

Evaluation Report

VPC-200cc hl and VPC-200cc hy Spray Polyurethane Foam Adhesive

Manufacturer

Victory Polymers Inc

1700 Post Oak Boulevard, 2 BLVD Place, Suite 800
Houston, TX 77056

for

Florida Product Approval

FL39880.01

Florida Building Code 7th Edition (2020)

Per Rule 61G20-3

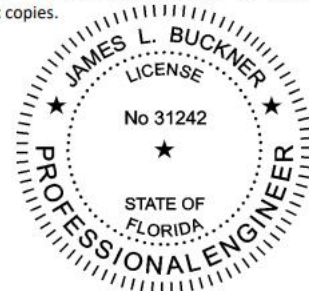
Method: 2 – B

Category: Roofing

Sub - Category: Cements – Adhesives – Coatings

Product Description: VPC-200cc hl and VPC-200cc hy
Material: Spray Polyurethane Foam Adhesive
Deck Type: Plywood
Application Type: 3-1/2 inch Fillet

This item has been electronically signed and sealed by James L. Buckner, P.E., on this date using a Digital Signature. Printed copies of this document are not considered signed and sealed, and the signature must be verified on any electronic copies.



A handwritten signature in blue ink, appearing to read "James L. Buckner".

Prepared by:

James L. Buckner, P.E., SECB
Florida Professional Engineer # 31242
Florida Evaluation ANE ID: 1916
Report No. 21-402.01_SPF_Ply-ER
Date: 10 / 7 / 2021

Contents:

Evaluation Report Pages 1 – 6

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CBUCK, Inc.

1374 Community Drive, Jupiter, Florida 33458
Phone: (561)491-9927 Website: www.cbuckinc.net

1.0 Product

- 1.1 **Manufacturer** Victory Polymers Inc.
- 1.2 **Product Name:** VPC-200cc hl and VPC-200cc hy

2.0 Evaluation Scope:

2.1 Compliance with the following

Florida Building Code 7th Edition (2020)

2.2 Evaluation Method:

Florida Product Approval Rule 61G20-3.005 (2) (b)

2.3 Evaluation Classification:

Category: Roofing

Sub Category: Adhesives

2.4 Properties Evaluated

Structural Properties

2.5 Limits of Evaluation:

This product assembly evaluation is limited to compliance with section 2.1 to section 2.4 of this report.

3.0 Evaluated Uses:

3.1 Structural:

The VPC-200cc hl and VPC-200cc hy Closed Cell Spray Polyurethane Foam adhesive, as evaluated in this report, can be used for supplemental attachment of roof plywood deck to rafters/truss top chords (dimensional lumber). This product may be used for code plus wind resistance in new construction or for enhancing the wind uplift resistance on existing structures.

4.0 Product Assembly Description:

4.1 General:

VPC-200cc hl and VPC-200cc hy are two Spray Foam product systems of two components, spray applied, closed-cell polyurethane foam adhesive. VPC-200cc hl or VPC-200cc hy, spray polyurethane foam adhesive is formed by the reaction of combining two components. This spray foam adhesive provides wind uplift resistance when applied directly to the junction of the roof plywood deck and the roof rafter/truss top chords. VPC-200cc hl or VPC-200cc hy, spray polyurethane foam adhesive fillet is applied to both sides of the roof rafter/truss top chords.

5.0 Evaluated Components to be Adhered:

5.1 Roof Deck:

Type: Plywood per FBC Chapter 23

5.2 Rafter/Truss Top Chord:

Function: Typically Roof Rafter or Wood Truss Top Chord

Type: Dimensional Lumber

Spacing: 24 in. o.c. (As Tested and Evaluated)

(Design of components is outside the scope of this evaluation)

6.0 Product Assembly Structural Performance:

6.1 Allowable Design Uplift Resistance:

Resistance - **203 PSF**

7.0 Performance Standard:

7.1 The following test protocols were performed to demonstrate compliance with the intent of the code:

- TAS 202–94, *Criteria for Testing building Envelope Components using Uniform Static Air Pressure* (Structural & Negative Load Only)
- TAS 203–94, *Criteria for Testing Products Subject to Cyclic Wind Pressure Loading*
- ASTM E330-02 – *Standard Test Method for Structural by Uniform Static Air Pressure Difference* (Structural & Negative Load Only)

8.0 Code Compliance:

- 8.1 The product assembly described herein has demonstrated compliance with the Florida Building Code 7th Edition (2020), Section 1708.2.

9.0 (Optional) Insulation:

- 9.1 Evaluation of additional Spray Polyurethane Foam to the underside of wood deck for insulation purposes is outside the scope of properties evaluated in this report. Any applications and/or uses that are not within the scope of this evaluation shall be the responsibilities of others.

10.0 Limitations and Conditions of Use:

- 10.1 VPC-200cc hl or VPC-200cc hy, spray polyurethane foam adhesive shall be installed by a Victory Polymers Inc qualified spray foam applicator trained in the processing and application of SPF systems as well as the plural component polyurethane dispensing equipment.
- 10.2 Scope of "Limitations and Conditions of Use" for this evaluation:
This evaluation report for "State Approval" contains technical documentation, specifications and installation method(s) which include "Limitations and Conditions of Use" throughout the report in accordance with Rule 61G20-3.005. Per Rule 61G20-3.004, the Florida Building Commission is the authority to approve products under "State Approval".
- 10.3 Option for application outside "Limitations and Conditions of Use"
Rule 61G20-3.005(1)(e) allows engineering analysis for "project specific approval by the local authorities having jurisdiction in accordance with the alternate methods and materials authorized in the Code". Chapter one of the FBC and IBC addresses design for alternative materials, design and methods of construction. Any modification of the product as evaluated in this report and approved by the Florida Building Commission is outside the scope of this evaluation and will be the responsibility of others.
- 10.4 The scope of this evaluation is limited to structural properties.
- 10.5 This report does not evaluate the use of this product for other types of applications as allowed in the code.
- 10.6 Fire Classification and Thermal Properties are outside the scope of Rule 61G20-3, and are therefore not included in this evaluation.
- 10.7 This report does not evaluate the use of this product for use in the High Velocity Hurricane Zone code section. (Dade & Broward Counties)

11.0 Quality Assurance:

The manufacturer has demonstrated compliance of products in accordance with the Florida Building Code and Rule 61G20-3.005 (3) for manufacturing under a quality assurance program audited by an approved quality assurance entity through **Intertek Testing Services NA, Inc.** (FBC Organization ID# QUA 1673)

12.0 Components & Material Standards:

Material shall comply with:

<u>Property:</u>	<u>Nominal minimum Values:</u>	<u>Standard:</u>
Core Density	2.0 pcf	ASTM D 1622
Compressive Strength	16 psi	ASTM D 1621
Tensile Strength	31 psi	ASTM D 1623

The properties listed above are presented as typical average values as determined by accepted ASTM Test methods and are subjected to normal manufacturing and application variations.

13.0 General Installation Method:

- Surface Preparation:

All surfaces intended to be sprayed with VPC-200cc hl or VPC-200cc hy spray polyurethane foam adhesive must be clean and dry, free of dirt, oil, solvents, grease and loose particles for optimal adhesion. Remove sawdust and other debris from areas intended to be sprayed by blowing with compressed air or vacuuming with a shop vacuum.

- Fillet Foam Application:

Apply VPC-200cc hl or VPC-200cc hy adhesive using a "picture framing" technique. Foam must cover at least 3-1/2 inches of the rafter member and 3-1/2 inches of the roof deck. The resulting triangular cant, at least 3-1/2 inches high and 3-1/2 inches wide, will cover the joint between the rafter member and the underside of the roof deck. Spray foam adhesive shall be applied at a minimum thickness of 1/2 inch and a maximum thickness of 2 inches. Allow foam to fully expand and cool for a period of 10 minutes between passes.

Install the system in compliance with the evaluated installation method(s). The installation method(s) described herein have been evaluated to address the scope of the evaluation. Refer to manufacturer's installation instructions as a supplemental guide for spray foam application.

(Refer to installation method on Page 6 of this evaluation report.)

14.0 Evaluation Reference Data:

14.1 Testing Application Standard (TAS) 202-94

Criteria for Testing building Envelope Components using Uniform Static Air Pressure
By PRI Construction Materials Technologies, LLC. (FBC Organization ID #TST: 5878)
Report #: 2379T0002, Date: 05 / 27 / 2021

14.2 Testing Application Standard (TAS) 203-94

Criteria for Testing Products Subject to Cyclic Wind Pressure Loading
By PRI Construction Materials Technologies, LLC. (FBC Organization ID #TST: 5878)
Report #: 2379T0002, Date: 05 / 27 / 2021

14.3 ASTM E330 – 02

Test Method for Structural Performance by uniform Static Air Pressure Difference
By PRI Construction Materials Technologies, LLC. (FBC Organization ID #TST: 5878)
Report #: 2379T0002, Date: 05 / 27 / 2021

14.4 Quality Assurance

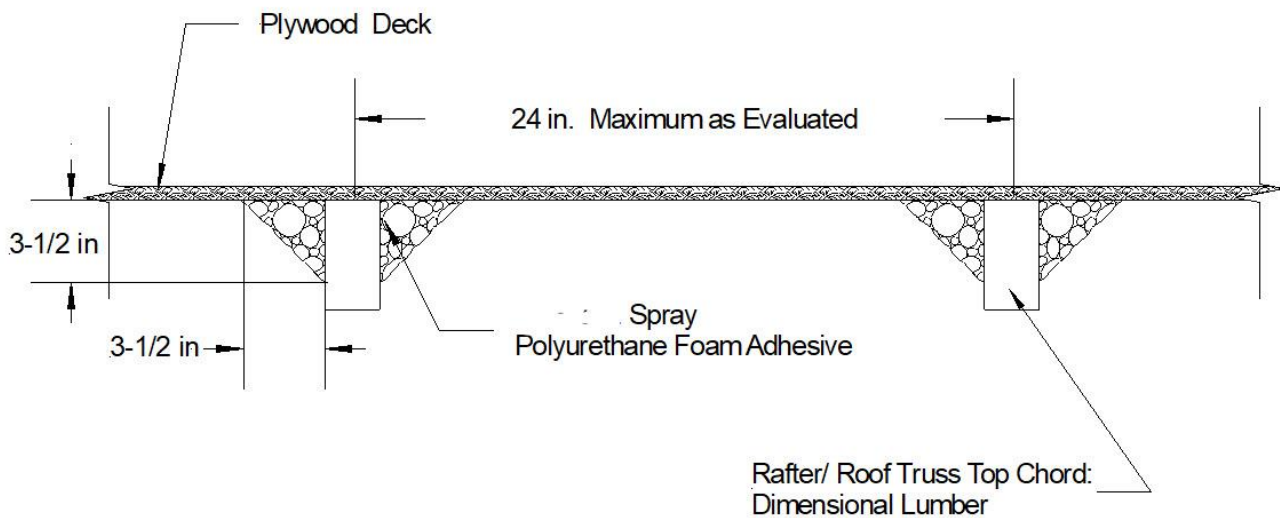
Intertek Testing Services NA, Inc. (FBC Organization ID# QUA 1673)

14.5 Certification of Independence

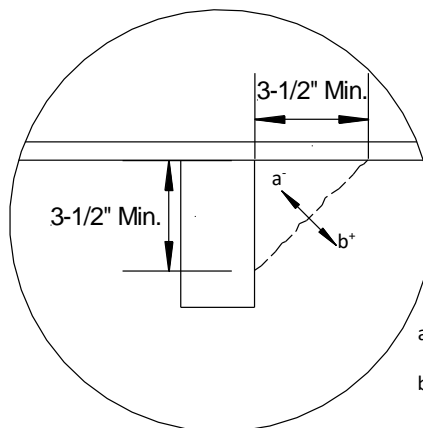
By James L. Buckner, P.E. @ CBUGK Engineering
(FBC Organization # ANE 1916)

**Installation Method
Victory Polymers Inc.
VPC-200cc hl and VPC-200cc hy
Spray Polyurethane Foam Adhesive**

Application Type: Fillet



Typical Roof Deck Section



- a⁺ Direction: Zero Tolerance
- b⁺ Direction: Any Greater

Fillet Tolerances