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)

Kelly Company/2001 Inc.
325 Thomaston Avenue
Waterbury, CT 06702

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: 2001 Inc. Single Ply PVC Roof Systems over 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 NOA No. 02-1022.02 and consists of pages 1 through 19.
The submitted documentation was reviewed by Jorge L. Acebo

ROOFING SYSTEM APPROVAL

Category:	Roofing
Sub-Category:	Single Ply
Material:	PVC
Deck Type:	Concrete
Maximum Design Pressure	-615 psf
Fire Classification:	See General Limitation #1

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

Product	Dimensions	Test Specification	Product Description
2001 PVC	Various	ASTM D 4434	Fiberglass reinforced PVC roofing membrane.
2001 PVC Felt	Various	ASTM D 4434	Fiberglass reinforced PVC roofing membrane with a non-woven felt backing.
2001 PVC Polyester	Various	ASTM D 4434	Polyester reinforced PVC roofing membrane.
2001 PVC Felt Polyester	Various	ASTM D 4434	Polyester reinforced PVC roofing membrane.

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
ACFoam 25 PSI	Isocyanurate Insulation	Atlas Roofing Corp.
ACFoam Composite	Isocyanurate Insulation with perlite facer	Atlas Roofing Corp.
ACFoam II	Isocyanurate Insulation	Atlas Roofing Corp.
ACFoam III	Isocyanurate Insulation	Atlas Roofing Corp.
ACFoam Supreme	Isocyanurate Insulation	Atlas Roofing Corp.
Dens Deck	Silicon treated gypsum	G-P Products
E'NRG'Y 2	Isocyanurate Insulation	Johns Manville
E'NRG'Y 2 Composite	Isocyanurate Insulation with perlite facer	Johns Manville
E'NRG'Y 2 Plus	Isocyanurate Insulation with wood fiberboard facer	Johns Manville
E'NRG'Y 2 PSI-25	Isocyanurate Insulation	Johns Manville
E'NRG'Y Gypsum Composite	Isocyanurate Insulation with gypsum board facer	Johns Manville
EPS	Expanded polystyrene	Generic

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
High Density Wood Fiberboard	Wood fiber insulation	Generic
ISO 95+ GL	Isocyanurate Insulation	Firestone
Millox	Isocyanurate Insulation with wood fiberboard facer	Apache Products
Millox 25 PSI	Isocyanurate Insulation with wood fiberboard facer	Apache Products
Pyrox	Isocyanurate Insulation	Apache Products
Pyrox 25 PSI	Isocyanurate Insulation	Apache Products
Whiteline	Isocyanurate Insulation	Apache Products
Perlite Insulation Board	Perlite Insulation	Generic
Type X Gypsum	Gypsum Wallboard	Generic
XPS	Extruded polystyrene	Generic
Multi-Max FA	Isocyanurate Insulation	Rmax, Inc.
Multi-Max FA 25 PSI	Isocyanurate Insulation	Rmax, Inc.
Thermaroof	Isocyanurate Insulation	Rmax, Inc.
Thermaroof Plus	Isocyanurate Insulation	Rmax, Inc.
Ultra M-II Iso/glas	Isocyanurate Insulation	Homasote Co.
Ultra M-II AEF	Isocyanurate Insulation	Homasote Co.
Ultra M-II Iso/glas	Isocyanurate Insulation	Homasote Co.

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	Olympic Fastener	Insulation and membrane fastener	Various	Olympic Mfg.
2.	Concrete Spike	Insulation and membrane fastener	Various	SFS Stadler, Inc.
3.	CD-10 Fastener	Insulation and membrane fastener	Various	Olympic Mfg.
4.	King-Con Fastener	Insulation and membrane fastener	Various	ITW Buildex
5.	Sarnafastener	Insulation and membrane fastener	Various	Sarnafil, Inc.

EVIDENCE SUBMITTED:

Test Agency	Test Identifier	Description	Date
Celotex Technical Center	MTS Job No. 258215	TAS 114	09/09/97
Exterior Research & Design	02767.02.06	TAS 114	02/08/06
Factory Mutual Research Corporation	0X3A3.AM	4470	07/31/94
	0P6A6.AM	4470	03/03/94
	2X2A5.AM	4470	07/31/94
	0B9A0.AM	4470	10/22/96
	1Z5A6.AM	4470	07/18/97
	4B3A2.AM	4470	06/19/97
	3001396	4470	05/28/99
	3012964	4470	06/11/02
	3015643	4470	12/06/02
	3016201	4470	01/28/03
	3006785	4470	05/06/04
	3017292	4470	09/03/04
	3021131	4470	07/07/05
	3024229	4470	11/16/05
Underwriters Laboratories, Inc.	R8992	Fire Classification	1994

APPROVED ASSEMBLIES:

Membrane Type: Single Ply, Thermoplastic, PVC

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(1): One or more layers of insulation fully adhered with approved asphalt.

All General and System Limitations shall apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
AC Foam II, Apache Millox, any of the above tapered. Minimum 1.3" thick	**N/A**	**N/A**
Sarnatherm, E'NRG'Y 2, E'NRG'Y 2 Plus, PSI-25, Hunter Panels H-Shield, any of the above tapered. Minimum 1.4" thick	**N/A**	**N/A**
Hunter Panels H-Shield-WF, any of the above tapered. Minimum 1.9" thick	**N/A**	**N/A**

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Dens-Deck Minimum ¼" thick	**N/A**	**N/A**

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of base sheet. All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft^2. 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: 2001 Felt Back adhered with Sarnacol 2121 adhesive applied at 2.25 gal/sq. to the insulation using a ¼" x ¼" notched squeegee.
Or
Sarnacol 2170 adhesive rolled applied as a primer at a rate 1.0-1.25 gal/sq. to the insulation allowed to dry. Following a second coat roller applied of adhesive at 1.0 gal/sq The roof cover is immediately placed into the adhesive and the top surface rolled with a weighted roller.

Maximum Design Pressure: -202.5 psf. (See General Limitation #9)

Membrane Type: Single Ply, Thermoplastic, PVC

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(2): One or more layers of insulation fully adhered with approved asphalt.

All General and System Limitations shall apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
AC Foam II, Apache Millox, any of the above tapered. Minimum 1.3" thick	**N/A**	**N/A**
Sarnatherm, E'NRG'Y 2, E'NRG'Y 2 Plus, PSI-25, Hunter Panels H-Shield, any of the above tapered. Minimum 1.4" thick	**N/A**	**N/A**
Hunter Panels H-Shield-WF, any of the above tapered. Minimum 1.9" thick	**N/A**	**N/A**
High Density Roof Fiberboard, any of the above tapered Minimum 1" thick	**N/A**	**N/A**

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
High Density Roof Fiberboard, any of the above tapered Minimum 1" thick	**N/A**	**N/A**

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of base sheet. All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft^2. 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: 2001 or 2001 Felt Back adhered with Sarnacol 2121 adhesive applied at 2.25 gal/sq. to the insulation using a ¼" x ¼" notched squeegee.

Maximum Design Pressure: -162.5 psf (See General Limitation #9)

Membrane Type: Single Ply, Thermoplastic, PVC

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(3): One or more layers of insulation fully adhered with approved asphalt.

All General and System Limitations apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
AC Foam II, Apache Millox, any of the above tapered. Minimum 1.3" thick	**N/A**	**N/A**

Top Insulation Layer (Optional)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Dens-Deck. Minimum ¼" thick	**N/A**	**N/A**

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of base sheet. All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft^2. 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: 2001 Felt Back adhered with Sarnacol 2121 adhesive applied at 2.25 gal/sq. to the insulation using a ¼" x ¼" notched squeegee.
Or
Sarnacol 2170 adhesive rolled applied as a primer at a rate 1.0-1.25 gal/sq. to the insulation allowed to dry. Following a second coat roller applied of adhesive at 1.0 gal/sq The roof cover is immediately placed into the adhesive and the top surface rolled with a weighted roller.

Maximum Design Pressure: -210 psf (See General Limitation #9)

Membrane Type: Single Ply, Thermoplastic, PVC

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(4): One or more layers of insulation fully adhered with approved asphalt.

All General and System Limitations apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Sarnatherm, E'NRG'Y 2, E'NRG'Y 2 Plus, PSI-25, Hunter Panels H-Shield, any of the above tapered.		
Minimum 1.4" thick	**N/A**	**N/A**
Rmax Multi-Max FA, any of the above tapered		
Minimum 1.5" thick	**N/A**	**N/A**
Hunter Panels H-Shield-WF, any of the above tapered.		
Minimum 1.9" thick	**N/A**	**N/A**

Top Insulation Layer (Optional)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Dens-Deck.		
Minimum ¼" thick	**N/A**	**N/A**

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of base sheet. All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft^2. 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: 2001 Felt Back adhered with Sarnacol 2121 adhesive applied at 2.25 gal/sq. to the insulation using a ¼" x ¼" notched squeegee.
Or
Sarnacol 2170 adhesive rolled applied as a primer at a rate 1.0-1.25 gal/sq. to the insulation allowed to dry. Following a second coat roller applied of adhesive at 1.0 gal/sq. The roof cover is immediately placed into the adhesive and the top surface rolled with a weighted roller.

Maximum Design Pressure: -225 psf (See General Limitation #9)

Membrane Type: Single Ply, Thermoplastic, PVC

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(5): One or more layers of insulation fully adhered with approved asphalt.

All General and System Limitations apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
AC Foam II, Apache Millox, any of the above tapered. Minimum 1.3" thick	**N/A**	**N/A**
Sarnatherm, E'NRG'Y 2, E'NRG'Y 2 Plus, PSI-25, Hunter Panels H-Shield, any of the above tapered. Minimum 1.4" thick	**N/A**	**N/A**
Hunter Panels H-Shield-WF, any of the above tapered. Minimum 1.9" thick	**N/A**	**N/A**

Top Insulation Layer (Optional)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Dens-Deck. Minimum ¼" thick	**N/A**	**N/A**

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of base sheet. All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft^2. 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: 2001 or 2001 Felt Back adhered with Sarnacol 2170 adhesive. Adhesive rolled applied as a primer at a rate 1.0-1.25 gal/sq. to the insulation allowed to dry. Following a second coat roller applied of adhesive at 0.5 gal/sq. The roof cover is immediately placed into the adhesive and the top surface rolled with a weighted roller.

Maximum Design Pressure: -127.5 psf (See General Limitation #9)

Membrane Type: Single Ply, Thermoplastic, PVC

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(6): One or more layers of insulation fully adhered with approved asphalt.

All General and System Limitations apply.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Apache Pyrox Minimum ½" thick	**N/A**	**N/A**

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of base sheet. All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft^2. 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: 2001 Felt Back adhered with Sarnacol 2170 adhesive. Adhesive rolled applied as a primer at a rate 1.0-1.25 gal/sq. to the insulation allowed to dry. Following a second coat roller applied of adhesive at 1.0 gal/sq. The roof cover is immediately placed into the adhesive and the top surface rolled with a weighted roller.

Maximum Design Pressure: -262.5 psf. (See General Limitation #9)

Membrane Type: Single Ply, Thermoplastic, PVC

Deck Type 3I: Concrete, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type B: Base Layer of insulation mechanically attached, top insulation layer fully adhered with approved asphalt..

All General and System Limitations apply.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
AC Foam II, AC Foam Composite (bottom layer only), AC Foam - 25 PSI, Pyrox, Millox, Pyrox-25 PSI, Millox-25 PSI, Whiteline (bottom layer only), any of the above tapered		
Minimum 1.3" thick	Any approved fastener in Table 3	1:2 ft^2
Minimum 2 thick	Any approved fastener in Table 3	1:4 ft^2
E'NRG'Y-2, E'NRG'Y 2 Composite (bottom layer only), E'NRG'Y 2 Plus, PSI-25, Sarnatherm, Sarnatherm-25 PSI, Sarnatherm-Composite (bottom layer only), Sarnatherm Plus, any of the above tapered		
Minimum 1.4" thick	Any approved fastener in Table 3	1:3 ft^2
Minimum 2 thick	Any approved fastener in Table 3	1:4 ft^2
Dens-Deck		
Minimum ¼" thick	Any approved fastener in Table 3	1:1.2 ft^2
Minimum ½" thick	Any approved fastener in Table 3	1:1.7 ft^2
Multi-Max FA, Multi-Max FA - 25 PSI, Thermaroof Composite (bottom layer only), any of the above tapered		
Minimum 1.25" thick	Any approved fastener in Table 3	1:2 ft^2
Minimum 2" thick	Any approved fastener in Table 3	1:4 ft^2
Ultra M-II Iso/glas, or tapered		
Minimum 1.2" thick	Any approved fastener in Table 3	1:2 ft^2
Minimum 2" thick	Any approved fastener in Table 3	1:4 ft^2
High Density Wood Fiber (top layer only)		
Minimum 1" thick	Any approved fastener in Table 3	1:2 ft^2

Note: Base layer shall be mechanically attached with fasteners and density described. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Any of the insulations listed for Base Layer, above.		
Minimum 1.3" thick	N/A	N/A

Note: Optional top layer of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft^2. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Vapor Retarder:	(Optional) Any UL or FMRC approved vapor barrier approved for use with hot asphalt may be applied to the deck or perlite base layer.
Barrier:	(Optional) Minimum ¼ " gypsum or Dens Deck or Atlas FR10 or FR 50
Membrane:	2001 or 2001 Felt adhered with Sarnacol 2170 applied at 1.25gal/sq. to the substrate and .5 gal/sq. to the back of the Membrane, or Sarnacol V949 applied at 1 to 2 gal./sq. to the substrate and .5 gal./sq. to the Membrane, or Sarnacol 2121 applied to the substrate only at 1.5 to 2.5 gal./sq.
Maximum Design Pressure:	-45 psf. (See General Limitation #9)

Membrane Type: Single Ply, Thermoplastic, PVC

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type C: All layers of insulation simultaneously fastened; membrane fully adhered.

All General and System Limitations apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
AC Foam II, ACFoam III, AC Foam - 25 PSI, ACFoam Composite (bottom layer only), ACFoam Supreme, Pyrox, Millox, Pyrox-25 PSI, Millox-25 PSI, Whiteline, any of the above tapered		
Minimum 1.3" thick	**N/A**	**N/A**
Sarnatherm, Sarnatherm-25 PSI, Sarnatherm-Composite (bottom layer only), E'NRG'Y 2, E'NRG'Y 2 Composite (bottom layer only), E'NRG'Y 2 Plus, PSI-25, ISO 95+ GL , any of the above tapered		
Minimum 1.4" thick	**N/A**	**N/A**
Dens-Deck		
Minimum ¼" thick	**N/A**	**N/A**
Multi-Max FA, Multi-Max FA - 25 PSI, Thermaroof, Thermaroof Plus, any of the above tapered		
Minimum 1.25" thick	**N/A**	**N/A**
Ultra M-II Iso/glas, or tapered		
Minimum 1.2" thick	**N/A**	**N/A**

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
AC Foam II, AC Foam Composite (bottom layer only), AC Foam - 25 PSI, Pyrox, Millox, Pyrox-25 PSI, Millox-25 PSI, Whiteline (bottom layer only), any of the above tapered		
Minimum 1.3" thick	Any approved fastener in Table 3	1:2 ft^2
Minimum 2 thick	Any approved fastener in Table 3	1:4 ft^2
Sarnatherm, Sarnatherm-25 PSI, Sarnatherm-Composite (bottom layer only), Sarnatherm Plus, E'NRG'Y-2, E'NRG'Y 2 Composite (bottom layer only), E'NRG'Y 2 Plus, PSI-25, any of the above tapered		
Minimum 1.4" thick	Any approved fastener in Table 3	1:3 ft^2
Minimum 2 thick	Any approved fastener in Table 3	1:4 ft^2
Ultra M-II Iso/glas, or tapered		
Minimum 1.2" thick	Any approved fastener in Table 3	1:2 ft^2
Minimum 2" thick	Any approved fastener in Table 3	1:4 ft^2
Dens-Deck		
Minimum ¼" thick	Any approved fastener in Table 3	1:1.2 ft^2
Minimum ½" thick	Any approved fastener in Table 3	1:1.7 ft^2

High Density Wood Fiber (base layer only) **Minimum 1" thick**	Any approved fastener in Table 3	1:1.2 ft^2
Vapor Retarder:	(Optional) Any UL or FMRC approved vapor barrier approved for use with hot asphalt may be applied to the deck or perlite base layer.	
Barrier:	(Optional) Minimum ¼ " gypsum or Dens Deck or Atlas FR10 or FR 50	
Membrane:	2001 or 2001 Felt adhered with Sarnacol 2170 applied at 1.25gal/sq. to the substrate and .5 gal/sq. to the back of the Membrane, or Sarnacol V949 applied at 1 to 2 gal./sq. to the substrate and .5 gal./sq. to the Membrane, or Sarnacol 2121 applied to the substrate only at 1.5 to 2.5 gal./sq.	
Maximum Design Pressure:	-45 psf. (See General Limitation #9)	

Membrane Type: Single Ply, Thermoplastic, PVC

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type D: Membrane mechanically attached over preliminary fastened insulation.

All General and System Limitations apply.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
AC Foam II, ACFoam III, AC Foam - 25 PSI, ACFoam Composite (bottom layer only), ACFoam Supreme, Pyrox, Millox, Pyrox-25 PSI, Millox-25 PSI, Whiteline, any of the above tapered Minimum 1.3" thick	**N/A**	**N/A**
Sarnatherm, Sarnatherm-25 PSI, Sarnatherm-Composite (bottom layer only), E'NRG'Y 2, E'NRG'Y 2 Composite (bottom layer only), E'NRG'Y 2 Plus, PSI-25, ISO 95+ GL , any of the above tapered Minimum 1.4" thick	**N/A**	**N/A**
Dens-Deck Minimum ¼" thick	**N/A**	**N/A**
Multi-Max FA, Multi-Max FA - 25 PSI, Thermaroof, Thermaroof Plus, any of the above tapered Minimum 1.25" thick	**N/A**	**N/A**
Ultra M-II Iso/glas, or tapered Minimum 1.2" thick	**N/A**	**N/A**
High Density Wood Fiberboard, or tapered (base layer only) Minimum 1" thick	**N/A**	**N/A**

Note: All insulation shall have preliminary attachment, prior to the installation of the roofing membrane at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Vapor Retarder: (Optional) Any UL or FMRC approved vapor barrier approved for use with hot asphalt may be applied to the deck or perlite base layer.

Barrier: (Optional) Minimum ¼ " gypsum or Dens Deck or Atlas FR10 or FR 50

Membrane: 2001 PVC Polyester or Felt Back attached to deck as specified below.

Fastening #1:	Sarnafasteners, with approved discs spaced 6" o.c. within the 5.5" side lap spaced 73" o.c. and sealed a minimum 1.5" weld on each side of the sheet. Sarnafasteners with approved discs spaced 6" o.c. in rows 12' o.c. maximum, or Sarnabars spaced 12' o.c. maximum fastened with Sarnafasteners spaced 6" o.c. through the field of the membrane and covered with a 7" minimum width coverstrip with 1.5" welds on each side of the sheet. **Maximum Design Pressure: -52.5 psf. (See General Limitation #7)**
Fastening #2:	Sarnabar spaced 4.5 ft. o.c. secured to deck with Sarnafastener-Concrete, King Con, Concrete Spike, #14 HD, or CD-10 fasteners spaced 12 inches o.c. **Maximum Design Pressure: -120 psf. (See General Limitation #7)**
Fastening #3:	Sarnabar spaced 4.5 ft. o.c. secured to deck with Sarnafastener-Concrete, King Con, Concrete Spike, #14 HD, or CD-10 fasteners spaced 6 inches o.c. **Maximum Design Pressure: -232.5 psf. (See General Limitation #7)**
Fastening #4:	Sarnafastener-Concrete fasteners with 2" Sarnadisc (20 ga Starlock Plates – Buildex) or Sarnadisc-XP plates (Heavy Duty SPM Plate- Buildex) spaced 12 " o.c. within the 6 inch wide side laps. Laps spaced 72.5 inches apart and sealed with 1.5 inches wide heat weld. **Maximum Design Pressure: -45 psf. (See General Limitation #7)**
Fastening #5:	Sarnafastener-Concrete fasteners with 2" Sarnadisc (20 ga Starlock Plates – Buildex) spaced 6 " o.c. within the 6 inch wide side laps. Laps spaced 72.5 inches apart and sealed with .5 inches wide heat weld. **Maximum Design Pressure: -82.5 psf. (See General Limitation #7)**
Fastening #6:	Sarnafastener-Concrete fasteners with Sarnadisc-XP plates (Heavy Duty SPM Plate- Buildex) spaced 6 inches o.c. within the 5.5 inches wide side laps. Laps spaced 73.5 inches apart and sealed with 1.5 wide heat weld. **Maximum Design Pressure: -75 psf. (See General Limitation #7)**
Maximum Design Pressure:	See Above for fastening

Membrane Type: Single Ply, Thermoplastic, PVC

Deck Type 3: Concrete Decks, Non-insulated

Deck Description: 2500 psi structural concrete or concrete plank.

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

All General and System Limitations apply.

Barrier: None

Membrane: 2001 or 2001 Felt adhered with Sarnacol 2121 applied to the substrate at 2 to 2.5 gal./sq.

Maximum Design Pressure: -487.5 psf (See General Limitation #9)

Membrane Type: Single Ply, Thermoplastic, PVC

Deck Type 3: Concrete Decks, Non-insulated

Deck Description: 2500 psi structural concrete or concrete plank.

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

All General and System Limitations apply.

Barrier: None

Membrane: 2001 or 2001 Felt adhered with Sarnacol 2170 applied to the substrate at 2 to 2.5 gal./sq.

Maximum Design Pressure: -391.5 psf (See General Limitation #9)

Membrane Type: Single Ply, Thermoplastic, PVC

Deck Type 3: Concrete Decks, Non-insulated

Deck Description: 2500 psi structural concrete or concrete plank.

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

All General and System Limitations apply.

Barrier: None

Membrane: Sarnafil 2001 Felt Back adhered with Sarnacol 2121 squeegee applied to the substrate at 2 to 2.5 gal./sq. The roof cover is immediately placed into the adhesive and the top surface rolled with a weighted roller.

Maximum Design Pressure: -615 psf (See General Limitation #9)

Membrane Type: Single Ply, Thermoplastic, PVC

Deck Type 3: Concrete Decks, Non-insulated

Deck Description: 2500 psi structural concrete or concrete plank.

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

All General and System Limitations apply.

Barrier: None

Membrane: 2001 Felt Back adhered with Sarnacol 2170 roller applied to the substrate at 1.0 gal./sq. Then followed by second coat of 2170 roller applied at 1.0 gal/sq. Roof cover immediately place into adhesive and the top surface rolled with a weighted roller.

Maximum Design Pressure: -547.5 psf (See General Limitation #9)

CONCRETE DECK 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 137, calculations shall be signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant.

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 sidelap 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 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.
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. 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 with 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.)**

END OF THIS ACCEPTANCE