



**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 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 consists of pages 1 through 24.

The submitted documentation was reviewed by Frank Zuloaga, RRC



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ROOFING ASSEMBLY APPROVAL

Category: Roofing
Sub-Category: APP Modified Bitumen
Deck Type: Recover
Maximum Design Pressure See specific deck type
Fire Classification: See General Limitation #1

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABEL 1

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
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.
Glasply Premier	36" x 180'	ASTM D 2178 Type VI	Type VI asphalt impregnated glass felt for use in conventional and modified bitumen built-up roofing.
Glasply IV	36" x 200'	ASTM D 4601 Type IV	Type IV asphalt impregnated glass felt for use in conventional and modified bitumen built-up roofing.



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<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
PermaPly 28	36' x 108'; 72 lb. roll	ASTM D 4601	Type II asphalt impregnated and coated glass fiber base sheet.
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.
MBR Insulation Adhesive		Proprietary	One part elastomeric insulation adhesive.
MBR Cold Application Adhesive		Proprietary	One part elastomeric interply adhesive for use with modified bitumen and BUR systems.

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
ENRGY 2, ENERGY 3, PSI-25, ISO-3	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
Wood Fiberboard	Regular wood fiber insulation	Generic
High Density Wood Fiberboard	High Density Wood Fiber insulation board.	Generic
Perlite Insulation Board	Perlite Insulation	Generic



APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
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 Metal Plate	Galvalume AZ55 steel plate	3" round 3" square	Johns Manville
3.	UltraFast Plastic Plate	High Density Polyolefin round plate	3" round	Johns Manville
4.	JM CD-10	Insulation fastener for concrete decks.		Johns Manville
5.	JM Standard Metal Plate	Galvalume AZ55 steel plate	3" round	Johns Manville
6.	JM Plastic Plate	Polypropylene round plate	3.25" round	Johns Manville
7.	Twin Loc-Nail	Base sheet fastener with intergrated Plate.	2.7" dia. plate	ES Products, Inc.
8.	CD-10	Insulation fastener for concrete decks.		Olympic Mfg. Group
9.	Fluted Nail	Insulation fastener for concrete decks.		Olympic Mfg. Group
10.	Olympic Fastener #12 & #14	Insulation fastener for wood, steel and concrete decks.		Olympic Mfg. Group
11.	Olympic Fastener ASAP	Pre-assembled Insulation fastener and plate		Olympic Mfg. Group
12.	Olympic Polypropylene	Polypropylene plastic plate	3.25" round	Olympic Mfg. Group
13.	Olympic G-2	Galvalume AZ55 steel plate	3.5" round	Olympic Mfg. Group
14.	Olympic Standard	Galvalume AZ50 steel plate	3" round	Olympic Mfg. Group
15.	Tru-Fast	Insulation fastener for concrete decks		The Tru-Fast Corp.



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APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
16.	Tru-Fast CF Tap Grip	Insulation fastener for concrete decks		The Tru-Fast Corp.
17.	Tru-Fast Plates	Galvalume AZ55 steel plate	3" round	The Tru-Fast Corp.
18.	Tru-Fast Plates	Polyethylene plastic plate	3" round	The Tru-Fast Corp.

EVIDENCE SUBMITTED:

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Description</u>	<u>Date</u>
Factory Mutual Research Corp.	J.I. 0X0A9.AM	Wind Uplift	03/25/94
	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
Underwriters Laboratories, Inc.	R-10400		Annually
Exterior Research & Design, LLC	#4361-2.04.97-1	PA 114(J)	04/15/97
	10390A.12.97-1	PA 114(J)	12/15/97
	10390A.10.97-1	PA 114(J)	10/15/97
	#10391.01.03	TAS 114	01.29.03



APPROVED ASSEMBLIES

Membrane Type: APP

Deck Type 7I: Recover

Deck Description: wood/steel/concrete/lightweight concrete

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

All General and System limitations apply.

One or more layers of any of the following insulations:

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ENRGY 2, ENRGY 3 Minimum 1.4" thick	N/A	N/A
Fesco Foam, DuraFoam Minimum 1.5" thick	N/A	N/A
Fesco Board, Fiber Glass Minimum ¾" thick	N/A	N/A
Retro-Fit Board, DuraBoard Minimum ½" 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 ft². 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.



- Anchor Sheet: **(Option #1 – wood deck only)** One ply of JM APP Base, PermaPly 28, Glasbase Plus, Ventsulation or Classic S mechanically fastened to the deck with approved nails and tin caps at a 4" side lap 9" o.c. and two rows staggered in the center of the sheet, 12" o.c. **(Maximum Design Pressure: -45 psf, See General Limitation #9.)**
- (Option #2 – wood, steel or concrete)** One ply of JM APP Base, PermaPly 28, Glasbase Plus, Ventsulation or Classic S mechanically fastened to the deck with JM UltraFast, Olympic or Tru-Fast metal plates and fasteners *(for wood, steel decks)* or with JM CD-10, Olympic #14, Fluted Nail or CD-10 or Tru-Fast #14 or Tap-Grip fasteners with metal plates *(for concrete decks)* 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 #3 – wood, steel and concrete)** Two or more plies of JM PermaPly 28 simultaneously fastened to the deck using JM Ultrafast fasteners *(for wood and steel)* or JM HD Ultrafast fasteners *(for concrete deck)* 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.)**
- (Option #4 - Lightweight Concrete over steel or concrete)** Two plies of JM PermaPly 28 simultaneously fastened to the deck using JM Ultragrip fasteners and Metal Plates through the lightweight concrete to the steel or concrete deck spaced 7" o.c. in a 4" lap and 7" o.c. in two staggered rows in the center of the sheet. **(Maximum Design Pressure -75 psf; See General Limitation #7.)**
- 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.



Membrane Type: APP

Deck Type 7I: Recover

Deck Description: wood/steel/concrete/lightweight concrete/cementitious wood fiber/gypsum

System Type A(2): One or more layers of insulation adhered with approved asphalt.

All General and System limitations apply.

One or more layers of any of the following insulations:

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ENRGY 2, ENRGY 3 Minimum 1.4" thick	N/A	N/A
Fesco Foam, DuraFoam Minimum 1.5" thick	N/A	N/A
Fesco Board, Fiber Glass Minimum ¾" thick	N/A	N/A
Retro-Fit Board, DuraBoard Minimum ½" thick	N/A	N/A

Note: Existing roof 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 ft². 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.

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 psf(See General Limitation #9.)



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Membrane Type: APP

Deck Type 7I: Recover

Deck Description: concrete

System Type A(3): One or more layers 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/ft²
ENRGY 2, ENRGY 3, Fesco Foam, DuraFoam Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
DuraBoard Minimum ½" thick	N/A	N/A

Note: Existing roof 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 ft² 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.

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:

-305 psf (See General Limitation #9.)



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Membrane Type: APP

Deck Type 7I: Recover

Deck Description: wood / steel / concrete

System Type B: Base layer of insulation mechanically attached, optional top layer 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/ft²
ENRGY 2, ENRGY 3, Fesco Foam, DuraFoam		
Minimum 1.5" thick	1 or 4	1:1.33 ft²
Minimum 1.5" thick	1 or 4	1:2 ft²
Structodek FS		
Minimum 1.5" thick	1, 4 or 10	1:2.67 ft²

Note: Base layers of insulation shall be mechanically attached using the fastener density listed. 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. Insulation fasteners shall be tested for withdrawal resistance in compliance with Protocol TAS 105 to confirm compliance with the wind load requirements. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
Retro-Fit Board, DuraBoard, Structodek FS		
Minimum ½" thick	N/A	N/A
Fesco Board		
Minimum ½" 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 ft². 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 psf* (for polyisocyanurate base insulation attached at 1 per 1.33 sq. ft.)

-45 psf* (for all other applications)

*(See General Limitation #7.)



Membrane Type: APP

Deck Type 7I: Recover

Deck Description: wood / steel / concrete

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

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer

ENRGY 2, ENRGY 3
Minimum 1.4" thick

Insulation Fasteners
(Table 3)

Fastener
Density/ft²

N/A

N/A

Fesco Foam, DuraFoam
Minimum 1.5" thick

N/A

N/A

Fiber Glass
Minimum ¾" thick

N/A

N/A

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density.

Top Insulation Layer

Insulation Fasteners
(Table 3)

Fastener
Density/ft²

Fesco Foam, DuraFoam (flat or tapered)
Minimum 1.5" thick

1, 4, 8, 9, 10, 15 or 16

1:2 ft²

Fesco Board
Minimum ¾" thick

1, 4, 8, 9, 10, 15 or 16

1:2 ft²

Retro-Fit Board, DuraBoard
Minimum ½" thick

1, 4, 8, 9, 10, 15 or 16

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. Insulation fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

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.



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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 psf (See General Limitation #9.)



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Membrane Type: APP

Deck Type 7I: Recover

Deck Description: wood / steel / concrete

System Type C(2): Single insulation layer mechanically attached.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
DuraBoard		
Minimum ½” thick	1	1:2 ft ²
Minimum 1” thick	1	1:3.2 ft ²

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Insulation fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One ply of JM PermaPly 28, GlasPly Premier or GlasPly IV fully adhered to the insulated substrate with approved mopping asphalt at an application rate of 20-40 lbs./sq. or one ply of JM APP Base heat welded.

Ply Sheet: None.

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. JM Topgard Type A, Topgard Type B or JM Aluminum Roof Coat.

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



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Membrane Type: APP
Deck Type 7I: Recover
Deck Description: wood / steel / concrete
System Type C(3): Single insulation layer mechanically attached.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
DuraBoard Minimum 1" thick	1	1:1.33 ft ²

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Insulation fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One ply of JM PermaPly 28, GlasPly Premier or GlasPly IV fully adhered to the insulated substrate with approved mopping asphalt at an application rate of 20-40 lbs./sq. or one ply of JM APP Base heat welded.

Ply Sheet: None.

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. JM Topgard Type A, Topgard Type B or JM Aluminum Roof Coat.

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



Membrane Type: APP

Deck Type 7I: Recover

Deck Description: wood/steel/concrete

System Type D: All layers of insulation and base sheet simultaneously attached.

All General and System limitations apply.

One or more layers of any of the following insulations:

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ENRGY 2, ENRGY 3 Minimum 1.4" thick	N/A	N/A
Fesco Foam, DuraFoam Minimum 1.5" thick	N/A	N/A
Retro-Fit Board Minimum ½" thick	N/A	N/A
Fiber Glass, Fesco Board (flat or tapered) Minimum ¾" 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 Ventsulation mechanically fastened through the insulation to the deck as described below.

(wood or steel decks) Fasten base sheet 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.

(concrete decks) Fasten base sheet with JM CD-10, Olympic CD-10, Fluted Nail or #14 or Tru-Fast #14 or Tap-Grip fasteners with metal plates at a 4" side lap 12" o.c. and two rows staggered in the center of the sheet 18" o.c.

(OPTION #2.) Two or more plies of JM PermaPly 28 Sheet mechanically attached through the insulation to the deck as described below:

Attach base sheet using JM Ultrafast fasteners *(for wood or steel)* or JM CD-10 fasteners *(for concrete)* 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.

Note: Base sheet fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements set forth in applicable Building Code.



- 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 psf (for Base Sheet Option #1.) (See General Limitation #9.)
- 97.5 psf (for Base Sheet Option #2, steel or concrete deck with JM GlasBase only) (See General Limitation #7.)
- 52.5 psf (for Base Sheet Option #2, wood deck applications) (See General Limitation #7.)



Membrane Type: APP
Deck Type 7: Recover
Deck Description: wood/steel/concrete/lightweight concrete
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 as described below.
(Wood) Fasten anchor sheet with approved nails and tin caps at a 4" side lap 9" o.c. and two rows staggered in the center of the sheet 12" o.c.
(Wood or Steel) Fasten base sheet 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.
(Concrete) Fasten base sheet with JM CD-10, Olympic CD-10, Fluted Nail or #14 or Tru-Fast #14 or Tap-Grip fasteners with metal plates at a 4" side lap 12" o.c. and two rows staggered in the center of the sheet 18" o.c.

(OPTION #2) Two or more plies of JM PermaPly 28 simultaneously fastened to the deck as described below:
(Wood, Steel and Concrete) Attach base sheet using JM Ultrafast fasteners (*for wood and steel*) or JM HD Ultrafast fasteners (*for concrete deck*) 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.
(Lightweight Concrete over steel or concrete) Attach base sheet using JM Ultragrip fasteners and Metal Plates through the lightweight concrete to the steel or concrete deck spaced 7" o.c. in a 4" lap and 7" o.c. in two staggered rows in the center of the sheet.

Note: Base sheet fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements set forth in applicable Building Code.

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 psf (for Base Sheet Option #1.) (See General Limitation #9.)
- 52.5 psf (for Base Sheet Option #2 – wood, steel or concrete deck.) (See General Limitation #7.)
- 75 psf (for Base Sheet Option #2 – lightweight concrete deck.) (See General Limitation #7.)



Membrane Type: SBS

Deck Type 7: Recover

Deck Description: Concrete/lightweight concrete/cementitious wood fiber/wood/steel

System Type E(2): Base sheet mechanically fastened.

Base Sheet: One ply of PermaPly 28 fastened to the deck as described below.

Fastening: *(lightweight concrete decks):* Fasten base sheet with ES Products Twin Loc-Nail fasteners spaced 9" o.c. at the 4" side lap and two rows staggered 9" o.c. in the field. *(meets -60 psf- See General Limitation #7.)*

Note: Base sheet fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements of applicable Building Code.

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



Membrane Type: APP

Deck Type 7: Recover

Deck Description: wood/steel/concrete/lightweight concrete/cementitious wood fiber/gypsum

System Type F: Base sheet adhered with approved asphalt.

All General and System limitations apply.

Note: Substrate deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of base sheet.

Base Sheet: One ply of JM PermaPly 28 fully adhered to the primed 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: -305 psf (See General Limitation #9.)



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RECOVER SYSTEM LIMITATIONS:

1. All System Limitations and General Limitations shall apply. See specific deck type Notice of Acceptance for deck type System Limitations.

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



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