



**NEMO|etc.**

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**EVALUATION REPORT**

**Volatile Free, Inc.**

19500 Janacek Court  
Brookfield, WI 53045  
(262) 787-0400

**Evaluation Report 10965.02.16-R1**

**FL14125-R4**

**Date of Issuance: 02/17/2016**

**Revision 1: 01/29/2018**

**SCOPE:**

This Evaluation Report is issued under **Rule 61G20-3** and the applicable rules and regulations governing the use of construction materials in the State of Florida. The documentation submitted has been reviewed by Robert Nieminen, P.E. for use of the product under the Florida Building Code. The product described herein has been evaluated for compliance with the **6<sup>th</sup> Edition (2017) Florida Building Code** sections noted herein.

**DESCRIPTION: VFI Roof Coatings**

**LABELING:** Labeling shall be in accordance with the requirements the Accredited Quality Assurance Agency noted herein.

**CONTINUED COMPLIANCE:** This Evaluation Report is valid until such time as the named product(s) changes, the referenced Quality Assurance documentation changes, or provisions of the Code that relate to the product change. Acceptance of this Evaluation Report by the named client constitutes agreement to notify Robert Nieminen, P.E. of any changes to the product(s), the Quality Assurance or the production facility location(s). NEMO|etc. requires a complete review of this Evaluation Report relative to updated Code requirements with each Code Cycle.

**ADVERTISEMENT:** The Evaluation Report number preceded by the words "NEMO|etc. Evaluated" may be displayed in advertising literature. If any portion of the Evaluation Report is displayed, then it shall be done in its entirety.

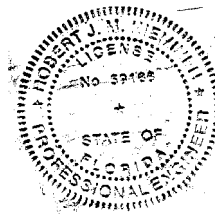
**INSPECTION:** Upon request, a copy of this entire Evaluation Report shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This Evaluation Report consists of pages 1 through 9.

**Prepared by:**

**Robert J.M. Nieminen, P.E.**

*Florida Registration No. 59166, Florida DCA ANE1983*



The facsimile seal appearing was authorized by Robert Nieminen, P.E. on 01/29/2018. This does not serve as an electronically signed document.

**CERTIFICATION OF INDEPENDENCE:**

1. NEMO ETC, LLC does not have, nor does it intend to acquire or will it acquire, a financial interest in any company manufacturing or distributing products it evaluates.
2. NEMO ETC, LLC is not owned, operated or controlled by any company manufacturing or distributing products it evaluates.
3. Robert Nieminen, P.E. does not have nor will acquire, a financial interest in any company manufacturing or distributing products for which the evaluation reports are being issued.
4. Robert Nieminen, P.E. does not have, nor will acquire, a financial interest in any other entity involved in the approval process of the product.
5. This is a building code evaluation. Neither NEMO ETC, LLC nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this Evaluation Report, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.

**ROOFING COMPONENT EVALUATION:**
**1. SCOPE:**

**Product Category:** Roofing  
**Sub-Category:** Cements – Adhesives - Coatings

**Compliance Statement:** VFI Roof Coatings, as produced by Volatile Free, Inc., have demonstrated compliance with the 6<sup>th</sup> Edition (2017) Florida Building Code through testing in accordance with the Standards set forth herein. Compliance is subject to the Installation Requirements and Limitations / Conditions of Use set forth herein.

**2. STANDARDS:**

| <u>Section</u>                | <u>Property</u>     | <u>Standard</u> | <u>Year</u> |
|-------------------------------|---------------------|-----------------|-------------|
| 1507.10.2, 1507.14.3, TAS 110 | Physical Properties | ASTM D6083      | 2005        |
| 1507.14.3, TAS 110            | Physical Properties | ASTM D6694      | 2008        |
| TAS 110                       | Physical Properties | TAS 139         | 1995        |

**3. REFERENCES:**

| <u>Entity</u>        | <u>Examination</u> | <u>Reference</u>               | <u>Date</u>     |
|----------------------|--------------------|--------------------------------|-----------------|
| Miami-Dade (CER1592) | HVHZ compliance    | 17-1020.01                     | 11/09/2017      |
| Miami-Dade (CER1592) | HVHZ compliance    | 16-0628.02                     | 12/07/2017      |
| PRI (TST5878)        | ASTM D6083         | PUSA-053-02-02REV2             | 08/28/2009      |
| PRI (TST5878)        | ASTM D6694         | VFI-018-02-01                  | 05/16/2012      |
| PRI (TST5878)        | ASTM D6083         | VFI-027-02-01                  | 12/21/2012      |
| PRI (TST5878)        | ASTM D6694         | VFI-042-02-01                  | 02/12/2016      |
| PRI (TST5878)        | ASTM D6694         | VFI-044-02-01                  | 02/12/2016      |
| PRI (TST5878)        | ASTM D6083         | VFI-048-02-01, VFI-051-02-01   | 09/21/2017      |
| PRI (TST5878)        | Various            | VFI-053-02-01, VFI-059-02-01   | 12/04/2017      |
| PRI (TST5878)        | TAS 139            | VFI-061-02-01                  | 01/16/2018      |
| PRI (TST5878)        | TAS 139            | VFI-062-02-01                  | 01/16/2018      |
| UL LLC (QUA9625)     | Quality Control    | Inspection Report, R19184      | 11/06/2017      |
| UL LLC (QUA9625)     | Quality Control    | Service Confirmation, 10985560 | Exp. 10/05/2018 |

**4. PRODUCT DESCRIPTION:**
**4.1 VFI-540 FR Poly Aluminum:**

|                   |  |
|-------------------|--|
| Description:      | Two-component, liquid applied polyurea hybrid elastomeric roof coating   |
| Specification:    | ASTM D6083, Table 2  |
| Application Rate: | See Section 6.   |
| Container Size:   | 15 or 55 gal. Note all precautions on container.   |
| Approved Use:     | Acceptable for use atop any roof system approval or fire rating directory listing that refers to VFI-540 FR Poly Aluminum or ASTM D6083 coating, subject to the substrate limitations below. |

**4.2 VFI-580:**

|                   |   |
|-------------------|---|
| Description:      | Asphalt base emulsion roof coating.   |
| Specification:    | ASTM D1227, Type III  |
| Application Rate: | 3 to 5 gallons per 100 sq ft in one coat.   |
| Container Size:   | 4.75 gallon pail, 50 gallon drum or 275 gallon tote. Note all precautions on container.   |
| Approved Use:     | Acceptable for use atop any roof system approval or fire rating directory listing that refers to VFI-580 or ASTM D1227 coating. |

**4.3 VFI-605:**

Description: White elastomeric acrylic-based roof coating  
 Specification: ASTM D6083  
 Application Rate: See Section 6.  
 Container Size: 4.75, 50 or 275 gallons. Note all precautions on container.  
 Approved Use: Acceptable for use atop any roof system approval or fire rating directory listing that refers to **VFI-605** or ASTM D6083 coating, subject to the substrate limitations below.

**4.4 VFI-605-1:**

Description: White elastomeric acrylic-based roof coating  
 Specification: ASTM D6083  
 Application Rate: See Section 6.  
 Container Size: 4.75, 50 or 275 gallons. Note all precautions on container.  
 Approved Use: Acceptable for use atop any roof system approval or fire rating directory listing that refers to **VFI-605-1** or ASTM D6083 coating, subject to the substrate limitations below.

**4.5 VFI-630:**

Description: White, water-based, elastomeric mastic  
 Specification: TAS 139  
 Application Rate: 1/8" thick film using brush, trowel, putty knife or bulk sealant gun  
 Container Size: 2 gal. Note all precautions on container.  
 Approved Use: Flashing and detailing.

**4.6 VFI-640:**

Description: Gray-tinted elastomeric acrylic-based base coat  
 Specification: ASTM D6083  
 Application Rate: See Section 6.  
 Container Size: 4.75, 50 or 275 gallons. Note all precautions on container.  
 Approved Use: Acceptable for use atop any roof system approval or fire rating directory listing that refers to **VFI-640** or ASTM D6083 coating, subject to the substrate limitations below.

**4.7 VFI-640-1:**

Description: Gray-tinted elastomeric acrylic-based base coat  
 Specification: ASTM D6083  
 Application Rate: See Section 6.  
 Container Size: 4.75, 50 or 275 gallons. Note all precautions on container.  
 Approved Use: Acceptable for use atop any roof system approval or fire rating directory listing that refers to **VFI-640-1** or ASTM D6083 coating, subject to the substrate limitations below.

**4.8 VFI-676:**

Description: Water-based, stain blocking, elastomeric base coat  
 Specification: Proprietary  
 Application Rate: 24 wet mils (1.5 gallon per 100 ft<sup>2</sup>) per coat.  
 Container Size: 4.75 gallon pail. Note all precautions on container.  
 Approved Use: See Section 6.

**4.9 VFI-990:**

Description: High solids, single component, moisture cure, white or tinted, silicone roof coating.  
 Specification: ASTM D6694  
 Application Rate: See Section 6.  
 Container Size: 5 or 50 gal. Note all precautions on container.  
 Approved Use: Acceptable for use atop any roof system approval or fire rating directory listing that refers to VFI-990 or ASTM D6694 coating, subject to the substrate limitations below.

**4.10 VFI-991:**

Description: Single component, solvent borne, white or tinted, silicone roof coating.  
 Specification: ASTM D6694  
 Application Rate: See Section 6.  
 Container Size: 5 or 50 gal. Note all precautions on container.  
 Approved Use: Acceptable for use atop any roof system approval or fire rating directory listing that refers to VFI-991 or ASTM D6694 coating, subject to the substrate limitations below.

**4.11 VFI-993:**

Description: Thick, high-build, single component, liquid dispersion silicone sealant grade caulk  
 Specification: TAS 139  
 Application Rate: Dispense and apply over areas to be sealed to desired thickness using brush, trowel or putty knife.  
 Container Size: 2 gal. Note all precautions on container.  
 Approved Use: To seal abnormal roof penetrations that cannot be covered with standard sprayers or rollers.

**4.12 VFI-1074:**

Description: Water-based rust inhibiting primer produced with light-blue color ease of coverage determination  
 Specification: Proprietary  
 Application Rate: 18-24 wet mils (~1.125 to 1.5 gallon per 100 ft<sup>2</sup>) per coat.  
 Container Size: 4.75 gallon pail. Note all precautions on container.  
 Approved Use: See Section 6.

**4.13 VFI-3600:**

Description: 2-component, aromatic polyurethane base coat for use with VFI-990  
 Specification: Proprietary  
 Application Rate: See Section 6.  
 Container Size: 5, 15, 55 or 270 gallons. Note all precautions on container.  
 Approved Use: Acceptable for use atop any roof system approval or fire rating directory listing that refers to **VFI-3600** as a base coat with VFI-990, subject to the substrate limitations below.

**5. LIMITATIONS:**

- 5.1 This is a building code evaluation. Neither NEMO ETC, LLC nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this Evaluation Report, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.
- 5.2 Fire classification is not part of this Evaluation Report. Refer to a current Roofing Materials directory for fire classifications of roof assemblies using the components outlined herein.
- 5.3 VFI Roof Coatings shall be applied in strict accordance with Volatile Free, Inc. published installation instructions, and Section 4 herein.
- 5.4 VFI Roof Coatings are components for use in Approved roof assemblies. Refer to the "Approved Use" in Section 4 for each component. The coatings noted herein are not purported to be Roofing Systems, and their use shall be governed by and limited to applications where Roof System Product Approval is not necessary (e.g., maintenance and repair) or where the components are called out in a Roof System Product Approval.
- 5.5 All products listed herein shall have quality assurance audit in accordance with F.A.C. Rule 61G20-3 requirements.

**6. INSTALLATION:**

- 6.1 VFI Roof Coatings shall be installed in accordance with Volatile Free, Inc. published installation instructions, subject to the Limitations in Section 5 and the Application Rate / Approved Use noted in Section 4.
- 6.2 All surface preparation shall be in compliance with Volatile Free current published application instructions. The existing surface should be smooth, clean, sound and dry prior to the application of the Volatile Free Acrylic Restoration Coating System. Existing roof system and/or substrate shall meet wind uplift requirements of the project to the satisfaction of the Authority Having Jurisdiction.
- 6.2 Allowable Substrates & Application Rates:

| Table 6A: VFI-540 FR applications |        |  |
|-----------------------------------|--------|--|
| Substrate                         | Primer | Application  |
| Galvanized Metal                  | None   | One (1) coat of VFI-540 FR at 1.5 gal/sq. on flat area and 3 gal/sq. at seams. |
| Spray Applied Polyurethane Foam   | None   | One (1) coat of VFI-540 FR at 2.5 gal/sq.                                      |

| Table 6B: VFI-605 applications   |                     |   |   |  |  |
|--|---------------------|---|---|--|--|
| <i>Note: Optional, use VFI-630 flashing grade to seal seams, penetrations and fasteners if necessary</i> |                     |   |   |  |  |
| Substrate  | Primer              | Treatment   | Foundation Coat(s)                          | Fabric   | Finish Coat(s)                           |
| Asphalt Built-Up Roof (BUR)  | None                | None  | VFI-640 @ 1-1.5 gal/sq                      | None   | VFI-605 @ 1-1.5 gal/sq                   |
|  | None                | None  | VFI-640 or VFI-676 @ 2 gal/sq.              | Tietex T272  | 2 coats VFI-605 @ 1-1.5 gal/sq. per coat |
|  | None                | None  | 1 or 2 coats, VFI-580 @ 3-5 gal/sq.         | (Optional) Tietex T272 into one or both base coats | 2 coats VFI-605 @ 1-1.5 gal/sq. per coat |
|  | None                | None  | 1 or 2 coats VFI-580 @ 3-5 gal/sq. per coat | Tietex T272 into upper base coat                   | 2 coats VFI-605 @ 1-1.5 gal/sq. per coat |
|  | None                | None  | VFI-580 @ 3-5 gal/sq                        | Tietex T272  | 2 coats VFI-605 @ 1-1.5 gal/sq. per coat |
| Galvanized Metal Roof Panels   | (Optional) VFI-1074 | Exposed fasteners: VFI-630 or 6x6" Tietex T272 into foundation coat; Seams, joints & laps: VFI-630 or strips Tietex T272, overlapping fabric joints 3" into foundation coat | VFI-640 or VFI-676 @ 1-1.5 gal/sq.          | None   | VFI-605 @ 1-1.5 gal/sq.                  |

**Table 6B: VFI-605 applications**
*Note: Optional, use VFI-630 flashing grade to seal seams, penetrations and fasteners if necessary*

| Substrate                              | Primer                 | Treatment   | Foundation Coat(s)                  | Fabric   | Finish Coat(s)                           |
|--|------------------------|---|-------------------------------------|--|--|
| Galvanized Metal Roof Panels           | (Optional)<br>VFI-1074 | Exposed fasteners: VFI-630 or 6x6" Tietex T272 into foundation coat; Seams, joints & laps: VFI-630 or strips Tietex T272, overlapping fabric joints 3" into foundation coat | VFI-640 @ 2 gal/sq.                 | Tietex T272  | VFI-605 @ 1-1.5 gal/sq.                  |
| Modified Bitumen, granule-surfaced     | None                   | None  | VFI-640 or VFI-676 @ 1-1.5 gal/sq.  | None   | VFI-605 @ 1-1.5 gal/sq.                  |
|  | None                   | None  | VFI-640 @ 2 gal/sq                  | Tietex T272  | 2 coats VFI-605 @ 1-1.5 gal/sq. per coat |
|  | None                   | None  | 1 or 2 coats, VFI-580 @ 3-5 gal/sq. | (Optional) Tietex T272 into one or both base coats | 2 coats VFI-605 @ 1-1.5 gal/sq. per coat |
| Single Ply; existing CSPE, EPDM or PVC | (Optional)<br>VFI-11   | None  | VFI-640 @ 1-1.5 gal/sq.             | None   | VFI-605 @ 1-1.5 gal/sq.                  |
|  | (Optional)<br>VFI-11   | None  | VFI-640 @ 2 gal/sq.                 | Tietex T272  | VFI-605 @ 1-1.5 gal/sq.                  |
|  | (Optional)<br>VFI-11   | None  | VFI-580 @ 3-5 gal/sq.               | (Optional) Tietex T272                             | 2 coats VFI-605 @ 1-1.5 gal/sq. per coat |
| Single Ply; existing CSPE              | (Optional)<br>VFI-11   | None  | VFI-640 @ 1-1.5 gal/sq.             | None   | VFI-605 @ 1-1.5 gal/sq.                  |
|  | (Optional)<br>VFI-11   | None  | VFI-640 @ 2 gal/sq.                 | Tietex T272  | VFI-605 @ 1-1.5 gal/sq.                  |
|  | (Optional)<br>VFI-11   | None  | VFI-580 @ 3-5 gal/sq.               | (Optional) Tietex T272                             | 2 coats VFI-605 @ 1-1.5 gal/sq. per coat |
| Single Ply; existing TPO               | None                   | None  | VFI-676 @ 1-1.5 gal/sq.             | None   | VFI-605 @ 1-1.5 gal/sq.                  |
| Spray Applied Polyurethane Foam        | None                   | None  | VFI-640 @ 1-1.5 gal/sq.             | None   | VFI-605 @ 1-1.5 gal/sq.                  |
|  | None                   | None  | VFI-640 @ 2 gal/sq.                 | Tietex T272  | VFI-605 @ 1-1.5 gal/sq.                  |
|  | None                   | None  | VFI-580 @ 3-5 gal/sq.               | (Optional) Tietex T272                             | 2 coats VFI-605 @ 1-1.5 gal/sq. per coat |
|  | None                   | None  | VFI-640 @ 1-1.5 gal/sq.             | None   | 2 coats VFI-605 @ 1-1.5 gal/sq. per coat |
| Structural Concrete                    | None                   | None  | VFI-640 @ 1-1.5 gal/sq.             | None   | VFI-605 @ 1-1.5 gal/sq.                  |
|  | None                   | None  | VFI-640 @ 2 gal/sq.                 | Tietex T272  | VFI-605 @ 1-1.5 gal/sq.                  |
| Wood                                   | None                   | Joints: VFI-630 or 6" strips Tietex T272, overlapping fabric joints 3" into foundation coat   | VFI-640 @ 1-1.5 gal/sq.             | None   | VFI-605 @ 1-1.5 gal/sq                   |

**Table 6C: VFI-605-1 applications**  
*Note: Optional, use VFI-630 flashing grade to seal seams, penetrations and fasteners if necessary*

| Substrate   | Primer                | Treatment   | Foundation Coat             | Fabric                 | Finish Coat                   |
|---|-----------------------|---|-----------------------------|------------------------|-------------------------------|
| Asphalt Built-Up Roof (BUR), granule or smooth-surfaced | VFI-607 @ 1.6 gal/sq. | None  | VFI-640-1 @ 1.5-3.0 gal/sq. | (Optional) Tietex T272 | VFI-605-1 @ 1.25-2.25 gal/sq. |
| Galvanized Metal Roof Panels                            | (Optional) VFI-11     | Exposed fasteners: VFI-630 or 6x6" Tietex T272 into foundation coat; Seams, joints & laps: VFI-630 or strips Tietex T272, overlapping fabric joints 3" into foundation coat | VFI-640-1 @ 1.5-2.7 gal/sq. | (Optional) Tietex T272 | VFI-605-1 @ 1.25-2.25 gal/sq. |
| Modified Bitumen, granule-surfaced                      | VFI-607 @ 1.6 gal/sq. | None  | VFI-640-1 @ 1.5-3.0 gal/sq. | (Optional) Tietex T272 | VFI-605-1 @ 1.25-2.25 gal/sq. |
| Single Ply; existing EPDM, PVC or TPO                   | VFI-1009 (cleaner)    | None  | VFI-640-1 @ 1.5-2.7 gal/sq. | (Optional) Tietex T272 | VFI-605-1 @ 1.25-2.25 gal/sq. |
| Spray Applied Polyurethane Foam                         | None                  | None  | VFI-640-1 @ 1.5-2.7 gal/sq. | (Optional) Tietex T272 | VFI-605-1 @ 1.25-2.25 gal/sq. |
| Structural Concrete                                     | None                  | None  | VFI-640-1 @ 1.5-2.7 gal/sq. | (Optional) Tietex T272 | VFI-605-1 @ 1.25-2.25 gal/sq. |

**Table 6D: VFI-990 applications**  
*Note: Optional, use VFI-630 or VFI-993 flashing grade to seal seams, penetrations and fasteners if necessary*

| Substrate   | Prep                | Primer             | Foundation Coat(s)          | Fabric                 | Finish Coat(s)              |
|---|---------------------|--------------------|-----------------------------|------------------------|-----------------------------|
| Asphalt Built-Up Roof (BUR), granule or smooth-surfaced | None                | VFI-11             | VFI-990 @ 0.75-1.25 gal/sq. | (Optional) Tietex T272 | VFI-990 @ 0.75-1.25 gal/sq. |
| Galvanized Metal Roof Panels                            | None                | VFI-11             | VFI-990 @ 0.75-1.25 gal/sq. | (Optional) Tietex T272 | VFI-990 @ 0.75-1.25 gal/sq. |
|   | None                | VFI-11             | VFI-3600 @ 2.0-2.5 gal/sq.  | None                   | VFI-990 @ 1.25-1.75 gal/sq. |
| Modified Bitumen, APP granule-surfaced                  | None                | VFI-11             | VFI-990 @ 0.75-1.25 gal/sq. | (Optional) Tietex T272 | VFI-990 @ 0.75-1.25 gal/sq. |
| Modified Bitumen, existing APP smooth-surfaced          | None                | VFI-11             | VFI-990 @ 0.75-1.25 gal/sq. | (Optional) Tietex T272 | VFI-990 @ 0.75-1.25 gal/sq. |
| Modified Bitumen, SBS granule or smooth-surfaced        | None                | VFI-11             | VFI-990 @ 0.75-1.25 gal/sq. | (Optional) Tietex T272 | VFI-990 @ 0.75-1.25 gal/sq. |
| Single Ply; existing CSPE                               | VFI-1009            | VFI-11 or VFI-1007 | VFI-990 @ 0.75-1.25 gal/sq. | (Optional) Tietex T272 | VFI-990 @ 0.75-1.25 gal/sq. |
| Single Ply; existing EPDM                               | VFI-1009            | VFI-11             | VFI-990 @ 0.75-1.25 gal/sq. | (Optional) Tietex T272 | VFI-990 @ 0.75-1.25 gal/sq. |
|   | VFI-1009            | VFI-11             | VFI-3600 @ 2.0-2.5 gal/sq.  | (Optional) Tietex T272 | VFI-990 @ 1.25-1.75 gal/sq. |
| Single Ply; existing PVC                                | (Optional) VFI-1009 | VFI-11 or VFI-1007 | VFI-990 @ 0.75-1.25 gal/sq. | (Optional) Tietex T272 | VFI-990 @ 0.75-1.25 gal/sq. |
| Single Ply; existing TPO                                | VFI-1009            | VFI-1007           | VFI-990 @ 0.75-1.25 gal/sq. | (Optional) Tietex T272 | VFI-990 @ 0.75-1.25 gal/sq. |
| Spray Applied Polyurethane Foam                         | None                | None               | VFI-990 @ 0.75-1.25 gal/sq. | (Optional) Tietex T272 | VFI-990 @ 0.75-1.25 gal/sq. |
|   | None                | None               | VFI-3600 @ 2.0-2.5 gal/sq.  | None                   | VFI-990 @ 1.25-1.75 gal/sq. |

| Table 6D: VFI-990 applications  |                        |                   |                             |                           |                             |
|---|------------------------|-------------------|-----------------------------|---------------------------|-----------------------------|
| <i>Note: Optional, use VFI-630 or VFI-993 flashing grade to seal seams, penetrations and fasteners if necessary</i> |                        |                   |                             |                           |                             |
| Substrate   | Prep                   | Primer            | Foundation Coat(s)          | Fabric                    | Finish Coat(s)              |
| Structural concrete   | (Optional)<br>VFI-1009 | (Optional) VFI-11 | VFI-990 @ 0.75-1.25 gal/sq. | (Optional)<br>Tietex T272 | VFI-990 @ 0.75-1.25 gal/sq. |

| Table 6E: VFI-991 applications  |                        |                       |                              |                           |                             |
|---|------------------------|-----------------------|------------------------------|---------------------------|-----------------------------|
| <i>Note: Optional, use VFI-630 or VFI-993 flashing grade to seal seams, penetrations and fasteners if necessary</i> |                        |                       |                              |                           |                             |
| Substrate   | Prep                   | Primer                | Foundation Coat(s)           | Fabric                    | Finish Coat(s)              |
| Asphalt Built-Up Roof (BUR), granule or smooth-surfaced   | None                   | VFI-11                | VFI-991 @ 1.0-1.7 gal/sq.    | (Optional)<br>Tietex T272 | VFI-991 @ 1.0-1.7 gal/sq.   |
|   | None                   | VFI-607 @ 1.6 gal/sq. | VFI-640-1 @ 1.5-3.0 gal/sq.  | (Optional)<br>Tietex T272 | VFI-991 @ 1.25-2.25 gal/sq. |
| Galvanized Metal Roof Panels  | None                   | (Optional) VFI-11     | VFI-991 @ 1.0-1.7 gal/sq.    | (Optional)<br>Tietex T272 | VFI-991 @ 1.0-1.7 gal/sq.   |
|   | None                   | (Optional) VFI-11     | VFI-640-1 @ 1.25-2.7 gal/sq. | (Optional)<br>Tietex T272 | VFI-991 @ 1.25-2.25 gal/sq. |
| Modified Bitumen, APP or SBS granule-surfaced   | None                   | VFI-11                | VFI-991 @ 1.0-1.7 gal/sq.    | (Optional)<br>Tietex T272 | VFI-991 @ 1.0-1.7 gal/sq.   |
|   | None                   | VFI-607 @ 1.6 gal/sq. | VFI-640-1 @ 1.5-3.0 gal/sq.  | (Optional)<br>Tietex T272 | VFI-991 @ 1.25-2.25 gal/sq. |
| Modified Bitumen, existing APP smooth-surfaced  | None                   | VFI-11                | VFI-991 @ 1.0-1.7 gal/sq.    | (Optional)<br>Tietex T272 | VFI-991 @ 1.0-1.7 gal/sq.   |
| Modified Bitumen, SBS granule or smooth-surfaced  | None                   | VFI-11                | VFI-991 @ 1.0-1.7 gal/sq.    | (Optional)<br>Tietex T272 | VFI-991 @ 1-1.7 gal/sq.     |
| Single Ply; existing CSPE   | (Optional)<br>VFI-1009 | VFI-11                | VFI-991 @ 1.0-1.7 gal/sq.    | (Optional)<br>Tietex T272 | VFI-991 @ 1.0-1.7 gal/sq.   |
| Single Ply; existing EPDM   | VFI-1008 or VFI-1009   | VFI-11                | VFI-991 @ 1.0-1.7 gal/sq.    | (Optional)<br>Tietex T272 | VFI-991 @ 1.0-1.7 gal/sq.   |
|   | VFI-1009               | None                  | VFI-640-1 @ 1.5-2.7 gal/sq.  | (Optional)<br>Tietex T272 | VFI-991 @ 1.25-2.25 gal/sq. |
| Single Ply; existing PVC  | (Optional)<br>VFI-1009 | VFI-11                | VFI-991 @ 1.0-1.7 gal/sq.    | (Optional)<br>Tietex T272 | VFI-991 @ 1.0-1.7 gal/sq.   |
|   | VFI-1009               | None                  | VFI-640-1 @ 1.5-2.7 gal/sq.  | (Optional)<br>Tietex T272 | VFI-991 @ 1.25-2.25 gal/sq. |
| Single Ply; existing TPO  | (Optional)<br>VFI-1009 | VFI-11                | VFI-991 @ 1.0-1.7 gal/sq.    | (Optional)<br>Tietex T272 | VFI-991 @ 1.0-1.7 gal/sq.   |
|   | VFI-1009               | None                  | VFI-640-1 @ 1.5-2.7 gal/sq.  | (Optional)<br>Tietex T272 | VFI-991 @ 1.25-2.25 gal/sq. |
| Spray Applied Polyurethane Foam   | None                   | None                  | VFI-991 @ 1.0-1.7 gal/sq.    | (Optional)<br>Tietex T272 | VFI-991 @ 1.0-1.7 gal/sq.   |
|   | None                   | None                  | VFI-640-1 @ 1.5-2.7 gal/sq.  | (Optional)<br>Tietex T272 | VFI-991 @ 1.25-2.25 gal/sq. |
| Structural Concrete   | None                   | None                  | VFI-640-1 @ 1.5-2.7 gal/sq.  | (Optional)<br>Tietex T272 | VFI-991 @ 1.25-2.25 gal/sq. |



**7. BUILDING PERMIT REQUIREMENTS:**

As required by the Building Official or Authority Having Jurisdiction in order to properly evaluate the installation of this product.

**8. MANUFACTURING PLANTS:**

| Products   | Location         |
|--|------------------|
| VFI-11, VFI-540 FR, VFI-605-1, VFI-630, VFI-640-1, VFI-990, VFI-991, VFI-993, VFI-3600 | Brookfield, WI   |
| VFI-605, VFI-640, VFI-676, VFI-1074  | Winter Haven, FL |
| VFI-580  | Wickliffe, OH    |

**9. QUALITY ASSURANCE ENTITY:**

UL LLC – QUA9625; (314) 578-3406; k.chancellor@us.ul.com

**- END OF EVALUATION REPORT -**