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EVALUATION REPORT

CertainTeed Corporation

18 Moores Road
Malvern, PA 19355

Evaluation Report 11610.09.08-R16

FL11288-R15

Date of Issuance: 09/03/2009

Revision 16: 02/04/2016

SCOPE:

This Evaluation Report is issued under Rule 61G20-3 and the applicable rules and regulations governing the use of construction materials in the State of Florida. The documentation submitted has been reviewed by Robert Nieminen, P.E. for use of the product under the Florida Building Code and Florida Building Code, Residential Volume. The products described herein have been evaluated for compliance with the 5th Edition (2014) Florida Building Code sections noted herein.

DESCRIPTION: CertainTeed Roof Underlayments

LABELING: Labeling shall be 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.

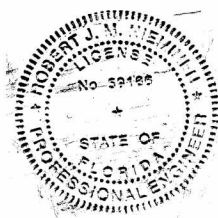
This Evaluation Report consists of pages 1 through 9.

Prepared by:

A handwritten signature in black ink, appearing to read "Robert J.M. Nieminen".

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 02/04/2016. 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.
5. This is a building code evaluation. Neither Trinity|ERD nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this Evaluation Report, 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

Compliance Statement: Roof Underlayments, as produced by CertainTeed 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>
1504.3.1	Wind Uplift	FM 4474	2004
1507.2.3	Physical Properties	ASTM D226	2006
1507.2.3	Physical Properties	ASTM D4869	2005
1507.2.3	Physical Properties	ASTM D6757	2007
1507.2.4, 1507.2.9.2, 1507.5.3	Physical Properties	ASTM D1970	2009
1507.10.2	Physical Properties	ASTM D4601	2004
1507.11.2	Physical Properties	ASTM D6163	2000
1507.11.2	Physical Properties	ASTM D6164	2005
1507.11.2	Physical Properties	ASTM D6222	2008
1523.6.5.2.1	Physical Properties	TAS 103	1995
TAS 110	Accelerated Weathering	TAS 110	2000
FRSA/TRI April 2012 (04-12)	Underlayment Installation References		2012

3. REFERENCES:

<u>Entity</u>	<u>Examination</u>	<u>Reference</u>	<u>Date</u>
ERD (TST6049)	Physical Properties	C7290.01.08	01/16/2008
ERD (TST6049)	Physical Properties	C8440.04.08	04/28/2008
ERD (TST6049)	Physical Properties	C9560.05.08	05/25/2008
ERD (TST6049)	Physical Properties	C10080.09.08-R1	04/17/2009
ERD (TST6049)	Physical Properties	C12960.06.09	06/02/2009
ERD (TST6049)	Physical Properties	3530.12.05-1-R1	10/05/2009
ERD (TST6049)	Wind Uplift	C8370.08.08-R1	10/05/2009
ERD (TST6049)	Physical Properties	3523.03.05-R2	01/12/2010
ERD (TST6049)	Physical Properties	C30890.03.10-1	03/17/2010
ERD (TST6049)	Physical Properties	C3500.04.10	04/01/2010
ERD (TST6049)	Physical Properties	C31840.05.10	05/10/2010
ERD (TST6049)	Physical Properties	C31860.05.10	05/18/2010
ERD (TST6049)	Physical Properties	C31850.06.10	06/25/2010
ERD (TST6049)	Physical Properties	C35460.05.11	06/16/2011
ERD (TST6049)	Physical Properties	C34940.09.11-R1	10/04/2011
ERD (TST6049)	Accelerated Weathering	C40840SC	06/11/2012
ERD (TST6049)	Physical Properties	C40050.09.12-2	09/28/2012
ERD (TST6049)	Wind Uplift	C39670.08.12	08/20/2012
ERD (TST6049)	Physical Properties	C31410.10.10-R1	11/02/2012
ERD (TST6049)	Physical Properties	C45240.01.14-1	01/15/2014
ERD (TST6049)	Physical Properties	C32930.01.11-R2	01/20/2014
ERD (TST6049)	Physical Properties	C45240.01.14-2	01/24/2014
ERD (TST6049)	FM 4470	CTR-SC9920.01.16-R1	01/20/2016
ERD (TST6049)	Wind Uplift	CTR-SC10420.01.16	01/25/2016
MTI (TST 2508)	Physical Properties	DX08C4A	03/22/2004
MTI (TST 2508)	Physical Properties	TX14B6A-001	02/27/2006
MTI (TST 2508)	Physical Properties	TX14B6B-002	03/13/2006
MTI (TST 2508)	Physical Properties	TX14B6F-006	03/13/2006
MTI (TST 2508)	Physical Properties	TX14B6E-005	03/13/2006
PRI (TST5878)	Physical Properties	CTC-034-02-01	11/24/2008
PRI (TST5878)	Physical Properties	CTC-075-02-01	02/15/2011
PRI (TST5878)	Physical Properties	CTC-067-02-01	08/08/2011
PRI (TST5878)	Wind Uplift	CTC-112-02-01	12/12/2011
PRI (TST5878)	Physical Properties	CTC-163-02-01 (x3)	05/10/2013

Entity
PRI (TST5878)
UL, LLC. (QUA9625)

Examination
Physical Properties
Quality Control

Reference
CTC-189-02-01
Service Confirmation

Date
11/18/2013
Exp. 07/03/2017

4. PRODUCT DESCRIPTION:

4.1 Self-Adhering Underlayments:

- 4.1.1 **WinterGuard™ HT** is a glass scrim reinforced, self-adhering, film-surfaced waterproofing underlayment.
- 4.1.2 **WinterGuard™ Sand** is a glass mat reinforced, self-adhering, sand-surfaced waterproofing underlayment.
- 4.1.3 **WinterGuard™ Granular** is a glass mat reinforced, self-adhering, granule-surfaced waterproofing underlayment.
- 4.1.4 **MetaLayment™** is a self-adhering, film-surfaced, waterproofing underlayment.
- 4.1.5 **Black Diamond Base Sheet** is a self-adhering, glass mat reinforced, fine-mineral surfaced, SBS modified roof underlayment meeting ASTM D1970 requirements.
- 4.1.6 **Flintlastic SA PlyBase** is a self-adhering, glass mat reinforced, film-surfaced, SBS modified roof underlayment meeting ASTM D1970 requirements for use as a base-layer in multi-ply underlayment systems.
- 4.1.7 **Flintlastic SA Mid Ply** is a self-adhering, polyester reinforced, film-surfaced, SBS modified roof underlayment meeting ASTM D1970 and ASTM D6164, Type I, Grade S requirements for use as a base-layer in multi-ply underlayment systems.
- 4.1.8 **Flintlastic Ultra Glass SA** is a self-adhering, glass mat reinforced, fine-mineral surfaced, SBS modified roof underlayment meeting ASTM D6163, Type I, Grade S requirements for use as a base-layer in multi-ply underlayment systems.
- 4.1.9 **Flintlastic SA Cap FR** is a self-adhering, glass mat reinforced, granule-mineral surfaced, SBS modified roof underlayment meeting ASTM D6163, Grade G, Type I requirements.
- 4.1.10 **Flintlastic SA Cap** is a self-adhering, polyester reinforced, granule-mineral surfaced, SBS modified roof underlayment meeting TAS 103 and ASTM D6164, Grad G, Type I requirements.

4.2 Torch Applied Underlayments:

- 4.2.1 **Flintlastic GTA** is a torch-applied, polyester reinforced, granule-surfaced, APP modified roof underlayment meeting ASTM D6222, Grade G, Type I requirements.

4.3 Asphalt Applied Underlayments:

- 4.3.1 **Flintlastic GMS** or **Flintlastic Premium GMS** is an asphalt-applied, polyester reinforced, granule-surfaced, SBS modified roof underlayment meeting ASTM D6164, Grade G, Type I and II requirements, respectively.

4.4 Mechanically Attached Underlayments:

- 4.4.1 **Flintlastic SA NailBase** is a glass mat reinforced, film-surfaced, SBS modified roof underlayment meeting ASTM D4601, Type II requirements for use as a mechanically attached base-layer in multi-ply underlayment systems.
- 4.4.2 **Roofers' Select** is an asphalt-impregnated, organic felt reinforced with glass fibers roof underlayment meeting ASTM D6757 requirements.

5. LIMITATIONS:

- 5.1 This is a building code evaluation. Neither Trinity|ERD nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this Evaluation Report, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.
- 5.2 This Evaluation Report is not for use in the HVHZ.
- 5.3 Fire Classification is not part of this Laboratory Report; refer to current Approved Roofing Materials Directory or test report from accredited testing agency for fire ratings of this product.

- 5.4 CertainTeed 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.

5.5 Allowable Roof Covers:

TABLE 1: ROOF COVER OPTIONS							
Underlayment	Asphalt Shingles	Nail-On Tile	Foam-On Tile	Mortar-Set Tile	Metal	Wood Shakes & Shingles	Slate
Roofers' Select	Yes	No	No	No	No	No	No
WinterGuard HT	Yes	No	No	No	Yes	Yes	Yes
WinterGuard Sand or Granular	Yes	No	No	No	No	Yes	Yes
Black Diamond Base	Yes	No	No	No	No	Yes	Yes
Flintlastic SA Cap	No	Yes	Yes <i>See 5.5.1</i>	Yes	No	Yes	Yes
Flintlastic SA Cap FR	No	Yes	No	No	No	Yes	Yes
MetaLayment	Yes	No	No	No	Yes	Yes	Yes
Flintlastic GTA	No	Yes	Yes <i>See 5.5.1</i>	Yes	No	Yes	Yes
Flintlastic GMS or Premium GMS	No	Yes	Yes <i>See 5.5.1</i>	Yes	No	Yes	Yes

- 5.5.1 "Foam-On Tile" is limited to use of the following Approved tile adhesives unless tensile adhesion / long term aging data from an accredited testing laboratory is provided.

3M 2-Component Foam Roof Tile Adhesive AH-160 (FL6332): Flintlastic SA Cap, Flintlastic GTA, Flintlastic GMS or Flintlastic Premium GMS.

Dow TILE BOND™ Roof Tile Adhesive (FL717): Flintlastic SA Cap, Flintlastic GMS or Flintlastic Premium GMS

5.6 Allowable Substrates:

5.6.1 Direct-Bond to Deck:

WinterGuard HT, WinterGuard Sand, WinterGuard Granular or MetaLayment self-adhered to:

- New or existing plywood
- FlintPrime or ASTM D41 primed new or existing plywood.

Black Diamond Base, Flintlastic SA PlyBase, Flintlastic SA Mid Ply, Flintlastic Ultra Glass SA, Flintlastic SA Cap or Flintlastic SA Cap FR self-adhered to:

- New or existing plywood;
- FlintPrime, FlintPrime SA or ASTM D41 primed new or existing plywood;
- FlintPrime, FlintPrime SA or ASTM D41 primed structural concrete.

Flintlastic GMS or Flintlastic Premium GMS in hot asphalt to:

- FlintPrime or ASTM D41 primed structural concrete.

Flintlastic GTA torch-applied to:

- FlintPrime or ASTM D41 primed structural concrete.

5.6.2 Wind Resistance for Underlayment Systems in Foam-On Tile Applications:

FRSA/TRI April 2012 (04-12) does not address wind uplift resistance of all underlayment systems beneath foam-on or mortar-set 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 April 2012 (04-12) and are used in foam-on or mortar-set tile applications. 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). Refer to FRSA/TRI April 2012 (04-12), Appendix A, Table 1A or FBC 1609 for determination of design wind loads.

#1 Maximum Design Pressure = -240 psf:

Deck: Structural concrete to meet project requirements to satisfaction of AHJ.
 Primer: FlintPrime or ASTM D41.
 Base Sheet: Black Diamond Base Sheet or Flintlastic Ultra Glass SA, self-adhered.
 Underlayment: Flintlastic GTA, torch-applied or Flintlastic GMS or Flintlastic Premium GMS, applied in hot asphalt.

#2 Maximum Design Pressure = -555 psf:

Deck: Structural concrete to meet project requirements to satisfaction of AHJ.
 Primer: FlintPrime, FlintPrime SA or ASTM D41.
 Base: (Optional) Flintlastic SA PlyBase or Flintlastic SA Mid Ply, self-adhered.
 Underlayment: Flintlastic SA Cap, self-adhered.

#3 Maximum Design Pressure = -105.0 psf:

Deck: Min. 15/32-inch plywood to meet project requirements to satisfaction of AHJ.
 Primer: (Optional) FlintPrime, FlintPrime SA or ASTM D41
 Base Ply: (Optional) Flintlastic SA PlyBase or Flintlastic SA Mid Ply, self-adhered.
 Underlayment: Flintlastic SA Cap, self-adhered.

#4 Maximum Design Pressure = -127.5 psf:

Deck: Min. 19/32-inch plywood to meet project requirements to satisfaction of AHJ.
 Primer: FlintPrime, FlintPrime SA or ASTM D41
 Joints: Min. 4-inch wide strips of Flintlastic SA PlyBase, self-adhered over all plywood joints.
 Base Ply: (Optional) Flintlastic SA PlyBase or Flintlastic SA Mid Ply, self-adhered.
 Underlayment: Flintlastic SA Cap, self-adhered.

All other direct-deck, adhered CertainTeed underlayment systems beneath foam-on or mortar-set tile systems carry a Maximum Design Pressure of -45 psf.

5.6.3 Bond to Base Sheet:

- WinterGuard HT, WinterGuard Sand, WinterGuard Granular or MetaLayment self-adhered to: ASTM D226, Type I or II felt.
- Black Diamond Base Sheet, Flintlastic SA PlyBase, Flintlastic SA Mid Ply, Flintlastic Ultra Glass SA, Flintlastic SA Cap, Flintlastic SA Cap FR self-adhered to: Flintlastic SA NailBase or ASTM D226, Type I or II felt.
- Flintlastic SA Cap or Flintlastic SA Cap FR self-adhered to: Flintlastic SA PlyBase or Flintlastic SA MidPly.
- Flintlastic GMS or Flintlastic Premium GMS in hot asphalt to: ASTM D226, Type I or II felt; ASTM D2626 felt, ASTM D4601, Type II base sheet, Black Diamond Base Sheet or Flintlastic Ultra Glass SA.
- Flintlastic GTA torch-applied to: ASTM D226, Type I or II felt; ASTM D2626 felt, ASTM D4601, Type II base sheet, Black Diamond Base Sheet or Flintlastic Ultra Glass SA.

- 5.6.3.1 For installations under mechanically attached prepared roof coverings, base layer shall be attached per minimum codified requirements. For installations under foam-on or mortar-set tile systems, base layer shall be attached per minimum requirements of FRSA/TRI April 2012 (04-12), but not less than that detailed below. 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). Refer to FRSA/TRI April 2012 (04-12), Appendix A, Table 1A or FBC 1609 for determination of design wind loads.
- 5.6.3.2 For mechanically attached base sheet in a 2-ply system, the maximum design pressure for the selected assembly shall meet or exceed the Zone 1 design pressure determined in accordance with FRSA/TRI April 2012 (04-12), Appendix A, Table 1A or FBC 1609. Zones 2 and 3 shall employ an attachment density designed by a qualified design professional to resist the elevated pressure criteria. Commonly used methods are RAS 117, FM LPDS 1-29 and ANSI/SPRI WD1. Assemblies marked with an asterisk* carry the limitations set forth in Section 2.2.1.5.1(a) of FM LPDS 1-29 for Zone 2/3 enhancements
- #5 Maximum Design Pressure = -37.5 psf:
 Deck: Min. 15/32-inch plywood to meet project requirements to satisfaction of AHJ.
 Base Sheet: ASTM D226, Type II felt or Flintlastic SA NailBase
 Fasteners: 12 ga., 1¼-inch long galvanized ring shank nails through 32 ga., 1 5/8-inch diameter tin caps
 Spacing: 6-inch o.c. at the 4-inch laps and 12-inch o.c. at two (2) equally spaced, staggered rows in the field of the sheet.
 Base Ply: (Optional) Flintlastic SA PlyBase or Flintlastic SA Mid Ply, self-adhered.
 Underlayment: Flintlastic SA Cap, self-adhered.
- #6 Maximum Design Pressure = -45.0 psf*:
 Deck: Min. 15/32-inch plywood to meet project requirements to satisfaction of AHJ.
 Base Sheet: Glasbase Base Sheet; Flexiglas Base Sheet; Flintlastic Base 20; All Weather / Empire Base Sheet; Flintlastic Poly SMS Base; Flintlastic Ultra Poly SMS Base or Yosemite Venting Base Sheet
 Fasteners: Simplex MAXX Cap Fasteners
 Spacing: 9-inch o.c. at the 2-inch wide side laps and 18-inch o.c. at two (2) equally spaced, staggered center rows.
 Underlayment: Flintlastic GMS or Flintlastic Premium GMS, applied in hot asphalt or Flintlastic GTA, torch-applied.
- #7 Maximum Design Pressure = -52.5 psf:
 Deck: Min. 15/32-inch plywood to meet project requirements to satisfaction of AHJ.
 Base Sheet: Glasbase Base Sheet; Flexiglas Base Sheet; Flintlastic Base 20; All Weather / Empire Base Sheet; Flintlastic Poly SMS Base; Flintlastic Ultra Poly SMS Base or Yosemite Venting Base Sheet
 Fasteners: Simplex MAXX Cap Fasteners
 Spacing: 9-inch o.c. at the 2-inch wide side laps and 12-inch o.c. at two (2) equally spaced, staggered center rows.
 Underlayment: Flintlastic GMS or Flintlastic Premium GMS, applied in hot asphalt or Flintlastic GTA, torch-applied.
- #8 Maximum Design Pressure = -52.5 psf:
 Deck: Min. 15/32-inch plywood to meet project requirements to satisfaction of AHJ.
 Base Sheet: Flintlastic SA NailBase
 Fasteners: Min. 1-inch long, 12 ga. Simplex Metal Cap Nails
 Spacing: 6-inch o.c. at the min. 2-inch laps and 6-inch o.c. at four (4) equally spaced, staggered rows in the field of the sheet.
 Base Ply: (Optional) Flintlastic SA PlyBase or Flintlastic SA Mid Ply, self-adhered.
 Underlayment: Flintlastic SA Cap, self-adhered.

- #9 Maximum Design Pressure = -60.0 psf:
 Deck: Min. 19/32-inch plywood to meet project requirements to satisfaction of AHJ.
 Base Sheet: Flintlastic SA NailBase
 Fasteners: 12 ga., 1¼-inch long galvanized ring shank nails through 32 ga., 1 5/8-inch diameter tin caps
 Spacing: 8-inch o.c. at the min. 2-inch laps and 8-inch o.c. at three (3) equally spaced, staggered rows in the field of the sheet.
 Base Ply: (Optional) Flintlastic SA PlyBase or Flintlastic SA Mid Ply, self-adhered.
 Underlayment: Flintlastic SA Cap, self-adhered.
- #10 Maximum Design Pressure = -67.5 psf:
 Deck: Min. 15/32-inch plywood to meet project requirements to satisfaction of AHJ.
 Base Sheet: Glasbase Base Sheet; Flexiglas Base Sheet; Flintlastic Base 20; All Weather / Empire Base Sheet; Flintlastic Poly SMS Base; Flintlastic Ultra Poly SMS Base or Yosemite Venting Base Sheet
 Fasteners: Cap nails: 1-inch diameter, 0.032-inch thick metal cap with 0.120-inch shank diameter, annular ring shank nails
 Spacing: 6-inch o.c. at 4-inch lap and 6-inch o.c. at five (5) equally spaced, staggered center rows in the field of the sheet.
 Underlayment: Flintlastic GMS or Flintlastic Premium GMS, applied in hot asphalt.
- #11 Maximum Design Pressure = -75.0 psf:
 Deck: Min. 19/32-inch plywood to meet project requirements to satisfaction of AHJ.
 Base Sheet: Flintlastic SA NailBase
 Fasteners: 12 ga., 1¼-inch long galvanized ring shank nails through 32 ga., 1 5/8-inch diameter tin caps
 Spacing: 6-inch o.c. at the min. 2-inch laps and 6-inch o.c. at four (4) equally spaced, staggered rows in the field of the sheet.
 Base Ply: (Optional) Flintlastic SA PlyBase or Flintlastic SA Mid Ply, self-adhered.
 Underlayment: Flintlastic SA Cap, self-adhered.
- #12 Maximum Design Pressure = -90.0 psf:
 Deck: Min. 15/32-inch plywood to meet project requirements to satisfaction of AHJ.
 Base Sheet: Glasbase Base Sheet; Flexiglas Base Sheet; Flintlastic Base 20; All Weather / Empire Base Sheet; Flintlastic Poly SMS Base; Flintlastic Ultra Poly SMS Base or Yosemite Venting Base Sheet
 Fasteners: Simplex MAXX Cap Fasteners
 Spacing: 6-inch o.c. at the 2-inch wide side laps and 6-inch o.c. at two (2) equally spaced, staggered center rows.
 Underlayment: Flintlastic GMS or Flintlastic Premium GMS, applied in hot asphalt or Flintlastic GTA, torch-applied.
- #14 Maximum Design Pressure = -105.0 psf:
 Deck: Min. 15/32-inch plywood to meet project requirements to satisfaction of AHJ.
 Base Sheet: Glasbase Base Sheet; Flexiglas Base Sheet; Flintlastic Base 20; All Weather / Empire Base Sheet; Flintlastic Poly SMS Base; Flintlastic Ultra Poly SMS Base or Yosemite Venting Base Sheet
 Fasteners: Simplex MAXX Cap Fasteners
 Spacing: 6-inch o.c. at the 2-inch wide side laps and 6-inch o.c. at three (3) equally spaced, staggered center rows.
 Underlayment: Flintlastic GMS or Flintlastic Premium GMS, applied in hot asphalt or Flintlastic GTA, torch-applied.
- #15 Maximum Design Pressure = -105.0 psf:
 Deck: Min. 19/32-inch plywood to meet project requirements to satisfaction of AHJ.
 Base Sheet: Flintlastic SA NailBase
 Fasteners: 12 ga., 1¼-inch long galvanized ring shank nails through 32 ga., 1 5/8-inch diameter tin caps
 Spacing: 4-inch o.c. at the min. 2-inch laps and 4-inch o.c. at four (4) equally spaced, staggered rows in the field of the sheet.
 Base Ply: (Optional) Flintlastic SA PlyBase or Flintlastic SA Mid Ply, self-adhered.
 Underlayment: Flintlastic SA Cap, self-adhered.

5.7 Exposure Limitations:

Roofers' Select shall not be left exposed for longer than 30-days after installation. Refer to installation instructions specific to anticipated exposure in Section 6.

Black Diamond Base, WinterGuard HT, WinterGuard Sand, WinterGuard Granular or MetaLayment shall not be left exposed for longer than 180-days after installation.

Flintlastic SA Cap, Flintlastic SA Cap FR, Flintlastic GTA, Flintlastic GMS or Flintlastic Premium GMS do not have an exposure limitation, unless the prepared roof covering is to be adhesive-set tile atop Flintlastic SA Cap, GTA, GMS or Premium GMS, in which case the maximum exposure is 180 days.

Flintlastic SA NailBase, Flintlastic SA PlyBase, Flintlastic SA Mid Ply and Flintlastic Ultra Glass SA, for use as a base-layer in a multi-ply underlayment system, shall not be left exposed for longer than 30-days after installation, prior to placement of subsequent underlayment layer.

6. **INSTALLATION:**

6.1 CertainTeed Roof Underlayments shall be installed in accordance with CertainTeed published installation requirements 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 primed the substrate (if applicable).

6.3 **Flintlastic SA NailBase, Flintlastic SA PlyBase, Flintlastic SA Mid Ply or Flintlastic Ultra Glass SA:**

6.3.1 Flintlastic SA NailBase, Flintlastic SA PlyBase and Flintlastic SA Mid Ply are limited to use as a base or mid-layer in multi-ply underlayment systems beneath Flintlastic SA Cap, Flintlastic SA Cap FR.

6.3.2 Flintlastic Ultra Glass SA is limited to use as a base-layer in multi-ply underlayment systems beneath Flintlastic GTA, Flintlastic GMS or Flintlastic Premium GMS.

6.3.3 Install the base-layer underlayment to the substrates detailed in Section 5.6 in accordance with CertainTeed published installation instructions, followed by the final underlayment layer in accordance with the instructions outlined below for the particular top-layer underlayment.

6.3.4 Roof cover limitations are those associated with the top-layer underlayment, set forth in Table 1.

6.4 **Black Diamond Base, Flintlastic SA Cap or SA Cap FR, WinterGuard or MetaLayment:**

6.4.1 Shall be installed in compliance with current CertainTeed published installation requirements and FBC Section 1507 for the type of prepared roof covering to be installed.

6.4.2 For Non-Tile Applications:

Shall be fully self-adhered to the substrates noted in Section 5.6. Side laps shall be minimum 4-inch and end-laps minimum 6-inch wide, pressed firmly with a seam-roller, and offset end-laps minimum 2 feet from course to course.

Consult CertainTeed instructions for use of FlintBond SBS Modified Bitumen Adhesive, trowel grade, on the 6-inch end laps and T-seam detailing.

Consult CertainTeed instructions regarding back-nailing requirements.

6.4.3 For Tile Applications (Flintlastic SA Cap, SA Cap FR only):

Reference is made to FRSA/TRI April 2012 (04-12) Installation Manual and Table 1 herein.

Tile shall be loaded and staged in a manner that prevents tile slippage and/or damage to the underlayment.

6.5 **Flintlastic GTA:**

6.5.1 Flintlastic GTA shall be installed in compliance with current CertainTeed published installation requirements. For use in tile applications, reference is made to FRSA/TRI April 2012 (04-12) Installation Manual, 5th Edition and Table 1 herein.

- 6.5.2 Flintlastic GTA shall be fully torch applied to the substrates noted in Section 5.6. Side (horizontal) laps shall be minimum 3-inch and end (vertical) laps minimum 6-inch wide, and offset end-laps minimum 3 feet from course to course. Side and end-laps shall be fully heat-welded and inspected to ensure minimum 3/8-inch flow of modified compound beyond the lap edge.
- 6.5.3 Tile shall be loaded and staged in a manner that prevents tile slippage and/or damage to the underlayment.
- 6.5.4 Consult CertainTeed instructions regarding back-nailing requirements.

6.6 Flintlastic GMS or Flintlastic Premium GMS:

- 6.6.1 Flintlastic GMS or Flintlastic Premium GMS shall be installed in compliance with current CertainTeed published installation requirements. For use in tile applications, reference is made to FRSA/TRI April 2012 (04-12) Installation Manual, 5th Edition and Table 1 herein.
- 6.6.2 Flintlastic GMS or Flintlastic Premium GMS shall be fully asphalt-applied to the substrates noted in Section 5.6. Side (horizontal) laps shall be minimum 3-inch and end (vertical) laps minimum 6-inch wide, and offset end-laps minimum 3 feet from course to course. Side and end-laps shall be fully adhered in a complete mopping of hot asphalt with asphalt extending approximately 3/8-inch beyond the lap edge.
- 6.6.3 Tile shall be loaded and staged in a manner that prevents tile slippage and/or damage to the underlayment.
- 6.6.4 Consult CertainTeed instructions regarding back-nailing requirements.

6.7 Roofers' Select:

- 6.7.1 Standard-Slope Application (4:12 and greater): Starting at the lower edge of the roof, apply a single layer of Roofers' Select parallel to the eaves, overhanging drip edge by ½-inch. Overlap ends (vertical laps) at least 4-inch and sides (horizontal laps) at least 2-inch. Offset end laps from course to course at least 6-feet. Apply flat and unwrinkled, fastening as required to hold in place.
- 6.7.2 Low Slope Application (2:12 up to 4:12): Starting at the lower edge of the roof, cover the entire deck by applying a double layer of Roofers' Select parallel to the eaves. Begin by applying a 19-inch wide starter strip of Roofers' Select along the eaves, overlapping the drip edge by ½-inch. Place a full-width sheet over the starter, with lower edge flush to the starter's lower edge. Apply succeeding 36-inch wide courses up the roof slope, overlapping the previous course by 19-inch in "shingle-fashion". Overlap ends at least 12-inch. Offset end laps from course to course at least 6-feet. Apply flat and unwrinkled, fastening as required to hold in place.
- 6.7.3 Eaves Flashing for Ice Dam Protection (all slopes): Eaves flashing may be constructed from self-adhering waterproofing underlayment holding Florida Product Approval, or by applying a double layer of Roofers' Select cemented together with asphalt roofing cement (ASTM D 4586, Type II). Eaves flashing should be installed to a level of at least 24-inch inside the interior wall line, or in areas of severe icing, at least up to the highest water level expected to occur from ice dams to the satisfaction of the Authority Having Jurisdiction.

7. BUILDING PERMIT REQUIREMENTS:

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

8. MANUFACTURING PLANTS:

Contact the manufacturer or the named QA entity for information on plants covered under Rule 61G20-3 QA requirements.

6. QUALITY ASSURANCE ENTITY:

UL, LLC. – QUA9625; (414) 248-6409; karen.buchmann@ul.com

- END OF EVALUATION REPORT -