



**NEMO|etc.**

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ENGINEER

EVALUATE

TEST

CONSULT

**P.E. EVALUATION REPORT (PEER)**

**APOC, sub of Gardner Asphalt Corp.**

4161 E. 7<sup>th</sup> Avenue  
Tampa, FL 33605  
**(813) 248-2101**

**PEER-GG-001.A.R6**

**FL26482-R8 (NON-HVHZ)**

Date of Issuance: 02/27/2018

**Revision 6: 10/11/2023**

**SCOPE:**

This P.E. Evaluation Report (henceforth 'PEER') is issued under **F.A.C. 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 products described herein have been evaluated for compliance with the **8<sup>th</sup> Edition (2023) Florida Building Code** [sections noted herein](#).

**DESCRIPTION: Gardner® Roof Underlayments (NON-HVHZ)**

**LABELING:** Labeling shall be in accordance with the requirements of the Accredited Quality Assurance Agency noted herein and FBC 1507.1.1.

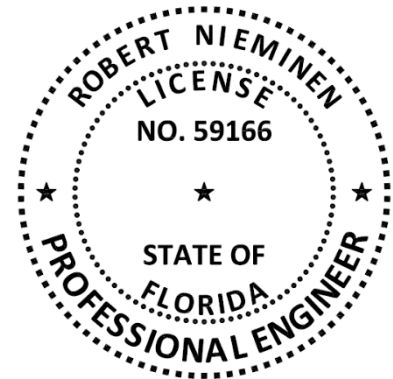
**CONTINUED COMPLIANCE:** This PEER is valid until such time as the named product(s) changes, the referenced Quality Assurance or production facility location(s) changes, or Code provisions that relate to the product(s) change. Acceptance of our PEERs by the named client constitutes agreement to notify NEMO ETC, LLC of any changes to the product(s), the Quality Assurance or the production facility location(s). NEMO ETC, LLC requires a complete review of its PEER relative to updated Code requirements with each Code Cycle.

**ADVERTISEMENT:** The Florida Product Approval Number (FL#) preceded by the words "NEMO P.E. Evaluated" may be displayed in advertising literature. If any portion of the PEER is displayed, then it shall be done in its entirety.

**INSPECTION:** Upon request, a copy of this entire PEER 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 PEER consists of pages 1 through 6.

**Prepared by:**



**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 PEERs 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 PEER, 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:** Underlayment  
**Product Approval Method:** Method 1, Option D – Codified Material, Evaluation by Engineer  
**Compliance Statement:** Gardner® Roof Underlayments, as produced by Gardner Asphalt Corp., have demonstrated compliance with the following sections of the 8<sup>th</sup> Edition (2023) Florida Building Code through testing in accordance with the following Standards. Compliance is subject to the [Installation Requirements](#) and [Limitations of Use](#) set forth herein.

**2. STANDARDS:**

Section	Property	Standard
1504.3.1	Wind resistance	UL1897
1507.1.1, 1507.2.9.2 / R905.1.1, R905.2.8.2	Material standard	ASTM D1970
1507.3.3 / R905.3.3	Material standard	FRSA/TRI, Seventh Edition
TAS 110	Accelerated Weathering	ASTM D4798
TAS 110	Material standard	TAS 103

**3. REFERENCES:**

Entity	Examination	Reference	Date
NEMO	Traceability	FBC Cross-Listing	12/10/2020
PRI (TST5878)	ASTM D1970, D4798	GGI-178-02-01	10/24/2016
PRI (TST5878)	ASTM D1970, D4798	GGI-194-02-01	04/19/2017
PRI (TST5878)	FRSA/TRI, ASTM D4798, TAS 103	GGI-196-02-01	07/26/2017
PRI (TST5878)	ASTM D1970, D4798	GGI-178-02-01	01/26/2018
PRI (TST5878)	ASTM D4798	GGI-178-02-02	01/26/2018
PRI (TST5878)	ASTM D1623, TAS 103	GGI-201-02-01	01/26/2018
PRI (TST5878)	UL1897	GGI-212-02-01	05/09/2018
PRI (TST5878)	Criticality, ASTM D1876	GGI-209-02-01	05/18/2018
PRI (TST5878)	ASTM D903, D1970	GGI-211-02-01	06/06/2018
PRI (TST5878)	ASTM D1623, TAS 103	GGI-202-02-01	08/09/2018
PRI (TST5878)	UL1897	GGI-243-02-01	05/29/2019
PRI (TST5878)	ASTM D1970	397T0016	12/16/2020
PRI (TST5878)	ASTM D1623, D4798	397T0018	10/16/2020
PRI (TST5878)	ASTM D1623, D4798	397T0018.R1	05/28/2021
UL, LLC. (QUA9625)	Quality Assurance	Service Confirmation	02/12/2020
UL, LLC. (QUA9625)	Quality Assurance	Florida BCIS	Current

**4. PRODUCT DESCRIPTION:**

TABLE 1: EVALUATED UNDERLAYMENTS			
PRODUCT	MATERIAL STANDARD	PLANT(S)	DESCRIPTION
Gardner® Gard-Lock	ASTM D1970 <sup>i</sup>	Springville, AL	nominal 60-mil thick, glass-fiber reinforced, polymer modified asphalt, granulated self-adhering underlayment
Weather-Armor® FT <sup>3</sup> Tile Underlayment	FRSA/TRI TAS 103	Springville, AL	nominal 60-mil thick, self-adhering membrane of elastic polymers, bitumen and polyester and glass reinforcement
Eagle-Armor by Apoc	FRSA/TRI TAS 103	Springville, AL	nominal 60-mil thick, self-adhering membrane of elastic polymers, bitumen and polyester and glass reinforcement
TriBuilt Fleece Tile Underlayment	FRSA/TRI TAS 103	Springville, AL	nominal 60-mil thick, self-adhering membrane of elastic polymers, bitumen and polyester and glass reinforcement

TABLE 1: EVALUATED UNDERLAYMENTS			
PRODUCT	MATERIAL STANDARD	PLANT(S)	DESCRIPTION
Weather-Armor® HT <sup>2</sup> High Temp Premium Roof Underlayment	ASTM D1970 <sup>i</sup>	Springville, AL	nominal 60-mil thick, self-adhering membrane composed of elastic polymers, bitumen, glass reinforcement and a cross-laminated sheet surface, gray in color
Weather-Armor® HT <sup>3</sup> High Temp Premium Roof Underlayment	ASTM D1970 <sup>i</sup>	Springville, AL	nominal 60-mil thick, self-adhering membrane composed of elastic polymers, bitumen, glass reinforcement and a cross-laminated sheet surface, black/yellow in color
Weather-Armor® SB-1 Self-Bond® Roof Underlayment	ASTM D1970 <sup>i</sup>	Springville, AL	nominal 60-mil thick, glass-fiber reinforced, polymer modified asphalt, granulated self-adhering underlayment
TriBuilt Ice and Water Underlayment	ASTM D1970 <sup>i</sup>	Springville, AL	nominal 60-mil thick, glass-fiber reinforced, polymer modified asphalt, granulated self-adhering underlayment

## 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 PEER, or previous versions thereof, is/was used for permitting or design guidance. PEERs are not to be construed as representing any attributes not specifically listed, nor are PEERs to be construed as an endorsement of the subject, or a recommendation for its use. There is no warranty by NEMO ETC, LLC or Robert Nieminen, P.E., express or implied, as to any finding or other matter in this PEER, or as to any product covered by the PEER.
- 5.2 This PEER is not for use in FBC High Velocity Hurricane Zone jurisdictions, as defined in FBC Chapter 2 (Broward and Miami-Dade Counties).
- 5.3 This PEER pertains to above-deck roof components. Roof decks and structural members shall be in accordance with FBC requirements to the satisfaction of the Authority Having Jurisdiction.
- 5.4 This PEER does not include evaluation of fire classification. Refer to **FBC 1505** for requirements and limitations regarding roof assembly fire classification. Refer to **FBC 2603** for requirements and limitations concerning the use of foam plastic insulation.
- 5.5 **Gardner® Roof Underlayments** may be used with any prepared roof cover where the product is specifically referenced within FBC approval documents. If not listed, a request may be made to the Authority Having Jurisdiction for approval based on this evaluation combined with supporting data for the prepared roof covering.
- 5.6 Allowable Roof Covers:

TABLE 2: ROOF COVER OPTIONS						
<i>FBC NON-HVHZ Section:</i>	1507.2	1507.3		1507.4 & 1507.5	1507.7	1507.8 & 1507.9
UNDERLAYMENT	ASPHALT SHINGLES	CLAY AND CONCRETE TILE		METAL	SLATE OR SLATE-TYPE SHINGLES	WOOD
		MECHANICAL ATTACH	ADHESIVE-SET			
Gardner® Gard-Lock	Yes	No	No	No	Yes	Yes <sup>ii</sup>
Weather-Armor® FT <sup>3</sup> Tile Underlayment	Yes	Yes	Yes <a href="#">(Table 2A)</a>	Yes	Yes	Yes <sup>ii</sup>
Eagle-Armor by Apoc	Yes	Yes	Yes <a href="#">(Table 2A)</a>	Yes	Yes	Yes <sup>ii</sup>
TriBuilt Fleece Tile Underlayment	Yes	Yes	Yes <a href="#">(Table 2A)</a>	Yes	Yes	Yes <sup>ii</sup>
Weather-Armor® HT <sup>2</sup> High Temp Premium Roof Underlayment	Yes	No	No	Yes	Yes	Yes <sup>ii</sup>

TABLE 2: ROOF COVER OPTIONS						
<i>FBC NON-HVHZ Section:</i>	1507.2	1507.3		1507.4 & 1507.5	1507.7	1507.8 & 1507.9
UNDERLAYMENT	ASPHALT SHINGLES	CLAY AND CONCRETE TILE		METAL	SLATE OR SLATE-TYPE SHINGLES	WOOD
		MECHANICAL ATTACH	ADHESIVE-SET			
Weather-Armor® HT <sup>3</sup> High Temp Premium Roof Underlayment	Yes	No	No	Yes	Yes	Yes <sup>ii</sup>
TriBuilt High Temp Metal Underlayment	Yes	No	No	Yes	Yes	Yes <sup>ii</sup>
Weather-Armor® SB-1 Self-Bond® Roof Underlayment	Yes	No	No	No	Yes	Yes <sup>ii</sup>
TriBuilt Ice and Water Underlayment	Yes	No	No	No	Yes	Yes <sup>ii</sup>

5.6.1 Adhesive-set tile is limited to use of the following underlayment / tile-adhesive combinations.

TABLE 2A: ALLOWABLE UNDERLAYMENT / TILE-ADHESIVE COMBINATIONS <sup>iii</sup>		
UNDERLAYMENT	ADHESIVE	FLORIDA PRODUCT APPROVAL
Weather-Armor® FT <sup>3</sup> Tile Underlayment, Eagle-Armor by Apoc or TriBuilt Fleece Tile Underlayment	DAP “Touch ‘n Seal StormBond Roof Tile Adhesive”	FL14506
	Dupont de Nemours “Tile Bond™ Roof Tile Adhesive”	FL22525
	ICP Construction “Polyset® AH-160”	FL6332

5.7 Allowable Substrates:

TABLE 3: SUBSTRATE OPTIONS	
UNDERLAYMENT	SUBSTRATES
Gardner® Gard-Lock, Weather-Armor® FT <sup>3</sup> Tile Underlayment, Eagle-Armor by Apoc, TriBuilt Fleece Tile Underlayment, Weather-Armor® HT <sup>2</sup> High Temp Premium Roof Underlayment, Weather-Armor® HT <sup>3</sup> High Temp Premium Roof Underlayment, TriBuilt High Temp Metal Underlayment, Weather-Armor® SB-1 Self-Bond® Roof Underlayment, TriBuilt Ice and Water Underlayment	Plywood
Weather-Armor® FT <sup>3</sup> Tile Underlayment, Eagle-Armor by Apoc, TriBuilt Fleece Tile Underlayment, Weather-Armor® HT <sup>2</sup> High Temp Premium Roof Underlayment, Weather-Armor® HT <sup>3</sup> High Temp Premium Roof Underlayment, TriBuilt High Temp Metal Underlayment	OSB
Weather-Armor® FT <sup>3</sup> Tile Underlayment, Eagle-Armor by Apoc, TriBuilt Fleece Tile Underlayment, Weather-Armor® HT <sup>2</sup> High Temp Premium Roof Underlayment, Weather-Armor® HT <sup>3</sup> High Temp Premium Roof Underlayment, TriBuilt High Temp Metal Underlayment. <i>*Note: minimum 73°F ambient application temperature for structural concrete.</i>	Structural concrete*

5.8 Attachment Limitations:

5.8.1 For use under mechanically attached NON-TILE prepared roof coverings, attachment shall be in accordance with the manufacturer’s installation instructions, but – for mechanically attached underlayments or base sheets - not less than **FBC 1507.1.1** or **R905.1.1**.

5.8.2 Wind Resistance for Underlayment Systems in Tile Roof Applications:

The following wind uplift limitations apply to tile underlayment systems. The Maximum Design Pressure 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 per **FBC 1504.9** has already been applied).

5.8.2.1 Direct-to-Deck:

The maximum design pressure for the selected assembly shall meet or exceed that required under **FRSA/TRI Florida High Wind Concrete and Clay Roof Tile Installation Manual**, Seventh Edition, Appendix A or the critical (highest) design pressure determined in accordance with **FBC 1609** or **FBC Residential Chapter 3**.

TABLE 4: ALLOWABLE DESIGN PRESSURES, DIRECT-TO-DECK UNDERLAYMENT IN TILE ROOF APPLICATIONS						
SYSTEM No.	DECK	PRIMER	JOINT TREATMENT	BASE PLY	CAP PLY	MDP (PSF)
UDL-1.	Plywood, APA rated sheathing, 32/16, Exposure 1, PS1, 15/32 category	None	None	None	Weather-Armor® FT <sup>3</sup> Tile Underlayment, Eagle-Armor by Apoc or TriBuilt Fleece Tile Underlayment, self-adhered and back-nailed max. 12-inch o.c.	-52.5
UDL-2.	Plywood, APA rated sheathing, 40/20, Exposure 1, PS1, 19/32 category	None	None	None	Weather-Armor® FT <sup>3</sup> Tile Underlayment, Eagle-Armor by Apoc or TriBuilt Fleece Tile Underlayment, self-adhered and back-nailed max. 12-inch o.c.	-127.5

5.9 Exposure Limitations:

TABLE 5: EXPOSURE LIMITATIONS		
UNDERLAYMENT	PREPARED ROOF COVER INSTALLATION TYPE	MAXIMUM EXPOSURE (DAYS)
Weather-Armor® HT <sup>2</sup> High Temp Premium Roof Underlayment	Mechanically attached	30
Gardner® Gard-Lock, Weather-Armor® SB-1 Self-Bond® Roof Underlayment, TriBuilt Ice and Water Underlayment	Mechanically attached	90
Weather-Armor® HT <sup>3</sup> High Temp Premium Roof Underlayment, TriBuilt High Temp Metal Underlayment	Mechanically attached	180
Weather-Armor® FT <sup>3</sup> Tile Underlayment, Eagle-Armor by Apoc, TriBuilt Fleece Tile Underlayment	Adhesive-set tile roof system	180
	Mechanically attached	180

5.10 Tile Slippage Limitations: When loading roof tiles on the underlayment in direct-deck tile roof assemblies, the maximum roof pitch shall be as follows. These pitch limitations can only be exceeded by using battens during loading of the roof tiles.

TABLE 6: TILE SLIPPAGE LIMITATIONS			
UNDERLAYMENT	TILE PROFILE	STAGING METHOD	MAXIMUM PITCH
Weather-Armor® FT <sup>3</sup> Tile Underlayment, Eagle-Armor by Apoc, TriBuilt Fleece Tile Underlayment	Flat or Lugged	Max. 10-tile stack	6:12

**6. INSTALLATION:**

- 6.1 **Gardner® Roof Underlayments** shall be installed in accordance with **Gardner® Asphalt Corp.** published installation requirements subject to the [Limitations of Use](#) herein and the specifics noted below.
  - 6.1.1 Consult Gardner® Asphalt Corp. requirements for back-nailing at pitch of 2:12 or greater.
  - 6.2 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).

**6.3 Gardner® Gard-Lock, Weather-Armor® HT<sup>2</sup> High Temp Premium Roof Underlayment, Weather-Armor® HT<sup>3</sup> High Temp Premium Roof Underlayment, TriBuilt High Temp Metal Underlayment, Weather-Armor® SB-1 Self-Bond® Roof Underlayment or TriBuilt Ice and Water Underlayment:**

**6.3.1 Non-Tile Applications:**

Shall be installed in compliance with requirements for an approved self-adhering underlayment (ASTM D1970) in **FBC 1507.1.1.1** or **FBC Residential R905.1.1.1** for the type of prepared roof covering to be installed, and the manufacturer’s installation instructions.

When installed over a mechanically attached base sheet of FBC Approved ASTM D226 Type II felt, the base sheet shall be fastened in accordance with **FBC 1507.1.1** or **R905.1.1**.

**6.3.2 Multi-Ply Underlayment Systems:**

Weather-Armor® HT<sup>3</sup> High Temp Premium Roof Underlayment or TriBuilt High Temp Metal Underlayment followed by Weather-Armor® FT<sup>3</sup> Tile Underlayment, Eagle-Armor by Apoc or TriBuilt Fleece Tile Underlayment (per Section 6.4) is allowable for use under mechanically attached prepared roof systems. Limits of use are those associated with the top-layer material. This is not a requirement, but is allowable if a multi-ply underlayment system is desired.

**6.4 Weather-Armor® FT<sup>3</sup> Tile Underlayment, Eagle-Armor by Apoc or TriBuilt Fleece Tile Underlayment:**

**6.4.1 Non-Tile Applications:**

Shall be installed in compliance with requirements for an approved self-adhering underlayment (ASTM D1970) in **FBC 1507.1.1.1** or **FBC Residential R905.1.1.1** for the type of prepared roof covering to be installed, and the manufacturer’s installation instructions.

When installed over a mechanically attached base sheet of FBC Approved ASTM D226 Type II felt, the base sheet shall be fastened in accordance with **FBC 1507.1.1** or **R905.1.1**.

**6.4.2 Tile Applications:**

Shall be installed in compliance with requirements for a Self-Adhered Membrane in the **FRSA/TRI Florida High Wind Concrete and Clay Roof Tile Installation Manual**, Seventh Edition, and the manufacturer’s installation instructions.

Refer to [Section 5.8.2](#) for attachment limitations.

Refer to [Table 6](#) for tile staging limitations.

**7. BUILDING PERMIT REQUIREMENTS:**

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

**8. MANUFACTURING PLANTS:**

Contact the named QA entity for manufacturing facilities covered by **F.A.C. Rule 61G20-3** QA requirements. Refer to [Section 4](#) herein for products and production locations having met codified material standards.

**9. QUALITY ASSURANCE ENTITY:**

[UL, LLC – QUA9625](#); (360) 817-5512; [bsai.inspections@ul.com](mailto:bsai.inspections@ul.com)

- END OF PEER -

<sup>i</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.

<sup>ii</sup> Used as min. 3/4-inch wide joint-strips per FBC 1507.1.1.1(2) / FBC R905.1.1.1(2) or installed in full-coverage atop ASTM D226, Type II felt, or equivalent base sheet, mechanically attached in accordance with FBC Table 1507.1.1.1 or FBC Residential Table R905.1.1.1.

<sup>iii</sup> Refer to Tile Manufacturer’s or Adhesive Manufacturer’s Florida Product Approval for Overturning Moment Resistance Performance