MIAMI-DADE

BUILDING CODE COMPLIANCE OFFICE (BCCO)
PRODUCT CONTROL DIVISION

MIAMI-DADE COUNTY, FLORIDA
METRO-DADE FLAGLER BUILDING
140 WEST FLAGLER STREET, SUITE 1603
MIAMI, FLORIDA 33130-1563
(305) 375-2901 FAX (305) 375-2908

NOTICE OF ACCEPTANCE (NOA)

Johns Manville Corporation
717 17th Street
Denver, CO 80202

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed by Miami-Dade County Product Control Division and accepted by the Board of Rules and Appeals (BORA) to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Division (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. BORA reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Division that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: Johns Manville SRT TPO Single Ply Roof Systems over Concrete Decks

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

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

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This consists of pages 1 through 11.
The submitted documentation was reviewed by Frank Zuloaga, RRC

ROOFING SYSTEM APPROVAL

Category:	Roofing
Sub-Category:	Single Ply
Material:	TPO
Deck Type:	Concrete
Maximum Design Pressure	-67.5 psf
Fire Classification:	See General Limitation #1

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

Product Name	Dimensions	Test Specifications	Product Description
SRT	various	TAS 131	Reinforced white or colored TPO membrane.
SRT GSD	various	TAS 131	Reinforced white or colored FR TPO membrane.
SRT Bonding Adhesive	various	TAS 110	Solvent-based bonding adhesive.

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
Millox	Isocyanurate Insulation with wood fiberboard facer	Apache Products Co.
Pyrox, White Line	Isocyanurate Insulation	Apache Products Co.
ACFoam Composite	Isocyanurate Insulation with perlite facer	Atlas Roofing Corp.
ACFoam I, II	Isocyanurate Insulation	Atlas Roofing Corp.
Polyisocyanurate HP-N	Polyisocyanurate roof insulation.	Carlisle Syntec, Inc.
Sure-Seal HP Recovery Board	High Density Wood Fiberboard.	Carlisle Syntec, Inc.
Sure-Seal EPS/Fiberboard	High Density Wood Fiberboard bonded to EPS.	Carlisle Syntec, Inc.
Styrofoam	Extruded polystyrense insulation	Dow
Dens Deck	Silicon treated gypsum	G-P Products
Sturdi-Top	Wood fiber insulation board.	G-P Products
ENRGY 2, ENERGY 3, PSI-25	Isocyanurate Insulation	Johns Manville
Fesco Foam	Isocyanurate Insulation with perlite facer	Johns Manville

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
Retro-Fit	A high-density perlite roof insulation.	Johns Manville
Wood Fiberboard	Regular wood fiber insulation	Generic
High Density Wood Fiberboard	High Density Wood Fiber insulation board.	Generic
Perlite Insulation Board	Perlite Insulation	Generic
Type X Gypsum	Gypsum Wallboard	Generic
XPS	Extruded polystyrene	Generic
Fiber Base	Asphalt coated wood fiber insulation	Temple Inland Forest Products Corp.

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	Sure-Seal HP Fasteners	Threaded fasteners used for insulation and membrane securement in steel, wood and concrete decks.		Carlisle SynTec, Inc.
2.	Sure-Seal HP Concrete Spikes	Driven fasteners used for insulation and membrane securement in concrete decks.		Carlisle SynTec, Inc.
3.	Sure-Seal Insulation Plates	Metal plates used for insulation securement.	2 7/8" dia	Carlisle SynTec, Inc.
4.	Sure-Seal Seam Fastening Plates	Metal plates used for membrane securement with Sure-Seal fasteners.	2" dia	Carlisle SynTec, Inc.
5.	Sure-Seal Polymer Seam Plates	Plastic plates used for membrane securement with Sure-Seal fasteners	2" dia	Carlisle SynTec, Inc.
6.	Sure-Seal HP Locking Seam Plates	Metal plates with plastic inserts used for membrane securement with Sure-Seal fasteners.	2" dia	Carlisle SynTec, Inc.
7.	Dekfast Fasteners #14 & #15	Insulation fastener for wood, steel and concrete decks		Construction Fasteners Inc.

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
8.	Dekfast Hex Plate	Galvalume hex stress plate.	2 7/8" x 3 1/4"	Construction Fasteners Inc.
9.	#14 & #15 Roofgrip Fasteners	Insulation fastener for wood, steel and concrete decks.		ITW Buildex Corp.
10.	Metal Plate	Galvalume stress plate.	3" round 3" square	ITW Buildex Corp.
11.	UltraFast (#14 Only)	Insulation fastener for concrete decks.		Johns Manville
12.	JM CD-10	Insulation fastener for concrete decks.		Johns Manville
13.	High Load Fasteners	Membrane fastener for wood and steel.		Johns Manville
14.	High Load Metal Plates	Galvalume AZ55 steel plate	2-3/8" round	Johns Manville
15.	APB Metal Plates	Galvalume AZ55 steel plate	2" round	Johns Manville
16.	UltraFast Metal Plate	Galvalume AZ55 steel plate	3" square	Johns Manville
17.	UltraFast Plastic Plate	High Density Polyolefin round plate	3" round	Johns Manville
18.	Olympic Fastener #14	Insulation fastener for concrete decks.		Olympic Mfg. Group,
19.	Olympic G-2	Galvalume AZ55 steel plate	3.5" round	Olympic Mfg. Group,
20.	Olympic Standard	Galvalume AZ50 steel plate	3" round	Olympic Mfg. Group,
21.	Rawl Drive	Insulation fastener for concrete decks		Powers Fasteners, Inc.
22.	Rawl Spike	Insulation fastener for concrete decks		Powers Fasteners, Inc.
23.	Rawl	Galvalume AZ55 steel plate	3" round	Powers Fasteners, Inc.
24.	#14 HD Insul-Fixx Fastener	Insulation fastener for wood, steel and concrete decks		SFS Stadler, Inc.

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
25.	Insul-Fixx S Plate	Galvalume AZ50 steel plate	3" round	SFS Stadler, Inc.
26.	Insul-Fixx P Plate	Polyethylene stress plate	3" round	SFS Stadler, Inc.
27.	Tru-Fast HD	Insulation fastener for wood, steel and concrete decks		The Tru-Fast Corp.
28.	Tru-Fast Plates	Galvalume AZ55 steel plate	3" round	The Tru-Fast Corp.
29.	Tru-Fast Plates	Polyethylene plastic plate	3" round	The Tru-Fast Corp.
30.	Tru-Fast Plates	Galvalume AZ50 steel plate	3.23" round	The Tru-Fast Corp.

EVIDENCE SUBMITTED:

Test Agency	Test Identifier	Description	Date
Architectural Testing Inc.	ATI-37050.01	Wind Uplift Classification	3/13/00
Architectural Testing Inc.	ATI-37490-01	Membrane Brittleness Testing	7/7/00
Factory Mutual Research Corp.	3003393	Wind Uplift Classification	3/30/99
Factory Mutual Research Corp.	3001522	Wind Uplift Classification	3/26/99
Factory Mutual Research Corp.	3Z9A1.AM	Wind Uplift and Fire Classification	10/15/97
Factory Mutual Research Corp.	Approval Guide Excerpt	Wind Uplift and Fire Listings	5/00
Celotex Corporation Testing Services	520257	Membrane Physical Property Testing	4/19/00
SGS U.S. Testing Company Incorporated	131248-R2	Membrane Ozone Testing	1/6/00

APPROVED ASSEMBLIES

Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced

Deck Type 3I: Concrete Decks, Insulated, New Construction

Deck Description: 2500 psi structural concrete.

System Type A: One or more layers of insulation adhered with approved asphalt or with Fast Adhesive. Membrane fully adhered.

All General and System Limitations apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
One of the following covered with the boards listed in Top Layer or Base or Top Layer.		
Perlite Minimum ¾" thick	**N/A**	**N/A**

Base or Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY-2, ENRGY-3, PSI-25, AC Foam II Minimum 1.4" thick	**N/A**	**N/A**
HP Recovery Minimum 1" thick	**N/A**	**N/A**
High Density Fiberboard Minimum ¾" thick	**N/A**	**N/A**
Fesco Foam Minimum 1.5" thick	**N/A**	**N/A**
Structodeck Minimum ½" thick	**N/A**	**N/A**

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of base sheet. All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft^2. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

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

Barrier: None.

Membrane: SRT or SRT GSD, Reinforced, 45 or 60 mil membrane fully adhered to the insulation using SRT Bonding Adhesive applied a rate of 1 gal/60 ft^2.

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

Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced

Deck Type 3I: Concrete Decks, Insulated, New Construction

Deck Description: 2500 psi structural concrete.

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

All General and System Limitations apply.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
One of the following covered with the boards listed in Top Layer or Base or Top Layer.		
Extruded Polystyrene, Energy-Lok, ACFoam-II		
Minimum 1" thick	**N/A**	**N/A**
Perlite		
Minimum ¾" thick	**N/A**	**N/A**

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Single and multiple layers of insulation can be attached to base layer with Carlisle Syntec FAST Adhesive.

Base or Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
ENRGY-2, ENRGY-3, PSI-25		
Minimum 1.5" thick	**1, 2, 7, 9, 11, 18, 21, 22, 24 or 27**	**1:2 ft^2**
Minimum 2" thick	**1, 2, 7, 9, 11, 18, 21, 22, 24 or 27**	**1:4 ft^2**
HP Recovery		
Minimum ½" thick	**1, 2, 11, 21 or 22**	**1:2 ft^2**
High Density Fiberboard		
Minimum ¾" thick	**7, 18 or 27**	**1:2.67 ft^2**
Fesco Foam		
Minimum 1.5" thick	**1, 2, 11, 21 or 22**	**1:2 ft^2**
Sturdi Top		
Minimum ½" thick	**7 or 18**	**1:8 ft^2**
Wood Fiber		
Minimum 1" thick	**1, 2, 11, 21 or 22**	**1:2 ft^2**
Fiber Base, Retro-Fit		
Minimum ½" thick	**1, 11 or 18**	**1:2.9 ft^2**

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Required over the insulations listed in Base Layer or optional over any of the insulations listed as		

Base or Top Layer:
HP Recovery (for use over all insulation. types)

Minimum ½" thick	**1, 2, 11, 21 or 22**	**1:2 ft²**

Fiber Base (for use over polyisocyanurate, gypsum or perlite)

Minimum ½" thick	**1, 11 or 18**	**1:2.9 ft²**

Note: 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.

Vapor Retarders:	(Optional) Any UL or FMRC approved vapor retarder applied to the roof deck or over a base layer of insulation.
Barrier:	None.
Membrane:	SRT or SRT GSD, Reinforced, 45 or 60 mil membrane fully adhered to the insulation using SRT Bonding Adhesive applied to the substrate at a rate of 1 gal/60 ft².
Maximum Design Pressure:	–45 psf (See General Limitation #9)

Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced

Deck Type 3I: Concrete Decks, Insulated, New Construction

Deck Description: 2500 psi structural concrete.

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

All General and System Limitations apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
One of the following covered with the boards listed in Top Layer or Base or Top Layer.		
Extruded Polystyrene, Energy-Lok, ACFoam-II		
Minimum 1" thick	**N/A**	**N/A**
Perlite		
Minimum ¾" thick	**N/A**	**N/A**

Base or Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY-2, ENRGY-3, PSI-25, Fesco Foam, ACFoam II		
Minimum 1.5" thick	**N/A**	**N/A**
Retro-Fit Board, Fiber Base, Structodeck, Wood Fiber, HP Recovery		
Minimum ½" thick	**N/A**	**N/A**
High Density Fiberboard		
Minimum ¾" thick	**N/A**	**N/A**

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Required over the insulations listed in Base Layer or optional over any of the insulations listed as Base or Top Layer:		
HP Recovery (for use over all insulation. types) **Fiber Base** (for use over polyisocyanurate, gypsum or perlite)		
Minimum ½" thick	**N/A**	**N/A**

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

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

Barrier: None.

Membrane:	SRT or SRT GSD, Reinforced, secured through the preliminarily attached insulation as specified below.
Fastening #1:	High Load or CD 10 Fasteners with High Load Plates 6" o.c. through the SRT Membrane in the lap in rows spaced 7'-7" o.c. ***Maximum Design Pressure -67.5 psf. (See General Limitation #7)***
Fastening #2:	High Load or CD 10 Fasteners with High Load Plates 6" o.c. through the SRT Membrane in the lap in rows spaced 9'-7" o.c. ***Maximum Design Pressure -60 psf. (See General Limitation #7)***
Fastening #3:	High Load or CD 10 Fasteners with High Load Plates 9" o.c. through the SRT Membrane in the lap in rows spaced 9'-6" o.c. ***Maximum Design Pressure -52.5 psf. (See General Limitation #7)***
Fastening #4:	High Load or CD 10 Fasteners with High Load Plates 6" o.c. through the SRT GSD Membrane in the lap in rows spaced 9'-7" o.c. ***Maximum Design Pressure -52.5 psf. (See General Limitation #7)***
Fastening #5:	High Load or CD 10 Fasteners with High Load Plates 9" o.c. through the SRT GSD Membrane in the lap in rows spaced 9'-7" o.c. ***Maximum Design Pressure -45 psf. (See General Limitation #7)***
Fastening #6:	High Load or CD 10 Fasteners with High Load Plates 12" o.c. through the SRT Membrane in the lap in rows spaced 9'-7" o.c. ***Maximum Design Pressure -45 psf. (See General Limitation #7)***
Maximum Design Pressure:	See Fastening Options Above.

CONCRETE DECK SYSTEM LIMITATIONS:

1. If mechanical attachment to the structural deck through the lightweight insulating concrete is proposed, a field withdrawal resistance testing shall be performed to determine fastener patterns and density. All testing and fastening design shall be in compliance with Testing Application Standard TAS 105 and Roofing Application Standard RAS 117, calculations shall be signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant.

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. **(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.)**

END OF THIS ACCEPTANCE