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7364 Sedgebrook Dr.
Stanley, NC 28164

PRODUCT EVALUATION REPORT
Florida Building Code 2010

Per Rule 9B-72.070 – Method 1-D Evaluation Report from a Professional Engineer
REF: FL # 16057

CATEGORY: Roofing
SUB-CATEGORY: Roofing Tiles
PRODUCT NAME: Alhambra Handmade Clay Roof Tile
MATERIAL: CLAY
SUPPORT TYPE: Wood Deck

DATE: December 14, 2012

MANUFACTURER: **IMEXINSA**
La Paz Centro, Nicaragua
and distributed by:
Zion Tile Corp.
12002 Southwest 128th Court #103
Miami, FL 33186

PREPARED BY: Florida Professional Engineer
Jesus Gonzalez – PE 68553
7364 Sedgebrook Dr.
Stanley, NC 28164

General:

Statement of Compliance:

This product as described herein has demonstrated compliance with the Florida Building Code 2010, including the High Velocity Hurricane Zone of the Florida Building Code.

This engineering validation report is being issued per Rule Chapter No. 9B-72 to support the application to a Florida Product Approval using option under section 9B-72.070 (1) (D) of the Department of Community Affairs – Florida Building Commission.

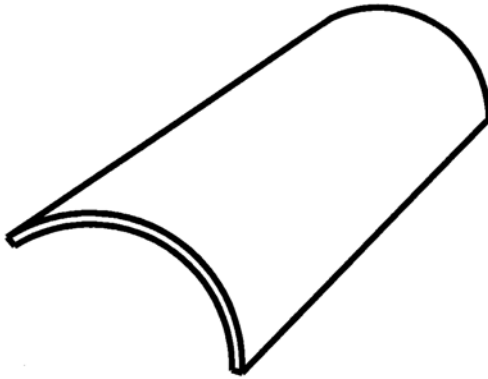
Scope:

This roofing system using the “Alhambra Roof Tile” shall be used for locations where the pressure requirements, as determined by applicable Building Code do not exceed the design pressure values obtained by calculations in compliance with RAS 127 using the values listed

in the “Installation” section of this approval. The attachment calculations shall be done as a moment based system.

Product Description

Profile Drawing



”Alhambra Tile”

Nominal Tile Dimension(s): L= 17.5”, W= 8 ½” to 7 ½” taper, Thickness = .9”

Engineering Properties from Test

Average Weight (W) and Dimension (L x W x T)				
Tile Profile	Weight - W	Length-L	Width	Thickness
Alhambra Barrel Tile	7.5 lbs	17.5”	8.5”	.9”

Evidence Submitted:

TAS 101-95 – Test Procedure for Static Uplift Resistance of Mortar of Adhesive Set Tile Systems. Test Agency – IBA Consultants, Inc, Report # 2354-199, Date 08/09/07

ASTM C 1167-03 – Standard Specifications for Clay Roof Tiles. Test Agency – IBA Consultants, Inc, Report # 2354-198, Date 06/27/07

Quality Assurance Company

The manufacturer has demonstrated compliance with the Florida Building Code 9B-72.070 (3) for manufacturing under a quality assurance program audited by an approved quality assurance entity through Keystone Certifications, Inc. (QUA 1824)

Limitation and Conditions of Use:

- 1- This system is for wood deck applications. Minimum deck requirements shall be in compliance with applicable Building Code
- 2- Fire Classification: Fire Classification is outside the scope of Rule 9B-72, and it is not included in this evaluation
- 3- Tiles shall pass a quarterly test performed by a State of Florida approved Laboratory in accordance with TAS 112, appendix ‘A’. Results of the test shall be submitted to Keystone Certification, Inc. for review.
- 4- A static field test shall be performed in accordance with RAS 106
- 5- Minimum underlayment shall comply with the applicable Roofing Application Standard RAS 120.

Installation

- This product shall be install to comply with Roofing Application Standard RAS 120

Aerodynamic Multipliers – $\lambda(\text{ft}^3)$	
Tile Profile	Direct Deck Installation
Alhambra Tile	0.21

Restoring Moment due to Gravity – Mg (ft-lbf)						
Tile Profile	2":12"	3":12"	4":12"	5":12"	6":12"	7":12"
Alhambra Tile	Direct Deck	Direct Deck	Direct Deck	Direct Deck	Direct Deck	Direct Deck
	5.27	5.18	5.05	4.88	4.65	4.36

Attachment Resistance Expressed as a Moment - M_f (ft-lbf) for Single Paddy Adhesive Set System		
Tile Profile	Tile Application	Minimum Attachment Resistance
Alhambra Tile	3M™ 2-Component Foam Roof Tile Adhesive AH-160 (Formerly known as Polyfoam Polipro AH160™)	113.010*
* Paddy placement of 34.5 gram of 2-Component Foam Roof Tile Adhesive AH 160tm for pan Tile, 17.25 grams on each side of cap tiles.		

3M™ 2-Component Foam Roof Tile Adhesive AH-160 (NOA-12-0228.18, Exp 05/10/17) renews and revises NOA 11-0124.04 from Polifoam Polypro AH160™

Attachment Resistance Expressed as a Moment - M_f (ft-lbf) for Mortar Set Systems		
Tile Profile	Tile Application	Minimum Attachment Resistance
Alhambra Tile	Mortar Set	38.80

Labeling

All tiles shall bear an imprint per FBC 2010 Section 1715.8.1.

**ZION TILE CORP.
MADE IN NICARAGUA**

End of Evaluation Report.

