



DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION
NOTICE OF ACCEPTANCE (NOA)

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
T (786)315-2590 F (786) 315-2599
www.miamidade.gov/economy

Crown Building Products of Florida LLC
6018 HWY 72
Arcadia, FL. 34266

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER -Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code including the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: Windsor Roof Tile

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA 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 NOA revises NOA# 24-1015.03 and consists of pages 1 through 12.
The submitted documentation was reviewed by Alex Tigera.

02/13/25



NOA No.: 25-0127.10
Expiration Date: 01/29/30
Approval Date: 02/13/25
Page 1 of 12

ROOFING ASSEMBLY APPROVAL

Category: Roofing
Sub-Category: Roofing Tiles
Material: Concrete

1. SCOPE

This approves a roofing system using **Windsor Tiles**, manufactured by **Crown Building Products of Florida LLC** in **Arcadia, FL**, as described in Section 2 of this Notice of Acceptance. For locations where the pressure requirements, as determined by applicable Building Code does not exceed the design pressure values obtained by calculations in compliance with RAS 127 using the values listed in section 4 herein. The attachment calculations shall be done as a moment based system.

2. PRODUCT DESCRIPTION

<u>Manufactured by Applicant</u>	<u>Dimensions</u>	<u>Test Specifications</u>	<u>Product Description</u>
Windsor Shake	L = 17.0" W = 13.0" H = 1.2" Thickness: 0.59"	TAS 112 Type 3a Class III	Flat, interlocking, concrete tile equipped with two nail holes. For direct deck or battened nail-on, mortar or adhesive set applications.
Windsor Split Shake	L = 17.0" W = 13.0" H = 1.2" Thickness: 0.59"	TAS 112 Type 3a Class III	Flat, interlocking, concrete tile equipped with two nail holes. For direct deck or battened nail-on, mortar or adhesive set applications.
Windsor Slate	L = 17.0" W = 13.0" H = 1.2" Thickness: 0.59"	TAS 112 Type 3a Class III	Flat, interlocking, concrete tile equipped with two nail holes. For direct deck or battened nail-on, mortar or adhesive set applications.
Windsor Split Slate	L = 17.0" W = 13.0" H = 1.2" Thickness: 0.59"	TAS 112 Type 3a Class III	Flat, interlocking, concrete tile equipped with two nail holes. For direct deck or battened nail-on, mortar or adhesive set applications.
Windsor Shake II	L = 17.0" W = 13.0" H = 1.2" Thickness: 0.59"	TAS 112 Type 3a Class III	Flat, interlocking, concrete tile equipped with two nail holes. For direct deck or battened nail-on, mortar or adhesive set applications.
Windsor Split Shake II	L = 17.0" W = 13.0" H = 1.2" Thickness: 0.59"	TAS 112 Type 3a Class III	Flat, interlocking, concrete tile equipped with two nail holes. For direct deck or battened nail-on, mortar or adhesive set applications.
Windsor Slate II	L = 17.0" W = 13.0" H = 1.2" Thickness: 0.59"	TAS 112 Type 3a Class III	Flat, interlocking, concrete tile equipped with two nail holes. For direct deck or battened nail-on, mortar or adhesive set applications.



Windsor Split Slate II	L = 17.” W = 13.” H = 1.2” Thickness: 0.59”	TAS 112 Type 3a Class III	Flat, interlocking, concrete tile equipped with two nail holes. For direct deck or battened nail-on, mortar or adhesive set applications.
Trim Pieces	L= varies W = varies Varying thickness	TAS 112	Accessory trim, concrete roof pieces for use at hips, rakes, ridges and valley terminations. Manufactured for each tile profile.

2.1 PRODUCTS MANUFACTURED BY OTHERS

<u>Product Name</u>	<u>Product Description</u>	<u>Manufacturer (With Current NOA)</u>
APOC® Polyset® RTA-1 (HFO)	Single component polyurethane foam roof tile adhesive.	ICP Construction Inc.
APOC® Polyset® AH-160 (HFO1)	Two component polyurethane foam adhesive.	ICP Construction, Inc.
APOC® Polyset® AH-160 (HFO2)	Two component polyurethane foam adhesive.	ICP Construction, Inc.
TILE BOND™ Roof Tile Adhesive	Single component polyurethane foam roof tile adhesive.	DuPont de Nemours, Inc.
DAP StormBond® Roof Tile Adhesive	One component polyurethane foam adhesive.	DAP Global, Inc.
DAP StormBond® 2 Roof Tile Adhesive	Two component polyurethane foam adhesive.	DAP Global, Inc.
“Tile Tite” Roof Tile Mortar	Premixed, pre-bagged roof tile mortar.	Bermuda Roof Co. Inc.
Bonsal Roof Tile Mortar	Premixed, pre-bagged roof tile mortar.	Bonsal American, Inc.
“Quikrete” Roof Tile Mortar, FL-15	Premixed, pre-bagged gray roof tile mortar.	The Quikrete Companies, Inc.

2.2 MANUFACTURING LOCATION

- Arcadia, FL.



2.3 SUBMITTED EVIDENCE:

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Test Name/Report</u>	<u>Date</u>
Redland Technologies	7161-03 Appendix III	PA 102 & PA 102(A)	Dec. 1991
	7161-03 Appendix II	PA 108 (Nail-On)	Dec. 1991
	Letter	PA 108 (Nail-On)	Aug. 1994
	P0631-01	PA 108 (Mortar Set)	July 1994
	P0402	Withdrawal Resistance Testing of screw vs. smooth shank nails	Sept. 1993
The Center for Applied Engineering, Inc.	94-060A	PA 101 (Mortar Set)	March, 1994
	94-084	PA 101 (Adhesive Set)	May 1994
	25-7094-2	PA 102 (4" Headlap, Nails, Direct Deck, New Construction)	Oct. 1994
	25-7094-8	PA 102 (4" Headlap, Nails, Battens)	Oct. 1994
	25-7094-5	PA 102 (4" Headlap, Nails, Direct Deck, Recover/Reroof)	Oct. 1994
	25-7183-6	PA 102 (2 Quik-Drive Screws, Direct Deck)	Feb. 1995
	25-7183-5	PA 102 (2 Quik-Drive Screws, Battens)	Feb. 1995
	25-7214-1	PA 102 (1 Quik-Drive Screw, Direct Deck)	March, 1995
	25-7214-5	PA 102 (1 Quik-Drive Screw, Battens)	March, 1995
		Project No. 307025 Test #MDC-77	PA 100
Celotex Corporation Testing Service	520109-1	PA 101	Dec. 1998
	520111-4	PA 101	March 1999
	520191-1	PA 101	March 1999
Walker Engineering, Inc.	Calculations	Aerodynamic Multiplier	October 2007
	Calculations	Moment of Gravity	August 2007
	Calculations	25-7094	February 1996
	Calculations	25-7496	April 1996
	Calculations	25-7584	December 1996
	Calculations	25-7804b-8	December 1996
	Calculations	25-7804-4 & 5	December 1996
	Calculations	25-7848-6	December 1996
	Calculations	25-7183	March 1995
	Calculations	Aerodynamic Multipliers	April 1999
Calculations	Two Patty Adhesive Set System	April 1999	
American Test Lab of South Florida	RT1021.02-15	TAS 112	12/10/15
	RT1211.02-15	Restoring Moment	04/16/16
	RT1211.02-15	Aerodynamic Multiplier	12/11/15
	RT0908.01-14	TAS 112	09/18/14
	RT0923.01-14	TAS 112	09/30/14



2.3 SUBMITTED EVIDENCE:

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Test Name/Report</u>	<u>Date</u>
	RT0923.02-14	TAS 112	09/30/14
	RT0912.01-14	Restoring Moment /Aerodynamic Multiplier	09/18/14
	RT1203.03-18	TAS 112	12/11/18
	RT0819.03-19	TAS 112	08/29/19
NEMO ETC, LLC	4p-ICP-20-SSLAP-01.A	ASTM D1623	12/15/20
	4c-DPBS-20-LSOTM01.D.R1	TAS 101	12/17/20
	4c-ICP-21-LSOTM-01.B	TAS 101	01/26/22
	4p-ICP-22-SSLAP-06.A	ASTM D1623	08/29/23
	4c-ICP-23-LSOTM-02.A	TAS 101	11/12/24
	4c-ICP-23-LSOTM-01.A	TAS 101	11/13/24
PRI Construction Materials Technologies	2002T0003.10	TAS 101	10/05/20
	2002T0009	TAS 101	09/26/23
	2002T0006	TAS 101	09/26/23

3. LIMITATIONS

- 3.1 Fire classification is not part of this acceptance.
- 3.2 For mortar or adhesive set tile applications, a static field uplift test shall be performed in accordance with TAS 106.
- 3.3 Applicant shall retain the services of a Miami-Dade County Certified Laboratory to perform quarterly test in accordance with TAS 112, appendix 'A'. Such testing shall be submitted to the Miami-Dade Product Control office for review.
- 3.4 Minimum underlayment shall be in compliance with the applicable Roofing Applications Standards listed section 4.1 herein.
- 3.5 4/12 minimum slope for mechanically attached tiles.
- 3.6 30/90 hot mopped underlayment applications may be installed perpendicular to the roof slope unless stated otherwise by the underlayment material manufacturers published literature.
- 3.7 This acceptance is for wood deck applications. Minimum deck requirements shall be in compliance with applicable building code.
- 3.8 All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 61G20-3 of the Florida Administrative Code.



4. INSTALLATION

4.1 Crown Windsor Roof Tile and its components shall be installed in strict compliance with Roofing Application Standard RAS 118, RAS 119, and RAS 120.

4.2 Data For Attachment Calculations

Table 1: Average Weight (W) and Dimensions (l x w)			
Tile Profile	Weight-W (lbf)	Length-l (ft)	Width-w (ft)
Windsor Shake, Windsor Split Shake, Windsor Slate, Windsor Split Slate, Windsor Shake II, Windsor Split Shake II, Windsor Slate II, Windsor Split Slate II	11.7	1.42	1.08

Table 2: Aerodynamic Multipliers - λ (ft ³)		
Tile Profile	λ (ft ³) Batten Application	λ (ft ³) Direct Deck Application
Windsor Shake, Windsor Split Shake, Windsor Slate, Windsor Split Slate, Windsor Shake II, Windsor Split Shake II, Windsor Slate II, Windsor Split Slate II	0.289	0.313

Table 3: Restoring Moments due to Gravity - M_g (ft.-lbf)												
Tile Profile	2":12"		3":12"		4":12"		5":12"		6":12"		7":12" or greater	
	Battens	Direct Deck	Battens	Direct Deck								
Windsor Shake, Windsor Split Shake, Windsor Slate, Windsor Split Slate, Windsor Shake II, Windsor Split Shake II, Windsor Slate II, Windsor Split Slate II	N/A	8.26	N/A	8.17	8.07	8.04	7.91	7.87	7.72	7.67	7.50	7.46



**Table 4: Attachment Resistance Expressed as a Moment - M_r (ft.-lbf)
for Mechanically Attached Systems**

Tile Profile	Fastener Type	Direct Deck (min 15/32" plywood)	Direct Deck (min. 19/32" plywood)	Battens
Windsor Shake, Windsor Split Shake, Windsor Slate, Windsor Split Slate, Windsor Shake II, Windsor Split Shake II, Windsor Slate II, Windsor Split Slate II	2-10d Ring Shank Nails	30.9	38.1	17.2
	1-10d Smooth or Screw Shank Nail	7.3	9.8	4.9
	2-10d Smooth or Screw Shank Nails	14.0	18.8	7.4
	1 #8 Screw	30.8	30.8	18.2
	2 #8 Screw	51.7	51.7	24.4
	1-10d Smooth or Screw Shank Nail (Field Clip)	24.3	24.3	24.2
	1-10d Smooth or Screw Shank Nail (Eave Clip)	19.0	19.0	22.1
	2-10d Smooth or Screw Shank Nails (Field Clip)	35.5	35.5	34.8
	2-10d Smooth or Screw Shank Nails (Eave Clip)	31.9	31.9	32.2
	2-10d Ring Shank Nails ¹	50.3	65.5	48.3

¹ Installation with a 4" tile headlap and fasteners are located a min. of 2½" from head of tile.

**Table 5: Attachment Resistance Expressed as a Moment M_r (ft.-lbf)
for Two Paddy Adhesive² Set Systems**

Tile Profile: Windsor Shake, Windsor Split Shake, Windsor Slate, Windsor Split Slate, Windsor Shake II, Windsor Split Shake II, Windsor Slate II, Windsor Split Slate II

Tile Application	Paddy weight	Adhesive Contact Area	Minimum Attachment Resistance
TILE BOND™ Roof Tile Adhesive – (Interdependent)	8 grams each	16 in ² per paddy	63
TILE BOND™ Roof Tile Adhesive – (Independent)	8 grams each	8 in ²	65
APOC® Polyset® AH-160 (HFO1)	8 grams each	-	31
APOC® Polyset® AH-160 (HFO1 & HFO2)	12 grams to underlayment	(4" x 4") 16 in ²	55
	14 grams at headlap	(4" x 2") 8 in ²	
APOC® Polyset® RTA-1 (HFO)	11 grams each	-	38
DAP StormBond® Roof Tile Adhesive	18 grams to underlayment	-	98
	10 grams at headlap	-	
DAP StormBond® 2 Roof Tile Adhesive	8 grams each	-	122

² See manufacturer component approval for installation requirements.



**Table 6: Attachment Resistance Expressed as a Moment - M_f (ft-lbf)
for Single Patty Adhesive³ Set Systems**

Tile Profile: Windsor Shake, Windsor Split Shake, Windsor Slate, Windsor Split Slate, Windsor Shake II, Windsor Split Shake II, Windsor Slate II, Windsor Split Slate II

Tile Application	Paddy weight	Adhesive Contact Area	Minimum Attachment Resistance
APOC® Polyset® AH-160 (HFO1)	45 grams each	-	119
APOC® Polyset® AH-160 (HFO1)	34 grams each	-	115
APOC® Polyset® AH-160 (HFO1)	24 grams each	-	83
APOC® Polyset® AH-160 (HFO1)	24 grams each	-	40
DAP StormBond® 2 Roof Tile Adhesive	30 grams each	-	49

3. See manufacturer component approval for installation requirements.

**Table 7: Attachment Resistance Expressed as a Moment - M_f (ft-lbf)
for Mortar Set Systems**

Tile Profile	Tile Application	Attachment Resistance
Windsor Shake, Windsor Split Shake, Windsor Slate, Windsor Split Slate, Windsor Shake II, Windsor Split Shake II, Windsor Slate II, Windsor Split Slate II	Mortar Set ⁴	39.0

4 See specific mortar manufacturers Notice of Acceptance

**Table 8: Attachment Resistance Expressed as a Moment M_f (ft.-lbf)
for Hybrid Attachment (Adhesive⁵ and Mechanical)**

Tile Profile: Windsor Shake, Windsor Split Shake, Windsor Slate, Windsor Split Slate, Windsor Shake II, Windsor Split Shake II, Windsor Slate II, Windsor Split Slate II

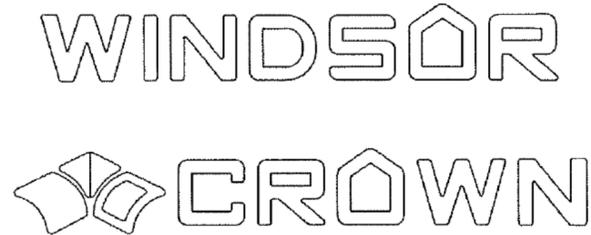
Tile Application	Paddy weight	Adhesive Contact Area	Minimum Attachment Resistance
Two (2) #8 Screws and APOC® Polyset® RTA-1 (HFO)	11 grams at headlap	-	39

5 See manufacturer component approval for installation requirements.



5. LABELING

All tiles shall bear the imprint or identifiable marking of the manufacturer's name or logo (See Detail Below), or following statement: "Miami-Dade County Product Control Approved".



**CROWN WINDSOR ROOF TILE
(LOCATED ON UNDERSIDE OF TILE)**

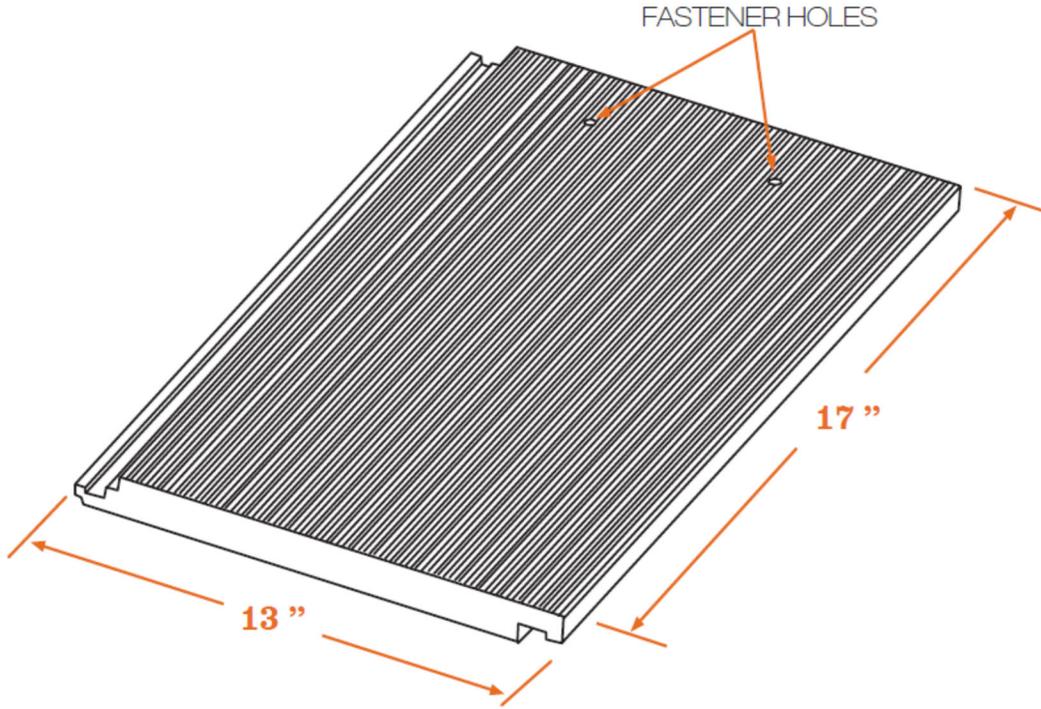
6. BUILDING PERMIT REQUIREMENTS:

6.1 Application for building permit shall be accompanied by copies of the following:

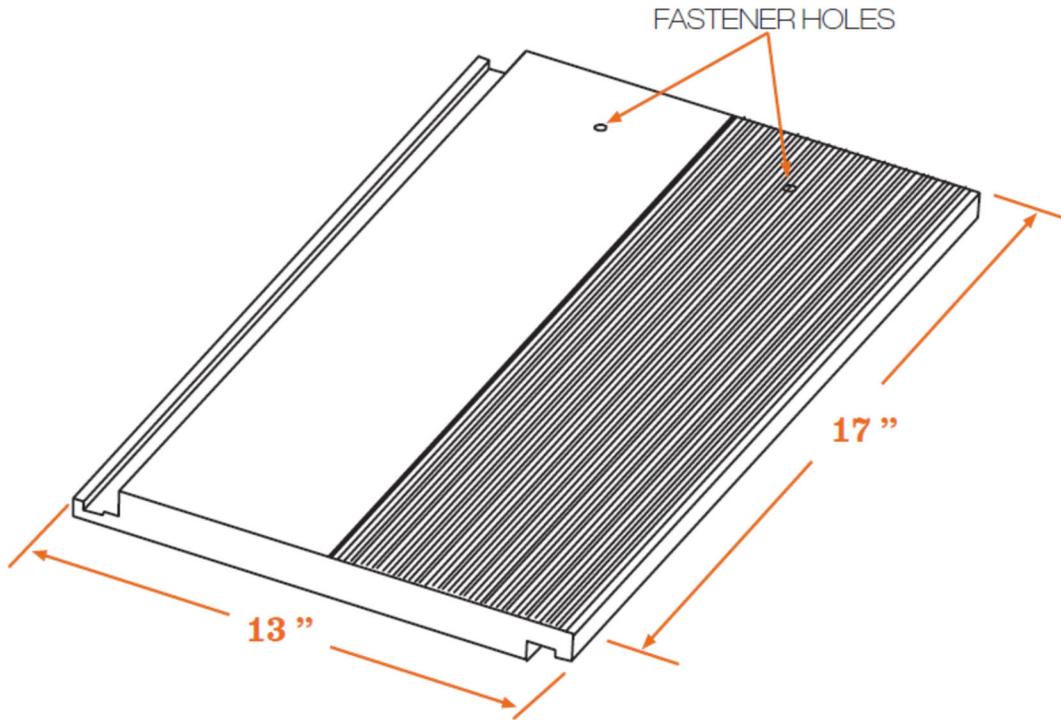
6.1.1 This Notice of Acceptance.

6.1.2 Any other documents required by Building Official or Applicable building code in order to properly evaluate the installation of this system.

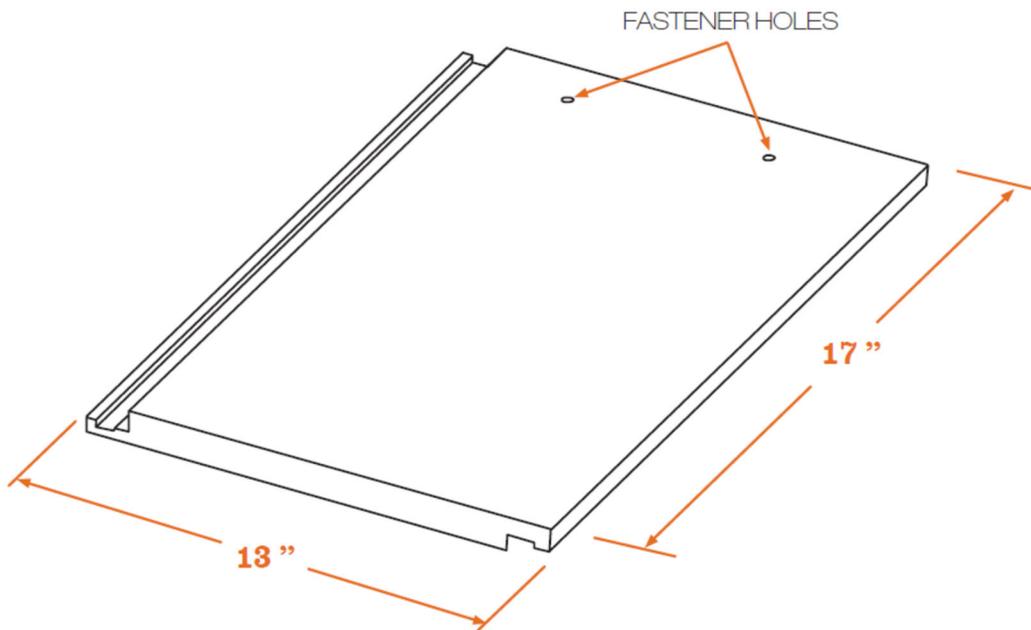
PROFILE DRAWINGS



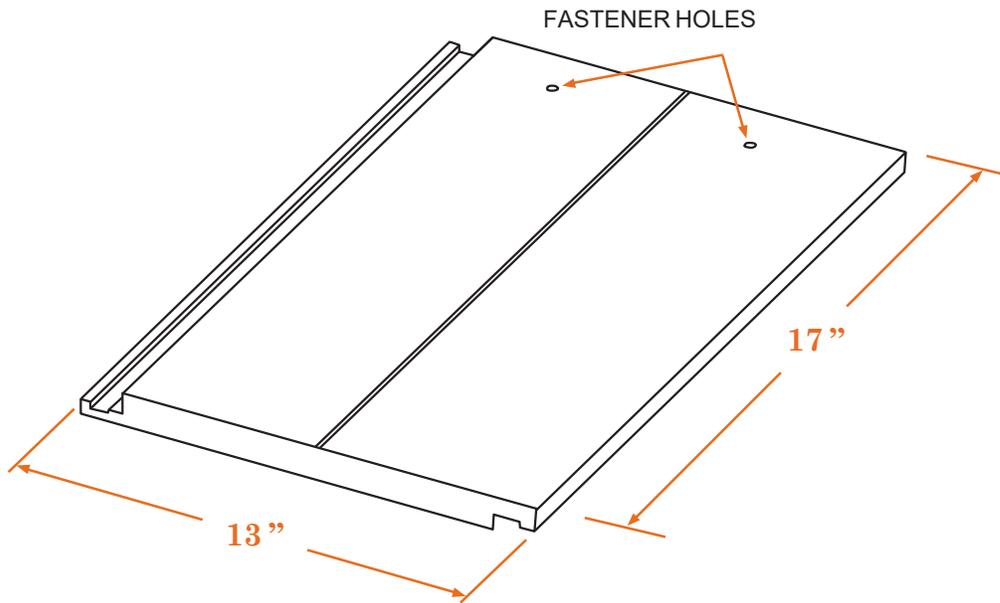
WINDSOR SHAKE AND WINDSOR SHAKE II



WINDSOR SPLIT SHAKE AND WINDSOR SPLIT SHAKE II

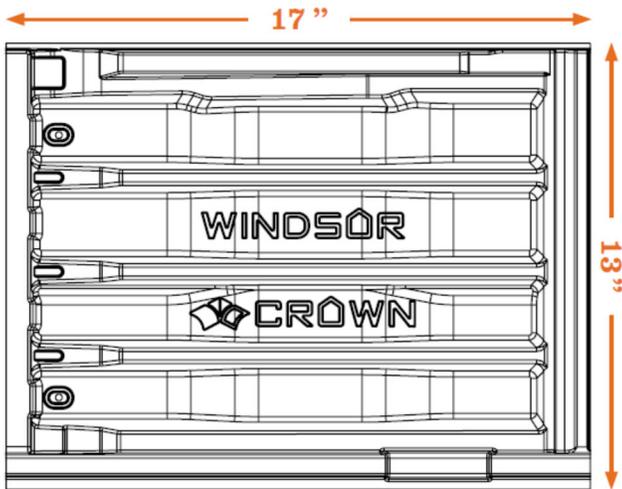


WINDSOR SLATE AND WINDSOR SLATE II

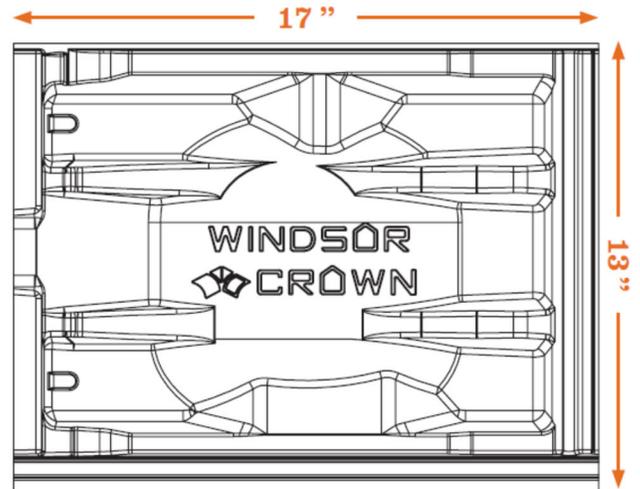


WINDSOR SPLIT SLATE AND WINDSOR SPLIT SLATE II

WINDSOR SHAKE, WINDSOR SPLIT SHAKE, WINDSOR SLATE



WINDSOR SHAKE II, WINDSOR SPLIT SHAKE II, WINDSOR SLATE II



END OF THIS ACCEPTANCE