



DEPARTMENT OF PERMITTING, ENVIRONMENT, AND REGULATORY AFFAIRS  
BOARD AND CODE ADMINISTRATION DIVISION

MIAMI-DADE COUNTY  
PRODUCT CONTROL SECTION

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[www.miamidade.gov/pera](http://www.miamidade.gov/pera)

## NOTICE OF ACCEPTANCE (NOA)

Clay Forever  
6801 NW 72 Avenue  
Suite 301  
Miami, FL 33166

### 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 PERA - 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. PERA 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: Volcan by Altusa, Spanish "S" Clay 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 consists of pages 1 through 9.  
The submitted documentation was reviewed by Alex Tigera.



NOA No.: 11-0722.01  
Expiration Date: 08/26/14  
Approval Date: 10/20/11  
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**ROOFING ASSEMBLY APPROVAL**

**Category:** Roofing  
**Sub-Category:** Roofing Tiles  
**Material:** Clay  
**Deck Type:** Wood

**1. SCOPE**

This new roofing system using **Volcan by Altusa Spanish “S” Clay Roof Tile** as manufactured by **Sulacer, S.A. de C.V in Pimienta, Honduras** and distributed by **Clay Forever LLC** 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 (nominal)</u>	<u>Test Specifications</u>	<u>Product Description</u>
Volcan by Altusa Spanish “S” Clay Roof Tile	Length: 19-1/2” Width: 10-1/2” varying thickness	ASTM C 1167	High profile, one-piece, ‘S’ shaped single roll clay tile with a nominal 2-1/2 inch headlap. For direct deck nail-on, mortar set, or adhesive set applications.
Trim Pieces	Length: varies Width: varies varying thickness	TAS 112	Accessory trim, clay roof pieces for use at hips, rakes, ridges and valley terminations. Manufactured for each tile profile.

**2.1 SUBMITTED EVIDENCE:**

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Test Name/Report</u>	<u>Date</u>
American Test Lab of South Florida	RT0426.02-11	ASTM C 1167	05/07/11
American Test Lab of South Florida	RT0620.02-11	Static Uplift Testing TAS 101	06/27/11
IBA Consultants, Inc.	2397-116	ASTM C 1167	06/28/07
The Center for Applied Engineering, Inc.	94-083	Static Uplift Testing TAS 101 (Adhesive Set)	April 1994
The Center for Applied Engineering, Inc.	94-084	Static Uplift Testing TAS 101 (Mortar Set)	May 1994
The Center for Applied Engineering, Inc.	25-7200-1	Static Uplift Testing TAS 102 (Quick-Drive Screws, Battens)	Feb. 1995
The Center for Applied Engineering, Inc.	Project No. 307025 Test #MDC-78	Wind Driven Rain TAS 100	Oct. 1994
Celotex Corporation Testing	MTS 520649	TAS 102(A)	May 2000



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PRI Asphalt Technology, Inc.	CLF-003-02-01	TAS 102	October 2001
Redland Technologies	7161-03; Appendix III	TAS 102	Dec. 1991
Redland Technologies	7161-03 Appendix II	Wind Tunnel Testing TAS 108 (Nail-On)	Dec. 1991
Redland Technologies	Letter Dated Aug. 1, 1994	Wind Tunnel Testing TAS 108 (Nail-On)	Aug. 1994
Redland Technologies	P0631-01	Wind Tunnel Testing TAS 108 (Mortar Set)	July 1994
Redland Technologies	P0402	Withdrawal Resistance Testing of screw vs. smooth shank nails	Sept. 1993
Walker Engineering, Inc.	Calculations	Aerodynamic Multiplier	March 1999
Walker Engineering, Inc.	Evaluation Calculations	25-7183	March 1995
Walker Engineering, Inc.	Evaluation Calculations	25-7094	February 1996
Walker Engineering, Inc.	Evaluation Calculations	25-7496	April 1996
Walker Engineering, Inc.	Evaluation Calculations	25-7584 25-7804b-8 25-7804-4 & 5 25-7848-6	December 1996

### 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 Building Code Compliance Office for review.
- 3.4 Minimum underlayments shall be in compliance with the applicable Roofing Applications Standards listed section 4.1 herein.
- 3.5 30/90 hot mopped underlayment applications may be installed perpendicular to the roof slope unless stated otherwise by the underlayment material manufacturers published literature.
- 3.6 This acceptance is for wood deck applications. Minimum deck requirements shall be in compliance with the applicable Building Code.
- 3.7 May be installed on slopes 7:12 and greater.



#### 4. INSTALLATION

- 4.1 Volcan by Altusa Spanish "S" Clay 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)
Volcan by Altusa	6.331	1.650	0.833

Table 2: Aerodynamic Multipliers - $\lambda$ (ft <sup>3</sup> )		
Tile Profile	$\lambda$ (ft <sup>3</sup> ) Batten Application	$\lambda$ (ft <sup>3</sup> ) Direct Deck Application
Volcan by Altusa	0.235	0.255

Table 3: Restoring Moments due to Gravity - $M_g$ (ft-lbf)											
2": 12" or less		3": 12"		4": 12"		5": 12"		6": 12"		7": 12" or greater	
Batten	Direct Deck	Batten	Direct Deck	Batten	Direct Deck	Batten	Direct Deck	Batten	Direct Deck	Batten	Direct Deck
4.78	5.12	4.71	5.05	4.62	4.96	4.51	4.84	4.38	4.67	4.25	4.55



<b>Table 4: Attachment Resistance Expressed as a Moment - <math>M_f</math> (ft-lbf) for Nail-On Systems</b>				
<b>Tile Profile</b>	<b>Fastener Type</b>	<b>Direct Deck (Min 15/32" plywood)</b>	<b>Direct Deck (Min. 19/32" plywood)</b>	<b>Battens</b>
Volcan by Altusa	2-10d Ring Shank Nails	28.6	41.2	19.4
	1-10d Smooth or Screw Shank Nail	5.1	6.8	2.8
	2-10d Smooth or Screw Shank Nails	6.9	9.2	7.3
	1 .#8 Screw	28.7	28.7	N/A
	2 .#8 Screws	58.2	58.2	26.8
	1-10d Smooth or Screw Shank Nail (Field Clip)	23.1	23.1	19.0
	1-10d Smooth or Screw Shank Nail (Eave Clip)	29.3	29.3	24.0
	2-10d Smooth or Screw Shank Nails (Field Clip)	27.6	27.6	38.6
	2-10d Smooth or Screw Shank Nails (Eave Clip)	38.1	38.1	41.8
<b>1 Screw with Altusa Clip (See clip details)</b>				
Volcan by Altusa <sup>1</sup>	1 Screw with clip (at the head of tile)	187.1	187.1	N/A
Volcan by Altusa <sup>1</sup>	1 Screw with clip (at the water course of tile)	35.2	35.2	N/A

1. Screw must be installed in the inside nail hole located nearest to the hump of the tile.

<b>Table 5: Attachment Resistance Expressed as a Moment <math>M_f</math> (ft-lbf) for Two Patty Adhesive Set Systems</b>		
<b>Tile Profile</b>	<b>Tile Application</b>	<b>Minimum Attachment Resistance</b>
Volcan by Altusa	Adhesive	29.3 <sup>3</sup>
2 See manufactures component approval for installation requirements.		
3 Flexible Products Company TileBond Average weight per patty 10.7 grams. Polyfoam Product, Inc. Average weight per patty 8 grams.		



<b>Table 6: Attachment Resistance Expressed as a Moment - <math>M_f</math> (ft-lbf) for Single Patty Adhesive Set Systems</b>		
<b>Tile Profile</b>	<b>Tile Application</b>	<b>Minimum Attachment Resistance</b>
Volcan by Altusa	Polyfoam PolyPro™	66.5 <sup>4</sup>
	Polyfoam PolyPro™	46.86 <sup>5</sup>
	Polyfoam PolyPro™	38.7 <sup>6</sup>
4 Large paddy placement of 63 grams of PolyPro™.		
5 Medium paddy placement of 37.7 grams of PolyPro™.		
6 Medium paddy placement of 24 grams of PolyPro™.		

<b>Table 7: Attachment Resistance Expressed as a Moment - <math>M_f</math> (ft-lbf) for Mortar Set Systems</b>		
<b>Tile Profile</b>	<b>Tile Application</b>	<b>Attachment Resistance</b>
Volcan by Altusa	Mortar Set	24.50

## 5. LABELING

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

# VOLCAN MADE IN HONDURAS

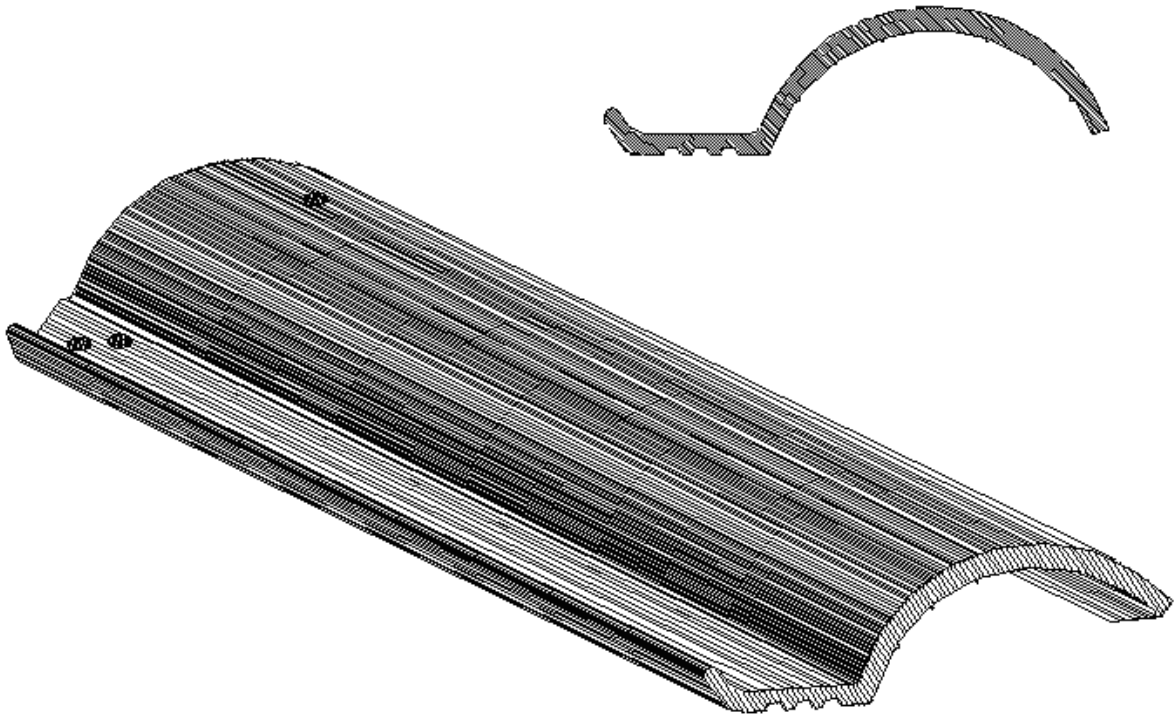
**LABEL FOR VOLCAN SPANISH "S" TILE  
(LOCATED ON THE UNDERSIDE OF THE TILE)**

## 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 the Building Official or applicable building code in order to properly evaluate the installation of this system.

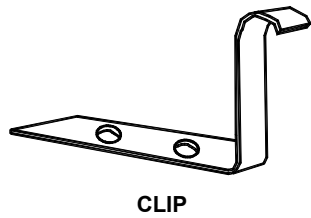
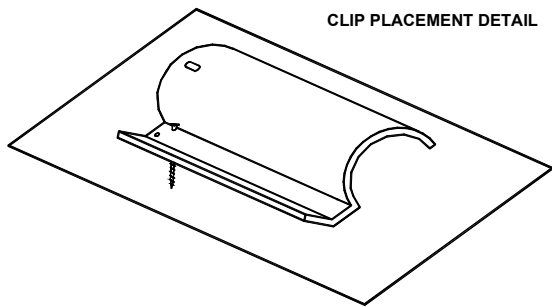
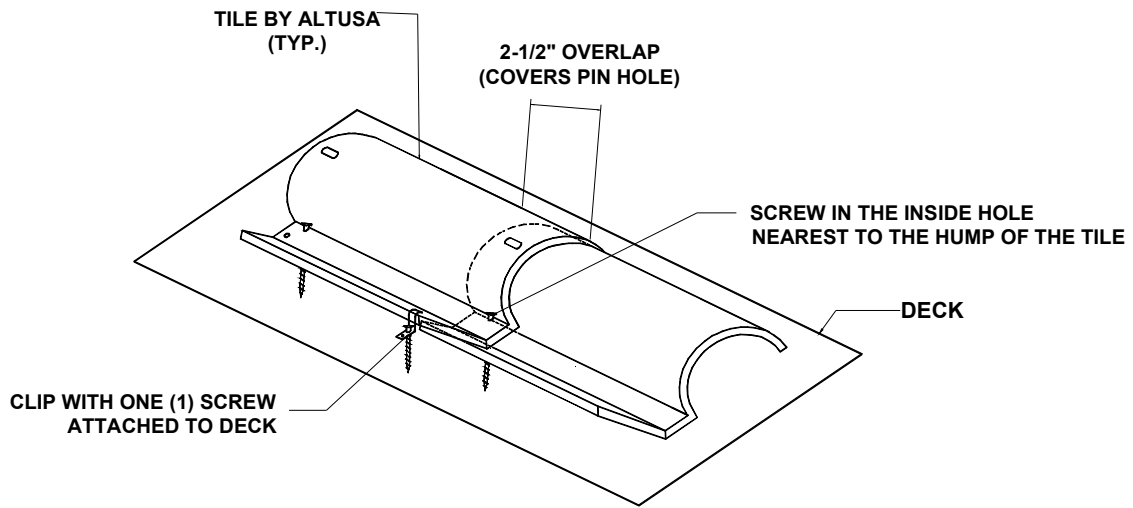


**PROFILE DRAWINGS**



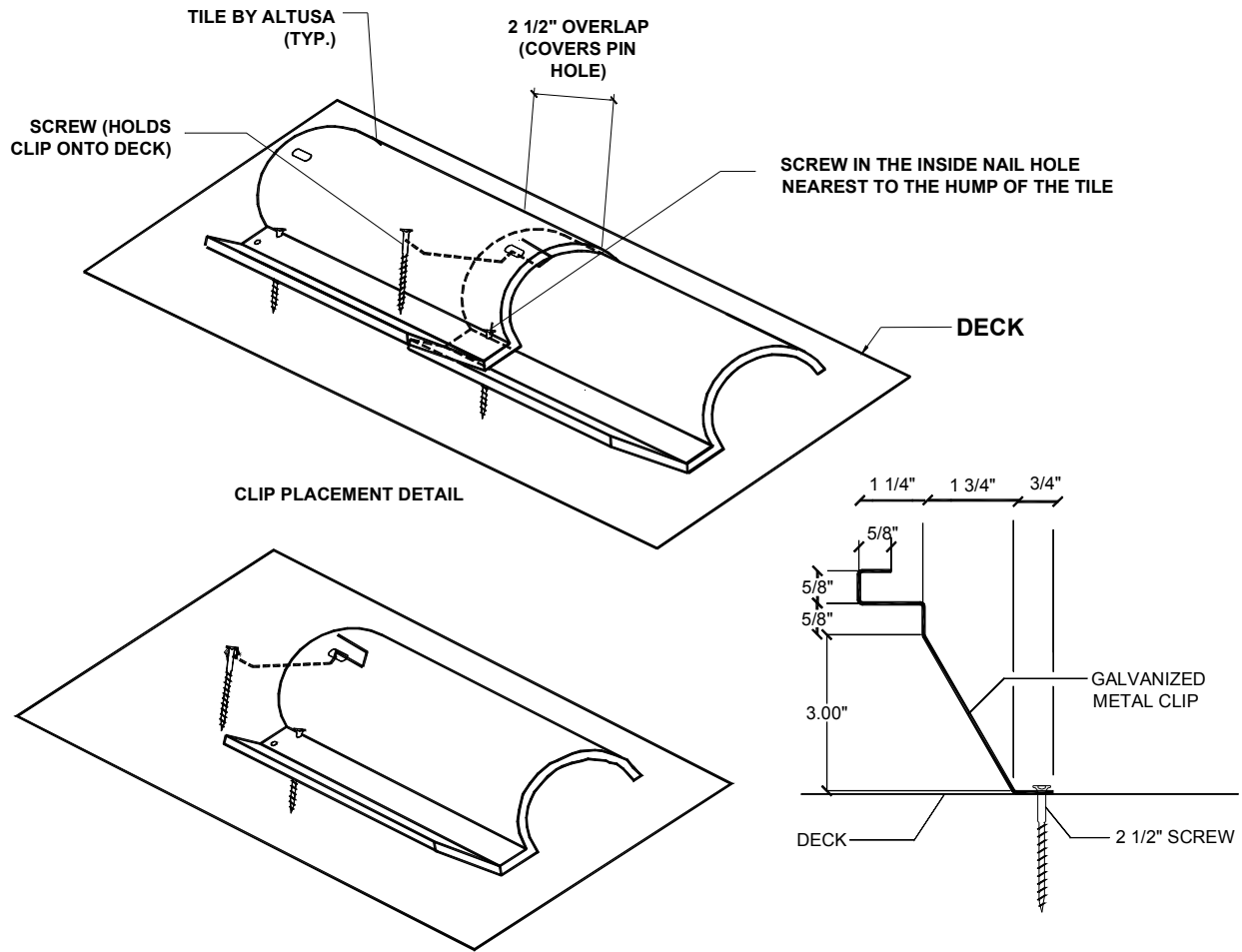
**VOLCAN BY ALTUSA, SPANISH “S” CLAY ROOF TILE**

# CLIP DETAILS





## CLIP DETAILS (CON'T)



**END OF THIS ACCEPTANCE**