NEMO|etc.
Certificate of Authorization #32455
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ENGINEER TEST CONSULT

P.E. EVALUATION REPORT (PEER)

APOC, sub of Gardner Asphalt Corp.
4161 E. 7th Avenue
Tampa, FL 33605
(813) 248-2101

PEER-GG-001.A.R10
FL26482-R12 (NON-HVHZ)
Date of Issuance: 02/27/2018
Revision 10: 08/20/2025

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 compliance with the **8th 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: "NEMO P.E. Evaluated" may be displayed in advertising literature. If any portion of the PEER is displayed, then it shall be 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 9.

Prepared by:

Digitally signed by Robert Nieminen
Date: 2025.08.21 '08:00:32 -04'00

This item has been digitally signed and sealed by Robert Nieminen, P.E.
Printed copies of this document are not considered signed and sealed, and the signature must be verified on any electronic copies.
Robert Nieminen, Florida P.E. 59166, FBC ANE1983
NEMO ETC, LLC, Florida CA #32455

ROBERT NIEMINEN LICENSE NO. 59166 STATE OF FLORIDA PROFESSIONAL ENGINEER

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 **APOC, sub of Gardner Asphalt Corp.**, have demonstrated compliance with the following sections of the **8th 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
1504.2.1.4	Wind resistance	UL1897
1507.1.1 / R905.1.1	Material standard	ASTM D226
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 (TST6049)	ASTM D226, Type II	4j-GG-SSUDL-001.A	12/16/2024
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)	ASTM D226, Type II	GGI-207-02-02	03/08/2018
PRI (TST5878)	ASTM D226, Type II	GGI-207-02-03	03/08/2018
PRI (TST5878)	ASTM D226, Type II	GGI-207-02-04	03/08/2018
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)	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
PRI (TST5878)	UL1897	GGI-212-02-01	05/09/2018
PRI (TST5878)	UL1897	2639T0004	10/22/2024
PRI (TST5878)	UL1897	2639T0005	10/22/2024
PRI (TST5878)	UL1897	2639T0010	06/25/2025
NEMO	Traceability	FBC PCL	12/15/2020
NEMO	Traceability	SPE	12/18/2024
NEMO	Traceability	FBC PCL	05/01/2025
UL, LLC. (QUA9625)	Quality Assurance	Service Confirmation	02/07/2024
UL, LLC. (QUA9625)	Quality Assurance	Florida BCIS	Current

4. PRODUCT DESCRIPTION:

TABLE 1: EVALUATED UNDERLAYMENTS

PRODUCT	MATERIAL STANDARD	PLANT(S)	DESCRIPTION
APOC® 26 #30 Tuff-Felt™	ASTM D226, Type II	Eutaw, AL	asphalt-saturated organic felt
No. 30 ASTM	ASTM D226, Type II	Eutaw, AL	asphalt-saturated organic felt
TRI-BUILT TB-9F25UR	ASTM D226, Type II	Eutaw, AL	asphalt-saturated organic felt
United FGUR 20	ASTM D226, Type II	Eutaw, AL	asphalt-saturated organic felt
United FGUR 70	ASTM D226, Type II	Eutaw, AL	asphalt-saturated organic felt
RELIABILT ORGANIC FELT 30W ASTM 226	ASTM D226, Type II	Eutaw, AL	asphalt-saturated organic felt
Gardner® Gard-Lock	ASTM D1970[1]	Springville, AL	nominal 60-mil thick, glass-fiber reinforced, polymer modified asphalt, granulated self-adhering underlayment
Weather-Armor® FT[3] Fleece-Top Roof 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
Weather-Armor® HT[2] High Temp Roof Underlayment	ASTM D1970[1]	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[3] High Temp Premium Roof Underlayment	ASTM D1970[1]	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[1]	Springville, AL	nominal 60-mil thick, glass-fiber reinforced, polymer modified asphalt, granulated self-adhering underlayment
TriBuilt Ice and Water Underlayment	ASTM D1970[1]	Springville, AL	nominal 60-mil thick, glass-fiber reinforced, polymer modified asphalt, granulated self-adhering underlayment
RELIABILT ICE & WATER	ASTM D1970[1]	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).

[1] *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.*

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

FBC NON-HVHZ Section:	*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			
APOC® 26 #30 Tuff-Felt™, No. 30 ASTM, TRI-BUILT TB-9F25UR, United FGUR 20, United FGUR 70 or RELIABILT ORGANIC FELT 30W ASTM 226	Yes	No	No	Yes	Yes	Yes
Gardner® Gard-Lock	Yes	No	No	No	Yes	Yes[2]
Weather-Armor® FT[3] Fleece-Top Roof Underlayment	Yes	Yes	Yes (Table 2A)	Yes	Yes	Yes[3]
Eagle-Armor by Apoc	Yes	Yes	Yes (Table 2A)	Yes	Yes	Yes[3]
TriBuilt Fleece Tile Underlayment	Yes	Yes	Yes (Table 2A)	Yes	Yes	Yes[3]
Weather-Armor® HT[2] High Temp Roof Underlayment	Yes	No	No	Yes	Yes	Yes[3]
Weather-Armor® HT[3] High Temp Premium Roof Underlayment	Yes	No	No	Yes	Yes	Yes[3]
TriBuilt High Temp Metal Underlayment	Yes	No	No	Yes	Yes	Yes[3]
Weather-Armor® SB-1 Self-Bond® Roof Underlayment	Yes	No	No	No	Yes	Yes[3]
TriBuilt Ice and Water Underlayment	Yes	No	No	No	Yes	Yes[3]
RELIABILT ICE & WATER	Yes	No	No	No	Yes	Yes[3]

5.6.1 **Allowable Tile Adhesives:**

TABLE 2A: ALLOWABLE UNDERLAYMENT / TILE-ADHESIVE COMBINATIONS[3]

UNDERLAYMENT	ADHESIVE	FLORIDA PRODUCT APPROVAL
Weather-Armor® FT[3] Fleece-Top Roof Underlayment, Eagle-Armor by Apoc or TriBuilt Fleece Tile Underlayment	DAP "StormBond® Roof Tile Adhesive"	FL14506
	Dupont de Nemours "TILE BOND™ Roof Tile Adhesive"	FL22525
	ICP Construction "APOC® Polyset® AH-160 (HFC)"	FL6332
	ICP Construction "APOC® POLYSET® RTA-1"	FL6276

[2] *Used as min. 3¾-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.*

[3] *Refer to Tile Manufacturer's or Adhesive Manufacturer's Florida Product Approval for Overturning Moment Resistance Performance*

5.7 **Allowable Substrates:**

TABLE 3: SUBSTRATE OPTIONS	
UNDERLAYMENT	**SUBSTRATES**
Gardner® Gard-Lock, Weather-Armor® FT³ Fleece-Top Roof Underlayment, Eagle-Armor by Apoc, TriBuilt Fleece Tile Underlayment, Weather-Armor® HT² High Temp Roof Underlayment, Weather-Armor® HT³ High Temp Premium Roof Underlayment, TriBuilt High Temp Metal Underlayment, Weather-Armor® SB-1 Self-Bond® Roof Underlayment, TriBuilt Ice and Water Underlayment, RELIABILT ICE & WATER	Plywood
Weather-Armor® FT³ Fleece-Top Roof Underlayment, Eagle-Armor by Apoc, TriBuilt Fleece Tile Underlayment, Weather-Armor® HT² High Temp Roof Underlayment, Weather-Armor® HT³ High Temp Premium Roof Underlayment, TriBuilt High Temp Metal Underlayment	OSB
Weather-Armor® FT³ Fleece-Top Roof Underlayment, Eagle-Armor by Apoc, TriBuilt Fleece Tile Underlayment, Weather-Armor® HT² High Temp Roof Underlayment, Weather-Armor® HT³ High Temp Premium Roof Underlayment, TriBuilt High Temp Metal Underlayment. **Note: minimum 73°F ambient application temperature for structural concrete.*	Structural concrete*

5.8 **Attachment Limitations:**

5.8.1 For use in NON-TILE applications, refer to Section 6 herein and the applicable Code requirements.

5.8.2 Wind Resistance for Underlayment Systems:
The following wind uplift limitations apply to tile underlayment systems per **FBC 1504.2.1.4**. 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 Unless otherwise noted, referenced back-nailing shall utilize corrosion resistant metal cap nails meeting specifications set forth in **FBC Table 1507.1.1.1** or "nail and tin caps" meeting the specifications set forth in **FBC HVHZ 1517.5**.

5.8.2.2 Adhered, Direct-to-Deck Underlayment Systems:
The maximum design pressure for the selected assembly shall meet or exceed that required under **FRSA/TRI Florida Manual, 7th Edition, Appendix A** or the critical (highest) design pressure determined in accordance with **FBC 1609** or **FBC Residential Chapter 3**.

TABLE 4A: ALLOWABLE DESIGN PRESSURES, ADHERED, DIRECT-TO-DECK UNDERLAYMENT SYSTEMS						
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® FT³ Fleece-Top Roof 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® SB-1 Self-Bond Roof Underlayment, TriBuilt Ice and Water Underlayment or RELIABILT ICE & WATER, self-adhered with 3.5-inch side laps. Note: Not for use as tile underlayment per Table 2 herein.	-135.0
UDL-3.	**Plywood**, APA rated sheathing, 40/20, Exposure 1, PS1, 19/32 category	None	None	None	Weather-Armor® FT³ Fleece-Top Roof Underlayment, Eagle-Armor by Apoc or TriBuilt Fleece Tile Underlayment, self-adhered and back-nailed within 3-inch side laps, max. 12-inch o.c.	-150.0

5.8.2.3 Mechanically-Attached, Multi-Ply Underlayment Systems:

The maximum design pressure for the selected assembly shall meet or exceed that required under **FRSA/TRI Manual, 7th Edition**, Appendix A or the critical (highest) design pressure determined in accordance with **FBC 1609** or **FBC Residential Chapter 3**. Alternatively, the maximum design pressure for the selected assembly shall meet or exceed at least the Zone 1 design pressure determined in accordance with **FBC 1609** or **FBC Residential Chapter 3**. Elevated pressure zones shall employ an attachment density by a qualified design professional to resist the elevated pressure criteria. Commonly used methods are ANSI/SPRI WD1, FM Loss Prevention Data Sheet 1-29 or Roofing Application Standard RAS 117 or RAS 137. Assemblies marked with an asterisk* carry the limitations set forth in Section 2.2.10.1 of FM Loss Prevention Data Sheet 1-29 for enhancements.

TABLE 4B: ALLOWABLE DESIGN PRESSURES, MECHANICALLY ATTACHED, UNDERLAYMENT SYSTEMS

SYSTEM NO.	DECK	BASE SHEET			CAP PLY	MDP (PSF)
		TYPE	FASTENERS	ATTACH		
**Nails shall be corrosion resistant and be of sufficient length to penetrate through the sheathing by min. 3/16-inch.						
UDL-4.	**Plywood**, APA rated sheathing, 40/20, Exposure 1, PS1, 19/32 category	APOC® 26 #30 Tuff-Felt™ No. 30 ASTM, TRI-BUILT TB-9F25UR or RELIABILT ORGANIC FELT 30W ASTM 226	11 ga. x 1-1/4-inch long annular ring shank roofing nails** through 32 ga. x 1-5/8-inch dia. tin caps	6-inch o.c. at the 2-inch wide side laps and 6-inch o.c. at four (4) equally spaced, staggered center rows	Weather-Armor® FT^3 Fleece-Top Roof Underlayment, Eagle-Armor by Apoc or TriBuilt Fleece Tile Underlayment, self-adhered and back-nailed using "nails and tin caps" meeting FBC HVHZ 1517.5, max. 12-inch o.c.	-45.0
UDL-5.	**Plywood**, APA rated sheathing, 40/20, Exposure 1, PS1, 19/32 category	APOC® 26 #30 Tuff-Felt™, No. 30 ASTM, TRI-BUILT TB-9F25UR or RELIABILT ORGANIC FELT 30W ASTM 226	11 ga. x 1-1/4-inch long annular ring shank roofing nails** through 32 ga. x 1-5/8-inch dia. tin caps	6-inch o.c. at the 2-inch wide side laps and 4-inch o.c. at four (4) equally spaced, staggered center rows	Weather-Armor® FT^3 Fleece-Top Roof Underlayment, Eagle-Armor by Apoc or TriBuilt Fleece Tile Underlayment, self-adhered and back-nailed using "nails and tin caps" meeting FBC HVHZ 1517.5, max. 12-inch o.c.	-75.0

5.9 **Exposure Limitations:**

Underlayment shall not be left exposed longer than the lesser of the manufacturer's published recommendations of the maximum exposure limitations noted in Table 5.

TABLE 5: EXPOSURE LIMITATIONS

UNDERLAYMENT	PREPARED ROOF COVER INSTALLATION TYPE	MAXIMUM EXPOSURE (DAYS)
APOC® 26 #30 Tuff-Felt™, No. 30 ASTM, TRI-BUILT TB-9F25UR, United FGUR 20, United FGUR 70, Weather-Armor® HT^2 High Temp Roof Underlayment or RELIABILT ORGANIC FELT 30W ASTM 226	Mechanically attached	30
Gardner® Gard-Lock, Weather-Armor® SB-1 Self-Bond® Roof Underlayment, TriBuilt Ice and Water Underlayment or RELIABILT ICE & WATER	Mechanically attached	90
Weather-Armor® HT^3 High Temp Premium Roof Underlayment or TriBuilt High Temp Metal Underlayment	Mechanically attached	180
Weather-Armor® FT^3 Fleece-Top Roof Underlayment, Eagle-Armor by Apoc or TriBuilt Fleece Tile Underlayment	Mechanically attached roof cover or adhesive-set tile roof system	180

5.10 **Tile Slippage Limitations:**

When loading roof tiles on the underlayment, the maximum roof pitch shall be as follows. These pitch limitations can only be exceeded by using battens or loading boards during loading of the roof tiles.

TABLE 6: TILE SLIPPAGE LIMITATIONS

UNDERLAYMENT	TILE PROFILE	STAGING METHOD	MAXIMUM PITCH
Weather-Armor® FT³ Fleece-Top Roof Underlayment, Eagle-Armor by Apoc or 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 **APOC, sub of 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 Refer to Section 6.4 for underlayments having prescriptive codified minimum attachment or Table 4 for underlayment systems having maximum design pressures established in accordance with **FBC 1504.2.1.4**.

6.4 Underlayment Assemblies with Prescriptive Minimum Attachment for use in NON-TILE applications:

6.4.1

CODE REFERENCE:	**1507.1.1.1 or R905.1.1.1, Option 1:** Underlayment adhered to deck	
DECK DESCRIPTION:	Code-minimum wood or structural concrete deck to the satisfaction of the Authority Having Jurisdiction (refer to Table 3 for specific underlayment/substrate combinations)	
UNDERLAYMENT:	BASE PLY:	(Optional) **Weather-Armor® HT³ High Temp Premium Roof Underlayment** or **TriBuilt High Temp Metal Underlayment** self-adhered in accordance with FBC Section 1507.1.1.1(1) or R905.1.1.1(1) and back-nailed, if applicable, in accordance with the manufacturer's requirements.
	CAP PLY:	**Gardner® Gard-Lock, Weather-Armor® FT³ Fleece-Top Roof Underlayment, Eagle-Armor by Apoc, TriBuilt Fleece Tile Underlayment, Weather-Armor® HT² High Temp Roof Underlayment, Weather-Armor® HT³ High Temp Premium Roof Underlayment, TriBuilt High Temp Metal Underlayment, Weather-Armor® SB-1 Self-Bond® Roof Underlayment, TriBuilt Ice and Water Underlayment** or **RELIABILT ICE & WATER** self-adhered in accordance with FBC Section 1507.1.1.1(1) or R905.1.1.1(1) and back-nailed, if applicable, 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 2 herein.	

6.4.2

CODE REFERENCE:	**1507.1.1.1 or R905.1.1.1, Option 2:** 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 **Gardner® Gard-Lock, Weather-Armor® FT³ Fleece-Top Roof Underlayment, Eagle-Armor by Apoc, TriBuilt Fleece Tile Underlayment, Weather-Armor® HT² High Temp Roof Underlayment, Weather-Armor® HT³ High Temp Premium Roof Underlayment, TriBuilt High Temp Metal Underlayment, Weather-Armor® SB-1 Self-Bond® Roof Underlayment, TriBuilt Ice and Water Underlayment** or **RELIABILT ICE & WATER** self-adhered over deck joints 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:	**APOC® 26 #30 Tuff-Felt™, No. 30 ASTM, TRI-BUILT TB-9F25UR, United FGUR 20, United FGUR 70, RELIABILT ORGANIC FELT 30W ASTM 226** or other FBC Approved ASTM D226, Type II felt 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, mechanically fastened to deck
FASTENERS:	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. Note: Metal caps are required where the ultimate design wind speed, V_{ult}, equals or exceeds 170 mph. **Cap Type** — **Minimum thickness** Metal cap — 32 ga. sheet metal Power-driven metal cap — 0.010-inch Plastic cap — 0.035-inch (outside edge thickness)
FASTENING:	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
SURFACING:	FBC Approved asphalt shingles, metal roof panels or metal shingles, slate or slate type shingles, wood shakes or wood shingles, subject to the allowable roof covers in Table 2 herein.

6.4.3

CODE REFERENCE:	**1507.1.1.1 or R905.1.1.1, Option 3:** Two-layer underlayment mechanically fastened to deck
DECK DESCRIPTION:	Code-minimum wood deck to the satisfaction of the Authority Having Jurisdiction
UNDERLAYMENT:	Two (2) layers of **APOC® 26 #30 Tuff-Felt™, No. 30 ASTM, TRI-BUILT TB-9F25UR, United FGUR 20, United FGUR 70** or **RELIABILT ORGANIC FELT 30W ASTM 226** in accordance with FBC Section 1507.1.1.1(3) or R905.1.1.1(3).
FASTENERS:	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. Note: Metal caps are required where the ultimate design wind speed, V_{ult}, equals or exceeds 170 mph. **Cap Type** — **Minimum thickness** Metal cap — 32 ga. sheet metal Plastic cap — 0.035-inch (outside edge thickness)
FASTENING:	Grid pattern of 12-inches between the overlaps and 6-inch spacing at the overlaps, in accordance with FBC Section 1507.1.1.1(3) or R905.1.1.1(3).
SURFACING:	FBC Approved asphalt shingles, metal roof panels or metal shingles, slate or slate type shingles, wood shakes or wood shingles, subject to the allowable roof covers in Table 2 herein.

6.4.4	CODE REFERENCE:	**1507.1.1.1 or R905.1.1.1, Option 1 combined with Option 2 or 3:** 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 **Gardner® Gard-Lock, Weather-Armor® FT³ Fleece-Top Roof Underlayment, Eagle-Armor by Apoc, TriBuilt Fleece Tile Underlayment, Weather-Armor® HT² High Temp Roof Underlayment, Weather-Armor® HT³ High Temp Premium Roof Underlayment, TriBuilt High Temp Metal Underlayment, Weather-Armor® SB-1 Self-Bond® Roof Underlayment, TriBuilt Ice and Water Underlayment** or **RELIABILT ICE & WATER** self-adhered over deck joints 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.
	BASE SHEET:	One (1) layer of **APOC® 26 #30 Tuff-Felt™, No. 30 ASTM, TRI-BUILT TB-9F25UR, United FGUR 20, United FGUR 70, RELIABILT ORGANIC FELT 30W ASTM 226** or other FBC Approved ASTM D226, Type II felt, 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 **APOC® 26 #30 Tuff-Felt™, No. 30 ASTM, TRI-BUILT TB-9F25UR, United FGUR 20, United FGUR 70, RELIABILT ORGANIC FELT 30W ASTM 226** or other FBC Approved ASTM D226, Type II felt in accordance with FBC Section 1507.1.1.1(3) or R905.1.1.1(3), mechanically fastened to deck
	FASTENERS:	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. Note: Metal caps are required where the ultimate design wind speed, V_{ult}, equals or exceeds 170 mph. **Cap Type** — **Minimum thickness** Metal cap — 32 ga. sheet metal Power-driven metal cap — 0.010-inch Plastic cap — 0.035-inch (outside edge thickness)
	FASTENING:	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).
	UNDERLAYMENT:	BASE PLY: (Optional) **Weather-Armor® HT³ High Temp Premium Roof Underlayment** or **TriBuilt High Temp Metal Underlayment** self-adhered in accordance with FBC Section 1507.1.1.1(1) or R905.1.1.1(1) and back-nailed, if applicable, in accordance with the manufacturer's requirements. CAP PLY: **Gardner® Gard-Lock, Weather-Armor® FT³ Tile Underlayment, Eagle-Armor by Apoc, TriBuilt Fleece Tile Underlayment, Weather-Armor® HT² High Temp Roof Underlayment, Weather-Armor® HT³ High Temp Premium Roof Underlayment, TriBuilt High Temp Metal Underlayment, Weather-Armor® SB-1 Self-Bond® Roof Underlayment, TriBuilt Ice and Water Underlayment** or **RELIABILT ICE & WATER** self-adhered in accordance with FBC Section 1507.1.1.1(1) or R905.1.1.1(1) and back-nailed, if applicable, 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 2 herein.

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

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