



# Listing and Technical Evaluation Report™

A Duly Authenticated Report from an Approved Agency

**Report No: 2312-08** 



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# Vitraplate<sup>®</sup>

# Trade Secret Report Holder: Fairview Architectural

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## **CSI Designations:**

DIVISION: 07 00 00 - THERMAL AND MOISTURE PROTECTION Section

Section: 07 42 00 - Wall Panels

#### 1 Innovative Product Evaluated<sup>1</sup>

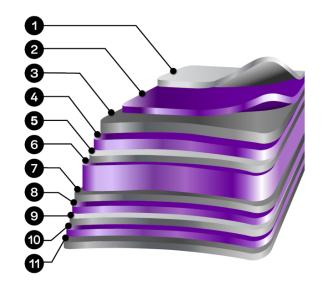
1.1 Vitraplate Cladding Panel

#### 2 Product Description and Materials

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

# **Product Composition**

- 1 Protective Film
- 2 Clear Coating (Depending on finish)
- 3 PVDF Colored Coating
- 4 Primer Coating
- 5 Chromate Conversion Coating
- 6 3mm Aluminum
- 7 Chromate Conversion Coating
- 8 Primer Coating
- 9 PE Backer or PVDF Colored Coating (Optional)
- 10 Clear Coating (Depending on finish)
- 11 Protective Film (Optional)



The material is rigid, resistant to blows, breakage and pressure, and has high bending, buckling and breaking strengths.

Figure 1. Typical Composition of Vitraplate Cladding Panel









- 2.2 Vitraplate is a solid aluminum cladding panel prefinished in a coil-coated process with Vitranar<sup>®</sup> coating system.
  - 2.2.1 If desired, panels can be perforated after coating for aesthetic reasons.
- 2.3 Vitraplate is nominally 1/8" thick and has a weight of approximately 1.8 lb/ft<sup>2</sup>.
  - 2.3.1 Standard Width:
    - 2.3.1.1 48" (1,016 mm)
    - 2.3.1.2 60" (1,524 mm)
    - 2.3.1.3 62" (1,575 mm)
  - 2.3.2 Standard Length:
    - 2.3.2.1 122" (3,099 mm)
    - 2.3.2.2 146" (3,708 mm)
    - 2.3.2.3 196" (4,978 mm)
  - 2.3.3 Custom sizes are available upon request in sizes from 100" (2,540 mm) to 240" (6,096 mm).
- 2.4 See fairview-na.com/finishes for available Vitraplate finishes.
- 2.5 Vitraplate panels are installed using the Arrowhead® Panel System.
  - 2.5.1 Arrowhead Architectural Panel System is outside the scope of this report. For information regarding the Arrowhead Fastening System, see Report Number 2006-02.
- 2.6 As needed, review material properties for design in **Section 6** and the regulatory evaluation in **Section 8**.

#### 3 Definitions<sup>2</sup>

- 3.1 New Materials<sup>3</sup> 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.<sup>4</sup> The design strength and permissible stresses shall be established by tests<sup>5</sup> and/or engineering analysis.<sup>6</sup>
- 3.2 <u>Duly authenticated reports</u><sup>7</sup> and <u>research reports</u><sup>8</sup> are test reports and related engineering evaluations that are written by an <u>approved agency</u><sup>9</sup> and/or an <u>approved source</u>. <sup>10</sup>
  - 3.2.1 These reports utilize intellectual property and/or trade secrets to create public domain material properties for commercial end-use.
    - 3.2.1.1 This report protects confidential Intellectual Property and trade secretes under the regulation, 18.US.Code.90, also known as Defend Trade Secrets Act of 2016 (DTSA).<sup>11</sup>
- 3.3 An approved agency is "approved" when it is <u>ANAB ISO/IEC 17065 accredited</u>. DrJ Engineering, LLC (DrJ) is accredited and listed in the ANAB directory.
- 3.4 An <u>approved source</u> is "approved" when a professional engineer (i.e., <u>Registered Design Professional</u>, hereinafter <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.<sup>12</sup>
- 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 ANAB 13 ISO/IEC 17025 and ISO/IEC 17020 accredited.
- 3.6 The regulatory authority shall <u>enforce</u><sup>14</sup> 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><sup>15</sup> 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 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.<sup>16</sup>









- 3.8 ANAB is an International Accreditation Forum (IAF) Multilateral Recognition Arrangement (MLA) signatory. Therefore, recognition of certificates and validation statements issued by conformity assessment bodies accredited by all other signatories of the IAF MLA with the appropriate scope shall be approved. 17 Thus, all ANAB ISO/IEC 17065 duly authenticated reports are approval equivalent, 18 and can be used in any country that is an MLA signatory found at this link: <a href="https://iaf.nu/en/recognised-abs/">https://iaf.nu/en/recognised-abs/</a>
- 3.9 Approval equity is a fundamental commercial and legal principle. 19

### 4 Applicable Local, State, and Federal Approvals; Standards; Regulations<sup>20</sup>

- 4.1 Local, State, and Federal
  - 4.1.1 Approved in all local jurisdictions pursuant to ISO/IEC 17065 <u>duly authenticated report</u> use, which includes, but is not limited to, the following featured local jurisdictions: Austin, Baltimore, Broward County, Chicago, Clark County, Dade County, Dallas, Detroit, Denver, DuPage County, Fort Worth, Houston, Kansas City, King County, Knoxville, Las Vegas, Los Angeles City, Los Angeles County, Miami, Nashville, New York City, Omaha, Philadelphia, Phoenix, Portland, San Antonio, San Diego, San Jose, San Francisco, Seattle, Sioux Falls, South Holland, Texas Department of Insurance, and Wichita.<sup>21</sup>
  - 4.1.2 Approved in all state jurisdictions pursuant to ISO/IEC 17065 <u>duly authenticated report</u> use, which includes, but is not limited to, the following featured states: California, Florida, New Jersey, Oregon, New York, Texas, Washington, and Wisconsin.<sup>22</sup>
  - 4.1.3 Approved by the Code of Federal Regulations Manufactured Home Construction: Pursuant to Title 24, Subtitle B, Chapter XX, Part 3282.14<sup>23</sup> and Part 3280<sup>24</sup> pursuant to the use of ISO/IEC 17065 duly authenticated reports.
  - 4.1.4 Approved means complying with the requirements of local, state, or federal legislation.

#### 4.2 Standards

- 4.2.1 AAMA 501.1: Water Penetration of Windows, Curtain Walls and Doors Using Dynamic Pressure
- 4.2.2 AAMA 508: Voluntary Test Method and Specification for Pressure Equalized Rainscreen Wall Cladding Systems
- 4.2.3 AAMA 509: Voluntary Test and Classification Method for Drained and Back Ventilated Rainscreen Wall Cladding Systems
- 4.2.4 AAMA 2605: Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix)
- 4.2.5 ASCE/SEI 7: Minimum Design Loads and Associated Criteria for Buildings and Other Structures
- 4.2.6 ASTM E84: Standard Test Method for Surface Burning Characteristics of Building Materials
- 4.2.7 ASTM E283: Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Skylights, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen
- 4.2.8 ASTM E330: Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference
- 4.2.9 ASTM E331: Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
- 4.2.10 ASTM E1233: Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights, and Curtain Walls by Cyclic Air Pressure Differential
- 4.2.11 TAS 201: Impact Test Procedures
- 4.2.12 TAS 202: Criteria for Testing Impact and Nonimpact Resistance Building Envelope Components Using Uniform Static Air Pressure
- 4.2.13 TAS 203: Criteria for Testing Products Subject to Cyclic Wind Pressure Loading









#### 4.3 Regulations

- 4.3.1 IBC 18, 21, 24: International Building Code®
- 4.3.2 IRC 18, 21, 24: International Residential Code®
- 4.3.3 FBC-B—20, 23: Florida Building Code<sup>25</sup> Building (FL 46016)
- 4.3.4 FBC-R—20, 23: Florida Building Code<sup>25</sup> Residential (FL 46016)

#### 5 Listed<sup>26</sup>

5.1 Equipment, materials, products, or services included in a List published by a <u>nationally recognized testing 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(s) 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 General
  - 6.1.1 Vitraplate cladding panels are used as exterior wall coverings in accordance with IBC Section 1406.
  - 6.1.2 Vitraplate cladding panels are installed over wood-framed, steel-framed, masonry, or concrete walls capable of supporting the imposed loads in accordance with IBC Section 1609.
- 6.2 Structural Design
  - 6.2.1 Walls incorporating Vitraplate cladding panels shall be designed to resist wind loads per <u>IBC Chapter 16</u> and ASCE 7 Chapter 30.
  - 6.2.2 Vitraplate panels are capable of resisting the loads shown in **Table 1**.

Table 1. Allowable Wind Load Resistance and Wind Speed<sup>1</sup>

Product <sup>2</sup>	Allowable Wind Pressure psf (kN/m²)	Components and Cladding Basic Wind Speed <sup>3,4</sup> (V <sub>ult</sub> ), mph (km/h)	
		ASCE 7-16	ASCE 7-22
Vitraplate	50 (2.4)	185 (298)	190 (306)

SI: 1 in = 25.4 mm, 1 psf = 0.0479 kN/m<sup>2</sup>, 1 mph = 1.61 km/h

- 1. Tested in accordance with ASTM E330.
- 2. Panels tested were 3' 111/16" square.
- 3. Allowable wind speeds are based on the following: Enclosed building, Mean roof height 30', Exposure B, Zone 5, 10 sq. ft. effective wind area in accordance with ASCE 7-10. ASCE 7-16, and ASCE 7-22.
- 4. Allowable stress design (ASD) wind speed shall be determined in accordance with IBC Section 1609.3.1:  $V_{asd} = V_{ult} \sqrt{0.6}$ .

#### 6.3 High Velocity Hurricane Zone (HVHZ) – Wind and Impact Resistance

- 6.3.1 Vitraplate cladding panels were evaluated in accordance with TAS 201 and meet the missile impact test criteria for wind-borne debris in HVHZ in accordance with FBC-B Section 1626.
  - 6.3.1.1 Vitraplate cladding panels can resist the impact of the 9 lb. (40 N) missile propelled at 50 ft/s (15.2 m/s) without penetration, rupture, or opening of the panel.
- 6.3.2 Vitraplate cladding panels were evaluated in accordance with TAS 202 and meet the uniform static air pressure criteria for HVHZ in accordance with <u>FBC-B Section 1620</u>.
  - 6.3.2.1 Vitraplate cladding panels can resist a static positive design pressure of +100 psf and a negative design pressure of -150 psf.









- 6.3.3 Vitraplate cladding panels were evaluated in accordance with TAS 203 and can meet the fatigue load test criteria for HVHZ in accordance with <u>FBC-B Section 1625</u>.
  - 6.3.3.1 Vitraplate cladding panels can resist cyclic loading per the <u>FBC-B Table 1625.4</u> for a design load (pmax) of +100/-150 psf.

#### 6.4 Weather Resistance

6.4.1 Vitraplate wall assemblies installed via the Arrowhead Flex System were evaluated in accordance with AAMA 508 and AAMA 509. The results are shown in **Table 2** and **Table 3**.

Table 2. AAMA 508 Evaluation of Vitraplate Panels Installed via Arrowhead System

Property	Test Method	Assessment
Air Leakage	ASTM E283	Pass
Pressure Cycling - Panel Fatigue	ASTM E1233	Pass
Static Water Penetration	ASTM E331	Pass
Dynamic Water Penetration	AAMA 501.1	Pass

Table 3. AAMA 509 Evaluation of Vitraplate Panels Installed via Arrowhead System

Property	Test Method	Classification	
Air Leakage <sup>1</sup>	ASTM E283	Ventilation: V3	
Static Water Penetration	ASTM E331	Water Denetration, W4	
Dynamic Water Penetration	AAMA 501.1	Water Penetration: W1	

<sup>1.</sup> Tested in accordance with ASTM E283. Airflow readings were taken at the following: head, jamb, sill, intermediate vertical, and intermediate horizontal at 26 Pa (0.55 psf). Values shown are the sum of the airflow across the cladding elements divided by the total area of the wall assembly.









6.4.2 Durability of the Vitranar coating of Vitraplate was evaluated in accordance with AAMA 2605. Results are provided in **Table 4**.

Table 4. AAMA 2605 Evaluation of Vitranar Coating

Property		Test Method	Assessment
Dry Film Hardness		ASTM D3363	Pass
Film Adhesion		ASTM D3359	Pass
Impact Resistance		ASTM D2794	Pass
Salt Spray		ASTM B117	Pass
Water Resistance		ASTM D2247	Pass
Exterior Exposure- 10 years		ASTM D2244	Pass
Blistering	Humidity	ASTM D714	Pass
	Alkali	ASTM D1308	Pass
Weathering	Chalk	ASTM D4214	Pass
	Gloss Retention	ASTM D523	Pass
Bend Test		ASTM 4145	Pass

- 6.4.3 Vitraplate may be used in exterior cladding assemblies in accordance with <u>IBC Section 1402.2</u>, where a Water-Resistive Barrier (WRB) is properly installed behind the Vitraplate per IBC Section 1403.2.
- 6.4.4 The exterior wall envelope shall be flashed per <u>IBC Section 1404.4</u> prior to the installation of Vitraplate using the Arrowhead Panel System.
- 6.5 Fire-Resistance
  - 6.5.1 Use of Vitraplate as part of a fire-rated wall assembly is outside the scope of this evaluation.
- 6.6 Surface Burning Characteristics
  - Vitraplate was evaluated for surface burning characteristics in accordance with ASTM E84 as specified in <u>IBC Section 1406.9</u> and <u>IBC Section 1406.10.1</u>.
  - 6.6.2 The flame spread and smoke developed indexes of Vitraplate are provided in **Table 5**.

Table 5. Surface Burning Characteristics<sup>1</sup>

Product	Flame Spread	Smoke Developed	Classification	
Vitraplate	≤ 25	≤ 450	Class A	
Tested in accordance with ASTM E84				

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 Performance<sup>27</sup>

- 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.<sup>28</sup>
- 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.<sup>29</sup>

#### 8 Regulatory Evaluation and Accepted Engineering Practice

- 8.1 Vitraplate complies with the following legislatively adopted regulations and/or accepted engineering practice for the following reasons:
  - 8.1.1 Vitraplate was evaluated to determine the following properties for use as an exterior wall covering in accordance with <u>IBC Section 1406</u> for Types I-IV construction:
    - 8.1.1.1 Structural design in accordance with <u>IBC Section 1402.3</u> and <u>IBC Section 1406.4</u>
    - 8.1.1.2 Weather resistance in accordance with IBC Section 1402.2 and IBC Section 1406.6
    - 8.1.1.3 Durability in accordance with <u>IBC Section 1406.7</u>
    - 8.1.1.4 Thermal barrier requirement in accordance with IBC Section 1406.10.2
    - 8.1.1.5 Surface burning characteristics in accordance with <u>IBC Section 1406.9</u> and <u>IBC Section 1406.10.1</u>
  - 8.1.2 Use in High Velocity Hurricane Zone (HVHZ) in accordance with the <u>FBC-B Section 1620</u>, <u>FBC-B Section 1</u>
- 8.2 Any building code, regulation and/or accepted engineering evaluations (i.e., research reports, duly authenticated reports, etc.) that are conducted for this Listing were performed by DrJ, which is an ISO/IEC 17065 accredited certification body and a professional engineering company operated by RDP or approved sources. DrJ is qualified<sup>30</sup> to practice product and regulatory compliance services within its scope of accreditation and engineering expertise, 31 respectively.
- 8.3 Engineering evaluations are conducted with DrJ's ANAB <u>accredited ICS code scope</u> of expertise, which is also its areas of professional engineering competence.
- 8.4 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, contact the manufacturer for counsel on the proper installation method.
- 9.3 Installation Procedure
  - 9.3.1 According to the manufacturer installation instructions, Vitraplate cladding panels must be installed using the Arrowhead Panel System.
  - 9.3.2 Component parts observed to be defective in any way, including warped, bowed, dented, abraded, and broken members, must not be installed. Members or parts that have been damaged during installation or thereafter, before substantial completion of the project, shall be removed and replaced.
  - 9.3.3 No cutting, trimming, welding, or brazing of components, which could in any way damage the finish, decrease the strength, or result in visual imperfections or failure in performance shall be executed during installation.









- 9.3.4 Components that require alteration shall be returned to the fabricator. If necessary, replace with new components.
- 9.3.5 Tolerances:
  - 9.3.5.1 All components shall be installed visually flat, level, and true to line with uniform joints and reveals.
  - 9.3.5.2 Maximum deviation for vertical members is  $\frac{1}{8}$ " over 18' and  $\frac{1}{4}$ " over 40'.
  - 9.3.5.3 Maximum deviation for horizontal members is <sup>1</sup>/<sub>8</sub>" over 30'.
- 9.3.6 Anchorage of the cladding substructure to the building structure shall be by approved methods in strict accordance with the specified and approved shop and/or installation drawings. Supporting brackets shall be designed to provide three-dimensional adjustments and accurate location of wall components.
- 9.3.7 All joints between panels shall be set at widths as shown on the drawings with tolerance of  $\pm ^{1}/_{16}$ ". No two adjacent or perpendicular joints shall have a difference in width of more than  $^{1}/_{8}$ ". In addition, the tolerance between adjacent panels across any joint shall not exceed  $^{1}/_{16}$ " locally.
- 9.3.8 Repairs:
  - 9.3.8.1 Repair panels with minor damage so those repairs are not discernable at a distance of 120" (10 ft. or 3.1 m).
  - 9.3.8.2 Remove and replace panels damaged beyond repair per panel system replacement instructions.
  - 9.3.8.3 Remove protective film immediately after installation of panels to avoid prolonged exposure to sunlight.
  - 9.3.8.4 Remove from Project Site:
    - 9.3.8.4.1 Damaged panels, protective film, and other debris attributable to work of this section.

#### 9.3.9 Protection:

- 9.3.9.1 Final Cleaning:
  - 9.3.9.1.1 When installation is complete, remove extraneous matter and marks off the façade components in a manner that leaves the completed installation free of any streaking, spotting, or non-uniform appearance.
- 9.3.9.2 Protection:
  - 9.3.9.2.1 Protect as necessary and leave the finished work undamaged on completion.
  - 9.3.9.2.2 Panels shall be stored in well-ventilated space and out of direct sunlight.

#### 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 Wind load resistance testing in accordance with ASTM E330
  - 10.1.2 Wind and impact testing for use in a HVHZ in accordance with TAS 201, TAS 202, and TAS 203
  - 10.1.3 Weather resistance testing in accordance with AAMA 508 and AAMA 509
  - 10.1.4 Durability testing in accordance with AAMA 2605
  - 10.1.5 Surface burning characteristics testing in accordance with ASTM E84
- 10.2 Information contained herein may include the result of testing and/or data analysis by sources that are approved agencies, approved sources, and/or an RDP. Accuracy of external test data and resulting analysis is relied upon.









- 10.3 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 <a href="mailto:being equivalent">being equivalent</a> to the regulatory provision in terms of quality, <a href="mailto:strength">strength</a>, effectiveness, <a href="mailto:fire resistance">fire resistance</a>, durability, and safety.
- 10.4 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, or <u>duly authenticated reports</u> from <u>approved 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 authenticated report</u>, may be dependent upon published design properties by others.
- 10.5 Testing and Engineering Analysis
  - 10.5.1 The strength, rigidity, and/or general performance of component parts and/or the integrated structure are determined by suitable tests that simulate the actual conditions of application that occur and/or by accepted engineering practice and experience.<sup>32</sup>
- 10.6 Where additional condition of use and/or regulatory compliance information is required, please search for Vitraplate on the <u>DrJ Certification website</u>.

#### 11 Findings

- 11.1 As outlined in **Section 6**, Vitraplate has performance characteristics that were tested and/or meet applicable regulations. In addition, they are suitable for use pursuant to its specified purpose.
- 11.2 When used and installed in accordance with this <u>duly authenticated report</u> and the manufacturer installation instructions, Vitraplate shall be approved for the following applications:
  - 11.2.1 Use as a code-compliant component in an exterior wall covering for all construction types under the IBC when installed in accordance with **Section 6**, where applicable, and **Section 9** of this report.
- 11.3 Unless exempt by state statute, when Vitraplate is to be used as a structural and/or building envelope component in the design of a specific building, the design shall be performed by an RDP.
- 11.4 Any application specific issues not addressed herein can be engineered by an <u>RDP</u>. Assistance with engineering is available from Fairview Architectural.
- 11.5 IBC Section 104.2.3<sup>33</sup> (IRC Section R104.2.2<sup>34</sup> and IFC Section 104.2.3<sup>35</sup> are similar) in pertinent part state:
  - **104.2.3 Alternative Materials, Design and Methods of Construction and Equipment.** The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative is not specifically prohibited by this code and has been approved.
- 11.6 Approved: <sup>36</sup> Building regulations require that the building official shall accept duly authenticated reports. <sup>37</sup>
  - 11.6.1 An approved agency is "approved" when it is ANAB ISO/IEC 17065 accredited.
  - 11.6.2 An <u>approved source</u> is *"approved"* when an <u>RDP</u> is properly licensed to transact engineering commerce.
  - 11.6.3 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.









- 11.7 DrJ is a licensed engineering company, employs licensed RDPs and is an ANAB Accredited Product Certification Body - Accreditation #1131.
- 11.8 Through the IAF Multilateral Arrangement (MLA), this duly authenticated report can be used to obtain product approval in any jurisdiction or country because all ANAB ISO/IEC 17065 duly authenticated reports are equivalent.38

#### 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, Vitraplate shall be:
  - Separated from the interior of a building by an approved thermal barrier consisting of 1/2" (12.7 mm) gypsum wallboard or a material that is tested in accordance with, and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.
  - 12.3.2 Stored in enclosed spaces, above ground, and under protective covers.
    - Extreme care shall be taken to avoid contact with moisture, condensation, or materials that might cause staining, such as lime, cement, fresh concrete, or chemicals.

#### 12.4 Storage and Protection

- 12.4.1 Store materials protected from exposure to harmful weather conditions and at temperature condition recommended by the manufacturer/fabricator.
- 12.4.2 Store Vitraplate cladding panels in well-ventilated space out of direct sunlight.
- 12.4.3 Protect panels from moisture and condensation with tarpaulins or other suitably ventilated weather-tight covering.
- 12.4.4 Slope panels to ensure positive drainage and prevent water accumulation.
- Do not store Vitraplate cladding panels in any space where ambient temperatures can exceed 120° F (49° C).
- Avoid contact with any other material that might cause staining, denting, scratching, or other surface 12.4.6 damage.
- 12.5 When required by adopted legislation and enforced by the building official, also known as the Authority Having Jurisdiction (AHJ) in which the project is to be constructed:
  - 12.5.1 Any calculations incorporated into the construction documents shall conform to accepted engineering practice and, when prepared by an approved source, shall be approved when signed and sealed.
  - 12.5.2 This report and the installation instructions shall be submitted at the time of permit application.
  - 12.5.3 This innovative product has an internal quality control program and a third-party quality assurance program.
  - 12.5.4 At a minimum, this innovative product shall be installed per **Section 9**.
  - 12.5.5 The review of this report by the AHJ shall comply with IBC Section 104.2.3.2 and IBC Section 105.3.1.
  - 12.5.6 This innovative product has an internal quality control program and a third party quality assurance program in accordance with IBC Section 104.7.2, IBC Section 110.4, IBC Section 1703, IRC Section R104.7.2, and IRC Section R109.2.
  - 12.5.7 The application of this innovative product in the context of this report is dependent upon the accuracy of the construction documents, implementation of installation instructions, inspection as required by IBC Section 110.3, IRC Section R109.2, and any other regulatory requirements that may apply.









- 12.6 The approval of this report by the AHJ shall comply with <u>IBC Section 1707.1</u>, where legislation states in part, "the <u>building official</u> shall make, or cause to be made, the necessary tests and investigations; or the <u>building official</u> 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 <u>Section 104.2.3</u>", all of <u>IBC Section 104</u>, and <u>IBC Section 105.3</u>.
- 12.7 <u>Design loads</u> shall be determined in accordance with the regulations adopted by the <u>jurisdiction</u> in which the project is to be constructed and/or by the building designer (i.e., owner or RDP).
- 12.8 The actual design, suitability, and use of this report for any particular building, is the responsibility of the owner or the authorized agent of the <u>owner</u>.

#### 13 Identification

- 13.1 Vitraplate, as listed in **Section 1.1**, is identified by a label on the board or packaging material bearing the manufacturer name, product name, this report number, and other information to confirm code compliance.
- 13.2 Additional technical information can be found at fairview-na.com.

#### 14 Review Schedule

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





Issue Date: December 9, 2024

Subject to Renewal: January 1, 2027

# **FBC Supplement to Report Number 2312-08**

**REPORT HOLDER:** Fairview Architectural

## 1 Evaluation Subject

1.1 Vitraplate Cladding Panel

#### 2 Purpose and Scope

- 2.1 Purpose
  - 2.1.1 The purpose of this Report Supplement is to show Vitraplate, recognized in Report Number 2312-08, 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 46016)
  - 2.2.2 FBC-R—20, 23: Florida Building Code Residential (FL 46016)

#### 3 Conclusions

- 3.1 Vitraplate, described in Report Number 2312-08, 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 report, they are listed here:
  - 3.2.1 FBC-B Section 104 is reserved.
  - 3.2.2 FBC-B Section 110.4 is reserved and replaces IBC Section 110.4.
  - 3.2.3 FBC-B Section 104.6 is reserved and replaces IBC Section 104.4.
  - 3.2.4 FBC-B Section 104.11 replaces IBC Section 104.2.3 and Section 104.2.3.2.
  - 3.2.5 FBC-B Section 105.3 replaces IBC Section 105.3.
  - 3.2.6 FBC-B Section 105.3.1 replaces IBC Section 105.3.1.
  - 3.2.7 FBC-B Section 110.3 replaces IBC Section 110.3.
  - 3.2.8 FBC-B Section 1403.2 replaces IBC Section 1402.2.
  - 3.2.9 FBC-B Section 1403.3 replaces IBC Section 1402.3.
  - 3.2.10 FBC-B Section 1404.2 replaces IBC Section 1403.2.
  - 3.2.11 FBC-B Section 1405.4 replaces IBC Section 1404.4.
  - 3.2.12 FBC-B Section 1407 replaces IBC Section 1406.
  - 3.2.13 FBC-B Section 1407.4 replaces IBC Section 1406.4.
  - 3.2.14 FBC-B Section 1407.6 replaces IBC Section 1406.6.
  - 3.2.15 FBC-B Section 1407.7 replaces IBC Section 1406.7.
  - 3.2.16 FBC-B Section 1407.9 replaces IBC Section 1406.9.









- 3.2.17 FBC-B Section 1407.10.1 replaces IBC Section 1406.10.1.
- 3.2.18 FBC-B Section 1407.10.2 replaces IBC Section 1406.10.2.
- 3.2.19 FBC-B Section 1609.3.1 replaces IBC Section 1609.3.1.
- 3.2.20 FBC-B Section 1707.1 replaces IBC Section 1707.1.
- 3.2.21 FBC-B Section 2306.1 replaces IBC Section 2306.1.
- 3.2.22 FBC-B Section 2306.3 replaces IBC Section 2306.3.
- 3.2.23 FBC-R Section R104 and Section R109 are reserved.

#### 4 Conditions of Use

- 4.1 Vitraplate, described in Report Number 2312-08, must comply with all of the following conditions:
  - 4.1.1 All applicable sections in Report Number 2312-08.
  - 4.1.2 The design, installation, and inspections are in accordance with additional requirements of FBC-B Chapter 16 and Chapter 17, as applicable.









## **Notes**

- For more information, visit <u>dricertification.org</u> or call us at 608-310-6748.
- <sup>2</sup> Capitalized terms and responsibilities are defined pursuant to the applicable building code, applicable reference standards, the latest edition of <u>TPI1</u>, the <u>NDS</u>, <u>AISI S202</u>, <u>US</u> professional engineering law, <u>Canadian building code</u>, <u>Canada professional engineering law</u>, <u>Qualtim External Appendix A</u>: <u>Definitions/Commentary</u>, <u>Qualtim External Appendix B</u>: <u>Project/Deliverables</u>, <u>Qualtim External Appendix C</u>: <u>Intellectual Property and Trade Secrets</u>, definitions created within Design Drawings and/or definitions within Reference Sheets. Beyond this, terms not defined shall have ordinarily accepted meanings as the context implies. Words used in the present tense include the future; words stated in the masculine gender include the feminine and neuter; the singular number includes the plural and the plural, the singular.
- https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1702
- 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 <a href="https://www.justice.gov/atr/mission">https://www.justice.gov/atr/mission</a> and <a href="https://www.justice.gov/atr/mission">http
- https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and
  - tests#1706.2:~:text=the%20design%20strengths%20and%20permissible%20stresses%20shall%20be%20established%20by%20tests
- The design strengths and permissible stresses of any structural material shall conform to the specifications and methods of design of accepted engineering practice. https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1706.1:~:text=Conformance%20to%20Standards-,The%20design%20strengths%20and%20permissible%20stresses,-of%20any%20structural
- https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1707.1:~:text=the%20building%20official%20shall%20make%2C%20or%20cause%20to%20be%20made%2C%20the%20necessary%20tests%20and%20investigations%3B %20or%20the%20building%20official%20shall%20accept%20duly%20authenticated%20reports%20from%20approved%20agencies%20in%20respect%20to%20the%20quality%2 0and%20manner%20of%20use%20of%20new%20materials%20or%20assemblies%20as%20provided%20for%20in%20Section%20104.2.3.
- 8 https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1703.4.2
- https://up.codes/viewer/mississippi/ibc-2024/chapter/2/definitions#approved\_agency
- https://up.codes/viewer/mississippi/ibc-2024/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 federal government and each state have a public records act. To follow DTSA and comply state public records and trade secret legislation requires approval through ANAB ISO/IEC 17065 accredited certification bodies or approved sources. For more information, please review this website: Intellectual Property and Trade Secrets.
- https://www.nspe.org/resources/issues-and-advocacy/professional-policies-and-position-statements/regulation-professional AND https://apassociation.org/list-of-engineering-boards-in-each-state-archive/
- 13 https://www.cbitest.com/accreditation/
- https://up.codes/viewer/mississippi/ibc-2024/chapter/1/scope-and-administration#104.1:~:text=directed%20to%20enforce%20the%20provisions%20of%20this%20code
- https://up.codes/viewer/mississippi/ibc-2024/chapter/1/scope-and-administration#104.2.3 AND https://up.codes/viewer/mississippi/ibc-2024/chapter/1/scope-and-administration#105.3.1
- https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1707.1
- 17 <u>https://iaf.nu/en/about-iaf-</u>
  - mla/#:~:text=Once%20an%20accreditation%20body%20is%20a%20signatory%20of%20the%20IAF%20MLA%2C%20it%20is%20recognise%20certificates%20 and%20validation%20and%20verification%20statements%20issued%20by%20conformity%20assessment%20bodies%20accredited%20by%20all%20other%20signatories%20of%20the%20IAF%20MLA%2C%20with%20the%20appropriate%20scope
- True for all ANAB accredited product evaluation agencies and all International Trade Agreements.
- https://www.justice.gov/crt/deprivation-rights-under-color-law AND https://www.justice.gov/atr/mission
- Unless otherwise noted, the links referenced herein use un-amended versions of the 2024 International Code Council (ICC) 2024 International Code Council (ICC) model codes as foundation references. Mississippi versions of the IBC 2024 and the IRC 2024 are un-amended. This material, product, design, service and/or method of construction also complies with the 2000-2012 versions of the referenced codes and the standards referenced therein. As pertinent to this technical and code compliance evaluation, CBI and/or DrJ staff have reviewed any state or local regulatory amendments to assure this report is in compliance.
- 21 See Adoptions by Publisher for the latest adoption of a non-amended or amended model code by the local jurisdiction. https://up.codes/codes/general
- 22 See Adoptions by Publisher for the latest adoption of a non-amended or amended model code by state. https://up.codes/codes/general
- https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3282/subpart-A/section-3282.14
- https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280
- <sup>25</sup> All references to the FBC-B and FBC-R are the same as the 2024 IBC and 2024 IRC unless otherwise noted in the Florida Supplement at the end of this report.
- https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280#p-3280.2(Listed%20or%20certified); https://up.codes/viewer/mississippi/ibc-2024/chapter/2/definitions#listed AND https://up.codes/viewer/mississippi/ibc-2024/chapter/2/definitions#labeled
- 27 <a href="https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1703.4">https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1703.4</a>
- https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280#:~:text=All%20construction%20methods%20shall%20be%20in%20conformance%20with%20accepted%20engineering%20practices%20to%20insure%20durable%2C%20livable%2C%20and%20safe%20housing%20and%20shall%20demonstrate%20acceptable%20workmanship%20reflecting%20journeyman%20quality%20of%20work%20of%20the%20various%20trades
- 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









- 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>.
- https://anabpd.ansi.org/Accreditation/product-certification/AllDirectoryDetails?prgID=1&orgID=2125&statusID=4#:~:text=Bill%20Payment%20Date-,Accredited%20Scopes,-13%20ENVIRONMENT.%20HEALTH
- 32 See Code of Federal Regulations (CFR) Title 24 Subtitle B Chapter XX Part 3280 for definition: https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280
- 33 2021 IBC Section 104.11
- 34 2021 IRC Section R104.11
- 35 2018: https://up.codes/viewer/wyoming/ifc-2018/chapter/1/scope-and-administration#104.9 AND 2021: https://up.codes/viewer/wyoming/ibc-2021/chapter/1/scope-and-administration#104.11
- Approved is an adjective that modifies the noun after it. For example, Approved Agency means that the Agency is accepted officially as being suitable in a particular situation. This example conforms to IBC/IRC/IFC Section 201.4 (https://up.codes/viewer/mississippi/ibc-2024/chapter/2/definitions#201.4) where the building code authorizes sentences to have an ordinarily accepted meaning such as the context implies.
- https://up.codes/viewer/mississippi/ibc-2024/chapter/17/special-inspections-and-tests#1707.1
- 38 Multilateral approval is true for all ANAB accredited product evaluation agencies and all International Trade Agreements.