MIAMI-DADE COUNTY, FLORIDA
METRO-DADE FLAGLER BUILDING

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

CONTRACTOR LICENSING SECTION
(305) 375-2527 FAX (305) 375-2558

CONTRACTOR ENFORCEMENT DIVISION
(305) 375-2966 FAX (305) 375-2908

PRODUCT CONTROL DIVISION
(305) 375-2902 FAX (305) 372-6339

PRODUCT CONTROL NOTICE OF ACCEPTANCE

Airlite Processing Corporation of Florida
3505 65th Street
Vero Beach ,FL 32967

Your application for Notice of Acceptance (NOA) of:
Airlite Perlite Agregate Lightweight Concrete Roof Decks.
under Chapter 8 of the Code of Miami-Dade County governing the use of Alternate Materials and Types of Construction, and completely described herein, has been recommended for acceptance by the Miami-Dade County Building Code Compliance Office (BCCO) under the conditions specified herein.

This NOA shall not be valid after the expiration date stated below. BCCO reserves the right to secure this product or material at any time from a jobsite or manufacturer's plant for quality control testing. If this product or material fails to perform in the approved manner, BCCO may revoke, modify, or suspend the use of such product or material immediately. BCCO reserves the right to revoke this approval, if it is determined by BCCO that this product or material fails to meet the requirements of the South Florida Building Code.

The expense of such testing will be incurred by the manufacturer.

ACCEPTANCE NO.: 00-0512.10
EXPIRES: 06/17/2003

Raul Rodriguez
Chief Product Control Division

THIS IS THE COVERSHEET, SEE ADDITIONAL PAGES FOR SPECIFIC AND GENERAL CONDITIONS
BUILDING CODE & PRODUCT REVIEW COMMITTEE

This application for Product Approval has been reviewed by the BCCO and approved by the Building Code and Product Review Committee to be used in Miami-Dade County, Florida under the conditions set forth above.

Francisco J. Quintana, R.A.
Director
Miami-Dade County
Building Code Compliance Office

APPROVED: 08/24/2000

ROOFING ASSEMBLY APPROVAL

Category: Roofing
Sub-Category: Lightweight Insulating Concrete

Approval Date: **August 24,2000**

Expiration Date: **June 17, 2003**

Materials: Aggregate
Maximum Design Pressure -320 psf.
Fire Classification:

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

Product	Dimensions	Test Specifications	Product Description
Airlite Perlite Concrete Aggregate	granular	ASTM C 332 Group 1	White, glassy lightweight material.
Air Entraining Agent	liquid	ASTM C 260	Foaming agent used to reduce density

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 eight - 3" diameter holes (5% of surface area) to provide monolithic bonding of topping to board slurry coat.	With Current NOA
Portland Cement	various	ASTM C 150	Portland Cement	generic
Galvanized Metal Deck	various	ASTM A 525 G-90	steel deck	generic
Galvanized Wire Mesh	5' wide rolls		Wire mesh used in some applications for enhanced fire ratings and steep slopes.	generic

EVIDENCE SUBMITTED:

Test Agency	Test Identifier	Test Name/Report	Date
Factory Mutual Research Corporation	J.I. 2Z9A6.AM	Uplift Resistance (FMRC 4470 - PA 114)	08/16/96
Factory Mutual Research Corporation	J.I. 0X7A3.AM	Perlite Insulating Concrete for Class I Roof Deck Construction	04/26/94
Exterior Research & Design, LLC. - Trinity Engineering	#8071.07.96-1	Uplift Resistance (PA 114, Appendix D)	07/10/96

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APPROVED ASSEMBLIES:

Deck Type 4 Perlite Insulating Concrete
System F: Perlite / Aggregate

Cast Density Range: 38 - 56 PCF depending on membrane type
Dry Density Range: 24 - 42 PCF depending on membrane type

28 Day Compressive Strength Range: 125 - 350 psi depending on membrane type

Minimum Characteristic Resistance Force:

Cure Time	MCRF (lbf)
2-4 Days	46 lbf
15 Days	77 lbf
21 Days	112 lbf
28 Days	141 lbf

Components:

Portland Cement ASTM C 150:	94 lbs. bag
Perlite Aggregate ASTM C 332, Group 1:	4 c.f. bag
Water (maximum chloride level 250 ppm):	12 gal./sack
Air Entertainment:	1 pt./bag

Typical Physical Properties and Mix Proportions for Perlite Concrete

Typical Properties				Typical Mix Proportions			
Cement to Aggregate Ratio (by volume)	**Dry Density Range* (lb/ft3)**	**Minimum Compressive Strength (lb/in2)**	**Wet Density Range (lb/ft3)**	**Cement (ft3)**	**Perlite (ft3)**	**Water (gallons)**	**Air Entertainment**
1:4	36-42	300	48-56	6.75	27	61	**
1:6	24-30	125	38-44	4.5	27	54	**

* All values based on 28 day cure.
** Consult Airlite Processing Corp. for recommended type and proportioning of air entraining agent.

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Application: Apply a minimum 1/8" slurry coat. Install polystyrene insulation board, if applicable, within 30 minutes or while the slurry coat is still plastic; topping coat shall be applied on the insulation board in compliance with the manufacturer's specifications. For steel deck applications, there shall be no traffic on the roof deck for 24 hours following installation of insulation. Apply a minimum 2" topping over the polystyrene or other approved substrate. Special mix designs with product approval may be 1" minimum.

Polystyrene Insulation:

Minimum Density:	1.0 pcf
Minimum Dimensions:	1" x 2' x 4'
Key Holes and Slots:	Minimum eight 3" diameter holes per 2' x 4' board (5% of surface area) minimum required to provide monolithic bonding of topping board to bond.

Substrate Requirements:

New Construction:

Steel: Minimum 22 ga. galvanized G-90 attached to supports in compliance with Chapter 23 of the South Florida Building Code.

Concrete: Structurally designed in compliance with Chapter 23 & 25 of the South Florida Building Code.

Existing Construction:

Concrete: Broom clean. Substrate shall be in compliance with Chapter 25 of the South Florida Building Code.

Gravel Surfaced BUR: Loose gravel shall be removed, and adhesion of existing roof system shall be tested in compliance with Miami-Dade County Protocol PA 124 to meet the design pressure requirements determined in compliance with Chapter 23 of the South Florida Building Code.

Smooth Surface BUR: Adhesion of existing roof system shall be tested in compliance with Miami-Dade County Protocol PA 124 to meet the design pressure requirements determined in compliance with Chapter 23 of the South Florida Building Code.

Granule Surface Cap: Adhesion of existing roof system shall be tested in compliance with Miami-Dade County Protocol PA 124 to meet the design pressure requirements determined in compliance with Chapter 23 of the South Florida Building Code.

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MAXIMUM DESIGN PRESSURES:				
Substrate	**Substrate Treatment**	**Min. Compressive Strength**	**Polystyrene Insulation Board**	**Maximum Design Pressure**
NEW CONSTRUCTION				
18-22 ga. steel	none	180 psi	none	52.5 psf
18-22 ga. steel	none	180 psi	min. 1" thick min. 1.0 pcf	52.2 psf
NEW CONSTRUCTION OR REROOF (TEAR-OFF)				
concrete	none	180 psi	none	215.0 psf
concrete	none	180 psi	min. 1" thick min. 1.0 pcf	320.0 psf
RECOVER OVER CONCRETE DECKS				
gravel surface BUR	none	180 psi	none	125.0 psf
gravel surface BUR	none	180 psi	min. 1" thick min. 1.0 pcf	65.0 psf
smooth surface BUR	none	180 psi	none	50.0 psf
smooth surface BUR	none	180 psi	min. 1" thick min. 1.0 pcf	50.0 psf
mineral surface cap sheet	none	180 psi	none	55.0 psf
mineral surface cap sheet	none	180 psi	min. 1" thick min. 1.0 pcf	55.0 psf
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 an approved systems over lightweight concrete decks.				

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GENERAL LIMITATIONS:

1. 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 a specific roof membrane manufacturers 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 Engineer or Architect may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Miami-Dade County Protocol TAS 105 and calculations in compliance with Miami-Dade Roofing Application Standard RAS 117.

6. Contractor shall consult with roofing system manufacturer for compatibility with all surface coatings or treatments listed in this NOA.

7. All coatings or surface preparation materials applied to the lightweight concrete shall be listed as an approved interface material with the roof membrane manufacturer.

8. Direct-adhered single ply systems shall be installed in strict compliance with membrane manufacturer's specifications and the Miami-Dade County Notice of Acceptance.

9. Maximum Design Pressures noted in this NOA shall be used in conjunction with those maximum design pressures published in the Roof Assembly Product Control Notice of Acceptance for Approved Assembly over lightweight concrete decks.

10. Topping applied over insulation boards and any decking/substrate that allows deflection under normal traffic shall be installed within four (4) hours of board installation. If installation is interrupted due to inclement weather or other situations beyond the control of the contractor, the installed insulation board shall be inspected to confirm adhesion to the substrate. Over solid substrates, topping installation shall not be delayed over 24 hours.

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NOTICE OF ACCEPTANCE STANDARD CONDITIONS

1. Renewal of this Acceptance (approval) shall be considered after a renewal application has been filed and the original submitted documentation, including test supporting data, engineering documents, are no older than eight (8) years.

2. Any and all approved products shall be permanently labeled with the manufacturer's name, city, state, and the following statement: "Metro-Dade County Product Control Approved", or as specifically stated in the specific conditions of this Acceptance.

3. Renewals of Acceptance will not be considered if:
   a) There has been a change in the South Florida Building Code affecting the evaluation of this product and the product is not in compliance with the code changes;
   b) The product is no longer the same product (identical) as the one originally approved;
   c) If the Acceptance holder has not complied with all the requirements of this acceptance, including the correct installation of the product;
   d) The engineer who originally prepared, signed and sealed the required documentation initially submitted, is no longer practicing the engineering profession.

4. Any revision or change in the materials, use, and/or manufacture of the product or process shall automatically be cause for termination of this Acceptance, unless prior written approval has been requested (through the filing of a revision application with appropriate fee) and granted by this office.
5. Any of the following shall also be grounds for removal of this Acceptance:
   a) Unsatisfactory performance of this product or process;
   b) Misuse of this Acceptance as an endorsement of any product, for sales, advertising or any other purposes.
6. The Notice of Acceptance number preceded by the words Metro-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the Notice of Acceptance is displayed, then it shall be done in its entirety.
7. A copy of this Acceptance as well as approved drawings and other documents, where it applies, shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at all times. The copies need not be resealed by the engineer.
8. Failure to comply with any section of this Acceptance shall be cause for termination and removal of Acceptance.
9. This Acceptance contains pages 1 through 7.

END OF THIS ACCEPTANCE

Frank Zuloaga, RRC
Roofing Plans Examiner