



Versetta Stone® Panelized Stone Veneer Applications Over Continuous Insulation

TER No. 1212-01

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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. Product Evaluated:

- 1.1. Versetta Stone® Panelized Stone Veneer
- 1.2. For the most recent version of this Technical Evaluation Report (TER), visit <u>drjengineering.org</u>. For more detailed state professional engineering and code compliance legal requirements and references, visit <u>drjengineering.org/statelaw</u>. DrJ is fully compliant with all state professional engineering and code compliance laws.
- 1.3. This TER can be used to obtain product approval in any country that is an IAF MLA Signatory (all countries found here) and covered by an IAF MLA Evaluation per the Purpose of the MLA (as an example, see letter to ANSI from the Standards Council of Canada). Manufacturers can go to jurisdictions in the U.S., Canada and other IAF MLA Signatory Countries and have their products readily approved by authorities having jurisdiction using DrJ's ANSI accreditation.
- 1.4. Building code regulations require that evaluation reports are provided by an approved agency meeting specific requirements, such as those found in <u>IBC Section 1703</u>. Any agency accredited in accordance with ANSI ISO/IEC 17065 meets this requirement within ANSI's scope of accreditation. For a list of accredited agencies, visit ANSI's <u>website</u>. For more information, see <u>dricertification.org</u>.

DrJ is a Professional Engineering Approved Source



- DrJ is an ISO/IEC 17065 accredited product certification body through ANSI Accreditation Services.
- DrJ provides certified evaluations that are signed and sealed by a P.E.
- DrJ's work is backed up by professional liability insurance.
- DrJ is fully compliant with IBC Section 1703.

- **1.5.** Requiring an evaluation report from a specific private company (i.e. ICC-ES, IAPMO, CCMC, DrJ, etc.) can be viewed as discriminatory and is a violation of international, federal, state, provincial and local anti-trust and free trade regulations.
- **1.6.** DrJ's code compliance work:
 - **1.6.1.** Conforms to code language adopted into law by individual states and any relevant consensus based standard such as an ANSI or ASTM standard.
 - **1.6.2.** Complies with accepted engineering practice, all professional engineering laws and by providing an engineer's seal DrJ takes professional responsibility for its specified scope of work.

2. Applicable Codes and Standards:1

- 2.1. 2012, 2015 and 2018 International Building Code (IBC)
- 2.2. 2012, 2015 and 2018 International Residential Code (IRC)
- 2.3. ASTM C1186 Standard Specification for Flat Non-Asbestos Fiber-Cement Sheets
- **2.4.** ASTM D3679 Standard Specification for Rigid Poly Vinyl Chloride (PVC) Siding Pressure Equalization Testing, Annex 1
- 2.5. ASTM D5206 Standard Test Method for Windload Resistance of Rigid Poly Vinyl Chloride (PVC) Siding, Procedure B
- 2.6. ASTM E2273 Standard Test Method for Determining the Drainage Efficiency of Exterior Insulation and Finish Systems (EIFS) Clad Wall Assemblies

3. Performance Evaluation:

- 3.1. Versetta Stone® was evaluated for use as an exterior wall covering in accordance with <u>IBC Section</u> 1403 and <u>IRC Section</u> 703.
 - **3.1.1.** Specifically, Versetta Stone® was evaluated for use as a weather-resistant covering in accordance with <u>IBC Section 1403.2</u> and <u>IRC Section R703.1.1</u>.
 - **3.1.2.** Versetta Stone® was evaluated to determine its ability to resist wind loads in accordance with <u>IBC Section</u> 1609 and <u>IRC Section</u> 703.1.2.
 - 3.1.3. Versetta Stone® was evaluated for installation over wood framing and wood structural panel (WSP) sheathing with the addition of continuous insulation installed between the WSP and Versetta Stone® panels.
- **3.2.** Versetta Stone® was evaluated for installation over steel framing and gypsum sheathing for use on the exterior side of the exterior wall with the addition of continuous insulation installed between the gypsum sheathing and the Versetta Stone® panels.
- 3.3. Use in applications requiring a fire-resistance rating are outside the scope of this evaluation.
- **3.4.** Any code compliance issues not specifically addressed in this section are outside the scope of this evaluation.

4. Product Description and Materials:

- **4.1.** Versetta Stone[®] is a non-structural, fiber-reinforced, cement-based masonry wall cladding that is mechanically attached to wall framing.
- **4.2.** The panels have a simulated stone veneer surface.
- **4.3.** The panels measure 36.4" long x 9.5" tall and 1.8" thick and have tongue-and-groove edges that engage adjacent panels.
 - **4.3.1.** The finished exposure of the panels is 8" x 36".

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¹ Unless otherwise noted, all references in this code compliant technical evaluation report (TER) are from the 2018 version of the codes and the standards referenced therein, including, but not limited to, ASCE 7, SDPWS and WFCM. This product also complies with the 2000-2015 versions of the IBC and IRC and the standards referenced therein. As required by law, where this TER is not approved, the building official shall respond in writing, stating the reasons this TER was not approved. For variations in state and local codes, if any see Section 8.

- **4.4.** A 0.0217"-thick painted G90 galvanized steel nailing flange is molded along the top edge of the panels for attachment to the framing and/or nail base.
- **4.5.** The bottom edge and the ends of the panels fit together using tongue-and-groove technology.
- **4.6.** The panels have an installed weight of approximately 8.5 psf (17 lbs. per panel).
- **4.7.** Additionally, the stone veneer panels are supplemented with various accessories to aid with installation.



Figure 1: Versetta Stone® Panel with Nailing Hem (across top of panel)

5. Applications:

- 5.1. Versetta Stone® is used as an exterior wall covering in accordance with the applicable sections of <u>IBC Chapter 14</u> and <u>IRC Section R703</u> and is installed over wood-framed walls and WSP capable of supporting the imposed loads in accordance with <u>IBC Section 1609</u> and <u>IRC Section R301.2.1</u> including all required transverse wind loads.
- **5.2.** Versetta Stone® is also used as an exterior wall covering installed over wood- or steel-framed walls where the WSPs are over sheathed with continuous insulation. Connections for this installation are as shown in Table 1.
- **5.3.** Unless designed as provided in <u>Section 6.3.1</u>, 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 <u>Table 2</u> for wood-framed walls and <u>Table 3</u> for steel-framed walls. See <u>Table 4</u> for wind pressures associated with V_{ult} per *ASCE 7-10*.
 - **5.3.1.** Design in accordance with generally accepted engineering practice may be used as an alternative to Section 5.3.
- **5.4.** Table 4 provides an aid for designers in determining the allowable wind pressures for Versetta Stone® panel installation.
 - **5.4.1.** For example, given the following:

Wind Speed, Vult= 180 MPH

Exposure D

Wood Framing

- **5.4.1.1.** From Table 2, the maximum mean roof height allowed for this condition is 25'.
- **5.4.1.2.** This application assumes at least two (2) fasteners into the studs and Two (2) additional fasteners into the WSP sheathing.
- **5.4.1.3.** The corresponding wind pressure from <u>Table 4</u> shows that this installation corresponds to an allowable wind pressure of 125.6 psf.
- **5.5.** For additional information or use in other applications, consult the manufacturer's installation instructions.

| | Fastener Diameter | Fastener | Thickness of Continuous Insulation | | | | | | | | |
|--------|-------------------|---------------------|------------------------------------|------|------|------|------|------|------|------|----|
| | | Length ¹ | 0" | 0.5" | 1.0" | 1.5" | 2.0" | 2.5" | 3.0" | 3.5" | 4" |
| | 0.120" | 2.5" | Х | Х | х | | | | | | |
| | 0.131" | 2.5" | Х | Х | Х | n | | | | | |
| Nails | 0.148" | 3" | Х | Х | х | Х | n | | | | |
| | 0.162" | 3.5" | Х | Х | Х | Х | Х | n | | | |
| | 0.192" | 4" | Х | Х | х | Х | Х | X | n | n | n |
| Screws | #8 screw (0.164") | 2" | Х | Х | х | n | n | n | | | |
| | #10 (0.190") | 2.5" | Х | Х | х | Х | n | n | n | n | n |
| | #12 (0.216") | 3" | Х | Х | Х | Х | Х | n | n | n | n |
| | #14 (0.242") | 4" | Х | Х | Х | Х | Х | Х | Х | n | n |

^{1.} Fastener lengths are the maximum length commonly available for a given diameter. Longer fasteners may be available from proprietary sources. See note 4.

Table 1: Fastener Requirements to Support Versetta Stone® Installation Over Continuous Insulation, Sheathing & Wood or Steel Framing¹

| Exposure Category | Wind Speed, (mph) (V _{ult} /V _{asd}) | Mean Roof Height | | | | | | | | |
|-------------------|--|------------------|-----|-----|-----|-----|-----|--|--|--|
| | | 15' | 20' | 25' | 30' | 35' | 40' | | | |
| В | ≤ 200/155 | ST | ST | ST | ST | ST | ST | | | |
| С | ≤ 180/140 | ST | ST | ST | ST | ST | ST | | | |
| | 200/155 | ST | NP | NP | NP | NP | NP | | | |
| D | ≤ 160/125 | ST | ST | ST | ST | ST | ST | | | |
| | 180/140 | ST | ST | ST | NP | NP | NP | | | |

^{1.} Listed wind speed is V_{ult}, per ASCE 7-10, the maximum allowed wind speed condition for the fastening method shown.

Table 2: Wind Pressure Capacity of Versetta Stone® Installation in Wood Framing Over Continuous Insulation & WSP Sheathing

^{2.} Table values are based on NDS allowable lateral loads for fasteners as modified by APA 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).

^{3.} Each panel shall contain a minimum of four (4) fasteners. Two (2) of the fasteners must be installed into the stud and penetrate a minimum of 1" for wood studs or three (3) threads beyond the backside of steel studs. The other two (2) fasteners are permitted to be fastened through the WSP and must protrude out of the backside of the WSP a minimum of ½". Where nailable sheathing is not used or studs are greater than 16" o.c. and not greater than 24" o.c., Versetta Bridging must be used to transfer the loads back to the studs.

^{4. &#}x27;n' - Non-standard or proprietary fasteners may be available with the additional length required to meet the penetration requirements.

^{5.} 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.

^{6.} Table assumes ½" sheathing applied to framing. For other sheathings thicknesses, evaluate fasteners accordingly for minimum penetration into framing.

^{2.} Maximum allowable wind speeds are based on the average ultimate loads tested for each condition divided by 1.5.

^{3.} ST - Each Versetta Stone® panel contains two (2) fasteners installed into studs (ST) and at least two (2) fasteners into WSP only.

^{4.} NP - Not permitted.

^{5.} Assumes a minimum 1/4"-diameter self-tapping, pan head screw with 2" of penetration into the wood framing (e.g., ½" WSP sheathing plus 11/2" into wood studs) and a minimum of ½" of screw protruding out of the backside of the WSP.

^{6.} Pressure equalization factor in accordance with ASTM D5206, Procedure B equals 1.0.

| Exposure | Wind Speed, | Mean Roof Height | | | | | | | |
|----------|---|------------------|------|------|------|------|------|--|--|
| Category | (mph) (V _{ult} /V _{asd}) | 15' | 20' | 25' | 30' | 35' | 40' | | |
| | ≤ 110/85 | ST | ST | ST | ST | ST | STVB | | |
| | 115/90 | ST | ST | ST | ST | ST | STVB | | |
| | 120/95 | ST | ST | ST | ST | ST | STVB | | |
| В | 130/100 | ST | ST | ST | ST | STVB | STVB | | |
| | 140/110 | STVB | STVB | STVB | STVB | STVB | STVB | | |
| | 150/115 | STVB | STVB | STVB | STVB | STVB | STVB | | |
| | 160/125 | STVB | STVB | STVB | STVB | NP | NP | | |
| | ≤ 110/85 | ST | ST | ST | ST | STVB | STVB | | |
| | 115/90 | ST | ST | STVB | STVB | STVB | STVB | | |
| С | 120/95 | ST | STVB | STVB | STVB | STVB | STVB | | |
| | 130/100 | STVB | STVB | STVB | STVB | STVB | STVB | | |
| | 140/110 | STVB | STVB | NP | NP | NP | NP | | |
| D | ≤ 120/95 | STVB | STVB | STVB | STVB | STVB | STVB | | |
| " | 130/100 | STVB | STVB | NP | NP | NP | NP | | |

^{1.} Listed wind speed is V_{ult}, per ASCE 7-10, is the maximum allowed wind speed condition for the fastening method shown.

Table 3: Wind Pressure Capacity of Versetta Stone® Installation in Steel Framing Over Exterior Gypsum Sheathing (DensGlass or Equal)

^{2.} Maximum allowable wind speeds are based on the average ultimate loads tested for each condition divided by 1.5.

^{3.} ST - Each panel contains two (2) fasteners installed into the studs (ST) only.

^{4.} STVB – Each panel contains two (2) fasteners installed into studs and at least two (2) fasteners into Versetta Bridging. At least two (2) fasteners shall be installed to attach Versetta Bridging (STVB) to studs.

^{5.} NP - Not permitted.

^{6.} Assumes a minimum 1¹/₄" ceramic-coated self-tapping screw, pan head screw into studs. Where Versetta bridging is used, the additional fasteners are #8 x ¾" truss head screw. 7. Pressure Equalization factor in accordance with *ASTM D5206*, Procedure B equals 1.0.

| Exposure | Wind Speed, V _{ult} (mph) | Mean Roof Height | | | | | | | | |
|----------|---------------------------------------|------------------|-------|-------|-------|-------|-------|--|--|--|
| Category | | 15' | 20' | 25' | 30' | 35' | 40' | | | |
| | 110 | 29.1 | 29.1 | 29.1 | 29.1 | 30.6 | 31.7 | | | |
| | 115 | 31.9 | 31.9 | 31.9 | 31.9 | 33.5 | 34.8 | | | |
| | 120 | 34.7 | 34.7 | 34.7 | 34.7 | 36.4 | 37.8 | | | |
| | 130 | 40.7 | 40.7 | 40.7 | 40.7 | 42.7 | 44.4 | | | |
| В | 140 | 47.2 | 47.2 | 47.2 | 47.2 | 49.6 | 51.4 | | | |
| | 150 | 54.2 | 54.2 | 54.2 | 54.2 | 56.9 | 59.1 | | | |
| | 160 | 61.7 | 61.7 | 61.7 | 61.7 | 64.8 | 67.3 | | | |
| | 180 | 78.0 | 78.0 | 78.0 | 78.0 | 81.9 | 85.0 | | | |
| | 200 | 96.3 | 96.3 | 96.3 | 96.3 | 101.1 | 105.0 | | | |
| | 110 | 35.2 | 37.5 | 39.3 | 40.7 | 42.2 | 43.4 | | | |
| | 115 | 38.6 | 41.2 | 43.1 | 44.7 | 46.3 | 47.5 | | | |
| | 120 | 42.0 | 44.8 | 46.8 | 48.6 | 50.3 | 51.7 | | | |
| | 130 | 49.2 | 52.5 | 54.9 | 57.0 | 59.0 | 60.6 | | | |
| C | 140 | 57.1 | 60.9 | 63.7 | 66.1 | 68.4 | 70.3 | | | |
| | 150 | 65.6 | 69.9 | 73.2 | 75.9 | 78.6 | 80.8 | | | |
| | 160 | 74.7 | 79.6 | 83.3 | 86.4 | 89.5 | 91.9 | | | |
| | 180 | 94.4 | 100.6 | 105.3 | 109.2 | 113.1 | 116.2 | | | |
| | 200 | 116.5 | 124.2 | 130.0 | 134.8 | 139.6 | 143.5 | | | |
| | 110 | 42.8 | 45.1 | 46.9 | 48.3 | 49.5 | 50.6 | | | |
| | 115 | 46.9 | 49.4 | 51.4 | 53.0 | 54.2 | 55.5 | | | |
| | 120 | 51.0 | 53.8 | 55.9 | 57.6 | 59.0 | 60.4 | | | |
| | 130 | 59.8 | 63.1 | 65.5 | 67.6 | 69.2 | 70.8 | | | |
| D | 140 | 69.4 | 73.2 | 76.0 | 78.4 | 80.2 | 82.1 | | | |
| | 150 | 79.7 | 84.0 | 87.3 | 90.0 | 92.1 | 94.3 | | | |
| | 160 | 90.7 | 95.6 | 99.3 | 102.4 | 104.9 | 107.4 | | | |
| | 180 | 114.7 | 120.9 | 125.6 | 129.5 | 132.6 | 135.7 | | | |
| | 200 | 141.6 | 149.3 | 155.0 | 159.9 | 163.7 | 167.6 | | | |

Table 4: General Wind Pressure Resistance Criteria per ASCE 7-10 for Components & Cladding, Method 1

5.6. Where the application exceeds the limitations set forth herein, design shall be permitted in accordance with accepted engineering procedures, experience and technical judgment.

6. Installation:

- 6.1. General
 - **6.1.1.** Versetta Stone[®] shall be installed in accordance with the manufacturer's published installation instructions and this TER. In the event of a conflict between the manufacturer's installation instructions and this TER, the more restrictive shall govern.
 - **6.1.2.** Installation is subject to the conditions of use set forth in Section 9.
 - **6.1.3.** A water-resistive barrier (WRB) is required behind Versetta Stone[®] in accordance with <u>IBC Section</u> 1404.2 and <u>IRC Section 703.2</u>. The WRB may be comprised of a liquid-applied, sheet material or a continuous insulation product evaluated for use as a WRB with all joints taped per the manufacturer's installation instructions.
 - **6.1.4.** All Versetta Stone® vertical joints shall be staggered between courses.

6.1.5. All other installation and flashing details germane to the project shall be in accordance with the applicable building code and the manufacturer's installation instructions.

6.2. Wood-Framed Walls

- **6.2.1.** Versetta Stone® shall be installed over nailable structural sheathing capable of resisting 100% of the design wind loads and shall be attached, at a minimum, in accordance with <u>Table 1</u>.
- **6.2.2.** Versetta Stone® may be installed with (an) intervening layer(s) of continuous insulation and attached in accordance with Table 1.
- **6.2.3.** Each Versetta Stone® panel shall be installed with a minimum of four (4) fasteners as follows:
 - **6.2.3.1.** Two (2) of the fasteners must be installed into the wood stud framing and penetrate a minimum of 1" into the framing.
 - **6.2.3.2.** The other two (2) fasteners must be installed into the nail base and must protrude out the back side of the nail base a minimum of ½".
- **6.2.4.** Fastener sizes shall be in accordance with Table 1 or generally accepted engineering practice.

6.3. Steel-Framed Walls

- **6.3.1.** Versetta Stone® shall be installed over sheathing capable of resisting 100% of the design wind loads and shall be attached, at a minimum, with screws in accordance with Table 1.
- **6.3.2.** Versetta Stone® may be installed over (an) intervening layer(s) of continuous insulation and attached in accordance with Table 1.
- **6.3.3.** Each Versetta Stone® panel shall be installed as follows:
 - **6.3.3.1.** Two (2) fasteners must be installed into the steel stud framing and penetrate a minimum of 3 threads into the framing (i.e., one fastener into each stud covered by the Versetta Stone® panel).
 - **6.3.3.2.** Two (2) fasteners must be installed into the nail base and must protrude out the back side of the nail base a minimum of ½". Where nailable sheathing is not used, Versetta Bridging shall be used to transfer loads to studs.

7. Test and Engineering Substantiating Data:

- **7.1.** Reports showing compliance with ASTM C1186 for the physical and mechanical properties of the product.
- **7.2.** Report showing strength of nail hem bond strength.
- **7.3.** Reports of water drainage testing in accordance with ASTM E2273.
- **7.4.** Reports of pressure equalization testing in accordance with ASTM D3679, Annex A1.
- 7.5. Reports of transverse wind load testing in accordance with ASTM D5206, Procedure B.
- **7.6.** Reports showing compliance with required quality control procedures and documentation.
- **7.7.** Fastening Systems for Continuous Insulation, Final Report 10-11; New York State Energy Research and Development Authority (NYSERDA); Albany, NY; April 2010.
- **7.8.** 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.
- **7.9.** 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.
- **7.10.** The product(s) evaluated by this TER fall within the scope of one or more of the model, state or local building codes for building construction. The testing and/or substantiating data used in this TER is limited to buildings, structures, building elements, construction materials and civil engineering related specifically to buildings.

- 7.11. The provisions of model, state or local building codes for building construction do not intend to prevent the installation of any material or to prohibit any design or method of construction. Alternatives shall use consensus standards, performance-based design methods or other engineering mechanics based means of compliance. This TER assesses compliance with defined standards, accepted engineering analysis, performance-based design methods, etc. in the context of the pertinent building code requirements.
- **7.12.** Some information contained herein is the result of testing and/or data analysis by other sources, which DrJ relies on to be accurate, as it undertakes its engineering analysis.
- **7.13.** DrJ has reviewed and found the data provided by other professional sources are credible. The information in this TER conforms with DrJ's procedure for acceptance of data from approved sources.
- **7.14.** DrJ's responsibility for data provided by approved sources conforms with <u>IBC Section 1703</u> and any relevant professional engineering law.
- 7.15. Where appropriate, DrJ relies on the derivation of design values, which have been codified into law through codes and standards (e.g., IRC, WFCM, IBC, SDPWS, NDS, ACI, AISI, PS-20, PS-2, etc.). This includes review of code provisions and any related test data that aids in comparative analysis or provides support for equivalency to an intended end-use application. Where the accuracy of design values provided herein is reliant upon the published properties of commodity materials (e.g. lumber, steel, concrete, etc), DrJ relies upon grade/properties provided by the raw material supplier to be accurate and conforming to the mechanical properties defined in the relevant material standard.

8. Findings:

- **8.1.** Versetta Stone® is a suitable alternative to the products listed in the applicable building code for use as an exterior wall covering in accordance with *IBC* Section 1404.10 and the *IRC* Section 703.10.
- **8.2.** Versetta Stone® is suitable for use as an exterior wall covering assembly when installed over sheathing separately capable of resisting 100% of the design wind pressures. An intervening layer(s) of continuous insulation may be installed between the Versetta Stone® and the sheathing in accordance with Table 1-3.
- **8.3.** *IBC* Section 104.11 and *IRC* Section R104.11 (*IFC* Section 104.9 is similar) state:
 - **104.11 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 has been *approved*. An alternative material, design or method of construction shall be *approved* where the *building official* finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code. ... Where the alternative material, design or method of construction is not *approved*, the *building official* shall respond in writing, stating the reasons the alternative was not *approved*.
- **8.4.** This product has been evaluated with the codes listed in <u>Section 2</u>, and is compliant with all known state and local building codes. Where there are known variations in state or local codes that are applicable to this evaluation, they are listed here:
 - **8.4.1.** No known variations
- **8.5.** This TER uses professional engineering law, the building code, ANSI/ASTM consensus standards and generally accepted engineering practice as its criteria for all testing and engineering analysis. DrJ's professional engineering work falls under the jurisdiction of each state Board of Professional Engineers, when signed and sealed.

9. Conditions of Use:

- **9.1.** Where required by the authority having jurisdiction (AHJ) in which the project is to be constructed, this report and the installation instructions shall be submitted at the time of permit application.
- **9.2.** Any generally accepted engineering calculations needed to show compliance with this TER shall be submitted to the code official for review and approval.
- **9.3.** Design loads shall be determined in accordance with the building code adopted by the jurisdiction in which the project is to be constructed.

- **9.3.1.** Installation shall comply with the manufacturer's installation instructions and this TER. In the event of a conflict between the manufacturer's installation instructions and this TER, the more restrictive shall govern.
- **9.3.2.** Installation shall be on exterior walls consisting of wood or steel framing and sheathing capable of supporting the imposed loads, including transverse wind loads.
- **9.3.3.** A WRB is required over the sheathing and may consist of a liquid-applied, sheet good material or continuous insulation.
- **9.3.4.** Where the seismic provisions of <u>IRC Section R301.2.2</u> apply, the Versetta Stone® wall assembly shall not exceed the weight limits of <u>Section R301.2.2.1</u> unless an engineered design is provided in accordance with <u>Section R301.1.3</u>.
- **9.3.5.** Walls shall be braced to resist shear (racking) load by other means in accordance with the applicable code.
- **9.3.6.** This product shall not be used in areas where the design wind pressure exceeds the resistance of the product in accordance with <u>Table 2</u> or <u>Table 3</u>.
- **9.3.7.** Versetta Stone[®] panels shall be manufactured under the direction of a third-party quality assurance program to ensure continued compliance with this TER and the applicable building code.
- **9.3.8.** Wall framing shall be limited to a maximum out of plane deflection of H/240 per <u>IBC Table 1604.3</u> and <u>IRC Table R301.7</u>.
- **9.3.9.** Where Versetta Bridging is used, wall framing shall be limited to a maximum stud spacing of 24" o.c.
- **9.3.10.** Where Versetta Bridging is not used, wall framing shall be limited to a maximum stud spacing of 16" o.c.
- **9.3.11.** Versetta Stone® panels are manufactured in Chester, South Carolina, under a quality control program with inspections by a qualified third-party inspection agency.
- **9.3.12.** Use of Versetta Stone® panels in installations exceeding 30' in height are outside the scope of this TER.
- **9.3.13.** Use of Versetta Stone® panels in the high velocity hurricane zone of southern Florida is outside the scope of this TER.

9.4. Design

- **9.4.1.** Building Designer Responsibility
 - **9.4.1.1.** Unless the AHJ allows otherwise, the Construction Documents shall be prepared by a Building Designer for the Building and shall be in accordance with <u>IRC Section R106</u> and <u>IBC Section 107</u>.
 - **9.4.1.2.** The Construction Documents shall be accurate and reliable and shall provide the location, direction and magnitude of all applied loads and shall be in accordance with <u>IRC Section R301</u> and <u>IBC Section 1603</u>.
- 9.4.2. Construction Documents
 - **9.4.2.1.** Construction Documents shall be submitted to the Building Official for approval and shall contain the plans, specifications and details needed for the Building Official to approve such documents.

9.5. Responsibilities

- **9.5.1.** The information contained herein is a product, material, detail, design and/or application TER evaluated in accordance with the referenced building codes, testing and/or analysis through the use of accepted engineering practice, experience and technical judgment.
- **9.5.2.** DrJ TERs provide an assessment of only those attributes specifically addressed in the Products Evaluated or Code Compliance Process Evaluated sections.
- **9.5.3.** The engineering evaluation was performed on the dates provided in this TER, within DrJ's professional scope of work.
- **9.5.4.** This product is manufactured under a third-party quality control program in accordance with <u>IRC Section</u> R104.4 and R109.2 and <u>IBC Section</u> 104.4 and 110.4.

- **9.5.5.** The actual design, suitability and use of this TER, for any particular building, is the responsibility of the Owner or the Owner's authorized agent, and the TER shall be reviewed for code compliance by the Building Official.
- **9.5.6.** The use of this TER is dependent on the manufacturer's in-plant QC, the ISO/IEC 17020 third-party quality assurance program and procedures, proper installation per the manufacturer's instructions, the Building Official's inspection and any other code requirements that may apply to demonstrate and verify compliance with the applicable building code.

10. Identification:

- **10.1.** Versetta Stone® described in this TER is identified by an identifier on the units and/or a label on the packaging bearing the manufacturer's name, product name, and other information to confirm code compliance.
- **10.2.** Additional technical information can be found at versettastone.com.

11. Review Schedule:

- **11.1.** This TER is subject to periodic review and revision. For the most recent version of this TER, visit drjengineering.org.
- 11.2. For information on the current status of this TER, contact DrJ Engineering.



- Mission and Professional Responsibilities
- Product Evaluation Policies
- Product Approval Building Code, Administrative Law and P.E. Law