ICC-ES Evaluation Report

ESR-4856

Reissued October 2023

Revised April 2025

Subject to renewal October 2025

This report also contains:

- **CA Supplement**
- **FL Supplement w/ HVHZ**

DIVISION: 06 00 00 — WOOD, PLASTICS AND COMPOSITES Section: 06 12 00 — STRUCTURAL PANELS	REPORT HOLDER: VANTEM GLOBAL, INC	EVALUATION SUBJECT: VANTEM PANEL STRUCTURAL INSULATED PANELS	

1.0 EVALUATION SCOPE

1.1 Compliance with the following codes:

- 2021 *and* 2018 *International Building Code® (IBC)*
- 2021 *and* 2018 *International Residential Code (IRC)*

Properties evaluated:

- Structural
- Thermal Barrier
- Fire Resistance

1.2 Evaluation to the following green code(s) and/or standards:

- 2022 California Green Building Standards Code (CALGreen), Title 24, Part 11
- 2020, 2015, 2012 and 2008 ICC 700 *National Green Building Standard™* (ICC 700-2020, ICC 700-2015, ICC 700-2012 and ICC 700-2008)

Attributes verified:

- See Section 2.0

2.0 USES

Vantem Panel Structural Insulated Panels (SIPs) are used as load-bearing wall, floor, and roof panels in fire-resistive non-fire-resistive Type V construction.

When panels are installed under the IRC, an engineered design is required in accordance with IRC Section R301.1.1.3.

The attributes of Vantem Panel Structural Insulated Panels (SIPs) have been verified as conforming to the provisions of (i) CALGreen Section A4.404.3.3; (ii) ICC 700-2020, ICC 700-2015 and ICC 700-2012 Sections 601.5 and 11.601.5; and (iii) ICC 700-2008 Section 601.5 for prefabricated structural components. Note that decisions on compliance for those areas rest with the user of this report. The user is advised of the project-specific provisions that may be contingent upon meeting specific conditions, and the verification of those conditions is outside the scope of this report. These codes or standards often provide supplemental information as guidance.

3.0 DESCRIPTION

3.1 General:

Vantem Panel are factory-laminated sandwich panels consisting of Vantem Board magnesium oxide board facings with an expanded polystyrene (EPS) foam plastic core. Panels vary in length from 8 to 12 ft (2.4 to 3.6 m) and in thickness from 4.5 to 10.25 inch (114 to 260 mm).

3.2 Material:

3.2.1 Facing: The facing material is nominally 12mm Vantem Board magnesium oxide panels contained in ESR-4855.

3.2.2 Expanded Polystyrene: The EPS foam plastic core complies with ASTM C578, Type I. The EPS foam plastic has a flame-spread index not exceeding 25 and a smoke-developed index not exceeding 450 when tested in accordance with ASTM E84. The core is supplied in nominal thickness of 3.5, 5.5, 7.25, 9.25 inches (89, 140, 184, 235 mm).

3.2.3 Adhesive: The adhesive used for lamination of Vantem Panels comply with Type II, Class 2, performance requirements set forth in the ICC-ES Acceptance Criteria for Sandwich Panel Adhesives (AC05).

3.2.4 Splines: Splines are identified as surface, block, or lumber type splines.

Surface splines are 4-inch (102 mm) wide, 0.47-inch (12 mm) thick Vantem Board magnesium oxide board.

Block splines consist of two 4-inch (102 mm) wide, 12 mm thick Vantem Board magnesium oxide board laminated to an EPS core. The block spline has a total thickness equal to the core thickness of the Vantem Panel the spline is used in.

Lumber splines are dimensional lumber sized to match the core material of the Vantem Panel.

4.0 DESIGN AND INSTALLATION

4.1 Design:

4.1.1 Overall Structural System: The scope of this report is limited to the evaluation of the Vantem Panel SIP component. Panel connections and other details related to incorporation of the product into the overall structural system of a building are beyond the scope of this report.

4.1.2 Design Approval: Where required by the authority having jurisdiction, structures using Vantem Panel Structural Insulated Panels shall be designed by a registered design professional. Construction documents, including engineering calculations and drawings providing floor plans, window details, door details and connector details, shall be submitted to the code official when application is made for a permit. The individual preparing such documents shall possess the necessary qualifications as required by the applicable code and the professional registration laws of the state where the construction is undertaken. Approved construction documents shall be available at all times on the jobsite during installation.

4.1.3 Design Loads: Design loads to be resisted by the product shall be as required under the applicable code. Loads on the panels shall not exceed the loads noted in this report. Calculations demonstrating that the loads applied are less than the allowable loads described in this report shall be submitted to the code official for approval.

4.1.4 Allowable Loads: Allowable axial, transverse and in-plane shear loads are provided in Tables 2 through 5. For loading conditions not specifically addressed herein, structural members designed in accordance with accepted engineering practice shall be provided to meet applicable code requirements.

4.1.5 Concentrated Loads: Axial loads shall be applied to the product through continuous members such as Vantem roof or floor panels or repetitive members such as joists, trusses or rafters spaced at regular intervals of 24 inches (610 mm) on center or less. Such members shall be fastened to a rim board or similar member to distribute the load to the product. For other loading conditions, reinforcement shall be provided. This reinforcement shall be designed in accordance with accepted engineering practice.

4.1.6 Eccentric and Side Loads: Axial loads shall be applied concentrically to the top of the product. Loads shall not be applied eccentrically or through framing attached to one side of the panel except where additional engineering documentation is provided.

4.1.7 Openings: Openings in Vantem Panel Structural Insulated Panels walls are limited to sizes, spans and the allowable loads specified in Table 5. Openings not covered by Table 5 must be framed to comply with requirements in the IBC or IRC, as applicable. They shall be reinforced with wood or steel designed in accordance with accepted engineering practice to resist all loads applied to the opening as required by the adopted code. Details for door and window openings shall be provided to clarify the manner of supporting axial,

transverse and/or in-plane shear loads at openings. Such details shall be subject to approval by the local authority having jurisdiction.

4.1.8 In-Plane Shear Design: Shear walls utilizing block or surface splines shall be sized to resist all code required wind and seismic loads without exceeding the allowable loads provided herein. Shear wall chords, hold-downs, and connections to transfer shear forces between the wall and surrounding structure shall be designed in accordance with accepted engineering practice.

4.1.9 Seismic Design Categories A, B, and C: Use of the shear wall configurations in Table 3 is limited to structures in Seismic Design Categories A, B and C. Where SIPs are used to resist seismic forces, the following factors shall be used for design: Response Modification Coefficient R=2.0; System Overstrength Factor, Ω_0=2.5; Deflection Amplification Factor, C_d=2.0. The maximum panel height-to-width ratio shall be 1:1 or 2.67:1 as described in Table 3.

4.1.10 Combined Loads: Where loading conditions result in superimposed stresses, the sum of the ratio of actual loads over allowable loads shall not exceed one.

4.2 Installation:

4.2.1 General: Vantem Panel Structural Insulated Panels shall be fabricated, identified, and erected in accordance with this report, the approved construction documents, and the applicable codes. In the event of a conflict between the manufacturer's published installation instructions and this report, this report shall govern. Approved construction documents shall be available at all times on the jobsite during installation.

4.2.2 Splines: Vantem Panel Structural Insulated Panels are interconnected at the panel edges through the use of a spline. The spline type may be of any configuration listed in Section 3.2.4 as required by the specific design. The spline shall be secured in place with not less than a 0.109 x 1.5-inch (2.77 x 38.1 mm) (#8) bugle head screws, spaced 8 inches (203 mm) on center on both sides of the panel.

4.2.3 Plates: The top and bottom plates of the panels shall be dimensional or engineered lumber sized to match the core thickness of the panel with a minimum specific gravity of 0.42. The plates shall be secured using not less than 0.109 x 1.5-inch (2.77 x 38.1 mm) (#8) bugle head screws, spaced 8 inches (203 mm) on center on both sides of the panel. Facings of wall panels are required to be in full bearing at the top and bottom of the wall.

4.2.4 Headers: Vantem Panel SIP headers must be constructed in accordance with Section 4.2.1. Headers and adjacent panels must have minimum 2-inch nominal top and and bottom plates in accordance with Section 4.2.3. The adjacent panels that the headers attach to must have minimum 2-inch nominal vertical end plates installed in accordance with Section 4.2.3. The bottom plate of the header must bear on top of the vertical end plate of the adjacent panel. In addition to the screws required in Section 4.2.3, the plates must be secured to the panels using not less than 0.109 x 1.5-inch (2.77 x 38.1 mm) (#8) bugle head screws at the header bottom plate above the vertical end plate and 3 inches from the centerline of the spline at the header top and bottom plates and the adjacent panel top plate.

The headers must be connected to the adjacent panels through the use of a spline in accordance with Section 3.2.4. The spline shall be secured in place with not less than a 0.109 x 1.5-inch (2.77 x 38.1 mm) (#8) bugle head screws, spaced 3 inches (76 mm) on center on both sides of the header/panel.

4.2.5 Cutting and Notching: No field cutting or routing of the panels shall be permitted except as shown on approved construction documents.

4.2.6 Protection from Decay: Vantem Panel Structural Insulated Panels that rest on exterior foundation walls shall not be located within 8 inches (203 mm) of exposed earth. Vantem Panels SIPs supported by concrete or masonry that is in direct contact with earth shall be protected from the concrete or masonry by a moisture barrier.

4.2.7 Protection from Termites: In areas subject to damage from termites, Vantem Panels SIPs shall be protected from termites using an approved method. Panels shall not be installed below grade or in contact with earth.

4.2.8 Heat-Producing Fixtures: Heat-producing fixtures shall not be installed in the panels unless protected by a method approved by the code official or documented in test reports. This limitation shall not be interpreted to prohibit heat-producing elements with suitable protection.

4.2.9 Plumbing Installation Restrictions: Plumbing and waste lines may extend at right angles through the wall panels but are not permitted vertically within the core. Lines shall not interrupt splines or panel plates unless approved by a registered design professional.

4.2.10 Electrical Installation Restrictions: Electrical outlet boxes and raceways may be installed in the panels during fabrication at predetermined locations only. Vantem Panel Structural Insulated Panels have shop installed vertical raceways measuring 1.25 x 1.25 inch (31.75 x 31.75 mm) located at each spline connection at a minimum of 4 feet (1219 mm) on center. No more than three outlet box openings 4 inches by 4 inches (102 mm x 102 mm) in size may be along each raceway.

4.2.11 Panel Cladding:

4.2.11.1 Roof Covering: The roof covering, underlayment and flashing shall comply with the applicable codes. All roofing materials must be installed in accordance with the manufacturer's installation instructions. The use of roof covering requiring the application of heat during installation shall be reviewed and approved by a registered design professional.

4.2.11.2 Exterior Wall Covering: Panels shall be covered on the exterior by a water-resistive barrier as required by the applicable code. The water-resistive barrier shall be attached with flashing in such a manner as to provide a continuous water-resistive barrier behind the exterior wall veneer. The exterior facing of the Vantem Panel SIP wall shall be covered with weather protection as required by the adopted building code or other approved materials.

4.2.11.3 Interior Finish: The Vantem Panel SIP assembly meets the requirements of IBC Section 2603.9 and IRC R316.6 and does not require an additional thermal barrier when installed in accordance with this report and the manufacturer's installation instructions.

4.2.12 Fire-Resistance-Rated Assemblies:

4.2.12.1 Fire-Resistive Load-Bearing Wall Assembly:

Vantem Panels with thicknesses of 4 ½ inches may be used as the mating wall of modular units. When used as the mating wall of two modular units, two 4 ½ inch walls placed back-to-back function as a 1 hour fire-resistive assembly. Each 4 ½ inch wall is assembled using double 2 x lumber splines consisting of #2 SYP fastened together with 16d – 0.131 inch x 3 inch smooth shank framing nails, 2 nails 16 inches on center from one side and 1 nail 16 inch on center from the other side. Additionally, liquid nails Heavy Duty construction adhesive was applied between the double lumber splines. Panels were fastened to the framing using 0.109 x 1.5-inch (2.77 x 38.1 mm) (#8) bugle head screws, spaced 8 inches on center with a 4 inch stagger across the vertical seams, on both sides of the panel.

Vertical seams of the panels were treated with 2-inch-wide, self-adhered fiber mesh joint tape and a layer of joint compound.

Used in this fire-resistance rated assembly, the wall is capable of maintaining 52% of the allowable axial capacity listed in Table 2.

5.0 CONDITIONS OF USE:

The Vantem Panel Structural Insulated Panels described in this report comply with, or are a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

5.1 The Vantem Panel SIPs are fabricated, identified and erected in accordance with this report and the manufacturer's published installation instructions. If there is a conflict between this report and the manufacturer's instructions, the more restrictive governs.

5.2 Design loads to be resisted by Vantem Panels must be determined in accordance with the IBC or IRC as applicable and must not exceed the allowable loads noted in this report.

5.3 All construction documents specifying the Vantem Panel SIPs must comply with the design limitations of this report. Design calculations and details for the specific applications must be furnished to the code official, verifying compliance with this report and applicable codes. Connections and attachments of the Vantem Panel SIPs are outside the scope of this report and must be addressed in the design calculations and details. The transfer of vertical and lateral loads from the roof or floor diaphragm into the shear wall and from the shear wall to the foundation must be addressed in the calculations. When shear walls are used in buildings that are more than one story tall, calculations and details must be submitted to the code official showing the load path for the transfer of lateral and overturning forces for the upper-story shea walls to the foundation. The documents must be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.

5.4 Wood elements must be installed as set forth in IBC Section 2304.12.1 or IBC Section R317.1.

5.5 Vantem Roof and Floor Panel installation requires a support condition with a minimum of 1.5 inches (38.1 mm) bearing on each end of the panel.

5.6 Vantem Panels may be used as a 30-minute fire-resistance-rated assembly when constructed in accordance with Section 4.2.11.

5.7 Vantem Panel SIPs are combustible building elements when considering construction type.

5.8 When used as shear walls, Vantem Panel SIPs are recognized for use in Seismic Design Categories as provided for in Table 3 of this report. Use of the panels as shear walls for buildings in Seismic Design Categories D through F, is outside the scope of this report.

5.9 The panels are fabricated under a quality control program with inspection by ICC-ES.

6.0 EVIDENCE SUBMITTED

6.1 Data in accordance with the ICC-ES Acceptance Criteria for Sandwich Panels (AC04), dated June 2019 (Editorially revised December 2020)

6.2 Report of room corner test in accordance with NFPA 286.

7.0 IDENTIFICATION

7.1 Product labeling shall include the name of the report holder or listee, and the ICC-ES mark of conformity. The listing or evaluation report number (ICC-ES ESR-4856) may be used in lieu of the mark of conformity.

7.2 The report holder's contact information is the following:

VANTEM GLOBAL, INC
806 GREEN VALLEY RD. SUITE 200
GREENSBORO, NORTH CAROLINA 27408
www.vantemglobal.com

TABLE 1—Vantem Panel SIP Weight (psf)[1]

SIP Thickness (in.)	4 ½	6 ½	8 ¼	10 ¼
Weight (psf)	7.56	7.88	8.16	8.48

For SI: 1 inch= 25.4 psf; 1 psf = 47.9 Pa.

[1]Weights are based on an average result of panels without spline material included.

TABLE 2—ALLOWABLE AXIAL LOAD (plf)[1,2,3,4,5]

SIP HEIGHT (ft)	4 ½ INCH THICK	6 ½ INCH THICK	8 ¼ INCH THICK	10 ¼ INCH THICK
8	4634	5856	6925	8147
9	4468	5695	6768	7995
10	4302	5534	6612	7843
11	4136	5373	6455	7692
12	3970	5212	6298	7540

For SI: 1 inch= 25.4 mm; 1 ft= 305 mm; 1 plf= 14.6 N/m.

[1] At Vantem Panel ends each MgO facing must be fastened to solid lumber sills and plates (minimum specific gravity of 0.42) with 0.109 x 1.5 inch (2.77 x 38.1 mm) (#8) bugle head screws, spaced 8 inches on center. The sills and plates must be connected to structural supports. Connection specifications, design and installation must be in accordance with the IBC and applicable ESRs.

[2] Axial loads shall be applied concentrically to the top of the Vantem Panel through repetitive members spaced not more than 24 inch (609 mm) on center. Such members shall be fastened to a rim board or similar member to distribute along the top of the SIP.

[3] The ends of both facings must bear on the supporting foundation or structure to achieve the tabulated axial loads. Vantem Board MgO facings shall be oriented such that the strength axis is in the direction of the axial load.

[4] For combined loading, the requirements in Section 4.1.10 must be applied.

[5] Allowable loads are based on the lesser of the either ultimate load with a safety factor of 3 or the load at the indicated deflection limit. Values with an asterisks (*) were limited by deflection.

TABLE 3—ALLOWABLE LATERAL IN-PLANE RACKING SHEAR LOAD [1, 2, 4, 6]

Vantem Panel Thickness	ASPECT RATIO[1]	SPLINE TYPE [5]	BOTTOM PLATE	TOP PLATE	END POSTS	FASTENER	FASTENER SPACING	ALLOWABLE LOADS (PLF) [3]
4 ½ inch	1:1	SURFACE, BLOCK OR LUMBER	#2 SPF 2x4	#2 SPF 2x4	#2 SPF 2x4	#8 x 1.5 Bugle Head Screw	8 inch on center	383
	2.67:1	N/A	#2 SPF 2x4	#2 SPF 2x4	#2 SPF 2x4	#8 x 1.5 Bugle Head Screw	8 inch on center	437
6 ½ inch	1:1	SURFACE, BLOCK OR LUMBER	#2 SPF 2x6	#2 SPF 2x6	#2 SPF 2x6	#8 x 1.5 Bugle Head Screw	8 inch on center	378
	2.67:1	N/A	#2 SPF 2x4	#2 SPF 2x4	#2 SPF 2x4	#8 x 1.5 Bugle Head Screw	8 inch on center	378
8 ¼ inch	1:1	SURFACE, BLOCK OR LUMBER	#2 SPF 2x8	#2 SPF 2x8	#2 SPF 2x8	#8 x 1.5 Bugle Head Screw	8 inch on center	374
	2.67:1	N/A	#2 SPF 2x10	#2 SPF 2x10	#2 SPF 2x10	#8 x 1.5 Bugle Head Screw	8 inch on center	374
10 ¼ inch	1:1	SURFACE, BLOCK OR LUMBER	#2 SPF 2x10	#2 SPF 2x10	#2 SPF 2x10	#8 x 1.5 Bugle Head Screw	8 inch on center	369
	2.67:1	N/A	#2 SPF 2x10	#2 SPF 2x10	#2 SPF 2x10	#8 x 1.5 Bugle Head Screw	8 inch on center	419

For SI: 1 inch= 25.4 mm; 1 ft= 305 mm; 1 plf= 14.6 N/m.

[1] This installation is recognized for use in Seismic Design Categories A through C. Maximum shear wall dimensions ratio shall not exceed 1:1 or 2.67:1 (height:width) for resisting wind or seismic loads. Where aspect ratio exceeds 1:1, no splines shall be used in the shearwall assembly.

[2] Facings must be fully bearing on structural supports. Facings shall be oriented with the strong axis of the material oriented vertically on the shearwall.

[3] Top-of-wall horizontal in-plane drift (deflection) of shear wall assemblies is $^1/_8$ inch at the tabulated allowable lateral load.

[4] Chords, hold downs and connections to other structural elements must be designed by a registered design professional in accordance with accepted engineering practice.

[5] Splines shall be located at interior panel-to-panel joints only, oriented vertically. Solid chord members are required at each end of each shear wall segment.

[6] Required connections must be made on each side of the panel. Dimensional or engineered lumber shall have an equivalent specific gravity of 0.42 or greater.

TABLE 4—ALLOWABLE TRANSVERSE LOAD FOR VANTEM PANELS WITH SURFACE, BLOCK, OR LUMBER SPLINES (psf)[1, 2, 3,5]

SIP THICKNESS (in.)	DEFLECTION LIMIT	SIP HEIGHT				
		8	9	10	11	12
4 ½	L/360	47*	41*	36*	30*	24*
	L/240	65	56	48	40	31
	L/180	65	56	48	40	31
6 ½	L/360	60*	54*	47*	41*	34*
	L/240	72	64	56	47	39
	L/180	72	64	56	47	39
8 ¼	L/360	72*	65*	58*	51*	43*
	L/240	78	70	62	54	46
	L/180	78	70	62	54	46
10 ¼	L/360	85	77	70	62	54
	L/240	85	77	70	62	54
	L/180	85	77	70	62	54

For SI: 1 inch = 25.4 mm; 1 foot = 304.8 mm; 1 psf = 47.889 Pa

[1] Table values assume panels are installed with a lumbertop and bottom plates. Values do not include the dead weight of the panel.

[2] Deflection limit shall be selected by building designer based on the serviceability requirements of the structure and the requirements of adopted building code. Values are based on loads of short duration only and do not consider the effects of creep.

[3] Tabulated values are based on the strong axis of the facing material oriented parallel to the direction of panel bending.

[4]Roofs must be designed to support a 300 lb concentrated load according to IBC Section 1607.4 when the roof has access to maintenance workers.

[5]Allowable loads are based on the lesser of the either ultimate load with a safety factor of 3 or the load at the indicated deflection limit. Values with an asterisks (*) were limited by deflection.

TABLE 5—ALLOWABLE UNIFORM LOADS FOR SIP HEADER (plf)[1,2,3,4]

SIP HEADER DEPTH (in.)[5]	DEFLECTION LIMIT[6]	SIP HEADER SPAN (ft.)					
		3	4	5	6	7	8
12	L/360	818	723	627	532	437	327
	L/240	1240	1060	881	701	521	327
	L/180	1575	1325	1076	826	577	327
24	L/360	917	813	709	605	501	379
	L/240	1398	1198	997	791	585	379
	L/180	1589	1347	1105	863	621	379
36	L/360	1187	1059	930	802	674	521
	L/240	1627	1406	1185	964	743	521
	L/180	1627	1406	1185	964	743	521

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 plf = 14.59 N/m

[1] Headers must be installed in accordance with Section 4.2.4.

[2] Tabulated allowable load is the maximum load (pounds per linear foot) applied uniformly.

[3] Vertical loads only. Design for lateral loads must be in accordance with accepted engineering practice.

[4] Tabulated values are based on the strong-axis of the facing material oriented perpendicular to the direction of the header span.

[5] Minimum depth of facing above opening

[6] Deflection limit shall be selected by building designer based on the serviceability requirements of the structure and the requirements of adopted building code. Values are based on loads of short duration only and do not consider the effects of creep.

DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES
Section: 06 12 00—STRUCTURAL PANELS

REPORT HOLDER:

VANTEM GLOBAL, INC.

EVALUATION SUBJECT:

VANTEM PANEL STRUCTURAL INSULATED PANELS

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that Vantem Panel Structural Insulated Panels, described in ICC-ES evaluation report ESR-4856, have also been evaluated for compliance with the code*(s)* noted below.

Applicable code edition*(s)*:

■ 2022 *California Building Code* (CBC)

For evaluation of applicable Chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) AKA: California Department of Health Care Access and Information (HCAI) and the Division of State Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

■ 2022 *California Residential Code* (CRC)

2.0 CONCLUSIONS

2.1 CBC:

The Vantem Panel Structural Insulated Panels, described in Sections 2.0 through 7.0 of the evaluation report ESR-4856, comply with CBC Chapter 26, provided the design and installation are in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the evaluation report.

The products have not been evaluated under Chapter 7A for use in the exterior design and construction of new buildings located in a Fire Hazard Severity Zone within State Responsibility Areas or any Wildland–Urban Interface Fire Area.

2.1.1 OSHPD:

The applicable OSHPD Sections and Chapters of the CBC are beyond the scope of this supplement.

2.1.2 DSA:

The applicable DSA Sections and Chapters of the CBC are beyond the scope of this supplement.

2.2 CRC:

The Vantem Panel Structural Insulated Panels, described in Sections 2.0 through 7.0 of the evaluation report ESR-4856, comply with CRC Chapter 3, provided the design and installation are in accordance with the 2021 *International Residential Code*® (IRC) provisions noted in the evaluation report and the additional requirements of CRC Chapter 3.

The Vantem Panel Structural Insulated Panels have not been evaluated under CRC Section R337 for use in the exterior design and construction of new buildings located in a Fire Hazard Severity Zone within State Responsibility Areas or any Wildland–Urban Interface Fire Area.

The products recognized in this supplement have not been evaluated for compliance with the *International Wildland–Urban Interface Code*®.

This supplement expires concurrently with the evaluation report, reissued October 2023 and revised April 2025.

DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES
Section: 06 12 00—STRUCTURAL PANELS

REPORT HOLDER:

VANTEM GLOBAL, INC

EVALUATION SUBJECT:

VANTEM PANEL STRUCTURAL INSULATED PANELS

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that Vantem Panel Structural Insulated Panels, recognized in ICC-ES evaluation report ESR-4856, has also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2023 *Florida Building Code—Building*
- 2023 *Florida Building Code—Residential*

2.0 CONCLUSIONS

The Vantem Panel Structural Insulated Panels, described in Sections 2.0 through 7.0 of ICC-ES evaluation report ESR-4856, comply with the *Florida Building Code-Building* and the *Florida Building Code-Residential*. The design requirements must be determined in accordance with the *Florida Building Code-Building* or the *Florida Building Code-Residential,* as applicable. The installation requirements noted in ICC-ES evaluation report ESR-4856 for the 2021 *International Building Code®* meet the requirements of the *Florida Building Code-Building* or the *Florida Building Code-Residential,* as applicable, with the following conditions:

1. Installation of the foam plastic in areas subject to damage from termites must meet the requirements of Sections 1403.8 and 2603.8 of the *Florida Building Code-Building* and Sections R318.7 and R318.8 of the *Florida Building Code-Residential*, as applicable.
2. Use on exterior walls requires the panels to be protected with a water-resistive barrier in accordance with Section 1403.2 of the *Florida Building Code-Building* or Section R703.2 of the *Florida Building Code-Residential*, as applicable.

Use of the Vantem Panel Structural Insulated Panels has also been found to be in compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code-Building* or the *Florida Building Code-Residential* with the following conditions:

- The allowable design wind load must not exceed 50 psf (2394 Pa).
- The Vantem Panel Structural Insulated Panels with a minimum nominal thickness of $6^1/_2$ inches (165 mm) must be installed in accordance with Sections 4.2.2 and 4.2.3 of the evaluation report ESR-4856. The panels must be installed with a water-resistive barrier in accordance with Section 1403.2 of the *Florida Building Code-Building* or Section R703.2 of the *Florida Building Code-Residential*, and Hardie Plank siding recognized in ESR-2290. Hardie Plank siding must be fastened over the water-resistive barrier with Simpson Strong-Tie Fiber-Cement Stainless Steel #8 x $1^5/_8$-inch-long (41.3 mm) screws spaced at 12-inches (305 mm) on center, $^7/_8$ inches (22.2 mm) from the edge, and 4 inches (102 mm) from the end.
- The height of Vantem Panel Structural Insulated Panels is limited to 10 feet.
- The Vantem Panel Structural Insulated Panels are not used above 30 feet in height in any structure.

In addition to the data noted in Section 6.0 of the evaluation report ESR-4856, data in accordance with the *Florida Building Code* Test Protocols for High-Velocity Hurricane Zones, TAS 201, TAS 202 and TAS 203 was submitted.

For products falling under Florida Rule 61G20-3, verification that the report holder's quality assurance program is audited by a quality assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official when the report holder does not possess an approval by the Commission).

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