



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

NOTICE OF ACCEPTANCE (NOA)

MIAMI-DADE COUNTY
 PRODUCT CONTROL SECTION

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 Miami, Florida 33175-2474
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www.miamidade.gov/economy

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 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 revises NOA No. 15-0203.03 and consists of pages 1 through 28.
 The submitted documentation was reviewed by Jorge L. Acebo.



NOA No.: 18-0501.04
 Expiration Date: 12/24/23
 Approval Date: 12/13/18
 Page 1 of 28

ROOFING SYSTEM APPROVAL

Category: Roofing
Sub-Category: Single Ply Roofing
Materials: TPO
Deck Type: Lightweight Concrete
Maximum Design Pressure: -502.5 psf.

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

| <u>Product</u> | <u>Dimensions</u> | <u>Test Specification</u> | <u>Product Description</u> |
|---|-------------------|---------------------------|--|
| 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 TPO FB 150 | 60 mils thick | ASTM D6878 TAS 131 | Polyester reinforced, heavy-fleece backed, Thermoplastic Olefin single ply membrane. |
| JM TPO FB 175 | 80 mils thick | ASTM D6878 TAS 131 | Polyester reinforced, heavy-fleece backed, Thermoplastic Olefin single ply membrane. |
| JM One Step Foamable Adhesive | N/A | Proprietary | Two-part urethane low rise foam insulation. |
| JM Urethane Insulation Adhesive | 1 gal. | Proprietary | A one part, cold-applied adhesive |
| JM Two Part Urethane Insulation Adhesive | Various | Proprietary | A two-component, cold-applied adhesive |
| JM Two Part Urethane Insulation Adhesive Canister | N/A | Proprietary | Self-contained two-part, low-rise foam adhesive |
| JM Roofing System Urethane Adhesive | Various | Proprietary | A two-component, cold-applied adhesive. |
| ICP Adhesives CR-20 | Various | Proprietary | Spray applied, two-part reactive urethane foam adhesive |
| JM TPO Membrane Adhesive (Solvent-Based) | 5 gal. | Proprietary | A synthetic rubber-based adhesive used on single ply roofing membranes. |



| <u>Product</u> | <u>Dimensions</u> | <u>Test Specification</u> | <u>Product Description</u> |
|---|--------------------------|----------------------------------|--|
| JM Membrane Bonding Adhesive (TPO & EPDM) | 5 gal. | Proprietary | One-part, synthetic polymer-based membrane adhesive |
| 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 TPO Low VOC Membrane Adhesive | 5 gal. | Proprietary | A synthetic rubber-based adhesive used to adhere TPO roofing membrane systems. |
| JM TPO LVOC Membrane Adhesive | 5 gal. | Proprietary | One-Part, low VOC synthetic polymer-based membrane adhesive |
| JM LVOC Membrane Adhesive (TPO & EPDM) | 5 gal. | Proprietary | One-Part, low VOC synthetic polymer-based membrane 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 Split Pipe Boot | Various | TAS 131 | Cone shaped stepping boots designed for flashing pipe penetrations. |
| JM Square Pipe Boots | 2" x 8" & 4" x 8" | TAS 131 | Square shaped stepping boots designed for flashing pipe penetrations. |
| JM TPO Cover Tape | 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 Tape | 10" x 100' | TAS 131 | 30 mil membrane with a factory-applied peel and stick adhesive tape used to strip in metal flanges. |



| <u>Product</u> | <u>Dimensions</u> | <u>Test Specification</u> | <u>Product Description</u> |
|-------------------------------|--------------------------|----------------------------------|--|
| JM Vapor Barrier SA | 44.9" x 133' | Proprietary | Self-adhered, SBS modified bituminous sheet with tri-laminate woven polyethylene surface. |
| 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 6" 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. |
| PermaPly 28 | 36" x 106' | ASTM D4601 | Type II asphalt impregnated and coated glass fiber base sheet for use in conventional and modified bitumen built-up roofing. |



APPROVED INSULATIONS:

TABLE 2

| Product Name | Product Description | Manufacturer (With Current NOA) |
|---|---|--|
| JM SECUROCK Gypsum-Fiber Roof Board | Fiber reinforced gypsum cover board | Johns Manville |
| ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI | Polyisocyanurate Insulation | Johns Manville |
| ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI | Polyisocyanurate Insulation with glass facer | Johns Manville |
| ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI | Polyisocyanurate Insulation with coated glass facer | Johns Manville |

APPROVED FASTENERS:

TABLE 3

| Fastener Number | Product Name | Product Description | Dimensions | Manufacturer (With Current NOA) |
|------------------------|--------------------------------|--|---|--|
| 1. | CR Base Sheet Fasteners (1.7") | G-90 galvanized fastener with plate for base sheet attachment to gypsum and lightweight concrete | 1.125" head x 1.7" length 2.75" dia. plate | OMG, Inc. |
| 2. | JM TPO RhinoPlate | Insulation Plates | 3.15" diameter, | Johns Manville |
| 3. | High Load Plus Plate | Seam plate with reinforcing ribs and eyehooks | 2-3/4" round steel plates | Johns Manville |
| 4. | High Load Fasteners | Insulation and membrane fastener | #15 x 14" max. #3Phillips hd | Johns Manville |



EVIDENCE SUBMITTED:

| <u>Test Agency</u> | <u>Test Identifier</u> | <u>Description</u> | <u>Date</u> |
|--|------------------------|---|-------------|
| Atlantic & Caribbean Roofing Consultants, LLC | ACRC 14-026 | TAS 114(D) | 11/19/14 |
| | ACRC 14-027 | TAS 114(D) | 11/19/14 |
| | ACRC 14-028 | TAS 114(D) | 11/20/14 |
| | ACRC 14-029 | TAS 114(D) | 11/20/14 |
| | ACRC 14-031 | TAS 114(D) | 11/21/14 |
| | ACRC 14-033 | TAS 114(D) | 11/24/14 |
| | ACRC 14-035 | TAS 114(D) | 11/25/14 |
| | ACRC 14-036 | TAS 114(D) | 11/26/14 |
| | ACRC 14-039 | TAS 114(D) | 12/12/14 |
| | ACRC 14-038 | TAS 114(D) | 12/02/14 |
| | ACRC 14-041 | TAS 114(D) | 12/03/14 |
| | ACRC 14-042 | TAS 114(D) | 12/04/14 |
| | ACRC 14-043 | TAS 114(D) | 12/04/14 |
| | ACRC 14-045 | TAS 114(D) | 12/05/14 |
| | ACRC 14-046 | TAS 114(D) | 12/09/14 |
| FM Approvals | 3033700 | FM 4470 | 10/10/08 |
| | 3053026 | FM 4470 | 01/20/15 |
| | 3023458 | FM 4450 | 07/18/06 |
| | 3051609 | FM 4470 | 08/24/14 |
| | 3046174 | FM 4470 | 04/03/13 |
| UL LLC | R10167 | UL 790 | 11/20/13 |
| 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-086-02-01 Rev 2 | TAS114 J | 09/06/13 |
| | JMC-088-02-01.5 | ASTM D1876/TAS 117(A)/(B) TAS 114(C) | 02/22/18 |
| | 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-186-02-01.1 | TAS 131 | 09/19/14 |
| | JMC-186-02-02.1 | TAS 131 | 10/10/14 |
| | JMC-183-02-01.1 | Physical Properties | 12/18/13 |
| | JMC-242-02-01 | TAS114 J | 11/18/15 |
| | JMC-245-02-02 | TAS114 D | 03/29/16 |
| | JMC-246-02-01 | TAS114 D | 03/29/16 |
| | JMC-267-02-02 | TAS114 D | 04/11/16 |
| | JMC-306-02-01 | TAS114 D | 05/25/17 |
| JMC-306-02-02 | TAS 114 J | 05/25/17 | |
| JMC-306-02-03 | TAS 114 J | 06/27/17 | |
| Trinity ERD | J33600.08.13 | TAS 131 | 08/09/13 |



DECK STRESS ANALYSIS CALCULATIONS/REPORTS

| <u>Engineer/Agency</u> | <u>Identifier</u> | <u>Assemblies</u> | <u>Date</u> |
|-------------------------|----------------------------|-------------------|-------------|
| Zachary R. Priest, P.E. | Signed/Sealed Calculations | E(1) | 05/25/17 |
| Zachary R. Priest, P.E. | Signed/Sealed Calculations | E(2) and E(3) | 06/27/17 |
| Zachary R. Priest, P.E. | Signed/Sealed Calculations | F(2) | 08/29/16 |



APPROVED ASSEMBLIES

Membrane Type: TPO

Deck Type 4I: Lightweight Concrete, Insulated

Deck Description: Minimum 300 psi Lightweight Insulating Concrete is laid with a 1/4” slurry coat with a minimum 1” EPS Board followed by a 2” top coat cast over minimum 22 ga. Grade 33 vented steel deck. Lightweight Insulating Concrete deck which records a Minimum Characteristic Resistance Force (MCRF) of 131 lbf when tested with 1.7” Lightweight Concrete (LWC) CR Base Fastener in accordance with TAS 105.

Deck: Minimum 22 ga., Grade 33 vented steel deck..

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

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.

| Base Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft² |
|---|---|--|
| ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI Minimum 1.5” thick | N/A | N/A |
| Top Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft² |
| JM SECUROCK Gypsum-Fiber Roof Board Minimum 1/4” thick | N/A | N/A |

Note: All insulation shall be adhered to the deck with JM Two-Part Urethane Insulation Adhesive, JM Two-Part Urethane Insulation Adhesive Canister, or JM One Step Foamable Adhesive applied in 3/4” to 1” wide ribbons spaced 12” o.c or JM Roofing System Urethane Adhesive applied in 1/2” to 3/4” ribbons spaced 12” o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: JM TPO Membrane fully adhered to the insulation as specified below. The minimum 2.5” wide side laps shall be sealed with a minimum 1.5” wide heat weld.

Option #1 Membrane fully adhered to the insulation with JM TPO Membrane Adhesive (Low VOC) applied at a rate of 50 – 90 ft²/gal to both the membrane and the substrate.

Option #2 Membrane fully adhered to the insulation with JM TPO Low VOC Membrane Adhesive applied at a rate of 0.55 gal/sq. to both the membrane and the substrate for a total of 1.1 gal/sq.

Option #3 Membrane is fully adhered to ther insulation with JM TPO Membrane Adhesive (Water-Based) applied at a rate of 0.6 – 0.8 gal/sq to both membrane and the substrate.



- Membrane:
(Continued) JM TPO Membrane fully adhered to the insulation as specified below. The minimum 2.5” wide side laps shall be sealed with a minimum 1.5” wide heat weld.
- Option #4 Membrane fully adhered to the insulation with JM Membrane Adhesive (Solvent Based) applied at a rate of 50 – 90 ft²/gal. to both the membrane and the substrate.
- Option #5 Membrane fully adhered to the insulation with JM Membrane Bonding Adhesive (TPO & EPDM) applied at a rate of 0.83 gal/sq. to both the membrane and the substrate for a total of 1.67 gal/sq.
- Option #6 Membrane fully adhered to the insulation with JM TPO LVOC Membrane Adhesive applied at a rate of 0.83 gal/sq. to both the membrane and the substrate for a total of 1.67 gal/sq.
- Option #7 Membrane fully adhered to the insulation with JM LVOC Membrane Adhesive (TPO & EPDM) applied at a rate of 0.83 gal/sq. to both the membrane and the substrate for a total of 1.67 gal/sq.
- Maximum Design Pressures: -80 psf. (See General Limitation #9)



- Membrane Type:** TPO
- Deck Type 4I:** Lightweight Concrete, Insulated
- Deck Description:** Min. 310 psi, 2” Elastizell Lightweight Insulating Concrete with Zell-Fibers cast over structural concrete or minimum 22 ga., Grade 33 vented galvanized steel deck.
- System Type A(2):** One or more layers of insulation adhered with approved adhesive; membrane fully adhered.

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.

| Base Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft² |
|---|---|--|
| ENRGY 3, ENRGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI Minimum 1.5” thick | N/A | N/A |
| Top Insulation Layer (Optional) | Insulation Fasteners (Table 3) | Fastener Density/ft² |
| JM SECUROCK Gypsum-Fiber Roof Board Minimum ¼” thick | N/A | N/A |

Note: All insulation shall be adhered to the deck with JM Two-Part Urethane Insulation Adhesive, JM Two-Part Urethane Insulation Adhesive Canister, or JM One Step Foamable Adhesive applied in ¾” to 1” wide ribbons spaced 12” o.c or JM Roofing System Urethane Adhesive (top insulation only) applied in ½” to ¾” ribbons spaced 12” o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

- Membrane:** JM TPO Membrane fully adhered to the insulation as specified below. The minimum 2.5” wide side laps shall be sealed with a minimum 1.5” wide heat weld.
- Option #1** Membrane fully adhered to the insulation with JM TPO Membrane Adhesive (Low VOC) applied at a rate of 50 – 90 ft²/gal to both the membrane and the substrate.
- Option #2** Membrane fully adhered to the insulation with JM TPO Low VOC Membrane Adhesive applied at a rate of 0.55 gal/sq. to both the membrane and the substrate for a total of 1.1 gal/sq.
- Option #3** Membrane fully adhered to the insulation with JM Membrane Adhesive (Solvent Based) applied at a rate of 50 – 90 ft²/gal. to both the membrane and the substrate.
- Option #4** Membrane is fully adhered to ther insulation with JM TPO Membrane Adhesive (Water-Based) applied at a rate of 0.6 – 0.8 gal/sq to both membrane and the substrate.
- Option #5** Membrane fully adhered to the insulation with JM Membrane Bonding Adhesive (TPO & EPDM) applied at a rate of 0.83 gal/sq. (to SECUROCK) or 0.55 gal/sq. (to ENRGY 3) to both the membrane and the substrate.



Membrane: JM TPO Membrane fully adhered to the insulation as specified below. The
(Continued) minimum 2.5” wide side laps shall be sealed with a minimum 1.5” wide heat weld.

Option #6 Membrane fully adhered to the insulation with JM TPO LVOC Membrane
Adhesive applied at a rate of 0.83 gal/sq. (to SECUROCK) or 0.55 gal/sq. (to
ENRGY 3) to both the membrane and the substrate.

Option #7 Membrane fully adhered to the insulation with JM LVOC Membrane Adhesive
(TPO & EPDM) applied at a rate of 0.83 gal/sq. (to SECUROCK) or 0.55 gal/sq.
(to ENRGY 3) to both the membrane and the substrate.

Maximum Design Pressures: -130 psf. (See General Limitation #9)



Membrane Type: TPO

Deck Type 4: Lightweight Concrete, Non-Insulated

Deck Description: Minimum 160 psi Elastizell lightweight insulating concrete with Zell-Crete Fibers is laid with a 1/4" slurry coat with a minimum 1" EPS Board cast over minimum 22 ga., Grade 33 vented, Type B steel deck, fastened to the 6' o.c. steel supports with 5/8" diameter puddle welds. Deck side laps of sheets fastened with 1/4"-14 x 7/8" HWH screws, 18" o.c., and an additional 2" thick topcoat.

This Tested Assembly has been analyzed for allowable deck stress. See Deck Stress Analysis Table.

System Type E(1): Membrane adhered over base sheet mechanically fastened 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.

Base Sheet: PermaPly 28 mechanically fastened to the LWIC deck with 1.7" LWC CR Base Sheet Fasteners secured 9" o.c. at the 3" lap and 9" o.c. in two, equally spaced staggered rows in the field of the roll.

Membrane: JM TPO FB 150 or 175 fully adhered to the base sheet with hot asphalt in the EVT range at a rate of 20-25 lbs/100 ft². Side laps will be a minimum 3" wide and shall be sealed with a minimum 1.5" wide heat weld.

Maximum Design Pressures: -45 psf. (See General Limitation #7)



Membrane Type: TPO

Deck Type 4: Lightweight Concrete, Non-Insulated

Deck Description: Minimum 160 psi Elastizell lightweight insulating concrete with Zell-Crete Fibers is laid with a 1/4" slurry coat with a minimum 1" EPS Board cast over minimum 22 ga., Grade 40 vented, Type B steel deck, fastened to the 6' o.c. steel supports with 5/8" diameter puddle welds. Deck side laps of sheets fastened with 1/4"-14 x 7/8" HWH screws, 18" o.c., and an additional 2" thick topcoat.

This Tested Assembly has been analyzed for allowable deck stress. See Deck Stress Analysis Table.

System Type E(2): Membrane induction welded over 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 (min. 60 mil.) induction welded to JM TPO Rhino Plates with High Load Fasteners secured 6" o.c. in rows spaced 96" o.c. Side laps will be a minimum 3" wide and shall be sealed with a minimum 1.5" wide heat weld.

Maximum Design Pressures: -60 psf. (See General Limitation #7)



Membrane Type: TPO

Deck Type 4: Lightweight Concrete, Non-Insulated

Deck Description: Minimum 160 psi Elastizell lightweight insulating concrete with Zell-Crete Fibers is laid with a 1/4" slurry coat with a minimum 1" EPS Board cast over minimum 22 ga., Grade 50 vented, Type B steel deck, fastened to the 6' o.c. steel supports with 5/8" diameter puddle welds. Deck side laps of sheets fastened with 1/4"-14 x 7/8" HWH screws, 18" o.c., and an additional 2" thick topcoat.

This Tested Assembly has been analyzed for allowable deck stress. See Deck Stress Analysis Table.

System Type E(3): Membrane mechanically fastened over 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 (min. 45 mil.) mechanically fastened with High Load Fasteners and JM High Load Plates secured 6" o.c. in rows spaced 90" o.c. Side laps will be a minimum 6" wide and shall be sealed with a minimum 1.5" wide heat weld.

Maximum Design Pressures: -67.5 psf. (See General Limitation #7)



Membrane Type: TPO

Deck Type 4: Lightweight Concrete, Non-Insulated

Deck Description: Min. 350 psi. Celcore MF Cellular Concrete with Celcore HS Rheology Modifying Admixture is cast over structural concrete to a depth of 1/8 in. with a wet cast density of 49 lb./ft³. 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, minimum 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./ft³. 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 at a rate of 50 – 90 ft²/gal to both the membrane and the substrate. The minimum 2” wide side laps shall be sealed with a minimum 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 minimum 1" EPS Board cast over minimum 22 ga., Grade 33 vented, Type B steel deck, fastened to the 6' o.c. steel supports with #12-24 x 1-1/4" HWH SD screws with 1/2" washers. One screw every flute fastened 6" o.c. to steel frame. Deck side laps of sheets fastened with 1/4"-14 x 7/8" HWH SD screws with 1/2" washers, 12" o.c., and an additional 2" thick topcoat. Celcore PVA Curing compound applied after top coat setting at 300 ft²/gal.

This Tested Assembly has been analyzed for allowable deck stress. See Deck Stress Analysis Table.

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 1/2" to 3/4" wide ribbons spaced 12" o.c. or with ICP Adhesives CR-20 applied in 3/4" to 1" wide ribbons spaced 12" o.c. or with JM Two-Part Urethane Insulation Adhesive Canister applied in splatter pattern at 0.318 gal./sq. Side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide 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 minimum 1" EPS Board and an additional 2" thick topcoat. Celcore PVA Curing compound applied after top coat setting at 300 ft²/gal. cast over cementitious wood fiber or structural concrete or optional vapor barrier adhered to structural concrete substrate
System Type F(3): 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 **structural concrete deck only** primed with ASTM D41 primer followed by Celcore lightweight insulating concrete cast over the adhered membrane.

Membrane: JM TPO FB 115 or JM TPO FB 135 adhered per one of the following. Side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld.

Option #1 Membrane adhered with JM Roofing System Urethane Adhesive applied in 1/2" to 3/4" ribbons 4" o.c. or with ICP Adhesives CR-20 applied in 3/4" to 1" ribbons 4" o.c. or with JM Two-Part Urethane Insulation Adhesive Canister applied in splatter pattern at 0.318 gal./sq.
Maximum Design Pressure: -257.5 psf. (See General Limitation #9.)

Option #2 Membrane adhered with JM Roofing System Urethane Adhesive applied in 1/2" to 3/4" ribbons 12" o.c. or with ICP Adhesives CR-20 applied in 3/4" to 1" ribbons 12" o.c.
Maximum Design Pressure: -167.5 psf. (See General Limitation #9.)

Maximum Design Pressures: See membrane options above.



Membrane Type: TPO

Deck Type 4: Lightweight Concrete, Non-Insulated

Deck Description: Minimum 380 psi Concrecel cellular lightweight concrete cast over structural concrete deck.

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.

Membrane: JM TPO FB 115 or JM TPO FB 135 adhered with JM Roofing System Urethane Adhesive applied in 1/2" to 3/4" ribbons 6" o.c. or with ICP Adhesives CR-20 applied in 3/4" to 1" ribbons 6" o.c. Side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld.

Maximum Design Pressure -97.5 psf.; (See General Limitation #9.)

Or

JM TPO FB 115 or JM TPO FB 135 adhered with JM Roofing System Urethane Adhesive applied in 1/2" to 3/4" ribbons 12" o.c. or with ICP Adhesives CR-20 applied in 3/4" to 1" ribbons 12" o.c. or with JM Two-Part Urethane Insulation Adhesive Canister applied in splatter pattern at 0.318 gal./sq. Side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld.

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

Or

JM TPO fully adhered to insulation using JM TPO Membrane Adhesive (Low VOC) applied at a rate of 1.5 – 2.0 gal/100 ft². Side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld.

Maximum Design Pressure -285 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: Min. 383.5 psi Celcore lightweight insulating concrete cast over 22 ga. Grade 90 vented type B galvanized steel.

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 membrane adhered to the deck with JM Roofing System Urethane Adhesive applied in 1/2" to 3/4" ribbons 6" o.c. or with ICP Adhesives CR-20 applied in 3/4" to 1" ribbons 6" o.c. or with JM Two-Part Urethane Insulation Adhesive Canister applied in splatter pattern at 0.318 gal./sq. with minimum 2.5" wide side laps that shall be sealed with a minimum 1.5" wide heat weld.

Maximum Design Pressure: -204.5 psf. (See General Limitation #9)



Membrane Type: TPO
Deck Type 4: Lightweight Concrete, Non-Insulated
Deck Description: Min. 383.5 psi Celcore lightweight insulating concrete cast over structural concrete substrate.
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 FB Membrane adhered with JM Roofing System Urethane Adhesive applied in 1/2" to 3/4" ribbons 6" o.c. or with ICP Adhesives CR-20 applied in 3/4" to 1" ribbons 6" o.c. or with JM Two-Part Urethane Insulation Adhesive Canister applied in splatter pattern at 0.318 gal./sq. with minimum 2.5" wide side laps that shall be sealed with a minimum 1.5" wide heat weld.

Maximum Design Pressure: -502.5 psf. (See General Limitation #9.)



Membrane Type: TPO

Deck Type 4: Lightweight Concrete, Non-Insulated

Deck Description: Min. 383.5 psi Celcore lightweight insulating concrete cast over structural concrete.

System Type F(7): 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 Membrane adhered to the deck with JM Roofing System Urethane Adhesive applied in 1/2" to 3/4" ribbons 12" o.c. or with ICP Adhesives CR-20 applied in 3/4" to 1" ribbons 12" o.c. or with JM Two-Part Urethane Insulation Adhesive Canister applied in splatter pattern at 0.318 gal./sq. with minimum 2.5" wide side laps that shall be sealed with a minimum 1.5" wide heat weld.

Maximum Design Pressure: -398.5 psf. (See General Limitation #9.)



Membrane Type: TPO

Deck Type 4: Lightweight Concrete, Non-Insulated

Deck Description: Min. 370 psi Concrecel lightweight insulating concrete cast over 22 ga. Grade 90 vented type B galvanized steel.

System Type F(8): 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 adhered to the deck with JM Roofing System Urethane Adhesive applied in 1/2" to 3/4" ribbons 12" o.c. or with ICP Adhesives CR-20 applied in 3/4" to 1" ribbons 12" o.c. or with JM Two-Part Urethane Insulation Adhesive Canister applied in splatter pattern at 0.318 gal./sq. with minimum 2.5" wide side laps that shall be sealed with a minimum 1.5" wide heat weld.

Maximum Design Pressure: -82.5 psf. (See General Limitation #9)



Membrane Type: TPO
Deck Type 4: Lightweight Concrete, Non-Insulated
Deck Description: Min. 370 psi Concrecel lightweight insulating concrete cast over structural concrete.
System Type F(9): 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 135 adhered to the deck per one of the following:

Option #1: Membrane adhered to the deck with JM Roofing System Urethane Adhesive applied in 1/2" to 3/4" ribbons 6" o.c. or with ICP Adhesives CR-20 applied in 3/4" to 1" ribbons 6" o.c. or with JM Two-Part Urethane Insulation Adhesive Canister applied in splatter pattern at 0.318 gal./sq. with minimum 2.5" wide side laps that shall be sealed with a minimum 1.5" wide heat weld.
Maximum Design Pressure: -480 psf. (See General Limitation #9.)

Option #2: Membrane adhered to the deck with JM Roofing System Urethane Adhesive applied in 1/2" to 3/4" ribbons 12" o.c. or with ICP Adhesives CR-20 applied in 3/4" to 1" ribbons 12" o.c. with minimum 2.5" wide side laps that shall be sealed with a minimum 1.5" wide heat weld.
Maximum Design Pressure: -343.5 psf. (See General Limitation #9.)

Maximum Design Pressure: See Options Above



Membrane Type: TPO
Deck Type 4: Lightweight Concrete, Non-Insulated
Deck Description: Min. 213.5 psi Elastizell lightweight insulating concrete cast over 22 ga., Grade 90, vented type B galvanized steel.

System Type F(10): 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: Membrane shall be adhered to the deck per one of the following:

Option #1: JM TPO FB 115 or 135 adhered to the deck with JM Roofing System Urethane Adhesive applied in 1/2" to 3/4" ribbons 6" o.c. or ICP Adhesives CR-20 applied in 3/4" to 1" ribbons 6" o.c. or with JM Two-Part Urethane Insulation Adhesive Canister applied in splatter pattern at 0.318 gal./sq. with minimum 2.5" wide side laps that shall be sealed with a minimum 1.5" wide heat weld.
Maximum Design Pressure over steel: -300 psf. (See General Limitation #9.)

Option #2: JM TPO FB 115 or 135 adhered to the deck with JM Roofing System Urethane Adhesive applied in 1/2" to 3/4" ribbons 12" o.c. or with ICP Adhesives CR-20 applied in 3/4" to 1" ribbons 12" o.c. with minimum 2.5" wide side laps that shall be sealed with a minimum 1.5" wide heat weld.
Maximum Design Pressure over steel: -181.5 psf. (See General Limitation #9.)

Option #3: JM TPO fully adhered using JM TPO Membrane Adhesive (Low VOC) applied at a rate of 90 ft²/gal, half applied to LWIC and half to underside of membrane with minimum 2.5" wide side laps that shall be sealed with a minimum 1.5" wide heat weld.
Maximum Design Pressure over steel: -272.5 psf. (See General Limitation #9.)

Maximum Design Pressure: See Options Above



Membrane Type: TPO
Deck Type 4: Lightweight Concrete, Non-Insulated
Deck Description: Min. 213.5 psi Elastizell lightweight insulating concrete cast over structural concrete substrate.

System Type F(11): 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: Membrane shall be adhered per one of the following:

Option #1: JM TPO FB adhered with JM Roofing System Urethane Adhesive applied in 1/2" to 3/4" ribbons 4" o.c. or with ICP Adhesives CR-20 applied in 3/4" to 1" ribbons 4" o.c. or with JM Two-Part Urethane Insulation Adhesive Canister applied in splatter pattern at 0.318 gal./sq. with minimum 2.5" wide side laps that shall be sealed with a minimum 1.5" wide heat weld.
Maximum Design Pressure: -390 psf. (See General Limitation #9.)

Option #2: JM TPO FB adhered with JM Roofing System Urethane Adhesive applied in 1/2" to 3/4" ribbons 6" o.c. or with ICP Adhesives CR-20 applied in 3/4" to 1" ribbons 6" o.c. with minimum 2.5" wide side laps that shall be sealed with a minimum 1.5" wide heat weld.
Maximum Design Pressure: -67.5 psf. (See General Limitation #9.)

Option #3: JM TPO FB adhered with JM Roofing System Urethane Adhesive applied in 1/2" to 3/4" ribbons 12" o.c. or with ICP Adhesives CR-20 applied in 3/4" to 1" ribbons 12" o.c. with minimum 2.5" wide side laps that shall be sealed with a minimum 1.5" wide heat weld.
Maximum Design Pressure: -90 psf. (See General Limitation #9.)

Maximum Design Pressure: See Options Above



Membrane Type: TPO

Deck Type 4: Lightweight Concrete, Non-Insulated

Deck Description: Min. 200 psi, 2" Elastizell Lightweight Insulating Concrete with Zell-Fibers is laid with a 1/4" slurry coat with a minimum 1" EPS Holey Board followed by a 2" top coat cast over minimum 22 ga. Grade 33 vented galvanized steel deck.

System Type F(12): 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 using JM TPO Membrane Adhesive (Solvent-Based) fully adhered at a rate of 1.1 gal./100 ft² with minimum 2.5" wide side laps that shall be sealed with a minimum 1.5" wide heat weld.

Maximum Design Pressure: -180 psf. (See General Limitation #9)



Membrane Type: TPO

Deck Type 4: Lightweight Concrete, Non-Insulated

Deck Description: Min. 150 psi. Generic Cellular Lightweight Insulating concrete is laid with a 1/4" slurry coat with a minimum 1" EPS Board followed by a 2" top coat cast over minimum 22 ga. Grade 33 vented galvanized steel deck. Lightweight Insulating Concrete deck which records a Minimum Characteristic Resistance Force (MCRF) of 123 lbf when tested with 1.7" Lightweight Concrete (LWC) CR Base Fastener in accordance with TAS 105.

System Type F(13): 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 using JM TPO Membrane Adhesive (Solvent-Based) fully adhered at a rate of 1.1 gal./100 ft² with minimum 2.5" wide side laps that shall be sealed with a minimum 1.5" wide heat weld.

Maximum Design Pressure: -265 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 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 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 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



NOA No.: 18-0501.04
Expiration Date: 12/24/23
Approval Date: 12/13/18
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