

**EXTERIOR RESEARCH & DESIGN, LLC.**

Certificate of Authorization #9503

353 CHRISTIAN STREET, UNIT #13

OXFORD, CT 06478

(203) 262-9245

EVALUATION REPORT**Owens Corning**

One Owens Corning Parkway

Toledo, OH 43659

(740) 404-7829

Evaluation Report O37940.02.12-R8

FL10674-R13

Date of Issuance: 02/06/2012

Revision 8: 10/09/2017

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

DESCRIPTION: Owens Corning 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.

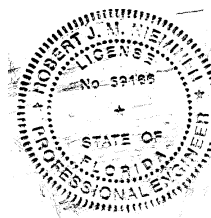
ADVERTISEMENT: The Evaluation Report number preceded by the words "Trinity|ERD Evaluated" may be displayed in advertising literature. If any portion of the Evaluation Report is displayed, then it shall be done in its entirety.

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 8.

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 10/09/2017. 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: Owens Corning Asphalt Roof Shingles, as produced by Owens Corning, 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:

| <u>Section</u> | <u>Property</u> | <u>Standard</u> | <u>Year</u> |
|------------------------|---------------------|-----------------|-------------|
| 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 |

3. REFERENCES:

| <u>Entity</u> | <u>Examination</u> | <u>Reference</u> | <u>Date</u> |
|----------------------|-----------------------------|-----------------------|-----------------|
| UL LLC (CER9626) | Physicals & Wind Resistance | File R2453, Vol. 3 | 02/15/2007 |
| UL LLC (CER9626) | Physicals & Wind Resistance | 20120516-R2453 | 05/16/2012 |
| UL LLC (TST9628) | Physical Properties | 06CA20263 | 04/18/2006 |
| UL LLC (TST9628) | Wind Resistance | 11CA34308 | 02/18/2012 |
| UL LLC (TST9628) | Physicals & Wind Resistance | 4786093137 | 02/01/2014 |
| UL LLC (TST9628) | Wind Resistance | 4786126532 | 02/10/2014 |
| UL LLC (TST9628) | Physical Properties | Classification letter | 02/13/2014 |
| UL LLC (TST9628) | Physical Properties | Classification letter | 10/02/2015 |
| Miami-Dade (CER1592) | FBC HVHZ Compliance | Various NOAs | Various |
| UL LLC (QUA9625) | Quality Control | Service Confirmation | Exp. 05/16/2020 |

4. PRODUCT DESCRIPTION:

4.1 Asphalt Shingles:

- 4.1.1 Classic® and Supreme® are fiberglass reinforced, 3-tab asphalt roof shingles.
- 4.1.2 Berkshire® are fiberglass reinforced, 4-tab asphalt roof shingles.
- 4.1.3 Devonshire™ are fiberglass reinforced, 5-tab asphalt roof shingles.
- 4.1.4 Duration®, TruDefinition® Duration®, Duration® Premium Cool, TruDefinition® Duration® Designer Color Collection, TruDefinition® Oakridge®, Oakridge® and WeatherGuard® HP are fiberglass reinforced, laminated asphalt roof shingles.

4.2 Hip & Ridge Shingles:

- 4.2.1 Berkshire® Hip & Ridge Shingles, High Ridge, WeatherGuard® HP Hip & Ridge Shingles, ProEdge Hip & Ridge Shingles and DuraRidge™ Hip & Ridge Shingles are fiberglass reinforced, hip and ridge asphalt roof shingles.

4.3 Accessory Starter Strips:

- 4.3.1 Starter Strip Shingle, Starter Strip Plus and Starter Shingle Roll are starter strips for asphalt roof shingles.

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 All **Owens Corning asphalt shingles** noted herein 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 All **Owens Corning hip & ridge shingles, Starter Strip Shingle** and **Starter Strip Plus** noted herein 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 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.
- 5.4.4 Refer to **Owens Corning** published information on wind resistance and installation limitations.
- 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:

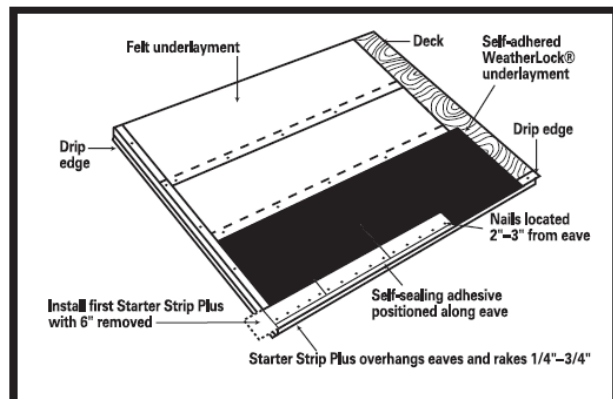
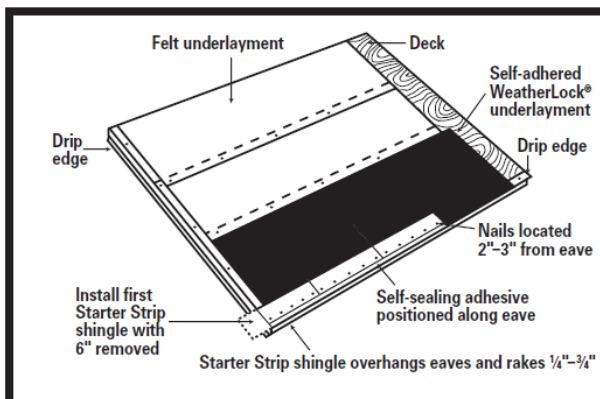
- 6.1.1 Underlayment shall be acceptable to **Owens Corning** and shall hold current Florida Statewide Product Approval, or be Locally Approved per **Rule 61G20-3**, per **FBC 1507.2.3, 1507.2.4** or **R905.2.3**.

6.2 Asphalt Shingles:

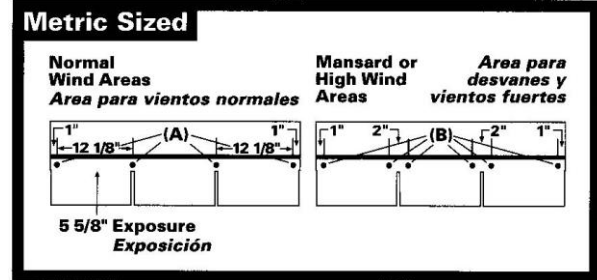
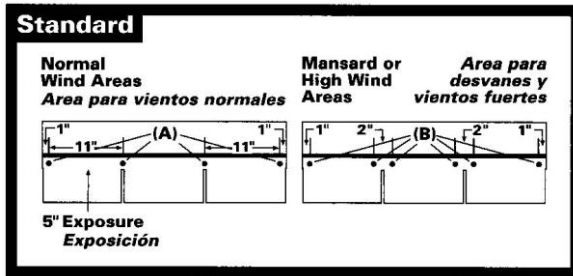
- 6.2.1 Installation of asphalt shingles shall comply with the **Owens Corning** current published instructions, using minimum four (4) nails per shingle in accordance with **FBC 1507.2.7** or **R905.2.6**, with the following exceptions:
- **Berkshire®** shingles require minimum five (5) nails per shingle.
 - **WeatherGuard® HP** shingles require minimum six (6) nails per shingle.
 - **Devonshire™** shingles require minimum six (6) nails per shingle.
 - **Starter Strip Shingle** and **Starter Strip Plus** require minimum five (5) nails per strip.

Refer to **Owens Corning** published information on wind resistance and installation limitations.

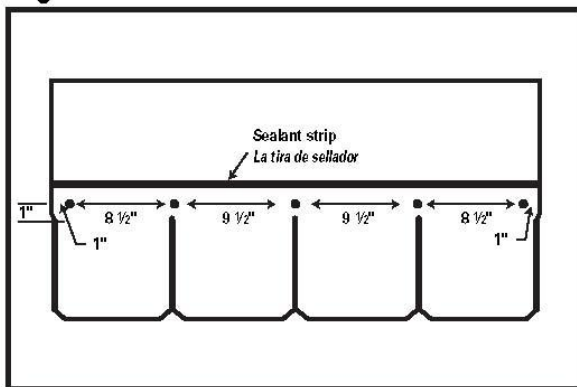
- 6.2.2 Fasteners shall be in accordance with the manufacturer's published requirements, but not less than **FBC 1507.2.6** or **R905.2.5**. Staples are not permitted.
- 6.2.4 Where the roof slope exceeds 21 units vertical in 12 units horizontal, special methods of fastening are required. See figures below for details.
- 6.2.5 Minimum Nailing – **Starter Strip Shingle** and **Starter Strip Plus**:



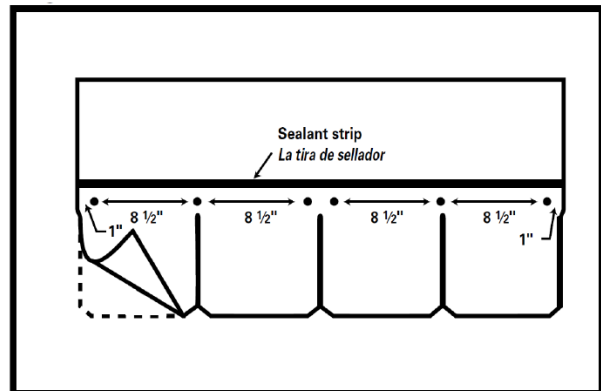
6.2.6 Minimum Nailing – Classic® & Supreme:



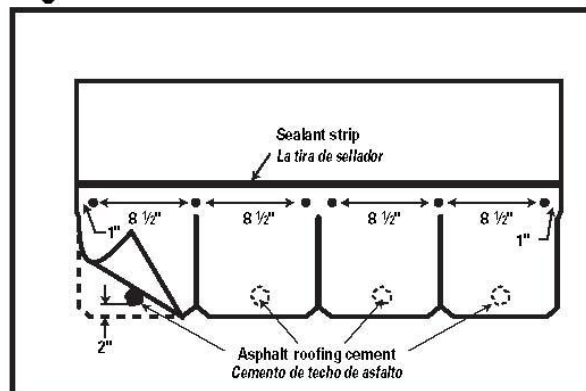
6.2.7 Minimum Nailing – Berkshire®:



Standard Fastening Pattern

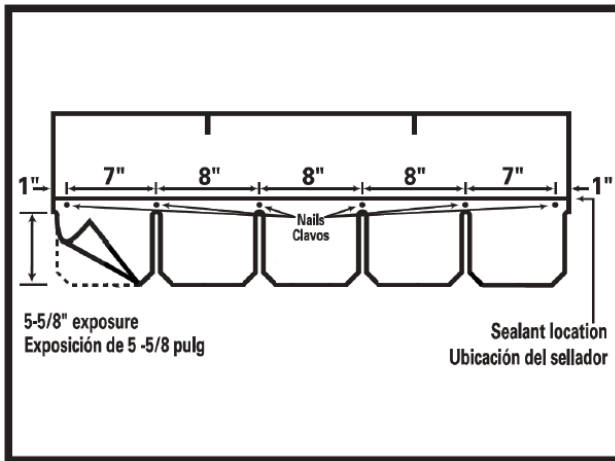


6-Nail Fastening Pattern

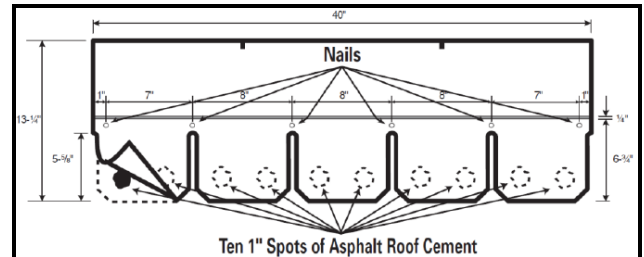


Mansard or Steep Slope Fastening Pattern

6.2.8 Minimum Nailing – Devonshire™:

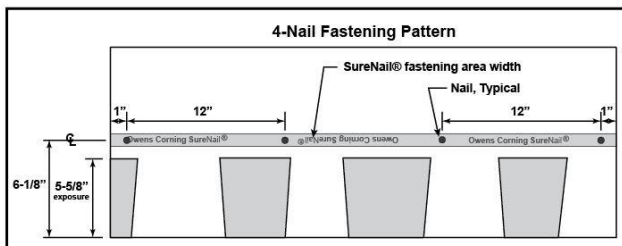


Standard 6-Nail Fastening Pattern

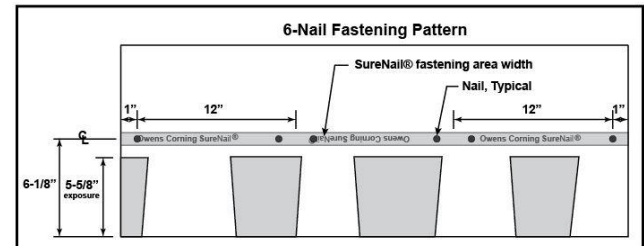


Mansard or Steep Slope Fastening Pattern

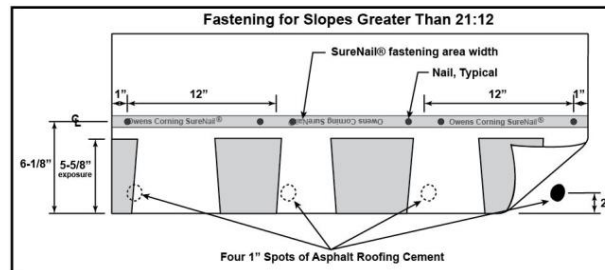
6.2.9 Minimum Nailing – Duration®, TruDefinition® Duration, Duration® Premium Cool & TruDefinition® Duration® Designer Color Collection:



Standard Fastening Pattern

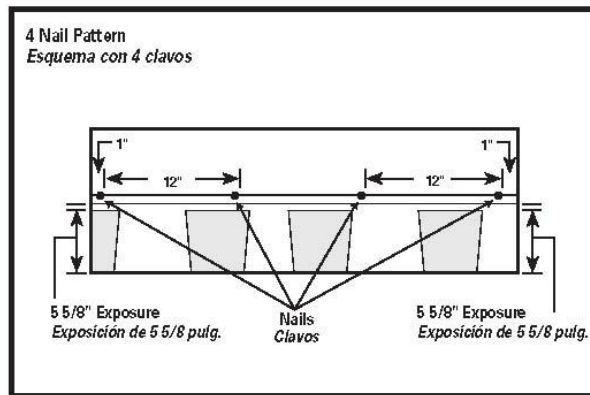


6-Nail Fastening Pattern

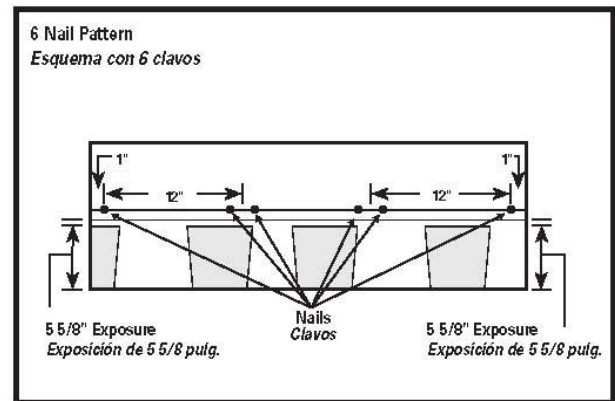


Mansard or Steep Slope Fastening Pattern

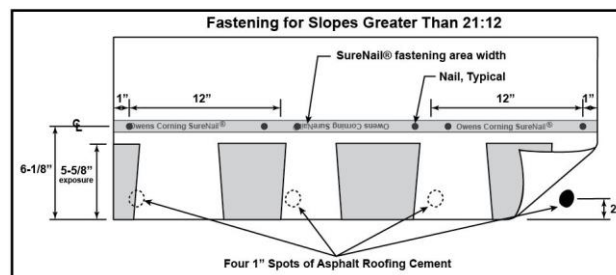
6.2.1 Minimum Nailing – TruDefinition® Oakridge®, Oakridge®:



Standard Fastening Pattern

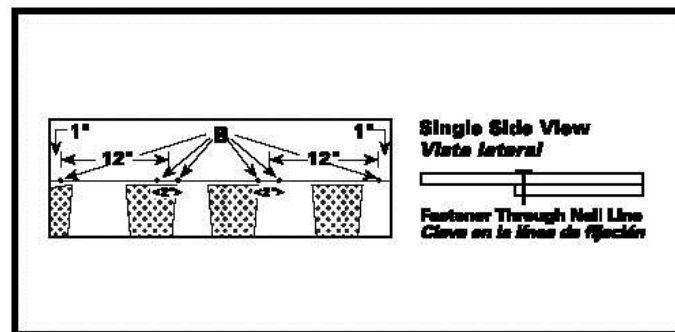


6-Nail Fastening Pattern



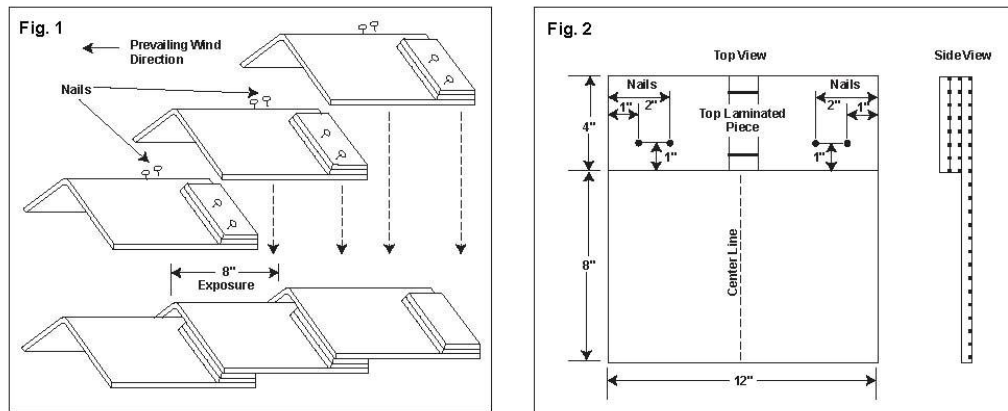
Mansard or Steep Slope Fastening Pattern

6.2.1 Minimum Nailing – WeatherGuard® HP:

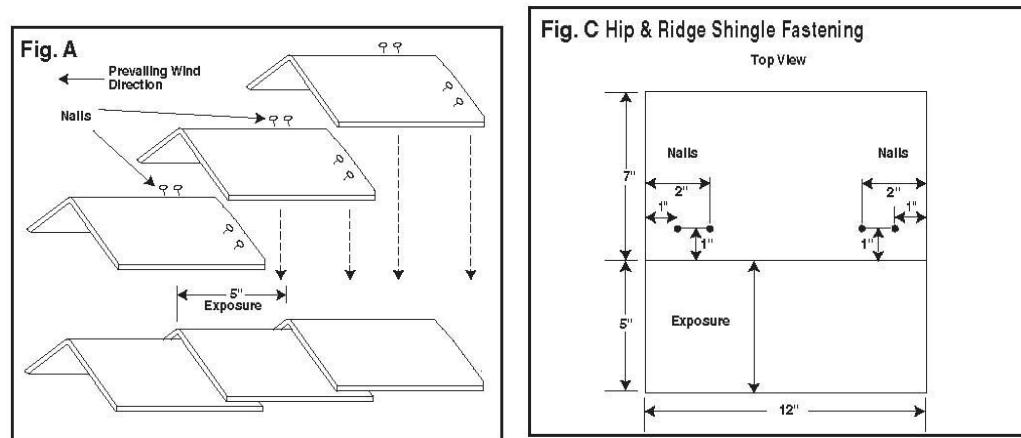


6.3 Hip & Ridge Shingles:

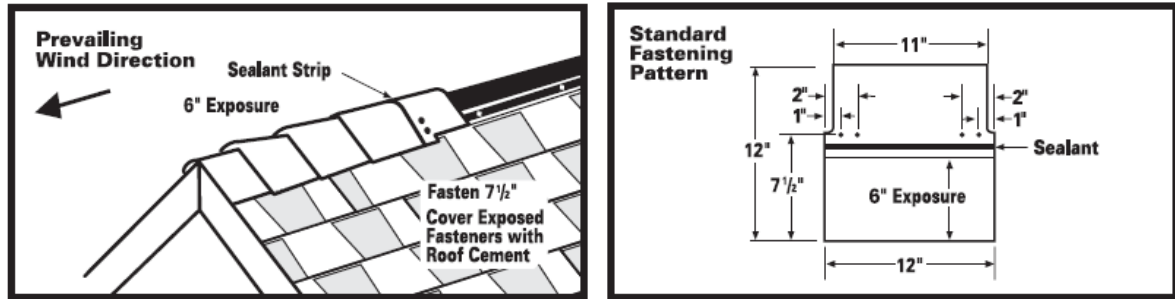
- 6.3.1 Installation of **Berkshire® Hip and Ridge Shingles**, **High Ridge**, **WeatherGuard® HP Hip and Ridge Shingles** and **ProEdge Hip & Ridge Shingles** shall comply with the **Owens Corning** current published instructions, using four (4) nails per shingle. Installation of **DuraRidge™ Hip & Ridge Shingles** shall comply with the **Owens Corning** current published instructions, using two (2) nails per shingle. Refer to **Owens Corning** published information on wind resistance and installation limitations, including the use of hand-sealing for wind warranties.
- 6.3.2 Fasteners shall be in accordance with the manufacturer's published requirements, but not less than **FBC 1507.2.6 or R905.2.5**. Staples are not permitted.
- 6.3.3 Minimum Nailing – **Berkshire® Hip & Ridge and High Ridge**:



- 6.3.4 Minimum Nailing – **WeatherGuard® HP Hip and Ridge**:

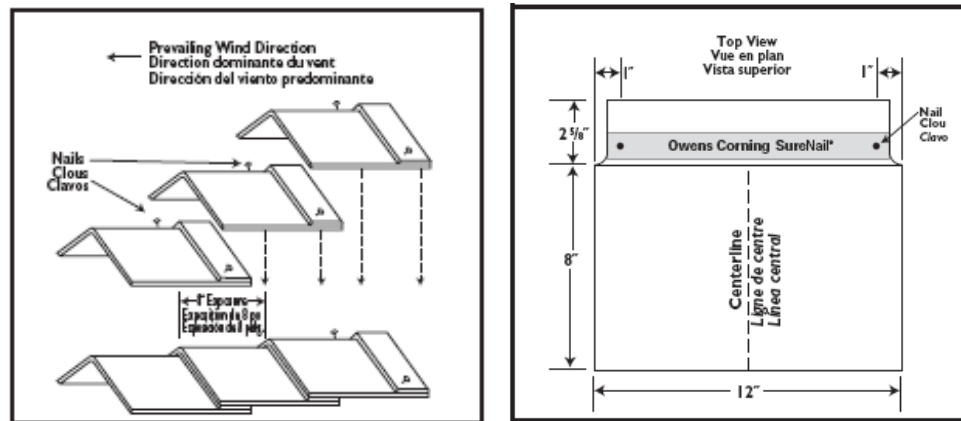


6.3.5 Minimum Nailing - ProEdge Hip & Ridge Shingles:



6.3.6 Minimum Nailing – DuraRidge™ Hip & Ridge Shingles:

Note: The drawings below pertain to minimum, as-tested attachment requirements. Refer to Owens Corning published installation instructions for their minimum requirements.



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 9N-3 QA requirements.

10. QUALITY ASSURANCE ENTITY:

UL LLC– QUA9625 ; (631) 546-2458; Kanchi.Agrawala-Dokania@ul.com

- END OF EVALUATION REPORT -