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)

Johns Manville Corporation
717 17th Street
Denver, CO 80202

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 the BCCO and accepted by the Building Code and Product Review Committee 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: Johns Manville PVC Single Ply Roof Systems over Steel 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. 06-0328.06 and consists of pages 1 through 8.
The submitted documentation was reviewed by Jorge L. Acebo.

MIAMI-DADE COUNTY APPROVED

NOA No.: 09-0730.07
Expiration Date: 07/27/11
Approval Date: 09/16/09

ROOFING SYSTEM APPROVAL

Category:	Roofing
Sub-Category:	Single Ply
Material:	PVC
Deck Type:	Steel
Maximum Design Pressure	-45 psf

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

Product	Dimensions	Test Specification	Product Description
JM PVC Membrane	39", 52" & 78" x 108"	ASTMD 4434	40-100 mil thermoplastic alloy membrane for field and perimeter.
JM PVC Reinforced Flashing	6", 8", 12", 18" & 24" variable length rolls	ASTM D 4434	40-100 mil thermoplastic flashing membrane.
JM PVC Flashing	24" x 30' LF 60 sqft. roll	ASTM D 4434	55 mil Unreinforced flashing membrane
JM PVC Coated Metal	4' x 8' 4' x 10' sheets	US Commercial Standard CS-245-62	JM PVC Membrane laminated 24 Ga.. galvanized steel.
JM PVC Fleece Back Corners	76" x 90" 570 sqft. roll	ASTM D 4434	Thermoplastic fleece back membrane. Adhered applications.
JM PVC Fleece Back Membrane	39" x 108' 351 sqft. roll	ASTM D 4434	Thermoplastic fleece back membrane. Adhered applications.
JM PVC Fleece Back Flashing	12' x 108' 108 sqft. roll 24" x 108' 216 sqft. roll	ASTM D 4434	Thermoplastic fleece back membrane flashing material.
JM PVC Membrane Adhesive	5 gallon pails	proprietary	Adhesive for fully adhered systems.
JM PVC Termination Bar	1/8" x 1" x 10	TAS 114	Flat termination bar.
JM PVC Walkway	¼" x 30" x 40'		Walkway pad (roll configuration)
JM PVC Walkway	½" x 30 x 36"		Walkway pad (single pad)
JM PVC Membrane Adhesive	N/A		Contact adhesive for membrane flashing.

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
Pyrox, White Line	Isocyanurate Insulation	Apache Products Co.
ACFoam II, III	Isocyanurate Insulation	Atlas Roofing Corp.
ConPerl	Perlite insulation board.	Conglas
HyTherm, HyTherm AP	Isocyanurate Insulation	Dow Chemical
Styrofoam	Extruded Polystyrene.	Dow Chemical
ISO 95+, ISO 95+ GL	Polyisocyanurate foam insulation	Firestone
EnergyGuard High Density Fiberboard	High density wood fiberboard insulation.	GAF Materials Corp.
EnergyGuard Perlite	Perlite insulation board.	GAF Materials Corp.
Armor Board High Density	Wood fiber insulation board.	Honeywell International
Dens Deck, Dens Deck Prime	Silicon treated gypsum	G-P Products
Sturdi-Top, Roof Insulation Board	Wood fiber insulation board.	G-P Products
High Density Wood Fiberboard	High Density Wood Fiber insulation board.	Generic
Perlite Insulation Board	Perlite Insulation	Generic
Type X Gypsum, Gypsum	Gypsum Wallboard	Generic
EPS or XPS Insulation	Expanded or Extruded Polystyrene.	Generic
Ultra/M-II	Isocyanurate Insulation	Homasote Co.
H-Shield	Isocyanurate Insulation	Hunter Panels
ENRGY 2, ENERGY 3, PSI-25 UltraGuard	Isocyanurate Insulation	Johns Manville
Fesco Foam, DuraFoam	Isocyanurate Insulation with perlite facer	Johns Manville
Fesco Board	Rigid perlite roof insulation board.	Johns Manville
Strataguard	Gypsum Wallboard	Owens Corning
Multi-Max, Multi-Max FA, Thermaroof Plus	Polyisocyanurate foam insulation	RMax, Inc.
Fiberbase HD1, HD6	Asphalt coated wood fiber insulation	Temple Inland Forest Products Corp.
Structodeck	High Density Wood Fiber insulation board.	Wood Fiber Industries

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	Olympic Fasteners #12, #14	Insulation and membrane fastener	Various	Olympic Mfg. Group
2.	Olympic Standard	Galvalume AZ55 stress plate	3" round	Olympic Mfg. Group
3.	Olympic Plastic	Plastic plates for fasteners.	3" round	Olympic Mfg. Group
4.	Dekfast Fasteners #14, #15	Insulation and membrane fastener	Various	SFS Intec, Inc.
5.	Omega	Stainless steel insulation / membrane fasteners.	Various	SFS Intec, Inc.
6.	Dekfast Hex Plate	Galvalume AZ50 stress plate	2-$^{7}/_{8}$" x 3-¼"	SFS Intec, Inc.
7.	Dekfast Lock Plate	Polypropylene stress plate.	3" x 3-¼"	SFS Intec, Inc.
8.	Insul-Fixx Fastener	Insulation fastener	Various	SFS Intec, Inc.
9.	Isofast Fasteners	Insulation fastener for steel and wood decks	Various	SFS Intec, Inc.
10.	Insul-Fixx S	Galvalume AZ55 stress plate	3" round	SFS Intec, Inc.
11.	Insul-Fixx P	Polyethylene stress plate	3" round	SFS Intec, Inc.
12.	Isofast Plate	Square or oblong Galvalume steel plates for use with Isofast fasteners		SFS Intec, Inc.

EVIDENCE SUBMITTED:

Test Agency/Identifier	Report	Name	Date
Factory Mutual Corp.	3025170	4470	02/07/06
	3021133	4470	02/07/06
	3017177	4470	01/09/04
	J.I. 0X2A9.AM	4470	06/26/93
	J.I. 3W1A1.AM	4470	03/29/93
	J.I. 1V1A8.AM	4470	04/21/92
	J.I. 1W1A9.AM	4470	09/11/93
	J.I. 1X3A6.AM	4470	10/03/93
	J.I. 1W9A2.AM	4470	06/15/93
	J.I. 1W2A0.AM	4470	08/24/93
	J.I. 3W3A4.AM	4470	03/26/93
	J.I. 0X8A9.AM	4470	06/25/93
	J.I. 1X6A5.AM	4470	10/12/93
	J.I. 2W5A6.AM	4470	06/01/93
Underwriters Laboratories, Inc.	File R9834 (N)	UL 790	04/06/93

APPROVED ASSEMBLIES

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

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

All General and System Limitations apply.

Base Insulation Layer (Optional)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ACFoam II, Multi-Max FA, ENRGY-2, ENRGY-3, PSI-25, ISO-95+, ISO + GL, Hy-Therm AP, Pyrox		
Minimum 1.4" 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**
ISO 95 +, ISO 95 + GL, ENRGY-2, ENRGY-3, PSI-25, Hy-Therm AP, Pyrox		
Minimum 1.4" thick	**1, 4, 8 or 9**	**1:2 ft^2**
ACFoam II, Multi-Max FA		
Minimum 1.5" thick	**1, 4, 8 or 9**	**1:2 ft^2**
High Density Fiberboard, FM-90 High Density, Armor Board Regular, Esgard, EnergyGuard Fiberboard, Huebert Fiberboard, Kop-R Wood Fiber		
Minimum ½" thick	**1, 4, 8 or 9**	**1:2 ft^2**

Vapor Retarder: (Optional) Any UL or FM approved vapor retarder applied to the roof deck or over a base layer of insulation.

Barrier: Minimum ½" or Dens Deck secured to the deck with the insulation.

Membrane: JM PVC Fleece Back Membrane fully adhered to the insulation with JM PVC Bonding Adhesive applied at the rate of 1 gal./sq., or approved mopping asphalt applied at the rate of 25 lbs./sq. Optional mechanical attachment of membrane using fasteners and plates noted in System Type D spaced 36" o.c. is permitted.

Maximum Design Pressure: -45 psf; (See General Limitation #9.)

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

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

All General and System Limitations apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
One or more layers of the Base Layer insulation covered by one layer of the insulation listed as Top Layer.		
EPS over gypsum barrier.		
Minimum 1" thick	**N/A**	**N/A**

Base or Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ConPerl, EnergyGuard Perlite, FescoBoard, Armor Board High Density, BP High Strength, FM-90 Traffic Top/High Density, ERS Redi-Deck, Riber Top C, E, S, EnergyGuard High Density, Roof Insulation Board, High Density Fiberboard, Fiber Base HD1, HD6, Structodek		
Minimum 1" thick	**N/A**	**N/A**
Pyrox, Hy-Therm AP, Whiteline, ENRGY-2, ENRGY-3, PSI-25, Mutli-Max, Thermaroof Plus, ACFoam II, Ultra/M-11ISO/glas, ISO 95+, ISO 95+GL, UltraGard, Fesco Foam		
Minimum 1" thick	**N/A**	**N/A**

Note: All layers of insulation and base sheet shall be simultaneously attached. See membrane below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. At an 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 FM approved vapor retarder applied to the roof deck or over a base layer of insulation.

Barrier: Minimum ½" or Dens Deck secured to the deck with the insulation.

Membrane: JM PVC Membrane or JM PVC Fleece Back Membrane attached through the preliminary attached insulation as specified below.

Fastening #1: Roof cover is rolled over the insulation and its 2" laps are sealed. Membrane is mechanically attached using SFS Isofast IF/IG-82x40 plates and IF or IG screws, Olympic ASAP plates and Olympic Standard or Heavy Duty Screws or Dekfast #14 or #15 screws and plates spaced 6" o.c. in rows 8 ft. apart or 12" o.c. in rows 4 ft. apart. Fastener rows are stripped in with 6" wide strips of membrane or 6" diameter membrane caps, heat or solvent welded.

Fastening #2: Membrane is mechanically attached using Olympic ASAP plates and Olympic Standard or Heavy Duty Screws or Dekfast #14 or #15 screws and plates spaced 18" o.c. through 3" wide laps spaced 48"apart.

Fastening #3:	Roof cover is rolled over the insulation and its 2" laps are sealed. JM PVC Plate Adhesive is liberally applied to the bottom of the Solweld plates. Membrane is mechanically attached using the adhesive coated Solweld plates and Olympic Standard or Heavy Duty Screws or Dekfast #14 or #15 screws spaced 18" o.c. in rows spaced 48"apart. 6" diameter membrane caps is coated with JM PVC Plate Adhesive and placed over the fastener/plate head.
Fastening #4:	78" wide membrane is mechanically attached using Olympic ASAP plates and Olympic Standard or Heavy Duty Screws, Dekfast Omega, #14 or #15 screws and plates or HD Insulfixx S spaced 18" o.c. through 6" wide laps spaced 72"apart.
Maximum Design Pressure:	-45 psf; (See General Limitation #7.)

STEEL 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 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.

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 9B-72 of the Florida Administrative Code.

END OF THIS ACCEPTANCE