

Florida Building Code Approval

GAF-Elk Roof Underlayments

Updated 10/13/09



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Product Approval

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<p>FL #</p> <p>Application Type</p> <p>Code Version</p> <p>Application Status</p> <p>Comments</p> <p>Archived</p> <p>Product Manufacturer</p> <p>Address/Phone/Email</p> <p>Authorized Signature</p> <p>Technical Representative</p> <p>Address/Phone/Email</p> <p>Quality Assurance Representative</p> <p>Address/Phone/Email</p> <p>Category</p> <p>Subcategory</p> <p>Compliance Method</p> <p>Florida Engineer or Architect Name who developed the Evaluation Report</p> <p>Florida License</p> <p>Quality Assurance Entity</p> <p>Quality Assurance Contract Expiration Date</p> <p>Validated By</p> <p>Certificate of Independence</p> <p>Referenced Standard and Year (of Standard)</p> <p>Equivalence of Product Standards</p>	<p>FL10626-R2</p> <p>Revision</p> <p>2007</p> <p>Approved</p> <p><input type="checkbox"/></p> <p>GAF Materials Corporation</p> <p>1361 Alps Road</p> <p>Wayne, NJ 07470</p> <p>(973) 872-4421</p> <p>bmcSorley@gaf.com</p> <p>Beth McSorley</p> <p>bmcSorley@gaf.com</p> <p>Beth McSorley</p> <p>1361 Alps Road</p> <p>Wayne, NJ 07470</p> <p>(800) 365-7353</p> <p>bmcSorley@gaf.com</p> <p>Roofing</p> <p>Underlayments</p> <p>Evaluation Report from a Florida Registered Architect or a Licensed Florida Professional Engineer</p> <p><input checked="" type="checkbox"/> Evaluation Report - Hardcopy Received</p> <p>Robert Nieminen</p> <p>PE-59166</p> <p>Underwriters Laboratories Inc.</p> <p>03/01/2012</p> <p>John W. Knezevich, PE</p> <p><input checked="" type="checkbox"/> Validation Checklist - Hardcopy Received</p> <p>FL10626_R2_COI_Trinity_ERD_Certificaiton_of_Independence.pdf</p> <table border="0"> <thead> <tr> <th style="text-align: left;"><u>Standard</u></th> <th style="text-align: left;"><u>Year</u></th> </tr> </thead> <tbody> <tr> <td>ASTM D1970</td> <td>2001</td> </tr> <tr> <td>ASTM D226</td> <td>1997</td> </tr> <tr> <td>ASTM D6757</td> <td>2002</td> </tr> <tr> <td>TAS 103</td> <td>1995</td> </tr> </tbody> </table>	<u>Standard</u>	<u>Year</u>	ASTM D1970	2001	ASTM D226	1997	ASTM D6757	2002	TAS 103	1995
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ASTM D1970	2001										
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EXTERIOR RESEARCH & DESIGN, LLC.
 Certificate of Authorization #9503
 353 CHRISTIAN STREET, UNIT #13
 OXFORD, CT 06478
 PHONE: (203) 262-9245
 FAX: (203) 262-9243

EVALUATION REPORT

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

Evaluation Report 01506.04.08-R2
FL10626-R2
Date of Issuance: 04/25/2008
Revision 2: 09/08/09

SCOPE:

This Evaluation Report is issued under Rule 9B-72 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 2007 Florida Building Code sections noted herein.

DESCRIPTION: GAF-ELK 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.

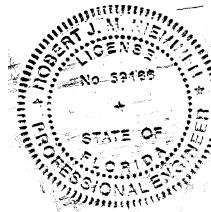
ADVERTISEMENT: The Evaluation Report number preceded by the words "Trinity|ERD Evaluated" may be displayed in advertising literature. If any portion of the Evaluation Report is displayed, then it shall be done in its entirety.

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 9.

Prepared by:

Robert J.M. Nieminen, P.E.
 Florida Registration No. 59166, Florida DCA ANE1983



The facsimile seal appearing was authorized by Robert Nieminen, P.E. on 09/08/2009. 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-ELK Roof Underlayments, as produced by GAF Materials Corporation, 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, 1507.9.4	Physical Properties	ASTM D226	1997
1507.2.4, 1507.2.9.2, 1507.3.9, 1507.5.6, 1507.8.7, 1507.9.8	Physical Properties	ASTM D1970	2001
1507.2.3	Physical Properties	ASTM D6757	2002
1523.6.5.2.1	Physical Properties	TAS 103	1995

3. REFERENCES:

<u>Entity</u>	<u>Examination</u>	<u>Reference</u>	<u>Date</u>
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
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
UL (TST 1740)	Physical properties	02NK22569	06/04/2002
Miami-Dade (CER 1592)	FBC compliance	04-1124.02	10/20/2005
UL (QUA 1743)	Quality Control	R10689 / R19254 / R21129 / R1306	Current

4. PRODUCT DESCRIPTION:

4.1 Self-Adhering Underlayments:

- 4.1.1 **Liberty™ SBS Base/Ply Sheet** is a smooth surfaced, fiberglass reinforced, self-adhering SBS modified bitumen roof underlayment.
- 4.1.2 **StormGuard®** is a smooth surfaced, fiberglass reinforced, self-adhering SBS modified bitumen roof underlayment. StormGuard® is also used as a secondary water barrier to seal roof decks.
- 4.1.3 **StormGuard® Ultra-Flex™** is a polyethylene surfaced, self-adhering SBS modified bitumen roof underlayment
- 4.1.4 **UnderRoof™ Tile Underlayment** is a smooth surfaced, fiberglass reinforced, SBS self-adhering modified bitumen roof underlayment.

- 4.1.5 **UnderRoof™ 2 Tile Underlayment** is a fabric surfaced, composite reinforced, SBS self-adhering modified bitumen roof underlayment.
- 4.1.6 **Weather Watch®** is a granule surfaced, fiberglass reinforced, self-adhering SBS modified bitumen roof underlayment. WeatherWatch® is also used as a secondary water barrier to seal roof decks.
- 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 **VersaShield™ Underlayment** is a non-asphaltic, fiberglass-based roof underlayment and/or fire barrier.
- 4.2.3 **TG-2™** is an SBS modified bitumen, fiberglass reinforced 'wrinkle-free' roof underlayment.
- 4.2.4 **Shingle-Mate™** is a fiberglass reinforced, asphaltic roof underlayment.

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 for fire ratings of this product.
- 5.3 GAF-ELK 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 Unless otherwise noted below, underlayment / substrate combinations are limited as follows:
 - 5.4.1 For mechanically fastened roof covers:
 - Self-Adhering Underlayments / Bond to Deck: Min. 15/32-inch plywood
 - Self-Adhering Underlayments / Bond to Mechanically Attached Base Underlayment: ASTM D226, Type II Felt atop FBC Chapter 26 minimum wood structural panels.
 - Mechanically Attached Underlayments: FBC Chapter 26 minimum wood structural panels
 - 5.4.2 For bonded tile roofs:
 - Self-Adhering Underlayments / Bond to Deck: Min. 15/32-inch plywood
 - Self-Adhering Underlayments / Bond to Mechanically Attached Base Underlayment: ASTM D226, Type II Felt atop min. 19/32-inch plywood
 - Mechanically Attached Underlayments: Min. 19/32-inch plywood
- 5.5 Unless otherwise noted in Section 6, allowable roof covers include mechanically attached asphalt shingles, metal roofing, slate, simulated slate, tile or wood shakes & shingles.
- 5.6 Install self-adhering underlayments when ambient temperatures are minimum 45°F and rising.
- 5.7 Decks shall be smooth, dry and free of dirt & debris. For self-adhering underlayments, gaps exceeding ¼-inch require 32 ga. sheet metal overlay nailed 3-inch o.c.
- 5.8 **Liberty™ SBS Base/Ply Sheet:**
- 5.8.1 Liberty™ SBS Base shall not be left exposed for longer than 30-days after installation.
- 5.9 **StormGuard® / StormGuard® Ultra-Flex™:**

- 5.9.1 StormGuard® shall not be left exposed for longer than 30-days after installation.
- 5.9.2 StormGuard® 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
- 5.10 UnderRoof Tile Underlayment:**
- 5.10.1 UnderRoof Tile Underlayment shall not be left exposed for longer than 180-days after installation.
- 5.11 UnderRoof 2 Tile Underlayment:**
- 5.11.1 UnderRoof 2 Tile Underlayment shall not be left exposed for longer than 180-days after installation.
- 5.11.2 UnderRoof 2 Tile Underlayment is not for use under metal roofs.
- 5.12 WeatherWatch®:**
- 5.12.1 WeatherWatch shall not be left exposed for longer than 30-days after installation.
- 5.12.2 WeatherWatch® 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.
- 5.13 Deck-Armor™ Premium Breathable Roof Deck Protection:**
- 5.13.1 Deck-Armor™ shall not be left exposed for longer than 30-days after installation.
- 5.14 VersaShield™ Underlayment:**
- 5.14.1 VersaShield™ Underlayment shall not be left exposed for longer than 30-days after installation.
- 5.15 TG-2™:**
- 5.15.1 TG-2™ shall not be left exposed for longer than 30-days after installation.
- 5.16 Shingle-Mate™:**
- 5.16.1 Shingle-Mate™ shall not be left exposed for longer than 30-days after installation.

6. INSTALLATION:

- 6.1 GAF-ELK Roof Underlayments shall be installed in accordance with GAF-ELK published installation requirements subject to the Limitations set forth in Section 5 herein and the specifics noted below.
- 6.2 All metal surfaces shall be primed with LeakBuster™ Matrix™ 307 Premium Asphalt Primer or alternate GAF-ELK accepted ASTM D41 primer prior to application of self-adhering membranes.
- 6.3 Liberty™ SBS Base/Ply Sheet:**
- 6.3.1 Liberty™ SBS Base shall be installed in compliance with the requirements for ASTM D1970 underlayment in FBC Sections 1507 for the type of prepared roof covering to be installed.
- 6.3.2 For tile roof installations governed by the FRSA/TRI 07320/8-05 Installation Manual, Fourth Edition, use is limited to:
 - System 1, Option 5 or 6, Section 3.02E or F
 - System 2, Option 4 or 5, Section 3.02D or E
- 6.3.3 For direct-bond to deck applications, plywood shall be primed with LeakBuster™ Matrix™ 307 Premium Asphalt Primer or alternate GAF-ELK accepted ASTM D41 primer at ½ to ¾ gallon per 100 square.

- 6.3.4 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.
- 6.3.5 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 LeakBuster™ Matrix™ 201 Premium SBS Flashing Cement over drip edge.
- 6.3.6 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.
- 6.3.7 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.

6.4 StormGuard®:

- 6.4.1 StormGuard® shall be installed in compliance with the requirements for ASTM D1970 underlayment in FBC Sections 1507 for the type of prepared roof covering to be installed.
- 6.4.2 For tile roof installations governed by the FRSA/TRI 07320/8-05 Installation Manual, Fourth Edition, use is limited to:
 - System 1, Option 5 or 6, Section 3.02E or F
 - System 2, Option 4 or 5, Section 3.02D or E
- 6.4.3 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.
- 6.4.4 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 LeakBuster™ Matrix™ 201 Premium SBS Flashing Cement over drip edge.
- 6.4.5 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.
- 6.4.6 Use a hand roller to firmly bond side and end laps.

6.5 StormGuard® Ultra-Flex™:

- 6.5.1 StormGuard® shall be installed in compliance with the requirements for ASTM D1970 underlayment in FBC Sections 1507 for the type of prepared roof covering to be installed.
- 6.5.2 For tile roof installations governed by the FRSA/TRI 07320/8-05 Installation Manual, Fourth Edition, use is limited to:
 - System 1, Option 5 or 6, Section 3.02E or F
 - System 2, Option 4 or 5, Section 3.02D or E
- 6.5.3 For direct-bond to deck applications where the material is not covered within 24 hours, plywood shall be primed with LeakBuster™ Matrix™ 307 Premium Asphalt Primer or alternate GAF-ELK accepted ASTM D41 primer at ½ to ¾ gallon per 100 square.

- 6.5.4 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.
- 6.5.5 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 approximately 10 feet of membrane and peel back the first 3 feet of release film. Adhere the exposed part to the substrate and unroll the remaining membrane. Peel off the release film diagonally while holding the membrane tight.
- 6.5.6 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 LeakBuster™ Matrix™ 201 Premium SBS Flashing Cement over drip edge..
- 6.5.7 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.
- 6.5.8 Use a hand roller to firmly bond side and end laps.

6.6 UnderRoof Tile Underlayment:

- 6.6.1 UnderRoof Tile Underlayment shall be installed in compliance with the requirements for ASTM D1970 underlayment in FBC Sections 1507 for the type of prepared roof covering to be installed.
- 6.6.2 For tile roof installations governed by the FRSA/TRI 07320/8-05 Installation Manual, Fourth Edition, use is limited to:
 - System 1, Option 5 or 6, Section 3.02E or F
 - System 2, Option 4 or 5, Section 3.02D or E
- 6.6.3 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 6" o.c. within 4-inch side laps.
- 6.6.4 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 LeakBuster™ Matrix™ 201 Premium SBS Flashing Cement over drip edge.
- 6.6.5 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 LeakBuster™ Matrix™ 201 Premium SBS Flashing Cement.
- 6.6.6 Use a hand roller to firmly bond side and end laps.

6.7 UnderRoof 2 Tile Underlayment:

- 6.7.1 UnderRoof 2 Tile Underlayment shall be installed in compliance with the requirements for ASTM D1970 underlayment in FBC Sections 1507 for the type of prepared roof covering to be installed. UnderRoof 2 is not for use under metal roofs.

- 6.7.2 For tile roof installations governed by the FRSA/TRI 07320/8-05 Installation Manual, Fourth Edition, use is limited to:
- System 1, Option 5 or 6
 - System 2, Option 4 or 5
 - System 4, Underlayment Option "A", Option 4 or 5 (Polyfoam Polyset Only)
 - System 4, Underlayment Option "B", Option 3 or 4 (Polyfoam Polyset Only)
- 6.7.3 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.
- 6.7.4 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 LeakBuster™ Matrix™ 201 Premium SBS Flashing Cement over drip edge.
- 6.7.5 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 LeakBuster™ Matrix™ 201 Premium SBS Flashing Cement.
- 6.7.6 Use a hand roller to firmly bond side and end laps.

6.8 WeatherWatch®:

- 6.8.1 WeatherWatch shall be installed in compliance with the requirements for ASTM D1970 underlayment in FBC Sections 1507 for the type of prepared roof covering to be installed.
- 6.8.2 For tile roof installations governed by the FRSA/TRI 07320/8-05 Installation Manual, Fourth Edition, use is limited to:
- System 1, Option 5 or 6, Section 3.02E or F
 - System 2, Option 4 or 5, Section 3.02D or E
- 6.8.3 WeatherWatch® 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.
- 6.8.4 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.
- 6.8.5 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 LeakBuster™ Matrix™ 201 Premium SBS Flashing Cement over drip edge.
- 6.8.6 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.
- 6.8.7 Use a hand roller to firmly bond side and end laps.

6.9 Deck-Armor™ Premium Breathable Roof Deck Protection:

- 6.9.1 Deck-Armor™ shall be installed in compliance with the requirements for ASTM D226 underlayment in FBC Sections 1507 for the type of prepared roof covering to be installed.
- 6.9.2 Fasteners shall be plastic cap corrosion resistant nails or staples with plastic caps.
- 6.9.3 Install a leak barrier of WeatherWatch® or StormGuard® 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™.
- 6.9.4 For tile roof installations 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. In this case, the "starter strip" and "full-width-sheet" referenced therein shall be proportionate to the width of the Deck-Armor™ product.
- 6.9.5 For non-tile roof installations:
 - 6.9.5.1 Standard Installation with Single Layer; roof slope > 4:12
 - 6.9.5.1.1 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.
 - 6.9.5.1.2 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.
 - 6.9.5.2 Standard Installation with Double Layer; 2:12 < roof slope < 4:12
 - 6.9.5.2.1 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.
 - 6.9.5.2.2 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.
 - 6.9.5.3 Special Installation; roof slope < 2:12
 - 6.9.5.3.1 Starting at the eave, fasten the eave edge and 12-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.
 - 6.9.5.3.2 Continue upslope in a similar manner, maintaining minimum 6-inch side-laps and minimum 12-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.
 - 6.9.5.3.3 Apply butyl adhesive based seam tape or waterproof cloth duct tape over all laps and fasteners.

6.10 VersaShield™ Underlayment:

- 6.10.1 VersaShield™ shall be installed in compliance with the requirements for ASTM D226, type I or II or ASTM D6757 underlayment 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.
- 6.10.2 Install a leak barrier of WeatherWatch® or StormGuard® 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™.
- 6.10.3 For tile roof installations 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. In this case, the “starter strip” and “full-width-sheet” referenced therein shall be proportionate to the width of the VersaShield™ product.

6.11 TG-2™ and Shingle-Mate™:

- 6.11.1 TG-2™ and Shingle-Mate™ shall be installed in compliance with the requirements for ASTM D226, type I or II underlayment 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.
- 6.11.2 Install a leak barrier of WeatherWatch® or StormGuard® 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 TG-2™ or Shingle-Mate™. Along the rake, install TG-2™ or Shingle-Mate™, leaving 6 to 8-inch of the deck exposed, and then install the leak barrier over the TG-2™ or Shingle-Mate™ and exposed decking. At other areas, install the leak barrier over the TG-2™ or Shingle-Mate™.
- 6.11.3 For tile roof installations 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. In this case, the “starter strip” and “full-width-sheet” referenced therein shall be proportionate to the width of the TG-2™ or Shingle-Mate™ product.

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 named QA entity for information on which plants produce products covered by Florida Rule 9B-72 QA requirements.

10. QUALITY ASSURANCE ENTITY:

Underwriters Laboratories – QUA1743
(847) 664-3281