



# PRI Construction Materials Technologies LLC

6412 Badger Drive  
Tampa, FL 33610  
813.621.5777  
<https://www.pri-group.com/>

## Laboratory Test Report

**Report for:** Brian Brookheart  
VADA LLC  
3723 North Van Road  
Olney, IL 62450

**Project Name:** VADA Roofing Systems over OSB deck

**Project No.:** 1742T0001

**Date(s) Tested:** Feb. 22 – Mar. 5, 2021

**Test Methods:** ANSI/FM 4474(2011) Appendix D  
UL 1897-12

**Results Summary:** VADA systems installed over existing BUR on 7/16 CAT OSB decks as follows:

| <u>ASM No.</u> | <u>Membrane</u> | <u>Membrane Attachment</u> | <u>Vent Present?</u> | <u>Uplift</u> |
|----------------|-----------------|----------------------------|----------------------|---------------|
| 1              | 45mil JM TPO    | Loose laid                 | Y                    | 135psf        |
| 2              | JM TPO FB 115   | See page 2 for details     | N                    | 120psf        |

**Purpose:** Determine the simulated wind uplift pressure in accordance with **ANSI/FM 4474 Evaluating the Simulated Wind Uplift Resistance of Roof Assemblies Using Static Positive and/or Negative Differential Pressures** and **UL 1897 Uplift Test for Roofing Covering Systems**.

**Test Methods:** The *Uplift Resistance* was tested in accordance with ANSI/FM 4474 *Evaluating the Simulated Wind Uplift Resistance of Roof Assemblies Using Static Positive and/or Negative Differential Pressures* (2011), Appendix D: *12x24 Simulated Wind Uplift Pressure Test Procedure* and UL 1897 (2012) *Uplift Test for Roofing Covering Systems* using a 12ft x 24ft negative pressure chamber mounted over the test specimen.

**Sampling:** The following materials were received by PRI.

| <u>Product</u>                      | <u>Source</u>  | <u>Date</u>   | <u>Sampling</u> |
|-------------------------------------|----------------|---------------|-----------------|
| 45mil JM TPO                        | Scottsboro, AL | Feb. 8, 2021  | Johns Manville  |
| JM TPO FB 115                       | Scottsboro, AL | Jan. 18, 2021 | Johns Manville  |
| JM TPO Reinforced Coverstrip        | Scottsboro, AL | Feb. 17, 2021 | Johns Manville  |
| JM Roofing System Urethane Adhesive | Scottsboro, AL | Feb. 3, 2021  | Johns Manville  |
| 6" VADA turbine roof vent           | Tampa, FL      | Feb. 22, 2021 | VADA            |
| JM All Purpose Fasteners            | Charlotte, NC  | Jan. 29, 2021 | OMG             |

All other materials were procured through local sources of distribution.

**Conditioning:** Samples were conditioned 28d or less prior to testing.

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**Results:** Testing was performed at ambient conditions. Test pressures were increased by 15psf increments and maintained at each interval for 1 minute. Results are shown below. Installation details are contained in Appendix A. Photographs are attached in Appendix B.

**Table 1. Uplift Results**

| Assembly No. | Test Specimen Details |                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Results        |                |                 |               |                   |
|--------------|-----------------------|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------|-----------------|---------------|-------------------|
|              | Component             | Description                                  | Attachment Detail                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Passing Uplift | Failing Uplift | Time of Failure | Failure Mode  | Load per Fastener |
| 1            | Deck                  | 7/16 CAT PS 2-10, OSB sheathing              | Attached to No. 2 2x wood supports spaced 24" o.c. with 0.113in. x 2-3/8in. ring shank nails spaced 6" o.c. along the perimeter and intermediate supports                                                                                                                                                                                                                                                                                                                                               | 135psf         | 150psf         | 15s             | Existing roof | N/A               |
|              | Existing Roof         | BUR roofing system                           | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                |                |                 |               |                   |
|              | Membrane              | 45mil JM TPO                                 | Loose laid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                |                |                 |               |                   |
|              | Vent                  | 6" VADA turbine roof vent                    | Fastened with 3" High Load Fasteners in pre-punched holes in each corner of the vent; Vent flashing heat welded to the membrane on the deck; Turbine portion of the vent was then installed to the shaft with (4) 1-3/4" All Purpose Fasteners into each side of the vent                                                                                                                                                                                                                               |                |                |                 |               |                   |
| 2            | Deck                  | 7/16 CAT PS 2-10, OSB sheathing              | Attached to No. 2 2x wood supports spaced 24" o.c. with 0.113in. x 2-3/8in. ring shank nails spaced 6" o.c. along the perimeter and intermediate supports                                                                                                                                                                                                                                                                                                                                               | 120psf         | 135psf         | 23s             | Existing roof | N/A               |
|              | Existing Roof         | BUR roofing system with granulated cap sheet | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                |                |                 |               |                   |
|              | Membrane              | JM TPO FB 115                                | JM Roofing System Urethane Adhesive applied in 0.75-1" ribbons at 12" o.c.; Fastened in-lap 12" o.c. with 1-3/4" JM All Purpose Fastener and High Load plates; 6" wide side laps spaced 114" o.c. and sealed with a 1.5" wide heat weld; Fastened 12" o.c. in a single row, equally spaced between laps with 1-3/4" JM All Purpose Fastener and High Load plates; Center row of fasteners covered by a 8" wide 60mil JM TPO reinforced coverstrip with a 1.5" heat weld on each side of the coverstrip; |                |                |                 |               |                   |

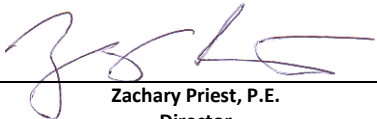
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### Statement of Compliance:

The laboratory test results presented in this report are representative of the material supplied and test specimens constructed. Testing was conducted in accordance with **ANSI/FM 4474 Evaluating the Simulated Wind Uplift Resistance of Roof Assemblies Using Static Positive and/or Negative Differential Pressures (2011)**, Appendix D: **12x24 Simulated Wind Uplift Pressure Test Procedure** and **UL 1897 (2012) Uplift Test for Roofing Covering Systems**.

Signed:

  
\_\_\_\_\_  
Zachary Priest, P.E.  
Director

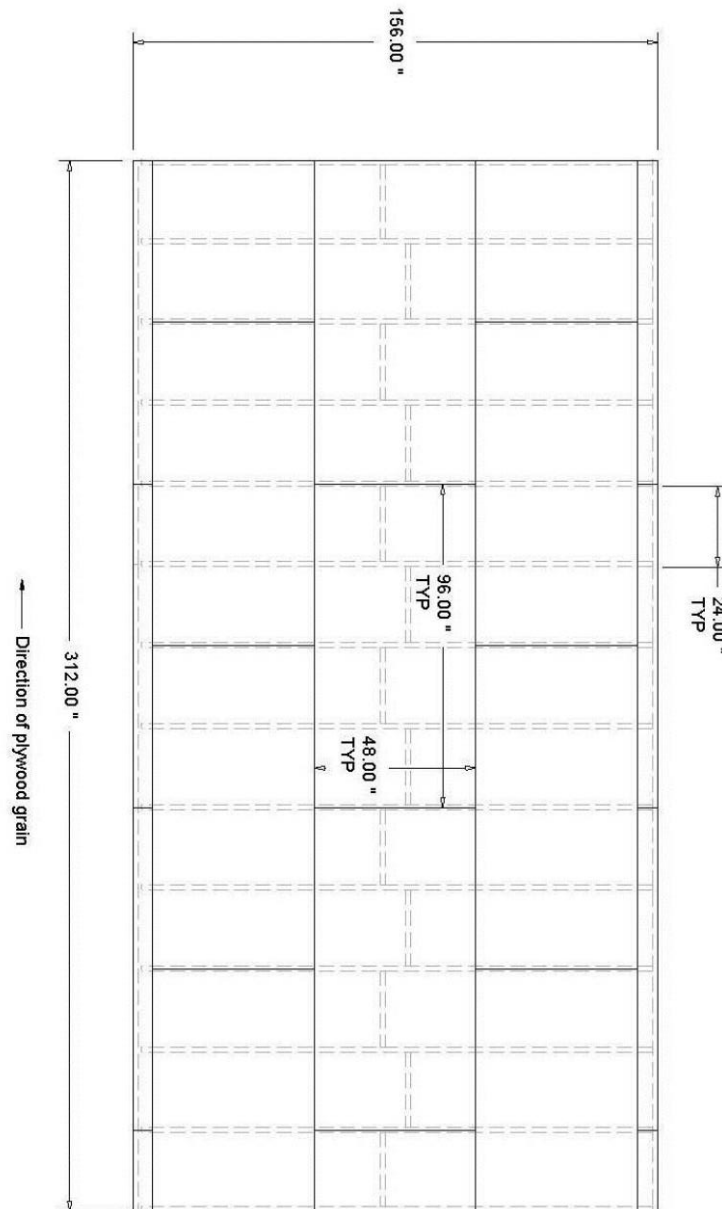
### Report Issue History:

| Issue #  | Date       | Pages | Revision Description (if applicable) |
|----------|------------|-------|--------------------------------------|
| Original | 03/09/2021 | 7     | NA                                   |

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**Deck Layout  
(Dimensions in inches)**



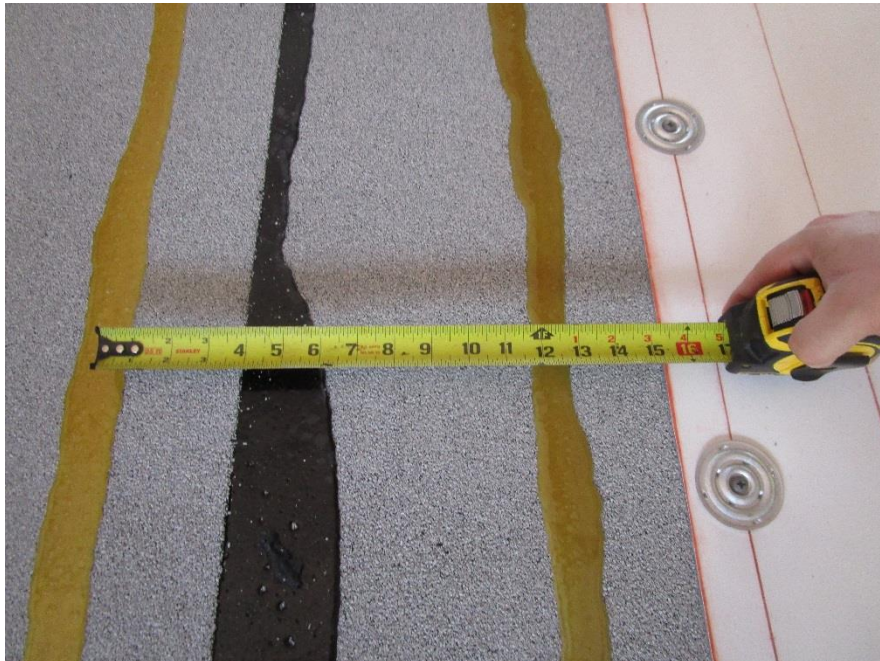
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### 6" VADA Turbine Roof Vent



### JM RSUA Application



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### JM TPO FB 115 Fastening



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