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 High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: 2001 Inc. Single Ply PVC Roof Systems over Cementitious Wood Fiber 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 consists of pages 1 through 10.
The submitted documentation was reviewed by Frank Zuloaga, RRC

ROOFING SYSTEM APPROVAL

Category:	Roofing
Sub-Category:	Single Ply
Material:	PVC
Deck Type:	Cemetitious Wood Fiber
Maximum Design Pressure:	-52.5 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 II, ACFoam III, ACFoam 25 PSI, ACFoam Supreme	Isocyanurate Insulation	Atlas Roofing Corp.
ACFoam Composite	Isocyanurate Insulation with perlite facer	Atlas Roofing Corp.
Dens Deck	Silicon treated gypsum	G-P Products
E'NRG'Y 2, E'NRG'Y 2 PSI-25	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 Gypsum Composite	Isocyanurate Insulation with gypsum board facer	Johns Manville
EPS	Expanded polystyrene	Generic
XPS	Extruded polystyrene	Generic

APPROVED INSULATIONS:

TABLE 2

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

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	Olympic NTB-2HWW	Glass-filled nylon auger fastener with a built-in 2""stress plate and locking wire barbs	Various	Olympic Mfg. Group
2.	Olympic GTL	Glass reinforced nylon	Various	Olympic Mfg. Group
3.	Olympic Lite-Deck with the 3"plate	Carbon Steel CR-10 Coating (black)	Various	Olympic Mfg. Group

EVIDENCE SUBMITTED:

Test Agency	Test Identifier	Description	Date
Factory Mutual Research Corp.	J.I. 0X3A3.AM	Wind Uplift	07/31/94
Factory Mutual Research Corp.	J.I. 0P6A6.AM	Wind Uplift	03/03/94
Factory Mutual Research Corp.	J.I.2X2A5.AM	Wind Uplift	07/31/94
Underwriters Laboratories, Inc.	R8992	Fire Classification	1994
Factory Mutual Research Corp.	J.I. 1Z5A6.AM	Wind Uplift	07/18/97
Factory Mutual Research Corp.	J.I. 4B3A2.AM	Wind Uplift	06/19/97
Factory Mutual Research Corp.	J.I. 0B9A0.AM	Wind Uplift	10/22/96
Celotex Technical Center	MTS Job No. 258215	Wind Uplift	09/09/97

APPROVED ASSEMBLIES:

Membrane Type: Single Ply, Thermoplastic, PVC

Deck Type 5I: Cementitious Wood Fiber, Insulated, New Construction

Deck Description: Cementitious Wood Fiber

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

All General and System Limitations shall apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
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 ft²
Minimum 2 thick	Any approved fastener in Table 3	1:4 ft²
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 ft²
Minimum 2 thick	Any approved fastener in Table 3	1:4 ft²
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 ft²
Minimum 2" thick	Any approved fastener in Table 3	1:4 ft²
Dens-Deck		
Minimum ¼" thick	Any approved fastener in Table 3	1:1.2 ft²
Minimum ½" thick	Any approved fastener in Table 3	1:1.7 ft²
High Density Wood Fiberboard (base layer only)		
Minimum 1" thick	Any approved fastener in Table 3	1:2 ft²
Perlite (bottom layer only)		
Minimum ¾" thick	Any approved fastener in Table 3	1:1 ft²

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/ft²**
Any of the insulations listed for Base Layer, above.		

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 ft². 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) An FMRC approved vapor barrier approved for use with hot asphalt may be applied to the deck or perlite base layer.
Barrier:	None
Membrane:	2001 smooth backed adhered with Sarnacol 2170 applied at 1.25gal/sq. to the substate and 0.5 gal/sq. to the back of the Membrane, or Sarnocol V949 applied at 1 to 2 gal./sq. to the substrate and 0.5 gal./sq. to the Membrane, or Sarnocol 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 1I: Cementitious Wood Fiber, Insulated, New Construction

Deck Description: Cementitious Wood Fiber

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

All General and System Limitations shall 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), 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	**N/A**	**N/A**
High Density Wood Fiberboard, or tapered		
Minimum 1" thick	**N/A**	**N/A**
Ultra M-II Iso/glas, or tapered		
Minimum 1.2" 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**
Dens-Deck		
Minimum ¼" thick	**N/A**	**N/A**
Perlite (base layer only)		
Minimum ¾" thick	**N/A**	**N/A**

Note: All insulation 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 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

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
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 Fiberboard (base layer only)		
Minimum 1" thick	Any approved fastener in Table 3	1:2 ft^2
Perlite (bottom layer only)		
Minimum ¾" thick	Any approved fastener in Table 3	1:2 ft^2

Note: 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.

Vapor Retarder:	(Optional) An FMRC approved vapor barrier approved for use with hot asphalt may be applied to the deck or perlite base layer.
Barrier:	None
Membrane:	2001 smooth backed adhered with Sarnacol 2170 applied at 1.25gal/sq. to the substate and 0.5 gal/sq. to the back of the Membrane, or Sarnocol V949 applied at 1 to 2 gal./sq. to the substrate and 0.5 gal./sq. to the Membrane, or Sarnocol 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 5I: Cementitious Wood Fiber, Insulated, New Construction

Deck Description: Cementitious Wood Fiber

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

All General and System Limitations shall 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), 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	**N/A**	**N/A**
High Density Wood Fiberboard, or tapered (base layer only)		
Minimum 1" thick	**N/A**	**N/A**
Ultra M-II Iso/glas, or tapered		
Minimum 1.2" 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**
Dens-Deck		
Minimum ¼" thick	**N/A**	**N/A**
Perlite (base layer only)		
Minimum ¾" thick	**N/A**	**N/A**

Note: All insulations 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) Sarnavap vapor barrier applied directly to the deck or over the base insulation layer.

Barrier: (Optional) Minimum 1/4" gypsum or Dens-Deck or Atlas FR10 or FR50.

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

Fastening: Approved fasteners with approved discs spaced 6" o.c. within the 5.5" side lap spaced 73" o.c. and sealed with a minimum 1.5" weld or approved fasteners 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 in. o.c. through the field of the membrane and covered with a 7" minimum width coverstrip with 1.5" welds on each side.

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

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 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. **(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