



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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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 Roofing System 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 and revises NOA No. 09-1013.05 and consists of pages 1 through 20.
The submitted documentation was reviewed by Jorge L. Acebo.



NOA No.: 12-0605.02
Expiration Date: 12/24/14
Approval Date: 12/12/13
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ROOFING SYSTEM APPROVAL

| | |
|---------------------------------|--------------------|
| Category: | Roofing |
| Sub-Category: | Single Ply Roofing |
| Material: | TPO |
| Deck Type: | Steel |
| Maximum Design Pressure: | -82.5 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 D 6878 TAS 131 | Polyester reinforced Thermoplastic Olefin single ply membrane. |
| JM TPO-60 | 60 mils thick | ASTM D 6878 TAS 131 | Polyester reinforced Thermoplastic Olefin single ply membrane. |
| JM TPO-80 | 80 mils thick | ASTM D 6878 TAS 131 | Polyester reinforced Thermoplastic Olefin single ply membrane. |
| JM TPO FB-115 | 60 mils thick | ASTM D 6878 TAS 131 | Polyester reinforced, fleece backed, Thermoplastic Olefin single ply membrane. |
| JM TPO FB-135 | 80 mils thick | ASTM D 6878 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 | 5 gal. | 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 TPO Membrane Adhesive (Water-Based) | 5 gal. | Proprietary | A polymeric, wet laying (single side application), low-VOC adhesive. |
| JM TPO Primer | 3 gal. | Proprietary | A synthetic polymer-based primer |
| JM TPO Primer (Low VOC) | 3 gal. | Proprietary | A low VOC, synthetic polymer-based primer |
| JM TPO Walkpad | 5/32" x 30" x 50' | Proprietary | Textured walkway protection membrane |
| JM TPO Detail Membrane | 24" x 50' (61 cm x 15.24 m) | 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' | TAS 131 | 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 |

APPROVED INSULATIONS:

TABLE 2

| Product Name | Product Description | Manufacturer (With Current NOA) |
|----------------------------------------|-------------------------------------------------------------------|----------------------------------------|
| ENRGY 3, ENRGY 3 25 PSI, ValuTherm | Polyisocyanurate insulation | Johns Manville |
| DensDeck | Silicone treated gypsum | Georgia Pacific Gypsum, LLC |
| JM JM SECUROCK Gypsum-Fiber Roof Board | Fiber reinforced coverboard | Johns Manville |
| Invinsa Roof Board | High-density polyisocyanurate with fiber glass reinforced facers. | Johns Manville |



APPROVED FASTENERS:

TABLE 3

| Fastener Number | Product Name | Product Description | Dimensions | Manufacturer (With Current NOA) |
|------------------------|----------------------------------------|---------------------------------------------------------------|-------------------------------------------|----------------------------------------|
| 1. | UltraFast Fasteners | Insulation and membrane fastener | #12 x 8" max. Length, #3 Phillips head | Johns Manville |
| 2. | UltraFast 3" Round Metal Plates | Insulation Plate | 3" diameter | Johns Manville |
| 3. | UltraFast Square Recessed Metal Plates | Insulation Plate | N/A | Johns Manville |
| 4. | High Load Fasteners | Insulation and membrane fastener for steel, wood, or concrete | #15 x 14" max. #3Phillips hd | Johns Manville |
| 5. | Extra High Load Fasteners | Insulation and membrane fastener | Various | Johns Manville |
| 6. | High Load Plates | Seam plate with reinforcing ribs and eyehooks | 2-3/8" round steel plate | Johns Manville |
| 7. | Extra High Load Plates | Insulation Plate | Various | Johns Manville |
| 8. | Galvalume Steel Plates | Insulation Plate | 3" diameter | OMG, Inc. |
| 9. | OMG Standard #12 | Insulation fastener for wood and steel | | OMG, Inc. |
| 10. | OMG #14 Heavy Duty Fasteners | Roofing and insulation fasteners | Various | OMG, Inc. |
| 11. | Dekfast Galvalume Steel Hex | AZ50 steel insulation plate | Various | SFS |
| 12. | Dekfast Galvalume 3" Round | Insulation Plate | 3" diameter | SFS |
| 13. | Tru-Fast MP-3 | Galvalume AZ50 steel plate | 3" diameter | Altenloh, Brink & Co. U.S., Inc. |
| 14. | Tru-Fast DP | Carbon steel, Kote PC-3 coated fastener | Various | Altenloh, Brink & Co. U.S., Inc.. |
| 15. | JM TPO RhinoPlate | Insulation Plates | 3.15" diameter | Johns Manville |



EVIDENCE SUBMITTED:

| <u>Test Agency</u> | <u>Test Identifier</u> | <u>Description</u> | <u>Date</u> |
|---------------------------------------------|------------------------|---------------------|-------------|
| Factory Mutual Research Corporation | 3032235 | FM 4470 | 06/27/08 |
| | 3030259 | FM 4470 | 06/02/08 |
| | 3031917 | FM 4470 | 06/20/08 |
| | 3030383 | FM 4470 | 05/13/08 |
| | 3033700 | FM 4470 | 10/10/08 |
| | 3036842 | FM 4470 | 10/02/09 |
| | 3036559 | FM 4470 | 10/02/09 |
| | 3035538 | FM 4470 | 10/02/09 |
| Momentum Technologies, Inc. | RX10A8A | TAS 131 | 03/29/10 |
| | RX14C8A | TAS 131 | 03/29/10 |
| | RX10A8B | TAS 131 | 03/29/10 |
| PRI Construction Materials Technologies LLC | JMC-180-02-01 | Physical Properties | 11/11/13 |
| Underwriters Laboratories, Inc. | R10167 | UL 790 | 11/20/13 |
| Trinity ERD | J33600.08.13 | TAS 131 | 08/09/13 |



APPROVED ASSEMBLIES:

- Membrane Type:** TPO
- Deck Type 2I:** Steel, Insulated
- Deck Description:** 18-22 ga. steel
- System Type B(1):** Base layer of insulation mechanically fastened, optional top layer adhered with approved asphalt.

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.

One or more layers of any of the following insulations.

| Base Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft ² |
|----------------------------------------------------------|-----------------------------------|-------------------------------------|
| ENRGY 3, ENRGY 3 25 PSI, ValuTherm Minimum 1.5” thick | 1, 2, 3, 9 | 1:2 ft ² |

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

| Top Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft ² |
|----------------------------------------------------------|-----------------------------------|-------------------------------------|
| ENRGY 3, ENRGY 3 25 PSI, ValuTherm Minimum 1.5” thick | N/A | N/A |

Note: Top layer of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-25 lbs/100 ft², JM Urethane Insulation Adhesive or JM Two Part Urethane Insulation Adhesive applied in 3/4” ribbons spaced 12” o.c. 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.

Membrane: JM TPO FB adhered to insulation using JM TPO Membrane Adhesive (Water-Based) applied to substrate only at a rate of 0.84 gal/sq. Side laps are sealed with a 1.5-inch wide heat weld.

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



Membrane Type: TPO
Deck Type 2I: Steel, Insulated
Deck Description: 18-22 ga. steel
System Type B(2): Base layer of insulation mechanically fastened, optional top layer adhered with approved asphalt.

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.

One or more layers of any of the following insulations.

| Base Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft² |
|------------------------------|-------------------------------------------|--------------------------------------------|
| ENRGY 3 | | |
| Minimum 2.0" thick | 8, 9, 10, 11, 12, 13, 14 | 1: 2.67 ft ² |

Note: Base layer shall be mechanically attached with fasteners and density listed above. 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 |
|--------------------------------------------|-------------------------------------------|--------------------------------------------|
| JM SECUROCK Gypsum-Fiber Roof Board | | |
| Minimum ¼" thick | N/A | N/A |

Note: Top layer of insulation shall be adhered with Insta-Stik Roofing Adhesive, OlyBond 500, JM Two Part Urethane Insulation Adhesive, TITASET Roofing Adhesive or Weather-Tite One Step Foamable Adhesive applied in ¾" ribbons spaced 12" o.c. 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.

Membrane: JM TPO FB adhered to insulation using JM TPO Membrane Adhesive (Water-Based) applied to substrate only at a rate of 0.84 gal/sq. Side laps are sealed with a 1.5-inch wide heat weld.

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



Membrane Type: TPO

Deck Type 3I: Steel, Insulated

Deck Description: Min. 22 ga. type B steel decking attached to steel supports spaced 6ft. o.c. using Traxx 5 fasteners spaced 6" o.c. and with side laps fastened with three Traxx 1 screws spaced evenly between the supports.

System Type C(1): All layers of insulation simultaneously fastened; 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.

| Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft² |
|------------------------------------------------------------------|-------------------------------------------|----------------------------------------|
| ENRGY 3, ENRGY 3 25 PSI, ValuTherm Minimum 1.5" thick | 1, 2, 3 | 1:1.78 ft² |

Note: All Insulation shall be simultaneously fastened; see above 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.

Membrane: JM TPO adhered to insulation using JM TPO Membrane Adhesive (Solvent-Based), or JM TPO Membrane Adhesive (Low VOC) adhesive applied to both the membrane and substrate for a combined rate of 1.67 gal/sq.

Maximum Design Pressures: -52.5 psf. (See General Limitation #7)



Membrane Type: TPO

Deck Type 2I: Steel, Insulated

Deck Description: Min. 22 ga. type B steel decking attached to steel supports spaced 6ft. o.c. using Traxx 5 fasteners and 0.75" washers spaced 6" o.c. The washers are low carbon steel flat 0.75" OD with 0.328" diameter hole, and 0.065" thick. The side laps are fastened with three Traxx 1 screws spaced evenly between the supports.

System Type C(2): All layers of insulation simultaneously fastened; 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 Minimum 1.5" thick | N/A | N/A |
| Top Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft² |
| Plywood Minimum 19/32" thick | 1, 2, 3 | 1:1.78 ft² |

Note: All Insulation layers shall be simultaneously fastened; see top layer above 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.

Membrane: JM TPO adhered to insulation using JM TPO Membrane Adhesive (Solvent-Based) applied to both the membrane and substrate for a combined rate of 1.67 gal/sq.

Maximum Design Pressures: -75 psf. (See General Limitation #7)



Membrane Type: TPO
Deck Type 2I: Steel, Insulated
Deck Description: Min. 22 ga. steel deck

System Type C(3): All layers of insulation simultaneously fastened; 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.

| Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft ² |
|----------------------------------------------------------|-----------------------------------|-------------------------------------|
| ENRGY 3, ENRGY 3 25 PSI, ValuTherm Minimum 1.5" thick | 1, 2, 3 | 1:2 ft ² |

Note: Insulation layer shall be mechanically attached with fasteners and density listed above. 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).

Membrane: JM TPO fully adhered with JM TPO Membrane Adhesive (Water-Based) applied to substrate only at a rate of 0.84 gal/sq. Laps, 2" wide, are sealed with a 1.5" wide heat weld.

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



Membrane Type: TPO

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type C(4): Base layer of insulation mechanically fastened, optional top layer adhered with approved asphalt.

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.

| Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft² |
|------------------------------------------------------------------|-------------------------------------------|----------------------------------------|
| ENRGY 3, ENRGY 3 25 PSI, ValuTherm Minimum 1.5" thick | 1, 2, 3 | 1:2 ft² |

Note: Insulation layer shall be mechanically attached with fasteners and density listed above. 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).

Membrane: JM TPO FB adhered to insulation using JM TPO Membrane Adhesive (Water-Based) applied to substrate only at a rate of 0.84 gal/sq. Side laps are sealed with a 1.5-inch wide heat weld.

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



Membrane Type: TPO
Deck Type 2I: Steel, Insulated
Deck Description: Min 18-22 ga., 33 ksi steel decking attached to steel supports spaced 6ft. o.c. using Traxx 5 fasteners spaced 6" o.c. (at the bottom flute) and with side laps fastened with three Traxx 1 screws spaced 18" o.c.
System Type C(5): All layers of insulation simultaneously fastened; 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 Minimum 1.5" thick | N/A | N/A |
| Top Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft² |
| Plywood Minimum 19/32" thick | 1, 2, 3 | 1:2 ft ² |

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The 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.

Membrane: JM TPO FB adhered to insulation using JM TPO Membrane Adhesive (Water-Based) applied to substrate only at a rate of 0.84 gal/sq. Side laps are sealed with a 1.5-inch wide heat weld.

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



Membrane Type: TPO
Deck Type 2I: Steel, Insulated
Deck Description: Min. 22 ga. steel deck
System Type C(6): All layers of insulation simultaneously fastened; 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 |
|-------------------------------------------------------------------|-------------------------------------------|--------------------------------------------|
| JM SECUROCK Gypsum-Fiber Roof Board Minimum 0.5" thick | N/A | N/A |
| Top Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft² |
| JM SECUROCK Gypsum-Fiber Roof Board Minimum 5/8" thick | 8, 9, 10, 11, 12, 13, 14 | 1:4 ft² |

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The 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.

Membrane: JM TPO FB adhered to insulation using JM TPO Membrane Adhesive (Water-Based) applied to substrate only at a rate of 0.84 gal/sq. Side laps are sealed with a 1.5-inch wide heat weld.

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



Membrane Type: TPO
Deck Type 2I: Steel, Insulated
Deck Description: Min 18-22 ga., 80 ksi, steel deck fastened 6" o.c. with two Traxx 5 fasteners in supports spaced 6' o.c. Side laps fastened with Traxx 1 screws spaced evenly between supports.
System Type C(7): Top layer of insulation mechanically fastened; membrane adhered to fastener plates.

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/ft ² |
|----------------------------------------------------------------------------------|-----------------------------------|-------------------------------------|
| ENRGY 3, ENRGY 3 25 PSI, ValuTherm Minimum 1.5" thick | 4, 15 | 1:4 ft ² |
| Top Insulation Layer (Optional) | Insulation Fasteners (Table 3) | Fastener Density/ft ² |
| DensDeck, JM SECUROCK Gypsum-Fiber Roof Board, Invinsa Board Minimum ¼" thick | 4, 15 | 1:4 ft ² |
| Plywood Minimum 19/32" thick | 4, 15 | 1:4 ft ² |

Note: Top layer of insulation shall be mechanically attached using the fastener density listed above. The 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.

Membrane: JM TPO membrane bonded to JM TPO RhinoPlates fastened as specified above. Side laps are sealed with a 1.5-inch wide heat weld offset from the plates.

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



Membrane Type: TPO
Deck Type 2I: Steel, Insulated
Deck Description: Min 18-22 ga., 80 ksi steel decking attached to steel supports spaced 6ft. o.c. using Traxx 5 fasteners spaced 6" o.c. (at the bottom flute) and with side laps fastened with Traxx 1 screws spaced evenly between supports.
System Type D(1): Membrane attached over preliminary fastened insulation.

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. The following assembly is approved to a maximum design pressure listed with specific fastening patterns. No substitutions shall be made.

| Base Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft ² |
|------------------------------------------------------------------------------------|-----------------------------------|----------------------------------|
| ENRGY 3, ENRGY 3 25 PSI, ValuTherm Minimum 1.5" thick | N/A | N/A |
| Top Insulation Layer (Optional) | Insulation Fasteners (Table 3) | Fastener Density/ft ² |
| DensDeck, JM SECUROCK Gypsum-Fiber Roof Board, Invinsa Board Minimum 1/4" thick | N/A | N/A |

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

Membrane: JM TPO mechanically fastened to the deck through the insulation as described below; side laps are sealed with a 1.5-inch wide heat weld.

Fastening #1: Membrane is mechanically attached using High Load fasteners and plates spaced 6" o.c. within laps of an 8 ft. wide sheet.
Maximum Design Pressure -52.5 psf. (See General Limitations # 7)

Fastening # 2: Membrane is mechanically attached using Extra High Load fasteners and plates spaced 12" o.c. within laps of an 8 ft. wide sheet.
Maximum Design Pressure -45 psf. (See General Limitations # 7)

Fastening #3: Membrane is mechanically attached using High Load fasteners and plates spaced 6" o.c. within laps of a 10 ft. wide sheet.
Maximum Design Pressure -45 psf. (See General Limitations # 7)

Fastening #4: Membrane is mechanically attached using Extra High Load fasteners and plates spaced 12" o.c. within laps of a 10 ft. wide sheet.
Maximum Design Pressure -45 psf. (See General Limitations # 7)

Fastening # 5: Membrane is mechanically attached using Extra High Load fasteners and plates spaced 6" o.c. within laps of a 10 ft. wide sheet.
Maximum Design Pressure -52.5 psf. (See General Limitations # 7)

Maximum Design Pressures: See Fastening Pattern. (See General Limitations # 7)



Membrane Type: TPO
Deck Type 2I: Steel, Insulated
Deck Description: Min 18-22 ga., 33 ksi steel decking attached to steel supports spaced 6ft. o.c. using Traxx 5 fasteners spaced 6" o.c. (at the bottom flute) and with side laps fastened with three Traxx 1 screws spaced evenly between supports.
System Type D(2): Membrane attached over preliminary fastened insulation.

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. The following assembly is approved to a maximum design pressure listed with specific fastening patterns. No substitutions shall be made.

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

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

Membrane: JM TPO mechanically fastened to the deck through the insulation as described below. Side laps are sealed with a 1.5-inch wide heat weld

Fastening #1: Membrane is mechanically attached using Extra High Load fasteners and plates spaced 12" o.c. within laps of an 8 ft. wide sheet.
Maximum Design Pressure -45 psf. (See General Limitations # 7)

Fastening # 2: Membrane is mechanically attached using High Load fasteners and plates spaced 6" o.c. within laps of an 8 ft. wide sheet.
Maximum Design Pressure -60 psf. (See General Limitations # 7)

Fastening #3: Membrane is mechanically attached using High Load fasteners and plates spaced 6" o.c. within laps of a 10 ft. wide sheet.
Maximum Design Pressure -45 psf. (See General Limitations # 7)

Maximum Design Pressures: See Fastening Pattern. (See General Limitations # 7)



Membrane Type: TPO

Deck Type 2I: Steel, Insulated

Deck Description: Min 18-22 ga., 33 ksi steel decking attached to steel supports spaced 6ft. o.c. using 2 Traxx 5 fasteners and 3/4" washers at each rib spaced 6" o.c. (at the bottom flute). The washers are low carbon steel flat 0.75" OD with 0.328" diameter hole, and 0.065" thick. The side laps are fastened with three Traxx 1 screws spaced evenly between the supports.

System Type D(3): Membrane attached over preliminary fastened insulation.

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. The following assembly is approved to a maximum design pressure listed with specific fastening patterns. No substitutions shall be made.

| Base Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft ² |
|------------------------------------------------------------------------------------|-----------------------------------|----------------------------------|
| ENRGY 3, ENRGY 3 25 PSI, ValuTherm Minimum 2" thick | N/A | N/A |
| Top Insulation Layer (Optional) | Insulation Fasteners (Table 3) | Fastener Density/ft ² |
| DensDeck, JM SECUROCK Gypsum-Fiber Roof Board, Invinsa Board Minimum 1/4" thick | N/A | N/A |

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

Membrane: JM TPO mechanically fastened to the deck through the insulation as described below. Side laps are sealed with a 1.5-inch wide heat weld

Membrane is mechanically attached using High Load fasteners and plates spaced 6" o.c. within 6" laps of a 5 ft. wide sheet. Side laps sealed with a minimum 1.5" heat weld.

Maximum Design Pressures: -82.5 psf. (See General Limitations # 7)



Membrane Type: TPO
Deck Type 2I: Steel, Insulated
Deck Description: Min 18-22 ga., Grade 80, steel deck fastened 6" o.c. with two Traxx 5 fasteners in supports spaced 6' o.c. Side laps fastened with Traxx 1 screws spaced evenly between supports.
System Type D(4): Membrane attached over preliminary fastened insulation.

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. The following assembly is approved to a maximum design pressure listed with specific fastening patterns. No substitutions shall be made.

| Base Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft ² |
|------------------------------------------------------------------------------------|-----------------------------------|----------------------------------|
| ENRGY 3, ENRGY 3 25 PSI, ValuTherm Minimum 1.5" thick | N/A | N/A |
| Top Insulation Layer (Optional) | Insulation Fasteners (Table 3) | Fastener Density/ft ² |
| DensDeck, JM SECUROCK Gypsum-Fiber Roof Board, Invinsa Board Minimum 1/4" thick | N/A | N/A |
| Plywood Minimum 19/32" thick | N/A | N/A |

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

Membrane: JM TPO mechanically fastened to the deck through the insulation as described below.

Fastening #1: JM TPO RhinoPlates and High Load Fasteners spaced 6" o.c. in fastener rows spaced 120". Laps are sealed with a minimum 1.5" heat weld.
Maximum Design Pressure -45 psf. (See General Limitations # 7)

Fastening #2: JM TPO RhinoPlates and High Load Fasteners spaced 12" o.c. in fastener rows spaced 60". Laps are sealed with a minimum 1.5" heat weld.
Maximum Design Pressure -52.5 psf. (See General Limitations # 7)

Fastening #3: JM TPO RhinoPlates and High Load Fasteners spaced 6" o.c. in fastener rows spaced 60". Laps are sealed with a minimum 1.5" heat weld.
Maximum Design Pressure -105 psf. (See General Limitations # 7)

Maximum Design Pressures: See Fastening Pattern. (See General Limitations # 7)



Membrane Type: TPO
Deck Type 2I: Steel, Insulated
Deck Description: Min 18-22 ga., steel deck fastened 6" o.c. with two Traxx 5 fasteners in supports spaced 6' o.c. Side laps fastened with Traxx 1 screws spaced evenly between supports.
System Type D(5): Membrane attached over preliminary fastened insulation.

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. The following assembly is approved to a maximum design pressure listed with specific fastening patterns. No substitutions shall be made.

| Base Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft2 |
|--------------------------------------------------------------------------------------------|-------------------------------------------|-----------------------------|
| ENRGY 3, ENRGY 3 25 PSI, ValuTherm Minimum 1.5" thick | N/A | N/A |
| Top Insulation Layer (Optional) | Insulation Fasteners (Table 3) | Fastener Density/ft2 |
| DensDeck, JM SECUROCK Gypsum-Fiber Roof Board, Invinsa Board Minimum 1/4" thick | N/A | N/A |
| Plywood Minimum 19/32" thick | N/A | N/A |

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

Membrane: JM TPO is primed with JM TPO Primer or JM TPO Primer (Low VOC) and attached to the deck through the insulation with JM TPO 10" RPS membrane strips mechanically fastened as described below.
 JM TPO 10" RPS membrane strips are secured to deck through the insulation with High Load Plates and High Load Fasteners in 14" rows, 6" o.c. The fasteners and plates are installed in the center down the middle of the JM TPO 10" RPS membrane strips. The primed JM TPO membrane is walked in over the self-adhering JM TPO 10" RPS membrane strips. The JM TPO membrane side laps are sealed with a minimum 1.5" heat welds offset from the RPS membrane strips.

Maximum Design Pressures: -52.5 psf. (See General Limitations # 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 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.

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 9N-3 of the Florida Administrative Code.

END OF THIS ACCEPTANCE



NOA No.: 12-0605.02
Expiration Date: 12/24/14
Approval Date: 12/12/13
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