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 APP Modified Bitumen Roofing Systems Over Wood 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 NOA No. 03-0212.01 and consists of pages 1 through 16.
The submitted documentation was reviewed by Jorge L. Acebo

ROOFING ASSEMBLY APPROVAL

Category:	Roofing
Sub-Category:	APP Modified Bitumen
Deck Type:	Wood
Maximum Design Pressure	-52.5 psf
Fire Classification:	See General Limitation #1

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

Product	Dimensions	Test Specification	Product Description
JM APP Base	150 sq. ft. roll	ASTM D 5147	APP modified asphalt, fiberglass reinforced, smooth surfaced base sheet.
APPeX 4S	32.8' x 3.28'; 90 lb. roll	ASTM D 6222, type I, grade S	APP modified asphalt, polyester reinforced, smooth surfaced membrane.
APPeX 4.5M	32.8' x 3.28'; 90 lb. roll	ASTM D 6222, type I grade G	APP modified asphalt, polyester reinforced, mineral surfaced membrane.
APPeX 4.5MFR	32.8' x 3.28'; 90 lb. roll	ASTM D 6222, type I grade G	APP modified asphalt, polyester reinforced, fire-retardant, mineral surfaced membrane.
APPeX 180	32.8' x 3.28'; 90 lb. roll	ASTM D 6222, type I, grade G	APP modified asphalt, polyester reinforced, smooth surfaced membrane.
Bicor MFR	39-3/8" x 34'	ASTM D 6223	APP modified asphalt, polyester / glass reinforced, granule surfaced membrane.
Tricor MFR	39-3/8" x 34'	ASTM D 6223	APP modified asphalt, polyester / glass reinforced, granule surfaced membrane.
Bicor S	39-3/8" x 34'	ASTM D 6223	APP modified asphalt, polyester / glass reinforced, smooth surfaced membrane.
Tricor S	39-3/8" x 34'	ASTM D 6223	APP modified asphalt, polyester / glass reinforced, smooth surfaced membrane.
PermaPly 28	36' x 108'; 72 lb. roll	ASTM D 4601	Type II asphalt impregnated and coated glass fiber base sheet

Product	Dimensions	Test Specification	Product Description
Ventsulation	36" x 36'	ASTM D 4897 Type II	Heavy duty fiber glass base sheet impregnated and coated on both sides with asphalt with or without fine mineral stabilizer.
JM Topgard Type B		ASTM D 1227	Fire rated, fibered, non-asbestos, clay water base asphalt emulsion.
JM Fibrated Aluminum Roof Coating		ASTM D 2824	Fire rated, fibered, non-asbestos aluminum coating.
JM Premium Fibered Aluminum Roof Coating		ASTM D 2824	Fire rated, fibered, non-asbestos asphalt aluminum coating.

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
ENRGY 2, ENERGY 3, PSI-25	Isocyanurate Insulation.	Johns Manville
ENRGY 2 Composite	Polyisocyanurate insulation laminated to perlite.	Johns Manville
ENRGY 2 Plus	Polyisocyanurate insulation laminated to wood fiber.	Johns Manville
Fesco Foam, DuraFoam	Isocyanurate Insulation with perlite facer	Johns Manville
Retro-Fit Board, DuraBoard	A high-density perlite roof insulation.	Johns Manville
Fesco Board	Rigid perlite roof insulation board.	Johns Manville
Fiber Glass Roof Insulation	Fiberglas roof insulation.	Johns Manville
ACFoam II	Isocyanurate Insulation	Atlas Roofing Corp.
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
Structodeck	High Density Wood Fiber insulation board.	Masonite

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	UltraFast	Insulation fastener for wood and steel.		Johns Manville
2.	UltraFast ASAP	Pre-assembled Insulation fastener and plate		Johns Manville
3.	UltraFast Metal Plate	Galvalume AZ55 steel plate	3" square & 3" round	Johns Manville
4.	Olympic Fastener #12 & #14	Insulation fastener		Olympic Mfg. Group
5.	Olympic Fastener ASAP	Pre-assembled Insulation fastener and plate		Olympic Mfg. Group
6.	Olympic G-2	Galvalume AZ55 steel plate	3.5" round	Olympic Mfg. Group
7.	Olympic Standard	Galvalume AZ50 steel plate	3" round	Olympic Mfg. Group
8.	Tru-Fast	Insulation fastener for steel and wood decks		The Tru-Fast Corp.
9.	Tru-Fast Plates	Galvalume AZ55 steel plate	3" round	The Tru-Fast Corp.

EVIDENCE SUBMITTED:

Test Agency	Test Identifier	Description	Date
Factory Mutual Research Corp.	J.I. 0X0A9.AM	Wind Uplift	03/25/94
	J.I. 0W6A2.AM	Wind Uplift	02/05/93
	J.I. 0X7A4.AM	Wind Uplift	08/26/93
	J.I. 3001482		08/11/98
	J.I. 3002823		04/01/99
	J.I. 3003468		02/02/00
	J.I. 3007148		04/19/00
	3009499	4470	04/04/01
	3011248	4470	11/01/02
	3012974	4450	06/03/02
Underwriters Laboratories, Inc.	R-10400	Published Annually	
Exterior Research & Design, LLC	#4361-2.04.97-1	TAS 114(J) – Wind Uplift	04/15/97
	10390A.12.97-1	TAS 114(J) – Wind Uplift	12/15/97
	10390A.10.97-1	TAS 114(J) – Wind Uplift	10/15/97
	10391.01.03	TAS 114(J) & TAS 117 (B)	01/29/03

APPROVED ASSEMBLIES

Membrane Type: APP

Deck Type 1I: Wood, Insulated

Deck Description: $^{19}/_{32}$" or greater plywood or wood plank

System Type A(1): Anchor sheet mechanically fastened; all layers of insulation fully adhered with approved asphalt.

All General and System limitations apply.

Anchor Sheet: Minimum two plies of JM PermaPly 28 or Ventsulation simultaneously fastened to the deck as described below:

Fastening: Anchor sheet shall be lapped 4" and fastened with approved roofing nails and tin caps 9" o.c. at the lap and two rows staggered in the center of the sheet 12" o.c.
Or
Attach anchor sheet using JM Ultrafast fasteners and Metal Plates spaced 9" o.c. in a 4" lap and 12" o.c. in two staggered rows in the center of the sheet.

One or more layers of any of the following insulations:

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
ENRGY 2, ENRGY 3, ISO 3 Minimum 1.4" thick	**N/A**	**N/A**
Fesco Foam, DuraFoam Minimum 1.5" thick	**N/A**	**N/A**
Fesco Board Minimum ¾" thick	**N/A**	**N/A**
Retro-Fit Board, DuraBoard Minimum ½" thick	**N/A**	**N/A**
Fiber Glass Roof Insulation Minimum ¾" thick	**N/A**	**N/A**

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot 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 may be used as a top layer placed with the polyisocyanurate side facing down.

Base Sheet: One ply of JM Glasbase Plus or PermaPly 28 fully adhered to the insulated substrate with approved mopping asphalt at an application rate of 20-40 lbs./sq.

Ply Sheet: (Optional) One or more plies of JM APP Base, APPeX 4S or APPeX 180 heat welded to base sheet.

Membrane:	One or more plies of APPeX 4S, APPeX 180, APPeX 4.5M or APPeX 4.5 MFR heat welded.
Surfacing:	(Optional) Install one of the following for all systems that do not achieve acceptable fire ratings through the use of FR membrane sheets. 1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at a rate of 60 lb./sq. 2. Karnak 97, Karnak 97 AF, Monsey Premium Long Life Aluminum Roof Coating Asbestos Free or Monsey Prograde Aluminum, JM Topgard Type A, Topgard Type B, JM Aluminum RF CT, Grundy AL MB aluminum coating at a rate of 1-1/2 gal/sq Monsey Aquabrite, Gardner asphalt emulsion, APOC Sunbright 400 or Henry 229 Aluminum Emulsion at 2½ gal/sq or APOC 212 Aluminum Roof Coating at 3 gal/sq. 3. Grundy 20 F asphalt emulsion, Endure Asphalt Emulsion, APOC 302 or 302 AF applied at 2½ gal/sq with optional 60 lbs./sq. of roofing granules embedded in wet coating.
Maximum Design Pressure:	-52.5 (See General Limitation #7).

Membrane Type: APP

Deck Type 1I: Wood, Insulated

Deck Description: $^{19}/_{32}$" or greater plywood or wood plank

System Type B(1): Base layer of insulation mechanically attached to roof deck. Optional top layer of insulation adhered with approved asphalt.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 2, ENRGY 3, ISO 3 Minimum 1.4" thick	**1**	**1:2 ft^2**
Fesco Foam, DuraFoam Minimum 1.5" thick	**1**	**1:2 ft^2**
Structodek FS Minimum ½" thick	**1 or 4**	**1:2.67 ft^2**

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

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Retrofit Board, Structodek FS, DuraBoard Minimum ½" thick	**N/A**	**N/A**
Fesco Board Minimum ¾" thick	**N/A**	**N/A**

Note: Optional top layer of insulation shall be adhered with 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. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Base Sheet: One ply of JM PermaPly 28 fully adhered to the insulated substrate with approved mopping asphalt at an application rate of 20-40 lbs./sq.

Ply Sheet: (Optional) One or more plies of JM APP Base, APPeX 4S or APPeX 180 heat welded to base sheet.

Membrane: One or more plies of APPeX 4S, APPeX 180, APPeX 4.5M or APPeX 4.5 MFR heat welded.

Surfacing: (Optional) Install one of the following for all systems that do not achieve acceptable fire ratings through the use of FR membrane sheets.

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at a rate of 60 lb./sq.
2. Karnak 97, Karnak 97 AF, Monsey Premium Long Life Aluminum Roof Coating Asbestos Free or Monsey Prograde Aluminum, JM Topgard Type A, Topgard Type B, JM Aluminum RF CT, Grundy AL MB aluminum coating at a rate of 1-1/2 gal/sq Monsey Aquabrite, Gardner asphalt emulsion, APOC Sunbright 400 or Henry 229 Aluminum Emulsion at 2½ gal/sq or APOC 212 Aluminum Roof Coating at 3 gal/sq.
3. Grundy 20 F asphalt emulsion, Endure Asphalt Emulsion, APOC 302 or 302 AF applied at 2½ gal/sq with optional 60 lbs./sq. of roofing granules embedded in wet coating.

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

Membrane Type: APP

Deck Type 1I: Wood, Insulated

Deck Description: $^{19}/_{32}$" or greater plywood or wood plank

System Type B(2): Base layer of insulation mechanically attached to roof deck. Optional top layer of insulation adhered with approved asphalt.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 2, ENRGY 3, ISO 3, Fesco Foam, DuraFoam Minimum 1.5" thick	**1**	**1:1.33 ft^2**

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

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Retrofit Board, Structodek FS, DuraBoard Minimum ½" thick	**N/A**	**N/A**
Fesco Board Minimum ¾" thick	**N/A**	**N/A**

Note: Optional top layer of insulation shall be adhered with 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. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Base Sheet: One ply of JM PermaPly 28 fully adhered to the insulated substrate with approved mopping asphalt at an application rate of 20-40 lbs./sq.

Ply Sheet: (Optional) One or more plies of JM APP Base, APPeX 4S or APPeX 180 heat welded to base sheet.

Membrane: One or more plies of APPeX 4S, APPeX 180, APPeX 4.5M or APPeX 4.5 MFR heat welded.

Surfacing: (Optional) Install one of the following for all systems that do not achieve acceptable fire ratings through the use of FR membrane sheets.

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at a rate of 60 lb./sq.
2. Karnak 97, Karnak 97 AF, Monsey Premium Long Life Aluminum Roof Coating Asbestos Free or Monsey Prograde Aluminum, JM Topgard Type A, Topgard Type B, JM Aluminum RF CT, Grundy AL MB aluminum coating at a rate of 1-1/2 gal/sq Monsey Aquabrite, Gardner asphalt emulsion, APOC Sunbright 400 or Henry 229 Aluminum Emulsion at 2½ gal/sq or APOC 212 Aluminum Roof Coating at 3 gal/sq.
3. Grundy 20 F asphalt emulsion, Endure Asphalt Emulsion, APOC 302 or 302 AF applied at 2½ gal/sq with optional 60 lbs./sq. of roofing granules embedded in wet coating.

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

Membrane Type: APP

Deck Type 1I: Wood, Insulated

Deck Description: $^{19}/_{32}$" or greater plywood or wood plank

System Type C: All layers of insulation mechanically attached to roof deck. Membrane is subsequently fully or partially adhered to insulation.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 2, ENRGY 3, ISO 3, Fesco Foam, DuraFoam Minimum 1.5" 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 e same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Retrofit Board, DuraBoard Minimum ½" thick	**1, 4 or 8**	**1:2 ft^2**
Fesco Board Minimum ¾" thick	**1, 4 or 8**	**1:2 ft^2**

Base Sheet: One ply of JM PermaPly 28 fully adhered to the insulated substrate with approved mopping asphalt at an application rate of 20-40 lbs./sq.

Ply Sheet: (Optional) One or more plies of JM APP Base, APPeX 4S or APPeX 180 heat welded to base sheet.

Membrane: One or more plies of APPeX 4S, APPeX 180, APPeX 4.5M or APPeX 4.5 MFR heat welded.

Surfacing: (Optional) Install one of the following for all systems that do not achieve acceptable fire ratings through the use of FR membrane sheets.

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at a rate of 60 lb./sq.
2. Karnak 97, Karnak 97 AF, Monsey Premium Long Life Aluminum Roof Coating Asbestos Free or Monsey Prograde Aluminum, JM Topgard Type A, Topgard Type B, JM Aluminum RF CT, Grundy AL MB aluminum coating at a rate of 1-1/2 gal/sq Monsey Aquabrite, Gardner asphalt emulsion, APOC Sunbright 400 or Henry 229 Aluminum Emulsion at 2½ gal/sq or APOC 212 Aluminum Roof Coating at 3 gal/sq.
3. Grundy 20 F asphalt emulsion, Endure Asphalt Emulsion, APOC 302 or 302 AF applied at 2½ gal/sq with optional 60 lbs./sq. of roofing granules embedded in wet coating.

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

Membrane Type: APP

Deck Type 1I: Wood, Insulated

Deck Description: $^{19}/_{32}$" or greater plywood or wood plank

System Type D: All insulation is loose laid with preliminary attachment to roof deck. Membrane and/or anchor sheet is subsequently mechanically fastened through insulation to the roof deck.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 2, ENRGY 3, ISO 3, Fesco Foam, DuraFoam Minimum 1.5" thick	**N/A**	**N/A**
Fesco Board Minimum ¾" thick	**N/A**	**N/A**
Retro-Fit Board, DuraBoard Minimum ½" thick	**N/A**	**N/A**

Note: Top layer shall have preliminary attachment, prior to the installation of the base/anchor sheet, 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. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: ***(Option #1)*** One ply of JM APP Base, PermaPly 28, Glasbase Plus or JM Ventsulation mechanically fastened through the insulation to the deck with JM UltraFast, Olympic or Tru-Fast metal plates and fasteners at a 4" side lap 12" o.c. and two rows staggered in the center of the sheet 18" o.c.
(Maximum Design Pressure: –45 psf, See General Limitation #9.)

(Option #2) Minimum two plies of JM PermaPly 28 or JM Ventsulation simultaneously fastened through the insulation to the deck with JM Ultrafast fasteners and Metal Plates spaced 9" o.c. in a 4" lap and 12" o.c. in two staggered rows in the center of the sheet.
(Maximum Design Pressure: –52.5 psf, See General Limitation #7.)

Ply Sheet: (Optional) One or more plies of JM APP Base, APPeX 4S or APPeX 180 heat welded to base sheet.

Membrane: One or more plies of APPeX 4S, APPeX 180, APPeX 4.5M or APPeX 4.5 MFR heat welded.

Surfacing: (Optional) Install one of the following for all systems that do not achieve acceptable fire ratings through the use of FR membrane sheets.

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at a rate of 60 lb./sq.
2. Karnak 97, Karnak 97 AF, Monsey Premium Long Life Aluminum Roof Coating Asbestos Free or Monsey Prograde Aluminum, JM Topgard Type A, Topgard Type B, JM Aluminum RF CT, Grundy AL MB aluminum coating at a rate of 1-1/2 gal/sq Monsey Aquabrite, Gardner asphalt emulsion, APOC Sunbright 400 or Henry 229 Aluminum Emulsion at 2½ gal/sq or APOC 212 Aluminum Roof Coating at 3 gal/sq.
3. Grundy 20 F asphalt emulsion, Endure Asphalt Emulsion, APOC 302 or 302 AF applied at 2½ gal/sq with optional 60 lbs./sq. of roofing granules embedded in wet coating.

Maximum Design Pressure: See Fastening Options Above

Membrane Type: APP

Deck Type 1I: Wood, Non-Insulated

Deck Description: $^{19}/_{32}$" or greater plywood or wood plank

System Type E: Base sheet mechanically fastened.

All General and System limitations apply.

Base Sheet:

(Option #1) One ply of JM APP Base, PermaPly 28, Glasbase Plus or Ventsulation mechanically fastened to the deck with JM UltraFast, Olympic or Tru-Fast metal plates and fasteners at a 4" side lap 12" o.c. and two rows staggered in the center of the sheet 18" o.c.
(Maximum Design Pressure –45 psf – See General Limitation #9.)

(Option #2) Minimum two plies of JM PermaPly 28 or Ventsulation simultaneously fastened to the deck lapped 4" and fastened with approved roofing nails and tin caps 9" o.c. at the lap and two rows staggered in the center of the sheet 12" o.c.
(Maximum Design Pressure –52.5 psf – See General Limitation #7.)

(Option #3) Minimum two plies of JM PermaPly 28 or Ventsulation simultaneously fastened to the deck with JM Ultrafast fasteners and Metal Plates spaced 9" o.c. in a 4" lap and 12" o.c. in two staggered rows in the center of the sheet.
(Maximum Design Pressure –52.5 psf – See General Limitation #7.)

Ply Sheet: (Optional) One or more plies of JM APP Base, APPeX 4S or APPeX 180 heat welded to base sheet.

Membrane: One or more plies of APPeX 4S, APPeX 180, APPeX 4.5M or APPeX 4.5 MFR heat welded.

Surfacing: (Optional) Install one of the following for all systems that do not achieve acceptable fire ratings through the use of FR membrane sheets.

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at a rate of 60 lb./sq.
2. Karnak 97, Karnak 97 AF, Monsey Premium Long Life Aluminum Roof Coating Asbestos Free or Monsey Prograde Aluminum, JM Topgard Type A, Topgard Type B, JM Aluminum RF CT, Grundy AL MB aluminum coating at a rate of 1-1/2 gal/sq Monsey Aquabrite, Gardner asphalt emulsion, APOC Sunbright 400 or Henry 229 Aluminum Emulsion at 2½ gal/sq or APOC 212 Aluminum Roof Coating at 3 gal/sq.
3. Grundy 20 F asphalt emulsion, Endure Asphalt Emulsion, APOC 302 or 302 AF applied at 2½ gal/sq with optional 60 lbs./sq. of roofing granules embedded in wet coating.

Maximum Design Pressure: See Fastening Options Above

WOOD DECK SYSTEM LIMITATIONS:

1 A slip sheet is required with Ply 4 and Ply 6 when used as a mechanically fastened base or anchor sheet.

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 side lap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq. **Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.**
5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
7. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased for both insulation and base sheet as calculated in compliance with Roofing Application Standard RAS 117. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant **(When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)**
8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform to 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