DrJ CERTIFICATION

Technical Evaluation Report™

TER 1909-03

Piazza Stone® Masonry Units

Piazza Stone, LLC

Product:

Piazza Stone®

Issue Date:

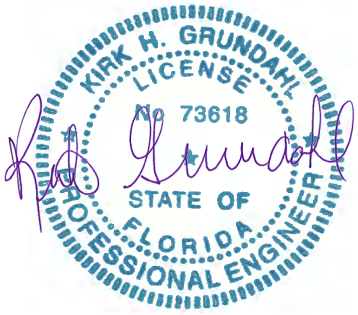
November 23, 2020

Revision Date:

October 4, 2023

Subject to Renewal:

January 1, 2026



10/04/2023

Kirk Grundahl

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DIVISION: 04 00 00 - MASONRY	SECTION: 04 43 13 - Stone Masonry Veneer
SECTION: 04 42 00 - Exterior Stone Cladding	SECTION: 04 73 00 - Manufactured Stone Masonry
SECTION: 04 43 00 - Stone Masonry	SECTION: 04 70 00 - Manufactured Masonry

1 Product Evaluated[1,2]

1.1 Piazza Stone®

2 Applicable Codes and Standards[3]

2.1 *Codes*

2.1.1 *IBC—15, 18, 21: International Building Code®*

2.1.2 *IRC—15, 18, 21: International Residential Code®*

2.1.3 *FBC-B—20, 23: Florida Building Code – Building[4] (FL 35386)*

2.1.4 *FBC-R—20, 23: Florida Building Code – Residential[4] (FL 35386)*

2.2 *Standards and Referenced Documents*

2.2.1 *ASTM C33: Standard Specification for Concrete Aggregates*

2.2.2 *ASTM C150: Standard Specification for Portland Cement*

2.2.3 *ASTM C231: Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method*

2.2.4 *ASTM C426: Standard Test Method for Linear Drying Shrinkage of Concrete Masonry Units*

2.2.5 *ASTM C578: Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation*

2.2.6 *ASTM C666: Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing*

2.2.7 *ASTM C979: Standard Specification for Pigments for Integrally Colored Concrete*

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

2 This TER is a code defined research report provided by an approved source (see IBC Section 1703.4.2) and an approved agency (see IBC Section 1703.1). Given that this TER is for new materials, as defined in IBC Section 1702, for which there are no approved rules or standards, IBC Section 1707.1 states that, "In the absence of approved rules or other approved standards, the building official shall accept duly authenticated reports (i.e., research reports) from approved agencies in respect to the quality and manner of use of new materials or assemblies as provided for in IBC Section 104.11. A professional engineer is approved as an approved source when that professional engineer is properly licensed to transact engineering commerce.

3 Unless otherwise noted, all references in this TER are from the 2021 version of the codes and the standards referenced therein. This material, design, or method of construction also complies with the 2000-2018 versions of the referenced codes and the standards referenced therein.

4 All references to the FBC-B and FBC-R are the same as the 2021 IBC and 2021 IRC, respectively, unless otherwise noted in the supplement at the end of this document.

2.2.8 *ASTM C1194: Standard Test Method for Compressive Strength of Architectural Cast Sone*

2.2.9 *ASTM C1195: Standard Test Method for Absorption of Architectural Cast Stone*

2.2.10 *ASTM C1364: Standard Specification for Architectural Cast Stone*

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

2.2.12 *ASTM E488: Standard Test Methods for Strength of Anchors in Concrete Elements*

2.2.13 *ASTM E831: Standard Test Method for Linear Thermal Expansion of Solid Materials by Thermomechanical Analysis*

2.2.14 *NFPA 285: Standard Fire Test Method for the Evaluation of Fire Propagation Characteristics of Exterior Wall Assemblies Containing Combustible Components*

2.2.15 *TMS 402: Building Code for Masonry Structures*

2.2.16 *TMS 602: Specification for Masonry Structures*

3 Performance Evaluation

3.1 Testing and related engineering evaluations are defined as intellectual property and/or trade secrets.

3.2 Piazza Stone® was evaluated to determine the following:

3.2.1 Physical properties of limestone composite shell in accordance with IBC Section 2103.1, including compressive strength, absorption, linear drying shrinkage, air content, and freeze-thaw.

3.2.2 Use as an exterior wall covering in accordance with IBC Section 1404[5] and IRC Section R703.

3.2.3 Use an interior wall and ceiling finish material in accordance with IBC Section 803 and IBC Section 2603.4.1.1.

3.2.4 Use as a masonry construction material in accordance with IBC Section 2103.1 and IRC Section R606.2.

3.2.5 Performance for use in buildings of Type I-V in accordance with IBC Chapter 6.

3.2.6 Performance in accordance with ASTM E84 for flame spread and smoke development ratings in accordance with IBC Section 2603.3, IBC Section 2603.5.4 and IRC Section R302.9.

3.2.7 Performance with regard to thermal barrier requirements in accordance with IBC Section 2603.4.

3.2.8 Performance with regard to vertical and lateral fire propagation in accordance with IBC Section 2603.5.5.

3.2.9 Use as a part of an NFPA 285 wall assembly in accordance with IBC Section 1402.5[6] and IBC Section 2603.5.5.

3.3 Piazza Stone® was evaluated for installation over concrete, masonry, or cold-formed steel studs using the Piazza Stone® Installation System.

3.3.1 For mechanical attachment, fasteners must be in accordance with Section 6 and the manufacturer installation instructions.

3.3.2 Connection of Piazza Stone® elements to substrate requires an engineered design in accordance with Section 9.

3.4 The ability of the fastening system to support the gravity and transverse loads is outside the scope of this TER.

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

3.6 Any regulation specific issues not addressed in this section are outside the scope of this TER.

[5] 2015 IBC Section 1405

[6] 2015 IBC Section 1403.5

4 Product Description and Materials

4.1 Example profiles of the product evaluated in this TER are shown in Figure 1 and Figure 2.

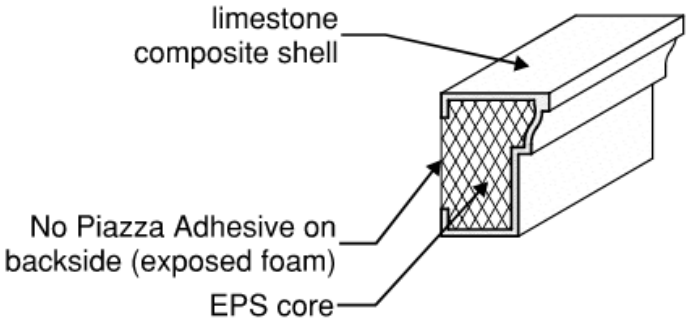

Figure 1. Piazza Stone® for General Applications

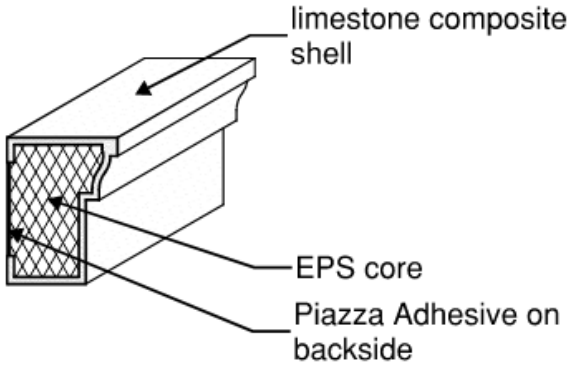

Figure 2. Piazza Stone® for NFPA 285 Compliant Applications

4.2 Piazza Stone® is a non-structural architectural stone decorative façade product consisting of an expanded polystyrene (EPS) foam core encased in a limestone composite shell.

4.2.1 The EPS foam is Type I in accordance with ASTM C578.

4.2.2 The limestone composite shell is cast from a single-component, polymer-modified cementitious mix that includes the following materials:

4.2.2.1 Portland cement, in accordance with ASTM C150, Type I or III,

4.2.2.2 Coarse aggregates, in accordance with ASTM C33, including granite, quartz, or limestone,

4.2.2.3 Fine aggregates, in accordance with ASTM C33, including manufactured or natural sand, and

4.2.2.4 Inorganic iron oxide pigments, in accordance with ASTM C979, except carbon black pigments.

4.3 *Material Availability*

4.3.1 Piazza Stone® is available in a variety of sizes and profiles.

5 Applications

5.1 *General*

5.1.1 Piazza Stone® is an architectural stone complying with IBC Section 1404[7] and IRC Section R703.

5.1.2 Piazza Stone® is used in buildings of Type I-V construction in accordance with IBC Chapter 6.

5.1.3 Piazza Stone® products must be installed using the Piazza Stone® Installation System over concrete, masonry, or cold-formed steel studs.

5.2 *Compressive Strength*

5.2.1 The Piazza Stone® limestone composite shell was tested to assess its compressive strength in accordance with ASTM C1194 per ASTM C1364 (Table 1).

Table 1. Compressive Strength[1]

Product	Average Compressive Strength (psi)
Piazza Stone®	6,850

SI: 1 psi = 0.00689 MPa

1. The limestone composite shell tested in accordance with ASTM C1194.

5.3 *Water Absorption*

5.3.1 The Piazza Stone® limestone composite shell was tested to assess its performance with regard to water absorption in accordance with ASTM C1195 per ASTM C1364 (Table 2).

Table 2. Water Absorption[1]

Product	Average Absorption Mass (%)
Piazza Stone®	2.7

1. The limestone composite shell tested in accordance with ASTM C1195.

5.4 *Air Content*

5.4.1 The Piazza Stone® limestone composite shell was tested for sufficient air content in accordance with ASTM C231 per ASTM C1364 (Table 3).

Table 3. Air Content[1]

Product	Average Air Content (%)
Piazza Stone®	9.5

1. The limestone composite shell tested in accordance with ASTM C231.

[7] 2015 IBC Section 1405

5.5 *Freeze-Thaw Durability*

5.5.1 The Piazza Stone® limestone composite shell was tested to assess cumulative percent mass loss (CPWL) after experiencing rapidly repeated cycles of freezing and thawing, in accordance with ASTM C666 Procedure A per ASTM C1364 (Table 4).

Table 4. Freeze-Thaw Durability[1]

Product	CPWL (%)
Piazza Stone®	0.5
1. The limestone composite shell tested in accordance with ASTM C666.	

5.6 *Linear Drying Shrinkage*

5.6.1 Piazza Stone® limestone composite shell was tested in accordance with ASTM C426 to determine linear shrinkage per ASTM C1364 (Table 5).

Table 5. Linear Shrinkage[1]

Product	Average Linear Shrinkage (%)
Piazza Stone®	0.150
1. The limestone composite shell tested in accordance with ASTM C426.	

5.7 *Linear Thermal Expansion*

5.7.1 The Piazza Stone® limestone composite shell was tested in accordance with ASTM E831 to determine the coefficient of thermal expansion (Table 6).

Table 6. Thermal Expansion[1]

Product	Average Coefficient of Thermal Expansion (in/in°F)
Piazza Stone®	3.165×10^{-6}
1. The composite shell tested in accordance with ASTM E831.	

5.8 *Surface Burn Characteristics*

5.8.1 Flame spread and smoke developed indexes for Piazza Stone® are shown in Table 7.

Table 7. Surface Burn Characteristics[1]

Product	Flame Spread	Smoke Developed
Piazza Stone®	< 25	< 450
1. Product tested in accordance with ASTM E84.		

5.9 *Thermal Barrier Requirements*

5.9.1 For exterior applications, Piazza Stone® shall be separated from the interior of a building by an approved thermal barrier in accordance with IBC Section 2603.4.

5.9.2 For interior applications, Piazza Stone® is approved for use without a thermal barrier when the limestone composite shell layer over the foam is a minimum of 1" thick per IBC Section 2603.4.1.1.

5.10 *Vertical and Lateral Fire Propagation*

5.10.1 Piazza Stone® was tested to assess performance with regard to vertical and lateral fire propagation in accordance with NFPA 285 and IBC Section 2603.5.5.

5.10.1.1 The wall assemblies listed in Table 8 are approved for use in buildings of Type I-V construction.

5.10.1.2 See Figure 3 for an approved NFPA 285-compliant window header/perimeter detail.

Table 8. Approved NFPA 285 Wall Assemblies[1]

Wall Component	Materials
Base Wall System Use any item 1-3	1. Cast concrete walls 2. CMU concrete walls 3. Steel studs – 18-gauge (min.), 3 5/8" (min.), 16" o.c. (max.)
Floorline Firestopping	1. 4 inch, 4 pcf mineral fiber (mineral wool) friction fit or installed with z-clips
Cavity Insulation Use any item 1-4	1. None 2. Any noncombustible insulation per ASTM E136 3. Any mineral fiber or mineral wool (faced or unfaced) 4. Any fiberglass (faced or unfaced)
Exterior Sheathing	1. One (1) layer 1/2" or thicker exterior type gypsum sheathing
WRB over Sheathing	1. Piazza Approved Air & Weather Barrier
Steel Channel For Exterior Insulation	1. 2" (max.) vertical steel channel (Piazza-Z) 16" o.c. (max.)
Exterior Insulation[2] Use item 1 or 2	1. 2" (max.) Dow Styrofoam Type IV or Type X 2. 2" (max.) Owens Corning Foamular 250 Type IV or Type X
Horizontal Track	1. 3/4 inch (max.) horizontal steel track (Piazza track) to attach Piazza Stone®
Exterior Cladding[3]	1. Piazza Stone® a. Foam Core: 12" (max.) ACH 1 pcf EPS for wall area b. Masonry Shell: 5/8" (min.) Piazza Stone® c. Piazza Adhesive (1/4" thickness)
Joint Caulk	1. Pecora 890FTS – TXTR (with mineral wool backer material)
Special Condition	1. Header/jamb/sill shall conform to the design shown in Figure 3.

SI: 1 in = 25.4 mm

1. The assemblies and combinations created herein and the various substitutions of products are based on testing and professional thermal engineering analysis by Priest & Associates Consulting, LLC.
2. Exterior insulation is attached using Piazza-Z clips. Piazza Stone® is attached using clips and track to Piazza-Z.
3. Any decorative piece of any reasonable shape may be allowed as long as either condition below is met:
   a. Per foot does not exceed 3,456 cubic inches per foot of length.
   b. Per foot cross sectional area does not exceed 288 square inches.

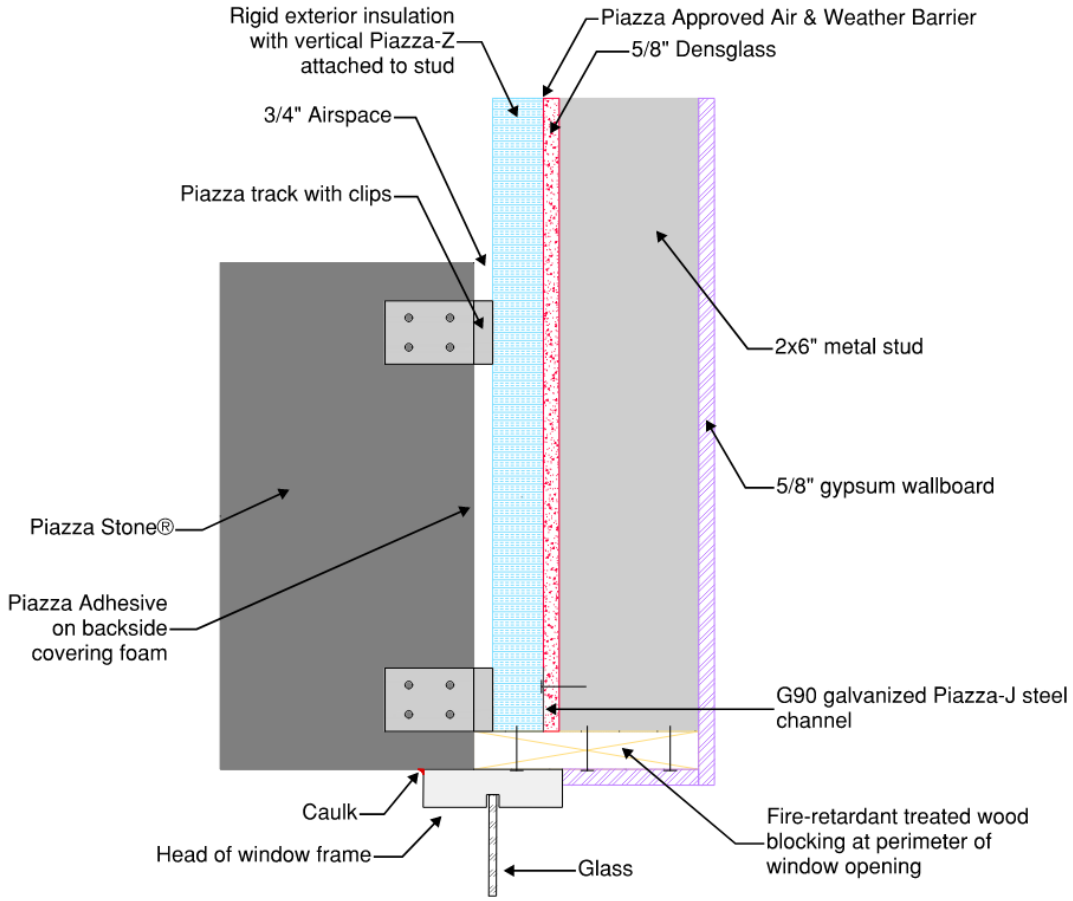

Figure 3. Window Header/Perimeter Detail for NFPA 285 Compliance

5.11 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.

6 Installation

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

6.2 In the event of a conflict between the manufacturer installation instructions and this TER, the more restrictive shall govern.

6.3 *General*

6.3.1 Piazza Stone® shall be installed with the Piazza Stone® Installation System in accordance with the engineered design, manufacturer product data, and approved shop drawings. In the event of a conflict between the manufacturer installation instructions and this TER, the more restrictive shall govern.

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

6.3.3 Piazza Stone® shall be installed over substrates of concrete, masonry, or cold-formed steel studs.

6.3.4 Substrates shall be flat within 1/4" in 4' 0" and deviations shall be corrected before beginning installation.

6.3.5 Installation shall be performed by an applicator certified by the manufacturer.

6.3.6 Installation is subject to conditions of use set forth in Section 9 of this TER.

6.4 *NFPA 285-Compliant Installation Method*

6.4.1 The wall assembly shall comply with the vertical and lateral fire propagation requirements of Section 5.10.

6.4.2 The exposed EPS on the backside of the units shall be completely covered and sealed using Piazza Adhesive, as shown in Figure 2. The Piazza Adhesive shall be a continuous 1/4" thick coat and shall be applied using a trowel.

6.4.3 The adhesive should be allowed to set for six to eight hours after applying to the Piazza Stone® units.

6.4.4 Piazza Track System is attached to the substrate, and then Piazza Stone® units shall be positioned and mechanically attached to the clips according to the approved shop drawings.

6.4.5 *Fasteners*

6.4.5.1 Fasteners for attaching the Piazza Stone® clips to the Piazza Stone® units shall be cadmium coated Hilti Kwik Con II 3/16" or 1/4" diameter x 1 1/4" length anchors, or equal. Longer fasteners are allowed.

6.4.5.2 All fasteners must meet ASTM B117 – 1000 Hour Salt Spray.

6.4.5.3 All fasteners must be in accordance with manufacturer product data and approved shop drawings.

6.4.6 Maintain a 3/8" to 1" joint spacing between units.

6.4.7 Caulk joints using Pecora 890FTS-TXTR or equivalent.

6.5 *Adhesion Installation Method*

6.5.1 Substrate surfaces shall be clean, dry, structurally sound, and free of paint, efflorescence, grease, oil, form release agents, and curing compounds.

6.5.2 Piazza Adhesive shall be mixed according to manufacturer instructions.

6.5.3 Piazza Adhesive shall be applied directly to the Piazza Stone® units, not the substrate.

6.5.4 Use ribbon and dab method. Apply mixed Piazza Adhesive in a ribbon of approximately 2" wide by 3/8" thick to entire perimeter of Piazza Stone® unit using a trowel. Apply dabs of 3/8" to 5/8" thickness by 4" in diameter approximately 8" o.c., both vertically and horizontally, over entire Piazza Stone® unit.

6.5.5 Units shall be immediately placed on the substrate.

6.5.6 The Piazza Stone® units shall be allowed to set for six to eight hours after applying adhesive.

6.5.7 Maintain a 3/8" to 1" joint spacing between units.

6.5.8 Caulk joints using Pecora 890FTS-TXTR or equivalent.

6.6 *Mechanical Installation Method where NFPA 285 Compliance is not required*

6.6.1 The exposed EPS on the backside of the units does not need to be covered and sealed using Piazza Adhesive, as shown in Figure 1.

6.6.2 Method 1: Piazza Track System is attached to the substrate, and then Piazza Stone® units shall be positioned and mechanically attached to the clips according to the approved shop drawings.

6.6.3 Method 2: PZ Connectors are attached to the substrate, and then Piazza Stone® units shall be positioned and mechanically attached according to the approved shop drawings.

6.6.4 *Fasteners*

6.6.4.1 Fasteners for attaching the Piazza Stone® clips to the Piazza Stone® units shall be cadmium coated Hilti Kwik Con II 3/16" or 1/4" diameter x 1 1/4" length anchors, or equal. Longer fasteners are allowed.

6.6.4.2 All fasteners must meet ASTM B117 – 1000 Hour Salt Spray.

6.6.4.3 All fasteners must be in accordance with manufacturer product data and approved shop drawings.

6.6.5 Maintain a 3/8" to 1" joint spacing between units.

6.6.6 Caulk joints using Pecora 890FTS-TXTR or equivalent.

6.6.7 A standard mechanical installation example without rigid insulation is shown in Figure 4.

6.6.8 To meet energy code requirements, Piazza-Z can be used vertically with rigid insulation.

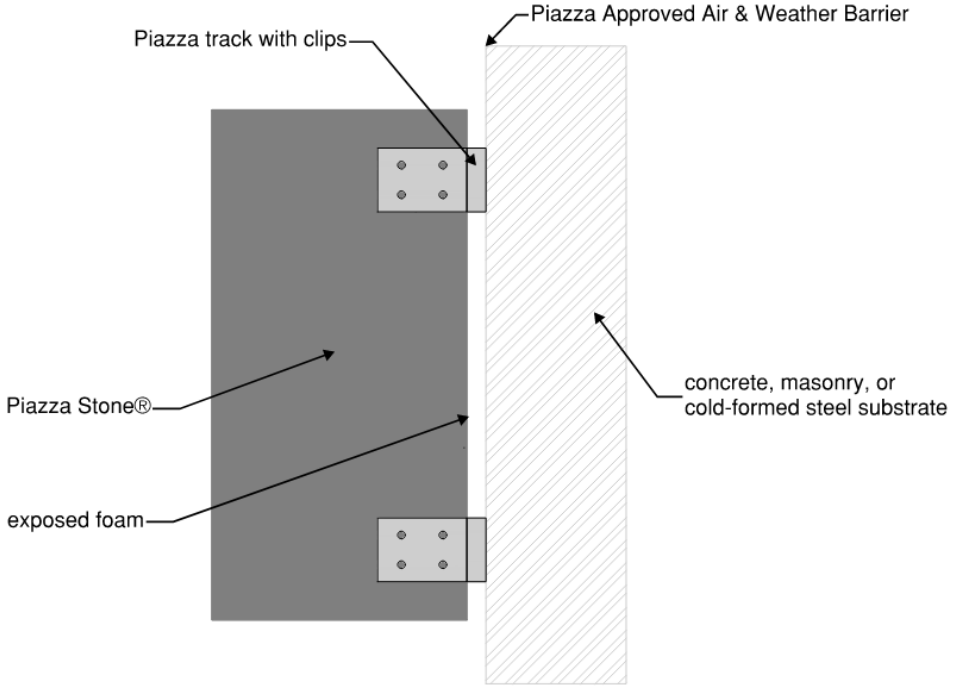

Figure 4. Example of Mechanical Attachment of Piazza Stone® to Substrate

7 Substantiating Data

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

7.1.1 Compressive strength in accordance with ASTM C1194 per ASTM C1364,

7.1.2 Water absorption in accordance with ASTM C1195 per ASTM C1364,

7.1.3 Air content in accordance with ASTM C231 per ASTM C1364,

7.1.4 Freezing and thawing resistance in accordance with ASTM C666 per ASTM C1364,

7.1.5 Linear shrinkage in accordance with ASTM C426 per ASTM C1364,

7.1.6 Thermal expansion in accordance with ASTM E831,

7.1.7 Surface burning characteristics in accordance with ASTM E84,

7.1.8 Exterior wall fire testing in accordance with NFPA 285,

7.1.9 Engineering analysis assessing the substitution of products within the approved NFPA 285, and

7.1.10 Tensile and shear strength of post-installed anchors in accordance with ASTM E488.

7.2 Information contained herein may include the result of testing and/or data analysis by sources that are approved agencies (i.e., ANAB accredited agencies), approved sources (i.e., registered design professionals [RDP]), and/or professional engineering regulations. Accuracy of external test data and resulting analysis is relied upon.

7.3 Where pertinent, DrJ's analysis is based upon provisions that have been codified into law through state or local adoption of codes and standards. The developers of these codes and standards are responsible for the reliability of published content. DrJ's engineering practice may use a code-adopted provision as the control sample. A control sample versus a test sample establishes a product as being equivalent to the code-adopted provision in terms of quality, strength, effectiveness, fire resistance, durability, and safety.

7.4 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, Listings, certified reports, duly authenticated reports from approved agencies, and research reports prepared by approved agencies and/or approved sources provided by the suppliers of any raw materials. These are presumed to be minimum properties and relied upon to be accurate. The reliability of DrJ's engineering practice, as contained in this TER, may be dependent upon published design properties by others.

7.5 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.[8]

8 Findings

8.1 As delineated in Section 3, Piazza Stone® has performance characteristics that were tested and/or meet pertinent standards and is suitable for use pursuant to its specified purpose.

8.2 When used and installed in accordance with this TER and the manufacturer installation instructions, Piazza Stone® shall be approved for the following applications:

8.2.1 Use as an exterior wall covering in accordance with IBC Section 1404[9] and IRC Section R703 when attached to the wall using the Piazza Stone® Installation System.

8.2.2 Use an interior wall and ceiling finish material in accordance with IBC Section 803 and Section 2603.4.1.1 when attached to the wall using the Piazza Stone® Installation System.

8.2.3 Use as a masonry construction material in accordance with IBC Section 2103.1 and IRC Section R606.2.

8.2.4 Use in buildings of Type I-V in accordance with IBC Chapter 6.

8.2.5 Use as a part of an NFPA 285 wall assembly in accordance with IBC Section 1402.5[10] and Section 2603.5.5.

8.3 This product has been evaluated in the context of the codes listed in Section 2 and is compliant with all known state and local building codes. Where there are known variations in state or local codes applicable to this TER, they are listed here.

8.3.1 No known variations

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

8.5 IBC Section 104.11 (IRC Section R104.11 and IFC Section 104.10[11] are similar) 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.

[8] See Code of Federal Regulations (CFR) Title 24 Subtitle B Chapter XX Part 3280 for definition.

[9] 2015 IBC Section 1405

[10] 2015 IBC Section 1403.5

[11] 2018 IFC Section 104.9

8.6 Approved:[12] Building codes require that the building official shall accept duly authenticated reports[13] or research reports[14] from approved agencies and/or approved sources (i.e., licensed RDP) with respect to the quality and manner of use of new products, materials, designs, services, assemblies, or methods of construction.

8.6.1 Acceptability of an approved agency, by a building official, is performed by verifying that the agency is accredited by a recognized accreditation body of the International Accreditation Forum (IAF).

8.6.2 Acceptability of a licensed RDP, by a building official, is performed by verifying that the RDP and/or their business entity is listed by the licensing board of the relevant jurisdiction.

8.6.3 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, as denial without written reason deprives a protected right to free and fair competition in the marketplace.

8.7 DrJ is an engineering company, employs RDPs, and is an ISO/IEC 17065 ANAB-Accredited Product Certification Body – Accreditation #1131.

8.8 Through ANAB accreditation and the IAF Multilateral Agreements, this TER can be used to obtain product approval in any jurisdiction or country that has IAF MLA Members and Signatories to meet the Purpose of the MLA – "*certified once, accepted everywhere*."

9 Conditions of Use

9.1 Material properties shall not fall outside the boundaries defined in Section 3.

9.2 As defined in Section 3, 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.

9.3 Installation shall be on exterior or interior walls with a substrate of concrete, masonry, or cold-formed steel studs capable of supporting the imposed loads, as determined by architect or engineer of record.

9.4 Connection of Piazza Stone® elements to substrate requires an engineered design. Refer to manufacturer approved shop drawings.

9.5 For interior applications, the foam must be covered with a minimum of 1" Piazza Stone® limestone composite shell on all exposed sides in accordance with IBC Section 2603.4.1.1.

9.6 When required by regulation and enforced by the building official, also known as the authority having jurisdiction (AHJ) in which the project is to be constructed:

9.6.1 Any calculations, incorporated into the construction documents that are required to show compliance with this TER, shall conform to accepted engineering practice, and shall be approved when requirements of the pertinent regulations are met.

9.6.2 This TER and the installation instructions shall be submitted at the time of permit application.

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

9.6.4 At a minimum, this product shall be installed per Section 6 of this TER.

9.6.5 The review of this TER, by the AHJ, shall be in compliance with IBC Section 104 and Section 105.4.

[12] 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.

[13] https://up.codes/viewer/wyoming/ibc-2021/chapter/17/special-inspections-and-tests#1707.1

[14] https://up.codes/viewer/wyoming/ibc-2021/chapter/17/special-inspections-and-tests#1703.4.2

9.6.6 This product has an internal quality control program and a third party quality assurance program in accordance with IBC Section 104.4, Section 110.4, and Section 1703, and IRC Section R104.4 and Section R109.2.

9.6.7 The application of this product in the context of this TER 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.

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

9.8 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.

10 Identification

10.1 The product listed in Section 1.1 is identified by a label on the board or packaging material bearing the manufacturer name, product name, TER number, and other information to confirm code compliance.

10.2 Additional technical information can be found at piazzastone.com.

11 Review Schedule

11.1 This TER is subject to periodic review and revision. For the most recent version, visit drjcertification.org.

11.2 For information on the current status of this TER, contact DrJ Certification.

12 Approved for Use Pursuant to US and International Legislation Defined in Appendix A

12.1 Piazza Stone® is included in this TER 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, and whose TER Listing states either that the material, product, or service meets identified standards or has been tested and found suitable for a specified purpose. This TER meets the legislative intent and definition of being acceptable to the AHJ.

1 Appendix A: Legislation that Authorizes AHJ Approval

1.1 **Fair Competition**: State legislatures 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, and

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 Piazza Stone® 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 Federal Department of Justice 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 Title 18 US Code Section 242 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 stating the reasons why the alternative was not approved, with reference to the specific legislation violated.

1.2.3 The federal government and each state have a public records act. In addition, each state also has legislation that mimics the federal Defend Trade Secrets Act 2016 (DTSA).

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 new materials[15] that are not specifically provided for in any building code, the design strengths and permissible stresses shall be established by tests, where suitable load tests simulate the actual loads and conditions of application that occur.

1.2.5 The design strengths and permissible stresses of any structural material shall conform to the specifications and methods of design using accepted engineering practice.[16]

1.3 Approved[17] 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 Division 35, Article 1, Chapter IX 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, which apply. Whenever tests or certificates of any material or fabricated assembly are required by Chapter IX of the LAMC, such tests or certification shall be made by a testing agency 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.[18] The Superintendent of Building roster of approved testing agencies is provided by the Los Angeles Department of Building and Safety (LADBS). The Center for Building Innovation (CBI) Certificate of Approval License is TA24945. Tests and certifications found in a CBI Listing are LAMC approved. In addition, the Superintendent of Building 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 the California Building Code (CBC) Section 1707.1.[19]

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[15] https://up.codes/viewer/wyoming/ibc-2021/chapter/17/special-inspections-and-tests#1706.2

[16] IBC 2021, Section 1706.1 Conformance to Standards

[17] See section 8.3 for the distilled building code definition of Approved.

[18] Los Angeles Municipal Code, SEC. 98.0503. TESTING AGENCIES

[19] https://up.codes/viewer/california/ca-building-code-2022/chapter/17/special-inspections-and-tests#1707.1

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 NYC Building Code 2022 (NYCBC) states in pertinent part that an approved agency shall be deemed[20] an approved testing agency via ISO/IEC 17025 accreditation, an approved inspection agency via ISO/IEC 17020 accreditation, and an approved product evaluation agency via ISO/IEC 17065 accreditation. 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 agreement[21] (i.e., ANAB, International Accreditation Forum (IAF), etc.).

1.6 Approved by Florida: Statewide approval of products, methods, or systems of construction shall be approved, without further evaluation, by 1) A certification mark or listing of an approved certification agency, 2) A test report from an approved testing laboratory, 3) A product evaluation report based upon testing or comparative or rational analysis, or a combination thereof, from an approved product evaluation entity; 4) A product evaluation report based upon testing or comparative or rational analysis, or a combination thereof, developed and signed and sealed by a professional engineer or architect, licensed in Florida. 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) A certification mark, listing, or label from a commission-approved certification agency indicating that the product complies with the code; 2) A test report from a commission-approved testing laboratory indicating that the product tested complies with the code; 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; 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; 5) A statewide product approval issued by the Florida Building Commission. The Florida Department of Business and Professional Regulation (DBPR) website provides a listing of companies certified as a Product Evaluation Agency (i.e., EVLMiami 13692), a Product Certification Agency (i.e., CER10642), and as a Florida Registered Engineer (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 553.842 and 553.8425.

[20] New York City, The Rules of the City of New York, § 101-07 Approved Agencies

[21] New York City, The Rules of the City of New York, § 101-07 Approved Agencies

1.8 Approved by New Jersey: Pursuant to Building Code 2018 of New Jersey in IBC Section 1707.1 General,[22] it states: “In the absence of approved rules or other approved standards, 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 the administrative provisions of the Uniform Construction Code (N.J.A.C. 5:23)”.[23] Furthermore N.J.A.C 5:23-3.7 states: Municipal approvals of alternative materials, equipment, or methods of construction. (a) 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. 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 (a) above. 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 (a) above. The New Jersey Department of Community Affairs has confirmed that technical evaluation reports, from any accredited entity listed by ANAB, meets the requirements of item 2 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, Part 3282.14[24] and Part 3280,[25] the Department encourages innovation and the use of new technology in manufactured homes. The design and construction of a manufactured home shall conform with the provisions of Part 3282 and Part 3280 where key approval provisions in mandatory language follow: 1) “All construction methods shall be in conformance with accepted engineering practices”; 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.”; and 3) “The design stresses of all materials shall conform to accepted engineering practice.”

1.10 Approved by US, Local, and State Jurisdictions in General: In all other local and state jurisdictions, the regulations require approval per Sections 8.3, 8.4, and 8.5 above.

1.11 Approved by International Jurisdictions: The USMCA and GATT agreements provide for approval of innovative materials, products, designs, services, assemblies and/or methods of construction through the Technical Barriers to Trade agreements and the International Accreditation Forum (IAF) Multilateral Recognition Arrangement (MLA), where these agreements:

1.11.1 Permit participation of conformity assessment bodies located in the territories of other Members (defined as GATT Countries) under conditions no less favourable than those accorded to bodies located within their territory or the territory of any other country,

1.11.2 State that conformity assessment procedures (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.

1.11.3 State that conformity assessment procedures are not prepared, adopted, or applied with a view to or with the effect of creating unnecessary obstacles to international trade. This means that conformity assessment procedures shall not be more strict or be applied more strictly than is necessary to give the importing Member adequate confidence that products conform to the applicable technical regulations or standards.

[22] https://up.codes/viewer/new_jersey/ibc-2018/chapter/17/special-inspections-and-tests#1707.1

[23] https://www.nj.gov/dca/divisions/codes/codreg/ucc.html

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

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

1.11.4 **Approved**: The purpose of the IAF MLA 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, products, designs, services, assemblies and/or methods of construction. Accreditations granted by IAF MLA signatories are recognised worldwide based on their equivalent accreditation programs, therefore reducing costs and adding value to businesses and consumers.

Issue Date: December 3, 2020

Subject to Renewal: January 1, 2026

FBC Supplement to TER 1909-03

REPORT HOLDER: Piazza Stone, LLC

1 Evaluation Subject

1.1 Piazza Stone®

2 Purpose and Scope

2.1 Purpose

2.1.1 The purpose of this Technical Evaluation Report (TER) supplement is to show Piazza Stone®, recognized in TER 1909-03, has also been evaluated for compliance with the codes listed below as adopted by the Florida Building Commission.

2.2 *Applicable Code Editions*

2.2.1 *FBC-B—20, 23: Florida Building Code – Building (FL 35386)*

2.2.2 *FBC-R—20, 23: Florida Building Code – Residential (FL 35386)*

3 Conclusions

3.1 Piazza Stone®, described in TER 1909-03, complies with the FBC-B and FBC-R and is subject to the conditions of use described in this supplement.

3.2 Where there are variations between the IBC and IRC and the FBC-B and FBC-R applicable to this TER, they are listed here:

3.2.1 FBC-B Section 104.4 and Section 110.4 are reserved.

3.2.2 FBC-R Section R104 and Section R109 are reserved.

3.2.3 FBC-B Chapter 6 replaces IBC Chapter 6.

3.2.4 FBC-B Section 1405 replaces IBC Section 1404.

3.2.5 FBC-B Section 2103.1 replaces IBC Section 2103.1.

3.2.6 FBC-B Section 2603.3 replaces IBC Section 2603.3

3.2.7 FBC-R Section R703 replaces IRC Section R703

3.2.8 FBC-R Section 1403.2 replaces IRC Section 1402.5

4 Conditions of Use

4.1 Piazza Stone®, described in TER 1909-03, must comply with all of the following conditions:

4.1.1 All applicable sections in TER 1909-03.

4.1.2 The design, installation, and inspections are in accordance with additional requirements of FBC-B Chapter 16 and Chapter 17, as applicable.