# Listing and Technical Evaluation Report™

**A Duly Authenticated Report from an Approved Agency**

**Report No: 1312-03**

Issue Date: January 11, 2014

Revision Date: March 16, 2026

Subject to Renewal: April 1, 2027

# Versetta Stone® Panelized Stone Veneer Applications Using Continuous Insulation Over Concrete or Masonry Walls

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## CSI Designations:

**DIVISION: 07 00 00 - THERMAL AND MOISTURE PROTECTION**

Section: 07 44 53 - Glass-Fiber-Reinforced Cementitious Panels

Section: 07 44 63 - Fabricated Faced Panel Assemblies

## 1 Innovative Product Evaluated[1]

1.1 Versetta Stone Panelized Stone Veneer

## 2 Product Description and Materials

2.1 The innovative product evaluated in this report is shown in **Figure 1**.

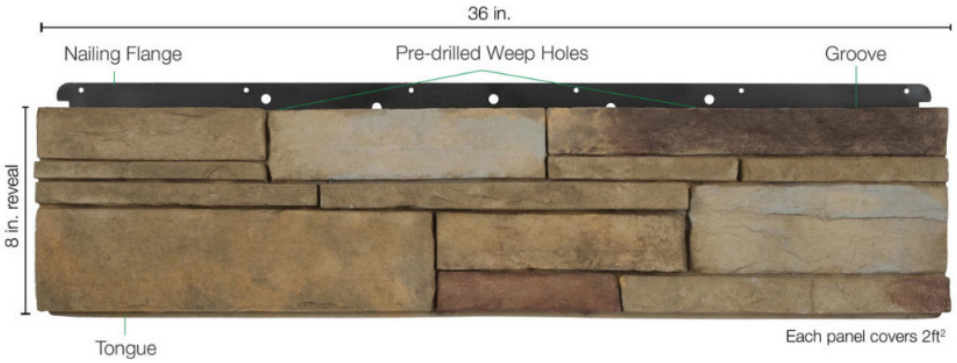


**Figure 1**. Versetta Stone Panel with Nailing Flange (Across Top of Panel)

2.2 Versetta Stone is a non-structural, fiber-reinforced, cement-based masonry wall cladding that is mechanically attached to concrete walls, masonry walls, steel-framed, or wood-framed buildings.

2.2.1 This report covers the application of Versetta Stone over insulation on concrete or masonry walls.

2.2.1.1 For application of Versetta Stone over insulation on steel-framed or wood-framed buildings, see Report Number 1212-01.

2.2.1.2 For application of Versetta Stone on post-framed buildings, see Report Number 1703-08.

2.3 Versetta Stone panels have a simulated stone veneer surface.

2.4 Versetta Stone panels measure 36.4" long x 9.5" tall and 1.8" thick and have tongue-and-groove edges that engage adjacent panels.

2.4.1 The finished exposure of the panels is 8" x 36" (see **Figure 1**).

2.5 A 0.0217" thick painted G90 galvanized steel nailing flange is molded along the top edge of the panels for attachment to the substrate (see **Figure 1**).

2.6 The bottom edge and the ends of Versetta Stone panels fit together using tongue-and-groove technology.

2.7 Versetta Stone panels have an installed weight of approximately 8.5-psf (17 pounds per panel).

2.8 Additionally, the stone veneer panels are supplemented with various accessories (such as starter strips, bridging, corner pieces, etc.) to aid with installation.

2.9 As needed, review material properties for design in **Section 6** and the regulatory evaluation in **Section 8**.

## 3 Definitions[2]

3.1 New Materials[3] are defined as building materials, equipment, appliances, systems, or methods of construction, not provided for by prescriptive and/or legislatively adopted regulations, known as alternative materials.[4] The design strength and permissible stresses shall be established by tests[5] and/or engineering analysis.[6]

3.2 Duly authenticated reports[7] and research reports[8] are test reports and related engineering evaluations that are written by an approved agency[9] and/or an approved source.[10]

3.2.1 This report utilizes intellectual property and/or trade secrets to create public domain material properties for commercial end-use.

3.2.1.1 This report protects confidential Intellectual Property and trade secrets under the regulation, 18.US.Code.90, also known as Defend Trade Secrets Act of 2016 (DTSA).[11]

3.3 An approved agency is *"approved"* when it is ANAB ISO/IEC 17065 accredited. DrJ Engineering, LLC (DrJ) is accredited and listed in the ANAB directory.

3.4 An approved source is *"approved"* when a professional engineer (i.e., Registered Design Professional, hereinafter RDP) is properly licensed to transact engineering commerce. The regulatory authority governing approved sources is the state legislature via its professional engineering regulations.[12]

3.5 Testing and/or inspections conducted for this duly authenticated report were performed by an ISO/IEC 17025 accredited testing laboratory, an ISO/IEC 17020 accredited inspection body, and/or a licensed RDP.

3.5.1 The Center for Building Innovation (CBI) is ANAB[13] ISO/IEC 17025 and ISO/IEC 17020 accredited.

3.6 The regulatory authority shall enforce[14] the specific provisions of each legislatively adopted regulation. If there is a non-conformance, the specific regulatory section and language of the non-conformance shall be provided in writing[15] stating the nonconformance and the path to its cure.

3.7 The regulatory authority shall accept duly authenticated reports from an approved agency and/or an approved source with respect to the quality and manner of use of new materials or assemblies as provided for in regulations regarding the use of alternative materials, designs, or methods of construction.[16]

3.8 ANAB is an International Accreditation Forum (IAF) Multilateral Recognition Arrangement (MLA) signatory. Therefore, recognition of certificates and validation statements issued by conformity assessment bodies accredited by all other signatories of the IAF MLA with the appropriate scope shall be approved.[17] Thus, all ANAB ISO/IEC 17065 duly authenticated reports are approval equivalent,[18] and can be used in any country that is an MLA signatory found at this link: https://iaf.nu/en/recognised-abs/

3.9 Approval equity is a fundamental commercial and legal principle.[19]

## 4 Applicable Local, State, and Federal Approvals; Standards; Regulations[20]

4.1 *Local, State, and Federal*

4.1.1 Approved in all local jurisdictions pursuant to ISO/IEC 17065 duly authenticated report use, which includes, but is not limited to, the following featured local jurisdictions: Austin, Baltimore, Broward County, Chicago, Clark County, Dade County, Dallas, Detroit, Denver, DuPage County, Fort Worth, Houston, Kansas City, King County, Knoxville, Las Vegas, Los Angeles City, Los Angeles County, Miami, Nashville, New York City, Omaha, Philadelphia, Phoenix, Portland, San Antonio, San Diego, San Jose, San Francisco, Seattle, Sioux Falls, South Holland, St. Louis County, Texas Department of Insurance, and Wichita.[21]

4.1.2 Approved in all state jurisdictions pursuant to ISO/IEC 17065 duly authenticated report use, which includes, but is not limited to, the following featured states: California, Florida, New Jersey, Oregon, New York, Texas, Washington, and Wisconsin.[22]

4.1.3 Approved by the Code of Federal Regulations Manufactured Home Construction: Pursuant to Title 24, Subtitle B, Chapter XX, Part 3282.14[23] and Part 3280[24] pursuant to the use of ISO/IEC 17065 duly authenticated reports.

4.1.4 Approved means complying with the requirements of local, state, or federal legislation.

4.2 *Regulations*

4.2.1 *IBC – 18, 21, 24: International Building Code®*

4.2.2 *IRC – 18, 21, 24: International Residential Code®*

4.3 *Standards*

4.3.1 *AISI S100: North American Specification for the Design of Cold-formed Steel Structural Members*

4.3.2 *ANSI/ABTG FS 100-2012 (R2018): Standard Requirements for Wind Pressure Resistance of Foam Plastic Insulating Sheathing Used in Exterior Wall Covering Assemblies*

4.3.3 *ANSI/AWC NDS: National Design Specification (NDS) for Wood Construction*

4.3.4 *ASCE/SEI 7: Minimum Design Loads and Associated Criteria for Buildings and Other Structures*

4.3.5 *ASTM C90: Standard Specification for Loadbearing Concrete Masonry Units*

4.3.6 *ASTM C1185: Standard Test Methods for Sampling and Testing Non-Asbestos Fiber-Cement Flat Sheet, Roofing and Siding Shingles, and Clapboards*

4.3.7 *ASTM C1186: Standard Specification for Flat Fiber-Cement Sheets*

4.3.8 *ASTM D3679: Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) Siding*

4.3.9 *ASTM D5206: Standard Test Method for Windload Resistance of Rigid Plastic Siding*

4.3.10 *ASTM E84: Standard Test Method for Surface Burning Characteristics of Building Materials*

4.3.11 *ASTM E2273: Standard Test Method for Determining the Drainage Efficiency of Exterior Insulation and Finish Systems (EIFS) Clad Wall Assemblies*

4.3.12 *AWC TR 12: General Dowel Equations for Calculating Lateral Connection Values*

## 5 Listed[25]

5.1 Equipment, materials, products, or services included in a List published by a nationally recognized testing laboratory (e.g., CBI), an approved agency (e.g., CBI and DrJ), and/or and approved source (e.g., DrJ), or other organization(s) concerned with product evaluation (e.g., DrJ), that maintains periodic inspection (e.g., CBI) of production of listed equipment or materials, and whose listing states either that the equipment or material meets nationally recognized standards or has been tested and found suitable for use in a specified manner.

## 6 Tabulated Properties Generated from Nationally Recognized Standards

6.1 Versetta Stone is used as an exterior wall covering in accordance to the applicable sections of IBC Chapter 14 and IRC Section R703, and is installed over concrete and masonry walls capable of supporting the imposed loads in accordance with IBC Section 1609 and IRC Section R301.2.1, including all required transverse wind loads.

6.2 Versetta Stone is also used as an exterior wall covering installed over concrete and masonry walls where the walls are over sheathed with continuous insulation.

6.3 Fasteners for gravity loaded single shear connections for this installation are as shown in **Table 1**.

6.4 Versetta Stone shall not be installed in areas where the design wind pressure exceeds the capacity of the cladding and its attachment to resist the load in accordance with **Table 2**.

6.4.1 See **Table 3** for wind pressures associated with $V_{ult}$ per ASCE 7.

6.4.2 Design in accordance with generally accepted engineering practice may be used as an alternative to **Section 6.3**.

6.5 **Table 3** provides an aid for designers in determining the allowable wind pressures for Versetta Stone panel installation. Wind speeds are included for $V_{ult}$.

6.5.1 For example, given the following:

6.5.1.1 Wind Speed, $V_{ult}$ = 180 mph

6.5.1.2 Exposure D

6.5.1.3 Mean roof height = 25'

6.5.1.4 Concrete construction with 2" Continuous Insulation (CI)

6.5.2 Locate the appropriate fasteners in **Table 1**. Many will work with 2" CI.

6.5.3 The corresponding wind pressure from **Table 3** shows that this installation corresponds to an allowable wind pressure of 125.6-psf.

6.5.4 Verify the withdrawal value of fasteners in **Table 2**.

6.5.5 For this example, either the $^{3}/_{16}$" or $^{1}/_{4}$" Tapcon® Hex screws will provide both sufficient shear and withdrawal.

6.6 For additional information or use in other applications, consult the manufacturer installation instructions.

**Table 1**. Fastener Requirements to Support Versetta Stone Installation Over Continuous Insulation in Concrete or Masonry Construction[1,3]

| Material | Fastener[5] | Fastener Diameter (in) | Min. Fastener Penetration[6] (in) | Thickness of Continuous Insulation Allowed[2,4] (in) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 0 | 0.5 | 1.0 | 1.5 | 2.0 | 2.5 | 3.0 | 3.5 | 4.0 |
| Concrete (Minimum 2,500-psi) | 3/16" Tapcon | 0.188 | 1.50 | X | X | X | X | X | X | X | X | X |
| | 1/4" Tapcon | 0.250 | 1.50 | X | X | X | X | X | X | X | X | X |
| | Hilti X-C | 0.138 | 0.75 | X | X | X | X | | | | | |
| | Hilti X-U | 0.157 | 0.75 | X | X | X | X | X | X | X | | |
| | Hilti X-C | 0.138 | 1.00 | X | X | X | X | X | X | | | |
| | Hilti X-U | 0.157 | 1.00 | X | X | X | X | X | X | X | | |
| Masonry (Medium/Normal Hollow CMU per ASTM C90) | 3/16" Tapcon | 0.188 | 1.00 | X | X | X | X | X | X | X | X | |
| | 1/4" Tapcon | 0.250 | 1.00 | X | X | X | X | X | X | X | X | X |
| Masonry (Lightweight Hollow CMU per ASTM C90) | Masonry Nail | 0.148 | 1.00 | X | X | X | X | X | X | X | | |
| | 3/16" Tapcon | 0.188 | 1.00 | X | X | X | X | X | X | | | |
| | 1/4" Tapcon | 0.250 | 1.00 | X | X | X | X | X | X | X | X | X |
| | Hilti X-C | 0.138 | 1.00 | X | X | | | | | | | |
| | Hilti X-U | 0.157 | 1.00 | X | X | X | X | | | | | |

SI: 1 in = 25.4 mm

1. Table values are based on the manufacturer published fastener properties. The methodology for reducing the fastener capacities to account for the insulation are based on the NDS allowable lateral loads for fasteners as modified by AWC TR12 for use with a gap parameter for gravity load only (i.e., fasteners sized to support weight of cladding, while cantilevered from framing a distance equal to the foam sheathing thickness).
2. Maximum thickness of continuous insulation shall include any rain screen material sheathing that does not serve as a nail base and airspace between the cladding and the continuous insulation, where present.
3. Each panel shall contain a minimum of three (3) fasteners and penetrate the concrete or masonry wall as identified above.
4. Where a substrate other than nailable sheathing is used, its thickness shall be added to the continuous insulation thickness for the purpose of determining the fastener size.
5. Fasteners shall have the following minimum head diameter: Masonry nails, 0.312"; Hilti fasteners, 0.322"; Tapcon fasteners, 0.325".
6. Tools used for driving pneumatic or powder actuated fasteners shall be adjusted to avoid over driving the fasteners and damaging the panel.

**Table 2**. Wind Pressure Capacity of Versetta Stone Installation Over Continuous Insulation on Concrete or Masonry Walls[1]

| Fastener | Material | Minimum Fastener Penetration (in) | Maximum Allowable Wind Pressure[2] (psf) |
|---|---|---|---|
| Hilti Pin X-C | Masonry (Lightweight) | 3/4 | 37 |
| | Masonry (Medium/Normal) | 3/4 | 37 |
| | Concrete | 1 | 126 |
| | | 3/4 | 67 |
| Hilti Pin X-U | Masonry (Lightweight) | 3/4 | 37 |
| | Masonry (Medium/Normal) | 3/4 | 37 |
| | Concrete | 3/4 | 126 |
| Tapcon 3/16" Hex Screw | Masonry (Lightweight) | 1 | 54 |
| | Masonry (Medium/Normal) | 1 | 90 |
| | Concrete | 1 1/2 | 146 |
| Tapcon 1/4" Hex Screw | Masonry (Lightweight) | 1 | 66 |
| | Masonry (Medium/Normal) | 1 | 146 |
| | Concrete | 1 1/2 | 146 |

SI: 1 in = 25.4 mm, 1-psf = 0.0479 kN/m2

1. Each panel shall contain a minimum of three (3) fasteners and penetrate the concrete or masonry wall as identified above.
2. Reported maximum allowable wind pressure is based on the lower of the manufacturer published withdraw capacity per fastener or the calculated allowable pull over capacity per fastener at the steel nailing flange, converted to psf.

**Table 3**. Design Wind Pressures (Demand) by $V_{ult}$, Exposure and Mean Roof Height

| Exposure Category | Wind Speed, $V_{ult}$ (mph) | Design Wind Pressure[1] (psf) | | | | | |
|---|---|---|---|---|---|---|---|
| | | Mean Roof Height (ft) | | | | | |
| | | 15 | 20 | 25 | 30 | 35 | 40 |
| B | 110 | 24 | 26 | 27 | 29 | 30 | 31 |
| | 115 | 26 | 28 | 30 | 31 | 33 | 34 |
| | 120 | 28 | 31 | 33 | 34 | 36 | 37 |
| | 130 | 33 | 36 | 38 | 40 | 42 | 43 |
| | 140 | 39 | 42 | 44 | 46 | 48 | 50 |
| | 150 | 44 | 48 | 51 | 53 | 56 | 58 |
| | 160 | 50 | 54 | 58 | 61 | 63 | 65 |
| | 180 | 64 | 69 | 73 | 77 | 80 | 83 |
| | 200 | 79 | 85 | 90 | 95 | 99 | 102 |
| C | 110 | 35 | 38 | 39 | 41 | 42 | 43 |
| | 115 | 39 | 41 | 43 | 45 | 46 | 47 |
| | 120 | 42 | 45 | 47 | 49 | 50 | 51 |
| | 130 | 49 | 52 | 55 | 57 | 59 | 60 |
| | 140 | 57 | 61 | 64 | 66 | 68 | 70 |
| | 150 | 66 | 70 | 73 | 76 | 78 | 80 |
| | 160 | 75 | 79 | 83 | 86 | 89 | 92 |
| | 180 | 95 | 101 | 105 | 109 | 113 | 116 |
| | 200 | 117 | 124 | 130 | 135 | 139 | 143 |
| D | 110 | 43 | 45 | 47 | 49 | 50 | 51 |
| | 115 | 47 | 49 | 51 | 53 | 55 | 56 |
| | 120 | 51 | 54 | 56 | 58 | 59 | 61 |
| | 130 | 60 | 63 | 66 | 68 | 70 | 71 |
| | 140 | 70 | 73 | 76 | 79 | 81 | 83 |
| | 150 | 80 | 84 | 88 | 90 | 93 | 95 |
| | 160 | 91 | 96 | 100 | 103 | 106 | 108 |
| | 180 | 115 | 121 | 126 | 130 | 134 | 137 |
| | 200 | 142 | 150 | 156 | 161 | 165 | 169 |

SI: 1 in = 25.4 mm, 1-psf = 0.0479 kN/m$^2$, 1 mph = 1.61 km/h

1. Design wind pressures per ASCE 7 Chapter 30 Components and Cladding ($K_d$ = 0.85) Method 1. Pressures shown are based on the following assumptions:
   a. Enclosed Building ($GC_{pi}$ = ±0.18), Topographic Factor, $K_{zt}$ = 1.0, Ground Elevation Factor, $K_e$ = 1.0, Zone 5 with an effective area of 10 ft$^2$ ($GC_p$ = -1.4). For other conditions, see ASCE 7-22 Table 30.5-1.

6.7 Alternative techniques shall be permitted in accordance with accepted engineering practice and experience. These provisions for the use of alternative materials, designs, and methods of construction are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed herein. This includes, but is not limited to, the following areas of engineering: mechanics of materials, structures, building science, and fire science.

## 7 Certified Performance[26]

7.1 All construction methods shall conform to accepted engineering practices to ensure durable, livable, and safe construction and shall demonstrate acceptable workmanship reflecting journeyman quality of work of the various trades.[27]

7.2 The strength and rigidity of the component parts and/or the integrated structure shall be determined by engineering analysis or by suitable load tests to simulate the actual loads and conditions of application that occur.[28]

## 8 Regulatory Evaluation and Accepted Engineering Practice

8.1 Versetta Stone Panelized Stone Veneer complies with the following legislatively adopted regulations and/or accepted engineering practice for the following reasons:

8.1.1 Versetta Stone was evaluated:

8.1.1.1 For use as an exterior wall covering on new or existing concrete or masonry walls in accordance with IBC Section 1402 and IRC Section R703.

8.1.1.2 For use as a weather-resistant covering in accordance with IBC Section 1402.2 and IRC Section R703.1.1.

8.1.1.3 To determine the ability of Versetta Stone to resist wind loads in accordance with IBC Section 1609 and IRC Section R703.1.2.

8.1.1.4 For use as an exterior finish over concrete or masonry walls with the addition of continuous insulation installed between the concrete or masonry walls and Versetta Stone.

8.1.1.4.1 Foam sheathing shall have a minimum compressive strength of 15-psi in accordance with ASTM C578 or ASTM C1289, and be qualified for wind pressure resistance in accordance with ANSI/ABTG FS 100 2012 (R2018).[29]

8.1.1.4.2 Fastening through foam plastic insulating sheathing is evaluated in accordance with accepted engineering practice and IBC Section 1404.5.1.[30]

8.1.1.5 To determine the ability of various fasteners to support the gravity and transverse loads induced by the products when installed over concrete and masonry construction, with the addition of continuous insulation installed between the framing and Versetta Stone.

8.2 Use in applications requiring a fire-resistance rating are outside the scope of this evaluation.

8.3 Any building code, regulation and/or accepted engineering evaluations (i.e., research reports, duly authenticated reports, etc.) that are conducted for this Listing were performed by DrJ, which is an ISO/IEC 17065 accredited certification body and a professional engineering company operated by RDP or approved sources. DrJ is qualified[31] to practice product and regulatory compliance services within its scope of accreditation and engineering expertise,[32] respectively.

8.4 Engineering evaluations are conducted with DrJ's ANAB accredited ICS code scope of expertise, which is also its areas of professional engineering competence.

## 9 Installation

9.1 Installation shall comply with the approved construction documents, the manufacturer installation instructions, this report, and the applicable building code.

9.2 In the event of a conflict between the manufacturer installation instructions and this report, contact the manufacturer for counsel on the proper installation method.

9.3 *General*

9.3.1 Versetta Stone shall be installed in accordance with the manufacturer installation instructions and this report.

9.3.2 Installation is subject to the conditions of use set forth in **Section 12**.

9.3.3 All Versetta Stone vertical joints shall be staggered between courses.

9.3.4 All other installation and flashing details germane to Versetta Stone shall be in accordance with the applicable building code, the building designer details, and the manufacturer installation instructions.

9.4 *Concrete and Masonry Walls*

9.4.1 Versetta Stone shall be installed over walls capable of resisting 100% of the design wind loads and shall be attached, at a minimum, in accordance with **Table 1**.

9.4.2 Versetta Stone may be installed with an intervening layer(s) of continuous insulation and attached in accordance with **Table 1**.

9.4.3 Each Versetta Stone panel shall be installed with a minimum of three (3) fasteners as follows:

9.4.3.1 Two (2) of the fasteners must be installed into the concrete or masonry at each end of the panel and have a minimum penetration depth as shown in **Table 1**.

9.4.3.2 The other fastener must be installed into the concrete or masonry at the center of the panel.

9.4.4 Fastener sizes shall be in accordance with **Table 1**, or generally accepted engineering practice.

9.4.5 A Water-Resistive Barrier (WRB) is not required in this application as prescribed in IBC Section 1402.2 and IRC Section R703.1.1. However, a WRB is permitted and may be either mechanically attached, liquid applied, or Foam Plastic Insulating Sheathing (FPIS) installed with taped seams.

## 10 Substantiating Data

10.1 Testing has been performed under the supervision of a professional engineer and/or under the requirements of ISO/IEC 17025 as follows:

10.1.1 Moisture movement testing in accordance with ASTM C1185

10.1.2 Nail hem bond strength testing in accordance with ASTM C1185

10.1.3 Physical and mechanical properties testing in accordance with ASTM C1186

10.1.4 Pressure equalization testing in accordance with ASTM D3679, Annex 1

10.1.5 Transverse wind load testing in accordance with Procedure 2 of ASTM D5206

10.1.6 Surface burning characteristics testing in accordance with ASTM E84

10.1.7 Water drainage efficiency testing in accordance with ASTM E2273

10.2 Fastening Systems for Continuous Insulation, Final Report 10-11; New York State Energy Research and Development Authority (NYSERDA); Albany, NY; April 2010

10.3 Baker, P. and Lepage, R.; Cladding Attachment Over Thick Exterior Insulating Sheathing; Prepared by the Building Science Corporation for the National Renewable Energy Laboratory on behalf of the U.S. Department of Energy's Building America Program; January 2014

10.4 Baker, P.; Initial and Long-Term Movement of Cladding Installed Over Exterior Rigid Insulation; Prepared by the Building Science Corporation for the National Renewable Energy Laboratory on behalf of the U.S. Department of Energy's Building America Program; September, 2014

10.5 Report showing compliance with required quality control procedures and documentation

10.6 Information contained herein may include the result of testing and/or data analysis by sources that are approved agencies, approved sources, and/or an RDP. Accuracy of external test data and resulting analysis is relied upon.

10.7 Where applicable, testing and/or engineering analysis are based upon provisions that have been codified into law through state or local adoption of regulations and standards. The developers of these regulations and standards are responsible for the reliability of published content. DrJ's engineering practice may use a regulation-adopted provision as the control. A regulation-endorsed control versus a simulation of the conditions of application to occur establishes a new material as being equivalent to the regulatory provision in terms of quality, strength, effectiveness, fire resistance, durability, and safety.

10.8 The accuracy of the provisions provided herein may be reliant upon the published properties of raw materials, which are defined by the grade mark, grade stamp, mill certificate, or duly authenticated reports from approved agencies and/or approved sources provided by the supplier. These are presumed to be minimum properties and relied upon to be accurate. The reliability of DrJ's engineering practice, as contained in this duly authenticated report, may be dependent upon published design properties by others.

10.9 *Testing and Engineering Analysis*

10.9.1 The strength, rigidity, and/or general performance of component parts and/or the integrated structure are determined by suitable tests that simulate the actual conditions of application that occur and/or by accepted engineering practice and experience.[33]

10.10 Where additional condition of use and/or regulatory compliance information is required, please search for Versetta Stone on the DrJ Certification website.

## 11 Findings

11.1 As outlined in **Section 6**, Versetta Stone has performance characteristics that were tested and/or meet applicable regulations. In addition, they are suitable for use pursuant to its specified purpose.

11.2 When used and installed in accordance with this duly authenticated report and the manufacturer installation instructions, Versetta Stone shall be approved for the following applications:

11.2.1 Use as an exterior wall covering in accordance with IBC Section 1403.9 and IRC Section R703.10.

11.2.2 Use as an exterior wall covering assembly when installed over concrete and masonry walls separately, capable of resisting 100% of the design wind pressures; an intervening layer(s) of continuous insulation may be installed between Versetta Stone and the sheathing in accordance with **Table 1** and **Table 2**.

11.3 Any application specific issues not addressed herein can be engineered by an RDP. Assistance with engineering is available from Westlake Royal Stone, LLC.

11.4 IBC Section 104.2.3[34] (IRC Section R104.2.2[35] and IFC Section 104.2.3[36] are similar) in pertinent part state:

> **104.2.3 Alternative Materials, Design and Methods of Construction and Equipment.** The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative is not specifically prohibited by this code and has been approved.

11.5 **Approved:**[37] Building regulations require that the building official shall accept duly authenticated reports.[38]

11.5.1 An approved agency is *"approved"* when it is ANAB ISO/IEC 17065 accredited.

11.5.2 An approved source is *"approved"* when an RDP is properly licensed to transact engineering commerce.

11.5.3 Federal law, Title 18 US Code Section 242, requires that, where the alternative product, material, service, design, assembly, and/or method of construction is not approved, the building official shall respond in writing, stating the reasons why the alternative was not approved. Denial without written reason deprives a protected right to free and fair competition in the marketplace.

11.6 DrJ is a licensed engineering company, employs licensed RDPs and is an ANAB Accredited Product Certification Body – Accreditation #1131.

11.7 Through the IAF Multilateral Arrangement (MLA), this duly authenticated report can be used to obtain product approval in any jurisdiction or country because all ANAB ISO/IEC 17065 duly authenticated reports are equivalent.[39]

## 12 Conditions of Use

12.1 As defined in **Section 6**, where material and/or engineering mechanics properties are created for load resisting design purposes, the resistance to the applied load shall not exceed the ability of the defined properties to resist those loads using the principles of accepted engineering practice.

12.2 As listed herein, Versetta Stone shall be subjected to the following conditions:

12.2.1 Installation shall be on exterior walls consisting of concrete or masonry and shall be capable of supporting the imposed loads, including transverse wind loads.

12.2.2 Where the seismic provisions of IRC Section R301.2.2 apply, the Versetta Stone wall assembly shall not exceed the weight limits of IRC Section R301.2.2.2, unless an engineered design is provided in accordance with IRC Section R301.1.3.

12.2.3 Walls shall be braced to resist shear (racking) load by other means in accordance with the applicable code.

12.2.4 Versetta Stone shall not be used in areas where the design wind pressure exceeds the resistance of the product in accordance with **Table 2**.

12.2.5 Concrete and masonry walls shall be designed in accordance with IBC Chapter 19 and IBC Chapter 21, respectively.

12.2.6 Fasteners used to secure Versetta Stone panels shall be corrosion-resistant as specified in IBC Section 1404.17 and IRC Section R703.3.3.

12.2.7 Use of Versetta Stone panels in installations exceeding 30' in height are outside the scope of this report.

12.2.8 Use of Versetta Stone panels in the High Velocity Hurricane Zone (HVHZ) of southern Florida is outside the scope of this report.

12.3 When required by adopted legislation and enforced by the building official, also known as the Authority Having Jurisdiction (AHJ) in which the project is to be constructed:

12.3.1 Any calculations incorporated into the construction documents shall conform to accepted engineering practice and, when prepared by an approved source, shall be approved when signed and sealed.

12.3.2 This report and the installation instructions shall be submitted at the time of permit application.

12.3.3 This innovative product has an internal quality control program and a third-party quality assurance program.

12.3.4 At a minimum, this innovative product shall be installed per **Section 9**.

12.3.5 The review of this report by the AHJ shall comply with IBC Section 104.2.3.2 and IBC Section 105.3.1.

12.3.6 This innovative product has an internal quality control program and a third party quality assurance program in accordance with IBC Section 104.7.2, IBC Section 110.4, IBC Section 1703, IRC Section R104.7.2, and IRC Section R109.2.

12.3.7 The application of this innovative product in the context of this report is dependent upon the accuracy of the construction documents, implementation of installation instructions, inspection as required by IBC Section 110.3, IRC Section R109.2, and any other regulatory requirements that may apply.

12.4 The approval of this report by the AHJ shall comply with IBC Section 1707.1, where legislation states in part, *"the building official shall make, or cause to be made, the necessary tests and investigations; or the building official shall accept duly authenticated reports from approved agencies in respect to the quality and manner of use of new materials or assemblies as provided for in Section 104.2.3"*, all of IBC Section 104, and IBC Section 105.3.

12.5 Design loads shall be determined in accordance with the regulations adopted by the jurisdiction in which the project is to be constructed and/or by the building designer (i.e., owner or RDP).

12.6 The actual design, suitability, and use of this report for any particular building, is the responsibility of the owner or the authorized agent of the owner.

## 13 Identification

13.1 Versetta Stone Panelized Stone Veneer, as listed in **Section 1.1**, is identified by a label on the board or packaging material bearing the manufacturer name, product name, this report number, and other information to confirm code compliance.

13.2 Additional technical information can be found at www.westlakeroyalbuildingproducts.com/siding-and-accessories/versetta-stone.

## 14 Review Schedule

14.1 This report is subject to periodic review and revision. For the latest version, visit www.drjcertification.org.

14.2 For information on the status of this report, please contact DrJ Certification.

# Notes

1 For more information, visit drjcertification.org or call us at 608-310-6748.

2 Capitalized terms and responsibilities are defined pursuant to the applicable building code, applicable reference standards, the latest edition of TPI 1, the NDS, AISI S202, US professional engineering law, Canadian building code, Canada professional engineering law, Qualtim External Appendix A: Definitions/Commentary, Qualtim External Appendix B: Project/Deliverables, Qualtim External Appendix C: Intellectual Property and Trade Secrets, definitions created within Design Drawings and/or definitions within Reference Sheets. Beyond this, terms not defined shall have ordinarily accepted meanings as the context implies. Words used in the present tense include the future; words stated in the masculine gender include the feminine and neuter; the singular number includes the plural and the plural, the singular.

3 https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1702

4 Alternative Materials, Design and Methods of Construction and Equipment: The provisions of any regulation code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by a regulation. Please review https://www.justice.gov/atr/mission and https://up.codes/viewer/mississippi/ibc-2024/chapter/1/scope-and-administration#104.2.3

5 https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1706.2:~:text=the%20design%20strengths%20and%20permissible%20stresses%20shall%20be%20established%20by%20tests

6 The design strengths and permissible stresses of any structural material shall conform to the specifications and methods of design of accepted engineering practice. https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1706.1:~:text=Conformance%20to%20Standards-,The%20design%20strengths%20and%20permissible%20stresses,-of%20any%20structural

7 https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1707.1:~:text=the%20building%20official%20shall%20make%2C%20or%20cause%20to%20be%20made%2C%20the%20necessary%20tests%20and%20investigations%3B%20or%20the%20building%20official%20shall%20accept%20duly%20authenticated%20reports%20from%20approved%20agencies%20in%20respect%20to%20the%20quality%20and%20manner%20of%20use%20of%20new%20materials%20or%20assemblies%20as%20provided%20for%20in%20Section%20104.2.3.

8 https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1703.4.2

9 https://up.codes/viewer/mississippi/ibc-2024/chapter/2/definitions#approved_agency

10 https://up.codes/viewer/mississippi/ibc-2024/chapter/2/definitions#approved_source

11 https://www.law.cornell.edu/uscode/text/18/1832 (b) Any organization that commits any offense described in subsection (a) shall be fined not more than the greater of $5,000,000 or 3 times the value of the stolen trade secret to the organization, including expenses for research and design and other costs of reproducing the trade secret that the organization has thereby avoided. The federal government and each state have a public records act. To follow DTSA and comply state public records and trade secret legislation requires approval through ANAB ISO/IEC 17065 accredited certification bodies or approved sources. For more information, please review this website: Intellectual Property and Trade Secrets.

12 https://www.nspe.org/resources/issues-and-advocacy/professional-policies-and-position-statements/regulation-professional AND https://apassociation.org/list-of-engineering-boards-in-each-state-archive/

13 https://www.cbitest.com/accreditation/

14 https://up.codes/viewer/mississippi/ibc-2024/chapter/1/scope-and-administration#104.1:~:text=directed%20to%20enforce%20the%20provisions%20of%20this%20code

15 https://up.codes/viewer/mississippi/ibc-2024/chapter/1/scope-and-administration#104.2.3 AND https://up.codes/viewer/mississippi/ibc-2024/chapter/1/scope-and-administration#105.3.1

16 https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1707.1

17 https://iaf.nu/en/about-iaf-mla/#:~:text=Once%20an%20accreditation%20body%20is%20a%20signatory%20of%20the%20IAF%20MLA%2C%20it%20is%20required%20to%20recognise%20certificates%20and%20validation%20and%20verification%20statements%20issued%20by%20conformity%20assessment%20bodies%20accredited%20by%20all%20other%20signatories%20of%20the%20IAF%20MLA%2C%20with%20the%20appropriate%20scope

18 True for all ANAB accredited product evaluation agencies and all International Trade Agreements.

19 https://www.justice.gov/crt/deprivation-rights-under-color-law AND https://www.justice.gov/atr/mission

20 Unless otherwise noted, the links referenced herein use un-amended versions of the 2024 International Code Council (ICC) 2024 International Code Council (ICC) model codes as foundation references. Mississippi versions of the IBC 2024 and the IRC 2024 are un-amended. This material, product, design, service and/or method of construction also complies with the 2000-2012 versions of the referenced codes and the standards referenced therein. As pertinent to this technical and code compliance evaluation, CBI and/or DrJ staff have reviewed any state or local regulatory amendments to assure this report is in compliance.

21 See Adoptions by Publisher for the latest adoption of a non-amended or amended model code by the local jurisdiction. https://up.codes/codes/general

22 See Adoptions by Publisher for the latest adoption of a non-amended or amended model code by state. https://up.codes/codes/general

23 https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3282/subpart-A/section-3282.14

24 https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280

25 https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280#p-3280.2(Listed%20or%20certified); https://up.codes/viewer/mississippi/ibc-2024/chapter/2/definitions#listed AND https://up.codes/viewer/mississippi/ibc-2024/chapter/2/definitions#labeled

26 https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1703.4

27 https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280#:~:text=All%20construction%20methods%20shall%20be%20in%20conformance%20with%20accepted%20engineering%20practices%20to%20insure%20durable%2C%20livable%2C%20and%20safe%20housing%20and%20shall%20demonstrate%20acceptable%20workmanship%20reflecting%20journeyman%20quality%20of%20work%20of%20the%20various%20trades

28 https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280#:~:text=The%20strength%20and%20rigidity%20of%20the%20component%20parts%20and/or%20the%20integrated%20structure%20shall%20be%20determined%20by%20engineering%20analysis%20or%20by%20suitable%20load%20tests%20to%20simulate%20the%20actual%20loads%20and%20conditions%20of%20application%20that%20occur

29 Formerly known as ANSI/SBCA FS 100-2012 (R2018)

30 2021 IBC Section 2603.11

31 Qualification is performed by a legislatively defined Accreditation Body. ANSI National Accreditation Board (ANAB) is the largest independent accreditation body in North America and provides services in more than 75 countries. DrJ is an ANAB accredited product certification body.

32 https://anabpd.ansi.org/Accreditation/product-certification/AllDirectoryDetails?prgID=1&orgID=2125&statusID=4#:~:text=Bill%20Payment%20Date-,Accredited%20Scopes,-13%20ENVIRONMENT.%20HEALTH

33 See Code of Federal Regulations (CFR) Title 24 Subtitle B Chapter XX Part 3280 for definition: https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280

34 2021 IBC Section 104.11

35 2021 IRC Section R104.11

36 2018: https://up.codes/viewer/wyoming/ifc-2018/chapter/1/scope-and-administration#104.9 AND 2021: https://up.codes/viewer/wyoming/ibc-2021/chapter/1/scope-and-administration#104.11

37 Approved is an adjective that modifies the noun after it. For example, Approved Agency means that the Agency is accepted officially as being suitable in a particular situation. This example conforms to IBC/IRC/IFC Section 201.4 (https://up.codes/viewer/mississippi/ibc-2024/chapter/2/definitions#201.4) where the building code authorizes sentences to have an ordinarily accepted meaning such as the context implies.

38 https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1707.1

39 Multilateral approval is true for all ANAB accredited product evaluation agencies and all International Trade Agreements.