



**BUILDING CODE COMPLIANCE OFFICE (BCCO)  
PRODUCT CONTROL DIVISION**

**MIAMI-DADE COUNTY, FLORIDA  
METRO-DADE FLAGLER BUILDING  
140 WEST FLAGLER STREET, SUITE 1603  
MIAMI, FLORIDA 33130-1563  
(305) 375-2901 FAX (305) 375-2908**

**NOTICE OF ACCEPTANCE (NOA)**

---

**Hanson Roof Tile d.b.a. Pioneer Concrete Tile  
1340 SW 34<sup>th</sup> Ave  
Deerfield Beach, FL 33442**

**SCOPE:**

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed by Miami-Dade County Product Control Division and accepted by the Board of Rules and Appeals (BORA) 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 Division (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. BORA reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Division 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 High Velocity Hurricane Zone of the Florida Building Code.

**DESCRIPTION: Nordic Flat 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 6.  
The submitted documentation was reviewed by Frank Zuloaga, RRC



**NOA No.: 02-0916.10  
Expiration Date: 12/16/07  
Approval Date: 12/19/02  
Page 1 of 6**

**ROOFING ASSEMBLY APPROVAL**

**Category:** Roofing  
**Sub Category:** Roofing Tiles  
**Material:** Concrete

**1. SCOPE**

This renews a roofing system using **Nordic Flat Roof Tile**, as manufactured by Hanson Roof Tile d.b.a. Pioneer Concrete Tile described in Section 2 of this Notice of Acceptance. For the locations where the pressure requirements, as determined by applicable Building Code, does not exceed 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>                                                                                                                                      |
|----------------------------------|------------------------------------------------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hanson Nordic Flat Tile          | Length: 16½”<br>Width: 13”<br>Thickness 1¼”          | TAS 112                    | Flat profile, interlocking, extruded concrete roof tile equipped with two nail holes. For direct deck or battened nail-on, mortar or adhesive set applications. |
| Trim Pieces                      | Length: varies<br>Width: varies<br>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 COMPONENTS OR PRODUCTS MANUFACTURED BY OTHERS**

| <u>Product</u>             | <u>Dimensions</u>                                                                  | <u>Test Specifications</u> | <u>Product Description</u>                                                       | <u>Manufacturer</u>           |
|----------------------------|------------------------------------------------------------------------------------|----------------------------|----------------------------------------------------------------------------------|-------------------------------|
| Tile Nails                 | Min. 10dx 3”                                                                       | TAS 114<br>Appendix E      | Corrosion resistant screw or smooth shank nails                                  | Generic<br>(With current NOA) |
| Tile Screws                | #8x 2 ½” long<br>0.335” head dia.<br>0.131” shank dia.<br>0.175” screw thread dia. | TAS 114<br>Appendix E      | Corrosion resistant, coated, square drive, galvanized, coarse thread wood screws | Generic<br>(With current NOA) |
| Hurricane Clip & Fasteners | Clips<br>Min. ½” width<br>Min. 0.060” thick<br>Clip Fasteners<br>Min. 8d x 1 ¼”    | TAS 114<br>Appendix E      | Corrosion resistant clips with corrosion resistant nails.                        | Generic<br>(With current NOA) |



### 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 in accordance with RAS 106 may be required, refer to applicable building code.
- 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 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.

### 4. INSTALLATION

- 4.1 Hanson 'Nordic Flat' Roof Tile and its components shall be installed in strict compliance with Roofing Application Standard RAS 118, 119, & 120
- 4.2 Data For Attachment Calculations

| <b>Table 1: Aerodynamic Multipliers - <math>\lambda</math> (ft<sup>3</sup>)</b> |                                                                     |                                                                          |
|---------------------------------------------------------------------------------|---------------------------------------------------------------------|--------------------------------------------------------------------------|
| <b>Tile Profile</b>                                                             | <b><math>\lambda</math> (ft<sup>3</sup>)<br/>Batten Application</b> | <b><math>\lambda</math> (ft<sup>3</sup>)<br/>Direct Deck Application</b> |
| Hanson Nordic Flat Tile                                                         | 0.267                                                               | 0.289                                                                    |

| <b>Table 2: Restoring Moments due to Gravity - <math>M_g</math> (ft-lbf)</b> |                |             |                |             |                |             |                |             |                           |             |
|------------------------------------------------------------------------------|----------------|-------------|----------------|-------------|----------------|-------------|----------------|-------------|---------------------------|-------------|
| <b>Tile Profile</b>                                                          | <b>3": 12"</b> |             | <b>4": 12"</b> |             | <b>5": 12"</b> |             | <b>6": 12"</b> |             | <b>7": 12" or greater</b> |             |
|                                                                              | Battens        | Direct Deck | Battens                   | Direct Deck |
| Hanson Nordic Flat Tile                                                      | 5.95           | 6.78        | 5.87           | 6.67        | 5.74           | 6.54        | 5.60           | 6.37        | 5.44                      | 6.19        |



| <b>Table 3: Attachment Resistance Expressed as a Moment - <math>M_r</math> (ft-lbf)<br/>For Nail-On Systems</b> |                                                |                                                 |                                                  |                |
|-----------------------------------------------------------------------------------------------------------------|------------------------------------------------|-------------------------------------------------|--------------------------------------------------|----------------|
| <b>Tile Profile</b>                                                                                             | <b>Fastener Type</b>                           | <b>Direct Deck<br/>(Min 15/32"<br/>plywood)</b> | <b>Direct Deck<br/>(Min. 19/32"<br/>plywood)</b> | <b>Battens</b> |
| Hanson Nordic Flat Tile                                                                                         | 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 <sup>1</sup>            | 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.

| <b>Table 4: Attachment Resistance Expressed as a Moment <math>M_r</math> (ft-lbf)<br/>For Two Patty Adhesive Set Systems</b> |                         |                                      |
|------------------------------------------------------------------------------------------------------------------------------|-------------------------|--------------------------------------|
| <b>Tile Profile</b>                                                                                                          | <b>Tile Application</b> | <b>Minimum Attachment Resistance</b> |
| Hanson Nordic Flat Tile                                                                                                      | Adhesive                | 31.3 <sup>3</sup>                    |

2 See manufactures component approval for installation requirements.  
3 Flexible Products Company TileBond Average weights per patty 13.9 grams.  
Polyfoam Product, Inc. Average weight per patty 8 grams.

| <b>Table 4A: Attachment Resistance Expressed as a Moment - <math>M_r</math> (ft-lbf)<br/>For Single Patty Adhesive Set Systems</b> |                         |                                      |
|------------------------------------------------------------------------------------------------------------------------------------|-------------------------|--------------------------------------|
| <b>Tile Profile</b>                                                                                                                | <b>Tile Application</b> | <b>Minimum Attachment Resistance</b> |
| Hanson Nordic Flat Tile                                                                                                            | PolyPro™                | 118.9 <sup>4</sup>                   |
|                                                                                                                                    | PolyPro™                | 40.4 <sup>5</sup>                    |

4 Large paddy placement of 45 grams of PolyPro™.  
5 Medium paddy placement of 24 grams of PolyPro™.



| <b>Table 4B: Attachment Resistance Expressed as a Moment - <math>M_r</math> (ft-lbf)<br/>for Mortar Set Systems</b> |                         |                              |
|---------------------------------------------------------------------------------------------------------------------|-------------------------|------------------------------|
| <b>Tile Profile</b>                                                                                                 | <b>Tile Application</b> | <b>Attachment Resistance</b> |
| Hanson Nordic Flat Tile                                                                                             | Mortar Set              | 39.0                         |

**5. LABELING**

5.1 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".

**6. BUILDING PERMIT REQUIREMENTS**

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

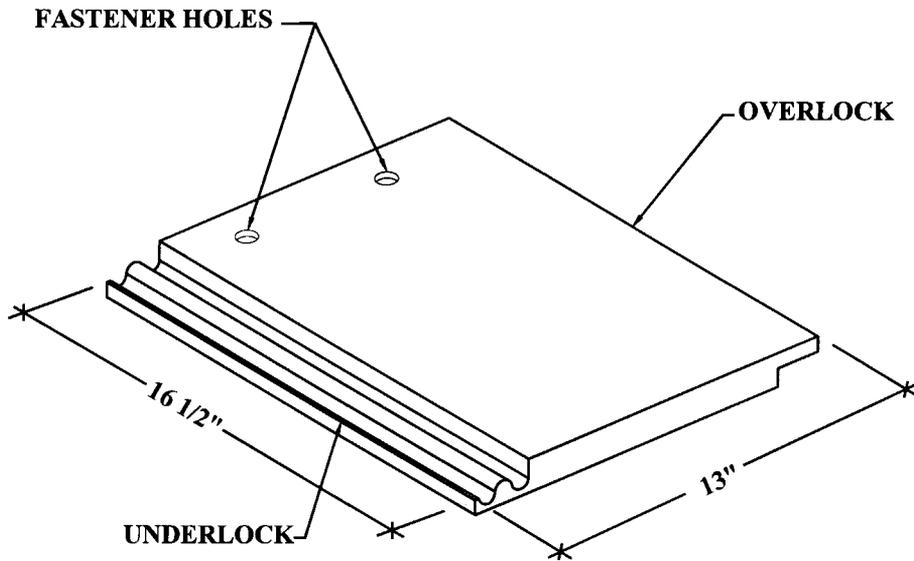
6.1.1 This Notice of Acceptance.

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 DRAWING**

**HANSON "NORDIC FLAT" ROOF TILE**



**NORDIC FLAT**

**END OF THIS ACCEPTANCE**

