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

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
T (786) 315-2590 F (786) 315-2599
www.miamidade.gov/pera

NOTICE OF ACCEPTANCE (NOA)

Flex Membrane International, Corp
5103A Pottsville Pike
Reading, PA 19605

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: Flex Single Ply PVC Roof Systems over Lightweight 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. 21-0813.03 and consists of pages 1 through 12.
The submitted documentation was reviewed Alex Tigera.

02/01/24

ROOFING SYSTEM APPROVAL

Category: Roofing
Sub-Category: Single Ply
Material: PVC
Deck Type: Lightweight Insulating Concrete
Maximum Design Pressure: -582.5 psf.

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

Product	Dimensions	Test Specification	Product Description
Flex Tripolymer MF/R	45, 50, 60, 120 mils	ASTM D 4434 TAS 114	Polyester reinforced PVC membrane for mechanical attachment or adhered application.
Flex Tripolymer FB	45, 60, 80, 120 mils	ASTM D 4434	Polyester felt-backed PVC membrane for application in hot asphalt or adhesive.
Flex MFR PVC	50, 60, 80 mils	ASTM D 4434	PVC membrane for mechanical attachment.
Flex MFR PVC FB	50, 60, 80 mils	ASTM D 4434	Polyester felt-backed PVC membrane for adhered applications

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
ACFoam-II	Polyisocyanurate foam insulation	Atlas Roofing Corp.
ACFoam-HD Coverboard	Polyisocyanurate foam insulation	Atlas Roofing Corp.
Flex ISO II	Polyisocyanurate foam insulation	Flex Membrane International, Corp.
DensDeck Prime	Silicon treated gypsum	Georgia-Pacific Gypsum LLC
SECUROCK Gypsum-Fiber Roof Board	Gypsum coverboard	United States Gypsum Corporation

APPROVED FASTENERS / ADHESIVES:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	FA636 Water Borne Adhesive	Water based membrane adhesive	Various	ITW Buildex, a Division of Illinois Tool Works, Inc.
2.	Millennium One Step Foamable Adhesive	Polyurethane one-step, all-purpose, foamable adhesive	Various	H.B. Fuller Company
3.	Millennium PG-1 Pump Grade Adhesive	Polyurethane two component low rise adhesive	Various	H.B. Fuller Company
4.	OMG OlyBond 500	Spray polyurethane foam insulation adhesive.	Various	OMG, Inc.
5.	Olybond 500 Canister	Spray polyurethane foam insulation	Various	OMG, Inc.
6.	Polyset Board-Max	Polyurethane two component low rise insulation adhesive.	Various	ICP Construction, Inc.
7.	Polyset Commercial Roof Adhesive	Polyurethane two component low rise insulation adhesive.	Various	ICP Construction, Inc.

EVIDENCE SUBMITTED:

Test Agency/Identifier	Name	Report	Date
FM Approvals	2X4A1.AM	FM 4470	06/29/94
	3033126	FM 4470	07/11/08
UL LLC	R9228	UL 790	07/10/18
Trinity|ERD	F42130.06.13	ASTM D4434	06/05/13
	F42130.06.13-1	ASTM D4434	06/05/13
	F42130.09.13	ASTM D4434	09/13/13
NEMO ETC, LLC.	FMI-SC15845.01.18	TAS 114 D, H & J	01/18/18
	4L-FMI-18-001.10.18	TAS 114 D & J	10/23/18
	4a-FMI-23-LSWUS-01.A	FM 4474 / TAS 114 D	07/19/23

DECK STRESS ANALYSIS CALCULATIONS/REPORTS:

Engineer/Agency	Identifier	Assemblies	Date
Robert Nieminen, P.E.	Signed/Sealed Calculations	F(1)	12/03/18

APPROVED ASSEMBLIES

Membrane Type: Single Ply, PVC

Deck Type 4I: Lightweight Insulating Concrete, Insulated

Deck Description: Celcore Cellular Lightweight Insulating Concrete (min. 350 psi compressive strength)

System Type A(1): All layers of insulation fully adhered; membrane fully adhered.

Deck: 2500 psi structural concrete followed by a minimum 1" rigid EPS holey board placed in a minimum 1/8" slurry-coat of lightweight insulating concrete then shall be covered with a minimum 2" topcoat cast of Celcore Cellular Concrete lightweight insulating concrete.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of the following.

Base Insulation Layer:	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Flex ISO II, ACFoam-II Minimum 1.5" thick	**N/A**	**N/A**

Top Insulation Layer:	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Flex ISO II, ACFoam-II Minimum 1.5" thick	**N/A**	**N/A**

Note: Insulation layers shall be adhered to the deck with Millennium One Step Foamable Adhesive, Millennium PG-1 Pump Grade Adhesive, OMG OlyBond 500, Polyset Commercial Roof Adhesive, or Polyset Board-Max applied in ¾-inch ribbons spaced maximum 12-inch o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Membrane: Flex MFR PVC adhered to the substrate and roof cover underside with FA636 Water Borne Adhesive at a rate of 120 ft^2/gal.

Or

Flex MFR PVC FB or Flex Tripolymer FB adhered to the substrate only with Millennium One Step Foamable Adhesive in continuous ribbons spaced maximum 4-inch o.c. for full coverage or FA636 Water Borne Adhesive at a rate of 100 ft^2/gal.

Maximum Design Pressure: -165 psf. (See General Limitation #9.)

Membrane Type:	Single Ply, PVC
Deck Type 4I:	Lightweight Insulating Concrete, Insulated
Deck Description:	Celcore Cellular Lightweight Insulating Concrete (min. 350 psi compressive strength)
System Type A(2):	All layers of insulation fully adhered; membrane fully adhered.
Deck:	2500 psi structural concrete followed by a minimum 1" rigid EPS holey board placed in a minimum 1/8" slurry-coat of lightweight insulating concrete then shall be covered with a minimum 2" topcoat cast of Celcore Cellular Concrete lightweight insulating concrete.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of the following.

Base Insulation Layer:	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Flex ISO II, ACFoam-II Minimum 1.5" thick	**N/A**	**N/A**
Top Insulation Layer:	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board Minimum 1/4" thick	**N/A**	**N/A**
ACFoam-HD Coverboard Minimum ½" thick	**N/A**	**N/A**

Note: Insulation layers shall be adhered to the deck with Millennium One Step Foamable Adhesive, Millennium PG-1 Pump Grade Adhesive, OMG OlyBond 500, Polyset Commercial Roof Adhesive, or Polyset Board-Max applied in ¾-inch ribbons spaced maximum 12-inch o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the Polyisocyanurate side facing down.

Membrane:	Flex MFR PVC adhered to the substrate and roof cover underside with FA636 Water Borne Adhesive at a rate of 120 ft^2/gal. Or Flex MFR PVC FB or Flex Tripolymer FB adhered to the substrate only with Millennium One Step Foamable Adhesive in continuous ribbons spaced maximum 4-inch o.c. for full coverage or FA636 Water Borne Adhesive at a rate of 100 ft^2/gal.
Maximum Design Pressure:	-210 psf. (See General Limitation #9.)

Membrane Type: Single Ply, PVC

Deck Type 4I: Lightweight Insulating Concrete, Insulated

Deck Description: Celcore Cellular Lightweight Insulating Concrete (min. 350 psi compressive strength)

System Type A(3): All layers of insulation fully adhered; membrane fully adhered.

Deck: 2500 psi structural concrete followed by a minimum 1" rigid EPS holey board placed in a minimum 1/8" slurry-coat of lightweight insulating concrete then shall be covered with a minimum 2" topcoat cast of Celcore Cellular Concrete lightweight insulating concrete.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of the following.

Insulation Layer:	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ACFoam-HD Coverboard Minimum ½" thick	**N/A**	**N/A**

Note: Insulation shall be adhered to the deck with Millennium One Step Foamable Adhesive, Millennium PG-1 Pump Grade Adhesive, OMG OlyBond 500 or Polyset Board-Max applied in ¾-inch ribbons spaced maximum 12-inch o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the Polyisocyanurate side facing down.

Membrane: Flex MFR PVC adhered to the substrate and roof cover underside with FA636 Water Borne Adhesive at a rate of 120 ft^2/gal.

Or

Flex MFR PVC FB or Flex Tripolymer FB adhered to the substrate only with Millennium One Step Foamable Adhesive in continuous ribbons spaced maximum 4-inch o.c. for full coverage or FA636 Water Borne Adhesive at a rate of 100 ft^2/gal.

Maximum Design Pressure: -240 psf. (See General Limitation #9.)

Membrane Type: Single Ply, PVC

Deck Type 4: Lightweight Insulating Concrete, Non-insulated

Deck Description: Celcore Cellular Lightweight Insulating Concrete (min. 350 psi compressive strength)

System Type F(1): Membrane fully adhered to deck.

Deck: Min. 22 ga., Type BV, Grade 40 steel deck over structural supports having maximum 6 ft spans. Deck shall be fastened with $^{5}/_{8}$" puddle welds spaced at a maximum 6" o.c. Deck side laps shall be secured with Teks/1 screws spaced at a maximum 20" o.c. Followed by a minimum 1" rigid EPS holey board placed in a minimum $^{1}/_{8}$" slurry-coat of lightweight insulating concrete then shall be covered with a minimum 2" topcoat cast of Celcore Cellular Concrete lightweight insulating concrete.

This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

All General and System limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Membrane: Flex MFR PVC FB or Flex Tripolymer FB membrane adhered to the lightweight insulating concrete with OMG OlyBond 500 applied as a "Spatter pattern" at a rate of 0.32 gal./sq.

Maximum Design Pressure: -52.5 psf. (See General Limitation #9.)

Membrane Type: Single Ply, PVC

Deck Type 4: Lightweight Insulating Concrete, Non-insulated

Deck Description: Celcore Cellular Lightweight Insulating Concrete (min. 350 psi compressive strength)

System Type F(2): Membrane fully adhered to deck.

Deck: 2500 psi structural concrete followed by a minimum 1" rigid EPS holey board placed in a minimum 1/8" slurry-coat of lightweight insulating concrete then shall be covered with a minimum 2" topcoat cast of Celcore Cellular Concrete lightweight insulating concrete.

All General and System limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Membrane: Flex MFR PVC FB or Flex Tripolymer FB membrane adhered to the lightweight insulating concrete with OMG OlyBond 500 applied as a "Spatter pattern" at a rate of 0.32 gal./sq.

Maximum Design Pressure: -417.5 psf. (See General Limitation #9.)

Membrane Type: Single Ply, PVC

Deck Type 4: Lightweight Insulating Concrete, Non-insulated

Deck Description: Elastizell Lightweight Insulating Concrete (min. 160 psi compressive strength)

System Type F(3): Membrane fully adhered to deck.

Deck: 2500 psi structural concrete followed by a minimum 1" rigid EPS holey board placed in a minimum 1/8" – ¼" slurry-coat of lightweight insulating concrete then shall be covered with a minimum 2" topcoat cast of Elastizell lightweight insulating concrete.

All General and System limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Membrane: Flex MFR PVC FB or Flex Tripolymer FB membrane adhered to the substrate and roof cover underside with FA636 Water Borne Adhesive at a rate of 100 ft^2/gal.

Maximum Design Pressure: -245 psf. (See General Limitation #9.)

Membrane Type: Single Ply, PVC

Deck Type 4: Lightweight Insulating Concrete, Non-insulated

Deck Description: Elastizell Lightweight Insulating Concrete (min. 410 psi compressive strength)

System Type F(4): Membrane fully adhered to deck.

Deck: 2500 psi structural concrete followed by a minimum 1" rigid EPS holey board placed in a minimum 1/8" – ¼" slurry-coat of lightweight insulating concrete then shall be covered with a minimum 2" topcoat cast of Elastizell lightweight insulating concrete.

All General and System limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Membrane: Flex MFR PVC FB or Flex Tripolymer FB membrane adhered to the substrate and roof cover underside with FA636 Water Borne Adhesive at a rate of 100 ft^2/gal.

Maximum Design Pressure: -582.5 psf. (See General Limitation #9.)

Membrane Type: Single Ply, PVC

Deck Type 4: Lightweight Insulating Concrete, Non-insulated

Deck Description: Elastizell Lightweight Insulating Concrete (min. 160 psi compressive strength)

System Type F(5): Membrane fully adhered to deck.

Deck: 2500 psi structural concrete followed by a minimum 1" rigid EPS holey board placed in a minimum 1/8" – ¼" slurry-coat of lightweight insulating concrete then shall be covered with a minimum 2" topcoat cast of Elastizell lightweight insulating concrete.

All General and System limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Membrane: Flex MFR PVC FB or Flex Tripolymer FB membrane adhered to the lightweight insulating concrete with OlyBond 500 Canister applied as a "Spatter pattern" at a rate of 0.32 gal./sq, Millennium One Step Foamable Adhesive in continuous ribbons spaced maximum 4-inch o.c. for full coverage, or FA636 Water Borne Adhesive at a rate of 100 ft^2/gal.

Maximum Design Pressure: -270 psf. (See General Limitation #9.)

LIGHTWEIGHT INSULATING CONCRETE SYSTEM LIMITATIONS:

1. If mechanical attachment to the structural deck through the lightweight insulating concrete is proposed, a field withdrawal resistance testing shall be performed to determine equivalent or enhanced fastener patterns and density. All testing and fastening design shall be in compliance with Testing Application Standard TAS 105 and Roofing Application Standard RAS 117 and/or RAS 137, calculations shall be signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant.
2. For steel deck application where specific deck construction is not referenced: The deck shall be a minimum 22 gage attached with 5/8" puddle welds with weld washers at every flute with maximum deck spans of 5 ft. o.c.
3. For Systems where specific lightweight insulating concrete is referenced consult current lightweight insulating concrete NOA for specific deck construction and limitations. For systems where specific lightweight insulating concrete is not referenced, the minimum design mix shall be a minimum of 300 psi.

GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance, refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each side lap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq.
   Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.
5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. Insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. 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, 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.
7. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased for both insulation and base sheet as calculated in compliance with Roofing Application Standard RAS 117 and/or RAS 137. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant
   (When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)
8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform to Roofing Application Standard RAS 111 and applicable wind load requirements.
9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners).
   (When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)
10. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 61G20-3 of the Florida Administrative Code.

END OF THIS ACCEPTANCE