



**EXTERIOR RESEARCH & DESIGN, LLC.**

Certificate of Authorization #9503  
353 CHRISTIAN STREET, UNIT #13  
OXFORD, CT 06478  
(203) 262-9245

**EVALUATION REPORT**

**GAF**

1 Campus Drive  
Parsippany, NJ 07054  
**(800) 766-3411**

**Evaluation Report 01506.01.08-R22**

**FL10124-R20**

**Date of Issuance: 01/03/2008**

**Revision 22: 09/20/2017**

**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 **6<sup>th</sup> Edition (2017) Florida Building Code** sections noted herein.

**DESCRIPTION: GAF Asphalt Roof Shingles**

**LABELING:** Labeling shall be in accordance with the requirements the Accredited Quality Assurance Agency noted herein and **FBC 1507.2.7.1 / R905.2.6.1.**

**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.

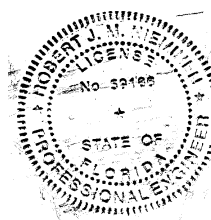
**INSPECTION:** Upon request, a copy of this entire Evaluation Report shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This Evaluation Report consists of pages 1 through 6.

**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 09/20/2017. This does not serve as an electronically signed document.

**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 SYSTEMS EVALUATION:**

**1. SCOPE:**

**Product Category:** Roofing  
**Sub-Category:** Asphalt Shingles

**Compliance Statement:** GAF Asphalt Roof Shingles, as produced by GAF, have demonstrated compliance with the following sections of the 6<sup>th</sup> Edition (2017) Florida Building Code and Florida Building Code, Residential Volume 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>
1507.2.4 / 1507.1.1, R905.2.3 / R905.1.1	Physical Properties	ASTM D1970	2015
1507.2.5, R905.2.4	Physical Properties	ASTM D3462	2010
1507.2.7.1, R905.2.6.1	Wind Resistance	ASTM D3161	2016
1507.2.7.1, R905.2.6.1	Wind Resistance	ASTM D7158	2011
1507.2.7.1, R905.2.6.1	Wind Resistance	TAS 107	1995

**3. REFERENCES:**

<u>Entity</u>	<u>Examination</u>	<u>Reference</u>	<u>Date</u>
GAF (PDM 1915)	Letter of Equivalency	Seal-A-Ridge Impact Resistant IR	01/13/2012
PRI (TST 5878)	Physical Properties	GAF-025-02-01	03/27/2002
PRI (TST 5878)	ASTM D3462	GAF-059-02-01	09/02/2004
PRI (TST 5878)	ASTM D3462	GAF-080-02-01	05/25/2005
PRI (TST 5878)	Physical Properties	GAF-324-02-01	12/01/2011
PRI (TST 5878)	Wind Driven Rain	GAF-407-02-01	01/21/2013
UL (TST 1740)	ASTM D3462	93NK6295	11/29/1993
UL (TST 1740)	ASTM D3462	99NK43835	01/12/2000
UL (TST 1740)	TAS 107	94NK9632	03/29/2000
UL (TST 1740)	ASTM D3462	01NK06632	02/02/2001
UL (TST 1740)	ASTM D3161, TAS 107	01NK9226	05/21/2001
UL (TST 1740)	ASTM D3161	01NK37122	12/18/2001
UL (TST 1740)	ASTM D3462	01NK37122	12/19/2001
UL (TST 1740)	ASTM D3161, TAS 107	02NK12980	04/10/2002
UL (TST 1740)	ASTM D3161, TAS 107	02NK30871	09/09/2002
UL (TST 1740)	ASTM D3161	03CA5367	03/11/2003
UL (TST 1740)	ASTM D3462	03NK26444	10/17/2003
UL (TST 1740)	ASTM D3462	04NK13850	06/07/2004
UL (TST 1740)	ASTM D3161	04NK13850	06/23/2004
UL (TST 1740)	ASTM D3161	04NK30546	03/10/2005
UL (TST 1740)	ASTM D3462	04NK22009	05/06/2005
UL (TST 1740)	ASTM D3161	04NK22009	05/09/2005
UL (TST 1740)	ASTM D3462	05NK27924	02/10/2006
UL (TST 1740)	ASTM D3161	05NK27924	02/11/2006
UL (TST 1740)	ASTM D3161, D3462	06CA18077	06/05/2006
UL (TST 1740)	ASTM D3161, D3462	06CA18074	06/16/2006
UL (TST 1740)	ASTM D3161, D3462	06CA35251	10/18/2006
UL (TST 1740)	ASTM D3462	06CA31603	12/01/2006
UL (TST 1740)	ASTM D3161, D3462	06CA41095	12/27/2006
UL (TST 1740)	ASTM D3161	07NK05228	03/13/2007
UL (TST 1740)	ASTM D3161	06CA31611	04/04/2007
UL (TST 1740)	ASTM D3161	06CA61148	04/09/2007
UL (TST 1740)	ASTM D3161, D3462	07CA31742	11/08/2007
UL (TST 1740)	ASTM D3161, D7158, D3462	08CA06100	03/13/2008

<u>Entity</u>	<u>Examination</u>	<u>Reference</u>	<u>Date</u>
UL (TST 1740)	ASTM D3161, D3462	07CA55908	04/01/2008
UL (TST 1740)	ASTM D3161, D3462	09CA10592	03/26/2009
UL (TST 1740)	ASTM D3161, D3462	09CA06856	05/15/2009
UL (TST 1740)	ASTM D3161, D7158, D3462	09NK06647	08/01/2009
UL (TST 1740)	ASTM D3161, D7158, D3462	09CA27281	08/27/2009
UL (TST 1740)	ASTM D3161, D7158, D3462	10CA35554	03/05/2010
UL (TST 1740)	ASTM D3161, D7158, D3462	10CA13686	05/15/2010
UL (TST 1740)	ASTM D3462	10CA07264	05/27/2010
UL (TST 1740)	ASTM D3462	10CA11953	10/29/2010
UL (TST 1740)	ASTM D3161, D7158, D3462	10NK11951	10/30/2010
UL (TST 1740)	ASTM D3161, D7158, D3462	10NK12070	11/04/2010
UL (TST 1740)	ASTM D3161, D7158, D3462	08CA06100	01/30/2010
UL (TST 1740)	ASTM D3161, D7158, D3462	10CA53934	03/31/2011
UL (TST 1740)	ASTM D3161, D7158, D3462	11CA48924	10/22/2011
UL (TST 1740)	ASTM D3161, D7158, D3462	11CA47919	12/03/2011
UL (TST 1740)	ASTM D3161, D7158, D3462	11CA48408	12/08/2011
UL (TST 1740)	ASTM D3161, D7158, D3462	11CA48725	12/09/2011
UL, LLC. (TST 9628)	ASTM D3462	12CA34891	10/12/2012
UL, LLC. (TST 9628)	ASTM D3161, D7158, D3462	12CA58151	02/15/2013
UL, LLC. (TST 9628)	ASTM D3161	12CA38083	02/26/2013
UL, LLC. (TST 9628)	ASTM D3161	13CA32332	06/18/2013
UL, LLC. (TST 9628)	ASTM D3161	13CA37934	08/02/2013
UL, LLC. (TST 9628)	ASTM D3161, D7158, D3462	4786875675	07/17/2015
UL, LLC. (TST 9628)	ASTM D3161, D7158, D3462	4787434542	05/17/2016
UL, LLC. (QUA 9625)	Quality Control	Inspection Report, R21, Mobile, AL	10/25/2016
UL, LLC. (QUA 9625)	Quality Control	Inspection Report, R21, Myerstown, PA	10/20/2016
UL, LLC. (QUA 9625)	Quality Control	Inspection Report, R21, Tuscaloosa, AL	11/11/2016
UL, LLC. (QUA 9625)	Quality Control	Inspection Report, R21, Michigan Cty, IN	11/01/2016
UL, LLC. (QUA 9625)	Quality Control	Inspection Report, R21, Shafter, CA	11/17/2016
UL, LLC. (QUA 9625)	Quality Control	Inspection Report, R21, Savannah, GA	11/11/2016
UL, LLC. (QUA 9625)	Quality Control	Inspection Report, R21, Minneapolis, MN	10/25/2016
UL, LLC. (QUA 9625)	Quality Control	Inspection Report, R21, Mt. Vernon, IN	10/25/2016
UL, LLC. (QUA 9625)	Quality Control	Inspection Report, R21, Baltimore, MD	10/21/2016
UL, LLC. (QUA 9625)	Quality Control	Inspection Report, R21, Tampa, FL	11/17/2016
UL, LLC. (QUA 9625)	Quality Control	Inspection Report, R21, Dallas, TX	11/04/2016
UL, LLC. (QUA 9625)	Quality Control	Inspection Report, R21, Ennis, TX	11/03/2016
UL, LLC. (QUA 9625)	Quality Control	Inspection Report, R21, Fontana, CA	11/01/2016

#### 4. PRODUCT DESCRIPTION:

##### 4.1 Asphalt Shingles:

- 4.1.1 Marquis® WeatherMax®, Royal Sovereign® and Sentinel® are a fiberglass reinforced 3-tab asphalt roof shingles.
- 4.1.2 Camelot®, Camelot® II, Fortitude™, Glenwood™, Grand Canyon®, Grand Sequoia®, Grand Sequoia® IR, Grand Sequoia® ArmorShield™, Monaco®, Sienna®, Timberline® American Harvest®, Timberline® ArmorShield™ II, Timberline® Natural Shadow®, Timberline HD®, Timberline® Cool Series®, Timberline Ultra HD® and Woodland® are fiberglass reinforced, laminated asphalt roof shingles.
- 4.1.3 Slateline® is a fiberglass reinforced 5-tab asphalt roof shingle.

##### 4.2 Hip & Ridge Shingles:

- 4.2.1 Seal-A-Ridge® Ridge Cap Shingles, Seal-A-Ridge® IR Impact-Resistant Ridge Cap Shingles, Seal-A-Ridge® ArmorShield™ Ridge Cap Shingles and Timbertex® Premium Ridge Cap Shingles are fiberglass reinforced, hip and ridge asphalt roof shingles.

#### 4.3 Accessory Starter Strips:

- 4.3.1 Pro-Start® Eave/Rake Starter Strip Shingles and WeatherBlocker™ Premium Eave/Rake Starter Strip Shingles are starter strips for asphalt roof shingles.
- 4.3.2 QuickStart® Peel & Stick Starter Roll is a mineral-surfaced, fiberglass-reinforced, self-adhering SBS modified bitumen starter strip, nominal 9-inch x 33 ft roll, for use with asphalt shingles with exposure of 6-inch or less.
- 4.3.3 StarterMatch™ Starter Strip Shingles are color-coordinated starter strips for use with Grand Canyon® and Grand Sequoia® series asphalt shingles. StarterMatch™ are installed as the second starter for Grand Canyon® and Grand Sequoia® series installations.

### 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 FBC HVHZ jurisdictions.
- 5.3 Fire Classification is not part of this Evaluation Report; refer to current Approved Roofing Materials Directory for fire ratings of this product.

#### 5.4 Wind Classification:

- 5.4.1 The **GAF asphalt shingles** noted in **Section 4.1** are Classified in accordance with **FBC Tables 1507.2.7.1 and R905.2.6.1 to ASTM D3161, Class F** and/or **ASTM D7158, Class H**, indicating the shingles are acceptable for use in all wind zones up to  $V_{asd} = 150$  mph ( $V_{ult} = 194$  mph). Refer to Section 6 for installation requirements to meet this wind rating.
- 5.4.2 The **GAF hip & ridge shingles** noted in **Section 4.2** are Classified in accordance with **FBC Tables 1507.2.7.1 and R905.2.6.1 to ASTM D3161, Class F**, indicating the shingles are acceptable for use in all wind zones up to  $V_{asd} = 150$  mph ( $V_{ult} = 194$  mph). Refer to Section 6 for installation requirements to meet this wind rating.
- 5.4.3 Classification by **ASTM D7158** applies only to **exposure category B or C**, as defined in **FBC 1609.4.3**, and a **mean roof height of 60 feet or less**. Calculations by a qualified design professional are required for conditions outside these limitations. Contact the shingle manufacturer for data specific to each shingle.
- 5.5 All products in the roof assembly shall have quality assurance audit in accordance with **F.A.C. Rule 61G20-3**.

### 6. INSTALLATION:

#### 6.1 Underlayment:

- 6.1.1 Underlayment shall be acceptable to **GAF** and shall hold current Florida Statewide Product Approval, or be Locally Approved per **Rule 61G20-3**, per **FBC 1507.2.3, 1507.2.4** or **R905.2.3**.

#### 6.2 Starter Shingles or Starter Strip:

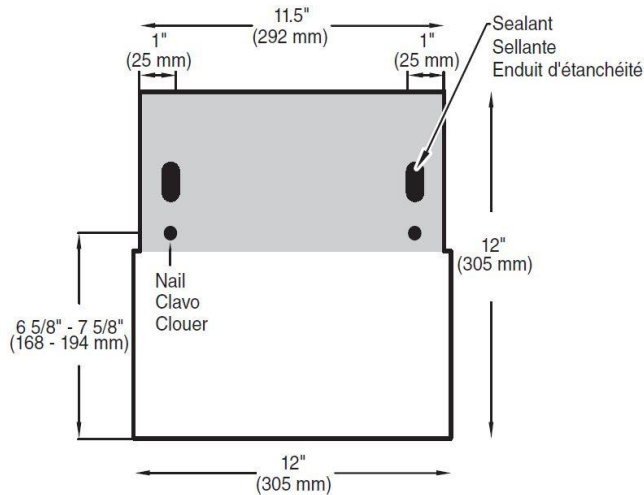
- 6.2.1 Installation of **Pro-Start Eave/Rake Starter Strip Shingles, WeatherBlocker Premium Eave/Rake Starter Strip Shingles** and **QuickStart Peel & Stick Starter Roll** shall comply with the **GAF** current published instructions.

#### 6.3 Asphalt Shingles:

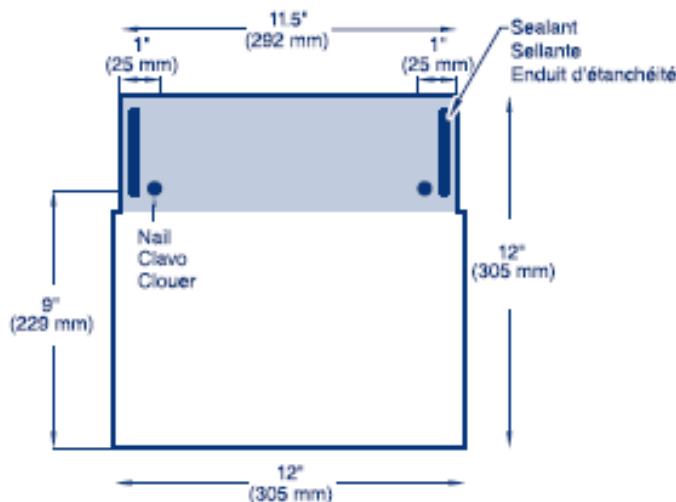
- 6.3.1 Installation of asphalt shingles shall comply with the **GAF** current published instructions, using minimum four (4) nails per shingle in accordance with **FBC 1507.2.7** or **R905.2.6**, with the following exceptions:
  - **Camelot, Camelot II, Grand Canyon, Grand Sequoia, Grand Sequoia IR, Grand Sequoia ArmorShield,** and **Woodland** require minimum five (5) nails per shingle.
  - **Slateline** requires minimum six (6) nails per shingle.
- 6.3.2 Fasteners shall be in accordance with manufacturer's published requirements, but not less than **FBC 1507.2.6** or **R905.2.5**. Staples are not permitted.
- 6.3.3 Where the roof slope exceeds 21 units vertical in 12 units horizontal, special methods of fastening are required. Contact the GAF for details.

**6.4 Hip & Ridge Shingles:**

6.4.1 Installation of **Seal-A-Ridge Ridge Cap Shingles, Seal-A-Ridge IR Impact-Resistant Ridge Cap Shingles** and **Seal-A-Ridge ArmorShield Ridge Cap Shingles** shall comply with the GAF current published instructions with a minimum two (2) nails, minimum 3/8-inch head diameter, per shingle and nominal 0.25-inch diameter beads of **Henkel "Loctite PL S30 Roof & Flashing Sealant"**.



6.4.2 Installation of **Timbertex Premium Ridge Cap Shingles** shall comply with GAF current published instructions with a minimum two (2) nails, minimum 3/8-inch head diameter, per shingle and beads of **Sonneborn NP1 Gun Grade Polyurethane Sealant** or **Henkel PL Roofing and Flashing Sealant**.



6.4.3 Fasteners shall be in accordance with GAF published requirements, but not less than **FBC 1507.2.6** or **R905.2.5**. Staples are not permitted.

**7. LABELING:**

- 7.1 Labeling shall be in accordance with the requirements the Accredited Quality Assurance Agency noted herein.
- 7.2 Asphalt shingle wrappers shall indicate compliance with one of the required classifications detailed in **FBC Table 1507.2.7.1 / R905.2.6.1.**

**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 61G20-3 QA requirements.

**10. QUALITY ASSURANCE ENTITY:**

UL LLC – QUA9625; (847) 664-3281

- END OF EVALUATION REPORT -