



DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

NOTICE OF ACCEPTANCE (NOA)

**MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION**

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Siplast, Inc.
1111 Hwy 67 South
Arkadelphia, AR 71923

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: Siplast Lightweight Insulating Concrete Decks.

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 renews and revises NOA No. 21-1020.03 and consists of pages 1 through 12.

The submitted documentation was reviewed by Jorge L. Acebo.



NOA No.: 22-1020.11
Expiration Date: 05/13/24
Approval Date: 04/20/23
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ROOFING COMPONENT APPROVAL

<u>Category:</u>	Roofing
<u>Sub-Category:</u>	Lightweight Insulating Concrete
<u>Materials:</u>	Aggregate, Cellular, Hybrid
<u>Maximum Design Pressure:</u>	-345 psf.

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

<u>Product</u>	<u>Dimensions</u>	<u>Test Specifications</u>	<u>Product Description</u>
Insulcel-PB™	various	ASTM C 869	Foaming agents used in making preformed foam for use in lightweight cellular concrete.
Insulperm®	1" to 12" thick 2' x 4'	ASTM C 578	Expanded polystyrene with 3.0% open area (holes and/or slots).
NVS®	N/A	ASTM C332	Vermiculite aggregate for use in lightweight insulating concrete
ZIC Aggregate	N/A	ASTM C 332	Vermiculite aggregate for use in lightweight insulating concrete.
Zono-tite® Fastener	1.75"	TAS 114	Steel base sheet fastener for lightweight concrete with integral plate.
NVS® Fastener	1.2"	TAS 114	Steel base sheet fastener for lightweight concrete with integral plate.

TRADE NAMES OF PRODUCTS MANUFACTURED BY OTHERS:

<u>Product</u>	<u>Dimensions</u>	<u>Test Specifications</u>	<u>Product Description</u>	<u>Manufacturer</u> (with current NOA)
Portland Cement	N/A	ASTM C 150	Portland Cement	Generic
C-R Base Sheet Fastener (1.7")	1.75" Standard 1.2" NVS	TAS 114	Steel base sheet fastener for light weight concrete with integral plate	OMG, Inc.
Trufast FM-90 Base Sheet Fastener	1.7" Standard	TAS 114	Steel base sheet fastener for light weight concrete with 2.7" integral plate	Altenloh, Brinck & Co. U.S., Inc.
Trufast FM-75 Base Sheet Fastener	1.2" NVS	TAS 114	Steel base sheet fastener for light weight concrete with separate 2.7" round plate	Altenloh, Brinck & Co. U.S., Inc.



EVIDENCE SUBMITTED:

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Test Name/Report</u>	<u>Date</u>
FM Approvals	FM 4470	J.I. 2Y1A1.AM	04/15/96
	FM 4470	J.I. 3Z3A7.AM	03/26/96
	FM 4470	J.I. 3Z8A6.AM	06/23/96
	FM 4470	J.I. OB9A4.AM	05/29/97
	Class 4454	3005387	04/26/00
	Class 4470	3008210	04/10/01
	Class 4470	3011768	02/14/02
Trinity Engineering Inc.	TAS 114	4701-09.96-1	10/01/96
	TAS 114	4701-09.96-2	10/01/96
IRT of S. Florida, Inc.	TAS 114	00026	11/28/2000
PRI Construction Materials Technologies LLC	SRI-054-02-01	ASTM C578	01/10/13
	824T0072.1	ASTM C869	01/26/23
	824T0073	ASTM C332	01/23/23
	824T0074	ASTM C332	01/23/23
	824T0079	TAS 117	01/23/23



APPROVED SYSTEMS:

Deck Type 4: Lightweight Insulating Concrete

System A: Insulcel-PB® / Cellular

Cast Density Range: 38 - 48 PCF

Dry Density Range: Minimum 30 pcf.

28 Day Compressive Strength: Minimum 200 psi.

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

Components:

Portland Cement ASTM C 150	6.3 - 9.4 94 lb. sacks; see table below
Foaming Agent ASTM C 869:	(40:1 Water/Concentrate) 3.0 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 (per yd³):

<u>PSI Range</u>	<u>Wet Density Range</u>	<u>Dry Density Range</u>	<u>Foam</u>	<u>Cement Range</u>	<u>Mixing Water Range</u>	<u>Min. Thickness</u>
Min 200	38-48 pcf.	30-36 pcf.	19.70-17.70 ft³/yd³	590-730 lbs.	267-350 lbs.	2"

Maximum Design Pressures for INSULCEL Applications				
NEW CONSTRUCTION				
Substrate	Substrate Treatment	Min. Compressive Strength	Insulperm Board	Maximum Design Pressure
Min. 22 ga, vented steel deck attached with 3/8" puddle welds at every corrugation to steel supports spaced a maximum of 5 ft. o.c.	None	200 psi.	None	-60 psf.
Min. 22 ga, vented steel deck attached with 3/8" puddle welds at every corrugation to steel supports spaced a maximum of 5 ft. o.c.	None	200 psi.	Min. 1" thick Nom. 1.0 pcf.	-75 psf.
Wheeling Corrugating Co. Tensilvent 125, Min. 24 ga, vented steel deck attached with 3/8" puddle welds at 6" o.c. to steel supports spaced a maximum of 6 ft. o.c.	None	200 psi.	Min. 1" thick Nom. 1.0 pcf.	-75 psf.



Maximum Design Pressures for INSULCEL Applications (Continued)				
NEW CONSTRUCTION				
Substrate	Substrate Treatment	Min. Compressive Strength	Insulperm Board	Maximum Design Pressure
Min. 22 ga, vented steel deck attached with 3/8" puddle welds at every corrugation to steel supports spaced a maximum of 6 ft o.c. One layer 5/8" thick Dens Deck fastened to deck with Parafast XHD and Parafast 3" Metal plates, Olympic XHD with 3" Metal Plates or Tru-Fast HD with MP-3 Plates at a fastener density of 1:1.6 ft ² . A two-ply ASTM D 2178 Type IV fully adhered to Dens Deck with Siplast TAS-100 roofing asphalt.	None	200 psi.	Min. 1" thick Nom. 1.0 pcf.	-75 psf.
Min. 22 ga, vented steel deck attached with 3/8" puddle welds at every corrugation to steel supports spaced a maximum of 5 ft. o.c. Deck side laps fastened at 24" o.c. with #10 TEK screws. One layer 1/2" thick Dens Deck fastened to deck with GAFTITE (Drill-Tec) STD 3-1/4" fasteners and 3" dia. plates at a fastener density of 1:1.33 ft ² . A two-ply ASTM D 2178 Type IV fully adhered to Dens Deck with Siplast TAS-100 roofing asphalt.	None	200 psi.	Min. 1" thick Nom. 1.0 pcf.	-82.5 psf.
NEW CONSTRUCTION OR REROOF (TEAR-OFF)				
Substrate	Substrate Treatment	Min. Compressive Strength	Insulperm Board	Maximum Design Pressure
Concrete	None	200 psi.	None	-247.5 psf.
Concrete	None	200 psi.	Min. 1" thick Nom. 1.0 pcf.	-345 psf.
RECOVER				
Substrate	Substrate Treatment	Min. Compressive Strength	Insulperm Board	Maximum Design Pressure
Gravel surface BUR	None	200 psi	None	-212 psf.
Gravel surface BUR	None	200 psi	Min. 1" thick Nom. 1.0 pcf.	-237.5 psf.
Mineral surface cap sheet	None	200 psi	None	-60 psf.
Mineral surface cap sheet	None	200 psi	Min. 1" thick Nom. 1.0 pcf.	-60 psf.

Deck Type 4: Lightweight Insulating Concrete

System B: ZIC / Aggregate

Cast Density Range: 44 - 60 pcf.

Dry Density Range: Minimum 22 pcf.

28 Day Compressive Strength Range: Minimum 125 psi

Minimum Characteristic	2-4 Days:	40 lbf.
Resistance Force with	15 Days:	46 lbf.
Approved Fasteners:	21 Days:	76 lbf.
	28 Days:	88 lbf.

Components: 1:6 mix

Portland Cement ASTM C 150	4 - 94 lb. sacks
Vermiculite Aggregate	6 - 4 ft. ³ bags
Water (max chloride level 250 ppm):	17 gal./sack

Wet densities and dry densities using the following range of proportioned ingredients (per 24 cubic foot batch):

<u>PSI Range</u>	<u>Wet Density Range</u>	<u>Dry Density Range</u>	<u>Aggregate by Volume</u>	<u>Cement Range</u>	<u>Mixing Water Range</u>	<u>Min. Thickness</u>
Min. 125	44-60 pcf.	Min 22 pcf.	1:6 mix	376 lbs.	800-900 lbs.	2"

Components: 1:4 mix

Portland Cement ASTM C 150	6 - 94 lb. sacks
Vermiculite Aggregate	6 - 4 ft. ³ bags
Water (max chloride level 250 ppm):	17 gal./sack

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

<u>PSI Range</u>	<u>Wet Density Range</u>	<u>Dry Density Range</u>	<u>Aggregate by Volume</u>	<u>Cement Range</u>	<u>Mixing Water Range</u>	<u>Min. Thickness</u>
Min. 200	53-63 pcf.	31-37 pcf.	1:4 mix	564 lbs.	800-900 lbs.	2"

Maximum Design Pressures for ZIC Applications (Both 1:4 and 1:6 mix designs)				
NEW CONSTRUCTION				
Substrate	Substrate Treatment	Min. Compressive Strength	Insulperm Board	Maximum Design Pressure
Min. 22 ga, vented steel deck attached with 3/8" puddle welds at every corrugation to steel supports spaced a maximum of 5 ft. o.c.	None	125 psi.	None	-45 psf.
Same as Above.	None	125 psi.	Min. 1" thick Nom. 1.0 pcf.	-45 psf.



Maximum Design Pressures for ZIC Applications (1:4 mix designs only)				
NEW CONSTRUCTION				
Substrate	Substrate Treatment	Min. Compressive Strength	Insulperm Board	Maximum Design Pressure
Min. 22 ga, vented steel deck attached with 3/8" puddle welds at every corrugation to steel supports spaced a maximum of 5 ft. o.c.	None	200 psi.	Min. 1" thick Nom. 1.0 pcf.	-60 psf.

Maximum Design Pressures for Insulcel/ZIC Applications (1:4(ZIC) mix designs only)				
NEW CONSTRUCTION				
Substrate	Substrate Treatment	Min. Compressive Strength	Insulperm Board	Maximum Design Pressure
Min. 22 ga, vented steel deck attached with 3/8" puddle welds at every corrugation to steel supports spaced a maximum of 5 ft. o.c. Insulcel used as base slurry coat followed by ZIC as top coat over insulperm board.	None	300 psi. (Insulcel) 200 psi. (ZIC)	Min. 1" thick Nom. 1.0 pcf.	-75 psf.

Deck Type 4: Lightweight Insulating Concrete

System C: NVS® / Aggregate

Cast Density Range: 60-68 pcf.

Dry Density Range: Minimum 35 pcf.

28 Day Compressive Strength Range: Minimum 300 psi.

Minimum Characteristic	2-4 Days:	41 lbf.
Resistance Force with	15 Days:	57 lbf.
Approved Fasteners:	21 Days:	79 lbf.
	28 Days:	117 lbf.

Components: 1:3.5 mix

Portland Cement ASTM C 150	7 - 94 lb. sacks
Vermiculite Aggregate	7 - 3.5 ft. ³ bags (Cement/Aggregate)
Water (max chloride level 250 ppm):	17 gal./sack

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

PSI Range	Wet Density Range	Dry Density Range	Aggregate by Volume	Cement Range	Mixing Water Range	Min. Thickness
Min. 300	60 - 68 pcf.	Min. 35 pcf	1:3.5 mix	658 lbs.	850 - 950 lbs.	1"

Maximum Design Pressures for NVS Applications				
NEW CONSTRUCTION				
Substrate	Substrate Treatment	Min. Compressive Strength	Insulperm Board	Maximum Design Pressure
Min. 22 ga, vented steel deck attached with 3/8" puddle welds at every corrugation to steel supports spaced a maximum of 6 ft. o.c. Deck side laps fastened at 24" o.c. with #10 TEK screws. One layer 5/8" thick Dens Deck fastened to deck with Parafast XHD or OMG XHD Fasteners with 3" Metal Plates or Tru-Fast HD Fastener with MP-3 Plates at a fastener density of 1:1.6 ft ² . A two-ply ASTM D 2178 Type IV fully adhered to Dens Deck with Siplast TAS-100 roofing asphalt.	None	200 psi.	Min. 1" thick Nom. 1.0 pcf.	-75 psf.



Maximum Design Pressures for NVS Applications (Continued)				
NEW CONSTRUCTION OR REROOF (TEAR-OFF)				
Substrate	Substrate Treatment	Min. Compressive Strength	Insulperm Board	Maximum Design Pressure
concrete	none	300 psi.	none	-312.5 psf.
concrete	none	300 psi.	Min. 1" thick Nom. 1.0 pcf.	-347.5 psf.
RECOVER				
Substrate	Substrate Treatment	Min. Compressive Strength	Insulperm Board	Maximum Design Pressure
gravel surface BUR	none	300 psi.	none	-232.5 psf.
gravel surface BUR	none	300 psi.	Min. 1" thick Nom. 1.0 pcf.	-232.5 psf.
mineral surface cap sheet	none	300 psi.	None	-222.5 psf.
mineral surface cap sheet	none	300 psi.	Min. 1" thick Nom. 1.0 pcf.	-222.5 psf.



Deck Type 4: Lightweight Insulating Concrete

System D: Zonocel™

Cast Density Range: 43 - 53 pcf.

Dry Density Range: Minimum 30 pcf.

28 Day Compressive Strength Range: Minimum 200 psi.

Minimum Characteristic	2-4 Days:	37 lbf.
Resistance Force with	15 Days:	51 lbf.
Approved Fasteners:	21 Days:	74 lbf.
	28 Days:	104 lbf.

Components:

Portland Cement ASTM C 150	7 - 94 lb. sacks
Foaming Agent ASTM C 869:	(40:1 Water/Concentrate) 3.0 lbs./ft ³ preformed foam
Vermiculite Aggregate	2-4 ft. ³ bags (Cement/Aggregate)
Water (max chloride level 250 ppm):	5 gal./sack

Wet densities and dry densities using the following range of proportioned ingredients (per yd³):

PSI Range	Wet Density Range	Dry Density Range	Aggregate by Volume	Cement Range	Foam	Mixing Water Range	Min. Thickness
Min. 200	43-53 pcf.	Min. 30 pcf.	1:1.2	650 lbs.	10-15 ft ³ / yd ³	350-432 lbs.	2"

Maximum Design Pressures for Zonocel Applications				
NEW CONSTRUCTION				
Substrate	Substrate Treatment	Min. Compressive Strength	Insulperm Board	Maximum Design Pressure
Min. 22 ga, vented steel deck attached with 3/8 puddle welds at every corrugation to steel supports spaced a maximum of 5 ft. o.c.	none	200 psi	None	-60 psf.
Same as above	none	200 psi	Min. 1" thick Nom. 1.0 pcf.	-60 psf.



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's specifications. Cast densities shall be checked and recorded as it comes out of the hose at a minimum interval of one hour.

Polystyrene

Insulation: See Approved polystyrene noted in the Trade Names and Maximum Design Pressures Sections of this Notice of Acceptance.

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

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.

For steel deck applications, there shall be no traffic on the roof deck for 24 hours following installation of insulation.

Substrate Requirements:

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

New Construction:

Steel: Minimum 22 ga. galvanized G-90 attached to supports in compliance with applicable Building Code. *(See maximum design pressures for limitations on deck gauge.)*

Concrete: Structurally designed in compliance with applicable Building Code.

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 Testing Application Standard 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.



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.
 - 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
3. 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.
4. 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.
5. Roofing contractor shall consult with roofing system 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.
7. Maximum Design Pressures noted in this NOA shall be used in conjunction with the maximum design pressures published in the Roof Assembly Product Control Notice of Acceptance for Approved Systems over lightweight concrete decks.
8. 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. 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



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