MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
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DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

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 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: JM TPO Single Ply Roofing System 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.

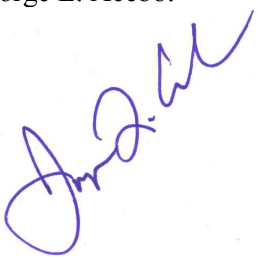
RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

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 revises NOA No. 12-0605.01 and consists of pages 1 through 11.
The submitted documentation was reviewed by Jorge L. Acebo.



ROOFING SYSTEM APPROVAL

Category: Roofing
Sub-Category: Single Ply Roofing
Material: TPO
Deck Type: Lightweight Concrete
Maximum Design Pressure: -367.5 psf

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

Product	Dimensions	Test Specification	Product Description
JM TPO 45	45 mils thick	ASTM D6878 TAS 131	Polyester reinforced Thermoplastic Olefin single ply membrane.
JM TPO 60	60 mils thick	ASTM D6878 TAS 131	Polyester reinforced Thermoplastic Olefin single ply membrane.
JM TPO 80	80 mils thick	ASTM D6878 TAS 131	Polyester reinforced Thermoplastic Olefin single ply membrane.
JM TPO FB 115	60 mils thick	ASTM D6878 TAS 131	Polyester reinforced, fleece backed, Thermoplastic Olefin single ply membrane.
JM TPO FB 135	80 mils thick	ASTM D6878 TAS 131	Polyester reinforced, fleece backed, Thermoplastic Olefin single ply membrane.
JM Urethane Insulation Adhesive	5 gal.	Proprietary	A one part, cold-applied adhesive.
JM Two Part Urethane Insulation Adhesive	Various	Proprietary	A two-component, cold-applied adhesive.
JM TPO Membrane Adhesive (Solvent-Based)	5 gal.	Proprietary	A synthetic rubber-based adhesive used on single ply roofing membranes.
JM TPO Membrane Adhesive (Low VOC)	5 gal.	Proprietary	A synthetic rubber-based adhesive used with fully or partially adhered TPO roofing membrane systems.
JM Roofing System Urethane Adhesive	Various	Proprietary	A two-part urethane low-rise foam adhesive.
JM TPO Membrane Adhesive (Water-Based)	5 gal.	Proprietary	A polymeric, wet laying (single side application), Low-VOC adhesive.
JM TPO Walkpad	5⁄32" x 30" x 50'	Proprietary	Textured walkway protection membrane.
JM TPO Detail Membrane	24" x 50'	TAS 131	Non-reinforced membrane for wrapping pipe flashings and vertical stacks and for waterproofing joints of JM TPO Coated Metal.

JM TPO Universal Corners	Various	TAS 131	Pre-molded for easy installation of curb flashings or corner flashings on JM TPO-Coated Metal or JM TPO Membrane.
JM TPO T-Joint Patch	4"	TAS 131	Non-reinforced membrane patch for covering t-joints and/or discs and fasteners.
JM TPO Pipe Boots	1" x 6"	TAS 131	Cone-shaped stepping boots designed for flashing pipe penetrations.
JM TPO Peel & Stick Pipe Boots	1" x 6"	TAS 131	Cone-shaped stepping boots designed for flashing pipe penetrations.
JM TPO Cover Strip	6" x 100'	TAS 131	30 mil membrane with a factory-applied peel and stick adhesive tape used to strip in metal flanges.
JM TPO 10” Cover Strip	10" x 100'	TAS 131	30 mil membrane with a factory-applied peel and stick adhesive tape used to strip in metal flanges.
JM TPO Penetration Pocket	7.5" x 6"	TAS 131	Two-piece molded pocket with a rigid vertical wall and preformed flanges.
JM TPO Coated Metal	4' x 10'	Proprietary	JM TPO Membrane laminated onto galvanized steel.
JM TPO Peel & Stick RTS	6" x 100'	TAS 131	45 mil TPO membrane strip with a 3" tape factory laminated along one edge.
JM TPO Peel & Stick 10” RPS	10" x 100'	TAS 131	45 mil TPO membrane strip with a 3" tape factory laminated along one edge.
JM TPO Curb Flashing	18" x 50’	TAS 131	60 mil TPO membrane for flashing curbs and parapet walls.
JM TPO Reinforced Cover Strip	8" x 50'	TAS 131	60 mil TPO membrane strip use as a heat-weldable strip in mechanically fastened systems.
DynaBase HW	39-3/8” x 49’2”	ASTM D6163, Type I, Grade S	An SBS modified bitumen coated, fiberglass reinforced base sheet for heat welded applications.

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
N/A	N/A	N/A

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1	N/A	N/A	N/A	N/A

EVIDENCE SUBMITTED:

Test Agency	Test Identifier	Description	Date
FM Approvals	3033700	FM 4470	10/10/08
Momentum Technologies	RX10A8A	TAS 131	08/15/08
	RX14C8A	TAS 131	09/15/05
	RX10A8B	TAS 131	09/23/08
PRI Construction Materials Technologies LLC	JMC-180-02-01	Physical Properties	11/11/13
	JMC-086-02-01 Rev 2	TAS114 J	09/06/13
	JMC-088-02-01 Rev 1	ASTM D1876	01/03/13
	JMC-132-02-01	TAS114 D	04/17/13
	JMC-132-02-02	TAS114 D	04/03/13
	JMC-162-02-01	TAS114 D	08/12/13
	JMC-163-02-01	TAS114 D	08/12/13
	JMC-180-02-01	Physical Properties	11/11/13
	JMC-183-02-01.1	Physical Properties	12/18/13
Trinity | ERD	J33600.08.13	TAS 131	08/09/13

APPROVED ASSEMBLIES:

Membrane Type: TPO

Deck Type 4: Lightweight Concrete, Non-Insulated

Deck Description: Structural Concrete and Celcore MF Cellular Concrete with Celcore HS Rheology Modifying Admixture is cast to a depth of 1/8 in. with a wet cast density of 49 lb./ft^3. The Celcore admixture is added to the mixture during the mixing process at a rate of 3.4 fl. oz. per 100 lbs. of cement. Dyplast, Carpenter, Cellofoam, or Insulfoam Holey Board, 1 in. thick is placed into the wet concrete. The following day an additional 2" thick Celcore MF Cellular Concrete with Celcore HS Rheology Modifying Admixture with a wet cast density of 44.6 lb./ft^3. The Celcore HS Admixture is added to the top layer of LWC at the same rate stated above. The following day Celcore PVA Curing Compound is spray applied over the top layer of LWC at a rate of 0.33 gal./sq.

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

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: Apply JM TPO roof cover of 60, 72 or 80 mil and fully adhered with JM TPO Membrane Adhesive (Low VOC) applied to both the membrane and substrate for a combined rate of 1.67 gal/sq (0.68 L/m^2). Side laps, 2" wide, are sealed with 1.5" wide heat weld.

Maximum Design Pressures: -367.5 psf. (See General Limitation #9)

Membrane Type: TPO

Deck Type 4: Lightweight Concrete, Non-Insulated

Deck Description: Minimum 475 psi Celcore MF Cellular Concrete with Celcore HS Rheology Modifying Admixture is laid with a 1/8" slurry coat with a 1" EPS Board cast over 22 ga. vented 33 ksi, Type B steel deck, fastened to the 6' o.c. steel supports with #12-24 x 1-1/4"HWH SD screws with ½" washers. One screw every flute fastened 6" o.c. to steel frame. Deck side laps of sheets fastened with ¼"-14 x 7/8" HWH SD screws with ½" washers, 12" o.c., and an additional 2" thick topcoat applied after overnight cure. Celcore PVA Curing compound applied after top coat setting at 300 ft^2/gal.

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

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: JM TPO FB 115 or JM TPO FB 135 roof cover adhered with JM Roofing System Urethane Adhesive applied in ½" -3/4" wide ribbons spaced 12" o.c. Laps are sealed with a minimum 1.5" heat weld.

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

Membrane Type: TPO

Deck Type 4: Lightweight Concrete, Non-Insulated

Deck Description: Minimum 500 psi Celcore MF Cellular Concrete with Celcore HS Rheology Modifying Admixture is laid with a 1/8" slurry coat with a 1" EPS Board cast over structural concrete with an optional vapor barrier (vapor barrier over primed concrete deck only), and an additional 2" thick topcoat applied after overnight cure. Celcore PVA Curing compound applied after top coat setting at 300 ft^2/gal.

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

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.

Vapor Barrier: (Optional) DynaBase HW torch applied to **primed structural concrete deck only** prepared with ASTM D41 primer.

Membrane: JM TPO FB 115 or JM TPO FB 135 roof cover adhered to the deck with JM Roofing System Urethane Adhesive applied in ½" - 3/4" ribbons 4" o.c. Laps are sealed with a minimum 1.5" heat weld.

Maximum Design Pressures: -257.5 psf. (See General Limitation #9).

Membrane Type: TPO

Deck Type 4: Lightweight Concrete, Non-Insulated

Deck Description: Minimum 500 psi Celcore MF Cellular Concrete with Celcore HS Rheology Modifying Admixture is laid with a 1/8" slurry coat with a 1" EPS Board cast over cementitious wood fiber or structural concrete with an optional vapor barrier (vapor barrier over primed concrete deck only), and an additional 2" thick topcoat applied after overnight cure. Celcore PVA Curing compound applied after top coat setting at 300 ft^2/gal.

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

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.

Vapor Barrier: (Optional) DynaBase HW torch applied to **primed structural concrete deck only** prepared with ASTM D41 primer.

Membrane: JM TPO FB 115 or JM TPO FB 135 adhered with JM Roofing System Urethane Adhesive applied in $^1/_2$" – $^3/_4$" ribbons 4" o.c. Laps are sealed with a minimum 1.5" heat weld.
(Maximum Design Pressure:-197.5 psf. (See General Limitation #9.)

JM TPO FB 115 or JM TPO FB 135 adhered with JM Roofing System Urethane Adhesive applied in $^1/_2$" – $^3/_4$" ribbons 12" o.c. Laps are sealed with a minimum 1.5" heat weld.
(Maximum Design Pressure:-167.5 psf. (See General Limitation #9.)

Maximum Design Pressures: See membrane installation options above.

Membrane Type: TPO

Deck Type 4: Lightweight Concrete, Non-Insulated

Deck Description: Minimum 375 psi Concrecel cellular lightweight concrete.

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

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: JM TPO FB 115 or JM TPO FB 135 adhered with JM Roofing System Urethane Adhesive applied in $^{1}/_{2}$" – $^{3}/_{4}$" ribbons 6" o.c. Laps are sealed with a minimum 1.5" heat weld.
(Maximum Design Pressure -172.5 psf.; See General Limitation #9.)

JM TPO FB 115 or JM TPO FB 135 adhered with JM Roofing System Urethane Adhesive applied in $^{1}/_{2}$" – $^{3}/_{4}$" ribbons 12" o.c. Laps are sealed with a minimum 1.5" heat weld.
(Maximum Design Pressure -147.5 psf.; See General Limitation #9.)

Maximum Design Pressures: See membrane installation options above.

Membrane Type: TPO

Deck Type 4: Lightweight Concrete, Non-Insulated

Deck : Minimum 375 psi Concrecel cellular lightweight concrete.

System Type F(6): Membrane adhered to deck.

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: JM TPO fully adhered to insulation using JM TPO Membrane Adhesive (Low VOC) applied at a rate of 1.5 – 2.0 gal/100 ft^2. Laps are sealed with a minimum 1.5" heat weld.

Maximum Design Pressures: -285 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, calculations shall be signed and sealed by a Florida Registered Engineer, 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 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. 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.)
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