem and Canyon Stone AMSMV units meet Class A for interior finishings. Fire resistance is outside the scope of this report.

4.0 REFERENCES

Data in accordance with ASTM C1670, and the Acceptance Criteria for Precast Stone Veneer (ICC-ES AC51), approved June 2018, editorially revised January 2021, manufacturer's descriptive literature and installation instructions., Reports of Thermal Transmission Properties testing in accordance with ASTM C518, and Reports of Surface Burning Characteristics testing in accordance with ASTM E84.

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



5.0 CONCLUSIONS

The result of the research conducted by IAPMO UES concludes that the Ply Gem Stone and Canyon Stone Manufactured Stone and Brick Veneer units, within the limitations defined in this report, meets the intent of the provisions of the code when approved by the building official.

TABLE 1 – Application of Masonry Veneer Units

Item	Code Section	Notes
1. Cement Plaster	2021 and 2018 IBC Section 1404.10 (2015 IBC Section 1405.10.1); IRC Section R703.7.2	½-inch to ¾-inch scratch coat of Type S mortar complying with ASTM C270, scored horizontally in accordance with IBC Section 2512.6.
2. Water Resistive Barrier	2021 and 2018 IBC Section 1404.10.1.1 (2015 IBC Section 1405.10.1.1); IRC Section R703.7.3	
3. Flashing	2021 and 2018 IBC Section 1404.4, (2015 IBC Section 1405.4 and Section 1405.10.1.2); IRC Section R703.4 and IRC Section R703.12.2	
4. Weep Screed	2021 and 2018 IBC Section 1404.10.1.2 (2015 IBC Section 1405.10.1.2); IRC Section R703.12.1; TMS 402-16, and TMS 402-13 Section 12.1.6.2	
5. Lath and Fasteners	IBC Section 2510.3 (ASTM C926 and ASTM C1063); IRC Section R703.7.1	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	As described in Items 1, 2, 3, 4, and 5 and Notes	Items 1, 2, 3, 4 and 5 with framing spaced at 16 inches on-center maximum, lath shall be 2.5 lb/yd ² self-furring diamond metal lath complying with ASTM C847 or 1.4 lb/yd ² galvanized woven wire mesh complying with ASTM C1032, fastened in accordance with the requirements of ASTM C1063, Section 7.10.2, and Section R703.7.1 of the IRC with fasteners spaced a maximum of 6 inches on-center.
7. Open Studs	See Items 1, 2, 3, 4, 5, and 6 and Notes	Items 1, 2, 3, 4, 5, and 6 except with 3.4 lb/yd ² , 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.	Items 1, 3, 4, 5, and 6 except with metal lath complying with ASTM C847; or 1.4 lb/yd ² 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 2103.2.4	Nominal ½-inch thick setting bed of Type S mortar applied to the back of the veneer units in accordance with Environmental Stonework's installation instructions.
10. For the Florida Building Code, including High-Velocity Hurricane Zones (HVHZ), the attached Florida Building Code supplement shall apply.		

SI conversions: 1 inch = 25.4 mm, 1 lb/yd² = 0.54 kg/m²

TABLE 2 – Recognized Veneer Style Names

Canyon Ledge, Cascade Ledge, Colonial Brick, Cut Cobblestone, Fieldstone, Manorstone, Shadow Ledge, True Stack

For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org



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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 units, as evaluated and represented in IAPMO UES Evaluation Report ER-337 and with changes as noted in this supplement, is a satisfactory alternative for use in buildings built under the following codes (and regulations):

- 2022 California Building Code (CBC)
- 2022 California Residential Code (CRC)

2.0 LIMITATIONS

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

- 2.1** Use in construction of new buildings located in a Fire Hazard Severity Zone within State Responsibility Areas or a Wildland-Urban Interface Fire Area is outside the scope of this report.
- 2.2** This supplement expires concurrently with ER-337.

For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org



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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:

- 2023 Florida Building Code—Building
- 2023 Florida Building Code—Residential

The wall systems described in Section 2.3 of this supplement, clad with Ply Gem Stone and Canyon Stone Manufactured Stone Veneer, comply with the TAS 201, TAS 202, and TAS 203 testing requirements for 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

Use of Ply Gem Stone and Canyon Stone Manufactured Stone and Brick Veneer recognized in this report supplement is 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 Section R318.5, as applicable.

2.3 For use in High-Velocity Hurricane Zones (HVHZ), the Manufactured Stone Veneer shall be installed over minimum ¹⁵/₃₂-inch-thick (11.9 mm) 4-ply Exterior Underlayment Plywood sheathing complying with DOC PS 1 or minimum ½-inch-thick (12.7 mm) 24/16 Rated Structural 1 OSB sheathing complying with DOC PS-2, over minimum nominally 2x4 SPF No. 2 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 #10-10 x 2½-inch-long (64 mm) coarse 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. A 30 lb felt water resistive barrier shall be installed on top of the wood sheathing [2 sheets with a 2-inch (50 mm) overlap] fastened with 0.115-inch (3 mm) diameter x 1¼-inch (32 mm) long, roofing nails spaced 12-inches (305 mm) on center along the perimeter and 48-inches (1220 mm) on center in the field. Lath shall be fastened to the sheathing with 0.120-inch by 1¼-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 Florida Building Code—Building and Florida Building Code—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.

2.6 This supplement expires concurrently with ER-337.

3.0 SUBSTANTIATING DATA

The following data was submitted in addition to the data listed in Section 4.0 of IAPMO UES ER-337:

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

3.2 Report of Static Wind Pressure Loading tests in accordance with TAS 202.

3.3 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 or email us at info@uniform-es.org