



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

MCA Clay Roof Tile
1985 Sampson Ave
Corona, CA 92879

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: 10” Straight Barrel Mission, 8” Straight Barrel Mission, and Roman Pan Tiles

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 10
The submitted documentation was reviewed by Alex Tigera.



NOA No.: 14-1020.04
Expiration Date: 02/16/22
Approval Date: 02/16/17
Page 1 of 10

ROOFING ASSEMBLY APPROVAL

Category: Roofing
Sub-Category: Roofing Tiles
Material: Clay

1. SCOPE

This approves a roofing system using the **10” Straight Barrel Mission, 8” Straight Barrel Mission, and Roman Pan Tile** manufactured by **MCA Clay Roof Tile** in **Corona, CA.**, 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>
10” Straight Barrel Mission	L = 19” W = 10” Thickness = ½”	ASTM C 1167 Type – I Grade - 2	High profile, cap section of the two-piece clay tile. For adhesive set applications.
8” Straight Barrel Mission	L = 19” W = 8” Thickness = ½”	ASTM C 1167 Type – I Grade - 2	High profile, cap section of the two-piece clay tile. For adhesive set applications.
Roman Pan	L = 19” W = 10” Thickness = ½”	ASTM C 1167 Type – II Grade - 2	High profile, pan section of the two-piece clay tile. For adhesive set applications.
Trim Pieces	L= varies W = varies Varying thickness	ASTM C 1167	Accessory trim, clay 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>
ICP Adhesives Polyset AH-160	Two component polyurethane foam adhesive.	ICP Adhesives and Sealants, Inc.
TILE BOND™ Roof Tile Adhesive	Single component polyurethane foam roof tile adhesive.	The Dow Chemical Company
“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
“Quikrete” Roof Tile Mortar, FL-15	Premixed, pre-bagged gray roof tile mortar.	The Quikrete Companies, Inc.



2.2 MANUFACTURING LOCATION

1. Corona, CA.

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
	Letter	PA 108 (Nail-On)	Aug. 1994
	P09647-01	PA 108 (Mortar Set)	July 1994
	P0402	Withdrawal Resistance Testing of screw vs. smooth shank nails	Sept. 1993
The Center for Applied Engineering, Inc.	94-083	PA 101 (Adhesive Set)	April 1994
	94-084	PA 101 (Mortar Set)	May 1994
	25-7094-(3, 6 & 9)	PA 102	Oct. 1994
	25-7120-(1 & 2)	PA 102	Nov. 1994
	25-7183-(3 & 4)	PA 102	Feb. 1995
	25-7214-(3, 4, &7)	PA 102	March, 1995
	25-7804-4	PA 102	Sep. 1996
Celotex Corporation Testing Services	520111-3	PA 101	Dec. 1998
	520191-2-1	PA 101	March 1999
Walker Engineering, Inc.	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
RI Ogawa and Associates, Inc.	ASTM C 1167	RIO-2618-16	01/31/17
	ASTM C 1167	RIO-2639-16	01/31/17
	ASTM C 1167	RIO-2621-16	01/31/17
Calculations	Restoring Moment	RIO-2510A-14	10/01/14
	Aerodynamic Multiplier	RIO-2510A-14	10/01/14

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 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 applicable building code.
- 3.7 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 **10" Straight Barrel Mission, 8" Straight Barrel Mission, and Roman Pan Tiles** 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)
10" Straight Barrel Mission	8.21	1.58	0.833
8" Straight Barrel Mission	6	1.58	0.66
Roman Pan	8	1.58	0.837

Table 2: Aerodynamic Multipliers - λ (ft³)

Tile Profile	λ (ft ³) Batten Application	λ (ft ³) Direct Deck Application
10" Straight Barrel Mission Pan and Cap	n/a	0.42
8" Straight Barrel Mission Pan and Cap	n/a	0.36
Roman Pan with 8" Straight Barrel Mission	n/a	0.39



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
	Direct Deck	Direct Deck	Direct Deck	Direct Deck	Direct Deck	Direct Deck
10" Straight Barrel Mission Pan and Cap	5.91	5.91	5.81	5.68	5.48	5.36
8" Straight Barrel Mission Pan and Cap	5.1	5.1	5.11	4.9	4.73	4.63
Roman Pan with 8" Straight Barrel Mission	7.41	7.41	7.27	7.11	6.91	6.7

Table 4: Attachment Resistance Expressed as a Moment - M_f (ft-lbf) for Mechanically Attached Systems				
Tile Profile	Fastener Type	Direct Deck (min 15/32" plywood)	Direct Deck (min. 19/32" plywood)	Battens
10" Straight Barrel Mission Pan and Cap Or 8" Straight Barrel Mission Pan and Cap Or Roman Pan with 8" Straight Barrel Mission	2-10d Ring Shank Nails	28.6	41.2	n/a
	1-10d Smooth or Screw Shank Nail	5.1	6.8	n/a
	2-10d Smooth or Screw Shank Nails	6.9	9.2	n/a
	1 #8 Screw	20.7	20.7	n/a
	2 #8 Screw	43.2	43.2	n/a
	1-10d Smooth or Screw Shank Nail (Field Clip)	23.1	23.1	n/a
	1-10d Smooth or Screw Shank Nail (Eave Clip)	29.3	29.3	n/a
	2-10d Smooth or Screw Shank Nails (Field Clip)	27.6	27.6	n/a
	2-10d Smooth or Screw Shank Nails (Eave Clip)	38.1	38.1	n/a



**Table 5: Attachment Resistance Expressed as a Moment - M_f (ft-lbf)
for Mechanically Attached Systems**

Tile Profile	Fastener Type	Direct Deck (min 15/32" plywood)	Direct Deck (min. 19/32" plywood)	Battens
10" Straight Barrel Mission Pan and Cap Or 8" Straight Barrel Mission Pan and Cap Or Roman Pan with 8" Straight Barrel Mission	2-10d Ring Shank Nails ¹	33.1	48.1	n/a

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

**Table 6: Attachment Resistance Expressed as a Moment M_f (ft-lbf)
for Two Paddy Adhesive Set Systems**

Tile Profile	Tile Application	Minimum Attachment Resistance
10" Straight Barrel Mission Pan and Cap Or 8" Straight Barrel Mission Pan and Cap Or Roman Pan with 8" Straight Barrel Mission	Adhesive ¹	29.3 ²

¹ See manufactures component approval for installation requirements.

² TILE BOND™ Roof Tile Adhesive; Average weight per paddy 10.7 grams.
ICP Adhesives and Sealants, Inc.'s ICP Adhesives Polyset AH-160; Average weight per paddy 8 grams.

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

Tile Profile	Tile Application	Minimum Attachment Resistance
10" Straight Barrel Mission Pan and Cap Or 8" Straight Barrel Mission Pan and Cap Or Roman Pan with 8" Straight Barrel Mission	ICP Adhesives and Sealants, Inc.'s ICP Adhesives Polyset AH-160	Clay - 177 ³ Concrete - 133 ³
	TILE BOND™ Roof Tile Adhesive	Clay – 115 ⁴ Concrete – 84 ⁴

³ Paddy placement of 23 grams per pan, and 11.5 grams on each side of cap.

⁴ Paddy placement of 11.8 grams per pan, and 5.9 grams on each side of cap.



**Table 8: Attachment Resistance Expressed as a Moment - M_f (ft-lbf)
for Mortar Set Systems**

Tile Profile	Tile Application	Attachment Resistance
10" Straight Barrel Mission Pan and Cap Or 8" Straight Barrel Mission Pan and Cap Or Roman Pan with 8" Straight Barrel Mission	Mortar Set ⁵	24.5
5 See specific mortar manufacturers Notice of Acceptance		

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".

M.C.A.

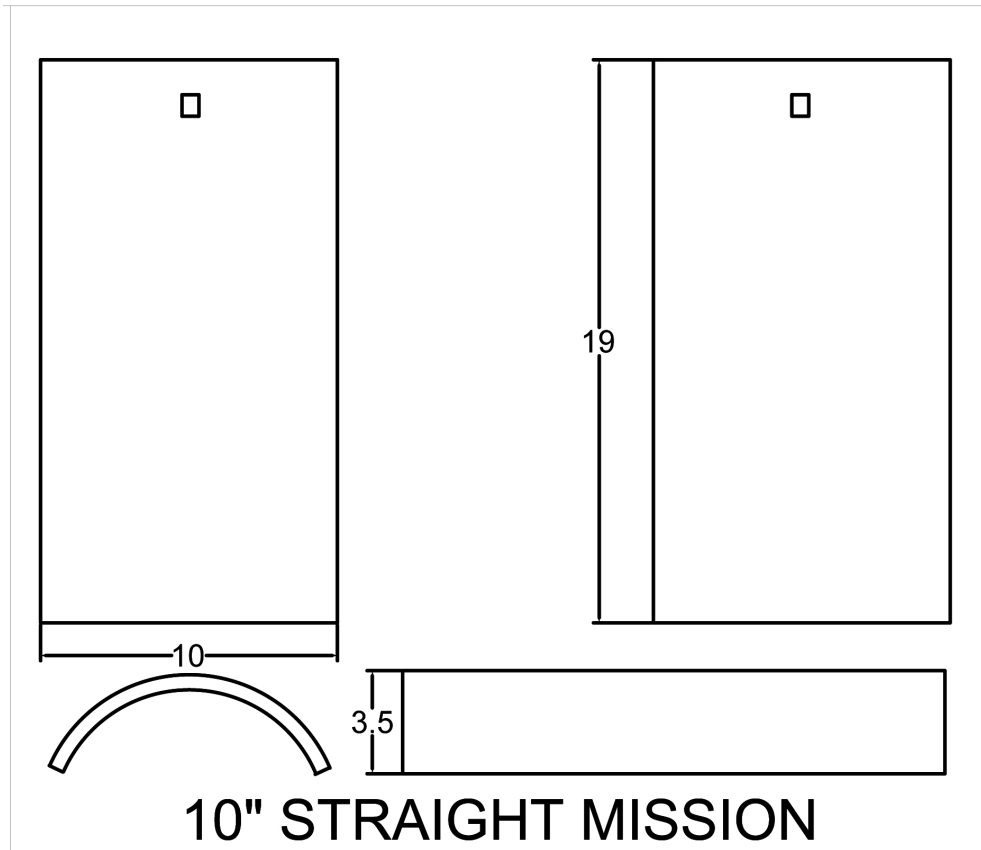
**10" STRAIGHT BARREL , 8" STRAIGHT BARREL, OR ROMAN PAN TILE
MISSION TILE
(LOCATED ON TOP SIDE OF TILE)**

6. BUILDING PERMIT REQUIREMENTS:

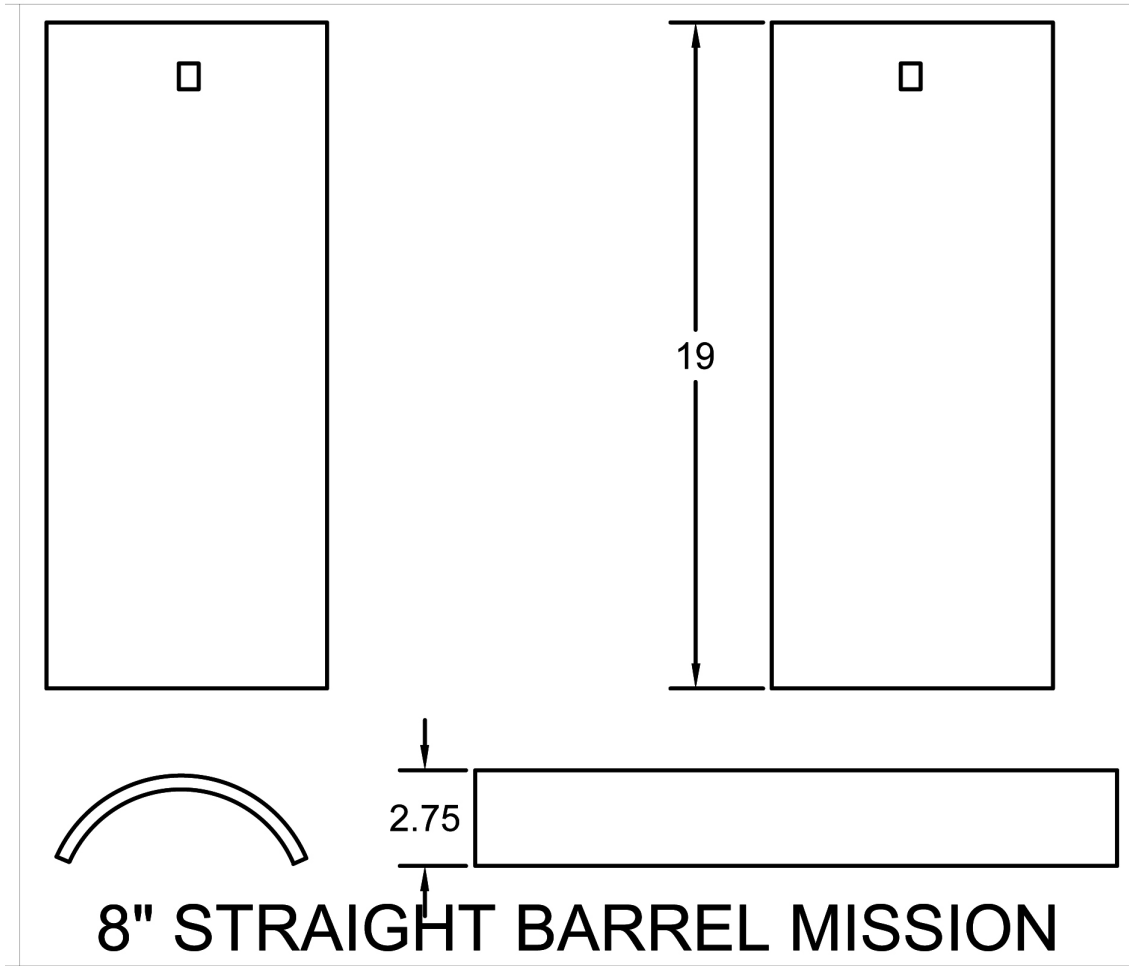
- 6.1 Application for building permit shall be accompanied by copies of the following:
 - 6.1.1 This Notice of Acceptance.
 - 6.1.2 Any other documents required by Building Official or Applicable building code in order to properly evaluate the installation of this system.



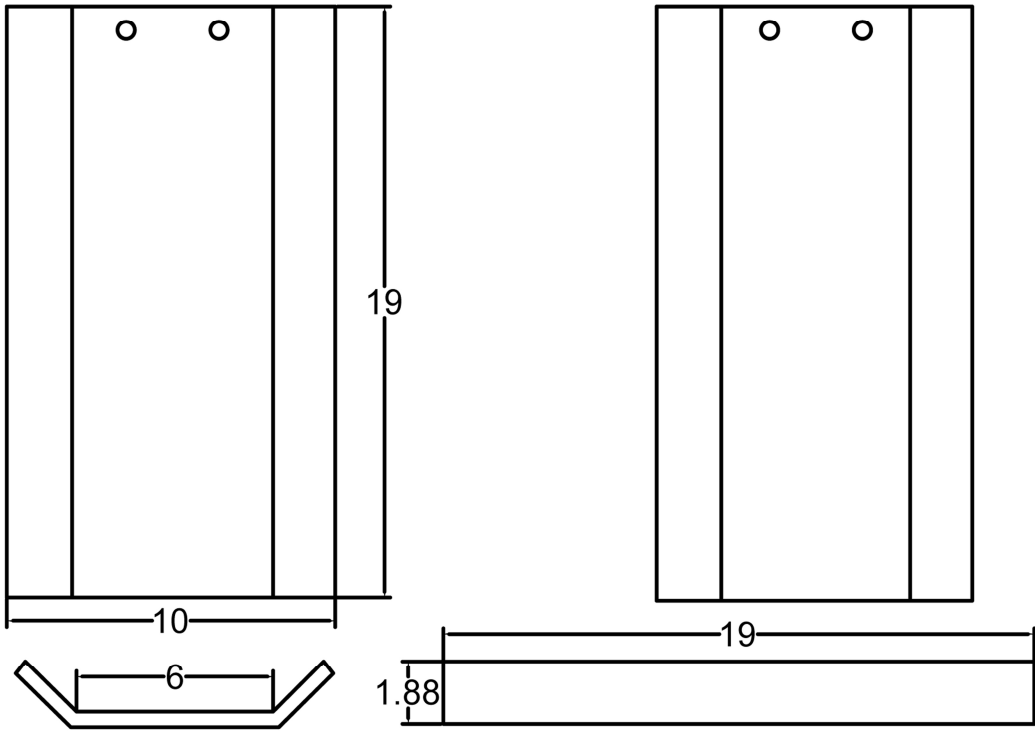
PROFILE DRAWINGS



10" STRAIGHT BARREL MISSION TILE



8" STRAIGHT BARREL MISSION TILE



ROMAN PAN

ROMAN PAN TILE

END OF THIS ACCEPTANCE