



DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

NOTICE OF ACCEPTANCE (NOA)

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION

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www.miamidade.gov/economy

Johns Manville Corporation
717 17th Street
Denver, CO 80202

SCOPE:

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

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

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

DESCRIPTION: 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 NOA revises NOA No. 13-0129.06 and consists of pages 1 through 30.
The submitted documentation was reviewed by Jorge L. Acebo.



NOA No.: 13-0529.05
Expiration Date: 06/28/16
Approval Date: 09/03/15
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ROOFING SYSTEM APPROVAL

Category: Roofing
Sub-Category: Modified Bitumen
Materials: APP/SBS
Deck Type: Recover
Maximum Design Pressure: See Specific Deck Types

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
JM APP Base	39-3/8" x 48'10"	ASTM D6509	APP modified asphalt, fiberglass reinforced, smooth surfaced base sheet.
APPeX 4S	39-3/8" x 32'10"	ASTM D6222 Type I Grade S	APP modified asphalt, polyester reinforced, smooth surfaced membrane for use as a Base and/or Ply Sheet only.
APPeX 4.5M	39-3/8" x 32'10"	ASTM D6222 Type I Grade G	APP modified asphalt, polyester reinforced, mineral surfaced membrane.
APPeX 4.5M FR	39-3/8" x 32'10"	ASTM D6222 Type I Grade G	APP modified asphalt, polyester reinforced, fire-retardant, mineral surfaced membrane.
Tricor M FR	39-3/8" x 34'1"	ASTM D6223	APP modified asphalt, polyester / glass reinforced, granule surfaced membrane.
Tricor M FR CR	39-3/8" x 34'1"	ASTM D6223	APP modified asphalt, polyester / glass reinforced, coated granule surfaced membrane.
Tricor S	39-3/8" x 32'10"	ASTM D6223	APP modified asphalt, polyester / glass reinforced, smooth surfaced membrane for use as a Base and/or Ply Sheet only.
GlasPly Premier	36" x 180'	ASTM D2178 Type VI	Type VI asphalt impregnated glass felt for use in conventional and modified bitumen built-up roofing.
GlasPly IV	36" x 180'	ASTM D2178 Type IV	Type IV asphalt impregnated glass felt for use in conventional and modified bitumen built-up roofing.
PermaPly 28	36" x 106';	ASTM D4601	Type II asphalt impregnated and coated glass fiber base sheet.
Ventsulation	36" x 36'	ASTM D4897 Type II	Heavy duty fiber glass base sheet impregnated and coated on both sides with asphalt with or without fine mineral stabilizer.



<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
GlasBase Plus	36" x 106'	ASTM D4601	Type II SBS and asphalt blend impregnated and coated glass fiber base sheet with fine mineral stabilizer.
DynaFast 180 S	39-3/8" x 49'2"	ASTM D6164	SBS modified asphalt, polyester reinforced, smooth surfaced sheet.
DynaFast 180 HW	39-3/8" x 49'2"	ASTM D6164	SBS modified asphalt, polyester reinforced, smooth surfaced sheet.
DynaFast 250 HW	39-3/8" x 32'10"	ASTM D6164	SBS modified asphalt, polyester reinforced, smooth surfaced base sheet.
DynaWeld 250 S	39-3/8" x 32'-10"	ASTM D6164 Type II Grade S	SBS modified asphalt, polyester reinforced, smooth surfaced sheet.
DynaBase HW	39-3/8" x 49'2"	ASTM D6163 Type 1 Grade S	SBS modified asphalt, glass fiber reinforced, smooth surfaced sheet.

APPROVED INSULATIONS:

Product Name	TABLE 2 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	Polyisocyanurate Insulation with glass reinforced facers	Johns Manville
ENRGY 3 FR, ENRGY 3 FR 25 PSI	Polyisocyanurate Insulation with inorganic coated glass reinforced facers; bottom face is premium coated for combustible decks.	Johns Manville
Fesco Foam, DuraFoam	Polyisocyanurate Insulation with perlite facer.	Johns Manville
Retro-Fit Board, DuraBoard	High-density perlite roof insulation.	Johns Manville
Fesco Board	Rigid perlite roof insulation board.	Johns Manville
Structodek® High Density Fiber Board Roof Insulation	High Density Fiber Board.	Blue Ridge Fiber Board, Inc.
JM SECUROCK Gypsum-Fiber Roof Board	Gypsum Fiber Board	Johns Manville

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	UltraFast Fastener	Insulation fastener for wood and steel.	#12 x 8" max. Length, #3 Phillips head.	Johns Manville
2.	UltraFast 3" Round Metal Plate or Square Recessed Metal Plate	Galvalume AZ55 steel plate	3" round 3" square	Johns Manville
3.	Structural Concrete Fastener	Insulation fastener for concrete decks.	0.214" min. dia. x 12" max. length; wafer head	Johns Manville
4.	UltraLok	Base sheet fastener with integrated Plate.	Various lengths, 2.7" dia. plate	Johns Manville
5.	UltraLok Tube	Base sheet fastener without integrated Plate.	Min. 1.8" length	Johns Manville
6.	Metal Batten TL	Pre-punched oval shaped hole metal batten	1" x 100' coil	Johns Manville
7.	All Purpose Fastener	Insulation fastener for wood, concrete and steel.	#14 x 4" max. #3Phillips hd	Johns Manville
8.	JM High Load Fastener	Insulation and membrane fastener for steel, wood, or concrete	#15 x 14" max. #3Phillips hd	Johns Manville
9.	JM High Load Plate	Membrane seam plate	2-3/8" round steel plate	Johns Manville
10.	Polymer Membrane Batten	Plastic membrane batten strips	1" x 250'	OMG, Inc.
11.	High Load LH	fastener for steel, wood, or concrete	#15 x 14" max. Oversize #3 Phillips head	Johns Manville
12.	JM APB Plates	Membrane plates	2" round steel plate	Johns Manville
13.	Metal Membrane Batten	galvalume coated steel membrane batten	1" x 100' coil	Johns Manville
14.	Deep Well Batten Bar	galvalume coated steel membrane batten	1" x 100' coil	Altenloh, Brink & Co. U.S., Inc.
15.	UltraLok Tube	Base sheet fastener without integral plate	Min. 1.8" length	Johns Manville
16.	Twin Loc-Nail	Base sheet fastener <u>with and without</u> integrated Plate.	Min. 1.8" length	Altenloh, Brink & Co. U.S., Inc.
17.	Straight Line Batten Bar	Oval pre-punched metal batten bar	1" x100' coil	Altenloh, Brink & Co. U.S., Inc.

EVIDENCE SUBMITTED:

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Description</u>	<u>Date</u>
Factory Mutual Research Corp.	J.I. 0X0A9.AM	4470	03/25/94
	J.I. 0W6A2.AM	4470	02/05/93
	J.I. 0X7A4.AM	4470	08/26/93
	J.I. 3001482	4470	08/11/98
	J.I. 3002823	4470	04/01/99
	J.I. 3003468	4450	02/02/00
	J.I. 3007148	4470	04/19/00
	3009499	4470	04/04/01
	3011248	4450	11/01/02
	3012974	4470	06/03/02
	3037540	4450	10/20/10
UL, LLC	R10167	UL 790	05/27/13
Exterior Research & Design, LLC	#4361-2.04.97-1	TAS 114(J)	04/15/97
	10390A.12.97-1	TAS 114(J)	12/15/97
	10390A.10.97-1	TAS 114(J)	10/15/97
	10391.01.03	TAS 114(J)	01/29/03
PRI Construction Materials, LLC	JMC-053-02-01	ASTM D5147/D6222	05/01/13
	JMC-054-02-01	ASTM D5147/D6223	06/04/12
	JMC-055-02-01	ASTM D 6509	05/29/12
	JMC-070-02-01	ASTM D 2178 TYPE IV	04/17/12
	JMC-071-02-01	ASTM D 2178 TYPE VI	04/17/12
	JMC-072-02-02	ASTM D4601	06/04/12
	JMC-074-02-01	ASTM D4897	04/17/12
	JMC-093-02-01	ASTM D4601	08/02/12
	JMC-107-02-01 Rev 4	ASTM D6164,	11/01/13
		TAS 117(B)	
		TAS 117(A)	
		TAS 114(C)	
	JMC-108-02-01	TAS 114(J)	04/16/13
	JMC-114-02-01	TAS 114(J)	08/20/13
	JMC-118-02-02	TAS 114(J)	04/19/13
	JMC-126-02-01	TAS 114(J)	04/17/13
	JMC-131-02-01 Rev 1	TAS 114(J)	08/20/13
	JMC-141-02-01	TAS 114(J)	04/18/13
	JMC-167-02-01	TAS 114(C)	08/05/13
	JMC-168-02-01	TAS 114(J)	08/20/13
	JMC-222-02-01.1	TAS 114(J)	03/12/15
	JMC-222-02-02	TAS 114(J)	04/22/15
	JMC-222-02-04	TAS 114(J)	08/14/15

APPROVED ASSEMBLIES

Membrane Type: APP

Deck Type 7I: Recover

Deck Description: wood / steel / concrete

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: *(Option #1 – wood deck only)* One ply of JM APP Base, PermaPly 28, Glasbase Plus, Ventsulation 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.

(Option #2 – wood, steel or concrete) One ply of JM APP Base, PermaPly 28, Glasbase Plus, Ventsulation mechanically fastened to the deck with JM UltraFast, metal plates and fasteners *(for wood, steel decks)* or with JM Structural Concrete 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.

One or more layers of any 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 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI 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

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.

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 or APPeX 4S heat welded to base sheet while maintaining 4" side laps and 6" end laps.

Membrane: One or more plies of APPeX 4.5M or APPeX 4.5M FR heat welded while maintaining 4" side laps and 6" end laps.



Surfacing: (Optional) Install one of the following for all systems that do not achieve acceptable fire ratings through the use of FR membrane sheets. Any coating, listed below, used as a surfacing, must be listed within a current NOA.

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, 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.).

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 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 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI 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

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 or APPeX 4S heat welded to base sheet while maintaining 4" side laps and 6" end laps.
- Membrane:** One or more plies of APPeX 4.5M or APPeX 4.5M FR heat welded while maintaining 4" side laps and 6" end laps.
- Surfacing:** (Optional) Install one of the following for all systems that do not achieve acceptable fire ratings through the use of FR membrane sheets. Any coating, listed below, used as a surfacing, must be listed within a current NOA.
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, 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 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 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, 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 or APPeX 4S heat welded to base sheet while maintaining 4" side laps and 6" end laps.

Membrane: One or more plies of APPeX 4.5M or APPeX 4.5M FR heat welded while maintaining 4" side laps and 6" end laps.

Surfacing: (Optional) Install one of the following for all systems that do not achieve acceptable fire ratings through the use of FR membrane sheets. Any coating, listed below, used as a surfacing, must be listed within a current NOA.

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, 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 -277.5 psf. with CGF boards (See General Limitation #9.)

Pressure: -305 psf. all other applications (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 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 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, Fesco Foam, DuraFoam Minimum 1.5" thick	1, 3 or 11 with 2	1:2 ft²
Structodek® High Density Fiber Board Roof Insulation Minimum 1.5" thick	1, 3 or 11 with 2	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® High Density Fiber Board Roof Insulation 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 or APPeX 4S heat welded to base sheet while maintaining 4" side laps and 6" end laps.

Membrane: One or more plies of APPeX 4.5M or APPeX 4.5M FR heat welded while maintaining 4" side laps and 6" end laps.

Surfacing: (Optional) Install one of the following for all systems that do not achieve acceptable fire ratings through the use of FR membrane sheets. Any coating, listed below, used as a surfacing, must be listed within a current NOA.

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, 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 all other applications) (See General Limitation #9.)

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	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 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 1.4" thick	N/A	N/A
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.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Fesco Foam, DuraFoam (flat or tapered) Minimum 1.5" thick	1, 3 or 11 with 2	1:2 ft²
Fesco Board Minimum ¾" thick	1, 3 or 11 with 2	1:2 ft²
Retro-Fit Board, DuraBoard Minimum ½" thick	1, 3 or 11 with 2	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 or APPeX 4S heat welded to base sheet while maintaining 4" side laps and 6" end laps.

Membrane: One or more plies of APPeX 4.5M or APPeX 4.5M FR heat welded while maintaining 4" side laps and 6" end laps.

Surfacing: (Optional) Install one of the following for all systems that do not achieve acceptable fire ratings through the use of FR membrane sheets. Any coating, listed below, used as a surfacing, must be listed within a current NOA.

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, 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.)

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, 3 or 11 with 2	1:2 ft²
Minimum 1" thick	1, 3 or 11 with 2	1:3.2 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, 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 while maintaining 4" side laps and 6" end laps.

Ply Sheet: None.

Membrane: One or more plies of APPeX 4.5M or APPeX 4.5M FR heat welded while maintaining 4" side laps and 6" end laps.

Surfacing: (Optional) Install 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.

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

Membrane Type: APP

Deck Type 7I: Recover

Deck Description: Concrete or 18-22 ga. steel, ASTM A611 Grade C (min. 33 ksi) steel deck placed over 0.25 in. thick structural steel supports spaced max. 6 ft o.c. attached with Buildex Traxx/4 or Traxx/5 fasteners spaced max. 6 in. o.c. at the supports. Side laps are secured with Buildex Traxx/1 fasteners spaced max. 30 in o.c.

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, 3 or 11 with 2	1:1.33 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, 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 while maintaining 4" side laps and 6" end laps.

Ply Sheet: None.

Membrane: One or more plies of APPeX 4.5M or APPeX 4.5M FR heat welded while maintaining 4" side laps and 6" end laps.

Surfacing: (Optional) Install 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.

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(1): 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
ENERGY 3, ENERGY 3 25 PSI, ENERGY 3 25 PSI, ValuTherm, ValuTherm 25 PSI, R-Panel, R-Panel 25 PSI, ENERGY 3 AGF, ENERGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENERGY 3 AGF, ENERGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENERGY 3 FR, ENERGY 3 FR 25 PSI		
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
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. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: 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, 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 Structural Concrete Fastener, with Ultrafast metal plates at a 4" side lap 12" o.c. and two rows staggered in the center of the sheet 18" o.c.

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 or APPeX 4S heat welded to base sheet while maintaining 4" side laps and 6" end laps.

Membrane: One or more plies of APPeX 4.5M or APPeX 4.5M FR heat welded while maintaining 4" side laps and 6" end laps.



- Surfacing: (Optional) Install one of the following for all systems that do not achieve acceptable fire ratings through the use of FR membrane sheets. Any coating, listed below, used as a surfacing, must be listed within a current NOA.
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, 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.)

Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Steel deck with supports at a maximum 6ft o.c. *The deck should record a Minimum Characteristic Resistance Force (MCRF) of 311 lbf when tested with High Load Fasteners in accordance with TAS 105.

System Type D(2): All layers of insulation simultaneously mechanically fastened with base sheet

All General and System Limitations apply.

Base or 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 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI , ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 1.5" thick	N/A	N/A

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.

Base Sheet: One ply of DynaFast 180 HW, DynaFast 180 S, or DynaFast 250 HW mechanically fastened through the optional insulation with High Load Fastener and JM APB Plate or High Load Plate spaced 6" o.c. in the center of the minimum 4" torch welded side laps.

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 DynaFast 180 HW, DynaWeld 250 Cap S or DynaFast 250 heat welded while maintaining minimum 4" side laps

Membrane: One or more plies of APPEX 4.5M FR, Tricor M FR, or Tricor M FR CR heat welded while maintaining 4" side laps...

Maximum Design Pressure: - 105 psf. (See General Limitation #7.)

Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Steel deck with supports at a maximum 6ft o.c. *The deck should record a Minimum Characteristic Resistance Force (MCRF) of 398 lbf when tested with High Load Fasteners in accordance with TAS 105.

System Type D(3): All layers of insulation simultaneously mechanically fastened with base sheet

All General and System Limitations apply.

Base or 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 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI , ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 1.5" thick	N/A	N/A

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.

Base Sheet: One ply of DynaFast 180 HW, DynaFast 180 S, or DynaFast 250 HW mechanically fastened through the optional insulation with High Load Fastener and High Load Plate spaced 12" o.c. in the center of the minimum 4" torch welded side laps.

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 DynaFast 180 HW, DynaWeld 250 Cap S or DynaFast 250 HW heat welded while maintaining minimum 4" side laps.

Membrane: One or more plies of APpeX 4.5 M FR, Tricor M FR, or Tricor M FR CR heat welded while maintaining 4" side laps.

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

Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Steel deck with supports at a maximum 6ft o.c. *The deck should record a Minimum Characteristic Resistance Force (MCRF) of 533 lbf when tested with High Load Fasteners in accordance with TAS 105.

System Type D(4): All layers of insulation simultaneously mechanically fastened with base sheet

All General and System Limitations apply.

Base or 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 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI , ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 1.0" thick	N/A	N/A

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.

Base Sheet: One ply of DynaFast 180 HW, DynaFast 180 S, or DynaFast 250 HW mechanically fastened through the optional insulation with High Load LH Fastener and Polymer Membrane Batten or High Load Fastener and Metal Membrane Batten or Deep well Batten Bar spaced 6" o.c. in the center of the minimum 4" torch welded side laps in rows 71" o.c.

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 DynaFast 180 HW, DynaWeld 250 Cap S or DynaFast 250 HW heat welded while maintaining minimum 4" side laps.

Membrane: One or more plies of APpeX 4.5 M FR, Tricor M FR, or Tricor M FR CR heat welded while maintaining 4" side laps.

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

Membrane Type: APP/SBS

Deck Type 7I: Recover

Deck Description: Steel deck with supports at a maximum 6ft o.c. *The deck should record a Minimum Characteristic Resistance Force (MCRF) of 307 lbf when tested with High Load Fasteners in accordance with TAS 105.

System Type D(5): All layers of insulation simultaneously mechanically fastened with base sheet

All General and System Limitations apply.

Base or 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 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI , ENRGY 3 FR, ENRGY 3 FR 25 PSI Minimum 1.0" thick	N/A	N/A

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.

Base Sheet: One ply of DynaFast 180 S or DynaFast 250 HW mechanically fastened through the insulation with High Load Fastener and High Load Plate spaced 6" o.c. in every other lap of the minimum 4" torch welded side laps in rows 70" o.c.

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 DynaFast 180 HW, DynaWeld 250 Cap S or DynaFast 250 HW heat welded while maintaining minimum 4" side laps.

Membrane: One or more plies of APPeX 4.5 M FR, Tricor M FR, or Tricor M FR CR heat welded while maintaining 4" side laps.

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

Membrane Type: APP/SBS

Deck Type 7I: Recover

Deck Description: Wood deck secured with #8 wood screws spaced 6" o.c. to supports having maximum 24" o.c. spacing. *The deck should record a Minimum Characteristic Resistance Force (MCRF) of 265 lbf when tested with High Load Fasteners in accordance with TAS 105.

System Type D(6): All layers of insulation simultaneously mechanically fastened with base sheet

All General and System Limitations apply.

Base or 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 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	N/A	N/A

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.

Base Sheet: One ply of DynaFast 180 HW, DynaFast 180 S, or DynaFast 250 HW mechanically fastened through the insulation with High Load Fasteners & APB Plates or High Load Plates spaced 9" o.c. in the center of the minimum 4" torch welded side laps.

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 DynaFast 180 HW, DynaWeld 250 Cap S or DynaFast 250 HW heat welded while maintaining minimum 4" side laps.

Membrane: One or more plies of APPeX 4.5 M FR, Tricor M FR, or Tricor M FR CR heat welded while maintaining 4" side laps.

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

Membrane Type: APP/SBS

Deck Type 7I: Recover

Deck Description: Wood deck secured with #8 wood screws spaced 6" o.c. to supports having maximum 24" o.c. spacing. *The deck should record a Minimum Characteristic Resistance Force (MCRF) of 244 lbf when tested with High Load Fasteners in accordance with TAS 105.

System Type D(7): All layers of insulation simultaneously mechanically fastened with base sheet

All General and System Limitations apply.

Base or 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 AGF, ENRGY 3 AGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ENRGY 3 FR, ENRGY 3 FR 25 PSI		
Minimum 1.5" thick	N/A	N/A

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.

Base Sheet: One ply of DynaFast 180 HW, DynaFast 180 S, or DynaFast 250 HW mechanically fastened through the insulation with High Load LH and Polymer Membrane Batten or High Load Fastener and Metal Membrane Batten or Deep well Batten Bar spaced 6" o.c. in the center of the minimum 4" torch welded side laps.

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 DynaFast 180 HW, DynaWeld 250 Cap S or DynaFast 250 HW heat welded while maintaining minimum 4" side laps.

Membrane: One or more plies of APPEX 4.5 M FR, Tricor M FR, Tricor M FR CR heat welded while maintaining 4" side laps.

Maximum Design Pressure: -82.5 psf. (See General Limitation #7.)

Membrane Type: APP

Deck Type 7: Recover

Deck Description: wood / steel / concrete

System Type E(1): Base sheet mechanically fastened.

All General and System limitations apply.

Base Sheet: 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 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 Structural Concrete Fastener, fasteners with Ultrafast metal plates at a 4" side lap 12" o.c. and two rows staggered in the center of the sheet 18" o.c.

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 or APPeX 4S heat welded to base sheet while maintaining 4" side laps and 6" end laps.

Membrane: One or more plies of APPeX 4.5M or APPeX 4.5M FR heat welded while maintaining 4" side laps and 6" end laps.

Surfacing: (Optional) Install one of the following for all systems that do not achieve acceptable fire ratings through the use of FR membrane sheets. Any coating, listed below, used as a surfacing, must be listed within a current NOA.

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, 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.)

Membrane Type: APP

Deck Type 7: Recover, Non-insulated

Deck Description: Min. 414 psi Celcore Lightweight Concrete cast over Structural Concrete or Min. 22 ga. Type B steel deck shall be secured to structural supports spaced a maximum of 5 ft. o.c. The deck should record a Minimum Characteristic Resistance Force (MCRF) of 155 lbf when tested with Twin Loc-Nails in accordance with TAS 105.

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

All General and System limitations apply.

Base Sheet: One ply of DynaFast 180 HW or DynaFast 250 HW mechanically fastened with min. 1.8" Twin-Loc Nail and Straight Line Batten Bar spaced 6" o.c. in the center of the minimum 4" torch welded side laps.

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 DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded while maintaining minimum 4" side laps.

Membrane: One or more plies of APPeX 4.5 M FR, Tricor M FR, or Tricor M FR CR heat welded while maintaining 4" side laps.

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

Membrane Type: APP/SBS

Deck Type 7: Recover

Deck Description: Minimum 500 psi Lightweight Concrete with structural supports a maximum 5ft o.c. *The deck should record a Minimum Characteristic Resistance Force (MCRF) of 178 lbf when tested with UltraLok Tube or Twin-Loc Nail in accordance with TAS 105

System Type E(3): Base sheet mechanically fastened.

All General and System Limitations apply.

Vapor Barrier: (For structural concrete; Optional) DynaBase HW torch applied to structural concrete deck prepared with ASTM D41 primer.

Base Sheet: One ply of DynaFast 180 HW, DynaFast 180 S, or DynaFast 250 HW mechanically fastened with UltraLok Tube or Twin-Loc Nail and Metal Batten TL or Straight Line Batten Bar spaced 6" o.c. in the center of the minimum 4" torch welded side laps.

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 DynaFast 180 HW, DynaWeld 250 Cap S or DynaFast 250 heat welded while maintaining minimum 4" side laps and 6" end laps.

Membrane: One or more plies of APPeX 4.5 M FR, Tricor M FR, or Tricor M FR CR heat welded while maintaining 4" side laps

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



Membrane Type: APP

Deck Type 7: Recover, Non-insulated

Deck Description: Min. 403 psi Elastizell Lightweight Concrete cast over Structural Concrete or Min. 22 ga. Type B steel deck shall be secured to structural supports spaced a maximum of 5 ft. o.c. The deck should record a Minimum Characteristic Resistance Force (MCRF) of 344 lbf when tested with High Load Fasteners in accordance with TAS 105.

System Type E(4): Base sheet mechanically fastened.

All General and System Limitations apply.

Base Sheet: One ply of DynaFast 180 HW, DynaFast 180 S, or DynaFast 250 HW mechanically fastened with High Load Fasteners and High Load Plates spaced 6" o.c. in the center of the minimum 4" heat welded side laps.

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 DynaFast 180 HW, DynaWeld 250 S or DynaFast 250 HW heat welded while maintaining minimum 4" side laps.

Membrane: One or more plies of APPEX 4.5 M FR, Tricor M FR, or Tricor M FR CR heat welded while maintaining 4" side laps.

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

Membrane Type: APP

Deck Type 7: Recover,

Deck Description: Minimum 200 psi Lightweight Concrete with structural supports a maximum 5ft o.c. *The deck should record a Minimum Characteristic Resistance Force (MCRF) of 289 lbf when tested with High Load Fasteners in accordance with TAS 105.

System Type E(5): Base sheet mechanically fastened.

All General and System Limitations apply.

Base Sheet: One ply of DynaFast 180 HW, DynaFast 180 S, or DynaFast 250 HW mechanically fastened with High Load Fasteners and High Load Plates spaced 6" o.c. in the center of the minimum 4" heat welded side laps.

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 DynaFast 180 HW, DynaWeld 250 S, or DynaFast 180 HW torch adhered.

Membrane: One or more plies of APPeX 4.5 M FR, Tricor M FR, or Tricor M FR CR heat welded while maintaining 4" side laps.

Maximum Design Pressure: -97.5 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 or APPeX 4S heat welded to base sheet while maintaining 4" side laps and 6" end laps.

Membrane: One or more plies of APPeX 4.5M or APPeX 4.5M FR heat welded while maintaining 4" side laps and 6" end laps.

Surfacing: (Optional) Install one of the following for all systems that do not achieve acceptable fire ratings through the use of FR membrane sheets. Any coating, listed below, used as a surfacing, must be listed within a current NOA.

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, 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.)

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. 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



NOA No.: 13-0529.05
Expiration Date: 06/28/16
Approval Date: 09/03/15
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