NOTICE OF ACCEPTANCE (NOA)

Cellular Concrete LLC
7020 Snowdrift Road, Suite 102
Allentown, PA. 18106

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 Florida Building Code including the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: Cellular Lightweight Concrete

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 renews NOA #03-0929.04 and consists of pages 1 through 7. The submitted documentation was reviewed by Alex Tigera.
# Roofing Assembly Approval

**Category:** Roofing  
**Sub-Category:** Lightweight Insulating Concrete

**Materials:** Aggregate  
**Maximum Design Pressure:** -262.5 psf

## Trade Names of Products Manufactured or Labeled by Applicant:

<table>
<thead>
<tr>
<th>Product</th>
<th>Dimensions</th>
<th>Test Specifications</th>
<th>Product Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mearlcrete Foam Concentrate</td>
<td>various</td>
<td>ASTM C 869</td>
<td>Foaming agents used in making preformed foam for use in cellular lightweight concrete.</td>
</tr>
</tbody>
</table>

## Trade Names of Products Manufactured by Others:

<table>
<thead>
<tr>
<th>Product</th>
<th>Dimensions</th>
<th>Test Specifications</th>
<th>Product Description</th>
<th>Manufacturer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expanded Polystyrene</td>
<td>Min. 1&quot; x 2' x 4' 1.0 pcf density</td>
<td>ASTM C 578</td>
<td>Expanded polystyrene with a minimum of six - 3&quot; diameter holes (3.7% of surface area) to provide monolithic bonding of topping to board slurry coat.</td>
<td>Generic</td>
</tr>
<tr>
<td>Portland Cement</td>
<td>various</td>
<td>ASTM C 150</td>
<td>Portland Cement</td>
<td>Generic</td>
</tr>
<tr>
<td>C-R Base Felt Fastener and C-R Base Sheet Disc</td>
<td>1.75&quot; Standard 1.2&quot; NVS</td>
<td>TAS 110</td>
<td>Steel base sheet fastener for lightweight concrete with integral plate</td>
<td>Olympic Mfg. Group</td>
</tr>
<tr>
<td>FM-90 Base Ply Fastener</td>
<td>1.7&quot; Standard</td>
<td>TAS 110</td>
<td>Steel base sheet fastener for lightweight concrete with 2.7&quot; integral plate</td>
<td>ES Products Inc.</td>
</tr>
<tr>
<td>FM-45 Base Ply Fastener and FM-30 Disc</td>
<td>1&quot; NVS</td>
<td>TAS 110</td>
<td>Steel base sheet fastener for lightweight concrete with separate 2.7&quot; round plate</td>
<td>ES Products Inc.</td>
</tr>
<tr>
<td>Base-Lok Fastener</td>
<td>1.75&quot; long 3&quot; head diameter</td>
<td>TAS 110</td>
<td>Nylon 66, screw-in base sheet fastener for lightweight concrete decks</td>
<td>Simplex, Inc.</td>
</tr>
<tr>
<td>Lite Weight Concrete Fastener</td>
<td>1.76&quot; long</td>
<td>TAS 110</td>
<td>Steel base sheet fastener for lightweight concrete decks</td>
<td>ITW Buildex, Inc.</td>
</tr>
<tr>
<td>Tri-Fix Fastener</td>
<td>3&quot; diameter</td>
<td>TAS 110</td>
<td>Steel base sheet fastener for lightweight concrete decks</td>
<td>Soprema, Inc</td>
</tr>
</tbody>
</table>

NOA No.: 08-0902.06  
Expiration Date: 10/19/13  
Approval Date: 10/09/08
EVIDENCE SUBMITTED:

<table>
<thead>
<tr>
<th>Test Agency</th>
<th>Test Identifier</th>
<th>Test Name/Report</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factory Mutual Research Corp.</td>
<td>J.I. DOAO.AM</td>
<td>Uplift Resistance (FMRC 4454 - TAS 114)</td>
<td>09/28/99</td>
</tr>
<tr>
<td>Factory Mutual Research Corp.</td>
<td>J.I. 3001331</td>
<td>Uplift Resistance (FMRC 4454 - TAS 114)</td>
<td>12/31/99</td>
</tr>
<tr>
<td>Exterior Research &amp; Design, LLC. - Trinity Engineering</td>
<td>#4852.07.96-1</td>
<td>Uplift Resistance (TAS 114, Appendix D)</td>
<td>07/10/96</td>
</tr>
<tr>
<td>IRT of South Florida</td>
<td>01-005</td>
<td>PA 114</td>
<td>03/13/01</td>
</tr>
</tbody>
</table>

APPROVED APPLICATIONS:

*Deck Type 1:* Lightweight Insulating Concrete

*System A:* Cellular

*Cast Density Range:* 34 - 50 PCF

*Dry Density Range:* 27 - 40 PCF

*28 Day Compressive Strength Range:* 200 - 350 psi depending on membrane type

*Minimum Characteristic Resistance*

*Force with Approved Fasteners:* Cure Time MCRF (lbf)

<table>
<thead>
<tr>
<th>Duration</th>
<th>Force (lbf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-4 Days</td>
<td>46 lbf</td>
</tr>
<tr>
<td>15 Days</td>
<td>77 lbf</td>
</tr>
<tr>
<td>21 Days</td>
<td>112 lbf</td>
</tr>
<tr>
<td>28 Days</td>
<td>141 lbf</td>
</tr>
</tbody>
</table>

*Components:* Portland Cement ASTM C 150; 94 lbs. bag

Foaming Agent ASTM C 869:40:1 Water/Concentrate

3.0 ft³ preformed foam

Water (max chloride level 250 ppm): 5 gal./sack

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<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>200 - 249</td>
<td>32 - 40</td>
<td>22 - 30</td>
<td>19.70 - 17.70</td>
<td>590 - 730</td>
<td>267 - 350</td>
<td>2</td>
</tr>
<tr>
<td>250 - 350</td>
<td>42 - 50</td>
<td>32 - 40</td>
<td>17.70 - 15.60</td>
<td>730 - 870</td>
<td>350 - 432</td>
<td>2</td>
</tr>
</tbody>
</table>

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NOA No.: 08-0902.06
Expiration Date: 10/19/13
Approval Date: 10/09/08
Page 3 of 7
Deck Type 1: Lightweight Insulating Concrete

Application: Materials shall be mixed in a horizontal paddle drum mixer and pumped to the roof at the indicated density, and in compliance with manufacturer specifications. Cast densities shall be checked and recorded as it comes out of the hose, at a minimum interval of one-hour.

Polystyrene Insulation:

- Minimum Density: 1.0 pcf
- Minimum Dimensions: 1" x 2' x 4'
- Key Holes and Slots: Six 3" diameter holes per 2' x 4' board (3.7% of surface area) minimum required to provide monolithic bonding of topping board to bond (with current NOA).

Rigid insulation panels shall be placed in a minimum 1/8” slurry-coat of insulating concrete, while the material is still in a plastic state and shall be covered with a minimum 2” topcoat cast within the same working day of placement of the insulation panels.

Alternately, the slurry coat and insulation panels shall be allowed to cure for 24 hours prior to the application of the topcoat. For steel deck applications the slurry coat and insulation boards shall be left undisturbed to cure for a minimum of 24 hours before the application of the topcoat. See Maximum Design Pressure listing herein.

The insulating concrete topcoat shall be screeded to a smooth finish surface free of ridges and at the proper thickness and slope prior to the installation of the roofing membrane.

SUBSTRATE REQUIREMENTS:

Note: Refer to Maximum Design Pressures Section of this Notice of Acceptance for specific substrate or substrate treatment requirements.

New Construction:
- Concrete: Structurally designed in compliance with applicable Building Code.
- Steel Deck: Minimum 22 gage galvanized G-90 attached to supports in compliance with applicable Building Code. (See Table 2 herein for maximum design pressures and attachments)

Existing Construction:
- Concrete: Broom cleaned and free of any materials or covering that may impede bonding. Substrate shall be in compliance with applicable Building Code.
- Gravel Surfaced BUR: Loose gravel shall be removed, and adhesion of existing roof system shall be tested in compliance with TAS 124 to meet the design pressure requirements determined in compliance with applicable Building Code.
- Smooth Surface BUR: Adhesion of existing roof system shall be tested in compliance with TAS 124 to meet the design pressure requirements determined in compliance with applicable Building Code.
Granule Surface Cap: adhesion of existing roof system shall be tested in compliance with TAS 124 to meet the design pressure requirements determined in compliance with applicable Building Code.

### Maximum Design Pressures:

<table>
<thead>
<tr>
<th>Substrate</th>
<th>Substrate Treatment</th>
<th>Min. Compressive Strength (psi)</th>
<th>Polystyrene Insulation Board</th>
<th>Maximum Design Pressure (psf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. 22 ga., type B attached to steel supports spaced 5 ft</td>
<td>none</td>
<td>300</td>
<td>Optional min. 1&quot; thick min. 1.0 pcf</td>
<td>45</td>
</tr>
<tr>
<td>Min. 22 ga., type B Grade E slotted deck, attached to steel supports spaced 5 ft o.c. with ITW-Buildex Traxx-5 fasteners, fastened 6” o.c. Side-laps fastened 18” on center.</td>
<td>Hydrostop “BarierGard” applied to the steel deck at a rate of 15 sq. ft per gallon</td>
<td>300</td>
<td>min. 1” thick min. 1.0 pcf Apache Corrugated E.P.S.</td>
<td>67.5</td>
</tr>
<tr>
<td>Min. 22 ga., type B Grade E slotted deck, welded to steel supports spaced 5 ft o.c. with 3/8” weld washers or with ITW-Buildex Traxx-5 fasteners, at a spacing of 6” o.c. Side-laps fastened 18” on center with ITW-Buildex Traxx 1 #10 self tapping screws.</td>
<td>Steel deck shall be washed with distilled vinegar prior to pour.</td>
<td>300</td>
<td>min. 1” thick min. 1.0 pcf Apache Corrugated E.P.S.</td>
<td>52.5</td>
</tr>
<tr>
<td>Min. 22 ga., type B Grade E slotted deck, welded to steel supports spaced 5 ft o.c. with 3/8” weld washers or with ITW-Buildex Traxx-5 fasteners, at a spacing of 6” o.c. Side-laps fastened 18” on center with ITW-Buildex Traxx 1 #10 self tapping screws.</td>
<td>Steel deck shall be primed with Mearl Bonding agent.</td>
<td>300</td>
<td>min. 1” thick min. 1.0 pcf Apache Corrugated E.P.S.</td>
<td>75</td>
</tr>
<tr>
<td>Min. 22 ga., Deep Vented, Marlyn Type G-90 finish steel deck, welded to steel supports spaced 6 ft o.c. with 5/8” puddle welds and washers or with ITW-Buildex Traxx-5 fasteners, at a spacing of 6” o.c. Side-laps fastened 12” on center with ITW-Buildex Traxx 1 #10 self tapping screws.</td>
<td>none</td>
<td>300</td>
<td>Optional: Min 1” thick Min. 1.0 pcf</td>
<td>90</td>
</tr>
</tbody>
</table>

### New Construction or Reroof (Tear-off)

<table>
<thead>
<tr>
<th>Substrate</th>
<th>Substrate Treatment</th>
<th>Min. Compressive Strength</th>
<th>Polystyrene Insulation Board</th>
<th>Maximum Design Pressure (psf)</th>
</tr>
</thead>
</table>

NOA No.: 08-0902.06  
Expiration Date: 10/19/13  
Approval Date: 10/09/08  
Page 5 of 7
<table>
<thead>
<tr>
<th>Substrate</th>
<th>Substrate Treatment</th>
<th>Min. Compressive Strength</th>
<th>Polystyrene Insulation Board</th>
<th>Maximum Design Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>gravel surface BUR*</td>
<td>none</td>
<td>200 psi</td>
<td>none</td>
<td>165.0 psf</td>
</tr>
<tr>
<td>gravel surface BUR*</td>
<td>none</td>
<td>200 psi</td>
<td>min. 1&quot; thick</td>
<td>90.0 psf</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>min. 1.0 pcf</td>
<td></td>
</tr>
<tr>
<td>smooth surface BUR</td>
<td>none</td>
<td>200 psi</td>
<td>none</td>
<td>45.0 psf</td>
</tr>
<tr>
<td>smooth surface BUR</td>
<td>none</td>
<td>200 psi</td>
<td>min. 1&quot; thick</td>
<td>45.0 psf</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>min. 1.0 pcf</td>
<td></td>
</tr>
<tr>
<td>mineral surface cap</td>
<td>none</td>
<td>200 psi</td>
<td>none</td>
<td>82.5 psf</td>
</tr>
<tr>
<td>sheet*</td>
<td></td>
<td></td>
<td>min. 1&quot; thick</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>min. 1.0 pcf</td>
<td></td>
</tr>
</tbody>
</table>

* Existing BUR over concrete deck substrate

**Note:** Maximum Design Pressures noted herein shall be used in conjunction with those maximum design pressures published in the Roof Assembly Product Control Notice of Acceptance for Accepted Systems over lightweight concrete decks.
GENERAL LIMITATIONS:
1. Any excess water on the lightweight concrete shall be removed prior to roof installation.
   
   1. Applicator shall maintain a job log and make it available to the Building Official upon request.
      The job log shall contain cast densities recordings taken at a minimum interval of one-hour.
      a. Cast densities shall be measured with calibrated scale accurate from 1 to 50 lbs. The
         scale shall display weight in increments of ¼ lb. and be accurately calibrated to ¼ lb.
      b. The measuring bucket shall be of 5 quarts or larger
   
   2. Lightweight insulating concrete installation shall demonstrate its suitability to perform as a
      satisfactory substrate during the "walkability inspection". If the deck or a portion of the deck is
determined to be out of compliance, the Building Official may call for further testing (if
applicable for the roof system) to confirm fastener spacing or provide data for the roof system
manufacturer to calculate a new fastener pattern. Fastener testing (if applicable for the roof
system) shall be required. Any areas where fasteners will not hold a minimum 40 lbf. after 5 days
of cure shall be removed and recast.

   3. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is
based on a minimum fastener resistance value as calculated in conjunction with the maximum
design value listed within specific roof membrane manufacturer's NOA. Should the fastener
resistance be less than that required, as determined by the Building Official, a revised fastener
spacing, prepared, signed and sealed by a Florida registered Professional Engineer, Registered
Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall
utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and
calculations in compliance with Roofing Application Standard RAS 117. If continued
noncompliance is observed and the roof deck and associated roof system cannot be corrected
based on additional testing and attachment calculations, the Building Official may call for the
removal of all or portions of the deck.

   4. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these
areas. Fastener densities shall be increased as calculated in compliance with Roofing
Application Standard RAS 117. Calculations prepared, signed and sealed by a Florida registered
Professional Engineer, Registered Architect, or Registered Roof Consultant shall be provided to
the Building Official for his/her review.

   5. Roofing contractor shall consult with roofing assembly manufacturer for compatibility with all
surface coatings or treatments listed in this NOA.

   6. Direct-adhered single ply systems shall be installed in strict compliance with membrane
manufacturer's specifications and roof assembly manufacturer NOA. All coatings or surface
preparation materials applied to the lightweight insulating concrete shall be listed as an approved
interface material with the roof assembly manufacturer.

   7. Maximum Design Pressures noted in this NOA shall be used in conjunction with the maximum
design pressures listed in the roof assembly manufacturer's NOA.

   8. For steel deck applications the slurry coat and insulation boards shall be left undisturbed to cure
for a minimum of 24 hours before the application of the topcoat.

END OF THIS ACCEPTANCE

NOA No.: 08-0902.06
Expiration Date: 10/19/13
Approval Date: 10/09/08
Page 7 of 7