



Listing and Technical Evaluation Report™

A Duly Authenticated Report from an Approved Agency

Report No: 1312-03



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

Trade Secret Report Holder:

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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 Evaluated¹

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 Hem (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 <u>1212-01</u>.
 - 2.2.1.2 For application of Versetta Stone on post-framed buildings, see Report Number <u>1703-08</u>.
- 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

- 3.1 <u>New Materials²</u> 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.³ The <u>design strengths</u> and permissible stresses shall be established by tests⁴ and/or engineering analysis.⁵
- 3.2 <u>Duly authenticated reports</u>⁶ and <u>research reports</u>⁷ are test reports and related engineering evaluations, which are written by an <u>approved agency</u>⁸ and/or an <u>approved source</u>.⁹
 - 3.2.1 These reports contain intellectual property and/or trade secrets, which are protected by the <u>Defend Trade</u> <u>Secrets Act</u> (DTSA).¹⁰
- 3.3 An approved agency is *"approved"* when it is <u>ANAB ISO/IEC 17065 accredited</u>. DrJ Engineering, LLC (DrJ) is listed in the <u>ANAB directory</u>.
- 3.4 An approved source is *"approved"* when a professional engineer (i.e., <u>Registered Design Professional</u>, or RDP) is properly licensed to transact engineering commerce. The regulatory authority governing approved sources is the <u>state legislature</u> via its professional engineering regulations.¹¹
- 3.5 Testing and/or inspections conducted for this <u>duly authenticated report</u> were performed by an <u>ISO/IEC 17025</u> accredited testing laboratory, an <u>ISO/IEC 17020</u> accredited inspection body, and/or a licensed <u>RDP</u>.
 - 3.5.1 The Center for Building Innovation (CBI) is ANAB¹² ISO/IEC 17025 and ISO/IEC 17020 accredited.
- 3.6 The regulatory authority shall <u>enforce</u>¹³ 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 <u>writing</u>¹⁴ stating the nonconformance and the path to its cure.
- 3.7 The regulatory authority shall accept <u>duly authenticated reports</u> from an <u>approved agency</u> and/or an <u>approved</u> <u>source</u> 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.¹⁵





- 3.8 ANAB is an <u>International Accreditation Forum</u> (IAF) <u>Multilateral Recognition Arrangement</u> (MLA) signatory where recognition of certificates, validation and verification statements issued by conformity assessment bodies accredited by all other signatories of the IAF MLA with the appropriate scope, shall be approved.¹⁶ Therefore, all ANAB ISO/IEC 17065 <u>duly authenticated reports</u> are approval equivalent.¹⁷
- 3.9 Approval equity is a fundamental commercial and legal principle.¹⁸

4 Applicable Standards for the Listing; Regulations for the Regulatory Evaluation¹⁹

4.1 Standards

- 4.1.1 ANSI/ABTG FS 100-2012 (R2018): Standard Requirements for Wind Pressure Resistance of Foam Plastic Insulating Sheathing Used in Exterior Wall Covering Assemblies²⁰
- 4.1.2 AISI S100: North American Specification for the Design of Cold-formed Steel Structural Members
- 4.1.3 ANSI/AWC NDS: National Design Specification (NDS) for Wood Construction
- 4.1.4 ASCE/SEI 7: Minimum Design Loads and Associated Criteria for Buildings and Other Structures
- 4.1.5 ASTM C90: Standard Specification for Loadbearing Concrete Masonry Units
- 4.1.6 ASTM C1185: Standard Test Methods for Sampling and Testing Non-Asbestos Fiber-Cement Flat Sheet, Roofing and Siding Shingles, and Clapboards
- 4.1.7 ASTM C1186: Standard Specification for Flat Fiber-Cement Sheets
- 4.1.8 ASTM D3679: Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) Siding
- 4.1.9 ASTM D5206: Standard Test Method for Windload Resistance of Rigid Plastic Siding
- 4.1.10 ASTM E84: Standard Test Method for Surface Burning Characteristics of Building Materials
- 4.1.11 ASTM E2273: Standard Test Method for Determining the Drainage Efficiency of Exterior Insulation and Finish Systems (EIFS) Clad Wall Assemblies
- 4.1.12 AWC TR 12: General Dowel Equations for Calculating Lateral Connection Values

4.2 Regulations

- 4.2.1 IBC 15, 18, 21: International Building Code®
- 4.2.2 IRC 15, 18, 21: International Residential Code®

5 Listed²¹

5.1 Equipment, materials, products, or services included in a List published by a <u>nationally recognized testing</u> <u>laboratory</u> (i.e., CBI), an <u>approved agency</u> (i.e., CBI and DrJ), and/or and <u>approved source</u> (i.e., DrJ), or other organization concerned with product evaluation (i.e., DrJ), that maintains periodic inspection (i.e., 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 with the applicable sections of <u>IBC Chapter</u> <u>14</u> and <u>IRC Section R703</u>, and is installed over concrete and masonry walls 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.
- 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 Vult 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" Cl.
 - 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.

	Fastener		Min.	Thickness of Continuous Insulation Allowed ^{2,4} (in)								
Material	Fastener⁵	Diameter (in)	Fastener Penetration ⁶ (in)	0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0
	³ / ₁₆ " Tapcon	0.188	1.50	Х	Х	Х	Х	Х	Х	Х	Х	Х
	¹ /4" Tapcon	0.250	1.50	Х	Х	Х	Х	Х	Х	Х	Х	Х
Concrete	Hilti X-C	0.138	0.75	Х	Х	Х	Х					
(Minimum 2,500-psi)	Hilti X-U	0.157	0.75	Х	Х	Х	Х	Х	Х	Х		
	Hilti X-C	0.138	1.00	Х	Х	Х	Х	Х	Х			
	Hilti X-U	0.157	1.00	Х	Х	Х	Х	Х	Х	Х		
Masonry	³ / ₁₆ " Tapcon	0.188	1.00	Х	Х	Х	Х	Х	Х	Х	Х	
(Medium/Normal Hollow CMU per ASTM C90)	¹ /4" Tapcon	0.250	1.00	Х	х	х	х	Х	х	х	х	х
	Masonry Nail	0.148	1.00	Х	Х	Х	Х	Х	Х	Х		
Masonry	³ / ₁₆ " Tapcon	0.188	1.00	Х	Х	Х	Х	Х	Х			
(Lightweight Hollow CMU per	¹ /4" Tapcon	0.25	1.00	Х	Х	Х	Х	Х	Х	Х	Х	Х
ASTM C90)	Hilti X-C	0.138	1.00	Х	Х							
	Hilti X-U	0.157	1.00	Х	Х	Х	Х					

Table 1. Fastener Requirements to Support Versetta Stone Installation Over Continuous Insulation in Concrete or Masonry Construction^{1,3}





Table 1. Fastener Requirements to Support Versetta Stone Installation Over Continuous Insulation in Concrete or Masonry Construction^{1,3}

		Fastener⁵	Fastener Diameter (in)	Min. Fastener Penetration ⁶ (in)	Thickness of Continuous Insulation Allowed ^{2,4} (in)								
	Material				0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0
SI:	SI: 1 in = 25.4 mm												
 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 conta	ain a minimum of thr	ee (3) fasteners and	d penetrate the conc	rete or m	asonry wa	all as iden	tified abo	ve.				
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.	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 Walls¹

Fastener	Material	Minimum Fastener Penetration (in)	Maximum Wind Pressure ² (psf)		
	Masonry (Lightweight)	3/4	37		
Hilti Pin X-C	Masonry (Medium/Normal)	3/4	37		
	Concrete	1	126		
	Concrete	3/4	67		
	Masonry (Lightweight)	3/4	37		
Hilti Pin X-U	Masonry (Medium/Normal)	3/4	37		
	Concrete	3/4	126		
_	Masonry (Lightweight)	1	54		
Tapcon ^{3/} 16" Hex Screw	Masonry (Medium/Normal)	1	90		
	Concrete	1 ¹ / ₂	146		
	Masonry (Lightweight)	1	66		
Tapcon ¹/₄" Hex Screw	Masonry (Medium/Normal)	1	146		
	Concrete	11/2	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 wind pressure is the lower of the manufacturer published withdraw capacity per fastener or the calculated allowable pull over capacity using 2.5 lb. metal lath, converted to psf.





	Wind Speed,	Wind Pressure Resistance1 (psf) Mean Roof Height (ft)								
Exposure Category	Vult (mph)									
		15	20	25	30	35	40			
	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			
В	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			
	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			
С	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			
	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			
D	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			

Table 3. Wind Pressure Resistance

SI: 1 in = 25.4 mm, 1 psf = 0.0479 kN/m², 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: 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 ft² (GC_p = -1.4). For other conditions, see ASCE 7-22 Table 30.5-1.





6.7 Where the application falls outside of the performance evaluation, conditions of use, and/or installation requirements set forth herein, alternative techniques shall be permitted in accordance with accepted engineering practice and experience. This includes but is not limited to the following areas of engineering: mechanics or materials, structural, building science, and fire science.

7 Certified Performance²²

- 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.²³
- 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.²⁴

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 <u>IBC Section 1402²⁵</u> and <u>IRC Section R703</u>.
 - 8.1.1.2 For use as a weather-resistant covering in accordance with <u>IBC Section 1403.2</u>²⁶ and <u>IRC Section</u> <u>R703.1.1</u>.
 - 8.1.1.3 To determine the ability of Versetta Stone to resist wind loads in accordance with <u>IBC Section 1609</u> and <u>IRC Section R703.1.2</u>.
 - 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).²⁷
 - 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., <u>research reports</u>, <u>duly</u> <u>authenticated reports</u>, etc.) that are conducted for this Listing were performed by DrJ Engineering, LLC (DrJ), an <u>ISO/IEC 17065 accredited certification body</u> and a professional engineering company operated by <u>RDP/approved sources</u>. DrJ is qualified²⁸ to practice product and regulatory compliance services within its scope of accreditation and engineering expertise, respectively.
- 8.4 Engineering evaluations are conducted with DrJ's ANAB <u>accredited ICS code scope</u> of expertise, which are also its areas of professional engineering competence.
- 8.5 Any regulation specific issues not addressed in this section are outside the scope of this report.





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, the more restrictive shall govern.
- 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. 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 <u>approved agencies</u>, <u>approved sources</u>, and/or an <u>RDP</u>. 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 <u>being equivalent</u> to the regulatory provision in terms of quality, <u>strength</u>, effectiveness, <u>fire resistance</u>, 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 <u>duly authenticated reports</u> from <u>approved</u> <u>agencies</u> and/or <u>approved sources</u> 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 <u>duly</u> <u>authenticated report</u>, may be dependent upon published design properties by others.
- 10.9 Testing and engineering analysis: 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.²⁹
- 10.10 Where additional condition of use and/or regulatory compliance information is required, please search for Versetta Stone on the <u>DrJ Certification website</u>.

11 Findings

- 11.1 As outlined in **Section 6**, Versetta Stone has performance characteristics that were tested and/or meet applicable regulations and are suitable for use pursuant to its specified purpose.
- 11.2 When used and installed in accordance with this <u>duly authenticated report</u> 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 <u>IBC Section 1403.10³⁰ and IRC Section R703.10</u>.
 - 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 104.11 (IRC Section R104.11 and IFC Section 104.10³¹ are similar) in pertinent part states:

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. 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.





- 11.5 Approved: ³² Building regulations require that the building official shall accept duly authenticated reports. ³³
 - 11.5.1 An <u>approved agency</u> is *"approved"* when it is <u>ANAB ISO/IEC 17065 accredited</u>.
 - 11.5.2 An <u>approved source</u> is *"approved"* when an <u>RDP</u> is properly licensed to transact engineering commerce.
 - 11.5.3 Federal law, <u>Title 18 US Code Section 242</u>, 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 <u>RDP</u>s and is an <u>ANAB Accredited Product</u> <u>Certification Body</u> – <u>Accreditation #1131</u>.
- 11.7 Through the <u>IAF Multilateral Agreements</u> (MLA), this <u>duly authenticated report</u> can be used to obtain product approval in any <u>jurisdiction</u> or <u>country</u> because all ANAB ISO/IEC 17065 <u>duly authenticated reports</u> are equivalent.³⁴

12 Conditions of Use

- 12.1 Material properties shall not fall outside the boundaries defined in Section 6.
- 12.2 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.
- 12.3 As listed herein, Versetta Stone shall be subjected to the following conditions:
 - 12.3.1 Installation shall be on exterior walls consisting of concrete or masonry and shall be capable of supporting the imposed loads, including transverse wind loads.
 - 12.3.2 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>IRC Section R301.2.2.2</u>, unless an engineered design is provided in accordance with IRC Section R301.1.3.
 - 12.3.3 Walls shall be braced to resist shear (racking) load by other means in accordance with the applicable code.
 - 12.3.4 Versetta Stone shall not be used in areas where the design wind pressure exceeds the resistance of the product in accordance with **Table 2**.
 - 12.3.5 Concrete and masonry walls shall be designed in accordance with <u>IBC Chapter 19</u> and <u>IBC Chapter 21</u>, respectively.
 - 12.3.6 Fasteners used to secure Versetta Stone panels shall be corrosion-resistant as specified in <u>IBC Section</u> <u>1404.17</u> and <u>IRC Section R703.3.3</u>.
 - 12.3.7 Use of Versetta Stone panels in installations exceeding 30' in height are outside the scope of this report.
 - 12.3.8 Use of Versetta Stone panels in the High Velocity Hurricane Zone (HVHZ) of southern Florida is outside the scope of this report.
- 12.4 When required by adopted legislation and enforced by the <u>building official</u>, also known as the Authority Having Jurisdiction (AHJ) in which the project is to be constructed:
 - 12.4.1 Any calculations incorporated into the construction documents shall conform to accepted engineering practice and, when prepared by an <u>approved source</u>, shall be approved when signed and sealed.
 - 12.4.2 This report and the installation instructions shall be submitted at the time of permit application.
 - 12.4.3 This innovative product has an internal quality control program and a third-party quality assurance program.
 - 12.4.4 At a minimum, this innovative product shall be installed per **Section 9** of this report.
 - 12.4.5 The review of this report by the AHJ shall comply with IBC Section 104 and IBC Section 105.4.





- 12.4.6 This innovative product has an internal quality control program and a third party quality assurance program in accordance with IBC Section 104.4, IBC Section 110.4, IBC Section 1703, IRC Section R104.4, and IRC Section R109.2.
- 12.4.7 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 <u>IBC</u> <u>Section 110.3</u>, <u>IRC Section R109.2</u>, and any other regulatory requirements that may apply.
- 12.5 The approval of this report by the AHJ shall comply with <u>IBC Section 1707.1</u>, where legislation states in part, *"the building official shall accept duly authenticated reports from approved agencies in respect to the quality and manner of use of new material or assemblies as provided for in Section 104.11"*, all of <u>IBC Section 104</u>, and <u>IBC Section 105.4</u>.
- 12.6 <u>Design loads</u> 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., <u>owner</u> or <u>RDP</u>).
- 12.7 The actual design, suitability, and use of this report for any particular building, is the responsibility of the <u>owner</u> or the authorized agent of the <u>owner</u>.

13 Identification

- 13.1 The innovative product 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 <u>www.versettastone.com</u>.

14 Review Schedule

- 14.1 This report is subject to periodic review and revision. For the latest version, visit <u>www.drjcertification.org</u>.
- 14.2 For information on the status of this report, please contact <u>DrJ Certification</u>.

15 Approved for Use Pursuant to United States and International Legislation Defined in Appendix A

15.1 Versetta Stone Panelized Stone Veneer is included in this report published by an approved agency that is concerned with evaluation of products or services, maintains periodic inspection of the production of listed materials or periodic evaluation of services. This report states either that the material, product, or service meets recognized standards or has been tested and found suitable for a specified purpose. This report meets the legislative intent and definition of being acceptable to the AHJ.





Appendix A

1 Legislation that Authorizes AHJ Approval

- 1.1 **Fair Competition**: <u>State legislatures</u> have adopted Federal regulations for the examination and approval of building code referenced and alternative products, materials, designs, services, assemblies, and/or methods of construction that:
 - 1.1.1 Advance innovation.
 - 1.1.2 Promote competition so all businesses have the opportunity to compete on price and quality in an open market on a level playing field unhampered by anticompetitive constraints.
 - 1.1.3 Benefit consumers through lower prices, better quality, and greater choice.
- 1.2 **Adopted Legislation:** The following local, state and federal regulations affirmatively authorize products to be approved by AHJs, delegates of building departments, and/or delegates of an agency of the federal government:
 - 1.2.1 Interstate commerce is governed by the <u>Federal Department of Justice</u> to encourage the use of innovative products, materials, designs, services, assemblies, and/or methods of construction. The goal is to *"protect economic freedom and opportunity by promoting free and fair competition in the marketplace"*.
 - 1.2.2 <u>Title 18 US Code Section 242</u> affirms and regulates the right of individuals and businesses to freely and fairly have new products, materials, designs, services, assemblies, and/or methods of construction approved for use in commerce. Disapproval of alternatives shall be based upon non-conformance with respect to specific provisions of adopted legislation and shall be provided in writing <u>stating the reasons</u> why the alternative was not approved, with reference to the specific legislation violated.
 - 1.2.3 The <u>federal government</u> and each state have a <u>public records act</u>. In addition, each state also has legislation that mimics the federal <u>Defend Trade Secrets Act 2016</u> (DTSA),³⁵ where providing test reports, engineering analysis, and/or other related IP/TS is subject to <u>prison of not more than ten years</u>³⁶ and/or a <u>\$5,000,000 fine or 3 times the value of</u>³⁷ the Intellectual Property (IP) and Trade Secrets (TS).
 - 1.2.3.1 Compliance with public records and trade secret legislation requires approval through the use of Listings, certified reports, Technical Evaluation Reports, duly authenticated reports, and/or research reports prepared by approved agencies and/or approved sources.
 - 1.2.4 For <u>new materials</u>³⁸ that are not specifically provided for in any regulation, the <u>design strengths and</u> <u>permissible stresses</u> shall be established by <u>tests</u>, where <u>suitable load tests simulate the actual loads and</u> <u>conditions of application that occur</u>.
 - 1.2.5 The <u>design strengths and permissible stresses</u> of any structural material shall <u>conform</u> to the specifications and methods of design using accepted engineering practice.³⁹
 - 1.2.6 The commerce of <u>approved sources</u> (i.e., registered PEs) is regulated by <u>professional engineering</u> <u>legislation</u>. Professional engineering <u>commerce shall always be approved</u> by AHJs, except where there is evidence provided in writing, that specific legislation have been violated by an individual registered PE.
 - 1.2.7 The AHJ shall accept <u>duly authenticated reports</u> from <u>approved agencies</u> in respect to the quality and manner of use of new materials or assemblies as provided for in <u>IBC Section 104.11</u>.⁴⁰





- 1.3 Approved⁴¹ by Los Angeles: The Los Angeles Municipal Code (LAMC) states in pertinent part that the provisions of LAMC are not intended to prevent the use of any material, device, or method of construction not specifically prescribed by LAMC. The Department shall use Part III, Recognized Standards in addition to Part II, Uniform Building Code Standards of <u>Division 35</u>, <u>Article 1</u>, <u>Chapter IX</u> of the LAMC in evaluation of products for approval where such standard exists for the product or the material and may use other approved standards that apply. Whenever tests or certificates of any material or fabricated assembly are required by <u>Chapter IX</u> of the LAMC, such tests or certification shall be made by a <u>testing agency</u> approved by the Superintendent of Building to conduct such tests or provide such certifications. The testing agency shall publish the scope and limitation(s) of the listed material or fabricated assembly.⁴² The Superintendent of Building <u>Approved Testing Agency Roster</u> is provided by the Los Angeles Department of Building and Safety (LADBS). The Center for Building Innovation (CBI) Certificate of Approval License is <u>TA24945</u>. Tests and certifications found in a <u>DrJ Listing</u> are LAMC approved. In addition, the Superintendent of Building shall accept <u>duly authenticated reports</u> from <u>approved agencies</u> in respect to the quality and manner of use of new materials or assemblies as provided for in the <u>California Building Code</u> (CBC) <u>Section 1707.1</u>.⁴³
- 1.4 Approved by Chicago: The Municipal Code of Chicago (MCC) states in pertinent part that an Approved Agency is a Nationally Recognized Testing Laboratory (NRTL) acting within its recognized scope and/or a certification body accredited by the American National Standards Institute (ANSI) acting within its accredited scope. Construction materials and test procedures shall conform to the applicable standards listed in the MCC. Sufficient technical data shall be submitted to the building official to substantiate the proposed use of any product, material, service, design, assembly, and/or method of construction not specifically provided for in the MCC. This technical data shall consist of research reports from approved sources (i.e., MCC defined Approved Agencies).
- 1.5 Approved by New York City: The 2022 NYC Building Code (NYCBC) states in part that an approved agency shall be deemed⁴⁴ an approved testing agency via <u>ISO/IEC 17025 accreditation</u>, an approved inspection agency via <u>ISO/IEC 17020 accreditation</u>, and an approved product evaluation agency via <u>ISO/IEC 17065 accreditation</u>. Accrediting agencies, other than federal agencies, must be members of an internationally recognized cooperation of laboratory and inspection accreditation bodies subject to a mutual recognition agreement⁴⁵ (i.e., <u>ANAB</u>, International Accreditation Forum also known as IAF, etc.).
- 1.6 **Approved by Florida**: <u>Statewide approval</u> of products, methods or systems of construction shall be approved, without further evaluation by:
 - 1.6.1 A certification mark or listing of an approved certification agency
 - 1.6.2 A test report from an approved testing laboratory
 - 1.6.3 A product evaluation report based upon testing or comparative or rational analysis, or a combination thereof, from an approved product evaluation entity
 - 1.6.4 A product evaluation report based upon testing, comparative or rational analysis, or a combination thereof, developed, signed, and sealed by a professional engineer or architect, licensed in Florida.
 - 1.6.5 For local product approval, products or systems of construction shall demonstrate compliance with the structural wind load requirements of the Florida Building Code (FBC) through one of the following methods:
 - 1.6.5.1 A certification mark, listing, or label from a commission-approved certification agency indicating that the product complies with the code,
 - 1.6.5.2 A test report from a commission-approved testing laboratory indicating that the product tested complies with the code,
 - 1.6.5.3 A product-evaluation report based upon testing, comparative or rational analysis, or a combination thereof, from a commission-approved product evaluation entity which indicates that the product evaluated complies with the code,





- 1.6.5.4 A product-evaluation report or certification based upon testing or comparative or rational analysis, or a combination thereof, developed and signed and sealed by a Florida professional engineer or Florida registered architect, which indicates that the product complies with the code, or
- 1.6.5.5 A statewide product approval issued by the Florida Building Commission.
- 1.6.6 The <u>Florida Department of Business and Professional Regulation</u> (DBPR) website provides a listing of companies certified as a <u>Product Evaluation Agency</u> (i.e., EVLMiami 13692), a <u>Product Certification</u> <u>Agency</u> (i.e., CER10642), and as a <u>Florida Registered Engineer</u> (i.e., ANE13741).
- 1.7 **Approved by Miami-Dade County (i.e., Notice of Acceptance [NOA])**: A Florida statewide approval is an NOA. An NOA is a Florida local product approval. By Florida law, Miami-Dade County shall accept the statewide and local Florida Product Approval as provided for in Florida legislation <u>553.842</u> and <u>553.8425</u>.
- 1.8 **Approved by New Jersey**: Pursuant to the 2018 Building Code of New Jersey in <u>IBC Section 1707.1</u> <u>General</u>,⁴⁶ it states: "In the absence of approved rules or other approved standards, the building official shall accept duly authenticated reports from <u>approved agencies</u> in respect to the quality and manner of use of new materials or assemblies as provided for in the administrative provisions of the Uniform Construction Code (<u>N.J.A.C. 5:23</u>)".⁴⁷ Furthermore N.J.A.C 5:23-3.7 states: "Municipal approvals of alternative materials, equipment, or methods of construction."
 - 1.8.1 **Approvals**: Alternative materials, equipment, or methods of construction shall be approved by the appropriate subcode official provided the proposed design is satisfactory and that the materials, equipment, or methods of construction are suitable for the intended use and are at least the equivalent in quality, strength, effectiveness, fire resistance, durability, and safety of those conforming with the requirements of the regulations.
 - 1.8.1.1 A field evaluation label and report or letter issued by a nationally recognized testing laboratory verifying that the specific material, equipment, or method of construction meets the identified standards or has been tested and found to be suitable for the intended use, shall be accepted by the appropriate subcode official as meeting the requirements of the above.
 - 1.8.1.2 Reports of engineering findings issued by nationally recognized evaluation service programs such as but not limited to, the Building Officials and Code Administrators (BOCA), the International Conference of Building Officials (ICBO), the Southern Building Code Congress International (SBCCI), the International Code Council (ICC), and the National Evaluation Service, Inc., shall be accepted by the appropriate subcode official as meeting the requirements of the above.
 - 1.8.2 The <u>New Jersey Department of Community Affairs</u> has confirmed that technical evaluation reports, from any accredited entity listed by <u>ANAB</u>, meets the requirements of item the previous paragraph, given that the listed entities are no longer in existence and/or do not provide "*reports of engineering findings*".
- 1.9 Approved by the Code of Federal Regulations Manufactured Home Construction and Safety Standards: Pursuant to Title 24, Subtitle B, Chapter XX, <u>Part 3282.14</u>⁴⁸ and <u>Part 3280</u>,⁴⁹ the Department encourages innovation and the use of new technology in manufactured homes. The design and construction of a manufactured home shall conform to the provisions of Part 3282 and Part 3280 where key approval provisions in mandatory language follow:
 - 1.9.1 *"All construction methods shall be in conformance with accepted engineering practices."*
 - 1.9.2 "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."
 - 1.9.3 *"The design stresses of all materials shall conform to accepted engineering practice."*





- 1.10 **Approval by US, Local and State Jurisdictions in General:** In all other local and state jurisdictions, the adopted building code legislation states in pertinent part that:
 - 1.10.1 For <u>new materials</u> that are not specifically provided for in this code, the <u>design strengths and permissible</u> <u>stresses</u> shall be established by tests.⁵⁰
 - 1.10.2 For innovative <u>alternatives</u> and/or methods of construction, the building official shall accept <u>duly</u> <u>authenticated reports</u> from <u>approved agencies</u> with respect to the quality and manner of use of <u>new</u> <u>materials or assemblies</u>.⁵¹
 - 1.10.2.1 An <u>approved agency</u> is *"approved"* when it is <u>ANAB ISO/IEC 17065 accredited</u>. DrJ Engineering, LLC (DrJ) is in the <u>ANAB directory</u>.
 - 1.10.2.2 An <u>approved source</u> is *"approved"* when an <u>RDP</u> is properly licensed to transact engineering commerce. The regulatory authority governing approved sources is the <u>state legislature</u> via its professional engineering regulations.⁵²
 - 1.10.3 The <u>design strengths and permissible stresses</u> of any structural material...shall conform to the specifications and methods of design of accepted engineering practice performed by an <u>approved</u> <u>source</u>.⁵³
- 1.11 **Approval by International Jurisdictions**: The <u>USMCA</u> and <u>GATT</u> agreements provide for approval of innovative materials, designs, services, and/or methods of construction through the <u>Agreement on Technical</u> <u>Barriers to Trade</u> and the <u>IAF Multilateral Recognition Arrangement</u> (MLA), where these agreements:
 - 1.11.1 State that <u>conformity assessment procedures</u> (i.e., ISO/IEC 17020, 17025, 17065, etc.) are prepared, adopted, and applied so as to grant access for suppliers of like products originating in the territories of other Members under conditions no less favourable than those accorded to suppliers of like products of national origin or originating in any other country, in a comparable situation.
 - 1.11.2 **Approved**: The <u>purpose of the MLA</u> is to ensure mutual recognition of accredited certification and validation/verification statements between signatories to the MLA and subsequently, acceptance of accredited certification and validation/verification statements in many markets based on one accreditation for the timely approval of innovative materials, designs, services, and/or methods of construction.
 - 1.11.3 ANAB is an <u>IAF-MLA</u> signatory where recognition of certificates, validation, and verification statements issued by conformity assessment bodies accredited by all other signatories of the IAF MLA, with the appropriate scope, shall be approved.⁵⁴
 - 1.11.4 Therefore, all ANAB ISO/IEC 17065 duly authenticated reports are approval equivalent.⁵⁵
- 1.12 Approval equity is a fundamental commercial and legal principle.⁵⁶



Notes

- For more information, visit <u>dricertification.org</u> or call us at 608-310-6748.
- https://up.codes/viewer/wyoming/ibc-2021/chapter/17/special-inspections-and-tests#1702
- ³ 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 <u>https://www.justice.gov/atr/mission and https://up.codes/viewer/colorado/ibc-2021/chapter/1/scope-and-administration#104.11</u>
- tests#1706:~:text=the%20design%20strengths%20and%20permissible%20stresses%20shall%20be%20established%20by%20tests%20as
 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/wyoming/ibc-2021/chapter/17/special-inspections-andtests#1706:~:text=shall%20conform%20to%20the%20specifications%20and%20methods%20of%20design%20of%20accepted%20engineering%20practice
- https://up.codes/viewer/wyoming/ibc-2021/chapter/17/special-inspections-andtests#1707.1:~:text=the%20building%20official%20shall%20accept%20duly%20authenticated%20reports%20from%20approved%20agencies
- 7 <u>https://up.codes/viewer/wyoming/ibc-2021/chapter/17/special-inspections-and-tests#1703.4.2</u>
- 8 https://up.codes/viewer/wyoming/ibc-2021/chapter/2/definitions#approved_agency
- 9 https://up.codes/viewer/wyoming/ibc-2021/chapter/2/definitions#approved_source
- 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 <u>federal government</u> and each state have a <u>public records act</u>. To follow DTSA and comply state public records and trade secret legislation requires approval through <u>ANAB ISO/IEC 17065 accredited certification bodies</u> or <u>approved sources</u>. For more information, please review this website: <u>Intellectual Property and Trade Secrets</u>.
- 11 <u>https://www.nspe.org/resources/issues-and-advocacy/professional-policies-and-position-statements/regulation-professional AND https://apassociation.org/list-of-engineeringboards-in-each-state-archive/</u>
- 12 https://www.cbitest.com/accreditation/
- 13 https://up.codes/viewer/colorado/ibc-2021/chapter/1/scope-and-administration#104:~:text=to%20enforce%20the%20provisions%20of%20this%20code
- 14 <u>https://up.codes/viewer/colorado/ibc-2021/chapter/1/scope-and-administration#104.11:~:text=Where%20the%20alternative%20material%2C%20design%20or%20method%20of%20construction%20is%20not%20approved%2C%20the%20building%20official%20shall%20respond%20in%20writing%2C%20stating%20the%20reasons%20why%20the%20alternative%20was%20not%20approved https://up.codes/viewer/colorado/ibc-2021/chapter/1/scope-andhttps://up.codes/viewer/colorado/ibc-2021/chapter/1/scope-and-</u>
 - administration#105.3.1:~:text=lf%20the%20application%20or%20the%20construction%20documents%20do%20not%20conform%20to%20the%20requirements%20of%20pertinen t%20laws%2C%20the%20building%20official%20shall%20reject%20such%20application%20in%20writing%2C%20stating%20the%20reasons%20therefore
- https://up.codes/viewer/colorado/ibc-2021/chapter/17/special-inspections-andtests#1707.1:~:text=the%20building%20official%20shall%20accept%20duly%20authenticated%20reports%20from%20approved%20agencies%20in%20respect%20to%20the%20 quality%20and%20manner%20of%20use%20of%20new%20materials%20or%20assemblies%20as%20provided%20for%20in%20Section%20104.11
- ¹⁶ <u>https://iaf.nu/en/about-iaf-</u>

mla/#:~:text=it%20is%20required%20to%20recognise%20certificates%20and%20validation%20and%20verification%20statements%20issued%20by%20conformity%20assessmen t%20bodies%20accredited%20by%20all%20other%20signatories%20of%20the%20IAF%20MLA%2C%20with%20the%20appropriate%20scope

- ¹⁷ True for all ANAB accredited product evaluation agencies and all International Trade Agreements.
- ¹⁸ <u>https://www.justice.gov/crt/deprivation-rights-under-color-law</u> AND <u>https://www.justice.gov/atr/mission</u>
- ¹⁹ Unless otherwise noted, all references in this Listing are from the 2021 version of the codes and the standards referenced therein. This material, product, design, service and/or method of construction also complies with the 2000-2021 versions of the referenced codes and the standards referenced therein.
- ²⁰ Formerly known as ANSI/SBCA FS 100-2012 (R2018)
- 21 <u>https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280#p-3280.2(Listed%20or%20certified); https://up.codes/viewer/colorado/ibc-2021/chapter/2/definitions#listed AND https://up.codes/viewer/colorado/ibc-2021/chapter/2/definitions#labeled</u>
- 22 https://up.codes/viewer/colorado/ibc-2021/chapter/17/special-inspections-and-tests#1703.4
- ²³ <u>https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-</u>
- 3280#:~:text=All%20construction%20methods%20shall%20be%20in%20conformance%20with%20accepted%20engineering%20practices%20to%20insure%20durable%2C%20liv able%2C%20and%20safe%20housing%20and%20shall%20demonstrate%20acceptable%20workmanship%20reflecting%20journeyman%20quality%20of%20work%20of%20the% 20various%20trades
- 24
 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%20
- engineering%20analysis%20or%20by%20suitable%20load%20tests%20to%20simulate%20the%20actual%20loads%20and%20conditions%20of%20application%20that%20occur ²⁵ 2015 IBC Section 1403
- 26 2015 IBC Section 1404.2
- ²⁷ Formerly known as ANSI/SBCA FS 100-2012 (R2018)
- 28 Qualification is performed by a legislatively defined <u>Accreditation Body</u>. <u>ANSI National Accreditation Board (ANAB)</u> is the largest independent accreditation body in North America and provides services in more than 75 countries. <u>DrJ</u> is an ANAB accredited <u>product certification body</u>.
- ²⁹ See Code of Federal Regulations (CFR) <u>Title 24 Subtitle B Chapter XX Part 3280</u> for definition.
- ³⁰ 2015 IBC Section 1404.10
- ³¹ 2018 IFC Section 104.9





- ³² 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 where the building code authorizes sentences to have an ordinarily accepted meaning such as the context implies.
- ³³ https://up.codes/viewer/wyoming/ibc-2021/chapter/17/special-inspections-and-tests#1707.1
- ²⁴ Multilateral approval is true for all ANAB accredited product evaluation agencies and all International Trade Agreements.
- 35 http://www.drjengineering.org/AppendixC AND https://www.drjcertification.org/cornell-2016-protection-trade-secrets
- ³⁶ https://www.law.cornell.edu/uscode/text/18/1832#:~:text=imprisoned%20not%20more%20than%2010%20years
- 37 https://www.law.cornell.edu/uscode/text/18/1832#:~:text=Any%20organization%20that,has%20thereby%20avoided
- ³⁸ https://up.codes/viewer/wyoming/ibc-2021/chapter/17/special-inspections-and-tests#1706.2
- ³⁹ IBC 2021, Section 1706.1 Conformance to Standards
- ⁴⁰ IBC 2021, Section 1707 Alternative Test Procedure, 1707.1 General
- ⁴¹ See **Section 11** for the distilled building code definition of Approved.
- ⁴² Los Angeles Municipal Code, SEC. 98.0503. TESTING AGENCIES
- ⁴³ https://up.codes/viewer/california/ca-building-code-2022/chapter/17/special-inspections-and-tests#1707.1
- 44 New York City, The Rules of the City of New York, § 101-07 Approved Agencies
- ⁴⁵ New York City, The Rules of the City of New York, § 101-07 Approved Agencies
- ⁴⁶ <u>https://up.codes/viewer/new_jersey/ibc-2018/chapter/17/special-inspections-and-tests#1707.1</u>
- ⁴⁷ <u>https://www.nj.gov/dca/divisions/codes/codreg/ucc.html</u>
- ⁴⁸ <u>https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3282/subpart-A/section-3282.14</u>
- ⁴⁹ <u>https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280</u>
- ⁵⁰ IBC 2021, Section 1706 Design Strengths of Materials, 1706.2 New Materials, Adopted law pursuant to IBC model code language 1706.2.
- ⁵¹ IBC 2021, Section 1707 Alternative Test Procedure, 1707.1 General, Adopted law pursuant to IBC model code language 1707.1.
- ⁵² <u>https://www.nspe.org/resources/issues-and-advocacy/professional-policies-and-position-statements/regulation-professional_AND https://apassociation.org/list-of-engineeringboards-in-each-state-archive/</u>
- ⁵³ IBC 2021, Section 1706 Design Strengths of Materials, Section 1706.1 Conformance to Standards Adopted law pursuant to IBC model code language 1706.1.
- 54 <u>https://iaf.nu/en/about-iaf-</u> mla/#:~:text=it%20is%20required%20to%20recognise%20certificates%20and%20validation%20and%20verification%20statements%20issued%20by%20conformity%20assessmen t%20bodies%20accredited%20by%20all%20other%20signatories%20of%20the%20IAF%20MLA%2C%20with%20the%20appropriate%20scope
- ⁵⁵ True for all ANAB accredited product evaluation agencies and all International Trade Agreements.
- ⁵⁶ https://www.justice.gov/crt/deprivation-rights-under-color-law AND https://www.justice.gov/atr/mission