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Product Approval
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- EMERGENCY MANAGEMENT
- OFFICE OF THE SECRETARY

FL #	FL10626-R6														
Application Type	Revision														
Code Version	2010														
Application Status	Approved														
Comments															
Archived	<input type="checkbox"/>														
Product Manufacturer	GAF														
Address/Phone/Email	1361 Alps Road Wayne, NJ 07470 (973) 872-4421 lindareith@trinityerd.com														
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Quality Assurance Representative															
Address/Phone/Email															
Category	Roofing														
Subcategory	Underlayments														
Compliance Method	Evaluation Report from a Florida Registered Architect or a Licensed Florida Professional Engineer <input checked="" type="checkbox"/> Evaluation Report - Hardcopy Received														
Florida Engineer or Architect Name who developed the Evaluation Report	Robert Nieminen														
Florida License	PE-59166														
Quality Assurance Entity	Underwriters Laboratories Inc.														
Quality Assurance Contract Expiration Date	08/26/2012														
Validated By	John W. Knezevich, PE <input checked="" type="checkbox"/> Validation Checklist - Hardcopy Received														
Certificate of Independence	FL10626_R6_COI_Trinity_ERD_C1 - Nieminen.pdf														
Referenced Standard and Year (of Standard)	<table border="0"> <thead> <tr> <th><u>Standard</u></th> <th><u>Year</u></th> </tr> </thead> <tbody> <tr> <td>ASTM D1970</td> <td>2001</td> </tr> <tr> <td>ASTM D226</td> <td>2006</td> </tr> <tr> <td>ASTM D4869</td> <td>2005</td> </tr> <tr> <td>ASTM D6757</td> <td>2007</td> </tr> <tr> <td>FRSA/TRI 07320</td> <td>2005</td> </tr> <tr> <td>TAS 103</td> <td>1995</td> </tr> </tbody> </table>	<u>Standard</u>	<u>Year</u>	ASTM D1970	2001	ASTM D226	2006	ASTM D4869	2005	ASTM D6757	2007	FRSA/TRI 07320	2005	TAS 103	1995
<u>Standard</u>	<u>Year</u>														
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TAS 103	1995														

Equivalence of Product Standards
Certified By

Sections from the Code

Product Approval Method Method 1 Option D

Date Submitted 12/14/2011
Date Validated 12/15/2011
Date Pending FBC Approval 12/21/2011
Date Approved 01/31/2012

Summary of Products

FL #	Model, Number or Name	Description
10626.1	GAF Roof Underlayments	Roofing underlayments for use in sloped roof systems
Limits of Use Approved for use in HVHZ: No Approved for use outside HVHZ: Yes Impact Resistant: N/A Design Pressure: +N/A/-45.0 Other: 1.) The design pressure noted in this application relates to one particular underlayment system for use under foam-on tile systems. Refer to ER Section 5.5.2 for details. 2.) Refer to ER Section 5 for other Limits of Use.		Installation Instructions FL10626 R6 II er121311FINAL GAF Underlayments FL10626-R6.pdf Verified By: Robert Nieminen PE-59166 Created by Independent Third Party: Yes Evaluation Reports FL10626 R6 AE er121311FINAL GAF Underlayments FL10626-R6.pdf Created by Independent Third Party: Yes

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Product Approval Accepts:





EXTERIOR RESEARCH & DESIGN, LLC.
Certificate of Authorization #9503
 353 CHRISTIAN STREET, UNIT #13
 OXFORD, CT 06478
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EVALUATION REPORT

GAF
1361 Alps Road, Building 7-3
Wayne, NJ 07470

Evaluation Report 01506.04.08-R6
FL10626-R6
Date of Issuance: 04/25/2008
Revision 6: 12/13/2011

SCOPE:

This Evaluation Report is issued under Rule 9N-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 and Florida Building Code, Residential Volume. The products described herein have been designed to comply with the 2010 Florida Building Code sections noted herein.

DESCRIPTION: GAF Roof Underlayments

LABELING: Each unit shall bear labeling 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. if the product changes or the referenced Quality Assurance documentation changes. Trinity|ERD requires a complete review of this Evaluation Report relative to updated Code requirements with each Code Cycle.

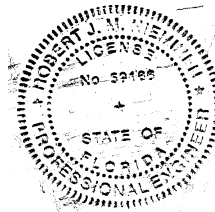
ADVERTISEMENT: The Evaluation Report number preceded by the words "Trinity|ERD Evaluated" may be displayed in advertising literature. If any portion of the Evaluation Report is displayed, then it shall be done in its entirety.

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 11.

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 12/13/2011. This does not serve as an electronically signed document. Signed, sealed hardcopies have been transmitted to the Product Approval Administrator and to the named client.

CERTIFICATION OF INDEPENDENCE:

1. Trinity|ERD 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. Trinity|ERD 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.

ROOFING COMPONENT EVALUATION:

1. SCOPE:

Product Category: Roofing

Sub-Category: Underlayment

Compliance Statement: GAF Roof Underlayments, as produced by GAF, have demonstrated compliance with the following sections of the Florida Building Code through testing in accordance with the following Standards. 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>
1507.2.3, 1507.3.3, 1507.5.3, 1507.7.3, T1507.8, 1507.8.3, 1507.9.3, 1507.9.5	Physical Properties	ASTM D226	2006
1507.2.4, 1507.2.9.2, 1507.5.3,	Physical Properties	ASTM D1970	2001
1507.2.3, 1507.5.3, 1507.7.3, 1507.8.3, 1507.9.3	Physical Properties	ASTM D4869	2005
1507.2.3	Physical Properties	ASTM D6757	2007
1523.6.5.2.1	Physical Properties	TAS 103	1995
1507.3.3	Installation Practice	FRSA/TRI 07320	2005

3. REFERENCES:

<u>Entity</u>	<u>Examination</u>	<u>Reference</u>	<u>Date</u>
ERD (TST 6049)	Physical Properties	G12110.12.08	12/02/2008
ERD (TST 6049)	Physical Properties	G12210.06.09	08/03/2009
PRI (TST 5878)	Physical properties	BRY-003-02-01	03/19/2002
PRI (TST 5878)	Physical properties	GAF-026-02-01	03/26/2002
PRI (TST 5878)	Physical properties	GAF-027-02-01	03/26/2002
PRI (TST 5878)	Physical properties	GAF-042-02-01	02/16/2004
PRI (TST 5878)	Physical properties	GAF-042-02-02	03/12/2004
PRI (TST 5878)	Physical properties	GAF-113-02-01	05/08/2006
PRI (TST 5878)	Physical properties	GAF-154-02-01	02/06/2007
PRI (TST 5878)	Physical properties	RGM-023-02-01	02/09/2007
PRI (TST 5878)	Physical properties	GAF-224-02-01	07/16/2009
PRI (TST 5878)	Physical properties	GAF-238-02-01	03/03/2010
PRI (TST 5878)	Physical properties	GAF-275-02-01	11/11/2010
ITS (TST 1509)	Physical properties	3077464-002	09/14/2005
ITS (TST 1509)	Physical properties	3077464-02	01/09/2006
ITS (TST 1509)	Physical properties	3090131	08/23/2006
ITS (TST 1509)	Physical properties	100258583COQ-010A	01/11/2011
UL (TST 1740)	Physical properties	02NK22569	06/04/2002
UL (TST 1740)	Physical properties	10NK11990	05/18/2011
Miami-Dade (CER 1592)	HVHZ compliance	06-0606.04	10/12/2006
Miami-Dade (CER 1592)	HVHZ compliance	07-1010.19	11/29/2007
Miami-Dade (CER 1592)	HVHZ compliance	10-0331.04	06/16/2011
ICC-ES (EVL2396)	IBC compliance	ESR-2053	01/01/2008
ICC-ES (EVL2396)	IBC compliance	ESR-1322	01/01/2011
ICC-ES (EVL2396)	IBC compliance	ESR-2808	07/01/2011
ICC-ES (EVL2396)	IBC compliance	ESR-5625	08/01/2011
UL (QUA 1743)	Quality Control	R10689 / R19254 / R1306	05/18/2011
UL (QUA 1743)	Quality Control	R10689, Volume 5 Revision	08/25/2011
UL (QUA 1743)	Quality Control	R10689, 10NK15287	08/26/2011

4. PRODUCT DESCRIPTION:

4.1 Self-Adhering Underlayments:

- 4.1.1 **Liberty™ SBS Self-Adhering Base/Ply Sheet** is a smooth-surfaced, fiberglass-reinforced, self-adhering SBS modified bitumen roof underlayment.
- 4.1.2 **Ruberoid® SA Base/Ply Sheet** is a smooth-surfaced, fiberglass-reinforced, self-adhering SBS modified bitumen roof underlayment.
- 4.1.3 **StormGuard® Leak Barrier** is a film-surfaced, fiberglass-reinforced, self-adhering SBS modified bitumen roof underlayment. StormGuard® is also used as a secondary water barrier to seal roof decks.
- 4.1.4 **UnderRoof™ 2 Leak Barrier** is a spun-bond-glass-reinforced-polyester-mat-surfaced, composite-reinforced, SBS self-adhering modified bitumen roof underlayment.
- 4.1.5 **UnderRoof™ HT Leak Barrier** is a polyester-mat-surfaced, fiberglass-reinforced, self-adhering SBS modified bitumen roof underlayment.
- 4.1.6 **Weather Watch® Leak Barrier** is a mineral-surfaced, fiberglass-reinforced, self-adhering SBS modified bitumen roof underlayment. WeatherWatch® is also used as a secondary water barrier to seal roof decks.
- 4.1.7 **Weather Watch® XT Leak Barrier** is a coated-mat-surfaced, fiberglass-reinforced, self-adhering SBS modified bitumen roof underlayment.

4.2 Mechanically Fastened Underlayments:

- 4.2.1 **Deck-Armor™ Premium Breathable Roof Deck Protection** is a non-woven, spun-bonded polypropylene laminated polyethylene scrim sheet roof underlayment.
- 4.2.2 **RoofPro™ SBS-Modified All-Purpose Underlayment** is a fiberglass-reinforced, SBS modified bitumen roof underlayment.
- 4.2.3 **Shingle-Mate® Roof Deck Protection** is a fiberglass reinforced, asphaltic roof underlayment.
- 4.2.4 **StormSafe™ Anchor Sheet** is a polypropylene woven fabric which serves as an anchor sheet in two-ply roof underlayment systems.
- 4.2.5 **Tiger Paw™ Roof Deck Protection** is a non-woven, polypropylene reinforced, polymer coated roof underlayment.
- 4.2.6 **VersaShield® Underlayment** or **VersaShield® Fire Resistant Roof Deck Protection** is a non-asphaltic, fiberglass-based roof underlayment and/or fire barrier.

5. LIMITATIONS:

- 5.1 This Evaluation Report is not for use in the HVHZ.
- 5.2 Fire Classification is not part of this Evaluation Report; refer to current Approved Roofing Materials Directory or test report from accredited testing agency for fire ratings of this product.
- 5.3 GAF 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 AHJ for approval based on this evaluation combined with supporting data for the prepared roof covering.
- 5.4 Allowable roof covers applied atop GAF Roof Underlayments are follows:

Underlayment	Asphalt Shingles	Nail-On Tile	Foam-On Tile	Metal	Wood Shakes & Shingles	Slate or Simulated Slate
Deck-Armor™	Yes	Contact Mfg.	No	Contact Mfg.	Contact Mfg.	Contact Mfg.
RoofPro™	Yes	No	No	No	Yes	Yes
Shingle-Mate™	Yes	No	No	No	No	No
Tiger Paw™	Yes	Contact Mfg.	No	Contact Mfg.	Contact Mfg.	Contact Mfg.
VersaShield®	Yes	No	No	Yes	Yes	Yes
Liberty™ SBS Base/Ply	Yes	No	No	No	No	No
Ruberoid® SA Base/Ply	Yes	No	No	No	No	No
StormGuard®	Yes	No	No	Yes	No	No
UnderRoof™ 2	Yes	Yes	Yes See 5.4.1	No	No	Yes
UnderRoof™ HT	Yes	No	No	Yes	No	No
Weather Watch®	Yes	No	No	No	No	No
Weather Watch® XT	Yes	No	No	No	No	No

- 5.4.1 “Foam-On Tile” is limited to use of Polyfoam PolyPro AH160 unless tensile adhesion / long term aging data from an accredited testing laboratory is provided.
- 5.5 Allowable substrates for Liberty™ SBS Self-Adhering Base/Ply Sheet; Ruberoid® SA Base/Ply Sheet; StormGuard® Leak Barrier; UnderRoof™ 2 Leak Barrier; UnderRoof™ HT Leak Barrier; Weather Watch® Leak Barrier; and Weather Watch® XT Leak Barrier are noted below:
- 5.5.1 Direct-Bond to Deck:
- New untreated plywood;
 - Existing untreated ASTM D41 primed plywood.
- 5.5.2 Wind Resistance for Underlayment Systems in Foam-On Tile Applications: FRSA/TRI 07320 does not address wind uplift resistance of all underlayment systems beneath foam-on tile systems, where the underlayment forms part of the load-path. The following wind uplift limitations apply to underlayment systems that are not addressed in FRSA/TRI 07320 and are used in foam-on tile applications. Maximum Design Pressure is the result of testing for wind load resistance based on allowable wind loads. Refer to FBC 1609.1.5 for determination of design wind pressures.
- 5.5.2.1 Maximum Design Pressure = -45 psf.
- Deck: Min. 15/32-inch plywood to meet project requirements to satisfaction of AHJ.
 Primer: (Optional) ASTM D41
 Underlayment: UnderRoof™ 2 Leak Barrier, self-adhered
- 5.5.3 Bond to Mechanically Attached Base Underlayment:
- ASTM D226, Type II felt.
 - StormSafe™ Anchor Sheet
- For installations under mechanically attached prepared roof coverings, base layer shall be attached per minimum codified requirements. For installations under foam-on tile systems, base layer shall be attached per minimum requirements of FRSA/TRI 07320/8-05 or RAS 120.
- 5.5.4 Bond to Other Substrate Types:
- ASTM D41 primed metal (flashing metal, valley metal, etc.)

- 5.6 Exposure Limitations:
- 5.6.1 Deck-Armor™ Premium Breathable Roof Deck Protection; RoofPro™ SBS-Modified All-Purpose Underlayment; Shingle-Mate™ Roof Deck Protection; StormSafe™ Anchor Sheet; Tiger Paw™ Roof Deck Protection; VersaShield® Underlayment; VersaShield® Fire Resistant Roof Deck Protection; Liberty™ SBS Self-Adhering Base/Ply Sheet; Ruberoid® SA Base/Ply Sheet; StormGuard® Leak Barrier; UnderRoof™ HT Leak Barrier; Weather Watch® Leak Barrier; and Weather Watch® XT Leak Barrier shall not be left exposed for longer than 30-days after installation.
- 5.6.2 UnderRoof™ 2 Leak Barrier shall not be left exposed for longer than 180-days after installation.
- 5.7 For tile roof installations governed by the FRSA/TRI 07320/8-05 Installation Manual, Fourth Edition, use is limited to the following. Reference is made to the FRSA/TRI Technical Brief titled "Florida High Wind Roof Tile Self-Adhered Underlayment Requirements as of 02/14/2011" for limitations for self-adhering underlayments used beneath tile roof systems.

Table 2: Tile System Options per FRSA/TRI 07320/8-05				
System	Underlay Option	Section	Reference	Roof Underlayment(s)
System One: Mechanically Fastened Tile, Unsealed or Sealed Underlayment System	4	3.02D	Two Ply No. 30	Two ply Deck-Armor™ or Tiger Paw™ (Contact Tile Manufacturer)
	5	3.02E	Self-Adhered Underlayment	UnderRoof™ 2
	6	3.02F	No. 30 / Self-Adhered Underlayment	Base Layer: ASTM 226, Type II felt or StormSafe™ Top Layer: UnderRoof™ 2
System Two: Mechanically Fastened Tile, Sealed Underlayment System	4	3.02D	Self-Adhered Underlayment	UnderRoof™ 2
	5	3.02E	No. 30 / Self-Adhered Underlayment	Base Layer: ASTM 226, Type II felt or StormSafe™ Top Layer: UnderRoof™ 2
System Four "A": Adhesive-Set Tile, Unsealed or Sealed Underlayment System	4	3.02D	Self-Adhered Underlayment	UnderRoof™ 2
	5	3.02E	No. 30 / Self-Adhered Underlayment	Base Layer: ASTM 226, Type II felt or StormSafe® Top Layer: UnderRoof™ 2
System Four "B": Adhesive-Set Tile, Sealed Underlayment System	3	3.02C	Self-Adhered Underlayment	UnderRoof™ 2
	4	3.02D	No. 30 / Self-Adhered Underlayment	Base Layer: ASTM 226, Type II felt or StormSafe® Top Layer: UnderRoof™ 2

6. INSTALLATION:

- 6.1 GAF Roof Underlayments shall be installed in accordance with GAF published installation instructions subject to the Limitations set forth in Section 5 herein and the specifics noted below.
- 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 Install self-adhering underlayments when ambient temperatures are minimum 45°F and rising.
- 6.4 All metal surfaces shall be primed with TopCoat® Matrix™ 307 Premium Asphalt Primer or alternate GAF accepted ASTM D41 primer prior to application of self-adhering membranes.

6.5 **Deck-Armor™ Premium Breathable Roof Deck Protection:**

6.5.1 Install Deck-Armor™ Premium Breathable Roof Deck Protection in compliance with manufacturer's published installation instructions and the requirements for ASTM D226, Type I and II underlayments in FBC Sections 1507 for the type of prepared roof covering to be installed.

6.5.2 Fasteners shall be 1-inch diameter plastic-capped corrosion resistant nails or 1-inch diameter plastic-capped, corrosion resistant staples.

6.5.3 Install a leak barrier of Liberty™ SBS Self-Adhering Base/Ply Sheet; Ruberoid® SA Base/Ply Sheet; StormGuard®; UnderRoof™ 2; UnderRoof™ HT; Weather Watch® or Weather Watch® XT at vulnerable leak areas, including but not limited to eaves, valleys, rakes, skylights and dormers. At eaves and valleys, install the leak barrier prior to installation of Deck-Armor™. Along the rake, install Deck-Armor™, leaving 6 to 8-inch of the deck exposed, and then install the leak barrier over the Deck-Armor™ and exposed decking. At other areas, install the leak barrier over the Deck-Armor™.

6.5.4 **For tile roof installations:**

Installation is governed by the FRSA/TRI 07320/8-05 Installation Manual, Fourth Edition. Use is limited to System 1, Option 4, Section 3.02D in place of the "No. 30" felt. The "starter strip" and "full-width-sheet" referenced therein shall be proportionate to the width of the Deck-Armor™ product.

6.5.5 **For non-tile roof installations:**

6.5.5.1 Standard Installation with Single Layer; roof slope \geq 4:12

Starting at the eave, fasten the eave edge and 6-inch wide end-laps 6-inch o.c. Fasten in the field of the roll 12-inch o.c. in two, equally spaced, staggered center rows.

Continue upslope in a similar manner, maintaining minimum 3-inch side-laps and minimum 6-inch end-laps. Fasten 6-inch o.c. in the laps and 12-inch o.c. in two, equally spaced, staggered center rows in the field. Ensure all end laps are staggered at least 3-feet apart.

6.5.5.2 Standard Installation with Double Layer; $2:12 \leq$ roof slope $<$ 4:12

Starting at the eave, fasten the eave edge and 6-inch wide end-laps 6-inch o.c. Fasten in the field of the roll 12-inch o.c. in two, equally spaced, staggered center rows.

Continue upslope in a similar manner, with minimum 28.5-inch side-laps and minimum 6-inch end-laps. Fasten 6-inch o.c. along the low edge and end laps and 12-inch o.c. in two, equally spaced, staggered center rows in the field. Ensure all end laps are staggered at least 3-feet apart.

6.6 **Tiger Paw™ Roof Deck Protection:**

6.6.1 Install Tiger Paw™ Roof Deck Protection in compliance with manufacturer's published installation instructions and the requirements for ASTM D226, Type I and II underlayments in FBC Sections 1507 for the type of prepared roof covering to be installed.

6.6.2 Fasteners shall be 1-inch diameter plastic-capped corrosion resistant nails or 1-inch diameter plastic-capped, corrosion resistant staples.

6.6.3 Install a leak barrier of Liberty™ SBS Self-Adhering Base/Ply Sheet; Ruberoid® SA Base/Ply Sheet; StormGuard®; UnderRoof™ 2; UnderRoof™ HT; Weather Watch® or Weather Watch® XT at vulnerable leak areas, including but not limited to eaves, valleys, rakes, skylights and dormers. At eaves and valleys, install the leak barrier prior to installation of Tiger Paw™. Along the rake, install Tiger Paw™, leaving 6 to 8-inch of the deck exposed, and then install the leak barrier over the Tiger Paw™ and exposed decking. At other areas, install the leak barrier over the Tiger Paw™.

6.6.4 For tile roof installations:

Installation is governed by the FRSA/TRI 07320/8-05 Installation Manual, Fourth Edition. Use is limited to System 1, Option 4, Section 3.02D in place of the "No. 30" felt. The "starter strip" and "full-width-sheet" referenced therein shall be proportionate to the width of the Tiger Paw™ product.

6.6.5 For non-tile roof installations:

6.6.5.1 Standard Installation with Single Layer; roof slope \geq 4:12

Starting at the eave, fasten the eave edge and 6-inch wide end-laps 6-inch o.c. Fasten in the field of the roll 12-inch o.c. in two, equally spaced, staggered center rows.

Continue upslope in a similar manner, maintaining minimum 3-inch side-laps and minimum 6-inch end-laps. Fasten 6-inch o.c. in the laps and 12-inch o.c. in two, equally spaced, staggered center rows in the field. Ensure all end laps are staggered at least 3-feet apart.

6.6.5.2 Standard Installation with Double Layer; $2:12 \leq$ roof slope $<$ 4:12

Starting at the eave, fasten the eave edge and 6-inch wide end-laps 6-inch o.c. Fasten in the field of the roll 12-inch o.c. in two, equally spaced, staggered center rows.

Continue upslope in a similar manner, with minimum 22.5-inch side-laps and minimum 6-inch end-laps. Fasten 6-inch o.c. along the low edge and end laps and 12-inch o.c. in two, equally spaced, staggered center rows in the field. Ensure all end laps are staggered at least 3-feet apart.

6.7 **StormSafe™ Anchor Sheet:**

6.7.1 StormSafe™ Anchor Sheet is limited to use as a mechanically attached base layer in 2-ply underlayment systems.

6.7.2 Fasteners shall be 1-inch diameter plastic- or steel-capped corrosion resistant nails; corrosion-resistant nails & 1-5/8-inch tin-caps; or Drill-Tec screws and plates.

6.7.3 For tile roof installations:

Installation is governed by the FRSA/TRI 07320/8-05 Installation Manual, Fourth Edition. Use is limited to System 1, Option 6, Section 3.02F, System 2, Option 5, Section 3.02E, System 4A, Option 5, Section 3.02E or System 4B, Option 4, Section 3.02D in place of the "No. 30" felt and as a base-layer beneath UnderRoof™ 2. The attachment requirements shall be proportionate to the width of the StormSafe™ product.

6.7.4 For non-tile roof installations:

Starting at the eave, fasten the eave edge and 6-inch wide end-laps 6-inch o.c. Fasten in the field of the roll 12-inch o.c. in two, equally spaced, staggered center rows.

Continue upslope in a similar manner, maintaining minimum 3-inch side-laps and minimum 6-inch end-laps. Fasten 6-inch o.c. in the laps and 12-inch o.c. in two, equally spaced, staggered center rows in the field. Ensure all end laps are staggered at least 3-feet apart.

One the same day, install Liberty™ SBS Self-Adhering Base/Ply; Ruberoid® SA Base/Ply; StormGuard®; UnderRoof™ 2; UnderRoof™ HT; Weather Watch® or Weather Watch® XT over the StormSafe™ Anchor Sheet.

6.8 **RoofPro™ SBS-Modified All-Purpose Underlayment and Shingle-Mate™ Roof Deck Protection:**

6.8.1 Install RoofPro™ and Shingle-Mat™ in compliance with manufacturer's published installation instructions and the requirements for ASTM D226, Type I and II underlayments in FBC Sections 1507 for the type of prepared roof covering to be installed. A double layer is required for $2:12 \leq$ roof slope $<$ 4:12. No hammer tacks or staples are permitted.

6.8.2 Install a leak barrier of Liberty™ SBS Self-Adhering Base/Ply Sheet; Ruberoid® SA Base/Ply Sheet; StormGuard®; UnderRoof™ 2; UnderRoof™ HT; Weather Watch® or Weather Watch® XT at vulnerable leak areas, including but not limited to eaves, valleys, rakes, skylights and dormers. At eaves and valleys, install the leak barrier prior to installation of RoofPro™ or Shingle-Mate™. Along the rake, install RoofPro™ or Shingle-Mate™, leaving 6 to 8-inch of the deck exposed, and then install the leak barrier over the RoofPro™ or Shingle-Mate™ and exposed decking. At other areas, install the leak barrier over the RoofPro™ or Shingle-Mate™.

6.9 **VersaShield™ Underlayment or VersaShield® Fire Resistant Roof Deck Protection:**

6.9.1 Install VersaShield® Underlayment or VersaShield® Fire-Resistant Roof Deck Protection in compliance with manufacturer's published installation instructions and the requirements for ASTM D226, Type I and II, ASTM D4869 or ASTM D6757 underlayments in FBC Sections 1507 for the type of prepared roof covering to be installed. A double layer is required for 2:12 ≤ roof slope < 4:12. No hammer tacks or staples are permitted

6.9.2 Install a leak barrier of Liberty™ SBS Self-Adhering Base/Ply Sheet; Ruberoid® SA Base/Ply Sheet; StormGuard®; UnderRoof™ 2; UnderRoof™ HT; Weather Watch® or Weather Watch® XT at vulnerable leak areas, including but not limited to eaves, valleys, rakes, skylights and dormers. At eaves and valleys, install the leak barrier prior to installation of VersaShield®. Along the rake, install VersaShield®, leaving 6 to 8-inch of the deck exposed, and then install the leak barrier over the VersaShield® and exposed decking. At other areas, install the leak barrier over the VersaShield™.

6.10 **Liberty™ SBS Self-Adhering Base/Ply Sheet or Ruberoid SA Base/Ply Sheet:**

6.10.1 Install Liberty™ SBS Self-Adhering Base/Ply Sheet or Ruberoid SA Base/Ply Sheet in compliance with manufacturer's published installation instructions and the requirements for ASTM D1970 underlayments in FBC Sections 1507 for the type of prepared roof covering to be installed.

6.10.2 The minimum and maximum roof slopes are ½:12 and 6:12, respectively. Back-nailing is required when slope is 1:12 or greater. Back-nailing shall consist of minimum 1-inch square or round cap nails spaced 18" o.c. within 3-inch side laps.

6.10.3 **For non-tile applications, direct to deck:**

For direct-bond to deck applications plywood shall be primed with TopCoat® Matrix™ 307 Premium Asphalt Primer or alternate GAF accepted ASTM D41 primer at ½ to ¾ gallon per square.

Prior to removal of release film, align sheets properly starting at the low-point of the roof (eave) with the selvage edge upslope and for minimum 2-inch overhang at eaves and rakes. Roll out sheet and allow to 'relax' for min. 30 minutes. Remove the lower piece of release film and bond to substrate and fold the overhanging 2-inch over the eave and nail into place 12" o.c. Remove the top piece of release film and bond to substrate. Install primed drip edge and fasten to meet FBC Chapter 16 wind load requirements. Install 1/8-inch troweling of TopCoat® Matrix™ 201 Premium SBS Flashing Cement over drip edge.

Continue upslope in a similar manner, maintaining minimum 3-inch side-laps and minimum 6-inch end-laps. Ensure all end laps are staggered at least 18-inch apart.

Use a weighted lawn or linoleum roller to ensure complete adhesion to the substrate. Use a hand roller to firmly bond side and end laps.

6.10.4 For non-tile applications, to mechanically attached anchor sheet:

Install ASTM D226, Type II felt in accordance with codified requirements or StormSafe™ Anchor Sheet in accordance with Section 6.6.

Install Liberty™ SBS Self-Adhering Base/Ply Sheet or Ruberoid SA Base/Ply Sheet over the mechanically attached anchor sheet as noted above.

6.11 **StormGuard® Leak Barrier:**

6.11.1 Install StormGuard® Leak Barrier in compliance with manufacturer's published installation instructions and the requirements for ASTM D1970 underlayments in FBC Sections 1507 for the type of prepared roof covering to be installed.

6.11.2 Back-nailing is required. Back-nailing shall consist of minimum 1-inch square or round cap nails spaced 18" o.c. within 3-inch side laps.

6.11.3 For non-tile applications, direct to deck:

Prior to removal of release film, align sheets properly starting at the low-point of the roof (eave) with the selvage edge upslope and for minimum 2-inch overhang at eaves and rakes. Remove the lower piece of release film and bond to substrate and fold the overhanging 2-inch over the eave and nail into place 12" o.c. Remove the top piece of release film and bond to substrate. Install primed drip edge and fasten to meet FBC Chapter 16 wind load requirements. Install 1/8-inch troweling of TopCoat® Matrix™ 201 Premium SBS Flashing Cement over drip edge.

Continue upslope in a similar manner, maintaining minimum 3-inch side-laps and minimum 6-inch end-laps. Ensure all end laps are staggered at least 18-inch apart.

Use a hand roller to firmly bond side and end laps.

6.11.4 For non-tile applications, to mechanically attached anchor sheet:

Install ASTM D226, Type II felt in accordance with codified requirements or StormSafe™ Anchor Sheet in accordance with Section 6.6.

Install StormGuard® Leak Barrier over the mechanically attached anchor sheet as noted above.

6.12 **UnderRoof™ 2 Leak Barrier:**

6.12.1 Install UnderRoof™ 2 Leak Barrier in compliance with manufacturer's published installation instructions and the requirements for ASTM D1970 underlayments in FBC Sections 1507 for the type of prepared roof covering to be installed.

6.12.2 The minimum and maximum roof slopes are 2:12 and 12:12, respectively. Back-nailing is required when slope is 4:12 or greater. Back-nailing shall consist of minimum 1-inch square or round cap nails spaced 12" o.c. within 4-inch side laps.

6.12.3 For tile roof installations:

Reference is made to FRSA/TRI 07320/8-05 Installation Manual, Fourth Edition, and Table 2 herein, using the instructions noted herein as a guideline. Tile shall be loaded and staged in a manner that prevents tile slippage and/or damage to the underlayment.

6.12.4 For non-tile applications, direct to deck:

Prior to removal of release film, align sheets properly starting at the low-point of the roof (eave) with the selvage edge upslope and for minimum 2-inch overhang at eaves and rakes. Remove the lower piece of release film and bond to substrate and fold the overhanging 2-inch over the eave and nail into place 12" o.c. Remove the top piece of release film and bond to substrate. Install primed drip edge and fasten to meet FBC Chapter 16 wind load requirements. Install 1/8-inch troweling of TopCoat® Matrix™ 201 Premium SBS Flashing Cement over drip edge.

Continue upslope in a similar manner, maintaining minimum 4-inch side-laps and minimum 6-inch end-laps. Ensure all end laps are staggered at least 3-feet apart. End laps shall be sealed with a 1/16th to 1/8th inch thick trowel application of TopCoat® Matrix™ 201 Premium SBS Flashing Cement.

Use a hand roller to firmly bond side and end laps.

6.12.5 For non-tile applications, to mechanically attached anchor sheet:

Install ASTM D226, Type II felt in accordance with codified requirements or StormSafe™ Anchor Sheet in accordance with Section 6.6.

Install UnderRoof™ 2 Leak Barrier over the mechanically attached anchor sheet as noted above.

6.13 **UnderRoof™ HT Leak Barrier:**

6.13.1 Install UnderRoof™ HT Leak Barrier in compliance with manufacturer's published installation instructions and the requirements for ASTM D1970 underlayments in FBC Sections 1507 for the type of prepared roof covering to be installed.

6.13.2 The minimum and maximum roof slopes are 1:12 and 12:12, respectively. Back-nailing is required when slope is 4:12 or greater. Back-nailing shall consist of minimum 1-inch square or round cap nails spaced 12" o.c. within 4-inch side laps.

6.13.3 For non-tile applications, direct to deck:

Prior to removal of release film, align sheets properly starting at the low-point of the roof (eave) with the selvage edge upslope and for minimum 2-inch overhang at eaves and rakes. Remove the lower piece of release film and bond to substrate and fold the overhanging 2-inch over the eave and nail into place 12" o.c. Remove the top piece of release film and bond to substrate. Install primed drip edge and fasten to meet FBC Chapter 16 wind load requirements. Install 1/8-inch troweling of TopCoat® FlexSeal™ Caulk Grade over drip edge.

Continue upslope in a similar manner, maintaining minimum 4-inch side-laps and minimum 6-inch end-laps. Ensure all end laps are staggered at least 3-feet apart.

Use a hand roller to firmly bond side and end laps.

6.13.4 For non-tile applications, to mechanically attached anchor sheet:

Install ASTM D226, Type II felt in accordance with codified requirements or StormSafe™ Anchor Sheet in accordance with Section 6.7.

Install UnderRoof™ HT Leak Barrier over the mechanically attached anchor sheet as noted above.

6.14 **Weather Watch® or Weather Watch® XT Leak Barrier:**

6.14.1 Install Weather Watch® or Weather Watch® XT Leak Barrier in compliance with manufacturer's published installation instructions and the requirements for ASTM D1970 underlayments in FBC Sections 1507 for the type of prepared roof covering to be installed.

6.14.2 Weather Watch® Leak Barrier may be installed as a secondary water barrier using minimum 4-inch wide rolls to seal plywood deck joints prior to installation of the primary underlayment system.

6.14.3 Back-nailing is required. Back-nailing shall consist of minimum 1-inch square or round cap nails spaced 18" o.c. within 4-inch side laps.

6.14.4 **For non-tile applications, direct to deck:**

Prior to removal of release film, align sheets properly starting at the low-point of the roof (eave) with the selvage edge upslope and for minimum 2-inch overhang at eaves and rakes. Remove the lower piece of release film and bond to substrate and fold the overhanging 2-inch over the eave and nail into place 12" o.c. Remove the top piece of release film and bond to substrate. Install primed drip edge and fasten to meet FBC Chapter 16 wind load requirements. Install 1/8-inch troweling of TopCoat® Matrix™ 201 Premium SBS Flashing Cement over drip edge.

Continue upslope in a similar manner, maintaining minimum 3-inch side-laps and minimum 6-inch end-laps. Ensure all end laps are staggered at least 18-feet apart.

Use a hand roller to firmly bond side and end laps.

6.14.5 **For non-tile applications, to mechanically attached anchor sheet:**

Install ASTM D226, Type II felt in accordance with codified requirements or StormSafe™ Anchor Sheet in accordance with Section 6.6.

Install Weather Watch® or Weather Watch® XT Leak Barrier over the mechanically attached anchor sheet as noted above.

7. LABELING:

Each unit shall bear a permanent label with the manufacturer's name, logo, city, state and logo of the Accredited Quality Assurance Agency noted herein.

8. BUILDING PERMIT REQUIREMENTS:

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

9. MANUFACTURING PLANTS:

Contact the manufacturer or the named QA entity for information on plants covered under Rule 9N-3 QA requirements.

10. QUALITY ASSURANCE ENTITY:

Underwriters Laboratories – QUA1743; (847) 664-3281

- END OF EVALUATION REPORT -