



**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 17<sup>th</sup> 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 Modified Bitumen Roofing Systems Over Concrete Decks**

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

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

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

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

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

This NOA renews NOA No. 03-0212.07 and consists of pages 1 through 29.  
The submitted documentation was reviewed by Jorge L. Acebo.



**NOA No.: 06-0626.03  
Expiration Date: 07/19/11  
Approval Date: 08/10/06  
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## ROOFING ASSEMBLY APPROVAL

Category: Roofing  
Sub-Category: SBS Modified Bitumen  
Deck Type: Concrete  
Maximum Design Pressure -495 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>
DynaBase	54'-10" x 36"; roll weight: 88 lbs.	ASTM D 6163 Type I Grade S	An SBS modified bitumen coated, fiber glass reinforced base sheet.
DynaBase XT	39'-3/8" x 49'-2"	ASTM D 6163 Type II Grade S	A heavyweight glass reinforced SBS Base/Ply sheet.
DynaWeld Base	39'-3/8" x 32'-10"; roll weight: 90 lbs	ASTM D 6163 Type I Grade S	An SBS modified bitumen coated, fiberglass reinforced base sheet for heat welded applications.
DynaFlex	3 x 25	ASTM D 6163 Type I Grade S	A flexible polyester/glass scrim reinforced, granular-surfaced flashing sheet.
DynaGlas	39'-3/8" x 32'-10"; roll weight: 100 lbs.	ASTM D 6163 Type I Grade G	An SBS modified bitumen membrane surfaced with granules for application in hot asphalt.
DynaWeld Cap FR	39'-3/8" x 32'-10" roll weight: 110 lbs.	ASTM D 6163 Type I Grade G	A fire resistant SBS modified bitumen membrane surfaced with granules for heat weld applications.
DynaGlas 30 FR	39'-3/8" x 32'-10"; roll weight: 90 lbs.	ASTM D 6163 Type I Grade G	A fire resistant SBS modified bitumen membrane surfaced with granules for application in hot asphalt.
DynaGlas FR	39'-3/8" x 32'-10"; roll weight: 101 lbs.	ASTM D 6163 Type I Grade G	A fire resistant SBS modified bitumen membrane surfaced with granules for application in hot asphalt.
DynaKap	39'-3/8" x 32'-10"; roll weight: 115 lbs.	ASTM D 6162 Type II Grade G	A fiberglass/polyester reinforced SBS modified bitumen membrane surfaced with granules for application in hot asphalt.
DynaKap FR	39'-3/8" x 32'-10"; roll weight: 115 lbs.	ASTM D 6162 Type II Grade G	A fire resistant, fiberglass/ polyester reinforced SBS modified bitumen membrane surfaced with granules for application in hot asphalt.
DynaLastic 180	39'-3/8" x 32'-10"; roll weight: 101 lbs.	ASTM D 6164 Type I Grade G	A polyester reinforced SBS modified bitumen membrane surfaced with granules for application in hot asphalt.
DynaLastic 180 FR	39'-3/8" x 32'-10"; Roll weight: 101 lbs.	ASTM D 6164 Type I Grade S	A 180 gram polyester mat reinforced, granular-surfaced, modified bitumen cap sheet for use in fire-rated systems.
DynaLastic 180S	37" x 36'-9" roll weight: 90 lbs.	ASTM D 6164 Type I Grade S	A 180 gram polyester mat reinforced, modified bitumen cap sheet for use in fire-rated systems.



NOA No.: 06-0626.03  
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<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
DynaPly	39-3/8" x 32'-10"; roll weight: 90 lbs.	ASTM D 6162 Type II Grade S	A polyester reinforced SBS modified bitumen ply sheet for use in conventional and modified bitumen built-up roof systems.
DynaLastic 250	39-3/8" x 32'-10"; roll weight: 114 lbs.	ASTM D 6164 Type II Grade G	A 250 gram polyester mat reinforced, granular-surfaced, modified bitumen cap sheet.
DynaLastic 250 FR	39-3/8" x 32'-10"; roll weight: 115 lbs.	ASTM D 6164 Type II Grade G	A 250 gram polyester mat reinforced, granular-surfaced, modified bitumen cap sheet for use in fire-rated systems.
DynaMax	39-3/8" x 32'-10"; roll weight: 99 lbs.	ASTM D 6162 Type III Grade G	A fiberglass/polyester reinforced SBS modified bitumen membrane surfaced with granules for application in hot asphalt or heat weld.
DynaMax FR	39-3/8" x 32'-10"; roll weight: 116 lbs.	ASTM D 6162 Type III Grade G	A fire resistant, fiberglass/ polyester reinforced SBS modified bitumen membrane surfaced with granules for application in hot asphalt. □
DynaClad	39-3/8" x 33'-6"; roll weight: 101 lbs.	ASTM D 6298	A foil faced, glass reinforced, SBS modified membrane for application in hot asphalt.
DynaBase XT	39-3/8" x 49'-2"	ASTM D 6163 Type II Grade S	A heavyweight glass reinforced SBS Base/Ply sheet.
DynaGlas FR XT	39-3/8" x 32'-10"	ASTM D 6163 Type II Grade S	A heavyweight glass reinforced granular surfaced SBS Cap sheet.
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.
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.
GlasPly IV	36" x 200'	ASTM D 2178 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.
PermaPly 28	36" x 108'; roll weight: 72 lbs.	ASTM D 4601 Type II	Type II asphalt impregnated and coated glass fiber base sheet for use in conventional and modified bitumen built-up roofing.
FesCant Plus Cant Strips, and Taper Edge	various	ASTM C 728	Factory pre-fabricated cant strips and taper edge, manufactured from expanded perlite insulation.
MBR Flashing Cement Base and Activator	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.
MBR Bonding Cement and Activator	N/A	proprietary	A two component, elastomeric, cold application adhesive.



<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
MBR Bonding Adhesive	N/A	proprietary	A water based, solvent free, one part rubberized asphalt adhesive.
MBR Insulation Adhesive	N/A	proprietary	A two component urethane cold application adhesive.
Bestile Industrial Roof Cement	various	ASTM D 4586, type I	A trowel grade, cutback bitumen flashing grade cement mixture including inorganic fibers and mineral stabilizers.
Flex-I-Drain	various	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.
PC/PET RetroDrain	various	N/A	Engineered resin copolymer fabricated drain for retrofit applications.
USII RetroDrain	various	N/A	One piece, aluminum fabricated drain for retrofit applications.
SuperDome RetroDrain	various	N/A	Cast aluminum, heavy-duty drain for retrofit applications.
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.
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.
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.
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.
DynaTred & DynaTred Plus Roof Walkway	various	N/A	Preformed, skid-resistant boards.

### APPROVED INSULATIONS:

TABLE 2

<b>Product Name</b>	<b>Product Description</b>	<b>Manufacturer (With Current NOA)</b>
ENRGY 2, ENERGY 3, PSI-25	Polyisocyanurate 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	Polyisocyanurate Insulation with perlite facer	Johns Manville



**APPROVED INSULATIONS:**

**TABLE 2**

<b>Product Name</b>	<b>Product Description</b>	<b>Manufacturer (With Current NOA)</b>
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	Polyisocyanurate Insulation with wood fiberboard facer	Apache Products Co.
Pyrox, White Line	Polyisocyanurate Insulation	Apache Products Co.
ACFoam Composite	Polyisocyanurate Insulation with perlite facer	Atlas Roofing Corp.
ACFoam II	Polyisocyanurate 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
High Density Wood Fiberboard	High Density Wood Fiber insulation board.	Generic
Perlite Insulation Board	Perlite Insulation	Generic
Type X Gypsum	Gypsum Wallboard	Generic
XPS	Extruded polystyrene	Generic
Structodeck	High Density Wood Fiber insulation board.	Masonite
Multi-Max	Polyisocyanurate Insulation	Rmax, Inc.
Fiber Base	Asphalt coated wood fiber insulation	Temple Inland Forest Products Corp.

**APPROVED FASTENERS:**

**TABLE 3**

<b>Fastener Number</b>	<b>Product Name</b>	<b>Product Description</b>	<b>Dimensions</b>	<b>Manufacturer (With Current NOA)</b>
1.	UltraFast (#14 Only)	Insulation fastener for concrete decks.		Johns Manville
2.	JM CD-10	Insulation fastener for concrete decks.		Johns Manville
3.	JM Standard Metal Plate	Galvalume AZ55 steel plate	3" round	Johns Manville
4.	JM Plastic Plate	Polypropylene round plate	3.25" round	Johns Manville



**APPROVED FASTENERS:**

**TABLE 3**

<b>Fastener Number</b>	<b>Product Name</b>	<b>Product Description</b>	<b>Dimensions</b>	<b>Manufacturer (With Current NOA)</b>
5.	UltraFast Metal Plate	Galvalume AZ55 steel plate	3" round 3" square	Johns Manville
6.	UltraFast Plastic Plate	Polypropylene round plate	3" round	Johns Manville
7.	CD-10	Insulation fastener for concrete decks.		Olympic Mfg. Group
8.	Olympic Fastener #14	Insulation fastener		Olympic Mfg. Group
9.	Olympic Fastener ASAP	Pre-assembled Insulation fastener and plate		Olympic Mfg. Group
10.	Olympic Standard	Galvalume AZ55 steel plate.	3" round	Olympic Mfg. Group
11.	Olympic G-2	Galvalume AZ55 steel plate.	3.5" round	Olympic Mfg. Group
12.	Olympic Polypropylene	Polypropylene plastic plate	3" round	Olympic Mfg. Group

**EVIDENCE SUBMITTED:**

<b><u>Test Agency/Identifier</u></b>	<b><u>Name</u></b>	<b><u>Report</u></b>	<b><u>Date</u></b>
Factory Mutual Research Corp.	J.I. #3001482	FM Class 4470	08.11.98
	J.I. #3001629	FM Class 4470	09.10.98
	J.I. #0Z8A9.AM		
	J.I. #3D4A4.AM	FM Class 4470	09.28.98
	J.I. #3000949		
	3007148	FM Class 4450	04.19.00
	3006346	FM Class 4450	09.15.00
	3001457	FM Class 4470	03.04.02
	3009499	FM Class 4470	04.04.01
	3011248	FM Class 4470	11.01.02
	3014090	FM Class 4470	09.05.02
	3012974	FM Class 4450	06.03.02
	Dynatech Engineering, Inc.	4360.03.95-1	TAS 114
4360.03.95-2			
4361.5.95-1		TAS 114	5.95
Underwriters Laboratories, Inc. Exterior Research & Design, LLC	R-10167 (N)	Fire Classification Listing	01.01.95
	#4361-2.04.97-1	TAS 114	04.28.97
	#10390A-10.97-1	TAS 114	10.97
	#10390A-12.97-1		12.97
	#4251.08.96-1	TAS 114	01.20.99
	10391.01.03		01.29.03
	# 99006.1.20.99	TAS 114	01.20.99
	#99007.1.20.99		
Independent Roof Testing & Consulting, Inc.	#99008.1.20.99	TAS 114	03.99
	#99009.1.20.99		
	#99016.1.20.99		
	02-026	TAS 114	07/26/02
	02-011		02/06/02



**APPROVED ASSEMBLIES**

**Membrane Type:** SBS

**Deck Type 3I:** Concrete Decks, Insulated

**Deck Description:** 2500 psi structural concrete or concrete plank

**System Type A(1):** Optional anchor/base sheet adhered with approved asphalt; one or more layers of insulation adhered with approved asphalt.

**All General and System limitations apply.**

<b>Base Insulation Layer</b>	<b>Insulation Fasteners (Table 3)</b>	<b>Fastener Density/ft<sup>2</sup></b>
<b>ENRGY 2, ENRGY 3, Fesco Foam, DuraFoam Minimum 1.5" thick</b>	N/A	N/A
<b>Top Insulation Layer (Optional)</b>	<b>Insulation Fasteners (Table 3)</b>	<b>Fastener Density/ft<sup>2</sup></b>
<b>ENRGY 2, ENRGY 3 Minimum 1.5" thick</b>	N/A	N/A
<b>Fesco Board, DuraBoard Minimum 3/4" thick</b>	N/A	N/A
<b>Retro-Fit Minimum 1/2" thick</b>	N/A	N/A

**Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft<sup>2</sup>. 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) One ply of GlasPly Premier, GlasPly IV or PermaPly 28 Base Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

**Ply Sheet:** One or more plies of GlasBase Plus, PermaPly 28, GlasPly Premier, GlasPly IV, DynaLastic 180 S, DynaBase, DynaBase XT, DynaBase PR or DynaPly adhered to the base sheet with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

**Membrane:** One ply of DynaKap, DynaKap FR, DynaMax, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas 30 FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250FR or DynaPly adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Cap FR heat welded. (See application instructions for approved method of installation).  
Or  
(Only with a modified Base or Ply sheet) GlasKap Adhered in a full mopping of approved 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 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:

-305 psf (See General Limitation #9).



**Membrane Type:** SBS  
**Deck Type 3I:** Concrete Decks, Insulated  
**Deck Description:** 2500 psi structural concrete or concrete plank  
**System Type A(2):** One or more layers of insulation fully adhered with approved asphalt.

**All General and System limitations apply.**

<b>Base Insulation Layer</b>	<b>Insulation Fasteners (Table 3)</b>	<b>Fastener Density/ft<sup>2</sup></b>
<b>ENRGY 2, ENRGY 3, Fesco Foam, DuraFoam Minimum 1.5" thick</b>	N/A	N/A
<b>Fesco Board, DuraBoard Minimum ¾" thick</b>	N/A	N/A
<b>Retro-Fit Minimum ½" thick</b>	N/A	N/A
<b>Top Insulation Layer (Optional)</b>	<b>Insulation Fasteners (Table 3)</b>	<b>Fastener Density/ft<sup>2</sup></b>
<b>Tapered ENRGY 2, ENRGY 3 Minimum 1.3" thick</b>	N/A	N/A
<b>Tapered Fesco Board, DuraBoard Minimum ¾" thick</b>	N/A	N/A
<b>Retro-Fit Minimum ½" thick</b>	N/A	N/A

**Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft<sup>2</sup>. 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:** (Optional) One or more plies of GlasBase Plus, DynaBase, DynaBase XT, DynaBase PR, DynaPly, GlasPly Premier, PermaPly 28 or GlasPly IV adhered to the properly primed concrete deck with a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

**Base Sheet:** (Optional) One ply of PermaPly 28, DynaBase, DynaBase XT, DynaBase PR or GlasBase Plus adhered to the insulated substrate in a full mopping of approved 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:** One or more plies of GlasBase Plus, PermaPly No. 28, GlasPly Premier, GlasPly IV, DynaLastic 180 S, DynaBase, DynaBase XT, DynaBase PR or DynaPly adhered to the base sheet with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or DynaWeld Base heat welded.



Membrane: One ply of DynaKap, DynaKap FR, DynaMax, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas 30 FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250FR or DynaPly adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Cap FR heat welded. (See application instructions for approved method of installation).  
Or  
(Only with a modified Base or Ply sheet) GlasKap Adhered in a full mopping of approved 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 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: -167.5 psf (See General Limitation #9).



**Membrane Type:** SBS

**Deck Type 3I:** Concrete Decks, Insulated

**Deck Description:** 2500 psi structural concrete or concrete plank

**System Type A(3):** One or more layers of insulation fully adhered with approved asphalt.

**All General and System limitations apply.**

**Anchor Sheet:** (Optional) One or more plies of GlasBase Plus, DynaBase, DynaBase XT, DynaBase PR, DynaPly, GlasPly Premier, PermaPly 28 or GlasPly IV adhered to the properly primed concrete deck with a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

<b>Base Insulation Layer</b>	<b>Insulation Fasteners (Table 3)</b>	<b>Fastener Density/ft<sup>2</sup></b>
<b>ENRGY 2, ENRGY 3, Fesco Foam, DuraFoam Minimum 1.5" thick</b>	N/A	N/A
<b>Fesco Board, DuraBoard, Fiberglas Roof Insulation Minimum ¾" thick</b>	N/A	N/A
<b>Retro-Fit Minimum ½" thick</b>	N/A	N/A
<b>Top Insulation Layer (Optional)</b>	<b>Insulation Fasteners (Table 3)</b>	<b>Fastener Density/ft<sup>2</sup></b>
<b>Tapered ENRGY 2, ENRGY 3 Minimum 1.3" thick</b>	N/A	N/A
<b>Tapered Fesco Board, DuraBoard Minimum ¾" thick</b>	N/A	N/A
<b>Retro-Fit Minimum ½" thick</b>	N/A	N/A

**Note:** All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft<sup>2</sup>. 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) One ply of PermaPly 28, DynaBase, DynaBase XT, DynaBase PR or GlasBase Plus adhered to the insulated substrate in a full mopping of approved 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:** One or more plies of GlasBase Plus, PermaPly 28, GlasPly Premier, GlasPly IV, DynaLastic 180 S, DynaBase, DynaBase XT, DynaBase PR or DynaPly adhered to the base sheet with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or DynaWeld Base heat welded.



Membrane: One ply of DynaKap, DynaKap FR, DynaMax, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas 30 FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250FR or DynaPly adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Cap FR heat welded. (See application instructions for approved method of installation).

Or

(Only with a modified Base or Ply sheet) GlasKap Adhered in a full mopping of approved 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 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:

-150 psf (See General Limitation #9)



- Membrane Type:** SBS
- Deck Type 3I:** Concrete Decks, Insulated
- Deck Description:** 2500 psi structural concrete or concrete plank
- System Type A(4):** All layer of insulation adhered to a primed deck. Membrane is subsequently fully or partially adhered.

**All General and System limitations apply.**

One or more layers of the following insulations:

<b>Insulation Layer</b>	<b>Insulation Fasteners (Table 3)</b>	<b>Fastener Density/ft<sup>2</sup></b>
<b>ENRGY 2, ENRGY 3 Minimum 1.5 thick</b>	N/A	N/A
<b>Fesco Board, DuraBoard Minimum 3/4" thick</b>	N/A	N/A

**Note: All layers of insulation shall be adhered with MBR Bonding Adhesive at an application rate of 1.5 gal./ 100 ft<sup>2</sup>. 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:** GlasBase Plus, PermaPly 28, DynaBase, DynaBase XT, DynaBase PR, GlasPly Premier or GlasPly IV applied to the insulation in MBR Bonding Adhesive at an application rate of 1.5 gal./sq.
- Ply Sheet:** (Optional) One or more plies of GlasPly Premier or GlasPly IV fiber glass felts adhered in MBR Bonding Adhesive at an application rate of 1.5 gal./sq.
- Membrane:** One ply of DynaKap, DynaKap FR, DynaMax, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas 30 FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250FR or DynaPly adhered in MBR Bonding Adhesive at an application rate of 1.5 gal./sq.  
Or  
(Only with a modified Base or Ply sheet) GlasKap Adhered in MBR Bonding Adhesive at an application rate of 1.5 gal./sq.
- Surfacing:** (Optional) Install one of the following:
1. 1 3/4 -2 gal./sq. TopGard A or B emulsion or 2 gal./sq. aluminum coating.
  2. Flood coat and gravel/slag with an application rate of 60 lbs./sq. and 400 lbs./sq., respectively.
- Maximum Design Pressure:** -187.5 psf (for Fesco Board or DuraBoard) (See General Limitation #9).  
-375 psf (for ENRGY 2 or ENRGY 3) (See General Limitation #9).



**Membrane Type:** SBS  
**Deck Type 3I:** Concrete Decks, Insulated  
**Deck Description:** 2500 psi structural concrete or concrete plank  
**System Type A(5):** All layer of insulation adhered to a primed deck. Membrane is subsequently fully or partially adhered.

**All General and System limitations apply.**

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
<b>Fiber Glass Roof Insulation</b> Minimum ¾" thick	N/A	N/A

**Note: All layers of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft<sup>2</sup>. 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:** GlasBase Plus, PemaPly 28, DynaBase, DynaBase XT, DynaBase PR, GlasPly Premier or GlasPly IV applied to the insulation in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

**Ply Sheet:** (Optional) One or more plies of GlasPly Premier or GlasPly IV fiber glass felts adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

**Membrane:** One ply of DynaKap, DynaKap FR, DynaMax, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas 30 FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250FR or DynaPly adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Cap FR heat welded. (See application instructions for approved method of installation).  
 Or  
 (Only with a modified Base or Ply sheet) GlasKap Adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

**Surfacing:** (Optional) Install one of the following:  
 1. 1¾ -2 gal./sq. TopGard A or B emulsion or 2 gal./sq. aluminum coating.  
 2. Flood coat and gravel/slag with an application rate of 60 lbs./sq. and 400 lbs./sq., respectively.

**Maximum Design Pressure:** -200 psf (See General Limitation #9).



**Membrane Type:** SBS  
**Deck Type 3I:** Concrete Decks, Insulated  
**Deck Description:** 2500 psi structural concrete or concrete plank  
**System Type A(6):** All layer of insulation adhered to a primed deck. Membrane is subsequently fully or partially adhered.

**All General and System limitations apply.**

<b>Base Insulation Layer</b>	<b>Insulation Fasteners (Table 3)</b>	<b>Fastener Density/ft<sup>2</sup></b>
<b>Fesco Foam (Polyisocyanurate side down) , DuraFoam Minimum 1.5” thick</b>	N/A	N/A
<b>ENRGY 2, ENRGY 3 Minimum 1.4” thick</b>	N/A	N/A
<b>Top Insulation Layer</b>	<b>Insulation Fasteners (Table 3)</b>	<b>Fastener Density/ft<sup>2</sup></b>
<b>Retro-Fit, DuraBoard Minimum ½” thick</b>	N/A	N/A

**Note: All layers of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft<sup>2</sup>. 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:** GlasBase Plus, PermaPly 28, DynaBase, DynaBase XT, DynaBase PR, GlasPly Premier or GlasPly IV applied to the insulation in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

**Ply Sheet:** (Optional) One or more plies of GlasPly Premier or GlasPly IV fiber glass felts adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or DynaWeld Base heat welded.

**Membrane:** One ply of DynaKap, DynaKap FR, DynaMax, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas 30 FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250FR or DynaPly adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Cap FR heat welded. (See application instructions for approved method of installation).  
 Or  
 (Only with a modified Base or Ply sheet) GlasKap Adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

**Surfacing:** (Optional) Install one of the following:  
 1. 1¾ -2 gal./sq. TopGard A or B emulsion or 2 gal./sq. aluminum coating.  
 2. Flood coat and gravel/slag with an application rate of 60 lbs./sq. and 400 lbs./sq., respectively.

**Maximum Design Pressure:** -155 psf (See General Limitation #9).



**Membrane Type:** SBS  
**Deck Type 3I:** Concrete Decks, Insulated  
**Deck Description:** 2500 psi structural concrete or concrete plank  
**System Type A(7):** All layer of insulation adhered to a primed deck. Membrane is subsequently fully or partially adhered.

**All General and System limitations apply.**

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
Fesco Foam, DuraFoam Minimum 1.5" thick	N/A	N/A
Fesco Board, DuraBoard Minimum 3/4" thick	N/A	N/A

**Note: All layers of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft<sup>2</sup>. 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:** GlasBase Plus, PermaPly 28 DynaBase, DynaBase XT, DynaBase PR, GlasPly Premier or GlasPly IV applied to the insulation in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

**Ply Sheet:** (Optional) One or more plies of GlasPly Premier, PermaPly 28 or GlasPly IV fiber glass felts adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

**Membrane:** One ply of DynaKap, DynaKap FR, DynaMax, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas 30 FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250FR or DynaPly adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Cap FR heat welded. (See application instructions for approved method of installation).  
 Or  
 (Only with a modified Base or Ply sheet) GlasKap Adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

**Surfacing:** (Optional) Install one of the following:  
 1. 1 3/4 -2 gal./sq. TopGard A or B emulsion or 2 gal./sq. aluminum coating.  
 2. Flood coat and gravel/slag with an application rate of 60 lbs./sq. and 400 lbs./sq., respectively.

**Maximum Design Pressure:** -130 psf (See General Limitation #9).



- Membrane Type:** SBS
- Deck Type 3I:** Concrete Decks, Insulated
- Deck Description:** 2500 psi structural concrete or concrete plank
- System Type A(8):** All layer of insulation adhered to a primed deck. Membrane is subsequently fully or partially adhered.

**All General and System limitations apply.**

<b>Insulation Layer</b>	<b>Insulation Fasteners (Table 3)</b>	<b>Fastener Density/ft<sup>2</sup></b>
<b>Any Approved polyisocyanurate insulation Minimum 1.4" thick</b>	N/A	N/A
<b>Fesco Board, DuraBoard Minimum ¾" thick</b>	N/A	N/A

**Note: All layers of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft<sup>2</sup>. 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:** GlasBase Plus, PermaPly 28, DynaBase, DynaBase XT, DynaBase PR, GlasPly Premier or GlasPly IV applied to the insulation in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
- Ply Sheet:** (Optional) One or more plies of GlasPly Premier or GlasPly IV fiber glass felts adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
- Membrane:** One ply of DynaKap, DynaKap FR, DynaMax, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas 30 FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250FR or DynaPly adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Cap FR heat welded. (See application instructions for approved method of installation).  
Or  
(Only with a modified Base or Ply sheet) GlasKap Adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
- Surfacing:** (Optional) Install one of the following:
1. 1¾ -2 gal./sq. TopGard A or B emulsion or 2 gal./sq. aluminum coating.
  2. Flood coat and gravel/slag with an application rate of 60 lbs./sq. and 400 lbs./sq., respectively.
- Maximum Design Pressure:** -107 psf (See General Limitation #9).



**Membrane Type:** SBS  
**Deck Type 3I:** Concrete Decks, Insulated  
**Deck Description:** 2500 psi structural concrete or concrete plank  
**System Type A(9):** All layer of insulation adhered to a primed deck. Membrane is subsequently fully or partially adhered.

**All General and System limitations apply.**

One or more layers of the following insulations:

<b>Base Insulation Layer</b>	<b>Insulation Fasteners (Table 3)</b>	<b>Fastener Density/ft<sup>2</sup></b>
<b>ENRGY 2, ENRGY 3 Minimum 1.5 thick</b>	N/A	N/A
<b>Top Insulation Layer</b>	<b>Insulation Fasteners (Table 3)</b>	<b>Fastener Density/ft<sup>2</sup></b>
<b>Fesco Board, DuraBoard Minimum 3/4" thick</b>	N/A	N/A

**Note: All layers of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft<sup>2</sup> or MBR Insulation Adhesive in 3/4" to 1" wide beads at maximum spacing of 12" o.c. 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:** GlasBase Plus, PermaPly 28, DynaBase, DynaBase XT, DynaBase PR, GlasPly Premier or GlasPly IV applied to the insulation in MBR Bonding Adhesive at an application rate of 1.5 gal./sq.

**Ply Sheet:** (Optional) One or more plies of GlasPly Premier or GlasPly IV fiber glass felts adhered in MBR Bonding Adhesive at an application rate of 1.5 gal./sq.

**Membrane:** One ply of DynaKap, DynaKap FR, DynaMax, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas 30 FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250FR or DynaPly adhered in MBR Bonding Adhesive at an application rate of 1.5 gal./sq.  
 Or  
 (Only with a modified Base or Ply sheet) GlasKap Adhered in MBR Bonding Adhesive at an application rate of 1.5 gal./sq.

**Surfacing:** (Optional) Install one of the following:  
 1. 1 3/4 -2 gal./sq. TopGard A or B emulsion or 2 gal./sq. aluminum coating.  
 2. Flood coat and gravel/slag with an application rate of 60 lbs./sq. and 400 lbs./sq., respectively.

**Maximum Design Pressure:** -82.5 psf (See General Limitation #9).



**Membrane Type:** SBS  
**Deck Type 3I:** Concrete Decks, Insulated  
**Deck Description:** 2500 psi structural concrete or concrete plank  
**System Type B:** Base layer of insulation mechanically fastened, optional top layer of insulation fully adhered with approved asphalt.

**All General and System limitations apply.**

<b>Base Insulation Layer</b>	<b>Insulation Fasteners (Table 3)</b>	<b>Fastener Density/ft<sup>2</sup></b>
<b>ENRGY 2, ENRGY 3, Fesco Foam, DuraFoam Minimum 1.5" thick</b>	<b>1, 2, 7 or 8</b>	<b>1:2 ft<sup>2</sup></b>
<b>Fesco Board, DuraBoard Minimum ¾" thick</b>	<b>1, 2, 7 or 8</b>	<b>1:2 ft<sup>2</sup></b>

**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).**

<b>Top Insulation Layer (Optional)</b>	<b>Insulation Fasteners (Table 3)</b>	<b>Fastener Density/ft<sup>2</sup></b>
<b>Any insulation listed for Base Layer, above</b>		
<b>Retro-Fit, DuraBoard Minimum ½" thick</b>	<b>N/A</b>	<b>N/A</b>

**Note: Optional top layer of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft<sup>2</sup>. 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:** (Optional) One ply of PermaPly 28, DynaBase or GlasBase Plus adhered to the insulated substrate in a full mopping of approved 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:** One or more plies of GlasBase Plus, PermaPly 28, GlasPly Premier, GlasPly IV, DynaLastic 180 S, DynaBase, DynaBase XT, DynaBase PR or DynaPly adhered to the base sheet with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.



Membrane: One ply of DynaKap, DynaKap FR, DynaMax, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas 30 FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250FR or DynaPly adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Cap FR heat welded. (See application instructions for approved method of installation).

Or

(Only with a modified Base or Ply sheet) GlasKap Adhered in a full mopping of approved 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 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:** SBS  
**Deck Type 3I:** Concrete Decks, Insulated  
**Deck Description:** 2500 psi structural concrete or concrete plank  
**System Type C(1):** All layers of insulation simultaneously mechanically fastened.

**All General and System limitations apply.**

<b>Base Insulation Layer (Optional)</b>	<b>Insulation Fasteners (Table 3)</b>	<b>Fastener Density/ft<sup>2</sup></b>
<b>ENRGY 2, ENRGY 3 Minimum 1.5" thick</b>	N/A	N/A

**Note: Both layers of insulation shall be simultaneously mechanically fastened; see top layer below for fasteners and density.**

<b>Top Insulation Layer</b>	<b>Insulation Fasteners (Table 3)</b>	<b>Fastener Density/ft<sup>2</sup></b>
<b>Fesco Board, DuraBoard Minimum 3/4" thick</b>	1 or 8	1:1.33 ft <sup>2</sup>

**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 or more plies of DynaWeld Base heat welded.  
**Membrane:** One ply of DynaWeld Cap FR heat welded.  
**Maximum Design Pressure:** -75 psf (See General Limitation #7).



**Membrane Type:** SBS

**Deck Type 3I:** Concrete Decks, Insulated

**Deck Description:** 2500 psi structural concrete or concrete plank

**System Type C(2):** All layers of insulation simultaneously mechanically fastened.

**All General and System limitations apply.**

<b>Base Insulation Layer (Optional)</b>	<b>Insulation Fasteners (Table 3)</b>	<b>Fastener Density/ft<sup>2</sup></b>
<b>ENRGY 2, ENRGY 3 Minimum 1" thick</b>	N/A	N/A
<b>Fesco Foam, DuraFoam Minimum 1.5" thick</b>	N/A	N/A
<b>Fesco Board, DuraBoard Minimum ¾" thick</b>	N/A	N/A

**Note: Both layers of insulation shall be simultaneously mechanically fastened; see top layer below for fasteners and density.**

<b>Top Insulation Layer</b>	<b>Insulation Fasteners (Table 3)</b>	<b>Fastener Density/ft<sup>2</sup></b>
<b>Fesco Foam, DuraFoam Minimum 1.5" thick</b>	1, 2, 7 or 8	1:2 ft <sup>2</sup>
<b>Fesco Board, DuraBoard Minimum ¾" thick</b>	1, 2, 7 or 8	1:2 ft <sup>2</sup>
<b>Retro-Fit Minimum ½" thick</b>	1, 2, 7 or 8	1:2 ft <sup>2</sup>

**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:** (Optional) One ply of PermaPly 28, DynaBase or GlasBase Plus adhered to the insulated substrate in a full mopping of approved 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:** One or more plies of GlasBase Plus, PermaPly 28, GlasPly Premier, GlasPly IV, DynaLastic 180 S, DynaBase, DynaBase XT, DynaBase PR or DynaPly adhered to the base sheet with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.



Membrane: One ply of DynaKap, DynaKap FR, DynaMax, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas 30 FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250FR or DynaPly adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Cap FR heat welded. (See application instructions for approved method of installation).

Or

(Only with a modified Base or Ply sheet) GlasKap Adhered in a full mopping of approved 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 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:

-52.5psf (See General Limitation #7).



- Membrane Type:** SBS
- Deck Type 3I:** Concrete Decks, Insulated
- Deck Description:** 2500 psi structural concrete or concrete plank
- System Type D:** All layers of insulation and base sheet simultaneously mechanically fastened with base sheet.

**All General and System limitations apply.**

One or more layers of any of the following insulations:

<b>Insulation Layer</b>	<b>Insulation Fasteners (Table 3)</b>	<b>Fastener Density/ft<sup>2</sup></b>
<b>ENRGY 2, ENRGY 3 Minimum 1.3" thick</b>	N/A	N/A
<b>Fesco Foam, DuraFoam Minimum 1.5" thick</b>	N/A	N/A
<b>Fesco Board, DuraBoard Minimum ¾" thick</b>	N/A	N/A
<b>Retro-Fit Minimum ½" thick</b>	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 PermaPly No. 28, DynaBase, GlasBase Plus or Ventsulation fastened to the deck through the insulation as described below.
- Fastening:** Fasten base sheet with Rawl Spikes, Drives or Speed-Lock Toggles with metal stress plates at a 4" side lap 12" o.c. and two rows staggered in the center of the sheet 36" o.c.
- Ply Sheet:** One or more plies of GlasBase Plus, PermaPly 28, GlasPly Premier, GlasPly IV, DynaLastic 180 S, DynaBase, DynaBase XT, DynaBase PR or DynaPly adhered to the base sheet with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
- Membrane:** One ply of DynaKap, DynaKap FR, DynaMax, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas 30 FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250FR or DynaPly adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Cap FR heat welded. (See application instructions for approved method of installation).  
Or  
(Only with a modified Base or Ply sheet) GlasKap Adhered in a full mopping of approved 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 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:** SBS  
**Deck Type 3:** Concrete Decks, Non-Insulated  
**Deck Description:** 2500 psi structural concrete or concrete plank  
**System Type E:** Base sheet mechanically attached.

**All General and System limitations apply.**

**Base Sheet:** One ply of PermaPly No. 28, DynaBase, GlasBase Plus or Ventsulation fastened to the deck as described below:

**Fastening:** Striker at a 4" side lap 12" o.c. and two rows staggered in the center of the sheet 36" o.c.

**Ply Sheet:** (Optional) One or more plies of GlasBase Plus, PermaPly 28, GlasPly Premier, GlasPly IV, DynaLastic 180 S, DynaBase, DynaBase XT, DynaBase PR or DynaPly adhered to the base sheet with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

**Membrane:** One ply of DynaKap, DynaKap FR, DynaMax, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas 30 FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250FR or DynaPly adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Cap FR heat welded. (See application instructions for approved method of installation).  
Or  
(Only with a modified Base or Ply sheet) GlasKap Adhered in a full mopping of approved 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 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:** SBS  
**Deck Type 3:** Concrete Decks, Non-Insulated  
**Deck Description:** 2500 psi structural concrete or concrete plank  
**System Type F(1):** Base sheet fully adhered.

**All General and System limitations apply.**

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

**Base Sheet:** One or more plies of One ply of DynaBase, DynaBase XT or Ventsulation applied to the deck in MBR Bonding Adhesive at an application rate of 1.5 gal./sq.  
**Ply Sheet:** (Optional) One or more plies of GlasPly Premier or GlasPly IV fiber glass felts adhered in MBR Bonding Adhesive at an application rate of 1.5 gal./sq.  
**Membrane:** One ply of DynaKap, DynaKap FR, DynaMax, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas 30 FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250FR or DynaPly adhered in MBR Bonding Adhesive at an application rate of 1.5 gal./sq.  
**Surfacing:** (Optional) Install one of the following:  
1. 1¾ -2 gal./sq. TopGard A or B emulsion or 2 gal./sq. aluminum coating.  
2. Flood coat and gravel/slag with an application rate of 60 lbs./sq. and 400 lbs./sq., respectively.  
**Maximum Design Pressure:** -495 psf (See General Limitation #9).

**Membrane Type:** SBS  
**Deck Type 3:** Concrete Decks, Non-Insulated, New Construction  
**Deck Description:** 2500 psi structural concrete or concrete plank  
**System Type F(2):** (Optional) Base sheet fully adhered with approved asphalt.

**All General and System limitations apply.**

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

**Base Sheet:** One or more plies of DynaWeld Base, DynaWeld PR or DynaWeld 180S heat welded to concrete deck.  
**Membrane:** One ply of DynaWeld Cap FR, DynaWeld 180, DynaWeld 180 FR, DynaWeld 250 or DynaWeld 250 FR heat welded to the base sheet.  
**Maximum Design Pressure:** -315 psf (See General Limitation #9).



**Membrane Type:** SBS

**Deck Type 3:** Concrete Decks, Non-Insulated

**Deck Description:** 2500 psi structural concrete or concrete plank

**System Type F(2):** (Optional) Base sheet fully adhered with approved asphalt.

**All General and System limitations apply.**

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

**Base Sheet:** One ply of PermaPly 28, DynaBase, DynaBase XT, DynaBase PR, DynaPly or GlasBase Plus adhered to the properly primed concrete deck in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

**Ply Sheet:** (Optional) One or more plies of GlasBase Plus, PermaPly 28, GlasPly Premier, GlasPly IV, DynaLastic 180 S, DynaBase, DynaBase XT, DynaBase PR or DynaPly adhered to the base sheet with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

**Membrane:** One ply of DynaKap, DynaKap FR, DynaMax, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas 30 FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250FR or DynaPly adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Cap FR heat welded. (See application instructions for approved method of installation).  
Or  
(Only with a modified Base or Ply sheet) GlasKap Adhered in a full mopping of approved 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 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:** -275 psf (See General Limitation #9).



## CONCRETE DECK SYSTEM LIMITATIONS:

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

## GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance, refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each 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. If mechanical attachment to the structural deck through the lightweight insulating concrete is proposed, a field withdrawal resistance testing shall be performed to determine equivalent or enhanced fastener patterns and density. All testing and fastening design shall be in compliance with Testing Application Standard TAS 105 and Roofing Application Standard RAS 117, calculations shall be signed and sealed by a Florida Registered Engineer, 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**



NOA No.: 06-0626.03  
Expiration Date: 07/19/11  
Approval Date: 08/10/06  
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