



## NEMO EVALUATION REPORT (NER)

**Veer Plastics Private Limited**

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**SUBJECT: VShield™ Roof Underlayments**

<b>SCOPE:</b>	This NEMO Evaluation Report (henceforth 'NER') is issued under F.A.C. <a href="#">Rule 61G20-3</a> and the applicable rules and regulations governing Product Approval of construction materials in the State of Florida and ISO/IEC 17065 via <a href="#">NEMO cert</a> . NEMO Evaluations has evaluated the product described herein for compliance with the <a href="#">Code sections</a> noted herein.
<b>CODE:</b>	2021 International Building Code 2021 International Residential Code 2023 Florida Building Code, 8 <sup>th</sup> Edition 2023 Florida Building Code, Residential, 8 <sup>th</sup> Edition
<b>FBC JURISDICTION:</b>	Non-HVHZ and HVHZ
<b>NEMO CATEGORY:</b>	Steep Slope
<b>FBC CATEGORY:</b>	Roofing
<b>FBC SUB-CATEGORY:</b>	Underlayment
<b>CSI DIVISION:</b>	07 00 00 Thermal and Moisture Protection 07 30 05 Roofing Felt and Underlayment
<b>METHOD:</b>	Method 1, Option C – Codified Material, Evaluation by Evaluation Entity
<b>COMPLIANCE STATEMENT:</b>	<b>VShield™ Roof Underlayments</b> , as produced by <b>Veer Plastics Private Limited</b> , have demonstrated compliance with the <a href="#">Code sections</a> noted herein through testing in accordance with the referenced Standards, rational analysis and an ongoing quality assurance program. Compliance is subject to the <a href="#">Installation Requirements</a> and <a href="#">Limitations of Use</a> set forth herein.
<b>QUALITY ASSURANCE:</b>	Evidence of current quality assurance shall be listing and labeling in accordance with the requirements of <a href="#">Nemo cert</a> .
<b>CONTINUED COMPLIANCE:</b>	This NER is valid until such time the named product(s) change, the referenced Quality Assurance changes, or the evaluated Code provisions change. NEMO Evaluations require, at minimum, a complete review of this NER with each 3-year Code Cycle.
<b>BUILDING PERMIT REQUIREMENTS:</b>	As required by the Building Official or Authority Having Jurisdiction to evaluate the installation of this product.
<b>ADVERTISEMENT:</b>	"NEMO Evaluated" may be displayed in advertising literature. If any portion of the NER is displayed, it shall be displayed in its entirety.
<b>CERTIFICATION OF INDEPENDENCE:</b>	<ul style="list-style-type: none"> <li>✓ NEMO CERT, 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.</li> <li>✓ NEMO CERT, LLC is not owned, operated or controlled by any company manufacturing or distributing products it evaluates.</li> <li>✓ This is a building code evaluation. NEMO CERT, LLC is not, in any way, the Designer of Record for any project on which this NER, or previous versions thereof, is/was used for permitting or design guidance.</li> </ul>



## 1. CODES, PROPERTIES AND STANDARDS:

CODE	SECTION	PROPERTY	STANDARD
2021 International Building Code	1507.1.1	Material standard (alternate)	ASTM D226
	1507.1.1, 1507.2.8.2, 1507.3.9, 1507.5.7, 1507.8.8, 1507.9.9	Material standard	ASTM D1970
	1505.1	Fire Classification	ASTM E108
2021 International Residential Code	R905.1.1	Material standard (alternate)	ASTM D226
	R905.1.1, R905.2.8.2	Material standard	ASTM D1970
	R902.1	Fire Classification	ASTM E108
2023 Florida Building Code, 8 <sup>th</sup> Edition	1504.2.1.4	Wind resistance	UL 1897
	1507.1.1, 1507.2.9.2, 1507.2.9.3, 1518.2, TAS 110	Material standard	ASTM D1970
	1507.3.3	Material standard	FRSA/TRI Manual
	TAS 110	Accelerated Weathering	ASTM D4798
	1505.1	Fire Classification	ASTM E108
2023 Florida Building Code, Residential, 8 <sup>th</sup> Edition	R905.1.1, R905.2.8.2, R905.2.8.5	Material standard	ASTM D1970
	R905.3.3	Material standard	FRSA/TRI Manual
	R902.1	Fire Classification	ASTM E108

## 2. PRODUCTS:

TABLE 1: EVALUATED UNDERLAYMENTS (NEMO Certified. Consult <a href="#">Directory of Certified Products</a> for production location(s))		
PRODUCT	MATERIAL STANDARD	DESCRIPTION
VShield™ SureTack	ASTM D1970 <sup>1</sup> AC188 FRSA/TRI Manual TAS 103 (partial)	Nominal 40-mil, self-adhering, synthetic roof underlayment composed of a synthetic top facer bonded to a polymer modified bituminous layer and release film

## 3. INSTALLATION:

3.1 **VShield™ Roof Underlayments** shall be installed in accordance with **Veer Plastics** published installation instructions, subject to the [Limitations of Use](#) noted herein. In case of conflict between published installation instructions and this NER, this NER governs.

3.1.1 The report holder's installation instructions shall be made available at the jobsite at all times during installation.

3.2 Substrates shall be in accordance with codified requirements to the satisfaction of the Authority Having Jurisdiction. Re-fasten any loose decking panels, and check for protruding nail heads. Sweep the substrate thoroughly to remove any dust and debris prior to application, and prime the substrate (if applicable).

### 3.3 IBC and IRC:

3.3.1 **VShield™ Roof Underlayments** shall be installed in compliance with the applicable code, this NER and the report holder's published installation instructions.

#### 3.3.2 Ice Barrier:

When used as an ice barrier, **VShield™ SureTack** shall be installed in sufficient courses to extend upslope a minimum of 24-inches beyond the exterior wall plane (Reference: IBC 1507.1.2 or R905.1.2). Subsequently installed roof underlayments shall overlap the ice barrier.

<sup>1</sup> Agreement between purchaser and seller, as set forth in Section 4.3, Note 1 of ASTM D1970-17, should be established as to slip resistance.



### 3.3.3 **Roof Underlayment:**

#### 3.3.3.1 IBC: When used as a roof underlayment:

**VShield™ Roof Underlayments** may be installed as an alternative to the codified ASTM D226 Type I or II underlayments prescribed in IBC 1507.1.1. **VShield™ SureTack** does not require mechanical attachment.

#### 3.3.3.2 IRC: When used as a roof underlayment:

**VShield™ SureTack** may be installed in accordance with the codified ASTM D1970 underlayments prescribed in IRC R905.1.1.

#### 3.3.3.4 When **VShield™ SureTack** is installed atop a base sheet, the base sheet shall comply with, and be attached in accordance with IBC Table 1507.1.1(3) or Table R905.1.1(3).

Refer to [Table 2A](#) herein for allowable roof covers and [Table 3](#) herein for allowable substrates.

### 3.3.4 **Joint-Strips:**

Min. 4-inch wide strips of **VShield™ SureTack** may be installed in accordance with IBC 1507.1.1(1) or IRC R905.1.1(2).

### 3.3.5 **Flashing:**

**VShield™ SureTack** may be used as flashing material where use of an ASTM D1970 compliant material is prescribed in IBC Chapter 15 or IRC Chapter 9. Flashing shall be installed in a water-shedding condition. When installed in concert with metal drip edge, **VShield™ SureTack** shall be installed atop eave metal and beneath rake metal.

### 3.4 **FBC (non-HVHZ) and FBC Residential:**

#### 3.4.1 Refer to Section 3.4.2 below for underlayments having prescriptive codified minimum attached requirements or [Section 4.7.2](#) herein for underlayment systems having maximum design pressures established in accordance with FBC [1504.2.1.4](#).

#### 3.4.2 Prescriptive Underlayment Systems for use in NON-TILE applications:

##### 3.4.2.1 **CODE REFERENCE:** [1507.1.1.1](#) or [R905.1.1.1](#), **Option 1:**

**APPLICATION:** Underlayment adhered to deck

**DECK DESCRIPTION:** Code-minimum wood deck to the satisfaction of the Authority Having Jurisdiction.

**UNDERLAYMENT:** **VShield™ SureTack** self-adhered in accordance with FBC Section 1507.1.1.1(1) or R905.1.1.1(1) and [back-nailed](#) in accordance with the manufacturer's requirements.

**SURFACING:** FBC Approved asphalt shingles, metal roof panels or metal shingles, slate or slate type shingles, subject to the allowable roof covers in [Table 2B](#) herein.

##### 3.4.2.2 **CODE REFERENCE:** [1507.1.1.1](#) or [R905.1.1.1](#), **Option 2:**

**APPLICATION:** Self-adhering strips to deck-joints followed by underlayment mechanically attached to deck

**DECK DESCRIPTION:** Code-minimum wood deck to the satisfaction of the Authority Having Jurisdiction

**SECONDARY WATER BARRIER:** Min. 3 ¾-inch wide strips of **VShield™ SureTack** self-adhered over joints of the roof deck prior to installation of subsequent layer(s) in accordance with FBC Section 1507.1.1.1(2) or R905.1.1.1(2). Do not overlap end-joints or T-joints. All end-joints and T-joints shall be butted firmly side by side, flush with each other but not overlapped.

**UNDERLAYMENT:** FBC Approved, ASTM D226 Type II, ASTM D4869 Type III or IV, ASTM D6757 or ASTM D8257 underlayment with a minimum 4-inch side lap and 6-inch end lap, mechanically fastened to deck accordance with FBC Table 1507.1.1.1 or Table R905.1.1.1.

**SURFACING:** FBC Approved prepared roof cover, subject to the limitations in FBC Table 1507.1.1.1 or Table R905.1.1.1.



3.4.2.3

<b>CODE REFERENCE:</b>	<b><a href="#">1507.1.1.1</a> or <a href="#">R905.1.1.1</a>, Option 1 combined with Option 2 or 3:</b>								
<b>APPLICATION:</b>	Optional self-adhering strips to deck-joints followed by base sheet mechanically fastened to deck followed by underlayment adhered to base sheet								
<b>DECK DESCRIPTION:</b>	Code-minimum wood deck to the satisfaction of the Authority Having Jurisdiction								
<b>SECONDARY WATER BARRIER:</b>	(Optional) Min. 3 ¾-inch wide strips of <b>VShield™ SureTack</b> self-adhered over joints of the roof deck prior to installation of subsequent layer(s) in accordance with FBC Section 1507.1.1.1(2) or R905.1.1.1(2). Do not overlap end-joints or T-joints. All end-joints and T-joints shall be butted firmly side by side, flush with each other but not overlapped.								
<b>BASE SHEET:</b>	One (1) layer of FBC Approved, ASTM D226 Type II, ASTM D4869 Type III or IV or ASTM D8257 underlayment in accordance with FBC Table 1507.1.1.1 or Table R905.1.1.1, with a minimum 4-inch side lap and 6-inch end lap or two (2) layers of FBC Approved, ASTM D226 Type II, ASTM D4869 Type III or IV or ASTM D8257 in accordance with FBC Section 1507.1.1.1(3) or R905.1.1.1(3), mechanically fastened to deck								
<b>FASTENERS:</b>	Min. 0.083-inch diameter annular ring or deformed shank nails with metal or plastic caps with a nominal cap diameter of not less than 1-inch and minimum thickness as follows. The nail shall be of sufficient length to penetrate through the roof sheathing, or not less than 0.75-inch into the roof sheathing. <b>Note:</b> Metal caps are required where the ultimate design wind speed, $V_{ult}$ , equals or exceeds 170 mph. <table> <tr> <th><b>Cap Type</b></th><th><b>Minimum thickness</b></th></tr> <tr> <td>Metal cap</td><td>32 ga. sheet metal</td></tr> <tr> <td>Power-driven metal cap</td><td>0.010-inch</td></tr> <tr> <td>Plastic cap</td><td>0.035-inch (outside edge thickness)</td></tr> </table>	<b>Cap Type</b>	<b>Minimum thickness</b>	Metal cap	32 ga. sheet metal	Power-driven metal cap	0.010-inch	Plastic cap	0.035-inch (outside edge thickness)
<b>Cap Type</b>	<b>Minimum thickness</b>								
Metal cap	32 ga. sheet metal								
Power-driven metal cap	0.010-inch								
Plastic cap	0.035-inch (outside edge thickness)								
<b>FASTENING:</b>	Grid pattern of 12-inches between the overlaps and 6-inch spacing at the overlaps, in accordance with FBC Table 1507.1.1.1 or Table R905.1.1.1 or FBC Section 1507.1.1.1(3) or R905.1.1.1(3).								
<b>UNDERLAYMENT:</b>	<b>VShield™ SureTack</b> self-adhered in accordance with FBC Section 1507.1.1.1(1) or R905.1.1.1(1) and <a href="#">back-nailed</a> in accordance with the manufacturer's requirements.								
<b>SURFACING:</b>	FBC Approved asphalt shingles, metal roof panels or metal shingles, slate or slate type shingles, subject to the allowable roof covers in <a href="#">Table 2B</a> herein.								

3.5 **FBC HVHZ (Broward and Miami-Dade Counties):**

3.5.1 Refer to Section 3.5.2 below for underlayments having prescriptive codified minimum attachment requirements or [Section 4.7.2](#) herein for underlayment systems having maximum design pressures established in accordance with [TAS 103](#).

3.5.2 Prescriptive Underlayment Systems for use in NON-TILE applications:

3.5.2.1

<b>CODE REFERENCE:</b>	<b><a href="#">1518.2.1</a>, Option 1:</b>
<b>APPLICATION:</b>	Underlayment adhered to deck
<b>DECK DESCRIPTION:</b>	Code-minimum wood deck to the satisfaction of the Authority Having Jurisdiction.
<b>UNDERLAYMENT:</b>	<b>VShield™ SureTack</b> self-adhered in accordance with FBC Section 1518.2.1(1) and back-nailed max. 12-inch o.c. using FBC HVHZ Approved nails and tin caps (FBC HVHZ <a href="#">1517.5</a> ).
<b>SURFACING:</b>	FBC HVHZ Approved asphalt shingles, metal roof panels or metal shingles, slate or slate type shingles, subject to the allowable roof covers in <a href="#">Table 2B</a> herein.

3.5.2.2

<b>CODE REFERENCE:</b>	<b><a href="#">1518.2.1</a>, Option 2:</b>
<b>APPLICATION:</b>	Self-adhering strips to deck-joints followed by underlayment mechanically attached to deck
<b>DECK DESCRIPTION:</b>	Code-minimum wood deck to the satisfaction of the Authority Having Jurisdiction
<b>SECONDARY WATER BARRIER:</b>	Min. 3 ¾-inch wide strips of <b>VShield™ SureTack</b> self-adhered over joints of the roof deck prior to installation of subsequent layer(s) in accordance with FBC Section 1518.2.1(2). Do not overlap end-joints or T-joints. All end-joints and T-joints shall be butted firmly side by side, flush with each other but not overlapped.
<b>UNDERLAYMENT:</b>	FBC HVHZ Approved, ASTM D226 Type II, ASTM D4869 Type III or IV or ASTM D8257 underlayment with a minimum 4-inch side lap and 6-inch end lap, mechanically fastened to deck in accordance with FBC Table 1518.2.1.
<b>SURFACING:</b>	FBC HVHZ Approved prepared roof cover, subject to the limitations in FBC Table 1518.2.1.



## 3.5.2.3

**CODE REFERENCE:** [1518.2.1](#), Option 1 combined with Option 2 or 3:**APPLICATION:** Optional self-adhering strips to deck-joints followed by base sheet mechanically fastened to deck followed by underlayment adhered to base sheet**DECK DESCRIPTION:** Code-minimum wood deck to the satisfaction of the Authority Having Jurisdiction**SECONDARY WATER BARRIER:** (Optional) Min. 3 ¾-inch wide strips of **VShield™ SureTack** self-adhered over joints of the roof deck prior to installation of subsequent layer(s) in accordance with FBC Section 1518.2.1(2). Do not overlap end-joints or T-joints. All end-joints and T-joints shall be butted firmly side by side, flush with each other but not overlapped.**BASE SHEET:** One (1) layer of FBC Approved, ASTM D226 Type II, ASTM D4869 Type III or IV or ASTM D8257 underlayment in accordance with FBC Table 1518.2.1, with a minimum 4-inch side lap and 6-inch end lap or two (2) layers of FBC Approved, ASTM D226 Type II, ASTM D4869 Type III or IV or ASTM D8257 underlayment in accordance with FBC Section 1518.2.1(3), mechanically fastened to deck**FASTENING:** FBC HVHZ Approved nails and tin caps (FBC HVHZ [1517.5](#)), grid pattern of 12-inches between the overlaps and 6-inch spacing at the overlaps, in accordance with FBC Table 1518.2.1 or FBC Section 1518.2.1(3).**UNDERLAYMENT:** **VShield™ SureTack** self-adhered in accordance with FBC Section 1518.2.1(1) and back-nailed max. 12-inch o.c. using FBC HVHZ Approved nails and tin caps (FBC HVHZ [1517.5](#)).**SURFACING:** FBC HVHZ Approved asphalt shingles, metal roof panels or metal shingles, slate or slate type shingles, subject to the allowable roof covers in [Table 2B](#) herein.**4. LIMITATIONS OF USE:**

- 4.1 This is a building code evaluation. NEMO CERT, LLC is not, in any way, the Designer of Record for any project on which this NER, or previous versions thereof, is/was used for permitting or design guidance. NERs are not to be construed as representing any attributes not specifically listed, nor are NERs to be construed as an endorsement of the subject of the report or a recommendation for its use. There is no warranty by NEMO CERT, LLC, express or implied, as to any finding or other matter in this report, or as to any product covered by the report.
- 4.2 This NER pertains to above-deck roof components. Roof decks and structural members shall be in accordance with the applicable Code requirements to the satisfaction of the Authority Having Jurisdiction.
- 4.3 **VShield™ Roof Underlayments** may be used with any prepared roof cover where the product is specifically referenced within approval documents. If not listed, a request may be made to the Authority Having Jurisdiction for approval based on this NER combined with supporting data for the prepared roof covering.
- 4.4 **Fire Classification:**  
**VShield™ SureTack** may be used as outlined in [NEMO Scope of Certification](#), or may be used in non-classified roof coverings or as a component of a classified roofing assembly when specifically recognized as such in a listing approved by the Authority Having Jurisdiction.

**4.5 Allowable Roof Covers:**

Table 2 lists allowable roof cover types, subject to fire classification documentation set forth in [Section 4.4](#) herein (if applicable).

TABLE 2A: ROOF COVER OPTIONS, IBC/IRC					
UNDERLAYMENT	ROOF COVER	IBC SECTION(S)		IRC SECTION(S)	
		SECTION	USE	SECTION	USE
VShield™ SureTack	Asphalt Shingles	1507.2	Yes <sup>2</sup>	R905.2	Yes <sup>2</sup>
	Roof Tile	1507.3		R905.3	
	Metal Shingles or Panels	1507.4, 1507.5		R905.4, R905.10	
	Slate or Slate-Type Shingles	1507.7		R905.6	
	Wood Shingles or Shakes	1507.8, 1507.9		R905.7, R905.8	

TABLE 2B: ROOF COVER OPTIONS, FBC					
UNDERLAYMENT	ROOF COVER	FBC AND FBC-R SECTION(S)		FBC HVHZ SECTIONS	
		SECTION	USE	SECTION	USE
VShield™ SureTack	Asphalt Shingles	1507.2, R905.2	Yes <sup>3</sup>	RAS 115, 1518.2.1	Yes
	Roof Tile	1507.3, R905.3		RAS 118, 119 or 120	No
	Metal Shingles or Panels	1507.4, 1507.5, R905.4, R905.10		RAS 133, 1518.2.1	Yes
	Slate or Slate-Type Shingles	1507.7, R905.6		1518.2.1	Yes
	Wood Shingles or Shakes	1507.8, 1507.9, R905.7, R905.8		RAS 130, 1518.10	Yes <sup>4</sup>

4.5.1 In addition to the codified roof cover options noted above, allowable roof covers include synthetic or composite shingles, slate or shakes holding current Product Approval (statewide or local) to the satisfaction of the Authority Having Jurisdiction.

**4.6 Allowable Substrates:**

TABLE 3: SUBSTRATE OPTIONS FOR ADHERED UNDERLAYMENTS				
UNDERLAYMENT	APPLICATION	SUBSTRATES (DESIGNED TO MEET WIND LOADS FOR PROJECT)		
		TYPE	PRIMER	MATERIAL(S)
VShield™ SureTack	self-adhering	Deck / sheathing	None	Plywood
		Base Sheet	None	ASTM D226 Type II, ASTM D4869 Type III or IV or ASTM D8257

<sup>2</sup> For **IBC/IRC**, product used as ASTM D1970 compliant material or as alternate to ASTM D226, Type I or Type II felt. For roof tile, use is limited to mechanically fastened tile.

<sup>3</sup> For **FBC non-HVHZ**, product used as ASTM D1970 and FRSA/TRI Manual compliant material. For roof tile, use is limited to mechanically fastened tile. For wood shakes and wood shingles, limited to use as joint-strips per FBC 1507.1.1.1(2), 1518.2.1(2) or R905.1.1.1(2) or as cap sheet atop mechanically attached, FBC Approved ASTM D226 Type II or ASTM D4869 Type III or IV base sheet.

<sup>4</sup> For **FBC HVHZ**, product used as ASTM D1970 compliant material. For wood shakes and shingles, product is limited to use per RAS 130.



**4.7 Attachment Limitations:**

4.7.1 For use under the IBC and IRC and for use in NON-TILE applications under the FBC and FBC Residential, refer to [Section 3](#) herein and the applicable Code requirements.

**4.7.2 Wind Resistance for Underlayment Systems in Tile Roof Applications under the FBC and FBC Residential:**

4.7.2.1 The following wind uplift limitations apply to tile underlayment systems per [FBC 1504.2.1.4](#) and Section 7 of [TAS 103](#). The Maximum Design Pressure ('MDP') is the result of testing for wind load resistance based on allowable wind loads, and reflects the ultimate passing pressure divided by 2 (the 2 to 1 margin of safety has already been applied).

4.7.2.2 Unless otherwise noted, referenced back-nailing (if required) shall utilize corrosion resistant metal cap nails meeting specifications set forth in [FBC Table 1507.1.1.1](#) or "nails and tin caps" meeting the specifications set forth in [FBC HVHZ 1517.5](#). Nails shall be corrosion resistant and be of sufficient length to penetrate through the sheathing by min. 3/16-inch.

TABLE 4: ALLOWABLE DESIGN PRESSURES, ADHERED, DIRECT-TO-DECK UNDERLAYMENT SYSTEMS				
SYSTEM No.	DECK	PRIMER	UNDERLAYMENT	MAX. DESIGN PRESSURE (PSF)
1	Plywood, APA rated sheathing, 40/20, Exposure 1, PS1, 19/32 category	None	VShield™ SureTack, self-adhered and <a href="#">back-nailed</a> using 12 ga. x 3/8-inch head diameter annular ring shank roofing nails and 32 ga. x 1-5/8-inch diameter tin caps, max. 12-inch o.c.	-187.5

**4.8 Exposure Limitations:**

TABLE 5: EXPOSURE LIMITATIONS		
UNDERLAYMENT	PREPARED ROOF COVER INSTALLATION TYPE (OVERTOP OF UNDERLAYMENT)	MAXIMUM EXPOSURE (DAYS)
VShield™ SureTack	Mechanically attached	180

**4.9 Tile Slippage Limitations:**

When loading roof tiles on the underlayment, the maximum roof slope shall be as follows. Slopes in excess of these limitations require the use of battens or loading boards during loading of the roof tiles, in which case the maximum staging method is a 10-tile stack.

TABLE 6: TILE SLIPPAGE LIMITATIONS (NON-HVHZ ONLY)			
UNDERLAYMENT	TILE PROFILE	STAGING METHOD	MAXIMUM SLOPE
VShield™ SureTack	Flat	10-tile stack	6:12
	Lugged	10-tile stack	5:12

4.10 All components in the roof assembly shall have quality assurance audit in accordance with **F.A.C. Rule 61G20-3**. Refer to the Product Approval of the component manufacturer for components mentioned herein that are produced by a Product Manufacturer other than this report holder.

- END OF NER -