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**Product Approval**  
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FL #	FL12366-R10												
Application Type	Revision												
Code Version	2017												
Application Status	Approved												
Comments													
Archived	<input type="checkbox"/>												
Product Manufacturer	GAF												
Address/Phone/Email	1 Campus Drive Parsippany, NJ 07054 (800) 766-3411 mstieh@gaf.com												
Authorized Signature	Robert Nieminen lindar@nemoetc.com												
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Quality Assurance Representative	Richard Weiman												
Address/Phone/Email	1 Campus Drive Parsippany, NJ 07054 (973) 872-4421 RWeiman@gaf.com												
Category	Roofing												
Subcategory	Roofing Slate												
Compliance Method	Evaluation Report from a Florida Registered Architect or a Licensed Florida Professional Engineer <input type="checkbox"/> Evaluation Report - Hardcopy Received												
Florida Engineer or Architect Name who developed the Evaluation Report	Robert J. Nieminen												
Florida License	PE-59166												
Quality Assurance Entity	UL LLC												
Quality Assurance Contract Expiration Date	08/31/2019												
Validated By	John W. Knezevich, PE <input checked="" type="checkbox"/> Validation Checklist - Hardcopy Received												
Certificate of Independence	<a href="#">FL12366_R10_COI_2017_01_COI_Nieminen.pdf</a>												
Referenced Standard and Year (of Standard)	<table border="0"> <thead> <tr> <th><b>Standard</b></th> <th><b>Year</b></th> </tr> </thead> <tbody> <tr> <td>ASTM C406</td> <td>2010</td> </tr> <tr> <td>TAS 100</td> <td>1995</td> </tr> <tr> <td>TAS 125</td> <td>2003</td> </tr> <tr> <td>UL 1897</td> <td>2012</td> </tr> <tr> <td>UL 580</td> <td>2006</td> </tr> </tbody> </table>	<b>Standard</b>	<b>Year</b>	ASTM C406	2010	TAS 100	1995	TAS 125	2003	UL 1897	2012	UL 580	2006
<b>Standard</b>	<b>Year</b>												
ASTM C406	2010												
TAS 100	1995												
TAS 125	2003												
UL 1897	2012												
UL 580	2006												
Equivalence of Product Standards Certified By													

Sections from the Code

Product Approval Method	Method 1 Option D
Date Submitted	09/22/2017
Date Validated	10/03/2017
Date Pending FBC Approval	10/04/2017
Date Approved	12/12/2017

**Summary of Products**

FL #	Model, Number or Name	Description
12366.1	TruSlate® Premium Roofing System	Quarried slate roof covering system
<b>Limits of Use</b> <b>Approved for use in HVHZ:</b> No <b>Approved for use outside HVHZ:</b> Yes <b>Impact Resistant:</b> N/A <b>Design Pressure:</b> +N/A/-91.5 <b>Other:</b> Refer to ER Section 5 for Limits of Use.		<b>Installation Instructions</b> <a href="#">FL12366 R10 II 2016 07 GAF TruSlate Installation Instructions.pdf</a> <a href="#">FL12366 R10 II 2017 09 FINAL A1 ER GAF TruSlate FL12366-R10.pdf</a> Verified By: Robert Nieminen PE-59166 Created by Independent Third Party: Yes <b>Evaluation Reports</b> <a href="#">FL12366 R10 AE 2017 09 FINAL ER GAF TruSlate FL12366-R10.pdf</a> Created by Independent Third Party: Yes

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**EXTERIOR RESEARCH & DESIGN, LLC.**

*Certificate of Authorization #9503*

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Oxford, CT 06478

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**EVALUATION REPORT**

**GAF**

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

**Evaluation Report 01506.12.07-R11**

**FL12366-R10**

**Date of Issuance: 12/21/2007**

**Revision 11: 09/22/2017**

**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. The product described herein has been evaluated for compliance with the **6<sup>th</sup> Edition (2017) Florida Building Code** sections noted herein.

**DESCRIPTION: TruSlate<sup>®</sup> Premium Roofing System**

**LABELING:** Labeling shall be in accordance with the requirements of 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.

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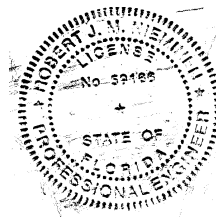
**INSPECTION:** Upon request, a copy of this entire Evaluation Report shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This Evaluation Report consists of pages 1 through 4, plus a 4-page Appendix.

**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 09/22/2017. This does not serve as an electronically signed document.

**CERTIFICATION OF INDEPENDENCE:**

1. Exterior Research & Design, LLC. d/b/a 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. Exterior Research & Design, LLC. d/b/a 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:** Roofing Slate

**Compliance Statement:** TruSlate® Premium Roofing System, as produced by GAF, has demonstrated compliance with the following sections of the 6<sup>th</sup> Edition (2017) 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 Resistance	UL 580	2006
1504.3.1	Wind Uplift Resistance	UL 1897	2012
1523.6.5.2.4.1	Wind Uplift Resistance	TAS 125	2003
1523.6.5	Wind Driven Rain	TAS 100	1995
1507.7.5	Physical Properties	ASTM C406	2010

**3. REFERENCES:**

<u>Entity</u>	<u>Examination</u>	<u>Reference</u>	<u>Date</u>
ATI (TST1558)	ASTM C406	B1690.02-106-31	08/03/2011
ATI (TST1558)	ASTM C406	B1690.01-106-31	08/18/2011
ATI (TST 1558)	Wind Driven Rain	A5250.01-109-18	02/18/2011
ATI (TST1558)	ASTM C406	B9692.02-106-31	09/28/2012
ATI (TST1558)	ASTM C406	B9692.01-106-31	11/06/2012
ATI (TST1558)	ASTM C406	D0230.01-106-31	08/20/2013
ERD (TST6049)	ASTM C406	E10460.03.09	03/25/2009
ERD (TST6049)	ASTM C406	E10460.01.11	01/14/2011
ERD (TST6049)	ASTM C406	E10460.10.12-1	10/01/2012
ERD (TST6049)	ASTM C406	E10460.10.12-2	10/01/2012
PRI (TST5878)	TAS 100	BRY-059-02-01	12/21/2006
PRI (TST5878)	ASTM C406	SLD-001-02-01	02/01/2005
UL, LLC. (TST9628)	UL580 / UL1897	07CA06956	02/15/2007
UL, LLC. (TST9628)	TAS 125	07CA06956	02/12/2007
UL, LLC. (TST9628)	Fire Classification	07CA15976	06/07/2007
UL, LLC. (QUA9625)	Quality Control	Inspect, R25496, Nashville, TN	10/19/2016
UL, LLC. (QUA9625)	Quality Control	Inspect, R25496, Fontana, CA	08/31/2016

**4. PRODUCT DESCRIPTION:**

4.1 **TruSlate® Premium Roofing System** consists of quarried slate, roof covering units measuring nominal 12” x 12” x ¼” to 3/8” thick available in a variety of colors, attached with **TruGrip™ Battens and Hangers**. This Evaluation Report covers slate colors set forth in Table 1 herein.

4.2 **TruSlate® Ridge Vent** is a plastic, low-profile attic ridge vent for use in **TruSlate®** roof systems. Refer to FBC File No. **FL6267** for details on **TruSlate® Ridge Vent**.

**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.

5.3.1 To achieve UL Class A fire rating with **TruSlate**<sup>®</sup>, install **VersaShield**<sup>®</sup> **Fire-Resistant Roof Deck Protection** on top of full-deck leak barrier coverage (4:12 to 5:12 roof slope) or on top of fastened roof deck protection (roof slopes above 5:12).

5.4 **TruSlate**<sup>®</sup> physical classifications in accordance with ASTM C406-10 are as follows:

TABLE 1: TRUSLATE <sup>®</sup> PHYSICAL CLASSIFICATIONS – ASTM C406	
Product	Grade
Autumn Dusk	S <sub>1</sub>
Charcoal	S <sub>1</sub>
Onyx Black	S <sub>1</sub>

5.5 Appendix 1 outlines attachment requirements for design wind pressure resistance. “MDP” = Maximum Design Pressure is the result of testing for wind load resistance based on allowable wind loads. Refer to **FBC 1609** for determination of design wind pressures. The MDP for the selected assembly shall meet or exceed the design wind pressure requirements for the project for each pressure zone of the roof.

5.5.1 Reference to “OK” indicates the system performance exceeds requirements for that pressure zone. Reference to “NO” indicates additional testing or rational analysis by a qualified design professional is required to address that particular pressure zone.

5.6 Roof slope shall be minimum 4:12 (18.4°).

5.7 All products in the roof assembly shall have quality assurance audit in accordance with **F.A.C. Rule 61G20-3**.

## 6. INSTALLATION:

6.1 **TruSlate**<sup>®</sup> **Premium Roofing System** shall be installed in accordance with **GAF** published installation instructions, subject to the Limitations noted in Section 5 and not less than that noted below.

6.1.1 **IMPORTANT NOTE:** GAF published installation instructions shall be used as the primary guide, with batten, hanger and slate securement as noted below.

6.2 The term “Approved” in the component descriptions below means the component has a current Florida Statewide or Local Product Approval applicable for use in the project jurisdiction.

**MDP:** -91.5 psf

**SLOPE RANGE:** 4:12 or greater

**DECK:** Min. 15/32” plywood or wood plank

**DECK** In accordance with applicable Code, but in no case shall it be less than minimum No. 8 x

**ATTACHMENT:** 2½-inch coarse thread screws spaced 6” o.c. at board edges and 8” o.c. at center supports spaced maximum 24” o.c. In re-roofing the above attachment shall be in addition to the existing attachment.

**UNDERLAYMENT:** Minimum underlayment shall be in accordance with FBC 1507.7.3. Alternate underlayment shall have Florida Statewide or Local Approval for use with slate roof systems.

Note: For slopes of 4:12 (18.4°) up to and including 5:12 (22.6°), a self-adhering roof underlayment having Florida Statewide or Local Approval for use in slate roof systems is required over the entire roof.

**BATTENS:** TruGrip™ Battens; Min. 0.020-inch thick x 2-inch wide stainless steel batten strips spaced 9½” to 10” o.c., preassembled with standard TruGrip™ Hangers.

**HANGERS:** The TruGrip™ Battens come preassembled with TruGrip™ Hangers; Min. 14 AWG wire hangers ‘snap-fit’ within the battens at max. 6” o.c. at fastener locations.

<b>FASTENERS:</b>	Min. 1¼" x 3/8" head diameter, stainless steel annular ring shank nails spaced max. 6" o.c. through the batten to penetrate the deck. Locate the nails in the batten such that the nail head overlaps the TruGrip™ Hanger against one of the batten slots.
<b>INTERLAYMENT:</b>	Interlayment is required for all roof slopes. Minimum interlayment shall be 25-mil high density polyethylene (HDPE) "UnderBlock™ UV & Moisture Barrier" with minimum 12-inch side lap.
<b>VALLEYS:</b>	In accordance with published manufacturer's literature.
<b>RIDGE VENT:</b>	(If applicable) Install TruSlate® Ridge Vent in accordance with published manufacturer's literature and FBC File No. FL6267, followed by TruSlate® trim slates in accordance with published manufacturer's literature.
<b>SLATES:</b>	TruSlate® installed in accordance with published manufacturer's literature, minimum two (2) hangers per slate. Hangers located 3-inch from each end of each slate.

**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 named QA entity for manufacturing facilities covered by **F.A.C. Rule 61G20-3** QA requirements.

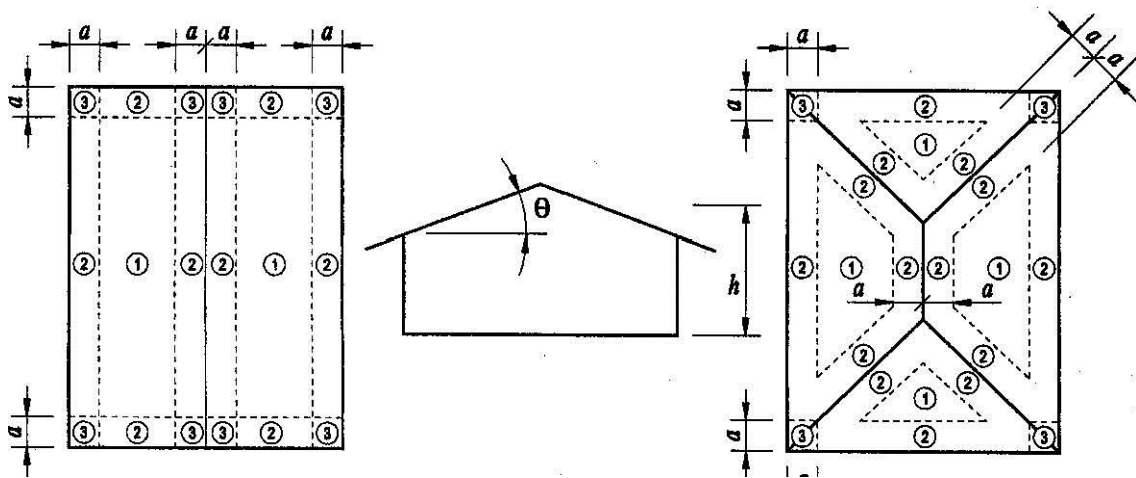
**9. QUALITY ASSURANCE ENTITY:**

UL, LLC. – QUA9625; (847) 664-3281

**- THE FOUR (4) PAGES THAT FOLLOW FORM PART OF THIS EVALUATION REPORT -**

**WIND UPLIFT PERFORMANCE TABLES – TRUSLATE® PREMIUM ROOFING SYSTEM:**

1. Roof deck shall be specified and installed in accordance with FBC requirements to the satisfaction of the Authority Having Jurisdiction, but not less than minimum 15/32" plywood or wood plank attached with minimum No. 8 x 2½-inch coarse thread screws spaced 6" o.c. at board edges and 8" o.c. at center supports spaced maximum 24" o.c. In re-roofing the above attachment shall be in addition to the existing attachment
2. Underlayment, battens, fasteners, hangers, interlayment and slates shall be installed in accordance with Section 6.2 of this Evaluation Report.
3. Tables are based on a MDP of -91.5 psf, where "MDP" = Maximum Design Pressure is the result of testing for wind load resistance based on allowable wind loads. Refer to **FBC 1609** for determination of design wind pressures.
4. Tables are based on **allowable roof cladding design wind pressure requirements ( $P_{asd}$ )** for gabled/hipped roofs in accordance with **ASCE 7-10, multiplied by 0.6.**
5. Tables are limited to projects having gable or hip roofs with a mean roof height between 0 and 60 feet, slopes between 18° and 45° (4:12 to 12:12 pitch), enclosed buildings (Internal Pressure Coefficient,  $GCP_i = \pm 0.18$ ), no load combinations ( $K_d = 1$ ) and site conditions and location of the structure do not meet all conditions specified in Section 26.8.1 of **ASCE 7-10** ( $K_{zt} = 1.0$ ). Analysis for buildings falling outside these constraints shall be on a project-by-project basis by a Florida Registered PE.
6. Reference to "OK" indicates the system performance exceeds project requirements for that pressure zone. Reference to "NO" indicates additional testing or rational analysis by a Florida Registered PE is required to address that particular pressure zone.
7. The dimension of Zones 2 and 3 (perimeters and corners) shall be defined as 10% of the least horizontal plan-view dimension or 40% of the mean roof height, whichever is smaller, but not less than either 4% of the least horizontal plan-view dimension or 3 feet, as outlined in Figures 30.4-2B and 30.4-2C of **ASCE 7-10.**



8. For existing decks, fasteners shall be tested in the existing deck for withdrawal resistance in accordance with **ANSI/SPRI FX-1** or **Testing Application Standard TAS 105**. A qualified design professional shall review the data for comparison to the minimum requirements for the system.

**TABLES 1A AND 1B - EXPOSURE B CONDITIONS:**

TABLE 1A: EXPOSURE B FOR SLOPE RANGE 18° < SLOPE ≤ 27° (4:12 < PITCH ≤ 6.1:12)										
Mean Roof Height (ft)	Roof Pressure Zone	Ultimate Design Wind Speed - V <sub>ult</sub> (mph)								
		110	115	120	130	140	150	160	180	200
0 < h ≤ 30	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2	OK	OK	OK	OK	OK	OK	OK	OK	OK
	3	OK	OK	OK	OK	OK	OK	OK	NO	NO
	2 Overhang	OK	OK	OK	OK	OK	OK	OK	OK	NO
	3 Overhang	OK	OK	OK	OK	OK	OK	NO	NO	NO
30 < h ≤ 40	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2	OK	OK	OK	OK	OK	OK	OK	OK	OK
	3	OK	OK	OK	OK	OK	OK	OK	NO	NO
	2 Overhang	OK	OK	OK	OK	OK	OK	OK	OK	NO
	3 Overhang	OK	OK	OK	OK	OK	NO	NO	NO	NO
40 < h ≤ 50	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2	OK	OK	OK	OK	OK	OK	OK	OK	NO
	3	OK	OK	OK	OK	OK	OK	OK	NO	NO
	2 Overhang	OK	OK	OK	OK	OK	OK	OK	OK	NO
	3 Overhang	OK	OK	OK	OK	OK	NO	NO	NO	NO
50 < h ≤ 60	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2	OK	OK	OK	OK	OK	OK	OK	OK	NO
	3	OK	OK	OK	OK	OK	OK	NO	NO	NO
	2 Overhang	OK	OK	OK	OK	OK	OK	OK	NO	NO
	3 Overhang	OK	OK	OK	OK	NO	NO	NO	NO	NO

TABLE 1B: EXPOSURE B FOR SLOPE RANGE 27° < SLOPE ≤ 45° (6.1:12 < PITCH ≤ 12:12)										
Mean Roof Height (ft)	Roof Pressure Zone	Ultimate Design Wind Speed - V <sub>ult</sub> (mph)								
		110	115	120	130	140	150	160	180	200
0 < h ≤ 30	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2 & 3	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	OK	OK	OK
30 < h ≤ 40	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2 & 3	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	OK	OK	NO
40 < h ≤ 50	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2 & 3	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	OK	OK	NO
50 < h ≤ 60	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2 & 3	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	OK	OK	NO



**TABLES 2A AND 2B - EXPOSURE C CONDITIONS:**

TABLE 2A: EXPOSURE C FOR SLOPE RANGE 18° ≤ SLOPE < 27° (4:12 < PITCH ≤ 6.1:12)										
Mean Roof Height (ft)	Roof Pressure Zone	Ultimate Design Wind Speed - V <sub>ult</sub> (mph)								
		110	115	120	130	140	150	160	180	200
0 < h ≤ 15	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2	OK	OK	OK	OK	OK	OK	OK	OK	NO
	3	OK	OK	OK	OK	OK	OK	OK	NO	NO
	2 Overhang	OK	OK	OK	OK	OK	OK	OK	NO	NO
	3 Overhang	OK	OK	OK	OK	NO	NO	NO	NO	NO
15 < h ≤ 20	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2	OK	OK	OK	OK	OK	OK	OK	OK	NO
	3	OK	OK	OK	OK	OK	OK	NO	NO	NO
	2 Overhang	OK	OK	OK	OK	OK	OK	OK	NO	NO
	3 Overhang	OK	OK	OK	OK	NO	NO	NO	NO	NO
20 < h ≤ 30	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2	OK	OK	OK	OK	OK	OK	OK	NO	NO
	3	OK	OK	OK	OK	OK	NO	NO	NO	NO
	2 Overhang	OK	OK	OK	OK	OK	OK	OK	NO	NO
	3 Overhang	OK	OK	OK	NO	NO	NO	NO	NO	NO
30 < h ≤ 40	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2	OK	OK	OK	OK	OK	OK	OK	NO	NO
	3	OK	OK	OK	OK	OK	NO	NO	NO	NO
	2 Overhang	OK	OK	OK	OK	OK	OK	OK	NO	NO
	3 Overhang	OK	OK	OK	NO	NO	NO	NO	NO	NO
40 < h ≤ 50	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2	OK	OK	OK	OK	OK	OK	OK	NO	NO
	3	OK	OK	OK	OK	OK	NO	NO	NO	NO
	2 Overhang	OK	OK	OK	OK	OK	OK	NO	NO	NO
	3 Overhang	OK	OK	OK	NO	NO	NO	NO	NO	NO
50 < h ≤ 60	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2	OK	OK	OK	OK	OK	OK	OK	NO	NO
	3	OK	OK	OK	OK	NO	NO	NO	NO	NO
	2 Overhang	OK	OK	OK	OK	OK	OK	NO	NO	NO
	3 Overhang	OK	OK	NO	NO	NO	NO	NO	NO	NO

TABLE 2B: EXPOSURE C FOR SLOPE RANGE 27° < SLOPE ≤ 45° (6.1:12 < PITCH ≤ 12:12)										
Mean Roof Height (ft)	Roof Pressure Zone	Ultimate Design Wind Speed - V <sub>ult</sub> (mph)								
		110	115	120	130	140	150	160	180	200
0 < h ≤ 15	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2 & 3	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	OK	OK	NO
15 < h ≤ 20	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2 & 3	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	OK	OK	NO
20 < h ≤ 30	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2 & 3	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	OK	NO	NO
30 < h ≤ 40	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2 & 3	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	OK	NO	NO
40 < h ≤ 50	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2 & 3	OK	OK	OK	OK	OK	OK	OK	OK	NO
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	OK	NO	NO
50 < h ≤ 60	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2 & 3	OK	OK	OK	OK	OK	OK	OK	OK	NO
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	OK	NO	NO

**TABLES 3A AND 3B - EXPOSURE D CONDITIONS:**

TABLE 3A: EXPOSURE D FOR SLOPE RANGE 18° ≤ SLOPE < 27° (4:12 < PITCH ≤ 6.1:12)										
Mean Roof Height (ft)	Roof Pressure Zone	Ultimate Design Wind Speed - V <sub>ult</sub> (mph)								
		110	115	120	130	140	150	160	180	200
0 < h ≤ 15	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2	OK	OK	OK	OK	OK	OK	OK	NO	NO
	3	OK	OK	OK	OK	OK	NO	NO	NO	NO
	2 Overhang	OK	OK	OK	OK	OK	OK	OK	NO	NO
	3 Overhang	OK	OK	OK	NO	NO	NO	NO	NO	NO
15 < h ≤ 20	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2	OK	OK	OK	OK	OK	OK	OK	NO	NO
	3	OK	OK	OK	OK	OK	NO	NO	NO	NO
	2 Overhang	OK	OK	OK	OK	OK	OK	NO	NO	NO
	3 Overhang	OK	OK	OK	NO	NO	NO	NO	NO	NO
20 < h ≤ 30	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2	OK	OK	OK	OK	OK	OK	OK	NO	NO
	3	OK	OK	OK	OK	NO	NO	NO	NO	NO
	2 Overhang	OK	OK	OK	OK	OK	OK	NO	NO	NO
	3 Overhang	OK	OK	NO	NO	NO	NO	NO	NO	NO
30 < h ≤ 40	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2	OK	OK	OK	OK	OK	OK	OK	NO	NO
	3	OK	OK	OK	OK	NO	NO	NO	NO	NO
	2 Overhang	OK	OK	OK	OK	OK	NO	NO	NO	NO
	3 Overhang	OK	NO	NO	NO	NO	NO	NO	NO	NO
40 < h ≤ 50	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2	OK	OK	OK	OK	OK	OK	NO	NO	NO
	3	OK	OK	OK	OK	NO	NO	NO	NO	NO
	2 Overhang	OK	OK	OK	OK	OK	NO	NO	NO	NO
	3 Overhang	OK	NO	NO	NO	NO	NO	NO	NO	NO
50 < h ≤ 60	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2	OK	OK	OK	OK	OK	OK	NO	NO	NO
	3	OK	OK	OK	NO	NO	NO	NO	NO	NO
	2 Overhang	OK	OK	OK	OK	OK	NO	NO	NO	NO
	3 Overhang	OK	NO	NO	NO	NO	NO	NO	NO	NO

TABLE 3B: EXPOSURE D FOR SLOPE RANGE 27° < SLOPE ≤ 45° (6.1:12 < PITCH ≤ 12:12)										
Mean Roof Height (ft)	Roof Pressure Zone	Ultimate Design Wind Speed - V <sub>ult</sub> (mph)								
		110	115	120	130	140	150	160	180	200
0 < h ≤ 15	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2 & 3	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	OK	NO	NO
15 < h ≤ 20	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2 & 3	OK	OK	OK	OK	OK	OK	OK	OK	NO
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	OK	NO	NO
20 < h ≤ 30	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2 & 3	OK	OK	OK	OK	OK	OK	OK	OK	NO
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	OK	NO	NO
30 < h ≤ 40	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2 & 3	OK	OK	OK	OK	OK	OK	OK	OK	NO
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	NO	NO	NO
40 < h ≤ 50	1	OK	OK	OK	OK	OK	OK	OK	OK	NO
	2 & 3	OK	OK	OK	OK	OK	OK	OK	OK	NO
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	NO	NO	NO
50 < h ≤ 60	1	OK	OK	OK	OK	OK	OK	OK	OK	NO
	2 & 3	OK	OK	OK	OK	OK	OK	OK	OK	NO
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	NO	NO	NO