



**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 Built-Up Roofing Systems Over Wood Decks

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

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

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

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

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

This NOA renews NOA No. 03-0213.07 consists of pages 1 through 19.
The submitted documentation was reviewed by Jorge L. Acebo.



**NOA No.: 06-0626.11
Expiration Date: 07/19/11
Approval Date: 08/03/06
Page 1 of 19**

ROOFING ASSEMBLY APPROVAL

Category: Roofing
Sub-Category: Built-up Roofing

Deck Type: Wood
Maximum Design Pressure -60 psf
Fire Classification: See General Limitation #1

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>
Bestile Flashing Cement		ASTM D 4586	A trowel grade, cutback bitumen flashing grade cement mixture including inorganic fibers and mineral stabilizers.
Dyna Clad	39-3/8" x 33' 6"	N/A	A foil surfaced fiberglass reinforced elastomeric modified bitumen membrane for use as a cap or flashing sheet.
DynaFlex	25' long	ASTM D 5147	SBS modified bitumen composite flashing with fiber glass scrim and two-ply polyester reinforcement, for use in conventional and modified bitumen built-up roofing assemblies for base flashings.
Expand-O-Flash	Various	N/A	Expansion joint covers manufactured from non-reinforced, form-supported elastomeric bellows with a bifurcated waterproof attachment to metal flanges. Available in various standard configurations and may be custom manufactured to specific dimensions.
Expand-O-Guard	Various	N/A	Elastomeric expansion joint cover for vertical expansion and seismic joints. Manufactured from non-reinforced, form-supported elastomeric bellows with a bifurcated waterproof attachment to metal flanges. Available in various standard configurations and may be custom manufactured to specific dimensions.
FP-10 Vents	10" deck flange, base diameter of 4" and a height of 6".	N/A	One-way roof vent, designed for use in various roof systems, for the release of pressure created by gases or moisture vapor trapped within the roofing system.



NOA No.: 06-0626.11
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 Page 2 of 19

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
FesCant Plus Cant Strips, and Taper Edge.	Various	TAS 110	Factory pre-fabricated cant strips and taper edge, manufactured from expanded perlite insulation.
Flex-I-Drain	Various sizes from 3" to 6"	BOCA 76-61 SBCCI 89204 UBC 3236	Two piece flexible drain system composed of a Noryl deck flange, a flexible neoprene bellows and no hub connection. Available in various sizes and styles for most retro-fit applications.
GlasBase Plus	36" x 108'; roll weight: 84 lbs.	ASTM D 4601	Type II asphalt impregnated and coated glass fiber base sheet for use in conventional and modified bitumen built-up roofing.
GlasKap	36" x 36'; Roll weight: 72 lbs.	ASTM D 3909	Asphalt impregnated and coated felt surfaced with mineral granules used as the top ply in conventional built-up roof membranes.
GlasKap Plus	36" x 36'; Roll weight: 72 lbs.	ASTM D 5147	Asphalt impregnated and coated felt surfaced with mineral granules used as the top ply in conventional built-up roof membranes.
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.
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.
GlasTite Flexible	25' long	ASTM D 1668	Asphalt composite flashing with fiberglass scrim and two-ply polyester reinforcement, for use in conventional built-up roofing assemblies for base flashings.
Industrial Roof Cement	N/A	ASTM D 4586 Type II	General purpose medium trowel grade, cement cutback asphalt mastic reinforced with non-asbestos fibers and mineral stabilizers.
MBR Flashing Cement Activator	N/A	Proprietary	Activator component for use with MBR Flashing Cement Base
MBR Flashing Cement Base	N/A	Proprietary	A two-component elastomeric, cold application adhesive, consisting of a modified proprietary compound with an asphalt base.
MBR Utility Cement	N/A	ASTM D 4586	General purpose trowel grade, cutback bitumen cement mixture including inorganic fibers and mineral stabilizers.
PermaPly No. 28	36" x 108'; roll weight: 72 lbs.	ASTM D 4601	Type II asphalt impregnated and coated glass fiber base sheet for use in conventional and modified bitumen built-up roofing.



<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
Presto Lok Fascia and Flashing System	Various	TAS 114	A multi-piece fascia and flashing system for built-up and modified bitumen roofing systems manufactured from aluminum or steel. Extender plates available for wide fascia applications. This assembly meets the criteria of FMRC 1-49 for wind resistance perimeter flashing.
Ventsulation Felt	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. Surfaced on the bottom side with coarse mineral granules embedded in Asphaltic coating.

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
ENRGY 2, ENERGY 3, PSI-25	Isocyanurate Insulation.	Johns Manville
ENRGY 2 Composite	Polyisocyanurate insulation laminated to perlite.	Johns Manville
ENRGY 2 Plus	Polyisocyanurate insulation laminated to wood fiber.	Johns Manville
Fesco Foam, Dura Foam	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
Millox	Isocyanurate Insulation with wood fiberboard facer	Apache Products Co.
Pyrox, White Line	Isocyanurate Insulation	Apache Products Co.
ACFoam Composite	Isocyanurate Insulation with perlite facer	Atlas Roofing Corp.
ACFoam II	Isocyanurate Insulation	Atlas Roofing Corp.
Styrofoam	Extruded polystyrene insulation	Dow
Dens Deck	Silicon treated gypsum	G-P Products
Sturdi-Top	Wood fiber insulation board.	G-P Products
Wood Fiberboard	Regular wood fiber insulation	Generic



APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
High Density Wood Fiberboard	High Density Wood Fiber insulation board.	Generic
Perlite Insulation Board	Perlite Insulation	Generic
Perlite/Urethane Composite	Perlite / urethane composite board insulation	Generic
Type X Gypsum	Gypsum Wallboard	Generic
XPS	Extruded polystyrene	Generic
Structodeck	High Density Wood Fiber insulation board.	Masonite
Fiber Base	Asphalt coated wood fiber insulation	Temple Inland Forest Products Corp.

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	#12 Roofgrip Fasteners	Insulation fastener for wood and steel.		ITW Buildex Corp.
2.	AccuTrac Hextra	Insulation fastener for wood and steel.		ITW Buildex Corp.
3.	AccuTrac Plate	Galvalume AZ 50 stress plate.	3" square	ITW Buildex Corp.
4.	Metal Plate	Galvalume stress plate.	3" round 3" square	ITW Buildex Corp.
5.	Gearlok Plastic Plate	Polypropylene round plate	3.2"	ITW Buildex Corp.
6.	UltraFast	Insulation fastener for wood and steel.		Johns Manville
7.	UltraFast ASAP	Pre-assembled Insulation fastener and plate		Johns Manville
8.	UltraFast Metal Plate	Galvalume AZ55 steel plate	3" square	Johns Manville
9.	UltraFast Plastic Plate	High Density Polyolefin round plate	3" round	Johns Manville
10.	Olympic Fastener #12 & #14	Insulation fastener		Olympic Mfg. Group
11.	Olympic Fastener ASAP	Pre-assembled Insulation fastener and plate		Olympic Mfg. Group



APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
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	3" round galvalume AZ50 steel plate	3" round	Olympic Mfg. Group

EVIDENCE SUBMITTED:

<u>Test Agency/Identifier</u>	<u>Name</u>	<u>Report</u>	<u>Date</u>
Factory Mutual Research Corp.	J.I. # 3000949	Class 4470	06.05.98
	J.I. # 3001485	Class 4470	08.11.98
	J.I. # 30016299	Class 4470	09.10.98
	J.I. # 3D4A4.AM	Class 4470	09.28.98
	3009499	Class 4470	04.04.01
	3014090	Class 4470	09.05.02
	3012974	Class 4450	06.03.02
	3011248	Class 4470	11.01.02
	FMRC 1999	Current Insulation Fastening Requirements	01.01.99
Exterior Research & Design, Inc	10391.01.03	TAS 114 / FM 4470	01.29.03
	R 10167 (N)	Fire Classification Listing	01.01.95
Underwriters Laboratories, Inc. Dynatech Engineering, Inc.	4360.03.95-1	TAS 114	3.95
	4360.03.95-2		
	4361.5.95-1	TAS 114	5.95
Independent Roof Testing & Consultants of South Florida	IRT 99004	TAS 114	2.10.99



APPROVED ASSEMBLIES

- Membrane Type:** BUR
- Deck Type II:** Wood, Insulated
- Deck Description:** 1⁹/₃₂" or greater plywood or wood plank
- System Type A(1):** Anchor sheet mechanically fastened; all 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, Dura Foam Minimum 1" thick	N/A	N/A
Retro-Fit Board, DuraBoard Minimum 1/2" thick	N/A	N/A
Perlite, Fesco Board, Fiber Glass Minimum 3/4" 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: JM GlasBase, GlasBase Plus, PermaPly No. 28 or Ventsulation base sheet applied to the deck with approved annular ring shank nails and tin caps at a fastener spacing of 12" o.c. at the lap staggered in two rows 12" in the field. Base sheet shall serve as anchor sheet for attachment of insulation.

Base Sheet: (Optional) Install one ply of JM GlasBase, GlasBase Plus or Perma Ply No. 28 directly over the top layer of insulation. Adhere in a full mopping of hot asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. If base sheet is applied directly to polyisocyanurate insulation only a spot or strip mopped application as detailed in this approval is approved; See General Limitation #4.

Ply Sheet: Two or more plies of JM GlasPly IV or GlasPly Premier adhered in a full mopping of hot asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Cap Sheet: (Optional) One ply of JM GlasKap or GlasKap Plus adhered in a full mopping of hot asphalt applied within the EVT range and at a rate of 20-40 lbs./sq..

Surfacing: (Required if no cap sheet is used) Install one of the following:

1. 2-3 gallons TopGard B emulsion/sq. or 2 gallons aluminum coating/sq.. Coatings shall be applied according to the manufacturers' recommendations regarding specific application rates and weathering.
2. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively.

Maximum Design Pressure: -60 psf (See General Limitation #9)



Membrane Type: BUR
Deck Type 1I: Wood, Insulated
Deck Description: 1⁵/₃₂" or greater plywood or wood plank
System Type A(2): Anchor sheet mechanically fastened; all 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 Minimum 1" thick	N/A	N/A
Fesco Foam, Dura Foam Minimum 1.5" thick	N/A	N/A
Retro-Fit Board, DuraBoard Minimum 1/2" thick	N/A	N/A
Fesco Board, Fiber Glass Minimum 3/4" 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: Two plies JM GlasBase, GlasBase Plus, PermaPly No. 28 or Ventsulation base sheet applied simultaneously to the deck with UltraFast fasteners and 3" plates spaced 9" o.c. in a 4" lap staggered in two rows 12" o.c. in the field. Base sheet shall serve as anchor sheet for attachment of insulation.

Base Sheet: (Optional) Install one ply of JM GlasBase, GlasBase Plus or Perma Ply No. 28 directly over the top layer of insulation. Adhere in a full mopping of hot asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.. If base sheet is applied directly to polyisocyanurate insulation only a spot or strip mopped application as detailed in this approval is approved; See General Limitation #4.

Ply Sheet: Two or more plies of JM GlasPly IV or GlasPly Premier adhered in a full mopping of hot asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Cap Sheet: (Optional) One ply of JM GlasKap or GlasKap Plus adhered in a full mopping of hot asphalt applied within the EVT range and at a rate of 20-40 lbs./sq..

Surfacing: (Required if no cap sheet is used) Install one of the following:

1. 1.2-3 gallons TopGard B emulsion/sq. or 2 gallons aluminum coating/sq.. Coatings shall be applied according to the manufacturers' recommendations regarding specific application rates and weathering.
2. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively.

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



- Membrane Type:** BUR
- Deck Type 1I:** Wood, Insulated
- Deck Description:** 19/32" or greater plywood or wood plank with #12-3" Olympic STD screws @ 6" o.c.
- System Type A(3):** Anchor sheet mechanically fastened; all 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, DuraFoam, Fesco Foam Minimum 1" thick	N/A	N/A
Retro-Fit Board, DuraBoard Minimum 1/2" thick	N/A	N/A
Fesco Board, Fiber Glass Minimum 3/4" 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:** GlasPly Premier base sheet applied to the deck with UltraFast # 12 screws and 3" plates spaced 8" o.c. in a 3" lap staggered in three rows 8" o.c. in the field. Base sheet shall serve as anchor sheet for attachment of insulation.
- Base Sheet:** (Optional) Install one ply of JM GlasBase, GlasBase Plus or Perma Ply No. 28 directly over the top layer of insulation. Adhere in a full mopping of hot asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. If base sheet is applied directly to polyisocyanurate insulation only a spot or strip mopped application as detailed in this approval is approved; see General Limitation #4.
- Ply Sheet:** Two or more plies of JM GlasPly IV or GlasPly Premier adhered in a full mopping of hot asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
- Cap Sheet:** (Optional) One ply of JM GlasKap or GlasKap Plus adhered in a full mopping of hot asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
- Surfacing:** (Required if no cap sheet is used) Install one of the following:
1. 2-3 gallons TopGard B emulsion/sq. or 2 gallons aluminum coating/sq.. Coatings shall be applied according to the manufacturers' recommendations regarding specific application rates and weathering.
 2. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively.
- Maximum Design Pressure:** -52.5 psf (See General Limitation #7)



Membrane Type: BUR
Deck Type 1I: Wood, Insulated
Deck Description: ¹⁹/₃₂" or greater plywood or wood plank
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		
Minimum 1" thick	1, 2, 6, 7 10 or 11	1:2 ft ²
Minimum 1.4" thick	1, 2, 6, 7 10 or 11	1:2.67 ft ²
Fesco Foam, Dura Foam		
Minimum 1.5" thick	1, 2, 6, 7 10 or 11	1:2.67 ft ²
Fiber Glass		
Minimum ¹⁵/₁₆" thick	1, 2, 6, 7 10 or 11	1:2.67 ft ²
Fesco Board, DuraBoard		
Minimum 3/4" thick	1, 2, 6, 7 10 or 11	1:2 ft ²

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

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Any insulations listed for Base Layer, above		
Retro-Fit Board, DuraBoard		
Minimum 1/2" thick	N/A	N/A
Fiber Glass		
Minimum 3/4" thick	N/A	N/A

Note: Apply top layer of insulation in a full mopping of any approved mopping 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: (Optional) Install one ply of JM GlasBase, GlasBase Plus, or PermaPly No. 28 directly over the top layer of insulation. Adhere in a full mopping of hot asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. If base sheet is applied directly to polyisocyanurate insulation only a spot or strip mopped application as detailed in this approval is approved; see General Limitation #4.



Ply Sheet: Two or more plies of JM GlasPly IV or GlasPly Premier adhered in a full mopping of hot asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. (See specification number for appropriate number of plies).

Cap Sheet: (Optional) One ply of JM GlasKap or GlasKap Plus adhered in a full mopping of hot asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. (See JM application instructions for approved method of installation).

Surfacing: (Required if no cap sheet is used) Install one of the following:

1. 2-3 gallons TopGard B emulsion/sq. or 2 gallons aluminum coating/sq..
Coatings shall be applied according to the manufacturers' recommendations regarding specific application rates and weathering.
2. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively.

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



Membrane Type: BUR
Deck Type 1I: Wood, Insulated
Deck Description: $1\frac{9}{32}$ " or greater plywood or wood plank
System Type C: One or more 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 2, ENRGY 3 Minimum 1" thick	N/A	N/A
Fesco Foam, Dura Foam Minimum 1.5" thick	N/A	N/A
Fiber Glass Minimum $1\frac{5}{16}$" thick	N/A	N/A
Fesco Board, DuraBoard Minimum $\frac{3}{4}$" thick	N/A	N/A

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

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ENRGY 2, ENRGY 3 Minimum 1" thick	1, 2, 6, 7 10 or 11	1:2 ft ²
Minimum 1.4" thick	1, 2, 6, 7 10 or 11	1:2.67 ft ²
Fesco Foam, Dura Foam Minimum 1.5" thick	1, 2, 6, 7 10 or 11	1:2.67 ft ²
Fiber Glass Minimum $1\frac{5}{16}$" thick	2, 6, 7 10 or 11	1:2.67 ft ²
Fesco Board Minimum $\frac{3}{4}$" thick	1, 2, 6, 7 10 or 11	1:2 ft ²
Retro-Fit Board, DuraBoard Minimum $\frac{1}{2}$" thick	1, 2, 6, 7 10 or 11	1:2 ft ²

Note: Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.



- Base Sheet: (Optional) Install one ply of JM GlasBase, GlasBase Plus or PermaPly No. 28 directly over the top layer of insulation. Adhere in a full mopping of hot asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. If base sheet is applied directly to polyisocyanurate insulation only a spot or strip mopped application as detailed in this approval is approved; see General Limitation #4.
- Ply Sheet: Two or more plies of JM GlasPly IV or GlasPly Premier adhered in a full mopping of hot asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
- Cap Sheet: (Optional) One ply of JM GlasKap or GlasKap Plus adhered in a full mopping of hot asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
- Surfacing: (Required if no cap sheet is used) Install one of the following:
1. 2-3 gallons TopGard B emulsion/sq. or 2 gallons aluminum coating/sq.. Coatings shall be applied according to the manufacturers' recommendations regarding specific application rates and weathering.
 2. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively.
- Maximum Design Pressure: -45 psf (See General Limitation #9)



Membrane Type: BUR
Deck Type II: Wood, Insulated
Deck Description: 1 9/32" or greater plywood or wood plank
System Type D: All layers of insulation and base sheet simultaneously mechanically fastened.

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 2, Minimum 1.3" thick	N/A	N/A
Fesco Foam, DuraBoard Minimum 1.5" thick	N/A	N/A
Fesco Minimum 3/4" thick	N/A	N/A
Retro-Fit, DuraBoard Minimum 1/2" 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: One ply of GlasPly Premier fastened to the deck through insulation as described below.

Fastening: Fasten base sheet with UltraFast fasteners and 3" plates at a 3" side lap 8" o.c. and three (3) rows staggered in the center of the sheet at 8" o.c.

Ply Sheet: (Optional) One or more plies of GlasBase, GlasBase Plus, PermaPly 28, GlasPly Premier, GlasPly IV, adhered to a base sheet or perlite top layer with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Cap Sheet: One ply of JM GlasKap or GlasKap Plus adhered in a full mopping of hot asphalt applied within the EVT range and at a rate of 20-40 lbs./sq..

Surfacing: (Optional) Install one of the following:

1. 2-3 gallons TopGard B emulsion/sq. or 2 gallons aluminum coating/sq. Coatings shall be applied according to the manufacturers recommendations regarding the specific application rates and weathering.
2. Flood coat and gravel/slag with an application rate of 60 lbs./sq and 400 lbs./sq., respectively.

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



Membrane Type: BUR
Deck Type 1: Wood, Non-insulated
Deck Description: 19/32" or greater plywood or wood plank decks
System Type E(1): Base sheet mechanically fastened.

All General and System limitations apply.

Base Sheet: JM GlasBase, GlasBase Plus, PermaPly No. 28 or Ventsulation applied to the deck with approved annular ring shank nails and tin caps at a fastener spacing of 9" o.c. at the lap, 12" o.c. in two rows staggered along the center line of the of the sheet in the field.

Ply Sheet: Two or more plies of JM GlasPly IV or GlasPly Premier adhered in a full mopping of hot asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Cap Sheet: (Optional) One ply of JM GlasKap or GlasKap Plus adhered in a full mopping of hot asphalt applied within the EVT range and at a rate of 20-40 lbs./sq..

Surfacing: (Required if no cap sheet is used) Install one of the following:

1. 2-3 gallons TopGard B emulsion/sq. or 2 gallons aluminum coating/sq.. Coatings shall be applied according to the manufacturers' recommendations regarding specific application rates and weathering.
2. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively.

Maximum Design Pressure: -60 psf. (See General Limitation #9)



Membrane Type: BUR
Deck Type 1I: Wood, Non-Insulated
Deck Description: ¹⁵/₃₂" or greater plywood or wood plank decks
System Type E(2): Base sheet mechanically fastened.

All General and System limitations apply.

Base Sheet: Two plies JM GlasBase, GlasBase Plus, PermaPly No. 28 or Ventsulation fastened to the deck as described below:

Fastening: Base sheet shall be lapped 4" and fastened with approved roofing nails and tin caps 9" o.c. in the lap and two rows staggered in the center of the sheet 12" o.c.

Ply Sheet: Two or more plies of JM GlasPly IV or GlasPly Premier adhered in a full mopping of hot asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Cap Sheet: (Optional) One ply of JM GlasKap or GlasKap Plus adhered in a full mopping of hot asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: (Required if no cap sheet is used) Install one of the following:

1. 1.2-3 gallons TopGard B emulsion/sq. or 2 gallons aluminum coating/sq.. Coatings shall be applied according to the manufacturers' recommendations regarding specific application rates and weathering.
2. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively.

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



Membrane Type: BUR

Deck Type 1: Wood, Non-insulated

Deck Description: ¹⁹/₃₂" or greater plywood or wood plank decks

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

All General and System limitations apply.

Base Sheet: JM GlasBase, GlasBase Plus, PermaPly No. 28 or Ventsulation applied to the deck with approved annular ring shank nails and tin caps at a fastener spacing of 9" o.c. at the lap, 18" o.c. in two rows staggered along the center line of the sheet in the field.

Ply Sheet: Two or more plies of JM GlasPly IV or GlasPly Premier adhered in a full mopping of hot asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Cap Sheet: (Optional) One ply of JM GlasKap or GlasKap Plus adhered in a full mopping of hot asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: (Required if no cap sheet is used) Install one of the following:

1. 1.2-3 gallons TopGard B emulsion/sq. or 2 gallons aluminum coating/sq.. Coatings shall be applied according to the manufacturers' recommendations regarding specific application rates and weathering.
2. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively.

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



NOA No.: 06-0626.11

Expiration Date: 07/19/11

Approval Date: 08/03/06

Page 17 of 19

Membrane Type: BUR

Deck Type 1: Wood, Non-insulated

Deck Description: $1\frac{9}{32}$ " or greater plywood or wood plank fastened with #12-3" Olympic STD screws 6" o.c.

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

All General and System limitations apply.

Anchor sheet: JM GlasPly Premier base sheet applied to the deck with UltraFast # 12 screws and 3" plates spaced 8" o.c. in a 3" lap staggered in three rows 8" o.c. in the field.

Ply Sheet: Two or more plies of JM GlasPly IV or GlasPly Premier adhered in a full mopping of hot asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Cap Sheet: (Optional) One ply of JM GlasKap or GlasKap Plus adhered in a full mopping of hot asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: (Required if no cap sheet is used) Install one of the following:

1. 1.2-3 gallons TopGard B emulsion/sq. or 2 gallons aluminum coating/sq.. Coatings shall be applied according to the manufacturers' recommendations regarding specific application rates and weathering.
2. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively.

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



WOOD DECK SYSTEM LIMITATIONS:

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

GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance, refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each side lap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq. **Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.**
5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
7. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased for both insulation and base sheet as calculated in compliance with Roofing Application Standard RAS 117. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant **(When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)**
8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform to Roofing Application Standard RAS 111 and applicable wind load requirements.
9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). **(When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)**

END OF THIS ACCEPTANCE

