

Certificate of Authorization #9503 353 Christian Street Oxford, CT 06478 (203) 262-9245

# **EVALUATION REPORT**

**TAMKO Building Products, Inc.** PO Box 1404 Joplin, MO 64802 (417) 624-6644

Evaluation Report T40900.04.12-R4 FL3901-R9 Date of Issuance: 04/04/2012 Revision 4: 10/12/2017

The facsimile seal appearing was authorized by Robert

# 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: MetalWorks<sup>®</sup> Steel Roofing Systems

LABELING: Labeling shall be in accordance with the requirements 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.

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 4, plus a 15-page Appendix.

Prepared by:

Robert J.M. Nieminen. P.E. Florida Registration No. 59166, Florida DCA ANE1983

# **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.
- Robert Nieminen, P.E. does not have, nor will acquire, a financial interest in any other entity involved in the approval process of the 4. product.
- This is a building code evaluation. Neither Trinity ERD nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any 5. 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:**

Conditions of Use set forth herein.

1. SCOPE:

# Product Category: Roofing Sub-Category: Non-Structural Metal Roofing Compliance Statement: MetalWorks<sup>®</sup> Steel Roofing Systems, as produced by TAMKO Building Products, Inc., have 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 /

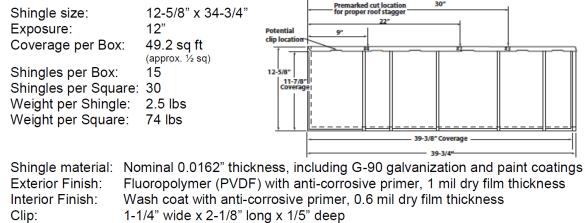
2. STANDARDS:

	<u>Section</u> 1504.3.1	<u>Property</u> Wind	<u>Standard</u> UL 1897	<u>Year</u> 2012
3.	<b>REFERENCES:</b>			
	<u>Entity</u>	Examination	<u>Reference</u>	Date
	UL (TST 1740)	Wind Uplift	06NK25561	02/16/2007
	UL (TST 1740)	Wind Uplift	06NK25561	02/20/2007
	UL (TST 1740)	Wind Uplift	05NK16847	02/28/2007
	UL LLC (EVL 11342)	IBC Compliance	UL ER18590-01	07/30/2015
	Metal suppliers	Material Standards	Mill Certs	current
	UL (QUA 9625)	Quality Assurance	Service Confirmation	Exp. 01/07/2019

# 4. **PRODUCT DESCRIPTION:**

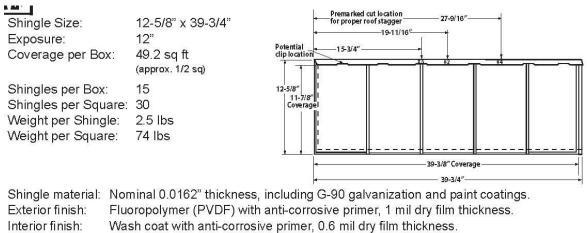
The following **MetalWorks**<sup>®</sup> **Steel Roofing Shingles** are mechanically attached to Approved substrate, as outlined in the Limitations / Conditions of Use herein.

AstonWood Steel Shingles are 0.0162-inch thick, 30-ksi yield, pressure-formed, coated sheet-steel panels with factory-formed interlocking edges that are mechanically attached over approved roof decks. AstonWood Steel Shingles measure nominal 12-<sup>5</sup>/<sub>8</sub> x 39-<sup>3</sup>/<sub>4</sub> inches with a nominal installed weight of 0.74 lbs/ft<sup>2</sup> and a textured surface to resemble wood shakes.



Clip Material: 0.015" thick, G-90 galvanized steel

Stonecrest<sup>®</sup> Slate Steel Shingles are 0.0162-inch thick, 30 ksi yield, pressure-formed, coated sheet-steel panels with factory-formed interlocking edges that are mechanically attached over approved roof decks. Stonecrest Slate Steel Shingles measure nominal 12-<sup>5</sup>/<sub>8</sub> x 39-<sup>3</sup>/<sub>4</sub> inches with a nominal installed weight of 0.74 lbs/ft<sup>2</sup> and a textured surface to resemble slate.



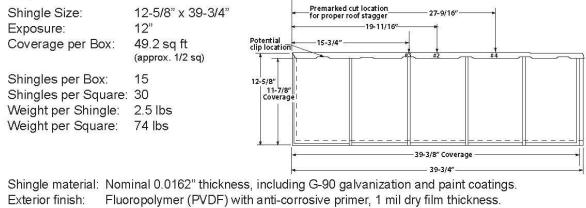
 Clip:
 1-1/4" wide x 2-1/8" long x 1/5" deep

 Clip Material:
 0.015" thick, G-90 galvanized steel

 Stonecrest<sup>®</sup> Tile Steel Shingles are 0.0162-inch thick, 30-ksi yield, pressure-formed, coated sheet-steel panels

 with factory-formed interlocking edges that are mechanically attached over approved roof decks. Stonecrest

Tile Steel Shingles measure nominal  $12^{-5}/_{8} \times 39^{-3/4}$  inches with a nominal installed weight of 0.74 lbs/ft<sup>2</sup> and a textured surface to resemble tile.



Exterior finish:Fluoropolymer (PVDF) with anti-corrosive primer, 1 mil dry film thickness.Interior finish:Wash coat with anti-corrosive primer, 0.6 mil dry film thickness.Clip:1-1/4" wide x 2-1/8" long x 1/5" deepClip Material:0.015" thick, G-90 galvanized steel

# 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.

6<sup>TH</sup> EDITION (2017) FBC NON-HVHZ EVALUATION MetalWorks<sup>°</sup> Steel Roofing Systems; (417) 624-6644 TRINIT

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- 5.4 The minimum roof slope per **TAMKO Building Products** installation instructions is 3:12. Slope shall not be less than that set forth in **FBC 1507.5.2**.
- 5.4.1 For roof slopes 3:12  $\leq \theta <$  4:12, TAMKO requires use of TW Metal & Tile Underlayment or TW Underlayment over the entire roof deck.
- 5.5 Sheet materials used to produce the panels shall comply with **FBC 1507.5.5**.
- 5.6 The roof system evaluation herein 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. Load resistance of the roof deck shall be documented through proper codified and/or FBC Approval documentation.
- 5.7 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.
- 5.7.1 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.
- 5.8 For existing roof 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.
- 5.9 Perimeter and ridge details shall be designed and installed to resist the wind load requirements of **FBC Chapter 16**.
- 5.10 All products in the roof assembly shall have quality assurance audit in accordance with **F.A.C. Rule 61G20-3**.

# 6. INSTALLATION:

- 6.1 **MetalWorks<sup>®</sup> Steel Roofing Shingles** shall be installed in accordance with **TAMKO Building Products, Inc.** published installation instructions, subject to the Limitations / Conditions of Use noted herein.
- 6.2 System attachment requirements for wind load resistance are set forth in Appendix 1. "MDP" = Maximum Design Pressure is the result of testing for wind load resistance based on allowable wind loads, and reflects the ultimate passing pressure divided by 2 (the 2 to 1 margin of safety per **FBC 1504.9** has already been applied). Refer to **FBC 1609** for determination of design wind loads.

# 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:

Joplin, MO

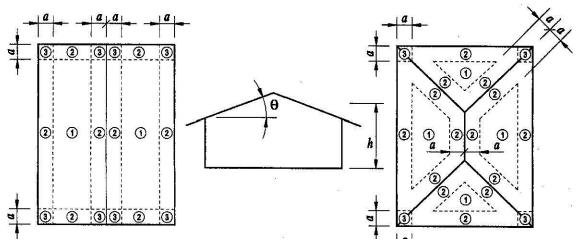
9. QUALITY ASSURANCE ENTITY:

UL LLC – QUA9625; (847) 664-3623; LeAnna.Gradecki@ul.com

# - THE 15-PAGES THAT FOLLOW FORM PART OF THIS EVALUATION REPORT -

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APPENDIX	1: ATTACHMENT REQUIREMENTS FOR DESIGN WIND PRESSURE F	Resistance:		
Table	Application Method	System	MDP (Max Design Pressure)	Page
A-1	AstonWood, Stonecrest Slate or Stonecrest Tile	1	-22.5 psf	2-4
A-2	AstonWood, Stonecrest Slate or Stonecrest Tile	2	-52.5 psf	4-6
A-3	AstonWood, Stonecrest Slate or Stonecrest Tile	3	-60.0 psf	7-9
B-1	AstonWood, Stonecrest Slate or Stonecrest Tile	4	-60.0 psf	10-12
B-2	AstonWood, Stonecrest Slate or Stonecrest Tile	5	-99.0 psf	13-15

- 1. The roof system evaluation herein 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 Jurisiction. Load resistance of the roof deck shall be documented through proper codified and/or FBC Approval documentation.
- 2. Unless otherwise noted herein, fire barrier and/or underlayment materials may be any that meets FBC Table 1507.1.1, TAMKO minimum requirements, the QA requirements of F.A.C. Rule 61G20-3 and FBC 1505 when installed with the roof cover.
- 3. "MDP" = Maximum Design Pressure is the result of testing for wind load resistance based on allowable wind loads, and reflects the ultimate passing pressure divided by 2 (the 2 to 1 margin of safety per FBC 1504.9 has already been applied). Refer to FBC 1609 for determination of design wind loads.
- Tables are based on roof cladding design wind pressure requirements for gabled/hipped roofs in accordance with ASCE 7-10, multiplied by 0.6 4. for allowable loads (P<sub>asd</sub>).
- 5. Tables are limited to projects having gable or hip roofs with a mean roof height between 0 and 60 feet, slopes between 7° and 45° (1.5:12 to 12:12 pitch), enclosed buildings (Internal Pressure Coefficient, GCPi =  $\pm$  0.18), no load combinations (K<sub>d</sub> = 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<sub>zt</sub> = 1.0). Analysis for buildings falling outside these constraints shall be on a project-by-project basis by a Florida Registered PE.
- Reference to "OK" indicates the system performance exceeds project requirements for that pressure zone. Reference to "NO" indicates 6. 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.



- For existing decks, fasteners shall be tested in the existing deck for withdrawal resistance in accordance with ANSI/SPRI FX-1 or Testing 8. Application Standard TAS 105. A qualified design professional shall review the data for comparison to the minimum requirements for the system.
- For installation over a fire barrier and/or existing asphalt shingles, panel fasteners that engage the roof deck shall be of sufficient length to 9. penetrate the underside of the roof deck by not less than <sup>3</sup>/<sub>4</sub>-inch.
- Panel fasteners shall be corrosion resistant. 10.

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# TABLE A-1: AstonWood, Stonecrest Slate or Stonecrest Tile WOOD DECKS - NEW CONSTRUCTION, REROOF (Tear-Off)

WOODDL		OCTION, RENO					
System	Deck	Fire Barrier	Underlay		Panel Attachment		MDP (psf)
No.	(See Note 1)	File barrier	Underlay	Clips	Clip Placement	Fasteners	wide (psi)
1.	Min. 15/32" APA rated plywood	(Optional) See Note 2	Minimum ASTM D226, Type II or FBC Approved equivalent or TW Metal & Tile Underlayment or TW Underlayment	Five (5) 26 ga. x 1¼" wide x 2- <sup>1</sup> / <sub>8</sub> " long "Standard Tamko Clip" per shingle	One (1) positioned at the middle along the width at one end. Four (4) at upslope-edge spaced 3", 16", 24" and 36" from right end.	One (1) #10-8 x min. 1-inch screw (See Note 9) per clip	-22.5

# Table A-1a: System No. 1: AstonWood, Stonecrest Slate or Stonecrest Tile (MDP = -22.5 psf)Exposure B for Slope Range $7^{\circ} < \text{slope} \le 27^{\circ}$ (1.5:12 < pitch $\le 6.1:12$ )

Mean Roof Height (ft)	Roof Pressure Zone				Ultimate Des	ign Wind Spee	ed - V <sub>ult</sub> (mph)			
wean Koor neight (It)	Kool Fressure Zone	110	115	120	130	140	150	160	180	200
	1	OK	OK	OK	OK	NO	NO	NO	NO	NO
	2	NO	NO	NO	NO	NO	NO	NO	NO	NO
0 < h <u>&lt;</u> 30	3	NO	NO	NO	NO	NO	NO	NO	NO	NO
	2 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	NO
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	NO
	1	OK	OK	OK	OK	NO	NO	NO	NO	NO
	2	NO	NO	NO	NO	NO	NO	NO	NO	NO
30 < h <u>&lt;</u> 40	3	NO	NO	NO	NO	NO	NO	NO	NO	NO
	2 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	NO
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	NO
	1	OK	OK	OK	NO	NO	NO	NO	NO	NO
	2	NO	NO	NO	NO	NO	NO	NO	NO	NO
40 < h <u>&lt;</u> 50	3	NO	NO	NO	NO	NO	NO	NO	NO	NO
	2 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	NO
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	NO
	1	OK	OK	OK	NO	NO	NO	NO	NO	NO
	2	NO	NO	NO	NO	NO	NO	NO	NO	NO
50 < h <u>&lt;</u> 60	3	NO	NO	NO	NO	NO	NO	NO	NO	NO
	2 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	NO
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	NO

## Table A-1b: System No. 1: AstonWood, Stonecrest Slate or Stonecrest Tile (MDP = -22.5 psf) Exposure B for Slope Range $27^{\circ}$ < slope $\leq$ 45° (6.1:12 < pitch $\leq$ 12:12)

Mean Roof Height (ft)	Roof Pressure Zone				Ultimate Des	ign Wind Spee	ed - V <sub>ult</sub> (mph)			
Mean Root Height (It)	Roof Pressure Zone	110	115	120	130	140	150	160	180	200
	1	OK	OK	OK	OK	NO	NO	NO	NO	NO
0 < h <u>&lt;</u> 30	2 & 3	OK	OK	OK	NO	NO	NO	NO	NO	NO
	2 & 3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	NO
30 < h <u>&lt;</u> 40	1	ОК	OK	OK	NO	NO	NO	NO	NO	NO
	2 & 3	ОК	OK	NO	NO	NO	NO	NO	NO	NO
	2 & 3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	NO
	1	OK	OK	OK	NO	NO	NO	NO	NO	NO
40 < h <u>&lt;</u> 50	2 & 3	OK	NO	NO	NO	NO	NO	NO	NO	NO
40 < 11 <u>&lt;</u> 50	2 & 3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	NO
	1	OK	OK	OK	NO	NO	NO	NO	NO	NO
50 < h <u>&lt;</u> 60	2 & 3	OK	NO	NO	NO	NO	NO	NO	NO	NO
	2 & 3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	NO

### Table A-1c: System No. 1: AstonWood, Stonecrest Slate or Stonecrest Tile (MDP = -22.5 psf) Exposure C for Slope Range 7° < slope < 27° (1.5:12 < pitch < 6.1:12) Ultimate Design Wind Speed - Vult (mph) Mean Roof Height (ft) **Roof Pressure Zone** 110 115 120 130 140 160 180 200 150 1 ОК ОК ОК NO 2 NO NO NO NO 0 < h <u><</u> 15 3 NO NO NO NO NO NO NO NO NO 2 Overhang NO NO NO NO NO NO NO NO NO 3 Overhang NO NO NO NO NO NO NO NO NO ОК NO NO ОК ОК NO NO NO NO 1 NO NO 2 NO NO NO NO NO NO NO 15 < h <u><</u> 20 3 NO NO NO NO NO NO NO NO NO 2 Overhang NO NO NO NO NO NO NO NO NO 3 Overhang NO NO NO NO NO NO NO NO NO OK OK NO NO NO NO NO NO NO 2 NO NO NO NO NO NO NO NO NO 20 < h <u><</u> 30 NO NO NO NO NO NO NO NO NO 3 2 Overhang NO NO NO NO NO NO NO NO NO 3 Overhang NO NO NO NO NO NO NO NO NO ОК NO NO NO NO NO NO NO NO 1 2 NO NO NO NO NO NO NO NO NO 3 30 < h <u><</u> 40 NO NO NO NO NO NO NO NO NO 2 Overhang NO NO NO NO NO NO NO NO NO 3 Overhang NO NO NO NO NO NO NO NO NO ОК 1 NO NO NO NO NO NO NO NO 2 NO NO NO NO NO NO NO NO NO 40 < h <u><</u> 50 3 NO NO NO NO NO NO NO NO NO 2 Overhang NO NO NO NO NO NO NO NO NO 3 Overhang NO NO NO NO NO NO NO NO NO

## Table A-1d: System No. 1: AstonWood, Stonecrest Slate or Stonecrest Tile (MDP = -22.5 psf) Exposure C for Slope Range 27° < slope < 45° (6.1:12 < pitch < 12:12)

Mean Roof Height (ft)	Roof Pressure Zone				Ultimate Des	ign Wind Spee	ed - V <sub>ult</sub> (mph)			
Weall KOOL Height (It)	Roof Pressure zone	110	115	120	130	140	150	160	180	200
	1	ОК	OK	OK	NO	NO	NO	NO	NO	NO
0 < h <u>&lt;</u> 15	2 & 3	OK	NO	NO	NO	NO	NO	NO	NO	NO
	2 & 3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	NO
15 < h <u>&lt;</u> 20 20 < h <u>&lt;</u> 30	1	OK	OK	NO	NO	NO	NO	NO	NO	NO
	2 & 3	NO	NO	NO	NO	NO	NO	NO	NO	NO
	2 & 3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	NO
	1	OK	NO	NO	NO	NO	NO	NO	NO	NO
	2 & 3	NO	NO	NO	NO	NO	NO	NO	NO	NO
	2 & 3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	NO

### Table A-1e: System No. 1: AstonWood, Stonecrest Slate or Stonecrest Tile (MDP = -22.5 psf) Exposure D for Slope Range 7° < slope < 27° (1.5:12 < pitch < 6.1:12)

Mean Roof Height (ft)	Roof Pressure Zone				Ultimate Des	ign Wind Spee	ed - V <sub>ult</sub> (mph)			
Weah Root Height (It)	Roof Pressure Zone	110	115	120	130	140	150	160	180	200
	1	OK	NO	NO	NO	NO	NO	NO	NO	NO
	2	NO	NO	NO	NO	NO	NO	NO	NO	NO
0 < h <u>&lt;</u> 15	3	NO	NO	NO	NO	NO	NO	NO	NO	NO
	2 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	NO
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	NO
	1	OK	NO	NO	NO	NO	NO	NO	NO	NO
	2	NO	NO	NO	NO	NO	NO	NO	NO	NO
15 < h <u>&lt;</u> 20	3	NO	NO	NO	NO	NO	NO	NO	NO	NO
	2 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	NO
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	NO

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### TABLE A-2: AstonWood, Stonecrest Slate or Stonecrest Tile WOOD DECKS - NEW CONSTRUCTION, REROOF (Tear-Off) Panel Attachment System Deck MDP Fire Barrier Underlay No. (psf) (See Note 1) Clips Clip Placement Fasteners One (1) positioned at the middle along the One (1) Min. 11 ga. x Five (5) 26 ga. x 1¼" wide x TW Metal & Tile (Optional) Min. 15/32" APA rated width at one end. min. 1½-inch ring 2-<sup>1</sup>/<sub>8</sub>" long "Standard -52.5 2. Underlayment or TW plywood shank nail (See Note See Note 2 Four (4) at upslope-edge spaced 3", 16", Tamko Clip" per shingle Underlayment 24" and 36" from right end. 9) per clip

## Table A-2a System No. 2: AstonWood, Stonecrest Slate or Stonecrest Tile (MDP = -52.5 psf) Exposure B for Slope Range 7° < slope < 27° (1.5:12 < pitch < 6.1:12)

Mean Deaf Llaight (ft)	Deef Dressure Zene				<b>Ultimate Des</b>	ign Wind Spee	ed - V <sub>ult</sub> (mph)			
Mean Roof Height (ft) 0 < h <u>&lt;</u> 30 30 < h <u>&lt;</u> 40	Roof Pressure Zone	110	115	120	130	140	150	160	180	200
	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2	OK	OK	OK	OK	OK	OK	OK	NO	NO
0 < h <u>&lt;</u> 30	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
	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2	OK	OK	OK	OK	OK	OK	NO	NO	NO
30 < h <u>&lt;</u> 40	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
	1	OK	OK	OK	OK	OK	OK	OK	OK	NO
	2	OK	OK	OK	OK	OK	NO	NO	NO	NO
40 < h <u>&lt;</u> 50	3	OK	OK	OK	NO	NO	NO	NO	NO	NO
	2 Overhang	OK	OK	OK	OK	NO	NO	NO	NO	NO
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	NO
	1	OK	OK	OK	OK	OK	OK	OK	OK	NO
	2	OK	OK	OK	OK	OK	NO	NO	NO	NO
50 < h <u>&lt;</u> 60	3	OK	OK	NO	NO	NO	NO	NO	NO	NO
	2 Overhang	OK	OK	OK	OK	NO	NO	NO	NO	NO
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	NO

## Table A-2b: System No. 2: AstonWood, Stonecrest Slate or Stonecrest Tile (MDP = -52.5 psf) Exposure B for Slope Range 27° < slope < 45° (6.1:12 < pitch < 12:12)

Mean Roof Height (ft)	Roof Pressure Zone				Ultimate Des	ign Wind Spee	ed - V <sub>ult</sub> (mph)			
Weah Root Height (It)	Roof Pressure zone	110	115	120	130	140	150	160	180	200
	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
0 < h <u>&lt;</u> 30	2 & 3	OK	OK	OK	OK	OK	OK	OK	OK	NO
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	NO	NO	NO
	1	OK	OK	OK	OK	OK	OK	OK	OK	NO
30 < h <u>&lt;</u> 40	2 & 3	ОК	OK	OK	OK	OK	OK	OK	OK	NO
	2 & 3 Overhang	ОК	OK	OK	OK	OK	NO	NO	NO	NO
	1	ОК	OK	OK	OK	OK	OK	OK	ОК	NO
40 < h <u>&lt;</u> 50	2 & 3	OK	OK	OK	OK	OK	OK	OK	NO	NO
	2 & 3 Overhang	OK	OK	OK	OK	OK	NO	NO	NO	NO
	1	ОК	OK	OK	OK	OK	OK	OK	OK	NO
50 < h <u>&lt;</u> 60	2 & 3	ОК	OK	OK	OK	OK	OK	OK	NO	NO
	2 & 3 Overhang	OK	OK	OK	OK	OK	NO	NO	NO	NO

					Ultimate Desi	gn Wind Spee	d - V <sub>ult</sub> (mph)			
Mean Roof Height (ft)	Roof Pressure Zone	110	115	120	130	140	150	160	180	1
	1	OK	ОК	OK	ОК	OK	ОК	ОК	OK	
	2	OK	OK	OK	OK	OK	NO	NO	NO	
0 < h <u>&lt;</u> 15	3	OK	OK	OK	NO	NO	NO	NO	NO	
	2 Overhang	OK	OK	OK	OK	NO	NO	NO	NO	
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	
	1	OK	OK	OK	OK	OK	OK	OK	OK	
	2	OK	OK	OK	OK	OK	NO	NO	NO	
15 < h <u>&lt;</u> 20	3	OK	OK	NO	NO	NO	NO	NO	NO	
	2 Overhang	OK	OK	OK	OK	NO	NO	NO	NO	
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	
	1	OK	OK	OK	OK	OK	OK	OK	NO	
20 < h <u>&lt;</u> 30	2	OK	OK	OK	OK	NO	NO	NO	NO	
	3	OK	NO	NO	NO	NO	NO	NO	NO	
	2 Overhang	OK	OK	OK	NO	NO	NO	NO	NO	
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	
	1	OK	OK	OK	OK	OK	OK	OK	NO	
	2	OK	OK	OK	OK	NO	NO	NO	NO	
30 < h <u>&lt;</u> 40	3	NO	NO	NO	NO	NO	NO	NO	NO	
	2 Overhang	OK	OK	OK	NO	NO	NO	NO	NO	
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	
	1	OK	ОК	OK	OK	OK	ОК	OK	NO	
	2	OK	ОК	OK	NO	NO	NO	NO	NO	
40 < h <u>&lt;</u> 50	3	NO	NO	NO	NO	NO	NO	NO	NO	
	2 Overhang	OK	OK	NO	NO	NO	NO	NO	NO	
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	
	1	OK	OK	OK	OK	OK	OK	OK	NO	
	2	OK	OK	OK	NO	NO	NO	NO	NO	
50 < h <u>&lt;</u> 60	3	NO	NO	NO	NO	NO	NO	NO	NO	
	2 Overhang	OK	ОК	NO	NO	NO	NO	NO	NO	
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	

# Table A-2d: System No. 2: AstonWood, Stonecrest Slate or Stonecrest Tile (MDP = -52.5 psf) Exposure C for Slope Range 27° < slope <a href="https://www.slope.com">slope <a href="https://www.slope.com"/>slope.com"/>slope.com</a> (bottop://www.slope.com</a> (bottop://wwww.slope.com</a> (bottop://www.slope.com</a> (bottop://www.slope.

Mean Roof Height (ft)	Roof Pressure Zone				Ultimate Desi	ign Wind Spee	ed - V <sub>ult</sub> (mph)			
Weah Root Height (It)	Roof Pressure Zone	110	115	120	130	140	150	160	180	200
	1	OK	OK	OK	OK	OK	OK	OK	OK	NO
0 < h <u>&lt;</u> 15	2&3	OK	OK	OK	OK	OK	OK	OK	NO	NO
	2 & 3 Overhang	OK	OK	OK	OK	OK	NO	NO	NO	NO
	1	OK	OK	OK	OK	OK	OK	OK	NO	NO
15 < h <u>&lt;</u> 20	2 & 3	OK	OK	OK	OK	OK	OK	OK	NO	NO
	2 & 3 Overhang	OK	OK	OK	OK	NO	NO	NO	NO	NO
	1	OK	OK	OK	OK	OK	OK	OK	NO	NO
20 < h <u>&lt;</u> 30	2&3	OK	OK	OK	OK	OK	OK	NO	NO	NO
	2 & 3 Overhang	OK	OK	OK	OK	NO	NO	NO	NO	NO
	1	OK	OK	OK	OK	OK	OK	OK	NO	NO
30 < h <u>&lt;</u> 40	2&3	OK	OK	OK	OK	OK	OK	NO	NO	NO
	2 & 3 Overhang	OK	OK	OK	NO	NO	NO	NO	NO	NO
	1	OK	OK	OK	OK	OK	OK	OK	NO	NO
40 < h <u>&lt;</u> 50	2 & 3	OK	OK	OK	OK	OK	OK	NO	NO	NO
<u>40 &lt; 11 <u>&lt;</u> 50</u>	2 & 3 Overhang	OK	OK	OK	NO	NO	NO	NO	NO	NO
	1	OK	OK	OK	OK	OK	OK	NO	NO	NO
50 < h <u>&lt;</u> 60	2 & 3	OK	OK	OK	OK	OK	NO	NO	NO	NO
	2 & 3 Overhang	OK	OK	OK	NO	NO	NO	NO	NO	NO

Manue Dane ( Uninha (fa)	De of Decourse Zone				Ultimate Des	ign Wind Spe	ed - V <sub>ult</sub> (mph)			
Mean Roof Height (ft)	Roof Pressure Zone	110	115	120	130	140	150	160	180	2
	1	OK	OK	ОК	ОК	ОК	ОК	OK	NO	١
	2	OK	OK	OK	OK	NO	NO	NO	NO	1
0 < h <u>&lt;</u> 15	3	NO	NO	NO	NO	NO	NO	NO	NO	1
	2 Overhang	OK	OK	ОК	NO	NO	NO	NO	NO	1
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	1
	1	OK	OK	OK	OK	OK	OK	OK	NO	1
	2	OK	OK	OK	NO	NO	NO	NO	NO	1
15 < h <u>&lt;</u> 20	3	NO	NO	NO	NO	NO	NO	NO	NO	1
	2 Overhang	OK	OK	NO	NO	NO	NO	NO	NO	l
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	1
	1	OK	OK	OK	OK	OK	OK	OK	NO	1
20 < h <u>&lt;</u> 30	2	OK	OK	OK	NO	NO	NO	NO	NO	1
	3	NO	NO	NO	NO	NO	NO	NO	NO	1
	2 Overhang	OK	OK	NO	NO	NO	NO	NO	NO	1
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	1
	1	OK	OK	ОК	ОК	ОК	OK	OK	NO	1
	2	OK	OK	ОК	NO	NO	NO	NO	NO	1
30 < h <u>&lt;</u> 40	3	NO	NO	NO	NO	NO	NO	NO	NO	1
	2 Overhang	OK	NO	NO	NO	NO	NO	NO	NO	1
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	1
	1	OK	OK	ОК	ОК	ОК	ОК	NO	NO	1
	2	OK	OK	NO	NO	NO	NO	NO	NO	I
40 < h <u>&lt;</u> 50	3	NO	NO	NO	NO	NO	NO	NO	NO	1
	2 Overhang	OK	NO	NO	NO	NO	NO	NO	NO	I
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	1
	1	OK	OK	ОК	ОК	ОК	ОК	NO	NO	1
	2	ОК	OK	NO	NO	NO	NO	NO	NO	1
50 < h <u>&lt;</u> 60	3	NO	NO	NO	NO	NO	NO	NO	NO	1
	2 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	N
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	٦

# Table A-2f: System No. 2: AstonWood, Stonecrest Slate or Stonecrest Tile (MDP = -52.5 psf) Exposure D for Slope Range $27^{\circ}$ < slope $\leq$ 45° (6.1:12 < pitch $\leq$ 12:12)

Mean Roof Height (ft)	Roof Pressure Zone				Ultimate Desi	ign Wind Spee	ed - V <sub>ult</sub> (mph)			
Mean Roof Height (ft)	Roof Pressure Zone	110	115	120	130	140	150	160	180	200
	1	OK	OK	OK	OK	OK	OK	OK	NO	NO
0 < h <u>&lt;</u> 15	2 & 3	OK	OK	OK	OK	OK	OK	NO	NO	NO
	2 & 3 Overhang	OK	OK	OK	NO	NO	NO	NO	NO	NO
	1	OK	OK	OK	OK	OK	OK	OK	NO	NO
15 < h <u>&lt;</u> 20	2 & 3	OK	OK	OK	OK	OK	OK	NO	NO	NO
	2 & 3 Overhang	OK	OK	OK	NO	NO	NO	NO	NO	NO
	1	OK	OK	OK	OK	OK	OK	NO	NO	NO
20 < h <u>&lt;</u> 30	2 & 3	OK	OK	OK	OK	OK	NO	NO	NO	NO
	2 & 3 Overhang	OK	OK	OK	NO	NO	NO	NO	NO	NO
	1	OK	OK	OK	OK	OK	OK	NO	NO	NO
30 < h <u>&lt;</u> 40	2 & 3	OK	OK	OK	OK	OK	NO	NO	NO	NO
	2 & 3 Overhang	OK	OK	NO	NO	NO	NO	NO	NO	NO
	1	OK	OK	OK	OK	OK	OK	NO	NO	NO
40 < h <u>&lt;</u> 50	2 & 3	OK	OK	OK	OK	NO	NO	NO	NO	NO
	2 & 3 Overhang	OK	OK	NO	NO	NO	NO	NO	NO	NC
	1	OK	OK	OK	OK	OK	NO	NO	NO	NO
50 < h <u>&lt;</u> 60	2 & 3	OK	OK	OK	OK	NO	NO	NO	NO	NO
	2 & 3 Overhang	OK	NO	NO	NO	NO	NO	NO	NO	NO

# 

MDP

(psf)

-60.0

### TABLE A-3: AstonWood, Stonecrest Slate or Stonecrest Tile WOOD DECKS - NEW CONSTRUCTION, REROOF (Tear-Off) Panel Attachment System Deck Fire Barrier Underlay No. (See Note 1) Clips **Clip Placement** Fasteners One (1) positioned at the middle Five (5) 26 ga. x 1¼" wide x TW Metal & Tile (Optional) Min. 15/32" APA rated along the width at one end. One (1) #10-8 x min. 1-inch 3. Underlayment or 2-1/8" long "Standard plywood screw (See Note 9) per clip See Note 2 Four (4) at upslope-edge spaced 3", Tamko Clip" per shingle TW Underlayment 16", 24" and 36" from right end.

## Table A-3a: System No. 3: AstonWood, Stonecrest Slate or Stonecrest Tile (MDP = -60.0 psf) Exposure B for Slope Range $7^{\circ}$ < slope $\leq 27^{\circ}$ (1.5:12 < pitch $\leq 6.1:12$ )

Maan Doof Height (ft)	Boof Dressure Zene				Ultimate Des	ign Wind Spee	ed - V <sub>ult</sub> (mph)			
Mean Roof Height (ft)	Roof Pressure Zone	110	115	120	130	140	150	160	180	200
	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2	OK	OK	OK	OK	OK	OK	OK	NO	NO
0 < h <u>&lt;</u> 30	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
	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2	OK	OK	OK	OK	OK	OK	OK	NO	NO
30 < h <u>&lt;</u> 40	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
	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2	OK	OK	OK	OK	OK	OK	NO	NO	NO
40 < h <u>&lt;</u> 50	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
	1	OK	OK	OK	ОК	OK	OK	ОК	OK	OK
	2	OK	OK	OK	ОК	OK	OK	NO	NO	NO
50 < h <u>&lt;</u> 60	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 A-3b: System No. 3: AstonWood, Stonecrest Slate or Stonecrest Tile (MDP = -60.0 psf) Exposure B for Slope Range 27° < slope < 45° (6.1:12 < pitch < 12:12)

Meen Deef Height (ft)	Roof Pressure Zone				Ultimate Desi	ign Wind Spee	ed - V <sub>ult</sub> (mph)			
Mean Roof Height (ft)	Roof Pressure Zone	110	115	120	130	140	150	160	180	200
	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
0 < h <u>&lt;</u> 30	2 & 3	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	OK	NO	NO
	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
30 < h <u>&lt;</u> 40	2 & 3	OK	OK	OK	OK	OK	OK	OK	OK	NO
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	NO	NO	NO
	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
40 < h <u>&lt;</u> 50	2 & 3	OK	OK	OK	OK	OK	OK	OK	OK	NO
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	NO	NO	NO
	1	OK	OK	OK	OK	OK	OK	OK	OK	NO
50 < h <u>&lt;</u> 60	2 & 3	OK	OK	OK	OK	OK	OK	OK	OK	NO
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	NO	NO	NO

Mean Roof Height (ft) 0 < h ≤ 15 15 < h ≤ 20	Roof Pressure Zone 1 2 3 2 Overhang 3 Overhang 1 2 3 2 Overhang 3 Overhang 3 Overhang 3 Overhang 3 Overhang 3 Overhang	110 OK OK OK OK OK OK OK OK NO	115 ОК ОК ОК ОК ОК ОК	120 OK OK OK NO OK OK OK	130 OK NO OK NO OK OK NO	140 OK OK NO OK NO OK OK	150 OK OK NO NO OK OK	160 OK NO NO NO OK NO	180 OK NO NO NO OK	
	2 3 2 Overhang 3 Overhang 1 2 3 2 Overhang 3 Overhang	ОК ОК ОК ОК ОК ОК ОК	ОК ОК ОК ОК ОК ОК	OK OK NO OK OK	OK NO OK NO OK OK	OK NO OK NO OK OK	OK NO NO OK OK	NO NO NO NO OK	NO NO NO NO OK	
	3 2 Overhang 3 Overhang 1 2 3 2 Overhang 3 Overhang	ОК ОК ОК ОК ОК ОК	OK OK NO OK OK	OK OK OK OK OK	NO OK NO OK OK	NO OK NO OK OK	NO NO NO OK OK	NO NO NO OK	NO NO NO OK	
	2 Overhang 3 Overhang 1 2 3 2 Overhang 3 Overhang	ОК ОК ОК ОК ОК	OK NO OK OK OK	OK NO OK OK OK	OK NO OK OK	OK NO OK OK	NO NO OK OK	NO NO OK	NO NO OK	
15 < h <u>&lt;</u> 20	3 Overhang 1 2 3 2 Overhang 3 Overhang	OK OK OK OK	NO OK OK OK	NO OK OK OK	NO OK OK	NO OK OK	NO OK OK	NO OK	NO OK	
15 < h <u>&lt;</u> 20	1 2 3 2 Overhang 3 Overhang	OK OK OK OK	OK OK OK	OK OK OK	OK OK	OK OK	OK OK	ОК	ОК	
15 < h <u>&lt;</u> 20	2 3 2 Overhang 3 Overhang	OK OK OK	OK OK	OK OK	OK	ОК	ОК	-	_	
15 < h <u>&lt;</u> 20	3 2 Overhang 3 Overhang	OK OK	OK	OK	÷	-	_	NO	NO	_
15 < h <u>&lt;</u> 20	2 Overhang 3 Overhang	OK	-	-	NO					
	3 Overhang	-	OK			NO	NO	NO	NO	
	0	NO		OK	OK	OK	NO	NO	NO	
-		NO	NO	NO	NO	NO	NO	NO	NO	
	1	OK	OK	OK	OK	OK	OK	OK	OK	
	2	OK	OK	OK	OK	OK	NO	NO	NO	
20 < h <u>&lt;</u> 30	3	OK	OK	NO	NO	NO	NO	NO	NO	
	2 Overhang	OK	OK	OK	OK	NO	NO	NO	NO	
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	
	1	OK	OK	OK	OK	OK	OK	OK	OK	
	2	OK	OK	OK	OK	OK	NO	NO	NO	
30 < h <u>&lt;</u> 40	3	OK	OK	NO	NO	NO	NO	NO	NO	
	2 Overhang	OK	OK	OK	OK	NO	NO	NO	NO	
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	
	1	OK	OK	OK	OK	OK	OK	OK	OK	
	2	OK	OK	OK	OK	NO	NO	NO	NO	
40 < h <u>&lt;</u> 50	3	OK	NO	NO	NO	NO	NO	NO	NO	
	2 Overhang	OK	OK	OK	NO	NO	NO	NO	NO	
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	
	1	OK	OK	OK	OK	OK	OK	OK	NO	
	2	OK	OK	OK	OK	NO	NO	NO	NO	
50 < h <u>&lt;</u> 60	3	OK	NO	NO	NO	NO	NO	NO	NO	

# Table A-3d: System No. 3: AstonWood, Stonecrest Slate or Stonecrest Tile (MDP = -60.0 psf)Exposure C for Slope Range $27^{\circ} < slope \leq 45^{\circ}$ (6.1:12 < pitch $\leq$ 12:12)

Mean Roof Height (ft)	Roof Pressure Zone				Ultimate Des	ign Wind Spee	d - V <sub>ult</sub> (mph)			
Mean Root Height (It)	Roof Pressure Zone	110	115	120	130	140	150	160	180	200
	1	OK	OK	OK	OK	OK	OK	OK	OK	NO
0 < h <u>&lt;</u> 15	2&3	OK	OK	OK	OK	OK	OK	OK	OK	NO
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	NO	NO	NO
	1	OK	OK	OK	OK	OK	OK	OK	OK	NO
15 < h <u>&lt;</u> 20	2&3	OK	OK	OK	OK	OK	OK	OK	NO	NO
	2 & 3 Overhang	ОК	OK	OK	OK	ОК	NO	NO	NO	NO
	1	OK	OK	OK	OK	OK	OK	OK	OK	NO
20 < h <u>&lt;</u> 30	2&3	OK	OK	OK	OK	OK	OK	OK	NO	NO
	2 & 3 Overhang	OK	OK	OK	OK	OK	NO	NO	NO	NO
	1	OK	OK	OK	OK	OK	OK	OK	NO	NO
30 < h <u>&lt;</u> 40	2&3	OK	OK	OK	OK	OK	OK	OK	NO	NO
	2 & 3 Overhang	OK	OK	OK	OK	NO	NO	NO	NO	NO
	1	OK	OK	OK	OK	OK	OK	OK	NO	NO
40 < h <u>&lt;</u> 50	2 & 3	OK	OK	OK	OK	OK	OK	OK	NO	NO
	2 & 3 Overhang	OK	OK	OK	OK	NO	NO	NO	NO	NO
	1	OK	OK	OK	OK	ОК	OK	OK	NO	NO
50 < h <u>&lt;</u> 60	2 & 3	ОК	OK	OK	OK	ОК	OK	NO	NO	NO
	2 & 3 Overhang	OK	OK	OK	OK	NO	NO	NO	NO	NO

Mean Roof Height (ft)	Roof Pressure Zone				Ultimate Des	ign Wind Spee	ed - V <sub>ult</sub> (mph)			
Mean Kool Height (It)	Roof Plessure zone	110	115	120	130	140	150	160	180	
	1	OK	OK	OK	OK	OK	OK	OK	OK	
	2	OK	ОК	OK	OK	OK	NO	NO	NO	
0 < h <u>&lt;</u> 15	3	OK	ОК	NO	NO	NO	NO	NO	NO	
	2 Overhang	OK	ОК	OK	OK	NO	NO	NO	NO	
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	
	1	OK	OK	OK	OK	OK	ОК	OK	OK	
	2	OK	OK	OK	OK	NO	NO	NO	NO	
15 < h <u>&lt;</u> 20	3	OK	NO	NO	NO	NO	NO	NO	NO	
	2 Overhang	OK	OK	OK	NO	NO	NO	NO	NO	
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	
	1	OK	OK	OK	OK	OK	OK	OK	NO	
	2	OK	OK	OK	OK	NO	NO	NO	NO	
20 < h <u>&lt;</u> 30	3	NO	NO	NO	NO	NO	NO	NO	NO	
	2 Overhang	OK	OK	OK	NO	NO	NO	NO	NO	
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	
	1	OK	OK	OK	OK	OK	OK	OK	NO	
	2	OK	OK	OK	OK	NO	NO	NO	NO	
30 < h <u>&lt;</u> 40	3	NO	NO	NO	NO	NO	NO	NO	NO	
	2 Overhang	OK	ОК	OK	NO	NO	NO	NO	NO	
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	
	1	OK	OK	OK	OK	OK	OK	OK	NO	
	2	OK	OK	OK	NO	NO	NO	NO	NO	
40 < h <u>&lt;</u> 50	3	NO	NO	NO	NO	NO	NO	NO	NO	
	2 Overhang	OK	OK	NO	NO	NO	NO	NO	NO	
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	
	1	OK	OK	OK	OK	OK	OK	OK	NO	
	2	OK	OK	OK	NO	NO	NO	NO	NO	
50 < h <u>&lt;</u> 60	3	NO	NO	NO	NO	NO	NO	NO	NO	
	2 Overhang	OK	OK	NO	NO	NO	NO	NO	NO	1
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	1

# Table A-3f: System No. 3: AstonWood, Stonecrest Slate or Stonecrest Tile (MDP = -60.0 psf) Exposure D for Slope Range $27^{\circ}$ < slope $\leq$ 45° (6.1:12 < pitch $\leq$ 12:12)

Maan Doof Usight (ft)	Boof Drossura Zono				Ultimate Des	ign Wind Spee	ed - V <sub>ult</sub> (mph)			
Mean Roof Height (ft)	Roof Pressure Zone	110	115	120	130	140	150	160	180	200
	1	OK	OK	OK	OK	OK	OK	OK	NO	NC
0 < h <u>&lt;</u> 15	2 & 3	OK	OK	OK	OK	OK	OK	OK	NO	NC
	2 & 3 Overhang	OK	OK	OK	OK	NO	NO	NO	NO	NC
	1	OK	OK	OK	OK	OK	OK	OK	NO	NC
15 < h <u>&lt;</u> 20	2 & 3	OK	OK	OK	OK	OK	OK	OK	NO	NC
	2 & 3 Overhang	OK	OK	OK	OK	NO	NO	NO	NO	NO
	1	OK	OK	OK	OK	OK	OK	OK	NO	NO
20 < h <u>&lt;</u> 30	2 & 3	OK	OK	OK	OK	OK	OK	NO	NO	N
	2 & 3 Overhang	OK	OK	OK	NO	NO	NO	NO	NO	N
	1	OK	OK	OK	OK	OK	OK	OK	NO	NO
30 < h <u>&lt;</u> 40	2 & 3	OK	OK	OK	OK	OK	OK	NO	NO	N
	2 & 3 Overhang	OK	OK	OK	NO	NO	NO	NO	NO	NO
	1	OK	OK	OK	OK	OK	OK	OK	NO	NO
40 < h <u>&lt;</u> 50	2 & 3	OK	OK	OK	OK	OK	NO	NO	NO	N
	2 & 3 Overhang	OK	OK	OK	NO	NO	NO	NO	NO	N
	1	OK	OK	OK	OK	OK	OK	NO	NO	N
50 < h <u>&lt;</u> 60	2 & 3	OK	OK	OK	OK	OK	NO	NO	NO	N
	2 & 3 Overhang	OK	OK	OK	NO	NO	NO	NO	NO	NC



	: AstonWood, Stonecre CKS - NEW CONSTRUCT						
System	Deck	Fire Barrier	Underlay		Panel Attachment		MDP
No.	(See Note 1)	Fire Barrier	Onderlay	Clips	Clip Placement	Fasteners	(psf)
4.	Min. 15/32" APA rated plywood	(Optional) See Note 2	Minimum ASTM D226, Type II or FBC Approved equivalent or TW Metal & Tile Underlayment or TW Underlayment	Five (5) 26 ga. x 1½" wide x 2- <sup>1</sup> / <sub>8</sub> " long "Standard Tamko Clip" per shingle	One (1) positioned at the middle along the width at one end. Four (4) at upslope-edge spaced 4", 11", 26" and 37" from right end.	One (1) #10-8 x min. 1½- inch screw (See Note 9) per clip	-60.0

	Roof Pressure Zone				Ultimate Des	ign Wind Spee	ed - V <sub>ult</sub> (mph)			
Mean Roof Height (ft)	Roof Pressure Zone	110	115	120	130	140	150	160	180	20
	1	OK	OK	OK	ОК	OK	OK	OK	ОК	C
	2	OK	OK	OK	OK	OK	OK	OK	NO	N
0 < h <u>&lt;</u> 30	3	OK	OK	OK	OK	OK	NO	NO	NO	N
	2 Overhang	OK	OK	OK	OK	OK	OK	NO	NO	N
	3 Overhang	OK	OK	OK	NO	NO	NO	NO	NO	N
	1	OK	OK	OK	OK	OK	OK	OK	OK	0
	2	OK	OK	OK	OK	OK	OK	OK	NO	N
30 < h <u>&lt;</u> 40	3	OK	OK	OK	OK	NO	NO	NO	NO	N
	2 Overhang	OK	OK	OK	OK	OK	OK	NO	NO	N
	3 Overhang	OK	OK	NO	NO	NO	NO	NO	NO	N
	1	OK	OK	OK	OK	OK	OK	OK	OK	C
	2	OK	OK	OK	OK	OK	OK	NO	NO	N
40 < h <u>&lt;</u> 50	3	OK	OK	OK	OK	NO	NO	NO	NO	N
	2 Overhang	OK	OK	OK	OK	OK	NO	NO	NO	N
	3 Overhang	OK	NO	NO	NO	NO	NO	NO	NO	N
	1	OK	OK	OK	OK	OK	OK	OK	OK	C
	2	OK	OK	OK	OK	OK	OK	NO	NO	N
50 < h <u>&lt;</u> 60	3	OK	OK	OK	NO	NO	NO	NO	NO	N
	2 Overhang	OK	OK	OK	OK	OK	NO	NO	NO	N
	3 Overhang	OK	NO	NO	NO	NO	NO	NO	NO	N

# Table B-1b: System No. 4: AstonWood, Stonecrest Slate or Stonecrest Tile (MDP = -60.0 psf) Exposure B for Slope Range 27° < slope $\leq$ 45° (6.1:12 < pitch $\leq$ 12:12)

Mean Roof Height (ft)	Roof Pressure Zone				Ultimate Des	ign Wind Spee	ed - V <sub>ult</sub> (mph)			
Weall Kool Height (It)	Roof Pressure zone	110	115	120	130	140	150	160	180	200
	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
0 < h <u>&lt;</u> 30	2 & 3	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	OK	NO	NO
	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
30 < h <u>&lt;</u> 40	2 & 3	OK	OK	OK	OK	OK	OK	OK	OK	NO
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	NO	NO	NO
	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
40 < h <u>&lt;</u> 50	2 & 3	OK	OK	OK	OK	OK	OK	OK	OK	NO
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	NO	NO	NO
	1	OK	OK	OK	OK	OK	OK	OK	OK	NO
50 < h <u>&lt;</u> 60	2 & 3	OK	OK	OK	OK	OK	OK	OK	OK	NO
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	NO	NO	NO

					Ultimate Des	ign Wind Spe	ed - V <sub>ult</sub> (mph)			
Mean Roof Height (ft)	Roof Pressure Zone	110	115	120	130	140	150	160	180	2
	1	OK	OK	OK	OK	ОК	OK	OK	ОК	(
	2	OK	OK	OK	OK	OK	OK	NO	NO	
0 < h <u>&lt;</u> 15	3	OK	OK	OK	NO	NO	NO	NO	NO	
	2 Overhang	OK	OK	OK	OK	OK	NO	NO	NO	
	3 Overhang	OK	NO	NO	NO	NO	NO	NO	NO	
	1	OK	OK	OK	OK	OK	OK	OK	OK	
	2	OK	OK	OK	OK	OK	OK	NO	NO	
15 < h <u>&lt;</u> 20	3	OK	OK	OK	NO	NO	NO	NO	NO	
	2 Overhang	OK	OK	OK	OK	ОК	NO	NO	NO	
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	
	1	OK	OK	OK	OK	ОК	OK	OK	ОК	
	2	OK	OK	OK	OK	ОК	NO	NO	NO	
20 < h <u>&lt;</u> 30	3	OK	OK	NO	NO	NO	NO	NO	NO	
	2 Overhang	OK	OK	OK	OK	NO	NO	NO	NO	
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	
	1	OK	OK	OK	OK	ОК	OK	OK	ОК	
	2	OK	OK	OK	OK	ОК	NO	NO	NO	
30 < h <u>&lt;</u> 40	3	OK	OK	NO	NO	NO	NO	NO	NO	
	2 Overhang	OK	OK	OK	OK	NO	NO	NO	NO	
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	
	1	OK	OK	OK	OK	OK	OK	OK	OK	
	2	OK	OK	OK	OK	NO	NO	NO	NO	
40 < h <u>&lt;</u> 50	3	OK	NO	NO	NO	NO	NO	NO	NO	
	2 Overhang	OK	OK	OK	NO	NO	NO	NO	NO	
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	
	1	OK	OK	OK	OK	ОК	OK	OK	NO	
	2	OK	OK	OK	OK	NO	NO	NO	NO	
50 < h <u>&lt;</u> 60	3	OK	NO	NO	NO	NO	NO	NO	NO	
	2 Overhang	OK	OK	OK	NO	NO	NO	NO	NO	l
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	1

# Table B-1d: System No. 4: AstonWood, Stonecrest Slate or Stonecrest Tile (MDP = -60.0 psf) Exposure C for Slope Range $27^{\circ}$ < slope $\leq$ 45° (6.1:12 < pitch $\leq$ 12:12)

Mean Roof Height (ft)	Roof Pressure Zone				Ultimate Des	ign Wind Spee	d - V <sub>ult</sub> (mph)			
Mean Root Height (It)	Roof Pressure Zone	110	115	120	130	140	150	160	180	200
	1	OK	OK	OK	OK	OK	OK	OK	OK	NO
0 < h <u>&lt;</u> 15	2&3	OK	OK	OK	OK	OK	OK	OK	OK	NO
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	NO	NO	NO
	1	OK	OK	OK	OK	OK	OK	OK	OK	NO
15 < h <u>&lt;</u> 20	2&3	OK	OK	OK	OK	OK	OK	OK	NO	NO
	2 & 3 Overhang	ОК	OK	OK	OK	ОК	NO	NO	NO	NO
	1	OK	OK	OK	OK	OK	OK	OK	OK	NO
20 < h <u>&lt;</u> 30	2&3	OK	OK	OK	OK	OK	OK	OK	NO	NO
	2 & 3 Overhang	OK	OK	OK	OK	OK	NO	NO	NO	NO
	1	OK	OK	OK	OK	OK	OK	OK	NO	NO
30 < h <u>&lt;</u> 40	2&3	OK	OK	OK	OK	OK	OK	OK	NO	NO
	2 & 3 Overhang	OK	OK	OK	OK	NO	NO	NO	NO	NO
	1	OK	OK	OK	OK	OK	OK	OK	NO	NO
40 < h <u>&lt;</u> 50	2 & 3	OK	OK	OK	OK	OK	OK	OK	NO	NO
	2 & 3 Overhang	OK	OK	OK	OK	NO	NO	NO	NO	NO
	1	OK	OK	OK	OK	ОК	OK	OK	NO	NO
50 < h <u>&lt;</u> 60	2 & 3	ОК	OK	OK	OK	ОК	OK	NO	NO	NO
	2 & 3 Overhang	OK	OK	OK	OK	NO	NO	NO	NO	NO

Mean Roof Height (ft)	Roof Pressure Zone	Ultimate Design Wind Speed - V <sub>ult</sub> (mph)									
Mean Koor Height (It)	Roof Plessure zone	110	115	120	130	140	150	160	180	2	
	1	OK	OK	OK	OK	OK	OK	OK	OK	1	
	2	OK	OK	OK	OK	OK	NO	NO	NO	I	
0 < h <u>&lt;</u> 15	3	OK	OK	NO	NO	NO	NO	NO	NO		
	2 Overhang	OK	ОК	OK	OK	NO	NO	NO	NO	1	
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	I	
	1	OK	OK	OK	OK	OK	OK	OK	OK	I	
	2	OK	OK	OK	OK	NO	NO	NO	NO	1	
15 < h <u>&lt;</u> 20	3	OK	NO	l							
	2 Overhang	OK	OK	OK	NO	NO	NO	NO	NO	I	
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	I	
	1	OK	ОК	OK	OK	OK	ОК	ОК	NO	I	
	2	OK	ОК	OK	OK	NO	NO	NO	NO	1	
20 < h <u>&lt;</u> 30	3	NO	NO	NO	NO	NO	NO	NO	NO	I	
	2 Overhang	OK	OK	OK	NO	NO	NO	NO	NO	I	
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	I	
	1	OK	OK	OK	OK	OK	OK	OK	NO	1	
	2	OK	OK	OK	OK	NO	NO	NO	NO	1	
30 < h <u>&lt;</u> 40	3	NO	NO	NO	NO	NO	NO	NO	NO	I	
	2 Overhang	OK	ОК	OK	NO	NO	NO	NO	NO	1	
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	1	
	1	OK	OK	OK	OK	OK	OK	OK	NO	I	
	2	OK	OK	OK	NO	NO	NO	NO	NO	I	
40 < h <u>&lt;</u> 50	3	NO	NO	NO	NO	NO	NO	NO	NO	I	
	2 Overhang	OK	OK	NO	NO	NO	NO	NO	NO	I	
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	1	
	1	OK	OK	OK	OK	OK	OK	OK	NO	1	
	2	OK	ОК	OK	NO	NO	NO	NO	NO	1	
50 < h <u>&lt;</u> 60	3	NO	NO	NO	NO	NO	NO	NO	NO	1	
	2 Overhang	OK	ОК	NO	NO	NO	NO	NO	NO	Ν	
	3 Overhang	NO	NO	NO	NO	NO	NO	NO	NO	Ν	

# Table B-1f: System No. 4: AstonWood, Stonecrest Slate or Stonecrest Tile (MDP = -60.0 psf) Exposure D for Slope Range $27^{\circ}$ < slope $\leq$ 45° (6.1:12 < pitch $\leq$ 12:12)

Mean Roof Height (ft)	Roof Pressure Zone				Ultimate Des	ign Wind Spee	ed - V <sub>ult</sub> (mph)			
wean Root Height (ft)	Root Pressure Zone	110	115	120	130	140	150	160	180	200
	1	OK	OK	OK	OK	OK	OK	OK	NO	NC
0 < h <u>&lt;</u> 15	2 & 3	OK	OK	OK	OK	OK	OK	OK	NO	NC
	2 & 3 Overhang	OK	OK	OK	OK	NO	NO	NO	NO	NC
	1	OK	OK	OK	OK	OK	OK	OK	NO	NC
15 < h <u>&lt;</u> 20	2 & 3	OK	OK	OK	OK	OK	OK	OK	NO	NC
	2 & 3 Overhang	OK	OK	OK	OK	NO	NO	NO	NO	NC
	1	OK	OK	OK	OK	OK	OK	OK	NO	NC
20 < h <u>&lt;</u> 30	2 & 3	OK	OK	OK	OK	OK	OK	NO	NO	NC
	2 & 3 Overhang	OK	OK	OK	NO	NO	NO	NO	NO	NO
	1	OK	OK	OK	OK	OK	OK	OK	NO	NC
30 < h <u>&lt;</u> 40	2 & 3	OK	OK	OK	OK	OK	OK	NO	NO	NC
	2 & 3 Overhang	OK	OK	OK	NO	NO	NO	NO	NO	NC
	1	OK	OK	OK	OK	OK	OK	OK	NO	NC
40 < h <u>&lt;</u> 50	2 & 3	OK	OK	OK	OK	OK	NO	NO	NO	NC
	2 & 3 Overhang	OK	OK	OK	NO	NO	NO	NO	NO	NC
	1	OK	OK	OK	OK	OK	OK	NO	NO	NC
50 < h <u>&lt;</u> 60	2 & 3	OK	OK	OK	OK	OK	NO	NO	NO	NC
	2 & 3 Overhang	OK	OK	OK	NO	NO	NO	NO	NO	NC



	: AstonWood, Stonecre CKS - NEW CONSTRUCT						
System	Deck	Fire Barrier	Underlay		Panel Attachment		MDP
No.	(See Note 1)	Fire Barrier	Underlay	Clips	Clip Placement	Fasteners	(psf)
5.	Min. 15/32" APA rated plywood	(Optional) See Note 2	TW Metal & Tile Underlayment or TW Underlayment	Five (5) 26 ga. x 1¼" wide x 2 <sup>-1</sup> / <sub>8</sub> " long "Standard Tamko Clip" per shingle	One (1) positioned at the middle along the width at one end. Four (4) at upslope-edge spaced 4", 11", 26" and 37" from right end.	One (1) #10-8 x min. 1½- inch screw (See Note 9) per clip	-99.0

### Table B-2a: System No. 5: AstonWood, Stonecrest Slate or Stonecrest Tile (MDP = -99.0 psf) Exposure B for Slope Range 7° < slope < 27° (1.5:12 < pitch < 6.1:12)

Mean Roof Height (ft)	Roof Pressure Zone				Ultimate Des	ign Wind Spee	ed - V <sub>ult</sub> (mph)			
Weah Kool Height (It)	Roof Pressure zone	110	115	120	130	140	150	160	180	20
	1	OK	OK	OK	OK	OK	OK	OK	OK	OI
	2	OK	OK	OK	OK	OK	OK	OK	OK	0
0 < h <u>&lt;</u> 30	3	OK	OK	OK	OK	OK	OK	OK	OK	N
-	2 Overhang	OK	OK	OK	OK	OK	OK	OK	OK	0
	3 Overhang	OK	OK	OK	OK	OK	OK	NO	NO	N
	1	OK	OK	OK	OK	OK	OK	OK	OK	0
	2	OK	OK	OK	OK	OK	OK	OK	OK	0
30 < h <u>&lt;</u> 40	3	OK	OK	OK	OK	OK	OK	OK	NO	N
	2 Overhang	OK	OK	OK	OK	OK	OK	OK	OK	N
	3 Overhang	OK	OK	OK	OK	OK	OK	NO	NO	N
	1	OK	OK	OK	OK	OK	OK	OK	OK	0
	2	OK	OK	OK	OK	OK	OK	OK	OK	0
40 < h <u>&lt;</u> 50	3	OK	OK	OK	OK	OK	OK	OK	NO	N
	2 Overhang	OK	OK	OK	OK	OK	OK	OK	OK	N
	3 Overhang	OK	OK	OK	OK	OK	NO	NO	NO	N
	1	OK	OK	OK	OK	OK	OK	OK	OK	0
50 < h <u>&lt;</u> 60	2	OK	OK	OK	OK	OK	OK	OK	OK	0
	3	OK	OK	OK	OK	OK	OK	OK	NO	N
	2 Overhang	OK	OK	OK	OK	OK	ОК	OK	OK	N
	3 Overhang	OK	OK	OK	OK	OK	NO	NO	NO	NC

Mean Roof Height (ft)	Roof Pressure Zone		Ultimate Design Wind Speed - V <sub>ult</sub> (mph)									
Weah Root Height (It)	Root Pressure Zone	110	115	120	130	140	150	160	180	200		
	1	OK	OK	OK	OK	OK	OK	OK	OK	OK		
0 < h <u>&lt;</u> 30	2 & 3	OK	OK	OK	OK	OK	OK	OK	OK	OK		
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	OK	OK	OK		
	1	OK	OK	OK	OK	OK	OK	OK	OK	OK		
30 < h <u>&lt;</u> 40	2 & 3	OK	OK	OK	OK	OK	OK	OK	OK	OK		
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	OK	OK	OK		
	1	ОК	OK	OK	OK	OK	OK	OK	OK	OK		
40 < h <u>&lt;</u> 50	2 & 3	ОК	OK	OK	OK	OK	OK	OK	OK	OK		
	2 & 3 Overhang	ОК	OK	OK	OK	OK	OK	OK	OK	NO		
50 < h <u>&lt;</u> 60	1	OK	OK	ОК	OK	OK	OK	ОК	OK	OK		
	2 & 3	OK	OK	ОК	OK	OK	OK	ОК	OK	OK		
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	OK	OK	NO		

					Ultimate Des	ign Wind Spee	ed - V <sub>ult</sub> (mph)			
Mean Roof Height (ft)	Roof Pressure Zone	110	115	120	130	140	150	160	180	
	1	OK	OK	OK	OK	OK	OK	ОК	OK	
	2	OK	OK	OK	OK	OK	OK	ОК	OK	
0 < h <u>&lt;</u> 15	3	OK	OK	OK	OK	OK	OK	ОК	NO	
	2 Overhang	OK	OK	OK	OK	OK	OK	ОК	OK	
	3 Overhang	OK	OK	OK	OK	OK	NO	NO	NO	
	1	OK	OK	OK	OK	OK	OK	ОК	OK	
	2	OK	OK	OK	OK	OK	OK	ОК	OK	
15 < h <u>&lt;</u> 20	3	OK	OK	OK	OK	OK	OK	ОК	NO	
	2 Overhang	OK	OK	OK	OK	OK	OK	ОК	OK	
	3 Overhang	OK	OK	OK	OK	NO	NO	NO	NO	
	1	OK	OK	OK	OK	OK	OK	ОК	OK	
	2	OK	OK	OK	OK	OK	OK	ОК	OK	
20 < h <u>&lt;</u> 30	3	OK	OK	OK	OK	OK	OK	NO	NO	
	2 Overhang	OK	OK	OK	OK	OK	OK	ОК	NO	
	3 Overhang	OK	OK	OK	OK	NO	NO	NO	NO	
	1	OK	OK	OK	OK	OK	OK	ОК	OK	
	2	OK	OK	OK	OK	OK	OK	OK	OK	
30 < h <u>&lt;</u> 40	3	OK	OK	OK	OK	OK	NO	NO	NO	
	2 Overhang	OK	OK	OK	OK	OK	OK	ОК	NO	
	3 Overhang	OK	OK	OK	NO	NO	NO	NO	NO	
	1	OK	OK	OK	OK	OK	OK	ОК	OK	
	2	OK	OK	OK	OK	OK	OK	ОК	NO	
40 < h <u>&lt;</u> 50	3	OK	OK	OK	OK	OK	NO	NO	NO	
	2 Overhang	OK	OK	OK	OK	OK	OK	ОК	NO	
	3 Overhang	OK	OK	OK	NO	NO	NO	NO	NO	
	1	OK	OK	OK	OK	ОК	ОК	ОК	ОК	
	2	OK	OK	OK	OK	OK	OK	ОК	NO	
50 < h <u>&lt;</u> 60	3	OK	OK	OK	OK	OK	NO	NO	NO	
	2 Overhang	OK	OK	OK	OK	OK	OK	ОК	NO	1
	3 Overhang	OK	OK	OK	NO	NO	NO	NO	NO	1

# Table B-2d: System No. 5: AstonWood, Stonecrest Slate or Stonecrest Tile (MDP = -99.0 psf) Exposure C for Slope Range $27^{\circ}$ < slope $\leq$ 45° (6.1:12 < pitch $\leq$ 12:12)

Mean Roof Height (ft)	Roof Pressure Zone				Ultimate Des	ign Wind Spee	ed - V <sub>ult</sub> (mph)			
Wean Root Height (It)	Roof Pressure Zone	110	115	120	130	140	150	160	180	200
	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
0 < h <u>&lt;</u> 15	2&3	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	OK	OK	NO
	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
15 < h <u>&lt;</u> 20	2&3	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2 & 3 Overhang	ОК	ОК	OK	OK	OK	OK	OK	ОК	NO
	1	ОК	ОК	OK	OK	OK	OK	OK	ОК	OK
20 < h <u>&lt;</u> 30	2&3	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	OK	OK	NO
	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
30 < h <u>&lt;</u> 40	2&3	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	OK	NO	NO
	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
40 < h <u>&lt;</u> 50	2 & 3	OK	ОК	OK	OK	OK	OK	OK	ОК	OK
	2 & 3 Overhang	OK	ОК	OK	OK	OK	OK	OK	NO	NO
	1	ОК	ОК	OK	OK	OK	OK	OK	OK	OK
50 < h <u>&lt;</u> 60	2 & 3	OK	ОК	OK	OK	OK	OK	OK	ОК	OK
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	OK	NO	NO

	Roof Pressure Zone			Ultimate Design Wind Speed - V <sub>ult</sub> (mph)									
Mean Roof Height (ft)	Roof Pressure Zone	110	115	120	130	140	150	160	180	20			
	1	OK	OK	OK	OK	OK	OK	OK	OK	0			
	2	OK	OK	OK	OK	OK	OK	OK	OK	L L			
0 < h <u>&lt;</u> 15	3	OK	OK	OK	OK	OK	OK	NO	NO	1			
	2 Overhang	OK	OK	OK	OK	OK	OK	OK	NO	2			
	3 Overhang	OK	OK	OK	OK	NO	NO	NO	NO	1			
	1	OK	OK	OK	OK	OK	OK	OK	OK	Ú			
	2	OK	OK	OK	OK	OK	OK	OK	NO	2			
15 < h <u>&lt;</u> 20	3	OK	OK	OK	OK	OK	NO	NO	NO	-			
	2 Overhang	OK	OK	OK	OK	OK	OK	OK	NO	-			
	3 Overhang	OK	OK	OK	NO	NO	NO	NO	NO	1			
	1	OK	OK	OK	OK	OK	OK	OK	OK	(			
	2	OK	OK	OK	OK	OK	OK	OK	NO	1			
20 < h <u>&lt;</u> 30	3	OK	OK	OK	OK	OK	NO	NO	NO	1			
	2 Overhang	OK	OK	OK	OK	OK	OK	NO	NO	1			
	3 Overhang	OK	OK	OK	NO	NO	NO	NO	NO	1			
	1	OK	OK	OK	OK	OK	OK	OK	OK	(			
	2	OK	OK	OK	OK	OK	OK	OK	NO	1			
30 < h <u>&lt;</u> 40	3	OK	OK	OK	OK	NO	NO	NO	NO	1			
	2 Overhang	OK	OK	OK	OK	OK	OK	NO	NO	1			
	3 Overhang	OK	OK	NO	NO	NO	NO	NO	NO	1			
	1	OK	OK	OK	OK	OK	OK	OK	OK	(			
	2	OK	OK	OK	OK	OK	OK	OK	NO	1			
40 < h <u>&lt;</u> 50	3	OK	OK	OK	OK	NO	NO	NO	NO	1			
	2 Overhang	OK	OK	OK	OK	OK	OK	NO	NO	1			
	3 Overhang	OK	OK	NO	NO	NO	NO	NO	NO	1			
	1	OK	OK	OK	OK	OK	OK	OK	OK	(			
	2	OK	OK	OK	OK	OK	OK	OK	NO	1			
50 < h <u>&lt;</u> 60	3	OK	OK	OK	OK	NO	NO	NO	NO	1			
	2 Overhang	OK	OK	OK	OK	OK	NO	NO	NO	N			
	3 Overhang	OK	OK	NO	NO	NO	NO	NO	NO	Ν			

# Table B-2f: System No. 5: AstonWood, Stonecrest Slate or Stonecrest Tile (MDP = -99.0 psf) Exposure D for Slope Range $27^{\circ}$ < slope $\leq$ 45° (6.1:12 < pitch $\leq$ 12:12)

Mean Roof Height (ft)	Roof Pressure Zone				Ultimate Des	ign Wind Spee	ed - V <sub>ult</sub> (mph)			
Mean Root Height (ft)	Roof Pressure Zone	110	115	120	130	140	150	160	180	200
	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
0 < h <u>&lt;</u> 15	2 & 3	OK	OK	OK	OK	ОК	OK	OK	OK	OK
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	OK	NO	NC
	1	OK	OK	OK	OK	OK	OK	OK	OK	OK
15 < h <u>&lt;</u> 20	2 & 3	OK	OK	OK	OK	OK	OK	OK	OK	OK
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	OK	NO	NC
	1	OK	OK	OK	OK	OK	OK	OK	OK	Ok
20 < h <u>&lt;</u> 30	2 & 3	OK	OK	OK	OK	OK	OK	OK	OK	Oł
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	OK	NO	NC
	1	OK	OK	OK	OK	ОК	OK	OK	OK	Oł
30 < h <u>&lt;</u> 40	2 & 3	OK	OK	OK	OK	OK	OK	OK	OK	NC
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	OK	NO	NC
	1	OK	OK	OK	OK	OK	OK	OK	OK	Ok
40 < h <u>&lt;</u> 50	2 & 3	OK	OK	OK	OK	OK	OK	OK	OK	NC
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	NO	NO	NC
	1	OK	OK	OK	OK	OK	OK	OK	OK	Oł
50 < h <u>&lt;</u> 60	2&3	OK	OK	OK	OK	OK	OK	OK	OK	NC
	2 & 3 Overhang	OK	OK	OK	OK	OK	OK	NO	NO	NC