MIAMI-DADE

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)

Celcore Incorporated
3148 US HWY 70 Street
Black Mountain, NC 28711

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

DESCRIPTION: Lightweight Insulating 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 NOA revises NOA No. 08-0822.23 and consists of pages 1 through 8.
The submitted documentation was reviewed by Jorge L. Acebo.

MIAMI-DADE COUNTY APPROVED

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:

Product	Dimensions	Test Specifications	Product Description
Celcore Foam Concentrate	various	ASTM C 869	Foaming agents used in making preformed foam for use in lightweight cellular concrete.
Celcore MF Concentrate	various	ASTM C 869	Foaming agents used in making preformed foam for use in lightweight cellular concrete.
Celcore PVA Curing Compound	various		Emulsion curing agent

TRADE NAMES OF PRODUCTS MANUFACTURED BY OTHERS:

Product	Dimensions	Test Specifications	Product Description	Manufacturer
Expanded Polystyrene	Min. 1" x 2' x 4' 1.0 pcf density	ASTM C 578	Expanded polystyrene with a minimum of 8 2¼" holes (3.7% of surface area) to provide monolithic bonding of topping to board slurry.	Generic (with current NOA)
Portland Cement	various	ASTM C 150	Portland Cement	generic
C-R Base Felt Fastener and C-R Base Sheet Disc	1.75" Standard	TAS 114	Steel base sheet fastener for light weight concrete with integral plate	Olympic Mfg. Group
FM-90 Base Ply Fastener	1.7" Standard	TAS 114	Steel base sheet fastener for light weight concrete with 2.7" integral plate	ES Products Inc.
GAF GAFTITE	1.75" Standard	TAS 114	Steel base sheet fastener for light weight concrete with integral plate	GAF Materials Corp.
ITW Buildex	1.7" Standard	TAS 114	Steel base sheet fastener for light weight concrete with integral plate	ITW Buildex
Tri-Fix	1.7" Standard	TAS 114	Steel sheet fastener for lightweight concrete with 3" steel plate.	Soprema

EVIDENCE SUBMITTED:

Test Agency	Test Identifier	Test Name/Report	Date
Underwriters Laboratories, Inc.	R11599(N)	UL 790	05/16/86
Factory Mutual Research Corporation	J.I. OM2A6.AM	4454	03/10/86
	J.I. OP3A6.AM		03/15/89
	J.I. 2P3A9.AM		03/07/89
	J.I. 1Z5A6.AM	4454	10/25/96
	J.I. 2B8A4.AM	4454	07/02/97
	J.I. 3002416	4454	05/06/99
Certified Testing Laboratories	CTLA 105R-C	TAS 114-J/ FM 4454	09/24/08

Deck Type 2I: Steel / Concrete

Deck Description: 18-22 ga. steel
26 ga. Steel
2500-psi structural concrete or concrete plank

System A: Cellular

Cast Density Range: Minimum 36 PCF

Dry Density Range: Minimum 26 PCF

28 Day Compressive Strength Range: 175 - 350 psi

Minimum Characteristic Resistance Force with Approved Fasteners:
2-4 Days:46 lbf
15 Days:77 lbf
21 Days:112 lbf
28 Days:141 lbf

Components:

Portland Cement ASTM C 150: 7- 94 lb. sacks; see table below
Foaming Agent ASTM C 869: (40:1 Water/Concentrate) 3.5 lbs/ft³ preformed foam
Water (max chloride level 250 ppm): 5 gal./sack

Wet densities and dry densities using the following range of proportioned ingredients:

Table 1

PSI Range	Wet Density Range	Dry Density Range	Foam	Cement Range	Mixing Water Range	Min. Thickness
160-249	30-40 pcf	22-34.5 pcf	19.70-17.70 $(^{ft}/_{yd})^3$	663-730 lbs	267-350 lbs	2"
250-350	36-50 pcf	30-40 pcf	17.70-15.60 $(^{ft}/_{yd})^3$	730-870 lbs	350-432 lbs	2"

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.

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.

Polystyrene Insulation

Minimum Density:	1.0 pcf
Minimum Dimensions:	1" x 2' x 4'
Holes and slots for keying:	8 - 2¼" holes per 2' x 4' board (3.7% of surface area) minimum required to provide monolithic bonding of topping board to slurry. (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. (With current NOA)

Insulation panels and slurry coat shall be left to cure overnight before the installation of the topcoat.

The following day a 2" minimum topcoat shall be poured, and screeded to a smooth finish surface free of ridges and at the proper thickness and slope prior to the installation of the roofing membrane.

After setting of the topcoat to support foot traffic, Celcore PVA compound shall be applied at a minimum rate of 300 ft^2 per gallon ($7.2m^2/l$).

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.

Table 2: Maximum Design Pressures Applications

NEW CONSTRUCTION				
Substrate	**Substrate Treatment**	**Min. Compressive Strength**	**Apache Holey Board**	**Maximum Design Pressure**
18-22 ga. vented steel	Steel deck shall be secured to ¼" thick structural supports spaced a maximum of **4** ft on centers with ITW Buildex Traxx/5 at the bottom of each rib (6" o/c.)	200 psi	min. 1" thick min. 1.0 pcf	-90 psf
18-22 ga. vented steel	Steel deck shall be secured to ¼" thick structural supports spaced a maximum of **5** ft on centers with ITW Buildex Traxx/5 at the bottom of each rib (6" o/c.)	200 psi	min. 1" thick min. 1.0 pcf	-82.5 psf
18-22 ga. vented steel	Steel deck shall be secured to structural supports spaced a maximum of **5** ft on centers with ½ puddle welds and washers.	200 psi	min. 1" thick min. 1.0 pcf	-75 psf
18-22 ga. vented steel	Steel deck shall be secured to ¼" thick structural supports spaced a maximum of **6** ft on centers with ITW Buildex Traxx/5 at the bottom of each rib (6" o/c.)	200 psi	min. 1" thick min. 1.0 pcf	-60 psf
concrete	none	200 psi	min. 1" thick min. 1.0 pcf	-262.5 psf

NEW CONSTRUCTION				
Substrate	**Substrate Treatment**	**Min. Compressive Strength**	**Apache Holey Board**	**Maximum Design Pressure**
18-22 ga. vented steel	Steel deck shall be secured to structural supports spaced a maximum of **5** ft on centers with ½ puddle welds and washers.	200 psi	min. 1" thick min. 1.0 pcf	-60psf
18-22 ga. vented steel	Steel deck shall be secured to structural supports spaced a maximum of **5** ft on centers with ½ puddle welds and washers.	300 psi	min. 1" thick min. 1.0 pcf	-75psf
26 ga. vented steel	Steel deck shall be secured to supports spaced a maximum of **5** ft on centers with ½" puddle welds and washers at every other corrugation. Deck side laps fastened with ITW Buildex Traxx/1 at midspan.	200 psi	min. 1" thick min. 1.0 pcf	-52.5 psf
18-22 ga. vented steel	Steel deck shall be secured to supports spaced a maximum of **6** ft on centers with ½" puddle welds at every corrugation (6" o.c.). Deck side laps fastened with ITW Buildex Traxx/1 at midspan.	200 psi	min. 1" thick min. 1.0 pcf	-60 psf

RECOVER				
gravel surface BUR	none	300 psi	none	-75 psf
gravel surface BUR	none	300 psi	min. 1" thick min. 1.0 pcf	-75 psf
mineral surface cap sheet	none	300 psi	none	-75 psf
mineral surface cap sheet gravel surface BUR	none none	300 psi 300 psi	min. 1" thick min. 1.0 pcf none	-75 psf -75 psf
gravel surface BUR	none	300 psi	min. 1" thick min. 1.0 pcf	-75 psf
mineral surface cap sheet	none	300 psi	none	-135 psf
mineral surface cap sheet	none	300 psi	min. 1" thick min. 1.0 pcf	-135 psf
smooth surface BUR	none	300 psi	none	-262.5 psf
smooth surface BUR	none	300 psi	min. 1" thick min. 1.0 pcf	-262.5 psf
smooth surface cap sheet	none	300 psi	none	-262.5 psf
smooth surface cap sheet	none	300 psi	min. 1" thick min. 1.0 pcf	-262.5 psf

GENERAL LIMITATIONS:

1. Any excess water on the lightweight concrete shall be removed prior to roof installation.
2. 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.
3. 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 $^{1}/_{16}$ lb.
   b. The measuring bucket shall be of 5 quarts or larger
4. Lightweight insulating concrete installation shall demonstrate its suitability to perform as a satisfactory substrate during "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.
5. 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.
6. 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.
7. Roofing contractor shall consult with roofing assembly manufacturer for compatibility with all surface coatings or treatments listed in this NOA.
8. 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.
9. 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.
10. A minimum $^{1}/_{8}$ inch slurry coat shall be applied over substrate with insulation boards immediately adhered into the slurry coat. Slurry coat and insulation boards shall be left undisturbed to cure overnight before the application of the topcoat.
11. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 9B-72 of the Florida Administrative Code.

END OF THIS ACCEPTANCE