



NEMO|etc.

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ENGINEER

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EVALUATION REPORT

GAF

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

Evaluation Report 01506.01.08-R26

FL10124-R24

Date of Issuance: 01/03/2008

Revision 26: 10/18/2019

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 **6th Edition (2017) Florida Building Code** sections noted herein.

DESCRIPTION: GAF Asphalt Roof Shingles

LABELING: Labeling shall be in accordance with the requirements of 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 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. of any changes to the product(s), the Quality Assurance or the production facility location(s). NEMO|etc. 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 "NEMO|etc. Evaluated" may be displayed in advertising literature. If any portion of the Evaluation Report is displayed, then it shall be done in its entirety.

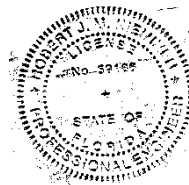
INSPECTION: Upon request, a copy of this entire Evaluation Report shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

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 10/18/2019. This does not serve as an electronically signed document.

CERTIFICATION OF INDEPENDENCE:

1. NEMO|etc. does not have, nor does it intend to acquire, or will it acquire, a financial interest in any company manufacturing or distributing products it evaluates.
2. NEMO|etc. 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 NEMO|etc. 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 6th 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:

| Section | Property | Standard | Year |
|------------------------|---------------------|------------|------|
| 1507.2.4, R905.2.3 | 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:

| Entity | Examination | Reference | Date |
|----------------|-------------------------|---------------|------------|
| 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) | ASTM D1970 (QuickStart) | GAF-340-02-01 | 03/13/2012 |
| PRI (TST 5878) | Wind Driven Rain | GAF-407-02-01 | 01/21/2013 |
| PRI (TST 5878) | Wind Driven Rain | GAF-895-02-01 | 11/20/2018 |
| PRI (TST 5878) | Wind Driven Rain | GAF-896-02-01 | 11/20/2018 |
| PRI (TST 5878) | ASTM D3462 | GAF-897-02-01 | 11/08/2018 |
| PRI (TST 5878) | ASTM D3462 | GAF-898-02-01 | 11/08/2018 |
| PRI (TST 5878) | ASTM D3462 | GAF-899-02-01 | 11/15/2018 |
| 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 |

| Entity | Examination | Reference | Date |
|---------------------|--------------------------|----------------------|-------------|
| 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 |
| UL, LLC. (TST 9628) | ASTM D3161 | 4788698165 | 03/24/2008 |
| 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. (TST 9628) | ASTM D3161, D7158, D3462 | 4788717529 | 09/09/2016 |
| UL, LLC. (TST 9628) | ASTM D3161 | 4788669132 | 12/13/2018 |
| UL, LLC. (TST 9628) | ASTM D3161 | 4788891098 | 02/14/2019 |
| UL, LLC. (TST 9628) | ASTM D3161, D7158, D3462 | 4788932264 | 08/16/2019 |
| UL, LLC. (TST 9628) | ASTM D3161, D7158, D3462 | 4789115488 | 08/16/2019 |
| UL, LLC. (QUA 9625) | Quality Control | Service Confirmation | 10/18/2018 |

4. PRODUCT DESCRIPTION:

4.1 ACCESSORY STARTER STRIPS:

- 4.1.1 Pro-Start® Eave/Rake Starter Strip Shingles and WeatherBlocker™ Premium Eave/Rake Starter Strip Shingles are starter strips for asphalt roof shingles. Meets ASTM D3462.
- 4.1.2 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. Meets ASTM D1970.
- 4.1.3 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. Meets ASTM D3462.

4.2 ASPHALT SHINGLES:

- 4.2.1 Marquis WeatherMax[®], Royal Sovereign[®] and Sentinel[®] are a fiberglass reinforced 3-tab asphalt roof shingles.
- 4.2.2 Camelot[®], Camelot[®] II, Fortitude[™], Glenwood[™], Grand Canyon[®], Grand Sequoia[®], Grand Sequoia[®] IR, Grand Sequoia[®] ArmorShield[™], Grand Sequoia[®] AS, Sienna[®], Timberline[®] American Harvest[®], Timberline[®] AH, Timberline[®] ArmorShield[™] II, Timberline[®] AS, Timberline[®] Natural Shadow[®], Timberline[®] NS, Timberline[®] HD, Timberline[®] HDZ[™], Timberline[®] Cool Series, Timberline[®] CS, Timberline[®] Ultra HD, Timberline[®] UHD and Woodland[®] are fiberglass reinforced, laminated asphalt roof shingles.
- 4.2.3 Slateline[®] is a fiberglass reinforced 5-tab asphalt roof shingle.

4.3 HIP & RIDGE SHINGLES:

- 4.3.1 Seal-A-Ridge[®] Protective Ridge Cap Shingles (fka, Seal-A-Ridge[®] Ridge Cap Shingles), Seal-A-Ridge[®] ArmorShield[™], Seal-A-Ridge[®] AS and Timbertex[®] Premium Ridge Cap Shingles are fiberglass reinforced, hip and ridge asphalt roof shingles.

5. LIMITATIONS:

- 5.1 This is a building code evaluation. Neither NEMO ETC, LLC nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this 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 4.2 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.

Note: 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.

- 5.4.2 The GAF hip & ridge shingles noted in Section 4.3 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.
- 5.5 All products in the roof assembly shall have quality assurance audit in accordance with F.A.C. Rule 61G20-3.

6. INSTALLATION:
6.1 GENERAL:

- 6.1.1 Roof deck, slope, underlayment and fasteners shall comply with FBC 1507.2 / R905.2 and the shingle manufacturer's minimum requirements.
- 6.1.2 Underlayment shall be acceptable to GAF and shall hold current Florida Statewide Product Approval, or be Locally Approved per Rule 61G20-3, per FBC Sections 1507.2.3, 1507.2.4 or R905.2.3.
- 6.1.3 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.
- 6.1.4 GAF asphalt shingles are acceptable for use in reroof (tear-off) or recover applications, subject to the limitations set forth in FBC Section 1511 or R908 and GAF published installation instructions.

6.2 STARTER SHINGLES OR STARTER STRIP:

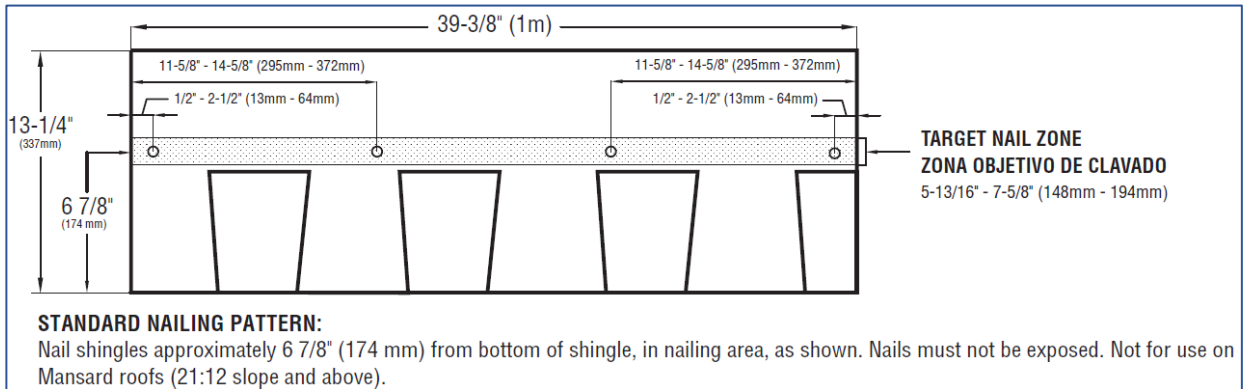
6.2.1 Installation of Pro-Start® Eave/Rake Starter Strip Shingles, WeatherBlocker™ Premium Eave/Rake Starter Strip Shingles and QuickStart® Peel & Stick Starter Roll shall comply with the GAF current published instructions.

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.

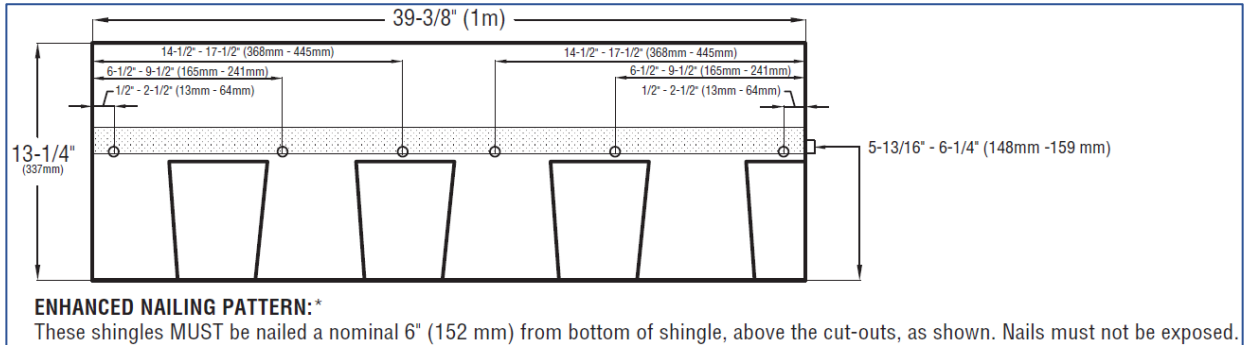
6.3.2 Fasteners shall be in accordance with manufacturer's published requirements, but not less than FBC 1507.2.6 or R905.2.5. Staples are not permitted.

6.3.2.1 Fastening for Timberline[®] AH, Timberline[®] CS and Timberline[®] HDZ[™]; slopes 2:12 up to 21:12



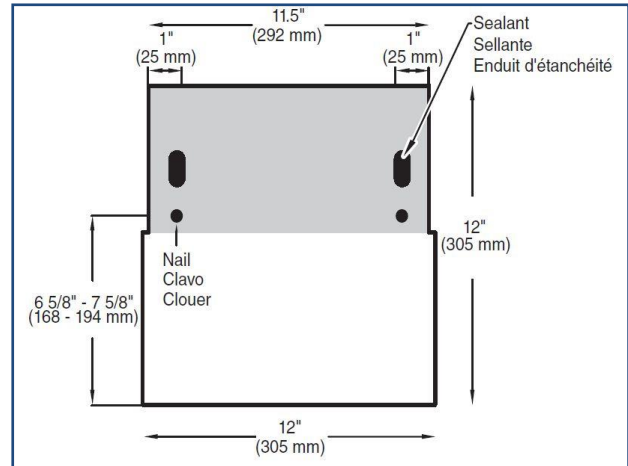
6.3.3 Where the roof slope exceeds 21 units vertical in 12 units horizontal, special methods of fastening are required. Contact the GAF for details.

6.3.3.1 Fastening for Timberline[®] AH, Timberline[®] CS and Timberline[®] HDZ[™]; slopes greater than 21:12

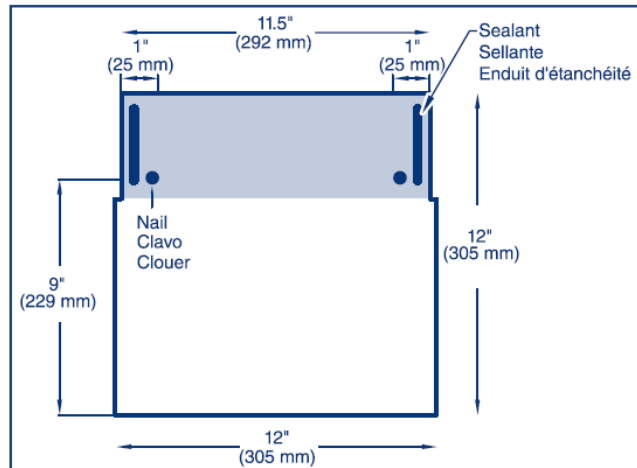


6.4 HIP & RIDGE SHINGLES:

6.4.1 Installation of Seal-A-Ridge® Protective Ridge Cap Shingles (fka, Seal-A-Ridge® Ridge Cap Shingles), Seal-A-Ridge® ArmorShield™ and Seal-A-Ridge® AS 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; (414) 248-6409; karen.buchmann@ul.com

- END OF EVALUATION REPORT -