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 Roof Systems over Recover 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.

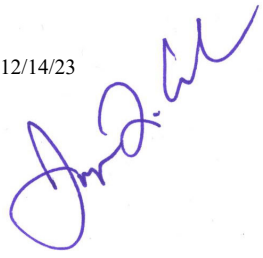
TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this 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. 18-0501.01 and consists of pages 1 through 47.
The submitted documentation was reviewed by Jorge L. Acebo.

12/14/23



MIAMI-DADE COUNTY APPROVED

ROOFING SYSTEM APPROVAL

Category:	Roofing
Sub-Category:	Single Ply
Materials:	TPO
Deck Type:	Recover
Maximum Design Pressure:	See specific deck type.

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 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 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
JM Membrane Bonding Adhesive (TPO & EPDM)	5 gal.	Proprietary	One-part, synthetic polymer-based membrane adhesive.
JM LVOC Membrane Adhesive (TPO & EPDM)	5 gal.	Proprietary	A synthetic rubber-based adhesive used to adhere TPO roofing membrane systems.

Product	Dimensions	Test Specification	Product Description
JM TPO Water Based Membrane Adhesive	5 gal.	Proprietary	One part, water based adhesive used to adhered TPO roofing membrane systems
JM TPO Membrane Primer	3 gal.	Proprietary	A synthetic polymer-based primer.
JM Single Ply Membrane 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'	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.
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.

Product	Dimensions	Test Specification	Product Description
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.
PermaPly 28	36” x 106’	ASTM D4601	Type II asphalt impregnated and coated glass fiber base sheet for use in conventional and modified bitumen build-up roofing.

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
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, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI	Isocyanurate Insulation with glass reinforced facers	Johns Manville
ENRGY 3 FR, ENRGY 3 FR 25 PSI	Isocyanurate Insulation with inorganic coated glass reinforced facers; bottom face is premium coated for combustible decks.	Johns Manville
Invinsa Roof Board	High density polyisocyanurate board	Johns Manville
Invinsa FR Roof Board	High-density polyisocyanurate with fiber glass reinforced facers.	Johns Manville
DensDeck	Silicone treated gypsum	Georgia Pacific Gypsum, LLC
RetroPlus Roof Board	High density perlite cover board	Johns Manville
JM SECUROCK Gypsum-Fiber Roof Board	Fiber reinforced coverboard	Johns Manville
DEXCell FA Glass Mat Roof Board	Coated glass mat faced gypsum cover board	National Gypsum Company
DEXCell Cement Roof Board	Cement and glass mesh cover board	National Gypsum Company
Invinsa Foam	Duel-density polyisocyanurate composite board	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	Galvalume AZ55 steel Insulation Plate	3” diameter	Johns Manville
3.	UltraFast Square Metal Plates	Galvalume AZ55 steel Insulation Plate	3” square	Johns Manville
4.	High Load Fasteners	Insulation and membrane fastener	#15 x 14" max. #3Phillips hd	Johns Manville
5.	Extra High Load Fasteners	Insulation and membrane fastener	#21 x 8” max. #3 Phillips head	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	3” round	Johns Manville
8.	JM TPO RhinoPlate	Insulation Plates	3.15” diameter,	Johns Manville
9.	JM Purlin Fastener	Carbon steel screw	#12 x 8” max. 1/4” Hex head	Johns Manville
10.	Structural Concrete Deck Fastener	Insulation and membrane fastener	0.214” min. dia. x 12” max. length; wafer head	Johns Manville
11.	All Purpose Fastener	Insulation and membrane fastener	#14 x 16” max. length; #3 Phillips head	Johns Manville
12.	High Load Plus Plate	Seam plate with reinforcing ribs and eyehooks	2-3/4” round steel plates	Johns Manville
13.	CR Base Sheet Fastener (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.
14.	JM Ultralok	Base Sheet fastener with integral plate	1.8” length 2.7” dia. plate	Johns Manville
15.	Polyset Commercial Roof Adhesive	Spray applied, two-part reactive urethane foam adhesive	Various	ICP Construction, Inc.

EVIDENCE SUBMITTED:

Test Agency	Test Identifier	Description	Date
FM Approvals	3032235	FM 4470	06/27/08
	3030259	FM 4470	06/02/08
	3031917	FM 4470	06/20/08
	3030383	FM 4470	05/13/08
	3023458	FM 4450	07/18/06
	3033700	FM 4470	10/10/08
	3036842	FM 4470	10/02/09
	3036559	FM 4470	10/02/09
	3037110	FM 4450	10/02/09
	3035538	FM 4470	10/02/09
	3044716	FM 4470	10/29/12
	3046174	FM 4470	04/03/13
	3051609	FM 4470	08/24/14
	3053026	FM 4470	01/20/15
	3051348	FM 4470	01/02/14
	3024311	FM 4470	11/01/06
	3014751	FM 4470	08/27/03
	3033308	FM 4470	09/03/08
Momentum Technologies	RX10A8A	TAS 131	03/29/10
	RX14C8A	TAS 131	03/29/10
	RX10A8B	TAS 131	03/29/10
PRI Construction Materials Technologies LLC	JMC-088-02-01.5	ASTM D1876/TAS 117(B) TAS 117(A)/TAS 114(C)	02/22/18
	JMC-180-02-01	Physical Properties	11/11/13
	JMC-183-02-01.1	Physical Properties	12/18/13
	JMC-186-02-01.1	TAS 131	09/19/14
	JMC-186-02-02.1	TAS 131	10/10/14
	JMC-193-02-01	TAS 114 J	04/01/14
	JMC-193-02-01A.1	TAS 114 J	04/2/14
	JMC-201-02-01B	TAS 114 J	07/10/14
	JMC-209-02-01	TAS 114 J	10/15/14
	JMC-214-02-01	Physical Properties	11/03/14
	JMC-221-02-01	Physical Properties	11/19/14
	JMC-277-02-01	TAS 114 D	05/04/17
	JMC-303-02-01	TAS 114 J	05/25/17
	JMC-306-02-02	TAS 114 J	05/25/17
	JMC-306-02-03	TAS 114 D	06/27/17
UL LLC	R10167	UL 790	11/29/23
Trinity|ERD	J33600.08.13	TAS 131	08/09/13
	J30820.09.10-2	TAS 114 J	09/24/10
	SC4910.02.14	TAS 114 J	02/10/14

DECK STRESS ANALYSIS CALCULATIONS/REPORTS

Engineer/Agency	Identifier	Assemblies	Date
Zachary R. Priest, P.E.	Signed/Sealed Calculations	C(14), E(2)	05/25/17
		E(3), E(4)	06/27/17
		C(6), C(7), C(13)	09/13/17
		C(5), D(7), D(8)	08/17/18
FM Approval Deck Limitations	N/A	C(3), C(12), D(1), D(2), D(3), D(4)	01/01/13

APPROVED ASSEMBLIES:

Membrane Type: TPO

Deck Type 7I: Recover, Insulated

Deck Description: Concrete

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/ft^2**
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/ft^2**
Invinsa Roof Board, DensDeck, DEXCell FA Glass Mat Roof Board Minimum ¼" thick	**N/A**	**N/A**
DEXCell Cement Roof Board Minimum 7/16" thick	**N/A**	**N/A**

Note: All insulation layers shall be adhered with ¾" wide ribbons of JM Two Part Urethane Insulation Adhesive or JM Two Part Urethane Insulation Adhesive Canister, spaced 12" o.c. or Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: JM TPO adhered to insulation using JM LVOC Membrane Adhesive (TPO & EPDM) (to DensDeck only), JM Membrane Bonding Adhesive (TPO & EPDM) (to DensDeck or Invinsa only) Side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld.

Or

(to ENRGY 3 only) JM TPO adhered to insulation using JM LVOC Membrane Adhesive (TPO or EPDM), or JM Membrane Bonding Adhesive (TPO & EPDM) applied at a rate of 1.10 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: -105 psf. with JM Two Part Urethane Insulation Adhesive or JM Two Part Urethane Insulation Adhesive Canister (See General Limitation #9)

Membrane Type: TPO

Deck Type 7I: Recover, Insulated

Deck Description: Concrete

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.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
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**
DEXCell FA Glass Mat Roof Board Minimum ¼" thick	**N/A**	**N/A**
DEXCell Cement Roof Board Minimum 7/16" thick	**N/A**	**N/A**

Note: All insulation shall be adhered with JM Two Part Urethane Insulation Adhesive, JM Two Part Urethane Insulation Adhesive Canister, JM Roofing System Urethane Adhesive (not to DEXCell) or JM One Step Foamable Adhesive (not to DEXCell) applied in ¾" wide ribbons of spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: JM TPO FB 115 or 135 adhered to insulation using JM TPO Water Based Membrane Adhesive applied at a rate of 0.63-0.83 gal./sq. Or with JM Two Part Urethane Insulation Adhesive Canister (not to DEXCell) applied in splatter pattern at 0.318 gal./sq. or with JM Roofing Systems Urethane Adhesive (not to DEXCell) applied in ¾" ribbons spaced 12" o.c. Side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld.

Or

(not to DEXCell) JM TPO adhered to insulation using JM Membrane Bonding Adhesive (TPO & EPDM) applied at a rate of 1.10 gal./sq. Side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld.

Or

(not to DEXCell) JM TPO FB 150 or 175 Membrane is fully adhered to the insulation with approved hot asphalt applied at 20-25 lbs./sq. with minimum 2.5" wide side laps that shall be sealed with a minimum 1.5" wide heat weld.

Maximum Design Pressures: -105 psf. (See General Limitation #9)

Membrane Type: TPO

Deck Type 7I: Recover, Insulated

Deck Description: Concrete.

System Type A(3): One or more layers of insulation adhered with approved asphalt or 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.

One or more layers of the following insulations:

Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
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**

Note: All insulation shall be adhered to the deck with ¾" wide beads of JM Two Part Urethane Insulation Adhesive, JM Two Part Urethane Insulation Adhesive Canister, JM One Step Foamable Adhesive, or JM Roofing System Urethane Adhesive spaced at 12" o.c. or hot asphalt. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: JM TPO FB 150 or 175 Membrane is fully adhered to the insulation with approved hot asphalt applied at 20-25 lbs./sq. with minimum 2.5" wide side laps that shall be sealed with a minimum 1.5" wide heat weld.

Or

JM TPO adhered to insulation using or JM Membrane Bonding Adhesive (TPO & EPDM), or JM LVOC Membrane Adhesive (TPO & EPDM) applied at a rate of 1.10 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: -217.5 psf. (See General Limitation #9.)

Membrane Type: TPO

Deck Type 7I: Recover, Insulated

Deck Description: Concrete

System Type B(1): Base layer of insulation mechanically fastened, optional top layer 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.

One or more layers of any of the following insulations.

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, ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 1.5" thick	**11 with 2 or 3**	**1:2 ft²**

Note: Base layer shall be mechanically attached with fasteners and density described 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**
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**
DEXCell FA Glass Mat Roof Board Minimum ¼" thick	**N/A**	**N/A**
DEXCell Cement Roof Board Minimum 7/16" thick	**N/A**	**N/A**

Note: Top layer of insulation shall be adhered with approved asphalt (not to DEXCell) within the EVT range and at a rate of 20-25 lbs./100 ft² or JM Two Part Urethane Insulation Adhesive, JM Two Part Urethane Insulation Adhesive Canister, JM Roofing System Urethane Adhesive (not to DEXCell) or JM One Step Foamable Adhesive (not to DEXCell) 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 115 or 135 adhered to insulation using or JM TPO Water Based Membrane Adhesive applied at a rate of 0.63-0.83 gal./sq. Or with JM Two Part Urethane Insulation Adhesive Canister (not to DEXCell) applied in splatter pattern at 0.318 gal./sq. or with JM Roofing Systems Urethane Adhesive (not to DEXCell) applied in ¾" ribbons spaced 12" 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 Pressures: -45 psf. (See General Limitation #9)

Membrane Type: TPO

Deck Type 7I: Recover, Insulated

Deck Description: Concrete

System Type B(2): Base layer of insulation mechanically attached. Top layer of insulation fully adhered with approved asphalt or adhesive.

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 the following:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3, ENRGY 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI		
Minimum 1.5" thick	**10 or 11 with 2 or 3**	**1:2 ft^2**

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
RetroPlus Roof Board		
Minimum ½" thick	**N/A**	**N/A**
DEXCell FA Glass Mat Roof Board		
Minimum ¼" thick	**N/A**	**N/A**
DEXCell Cement Roof Board		
Minimum 7/16" thick	**N/A**	**N/A**

Note: All insulation shall be adhered to the deck with ¾" wide ribbons spaced 12" o.c. of JM Two-Part Urethane Insulation Adhesive, or JM Two Part Urethane Insulation Adhesive Canister (not to DEXCell) or ½" to ¾" wide ribbons spaced 12" o.c. of JM Roofing System Urethane Adhesive (not to DEXCell). Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Membrane fully adhered to the insulation as specified below. Side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld

Option #1: JM TPO fully adhered to the insulation with JM TPO Water Based Membrane Adhesive applied at a rate of 0.63-0.83 gal./sq.

Option #2: JM TPO FB 115 or 135 fully adhered to the insulation with JM TPO Water Based Membrane Adhesive applied at a rate of 0.63-0.83 gal./sq. or JM Roofing System Urethane Adhesive (not to DEXCell) applied in ½" to ¾" ribbons spaced 12" o.c. Or with JM Two Part Urethane Insulation Adhesive Canister (not to DEXCell) applied in splatter pattern at 0.318 gal./sq.

Option #3: (not to DEXCell Cement Roof Board) JM TPO FB 150 or 175 fully adhered to the insulation with approved hot asphalt within the EVT range and at a rate of 20-25 lbs./100 ft^2.

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

Membrane Type: TPO

Deck Type 7I: Recover, Insulated

Deck Description: Steel/Wood

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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
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, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Maximum ½" thick	**N/A**	**N/A**

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Plywood		
Minimum 19/32" thick	**1 with 2 or 3**	**1:2 ft²**
DEXCell FA Glass Mat Roof Board		
Minimum ¼" thick	**1 with 2 or 3**	**1:2 ft²**
DEXCell Cement Roof Board		
Minimum 7/16" thick	**1 with 2 or 3**	**1:2 ft²**
Invinsa Foam		
Minimum 2" thick	**1 with 2 or 3**	**1:2 ft²**

Note: All layers 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 Water Based Membrane Adhesive applied at a rate of 0.63-0.83 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 7I: Recover, Insulated

Deck Description: Concrete

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/ft^2**
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, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	**N/A**	**N/A**

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Plywood		
Minimum 19/32" thick	**11 with 2 or 3**	**1:2 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 Water Based Membrane Adhesive applied at a rate of 0.63-0.83 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 7I: Recover, Insulated

Deck Description: Min 18-22 ga., Grade 33, 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 18" o.c. between supports.

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

System Type C(3): 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/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, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Maximum 1" thick	**4 with 8**	**1:4 ft²**
Top Insulation Layer (Optional)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
DensDeck, JM SECUROCK Gypsum-Fiber Roof Board, Invinsa Roof Board, Invinsa FR Roof Board		
Minimum ¼" thick and Maximum 1" combined thickness with base layer	**4 with 8**	**1:4 ft²**
Plywood		
Minimum 19/32" thick and Maximum 1" combined thickness with base layer	**4 with 8**	**1:4 ft²**

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 (min. 60 mil) membrane bonded to JM TPO RhinoPlates fastened as specified above. Side laps shall be a minimum 2.5" wide and are sealed with a 1.5" wide heat weld offset from the plates.

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

Membrane Type: TPO

Deck Type 7I: Recover, Insulated

Deck Description: Concrete

System Type C(4): 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/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, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	**4 with 8**	**1:4 ft²**

Top Insulation Layer (Optional)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
DensDeck, JM SECUROCK Gypsum-Fiber Roof Board, Invinsa Roof Board, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum ¼" thick	**11 with 8**	**1:4 ft²**
Plywood		
Minimum 19/32" thick	**11 with 8**	**1:4 ft²**

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 (min. 60 mil) membrane bonded to JM TPO RhinoPlates fastened as specified above. Side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld offset from the plates.

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

Membrane Type: TPO

Deck Type 7I: Recover, Insulated

Deck Description: Concrete or Min. 22 ga. Grade 33 steel deck attached to structural supports spaced maximum 6-ft o.c. Supports attached with two #12-24 x 1-1/4" HWH screws and ¾" O.D. washers at each flute along intermediate supports. Panel laps were left unstitched. *The deck should record a Minimum Characteristic Resistance Force (MCRF) of 401 lbf when tested with High Load Fasteners (steel deck) or All Purpose Fasteners (concrete deck) installed through the deck in accordance with TAS 105. Existing roof shall be a minimum 1" thick.

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

System Type C(5): 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/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, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1" thick	**N/A**	**N/A**

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
JM SECUROCK Gypsum-Fiber Roof Board, Invinsa Roof Board, Invinsa FR Roof Board		
Minimum ¼" thick	**11 with 8 (concrete) 4 with 8 (steel)**	**1:2.67-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, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1" thick	**11 with 8 (concrete) 4 with 8 (steel)**	**1:2.67-ft²**

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 (min. 60 mil) membrane bonded to JM TPO RhinoPlates fastened as specified above. Side laps shall be a minimum 2.5" wide and are sealed with a minimum 1.5" wide heat weld offset from the plates.

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

Membrane Type: TPO

Deck Type 7I: Recover, Insulated

Deck Description: Concrete or Min. 22 ga. Grade 33 steel deck attached to structural supports spaced maximum 6-ft o.c. Supports attached at each flute with min. 5/8" diameter puddle welds. Laps stitched with ¼"-14 x 7/8" HWH screws 24" o.c. *The deck should record a Minimum Characteristic Resistance Force (MCRF) of 420 lbf when tested with High Load Fasteners (steel deck) or All Purpose Fasteners (concrete deck) installed through the deck in accordance with TAS 105. Existing roof shall be a minimum 1" thick.

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

System Type C(6): 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 (Optional)	**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, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1" thick	**N/A**	**N/A**

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
JM SECUROCK Gypsum-Fiber Roof Board, Invinsa Roof Board, Invinsa FR Roof Board		
Minimum ¼" thick	**11 with 8 (concrete)** **4 with 8 (steel)**	**1:4 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, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1" thick	**11 with 8 (concrete)** **4 with 8 (steel)**	**1:4 ft²**

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 (min. 60 mil) membrane bonded to JM TPO RhinoPlates fastened as specified above. Side laps shall be a minimum 6" wide and are sealed with a minimum 1.5" wide heat weld offset from the plates.

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

Membrane Type: TPO

Deck Type 7I: Recover, Insulated

Deck Description: Concrete or Min. 22 ga. (Grade listed below) steel deck attached to structural supports spaced maximum 6-ft o.c. Supports attached with #12-24 x 1-1/4" HWH screws. Laps stitched with ¼"-14 x 7/8" HWH screws 24" o.c. *The deck should record a Minimum Characteristic Resistance Force (MCRF) as listed below when tested with High Load Fasteners (steel deck) or All Purpose Fasteners (concrete deck) installed through the deck in accordance with TAS 105. Existing roof shall be a minimum 1" thick.

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

System Type C(7): All layers of insulation simultaneously fastened; membrane 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 (Optional)	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, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1" thick	**N/A**	**N/A**

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft2
DensDeck, JM SECUROCK Gypsum-Fiber Roof Board, Invinsa Roof Board, Invinsa FR Roof Board		
Minimum ¼" thick	**11 with 8 (concrete) 4 with 8 (steel)**	**See below**
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, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1" thick	**11 with 8 (concrete) 4 with 8 (steel)**	**See below**

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 (min. 60 mil) induction welded to the JM TPO RhinoPlates as described below.
Fastening #1:	(Grade 33 steel deck) Insulation shall be mechanically fastened at maximum 12" o.c. in fastener rows spaced maximum 60". Side laps shall be a minimum 6" wide and sealed with a minimum 1.5" heat weld. ***Minimum Characteristic Resistance Force (MCRF) of 450 lbf*** ***Maximum Design Pressure: -45 psf. (See General Limitations # 7)***
Fastening #2:	(Grade 80 steel deck) Insulation shall be mechanically fastened at a maximum 6" o.c. in fastener rows spaced maximum 72". Side laps shall be a minimum 6" wide and sealed with a minimum 1.5" heat weld. ***Minimum Characteristic Resistance Force (MCRF) of 495 lbf*** ***Maximum Design Pressure: -82.5 psf. (See General Limitations # 7)***
Fastening #3:	(Grade 50 steel deck) Insulation shall be mechanically fastened at a maximum 6" o.c. in fastener rows spaced maximum 60". Side laps shall be a minimum 6" wide and sealed with a minimum 1.5" heat weld. ***Minimum Characteristic Resistance Force (MCRF) of 450 lbf*** ***Maximum Design Pressure: -90 psf. (See General Limitations # 7)***
Maximum Design Pressures:	See Fastening Pattern. (See General Limitations # 7)

Membrane Type: TPO

Deck Type 7I: Recover, Insulated

Deck Description: Min. $^{15}/_{32}$" plywood or wood plank fastened a maximum 6" o.c with 0.113" ring shank nails to wood supports spaced a maximum 24" o.c. *The deck should record a Minimum Characteristic Resistance Force (MCRF) of 420 lbf when tested with All Purpose Fasteners installed through the deck into the wood supports in accordance with TAS 105.

System Type C(8): One or more layers of insulation simultaneously attached. Membrane 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 (Optional)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
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 CGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum ½" thick	**N/A**	**N/A**

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
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 CGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum ½" thick	**11 with 8**	**1:4**
Invinsa Roof Board, Invinsa FR Roof Board, JM SECUROCK Gypsum-Fiber Roof Board		
Minimum ¼" thick	**11 with 8**	**1:4**

Note: Insulation shall be loose-laid and membrane mechanically fastened. See base sheet attachment below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements.

Membrane: JM TPO (min. 60 mil) induction welded to JM TPO RhinoPlates which are fastened through the deck into the wood supports. Side laps shall be a minimum 2.5" wide and are sealed with a minimum 1.5" wide heat weld.

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

Membrane Type: TPO

Deck Type 7I: Recover, Insulated

Deck Description: Min. $^{15}/_{32}$" plywood or wood plank fastened a maximum 6" o.c with 0.113" ring shank nails to wood supports spaced a maximum 24" o.c. *The deck should record a Minimum Characteristic Resistance Force (MCRF) as listed below when tested with All Purpose Fasteners installed through the deck into the wood supports in accordance with TAS 105.

System Type C(9): One or more layers of insulation simultaneously attached. Membrane 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 (Optional)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
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 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum ½" thick	**N/A**	**N/A**

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
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 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum ½" thick	**11 with 8**	**See below**
Invinsa Roof Board, Invinsa FR Roof Board, JM SECUROCK Gypsum-Fiber Roof Board		
Minimum ¼" thick	**11 with 8**	**See below**

Note: Insulation shall be loose-laid and membrane welded to plates. See below for fasteners and spacing. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements.

Membrane: JM TPO (min. 60 mil) induction welded to JM TPO RhinoPlates using the following patterns:

Option #1: JM TPO RhinoPlates and All Purpose Fasteners are secured a maximum 6" o.c. through the deck into the wood supports in rows spaced a maximum 48" o.c. Side laps shall be a minimum 2.5" wide and are sealed with a minimum 1.5" wide heat weld.
Minimum Characteristic Resistance Force (MCRF) of 450 lbf
Maximum Design Pressure: -112.5 psf. (See General Limitation #7)

Option #2: JM TPO RhinoPlates and All Purpose Fasteners are secured a maximum 9" o.c. through the deck into the wood supports in rows spaced a maximum 48" o.c. Side laps shall be a minimum 2.5" wide and are sealed with a minimum 1.5" wide heat weld.
Minimum Characteristic Resistance Force (MCRF) of 360 lbf
Maximum Design Pressure: -60 psf. (See General Limitation #7)

Maximum Design Pressure: See options above.

Membrane Type: TPO

Deck Type 7I: Recover, Insulated

Deck Description: Concrete

System Type C(10): One or more layers of insulation simultaneously attached. Membrane 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, NRGY 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, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	**See below**	**See below**
Top Insulation Layer (Optional)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft2**
DensDeck, JM SECUROCK Gypsum-Fiber Roof Board, Invinsa Roof Board, Invinsa FR Roof Board		
Minimum ¼" thick	**See below**	**See below**
Plywood		
Minimum 19/32" thick	**See below**	**See below**

Note: Insulation shall be loose-laid and membrane welded to plates. See below for fasteners and spacing. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements.

Membrane:	JM TPO induction welded to JM TPO RhinoPlates using the following patterns:
Fastening #1:	JM TPO RhinoPlates and All Purpose Fasteners spaced 6" o.c. in fastener rows spaced 120". Side laps shall be a minimum 2.5" wide and are sealed with a minimum 1.5" wide heat weld offset from plates. ***Maximum Design Pressure -45 psf. (See General Limitations # 7)***
Fastening #2:	JM TPO RhinoPlates and All Purpose Fasteners spaced 12" o.c. in fastener rows spaced 60". Side laps shall be a minimum 2.5" wide and are sealed with a minimum 1.5" wide heat weld offset from plates. ***Maximum Design Pressure -52.5 psf. (See General Limitations # 7)***
Fastening #3:	JM TPO RhinoPlates and All Purpose Fasteners spaced 6" o.c. in fastener rows spaced 60". Side laps shall be a minimum 2.5" wide and are sealed with a minimum 1.5" wide heat weld offset from plates. ***Maximum Design Pressure -105 psf. (See General Limitations # 7)***
Maximum Design Pressures:	See Fastening Pattern. (See General Limitations # 7)

Membrane Type: TPO

Deck Type 7I: Recover, Insulated

Deck Description: Existing Structural Non-Insulated Metal Panel Roof Assembly

System Type C(11): One or more layers of insulation simultaneously attached. Membrane 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: To be placed between the ribs or over panels of existing structural metal roof system.	**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, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	**N/A**	**N/A**

Top 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, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1" thick	**See below**	**See below**
DensDeck, JM SECUROCK Gypsum-Fiber Roof Board, Invinsa Roof Board, Invinsa FR Roof Board		
Minimum ¼" thick	**See below**	**See below**
Plywood		
Minimum 19/32" thick	**See below**	**See below**

Note: Insulation shall be loose-laid and membrane welded to plates. See below for fasteners and spacing. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements.

Membrane: JM TPO induction welded to JM TPO RhinoPlates using the following patterns. 6" wide side laps are sealed with a 1.5" wide heat weld offset from plates.

Fastening #1: Membrane is mechanically attached to 16 ga. purlins or steel supports spaced 5-ft o.c. using JM Purlin Fasteners and JM TPO RhinoPlates fastened at every other structural support spaced 6" o.c. along the supports.
Maximum Design Pressure -45 psf. (See General Limitations # 7)

Fastening #2: Membrane is mechanically attached to 16 ga. purlins or steel supports spaced 5-ft o.c. using JM Purlin Fasteners and JM TPO RhinoPlates fastened at every structural support spaced 6" o.c. along the supports.
Maximum Design Pressure -120 psf. (See General Limitations # 7)

Membrane: (Continued)	JM TPO induction welded to JM TPO RhinoPlates using the following patterns. 6” wide side laps are sealed with a 1.5” wide heat weld offset from plates.
Fastening #3:	Membrane is mechanically attached to 16 ga. purlins or steel supports spaced 5-ft o.c. using JM Purlin Fasteners and JM TPO RhinoPlates fastened at every structural support spaced 12” o.c. along the supports. ***Maximum Design Pressure -67.5 psf. (See General Limitations # 7)***
Fastening #4:	Membrane is mechanically attached to 16 ga. purlins or steel supports spaced 5-ft o.c. using JM Purlin Fasteners and JM TPO RhinoPlates fastened at every structural support spaced 18” o.c. along the supports. ***Maximum Design Pressure -45 psf. (See General Limitations # 7)***
Maximum Design Pressures:	See Fastening Pattern. (See General Limitations # 7)

Membrane Type: TPO

Deck Type 7I: Recover, Insulated

Deck Description: Min 18-22 ga., See Fastening Options Below for Grade, 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 18" o.c. between supports.
This Tested Assembly has been analyzed for allowable deck stress. See Deck Stress Analysis Table.

System Type C(12): One or more layers of insulation simultaneously attached. Membrane 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, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Maximum 1" thick	**N/A**	**N/A**
Top Insulation Layer (Optional)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft2**
DensDeck, JM SECUROCK Gypsum-Fiber Roof Board, Invinsa Roof Board, Invinsa FR Roof Board		
Minimum ¼" thick and Maximum 1" combined thickness with base layer	**See below**	**See below**
Plywood		
Minimum 19/32" thick and Maximum 1" combined thickness with base layer	**See below**	**See below**

Note: Insulation shall be loose-laid and membrane welded to plates. See below for fasteners and spacing. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements.

Membrane: JM TPO induction welded to JM TPO RhinoPlates as described below.

Fastening #1: ***(Min. 20 ga. Grade 80 Steel Deck)*** JM TPO RhinoPlates and High Load Fasteners spaced 6" o.c. in fastener rows spaced 120". Side laps shall be a minimum 2.5" wide and are sealed with a minimum 1.5" wide heat weld offset from plates.
Maximum Design Pressure -45 psf. (See General Limitations # 7)

Fastening #2: ***(Grade 33 Steel Deck)*** JM TPO RhinoPlates and High Load Fasteners spaced 12" o.c. in fastener rows spaced 60". Side laps shall be a minimum 2.5" wide and are sealed with a minimum 1.5" wide heat weld offset from plates.
Maximum Design Pressure -52.5 psf. (See General Limitations # 7)

Fastening #3: ***(Grade 80 Steel Deck)*** JM TPO RhinoPlates and High Load Fasteners spaced 6" o.c. in fastener rows spaced 60". Side laps shall be a minimum 2.5" wide and are sealed with a minimum 1.5" wide heat weld offset from plates.
Maximum Design Pressure -105 psf. (See General Limitations # 7)

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

Membrane Type: TPO

Deck Type 7I: Recover, Insulated

Deck Description: Concrete or Min. 22 ga. Grade 40 steel deck attached to structural supports spaced maximum 6-ft o.c. Supports attached with two #12-24 x 1-1/4" HWH screws and ¾" O.D. washers at each flute along intermediate supports. Panel laps were left unstitched. *The deck should record a Minimum Characteristic Resistance Force (MCRF) of 383 lbf when tested with High Load Fasteners (steel deck) or All Purpose Fasteners (concrete deck) installed through the deck in accordance with TAS 105. Existing roof shall be a minimum 1" thick.

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

System Type C(13): 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/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, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1" thick	**N/A**	**N/A**

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
JM SECUROCK Gypsum-Fiber Roof Board, Invinsa Roof Board, Invinsa FR Roof Board		
Minimum ¼" thick	**11 with 8 (concrete)** **4 with 8 (steel)**	**1:2.13-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, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1" thick	**11 with 8 (concrete)** **4 with 8 (steel)**	**1:2.13-ft²**

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 (min. 60 mil) membrane bonded to JM TPO RhinoPlates fastened as specified above. Side laps shall be a minimum 2.5" wide and are sealed with a minimum 1.5" wide heat weld offset from the plates.

Maximum Design Pressures: -90 psf. (See General Limitation #7)

Membrane Type: TPO

Deck Type 7I: Recover, Insulated

Deck Description: Concrete or Min. 22 ga. Grade 33 steel deck attached to structural supports spaced maximum 6-ft o.c. Supports attached with 5/8" diameter puddle welds at each flute along intermediate supports. Deck side laps stitched 24" o.c. with 1/4'-14 x 7/8" HWH screws. Or min. 2500 psi structural concrete deck. *The deck should record a Minimum Characteristic Resistance Force (MCRF) of 187 lbf when tested with UltraFast Fasteners (steel deck) or All Purpose Fasteners (concrete deck) installed through the deck in accordance with TAS 105. Existing roof shall be a minimum 1" thick.

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

System Type C(14): 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, 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, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	**1 with 2 or 3 (Steel Deck)** **11 with 2 (Concrete Deck)**	**1:1.78 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 fully adhered to insulation using JM Membrane Bonding Adhesive (TPO & EPDM) applied at a rate of 1.10 gal./sq. Membrane Side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld.

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

Membrane Type: TPO

Deck Type 7I: Recover, Insulated

Deck Description: Concrete

System Type C(15): Top layer of insulation mechanically 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, 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, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	**3 with 1 or 2**	**1:2 ft²**

Note: All layers 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 Membrane Bonding Adhesive (TPO & EPDM) applied at a combined rate of 1.10 gal./sq. or JM LVOC Membrane Adhesive (TPO & EPDM) applied at a rate of 0.83 gal./sq. or JM TPO Water Based Membrane Adhesive applied at a rate of 0.63-0.83 gal./sq. Side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld.

Or

JM TPO FB 115 or 135 adhered to insulation using JM TPO Water Based Membrane Adhesive applied at a rate of 0.63-0.83 gal./sq. or with JM Roofing Systems Urethane Adhesive applied in ½" to ¾" 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.

Or

JM TPO FB 150 or 175 Membrane is fully adhered to the insulation with approved hot asphalt applied at 20-25 lbs./sq with minimum 2.5" wide side laps that 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 7I: Recover, Insulated

Deck Description: Concrete

System Type C(16): Top layer of insulation mechanically 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, 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, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	**3 with 1 or 2**	**1:1.78 ft²**

Note: All layers 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 Membrane Bonding Adhesive (TPO & EPDM) applied at a combined rate of 1.10 gal./sq. or JM LVOC Membrane Adhesive (TPO & EPDM) applied at a rate of 0.83 gal./sq. Side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld.

Or

JM TPO FB 150 or 175 Membrane is fully adhered to the insulation with approved hot asphalt applied at 20-25 lbs./sq with minimum 2.5" wide side laps that shall be sealed with a minimum 1.5" wide heat weld.

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

Membrane Type: TPO

Deck Type 7I: Recover, Insulated

Deck Description: Min 18-22 ga., Grade 80 steel decking attached to steel supports spaced 6 ft. 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.
This Tested Assembly has been analyzed for allowable deck stress. See Deck Stress Analysis Table.

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.

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, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Maximum 1" thick	**N/A**	**N/A**
DensDeck, JM SECUROCK Gypsum-Fiber Roof Board, Invinsa Roof Board, Invinsa FR Roof Board		
Minimum ¼" thick	**N/A**	**N/A**

Note: All layers of insulation and membrane shall be simultaneously attached. See membrane options for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. 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 will be a minimum 6" wide and shall be sealed with a minimum 1.5" wide heat weld.

Fastening #1: Membrane is mechanically attached using High Load Fasteners and High Load Plates spaced 6" o.c. within laps of a maximum 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 Extra High Load Plates spaced 12" o.c. within laps of a maximum 8 ft. wide sheet.
Maximum Design Pressure -45 psf. (See General Limitations # 7)

Fastening #3: Membrane is mechanically attached using High Load Fasteners and High Load Plates spaced 6" o.c. within laps of a maximum 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 Extra High Load Plates spaced 12" o.c. within laps of a maximum 10 ft. wide sheet.
Maximum Design Pressure -45 psf. (See General Limitations # 7)

Membrane: (Continued)	JM TPO mechanically fastened to the deck through the insulation as described below; side laps will be a minimum 6” wide and shall be sealed with a minimum 1.5” wide heat weld.
Fastening # 5:	**(Min. 18-20 ga. steel deck only)** Membrane is mechanically attached using Extra High Load Fasteners and Extra High Load Plates spaced 6” o.c. within laps of a maximum 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 7I: Recover, Insulated

Deck Description: Min 18-20 ga., Grade 33 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. **This Tested Assembly has been analyzed for allowable deck stress. See Deck Stress Analysis Table.**

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.

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, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Maximum 1" thick	**N/A**	**N/A**
DensDeck, JM SECUROCK Gypsum-Fiber Roof Board, Invinsa Roof Board, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum ¼" thick	**N/A**	**N/A**

Note: All layers of insulation and membrane shall be simultaneously attached. See membrane options for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. 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 will be a minimum 6" wide and shall be sealed with a minimum 1.5" wide heat weld.

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

Fastening # 2: (Min. 18 ga. steel deck only) Membrane is mechanically attached using High Load Fasteners and High Load Plates spaced 6" o.c. within laps of a maximum 8 ft. wide sheet.
Maximum Design Pressure -60 psf. (See General Limitations # 7)

Fastening #3: (Min. 18 ga. steel deck only) Membrane is mechanically attached using High Load Fasteners and High Load Plates spaced 6" o.c. within laps of a maximum 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 7I: Recover, Insulated

Deck Description: Min 18-20 ga., Grade 33 steel decking attached to steel supports spaced 6ft. o.c. using 2 Traxx 5 fasteners and ¾" 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.
This Tested Assembly has been analyzed for allowable deck stress. See Deck Stress Analysis Table.

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.

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, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Maximum 1" thick	**N/A**	**N/A**
DensDeck, JM SECUROCK Gypsum-Fiber Roof Board, Invinsa Roof Board, Invinsa FR Roof Board		
Minimum ¼" thick	**N/A**	**N/A**

Note: All layers of insulation and membrane shall be simultaneously attached. See membrane options for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. 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.

Membrane is mechanically attached using High Load Fasteners and High Load Plates spaced 6" o.c. within 6" laps of a maximum 5 ft. wide sheet. Side laps will be a minimum 6" wide and shall be sealed with a minimum 1.5" wide heat weld.

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

Membrane Type: TPO

Deck Type 7I: Recover, Insulated

Deck Description: Min 18-20 ga., Grade 80, steel deck fastened 6" o.c. with two Traxx 5 fasteners with ¾" OD washers in supports spaced 6' o.c. Side laps fastened with Traxx 1 screws spaced 18" o.c. between supports.
This Tested Assembly has been analyzed for allowable deck stress. See Deck Stress Analysis Table.

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.

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, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Maximum 1" thick	**N/A**	**N/A**

Top Insulation Layer (Optional)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft2**
DensDeck, JM SECUROCK Gypsum-Fiber Roof Board, Invinsa Roof Board, Invinsa FR Roof Board		
Minimum ¼" thick and Maximum 1" combined thickness with base layer (on steel deck only)	**N/A**	**N/A**
Plywood		
Minimum 19/32" thick and Maximum 1" combined thickness with base layer (on steel deck only)	**N/A**	**N/A**

Note: All layers of insulation and membrane shall be simultaneously attached. See membrane options for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. 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 Membrane Primer or JM Single Ply Membrane Primer (Low VOC) and attached to the deck through the insulation with JM TPO Peel & Stick 10" RPS membrane strips mechanically fastened as described below.

JM TPO Peel & Stick 10" RPS membrane strips are secured to deck through the insulation with High Load Plates and High Load Fasteners in 114" rows, 6" o.c. The fasteners and plates are installed in the center down the middle of the JM TPO Peel & Stick 10" RPS membrane strips. The primed JM TPO membrane is walked in over the self-adhering JM TPO Peel & Stick 10" RPS membrane strips. The JM TPO membrane side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld offset from the RPS membrane strips.

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

Membrane Type: TPO

Deck Type 7I: Recover, Insulated

Deck Description: Existing Structural Non-Insulated Metal Panel Roof Assembly

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.

Base Insulation Layer: To be placed between the ribs or over panels of existing structural metal roof system.	**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, ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 1.5" thick	**N/A**	**N/A**
Top 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, ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 1" thick	**N/A**	**N/A**
DensDeck, JM SECUROCK Gypsum-Fiber Roof Board, Invinsa Roof Board, Invinsa FR Roof Board Minimum ¼" thick	**N/A**	**N/A**
Plywood Minimum 19/32" thick	**N/A**	**N/A**

Note: All layers of insulation and membrane shall be simultaneously attached. See membrane options for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. 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. 6" wide side laps are sealed with a 1.5" wide heat weld

Fastening #1: Membrane is mechanically attached to 16 ga. purlins or steel supports spaced 5-ft o.c. using JM Purlin Fasteners and High Load Plates, fastened at every structural support spaced 6" o.c. along the supports.
Maximum Design Pressure -82.5 psf. (See General Limitations # 7)

Fastening #2: Membrane is mechanically attached to 14 ga. purlins or steel supports spaced 5-ft o.c. using JM Purlin Fasteners and Extra High Load Plates, fastened at every structural support spaced 12" o.c. along the supports.
Maximum Design Pressure -45 psf. (See General Limitations # 7)

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

Membrane Type: TPO

Deck Type 7I: Recover, Insulated

Deck Description: Concrete

System Type D(6): 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.

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, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
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 Roof Board, Invinsa FR Roof Board		
Minimum ¼" thick	**N/A**	**N/A**
Plywood		
Minimum 19/32" thick	**N/A**	**N/A**

Note: All layers of insulation and membrane shall be simultaneously attached. See membrane options for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. 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 Membrane Primer or JM Single Ply Membrane Primer (Low VOC) and attached to the deck through the insulation with JM TPO Peel & Stick 10" RPS membrane strips mechanically fastened as described below.

JM TPO Peel & Stick 10" RPS membrane strips are secured to deck through the insulation with High Load Plates and All Purpose Fasteners in 114" rows, 6" o.c. The fasteners and plates are installed in the center down the middle of the JM TPO Peel & Stick 10" RPS membrane strips. The primed JM TPO membrane is walked in over the self-adhering JM TPO Peel & Stick 10" RPS membrane strips. The JM TPO membrane side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld offset from the RPS membrane strips.

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

Membrane Type: TPO

Deck Type 7I: Recover, Insulated

Deck Description: Concrete or Min. 22 ga. Grade 50 or min. 20 ga. Grade 80 steel deck attached to structural supports spaced maximum 6-ft o.c. Deck supports attached with min. 5/8" diameter puddle welds at each flute. Panel laps were left unstitched. *The deck should record a Minimum Characteristic Resistance Force (MCRF) as listed below when tested with High Load Fasteners (steel deck) or All Purpose Fasteners (concrete deck) installed through the deck in accordance with TAS 105.

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

System Type D(7): 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.

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, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum ½" thick	**N/A**	**N/A**

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft2**
JM SECUROCK Gypsum-Fiber Roof Board, Invinsa Roof Board, Invinsa FR Roof Board		
Minimum ¼" thick	**N/A**	**N/A**
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, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum ½" thick	**N/A**	**N/A**

Note: All layers of insulation and membrane shall be simultaneously attached. See membrane options for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. 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. 6” wide side laps are sealed with a minimum 1.5” wide heat weld
Fastening #1:	**(min. 22 ga. Grade 50 Steel Deck Only)** Membrane is mechanically attached using High Load (steel deck) or All Purpose (concrete deck) fasteners and High Load Plates spaced maximum 6” o.c. in rows not exceeding 54” within laps of a maximum 5 ft. wide sheet. ***Minimum Characteristic Resistance Force (MCRF) of 439 lbf*** ***Maximum Design Pressure: -97.5 psf. (See General Limitations # 7)***
Fastening # 2:	**(min. 20 ga. Grade 80 Steel Deck Only)** Membrane is mechanically attached using High Load (steel deck) or All Purpose (concrete deck) fasteners and High Load Plates spaced maximum 6” o.c. in rows not exceeding 90” within laps of a maximum 8 ft. wide sheet. ***Minimum Characteristic Resistance Force (MCRF) of 563 lbf*** ***Maximum Design Pressure: -75 psf. (See General Limitations # 7)***
Fastening #3:	**(min. 20 ga. Grade 80 Steel Deck Only)** Membrane is mechanically attached using High Load (steel deck) or All Purpose (concrete deck) fasteners and High Load Plates spaced maximum 6” o.c. in rows not exceeding 114” within laps of a maximum 10 ft. wide sheet. ***Minimum Characteristic Resistance Force (MCRF) of 570 lbf*** ***Maximum Design Pressure: -60 psf. (See General Limitations # 7)***
Maximum Design Pressures:	See Fastening Pattern. (See General Limitations # 7)

Membrane Type: TPO

Deck Type 7I: Recover, Insulated

Deck Description: Concrete or Min. 22 ga., Grade 80, steel deck attached to structural supports spaced maximum 6-ft o.c. Deck secured to supports with 2 Tek 5 screws with 0.75" washers at each flute spaced 6" o.c. Deck side laps attached with Tek 1 screws spaced 24" o.c. *The deck should record a Minimum Characteristic Resistance Force (MCRF) of 675 lbf when tested with High Load Fasteners (steel deck) or All Purpose Fasteners (concrete deck) installed through the deck in accordance with TAS 105.

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

System Type D(8): 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.

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, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1" 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 layers of insulation and membrane shall be simultaneously attached. See membrane options for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. 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. 6" wide side laps are sealed with a minimum 1.5" wide heat weld

Membrane is mechanically attached using High Load (steel deck) or All Purpose (concrete deck) Fasteners and High Load Plus Plates spaced maximum 12" o.c. within the 6" side laps with a maximum row spacing of 90" o.c. Side laps shall be sealed with a minimum 1.5" wide heat weld.

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

Membrane Type: TPO

Deck Type 7I: Recover, Insulated

Deck Description: Min. $^{19}/_{32}$" plywood or wood plank fastened a maximum 6" o.c with 0.113" ring shank nails to wood supports spaced a maximum 24" o.c. *The deck should record a Minimum Characteristic Resistance Force (MCRF) of 270 lbf when tested with High Load Fasteners installed through the deck in accordance with TAS 105.

System Type D(9): All layers of insulation simultaneously mechanically fastened with base sheet

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 the following:

Base Insulation Layer (Optional)	**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 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum ½" thick	**N/A**	**N/A**

Top 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 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum ½" thick	**N/A**	**N/A**
Invinsa Roof Board, Invinsa FR Roof Board, JM SECUROCK Gypsum-Fiber Roof Board		
Minimum ¼" thick	**N/A**	**N/A**

Note: All layers of insulation and membrane shall be simultaneously attached. See membrane options for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. At an application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Membrane: JM TPO is mechanically attached using High Load Fasteners and High Load Plates spaced 6" o.c. within the 6" wide side laps in rows spaced 54" o.c. Side laps shall be sealed with a minimum 1.5" wide heat weld.

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

Membrane Type: TPO

Deck Type 7: Recover, Non-insulated

Deck Description: Poured Gypsum Concrete deck *The deck should record a Minimum Characteristic Resistance Force (MCRF) of 56 lbf when tested with JM Ultralok fasteners installed through the deck in accordance with TAS 105.

System Type E(1): Membrane mechanically attached to substrate through existing roof.

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 deck with JM Ultralok fasteners secured 7" o.c. at the lap and 7" o.c. in two equally spaced and staggered rows in the field on the roll. The side laps shall be min. 3" wide.
Membrane:	JM TPO FB 115 or 135 Fleece Backed adhered with hot asphalt within the EVT range and at a rate of 20-25 lbs./100 ft^2. The JM TPO FB Fleece Backed membrane side laps will be a minimum 3" wide and shall be sealed with a minimum 1.5" wide heat weld
Maximum Design Pressure:	-52.5 psf. (See General Limitation #7)

Membrane Type: TPO

Deck Type 7: Recover, Non-insulated

Deck Description: Min. 160 psi, 2" Elastizell Lightweight Insulating Concrete with Zell-Fibers cast over structural concrete or minimum 22 ga,. Grade 33 vented galvanized steel deck with supports spaced 6-ft o.c using 5/8" diameter puddle welds at each flute. Deck side laps stitched 18" o.c. with ¼'-14 x 7/8" HWH screws. *The deck should record a Minimum Characteristic Resistance Force (MCRF) of 56 lbf when tested with CR Base Sheet Fasteners (1.7") installed through the deck in accordance with TAS 105.
This Tested Assembly has been analyzed for allowable deck stress. See Deck Stress Analysis Table.

System Type E(2): Membrane mechanically attached to substrate through existing roof.

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 deck with CR Base Sheet Fasteners (1.7") secured 9" o.c. at the lap and 9" o.c. in two equally spaced and staggered rows in the field on the roll. The side laps shall be min. 3" wide.

Membrane: JM TPO FB 150 or 175 Fleece Backed adhered with hot asphalt within the EVT range and at a rate of 20-25 lbs./100 ft^2. The JM TPO FB Fleece Backed membrane side laps will be a minimum 3" wide and shall be sealed with a minimum 1.5" wide heat weld

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

Membrane Type: TPO

Deck Type 7: Recover, Non-insulated

Deck Description: Min. 160 psi, 2" Elastizell Lightweight Insulating Concrete with Zell-Fibers cast over structural concrete or minimum 22 ga,. Grade 40 vented galvanized steel deck with supports spaced 6-ft o.c using 5/8" diameter puddle welds at each flute. Deck side laps stitched 18" o.c. with ¼'-14 x 7/8" HWH screws. *The deck should record a Minimum Characteristic Resistance Force (MCRF) of 480 lbf when tested with High Load Fasteners installed through the deck in accordance with TAS 105.
This Tested Assembly has been analyzed for allowable deck stress. See Deck Stress Analysis Table.

System Type E(3): Membrane mechanically attached to substrate through existing roof.

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: Min. 60 mil. JM TPO is bonded to JM TPO Rhino Plates fastened with High Load Fasteners secured maximum 6" o.c. in rows spaced a maximum 96" o.c. Side laps shall be a minimum 3" wide and are sealed with a minimum 1.5" wide heat weld.

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

Membrane Type: TPO

Deck Type 7: Recover, Non-insulated

Deck Description: Min. 160 psi, 2" Elastizell Lightweight Insulating Concrete with Zell-Fibers cast over structural concrete or minimum 22 ga,. Grade 50 vented galvanized steel deck with supports spaced 6-ft o.c using 5/8" diameter puddle welds at each flute. Deck side laps stitched 18" o.c. with ¼'-14 x 7/8" HWH screws. *The deck should record a Minimum Characteristic Resistance Force (MCRF) of 506 lbf when tested with High Load Fasteners installed through the lightweight concrete into the steel deck in accordance with TAS 105.
This Tested Assembly has been analyzed for allowable deck stress. See Deck Stress Analysis Table.

System Type E(4): Membrane mechanically attached to substrate through existing roof.

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: Min. 45 mil. JM TPO is fastened through the lightweight concrete into the steel deck with High Load Fasteners and JM High Load Plates secured maximum 6" o.c. in rows spaced a maximum 90" o.c. Side laps shall be a minimum 6" wide and are sealed with a minimum 1.5" wide heat weld.

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

Membrane Type: TPO

Deck Type 7: Recover, Non-insulated

Deck Description: Existing roof with mineral surfacing over steel deck

System Type F: Membrane adhered to existing roof.

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 Fleece Backed adhered with JM Roofing System Urethane Adhesive applied in ½" to ¾" ribbons spaced 12" o.c. or with Polyset Commercial Roof Adhesive applied in ¾" to 1" ribbons spaced 12" o.c. or with JM Two Part Urethane Insulation Adhesive Canister applied in splatter pattern at 0.318 gal./sq. The JM TPO FB Fleece Backed membrane side laps will be a minimum 2.5" wide and shall be sealed with a minimum 1.5" wide heat weld
Maximum Design Pressure:	-45 psf. (See General Limitation #9.)

RECOVER SYSTEM LIMITATIONS:

1. All System Limitations and General Limitations shall apply. See specific deck type Notice of Acceptance for deck type System Limitations.
2. All assemblies listed herein shall be installed in compliance with the applicable sections of FBC 1521. Uplift performance of assemblies bonded to existing roofing system shall be verified per 1521.10. Uplift performance of assemblies mechanically attached through existing roofing system shall be verified per 1521.11.

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