



**NEMO | etc.**

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ENGINEER

EVALUATE

TEST

CONSULT

**P.E. EVALUATION REPORT (PEER)**

**GAF**

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

**PEER-GAF-002.A**

**FL10124-R34 (NON-HVHZ)**

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

**Revision 36: 06/20/2023**

**SCOPE:**

This P.E. Evaluation Report (henceforth 'PEER') is issued under **F.A.C. 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. The product described herein has been evaluated for compliance with the **7<sup>th</sup> Edition (2020) Florida Building Code** [sections noted herein](#).

**DESCRIPTION: GAF Asphalt Roof Shingles for use in FBC non-HVHZ jurisdictions**

**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**

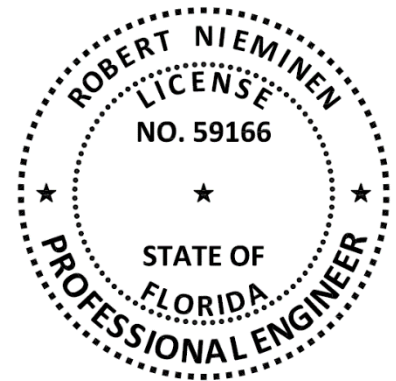
**CONTINUED COMPLIANCE:** This PEER is valid until such time as the named product(s) changes, the referenced Quality Assurance or production facility location(s) changes, or Code provisions that relate to the product(s) change. Acceptance of our PEERs by the named client constitutes agreement to notify NEMO ETC, LLC of any changes to the product(s), the Quality Assurance or the production facility location(s). NEMO ETC, LLC requires a complete review of its PEER relative to updated Code requirements with each Code Cycle.

**ADVERTISEMENT:** The Florida Product Approval Number (FL#) preceded by the words "NEMO P.E. Evaluated" may be displayed in advertising literature. If any portion of the PEER is displayed, then it shall be done in its entirety.

**INSPECTION:** Upon request, a copy of this entire PEER 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 PEER consists of pages 1 through 7.

**Prepared by:**



**CERTIFICATION OF INDEPENDENCE:**

1. NEMO ETC, LLC 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, LLC 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 PEERs 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, LLC nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this PEER, 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  
**Product Approval Method:** Method 1, Option D – Codified Material, Evaluation by Engineer  
**Compliance Statement:** **GAF Asphalt Roof Shingles**, as produced by **GAF**, have demonstrated compliance with the following sections of the **7<sup>th</sup> Edition (2020) Florida Building Code** through testing in accordance with the following Standards. Compliance is subject to the [Installation Requirements](#) and [Limitations of Use](#) set forth herein.

**2. STANDARDS:**

<u>Section</u>	<u>Property</u>	<u>Standard</u>	<u>Year</u>
1507.2.4, R905.2.3	Material standard	ASTM D1970	2015
1507.2.5, R905.2.4	Material standard	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	2019
1507.2.7.1, R905.2.6.1	Wind Resistance	TAS 107	2020

**3. REFERENCES:**

<u>ENTITY</u>	<u>EXAMINATION</u>	<u>REFERENCE</u>	<u>DATE</u>
NEMO (TST6049)	ASTM D1970	4j-GAF-22-SSUDL-02	08/08/2022
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
PRI (TST 5878)	ASTM D3462 (IN-MV)	376T0133	02/05/2021
PRI (TST 5878)	ASTM D3462 (CA-S)	376T0135	02/05/2021
PRI (TST 5878)	ASTM D3462 (IN-MV)	376T0163	04/20/2021
PRI (TST 5878)	ASTM D3462 (IN-MV)	376T0293	03/22/2022
UL (TST 1740)	ASTM D3462	93NK6295	11/29/1993
UL (TST 1740)	TAS 107	94NK9632	03/29/2000
UL (TST 1740)	ASTM D3161	04NK30546	03/10/2005
UL (TST 1740)	ASTM D3462, D3161	04NK22009	05/06/2005
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	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 (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	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	10CA11953	10/29/2010
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	11CA48725	12/09/2011
UL, LLC. (TST 9628)	ASTM D3462	12CA34891	10/12/2012
UL, LLC. (TST 9628)	ASTM D3161	12CA38083	02/26/2013
UL, LLC. (TST 9628)	ASTM D3161, D7158, D3462	4786875675	07/27/2015
UL, LLC. (TST 9628)	ASTM D3161, D7158, D3462	4787434542	05/17/2016
UL, LLC. (TST 9628)	ASTM D3161, D7158, D3462	4788717529	09/09/2016

ENTITY	EXAMINATION	REFERENCE	DATE
UL, LLC. (TST 9628)	ASTM D3161, D7158, D3462	4788198026	11/28/2017
UL, LLC. (TST 9628)	ASTM D3161	4788698165	11/09/2018
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	10/03/2019
UL, LLC. (TST 9628)	ASTM D3161, D3462	4788959558	10/17/2019
UL, LLC. (TST 9628)	ASTM D3161, D7158, D3462	4786508528	11/01/2019
UL, LLC. (TST 9628)	ASTM D3161	4789132672	10/27/2020
UL, LLC. (TST 9628)	ASTM D3161	4789732437	04/15/2021
UL, LLC. (TST 9628)	ASTM D3462	4790002635	01/26/2022
UL, LLC. (TST 9628)	ASTM D3161, D7158, D3462	4788198026	05/23/2022
UL, LLC. (TST 9628)	ASTM D3161, D7158, D3462	4790488380	08/22/2022
UL, LLC. (TST 9628)	ASTM D3161, D7158, D3462	4790111695	08/30/2022
UL, LLC. (QUA 9625)	Quality Control	Service Confirmation	12/06/2022
UL, LLC. (QUA 9625)	Quality Control	Florida BCIS	Current

4. PRODUCT DESCRIPTION:				
TABLE 1: ASPHALT SHINGLE COMPONENTS				
TYPE	PRODUCT	DESCRIPTION	MATERIAL STANDARD	PLANT(S)
ACCESSORY STARTER STRIPS	Pro-Start® Starter Strip Shingles	starter strips for asphalt roof shingles	ASTM D3462	CA-S, IN-MV
	QuickStart® Peel & Stick Starter Roll	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	ASTM D1970	CA-S
ACCESSORY STARTER STRIPS	StarterMatch® Starter Strip Shingles	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	ASTM D3462	CA-F
	WeatherBlocker™ Premium Starter Strip Shingles	starter strips for asphalt roof shingles	ASTM D3462	IN-MV
ASPHALT SHINGLES	Marquis WeatherMax®	fiberglass reinforced 3-tab asphalt roof shingles	ASTM D3462	IN-MV
	Royal Sovereign®			AL, CA-F, FL, GA, IN-MV, PA, TX-D
	Camelot® II	fiberglass reinforced, laminated asphalt roof shingles	ASTM D3462	IN-MV
	Fortitude®			PA
	Glenwood®			IN-MV
	Grand Canyon®			CA-F, IN-MV
	Grand Sequoia®			CA-F, IN-MV
	Grand Sequoia® AS			CA-F
	Timberline® AH			AL, CA-F, IN-MC, PA
	Timberline® AS II			CA-F, CA-S, TX-E
	Timberline® CS			CA-F
	Timberline HD®			AL, CA-S, CA-F, FL, IN-MC, MD, MN, PA, TX-D, TX-E
	Timberline® Solar HD			CA-F, CA-S, IN-MV
	Timberline HDZ®			AL, CA-F, CA-S, FL, IN-MC, MD, MN, PA, TX-D, TX-E
Timberline® UHDZ™	AL, CA-S, IN-MC, PA			

TABLE 1 (CONTINUED): ASPHALT SHINGLE COMPONENTS				
TYPE	PRODUCT	DESCRIPTION	MATERIAL STANDARD	PLANT(S)
ASPHALT SHINGLES	Timberline® Solar HDZ®	fiberglass reinforced, laminated asphalt roof shingles	ASTM D3462	IN-MV
	Timberline® NS			AL, CA-S, FL, IN-MC, MD, MN, PA, TX-D, TX-E
	Timberline Ultra HD®			AL, CA-S, IN-MC, MN, PA, TX-E
	Timberline® UHD			AL, CA-S, IN-MC, MN, PA, TX-E
	Woodland®			IN-MV
	Slateline™	fiberglass reinforced 5-tab asphalt roof shingle	ASTM D3462	IN-MV
HIP & RIDGE SHINGLES	Seal-A-Ridge® AS ArmorShield® SBS-Modified IR Ridge Cap Shingles	fiberglass reinforced, hip and ridge asphalt roof shingles	ASTM D3462	GA
	Seal-A-Ridge® Ridge Cap Shingles			GA, IN-MV
	Timbertex® Premium Ridge Cap Shingles			IN-MV

## 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 PEER, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.
- 5.2 This PEER is not for use in FBC High Velocity Hurricane Zone jurisdictions (i.e., Broward and Miami-Dade Counties).
- 5.3 This PEER pertains to above-deck roof components. Roof decks and structural members shall be in accordance with FBC requirements to the satisfaction of the Authority Having Jurisdiction.
- 5.4 This PEER does not include evaluation of fire classification. Refer to **FBC 1505** for requirements and limitations regarding roof assembly fire classification. Refer to **FBC 2603** for requirements and limitations concerning the use of foam plastic insulation.
- 5.5 **Wind Classification:** Refer to Section 6 for installation requirements to meet wind classifications

TABLE 2A: WIND CLASSIFICATIONS, ASPHALT SHINGLES	
PRODUCT	FBC TABLE 1507.2.7.1 OR R905.2.6.1
Marquis WeatherMax®	ASTM D3161(F) & ASTM D7158(H)
Royal Sovereign®	ASTM D3161(F) & ASTM D7158(H)
Camelot® II	ASTM D3161(F) & ASTM D7158(H)
Fortitude®	ASTM D3161(F) & ASTM D7158(H)
Glenwood®	ASTM D3161(F) & ASTM D7158(H)
Grand Canyon®	ASTM D3161(F) & ASTM D7158(H)
Grand Sequoia®	ASTM D3161(F) & ASTM D7158(H)
Grand Sequoia® AS	ASTM D3161(F) & ASTM D7158(H)
Timberline® AH	ASTM D3161(F) & ASTM D7158(H)
Timberline® AS II	ASTM D3161(F) & ASTM D7158(H)
Timberline® CS	ASTM D3161(F) & ASTM D7158(H)
Timberline HD®	ASTM D3161(F) & ASTM D7158(H)
Timberline® Solar HD	ASTM D3161(F) & ASTM D7158(H)
Timberline HDZ® or Timberline® UHDZ™	ASTM D3161(F) & ASTM D7158(H)

TABLE 2A: WIND CLASSIFICATIONS, ASPHALT SHINGLES	
PRODUCT	FBC TABLE 1507.2.7.1 OR R905.2.6.1
Timberline® Solar HDZ®	ASTM D3161(F) & ASTM D7158(H)
Timberline® NS	ASTM D3161(F) & ASTM D7158(H)
Timberline Ultra HD®	ASTM D3161(F) & ASTM D7158(H)
Timberline® UHD	ASTM D3161(F) & ASTM D7158(H)
Woodland®	ASTM D3161(F) & ASTM D7158(H)
Slateline™	ASTM D3161(F) & ASTM D7158(H)

5.5.1 **Classification by ASTM D7158:**

ASTM D7158, Class H applies only to **exposure category B or C** and a **building 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.

TABLE 2B: WIND CLASSIFICATIONS, STARTER STRIPS AND HIP & RIDGE		
TYPE	PRODUCT	FBC TABLE 1507.2.7.1 OR R905.2.6.1
STARTER STRIPS	Pro-Start® Starter Strip Shingles	ASTM D3161, Class F
	WeatherBlocker™ Premium Starter Strip Shingles	ASTM D3161, Class F
HIP & RIDGE SHINGLES	Seal-A-Ridge® AS ArmorShield® SBS-Modified IR Ridge Cap Shingles	ASTM D3161, Class F
	Seal-A-Ridge® Ridge Cap Shingles	ASTM D3161, Class F
	Timbertex® Premium Ridge Cap Shingles	ASTM D3161, Class F (sealant required, See Section 6)

- 5.6 All components in the roof assembly shall have quality assurance audit in accordance with **F.A.C. Rule 61G20-3**. Refer to the Product Approval of the component manufacturer for components that are produced by a Product Manufacturer other than the report holder on Page 1 of this PEER.

**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 **F.A.C. 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:**

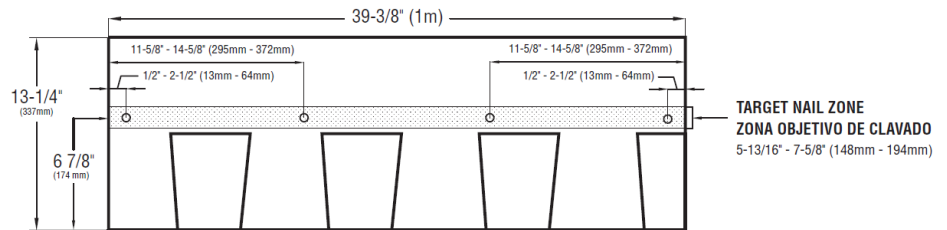
- 6.2.1 Installation of Pro-Start® Starter Strip Shingles, WeatherBlocker™ Premium Starter Strip Shingles and QuickStart® Peel & Stick Starter Roll shall comply with the GAF current published instructions.

**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® II, Grand Canyon®, Grand Sequoia® and Woodland® require minimum five (5) nails per shingle.
  - Slateline™ requires minimum six (6) nails per shingle.

6.3.2 The following depict nail-placement locations for GAF shingles designed with a 'target nail zone'. Where the roof slope exceeds 21 units vertical in 12 units horizontal, special methods of fastening are required. Contact the GAF for details.

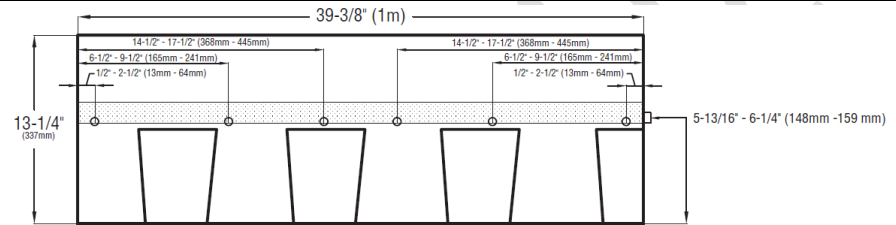
6.3.2.1 Fortitude®, Timberline® AH, Timberline® AS II, Timberline® CS, Timberline® HDZ® and Timberline® UHDZ™; slopes 2:12 up to 21:12.



**STANDARD NAILING PATTERN:**

Nail shingles approximately 6 7/8" (174 mm) from bottom of shingle, in nailing area, as shown. Nails must not be exposed. Not for use on Mansard roofs (21:12 slope and above).

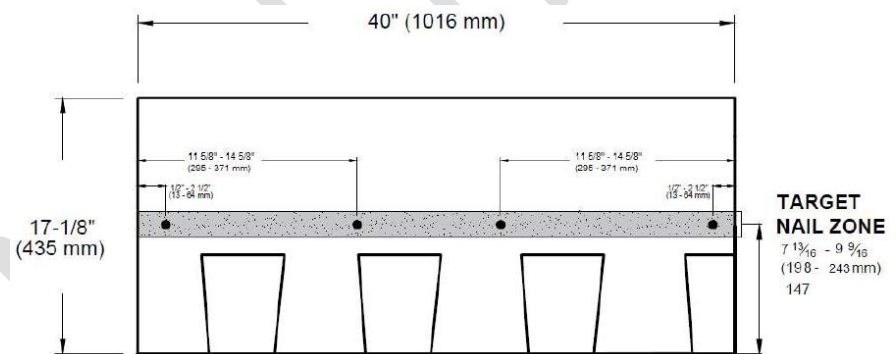
6.3.2.2 Fortitude®, Timberline® AH, Timberline® AS II, Timberline® CS, Timberline® HDZ® and Timberline® UHDZ™; slopes greater than 21:12



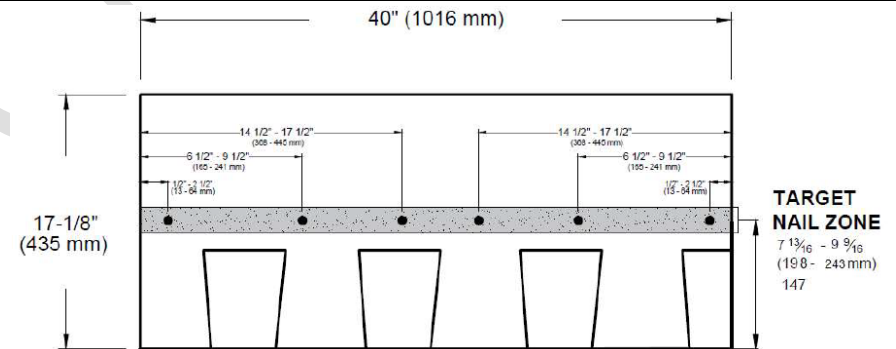
**ENHANCED NAILING PATTERN:**

These shingles MUST be nailed a nominal 6" (152 mm) from bottom of shingle, above the cut-outs, as shown. Nails must not be exposed.

6.3.2.3 Timberline® Solar HDZ®; slopes 2:12 up to 21:12.

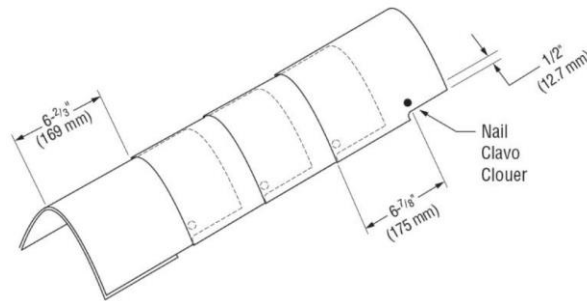


6.3.2.4 Timberline® Solar HDZ®; slopes greater than 21:12

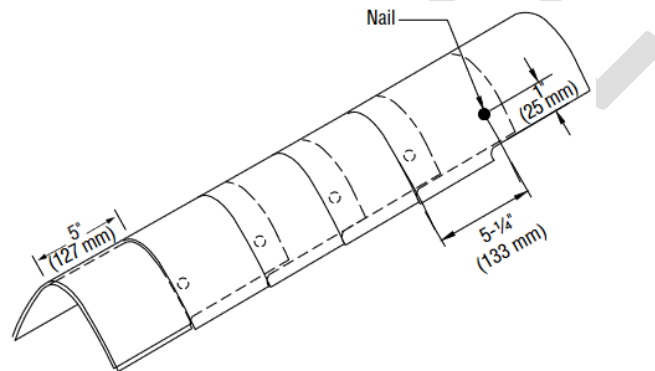


**6.4 HIP & RIDGE SHINGLES:**

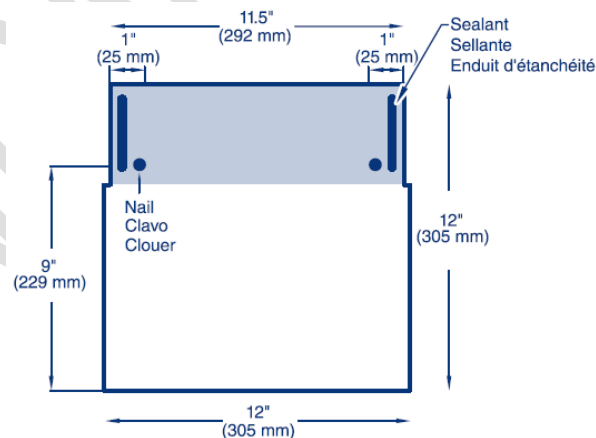
6.4.1 Installation of Seal-A-Ridge® Ridge Cap Shingles shall comply with the GAF current published instructions with a minimum two (2) nails, minimum 3/8-inch head diameter located 6-7/8-inch back from the exposed end and 0.5-inch from the edge.



6.4.2 Installation of Seal-A-Ridge® AS ArmorShield® SBS-Modified IR 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 located 5.25-inch back from the exposed end and 1-inch from the edge.



6.4.3 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 Henkel “Loctite PL Roof & Flashing Polyurethane Sealant”.



**7. BUILDING PERMIT REQUIREMENTS:**

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

**8. MANUFACTURING PLANTS:**

Contact the named QA entity for manufacturing facilities covered by **F.A.C. Rule 61G20-3** QA requirements. Refer to [Section 4](#) herein for products and production locations having met codified material standards.

**9. QUALITY ASSURANCE ENTITY:**

[\(QUA9625\)](mailto:UL (QUA9625)); (360) 817-5512; [bsai.inspections@ul.com](mailto:bsai.inspections@ul.com)

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