MIAMI-DADE

MIAMI-DADE COUNTY, FLORIDA
METRO-DADE FLAGLER BUILDING

BUILDING CODE COMPLIANCE OFFICE
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PRODUCT CONTROL DIVISION
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PRODUCT CONTROL NOTICE OF ACCEPTANCE

Johns Manville Corp.
717 17 Street (P.O. Box 5108)
Denver ,CO 80217

Your application for Notice of Acceptance (NOA) of:
SBS Modified Bitumen Systems Over Concrete Decks
under Chapter 8 of the Code of Miami-Dade County governing the use of Alternate Materials and Types of Construction, and completely described herein, has been recommended for acceptance by the Miami-Dade County Building Code Compliance Office (BCCO) under the conditions specified herein.

This NOA shall not be valid after the expiration date stated below. BCCO reserves the right to secure this product or material at any time from a jobsite or manufacturer's plant for quality control testing. If this product or material fails to perform in the approved manner, BCCO may revoke, modify, or suspend the use of such product or material immediately. BCCO reserves the right to revoke this approval, if it is determined by BCCO that this product or material fails to meet the requirements of the South Florida Building Code.

The expense of such testing will be incurred by the manufacturer.

ACCEPTANCE NO.: 01-0524.02
EXPIRES: 07/19/2006

Raul Rodriguez
Chief Product Control Division

THIS IS THE COVERSHEET, SEE ADDITIONAL PAGES FOR SPECIFIC AND GENERAL CONDITIONS
BUILDING CODE & PRODUCT REVIEW COMMITTEE

This application for Product Approval has been reviewed by the BCCO and approved by the Building Code and Product Review Committee to be used in Miami-Dade County, Florida under the conditions set forth above.

Francisco J. Quintana, R.A.
Director
Miami-Dade County
Building Code Compliance Office

APPROVED: 07/19/2001

ROOFING ASSEMBLY APPROVAL

Category:	Roofing	Approval Date: **July 19, 2001**
Sub-Category:	SBS Modified Bitumen	Expiration Date: **July 19, 2006**
Deck Type:	Concrete	
Maximum Design Pressure	-315 psf	
Fire Classification:	See General Limitation #1	

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

Product	Dimensions	Test Specification	Product Description
DynaBase	54'-10" x 36"; roll weight: 88 lbs.	ASTM D 5147	An SBS modified bitumen coated, fiber glass reinforced base sheet.
DynaWeld Base	39'-3/8" x 32'-10"; roll weight: 90 lbs	ASTM D 5147	An SBS modified bitumen coated, fiberglass reinforced base sheet for heat welded applications.
DynaFlex	3 x 25	ASTM D 5147	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	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	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	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	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	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	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	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	A 180 gram polyester mat reinforced, granular-surfaced, modified bitumen cap sheet for use in fire-rated systems.

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Roofing Product Control Examiner

Product	Dimensions	Test Specification	Product Description
DynaLastic 180S	37" x 36'-9" roll weight: 90 lbs.	ASTM D 6164 Type I	A 180 gram polyester mat reinforced, modified bitumen cap sheet for use in fire-rated systems.
DynaPly	39-3/8" x 32'-10"; roll weight: 90 lbs.	ASTM D 6162 Grade S Type II	A polyester reinforced SBS modified bitumen ply sheet for use in conventional and modified bitumen built-up roof systems.
DynaLastic 250 FR	39-3/8" x 32'-10"; roll weight: 115 lbs.	ASTM D 6164 Type II	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	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	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 5147	A foil faced, glass reinforced, SBS modified membrane for application in hot asphalt.
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	36" x 108'; roll weight: 84 lbs.	ASTM D 4601 Type I	Type II asphalt impregnated and coated glass fiber base sheet for use in conventional and modified bitumen built-up roofing.
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 No. 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.
Fesco Board	various	ASTM C 728	Rigid perlite roof insulation board for built-up roofing systems; available flat or tapered.
Fesco Foam	various	ASTM C 1289	Rigid polyisocyanurate roof insulation with perlite board facing bonded to one side for use in conventional built-up and other roofing.

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Product	Dimensions	Test Specification	Product Description
Fiber Glass Roof Insulation	various	ASTM C 726	Fiberglas roof insulation.
DuraBoard	various	ASTM C 728	A high density perlite roof insulation board for use in heat welded, modified bitumen systems.
Retro-Fit Board	various	ASTM C 728	A high density perlite roof insulation board for use in conventional and modified bitumen built-up roofing systems.
JM E'NRG'Y-2 or Tapered E'NRG'Y-2	various	ASTM 1289	Polyisocyanurate insulation for use with single-ply, BUR and modified bitumen roof covers (includes all Factory Mutual approved roof covers)
JM E'NRG'Y-2 Plus	various	ASTM 1289	Polyisocyanurate insulation laminated to ½" wood fiber for use with single-ply, BUR and modified bitumen roof covers (includes all Factory Mutual approved roof covers).
JM E'NRG'Y-2 Composite or Tapered Composite	various	ASTM 1289	Polyisocyanurate insulation laminated to ½" perlite for use with single-ply, BUR and modified bitumen roof covers (includes all Factory Mutual approved roof covers).
JM Nailboard	various	PA 110	Polyisocyanurate insulation laminated to 7/16" plywood for use with class A, B or C roof coverings.
JM PSI-25 or Tapered PSI-25	various	ASTM 1289	Nominal 25 psi compressive strength polyisocyanurate insulation for single-ply, BUR and modified bitumen roof covers (includes all Factory Mutual approved roof covers).
FesCant Plus Cant Strips, and Taper Edge	various	ASTM C 728	Factory pre-fabricated cant strips and taper edge, manufactured from expanded perlite insulation.
CD-10	Various	PA 114	Insulation fastener for concrete decks.
UltraFast	various	PA 114	Insulation fastener assembly (steel decks only).
UltraGrip	various	PA 114	Insulation fastener assembly (steel decks only).
UltraFast ASAP	various	PA 114	Insulation fastener assembly
GlasFast Plate/UltraFast Screw	various	PA 114	Insulation fastener and plate assembly for fiber glass insulation only (steel and wood decks)
Lightweight Concrete (LWC) CR Base Fastener	various	PA 114	G-90 galvanized double spreading leg fastener for securing base sheets to lightweight insulating concrete and some poured gypsum decks.

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Product	Dimensions	Test Specification	Product Description
NTB 1H and 2H	various	PA 114	A glass-filled nylon, double internal hex drive head, buttress thread, ¾" (19 mm) diameter fastener for securing roof insulation to gypsum and structural wood fiber decks.
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.
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	PA 114	A multi-piece fascia and flashing system for built-up and modified bitumen roofing systems manufactured from aluminum or steel.

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Product	Dimensions	Test Specification	Product Description
DynaTred & DynaTred Plus Roof Walkway	various	N/A	Preformed, skid-resistant boards.

TRADE NAMES OF PRODUCTS MANUFACTURED BY OTHERS:

Product	Dimensions	Test Specification	Product Description	Manufacturer
Pyrox	various	PA 110	Polyisocyanurate foam insulation	Apache Products Co. (with current PCA)
ACFoam II	various	PA 110	Polyisocyanurate foam insulation	Atlas Energy Products (with current PCA)
Dekfast Fasteners #14		PA 114	Insulation fastener for steel and concrete decks	Construction Fasteners Ind. (with current PCA)
Dekfast Hex Plate	2- 7/8" x 3 1/4"	PA 114	Galvalume hex stress plate.	Construction Fasteners Inc. (with current PCA)
Dekfast Lock Plate	3" x 3- 1/4"	PA 114	Polypropylene locking plate.	Construction Fasteners Inc. (with current PCA)
Dekfast Fasteners #15		PA 114	Insulation fasteners for concrete decks	Construction Fasteners Inc. (with current PCA)
Dekfast Fasteners #12		PA 114	Insulation fastener for steel and wood decks.	Construction Fasteners Inc. (with current PCA)
TPR		PA 114	Aluminum fastener for lightweight, gypsum and tectum decks	SFS Stadler (with current PCA)
FM-30, FM-45, FM-60, FM-90 Fasteners		PA 114	Base ply fastening systems for lightweight concrete decks	ES Products, Inc. (with current PCA)
Asphalt Emulsion		PA 121	Asphalt emulsion	Gardner (with current PCA)
Asphalt		ASTM D 312	Type III or IV hot asphalt bitumen adhesive	Generic
Asphalt Primer		ASTM D 41	Asphalt Primer	Generic
EPS	various	PA 110	Extruded polystyrene insulation	Generic

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Product	Dimensions	Test Specification	Product Description	Manufacturer
High Density Wood Fiberboard	various	PA 110	Wood fiber insulation board	Generic
Polyethylene	4 mil min.		Vapor barrier / Air barrier	Generic
Red Rosin	various		Rosin paper for barrier layer on wood decks	Generic
Type X Gypsum	various		Fire resistant rated gypsum	Generic
Dens-Deck	4' x 8'	PA 110	Gypsum board	Georgia-Pacific (with current PCA)
Overlayment Board	4' x 8'	PA 110	Gypsum board	Georgia-Pacific (with current PCA)
Sturdi-Top	various	PA 110	Wood fiberboard	Georgia-Pacific (with current PCA)
#12 Roofgrip		PA 114	Insulation fastener for steel or wood decks	ITW Buildex (with current PCA)
#14 Roofgrip		PA 114	Insulation fastener steel, wood or concrete decks	ITW Buildex (with current PCA)
Gripdek Fastener		PA 114	Insulation fastener	ITW Buildex (with current PCA)
Hexcel Fastener		PA 114	Insulation fastener	ITW Buildex (with current PCA)
Hextra		PA 114	Insulation fastener and metal or plastic plate	ITW Buildex (with current PCA)
Polymer Gyptec		PA 114	Glass reinforced nylon gypsum deck fastener	ITW Buildex (with current PCA)
Premium Metal Plate	3" square	PA 114	3" square galvalume AZ55 stress plate	ITW Buildex (with current PCA)
Standard Plastic Plate	3" round	PA 114	Polyolefin plastic plate	ITW Buildex (with current PCA)
Con-Tite		PA 114	Conctrete deck insulation fastener	Olympic Mfg. Group (with current PCA)
Olympic Standard	3" round	PA 114	3" round galvalume AZ55 steel plate	Olympic Mfg. Group (with current PCA)
Olympic Fastener #14		PA 114	Insulation fastener	Olympic Mfg. Group (with current PCA)
Olympic Polypropylene	3.25" round	PA 114	Polypropylene plastic plate	Olympic Mfg. Group (with current PCA)

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Product	Dimensions	Test Specification	Product Description	Manufacturer
Olympic Fastener #12		PA 114	Insulation fastener	Olympic Mfg. Group (with current PCA)
Multi-Max	various	PA 110	Polyisocyanurate foam insulation	Rmax, Inc. (with current PCA)
HD Insul-Fixx Fastener		PA 114	Insulation fastener for use in steel and concrete decks	SFS/Stadler (with current PCA)
Insul-Fixx Fastener		PA 114	Insulation fastener for steel and wood decks	SFS/Stadler (with current PCA)
Insul-Fixx S	3" square	PA 114	3" square galvalume AZ55 stress plate	SFS/Stadler (with current PCA)
Insul-Fixx P	3" round	PA 114	3" round polyethylene stress plate	SFS/Stadler (with current PCA)
Plate Fixx Fastener		PA 114	Insulation fastening assembly	SFS/Stadler (with current PCA)
Rawl Drive		PA 114	Insulation fastener and steel and plastic stress plate for concrete deck	Powers Fasteners, Inc. (with current PCA)
Rawl Fasteners #12 or #14		PA 114	Insulation fastener for steel and wood decks and concrete (#14 only)	Powers Fasteners, Inc. (with current PCA)
Rawl 2" Plate	2" round	PA 114	2" round galvalume AZ55 membrane plate	Powers Fasteners, Inc. (with current PCA)
Rawl 3" Plate	3" round	PA 114	3" round galvalume AZ55 steel plate	Powers Fasteners, Inc. (with current PCA)
Rawl Spike		PA 114	Insulation fastener and steel and plastic stress plate for concrete deck	Powers Fasteners, Inc. (with current PCA)
Rawlite		PA 114	Insulation fastener for cementitious and gypsum decks	Powers Fasteners, Inc. (with current PCA)
Rawlite 3" Plate	3" round	PA 114	3" round galvalume AZ55 steel plate for use with Rawlite fasteners	Powers Fasteners, Inc. (with current PCA)
Structodeck	various	PA 110	High density wood fiber	Masonite
Celcore		PA 110	Cellular insulating concrete.	Celcore, Inc. (with current PCA)
Elastizell		PA 110	Cellular insulating concrete	Elastizell Corp. (with current PCA)

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Product	Dimensions	Test Specification	Product Description	Manufacturer
Zonocel		PA 110	Cellular insulating concrete	Siplast, Inc. (with current PCA)
Insulcel		PA 110	Cellular insulating concrete	Siplast, Inc. (with current PCA)
Concrecel		PA 110	Cellular insulating concrete	Concrecel, Int. (with current PCA)
Mearlcrete		PA 110	Cellular insulating concrete	The Mearl Corp. (with current PCA)

EVIDENCE SUBMITTED:

Test Agency/Identifier	Name	Report	Date
Factory Mutual Research Corporation	J.I. #3001482	FM Approval Report	08.11.98
	J.I. #3001629 J.I. #0Z8A9.AM	FM Approval Report	09.10.98
	J.I. #3D4A4.AM J.I. #3000949	FM Approval Report	09.28.98
	FMRC 1994	Current Insulation and Fastening Requirements.	01.01.94
Dynatech Engineering, Inc.	4360.03.95-1 4360.03.95-2	Wind Uplift Classification	3.95
	4361.5.95-1	Wind Uplift Classification	5.95
Underwriters Laboratories, Inc.	R-10167 (N)	Fire Classification Compliance	01.01.95
Exterior Research & Design, LLC.	#4361-2.04.97-1	Uplift Resistance PA 114	04.28.97
	#10390A-10.97-1 #10390A-12.97-1	Uplift Resistance PA 114	10.97 12.97
	#4251.08.96-1	Uplift Resistance PA 114	01.20.99
Independent Roof Testing & Consulting, Inc.	# 99006.1.20.99 #99007.1.20.99	Uplift Resistance PA 114	01.20.99
	#99008.1.20.99 #99009.1.20.99 #99016.1.20.99	Uplift Resistance PA 114	03.99

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APPROVED ASSEMBLIES

Membrane Type: SBS

Deck Type 3I: Concrete Decks, Insulated, New Construction

Deck Description: 2500 psi structural concrete or concrete plank

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

All General and System Limitations apply.

Insulation Base Layer	Fastener Type	Fastening Detail No. (See RAS 117)	Fasteners Per Board	Fastener Density
Approved Type(s): **ACFoam-II, E'NRG'Y 2, MultiMax**				
Minimum: 1" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): **Fesco Foam**				
Minimum: 1" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): **Fesco**				
Minimum: ¾" x 2' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): **Retro-Fit Board**				
Minimum: ½" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): **Fiber Glass**				
Minimum: ¾" x 4' x 4'	N/A	N/A	N/A	N/A

Insulation Top Layer (Optional)	Fastener Type	Fastening Detail No. (See RAS 117)	Fasteners Per Board	Fastener Density
One or more layers of any of the following insulations:				
Approved Type(s): **Tapered Fesco**				
Minimum: ¾" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): **Tapered E'NRG'Y 2**				
Minimum: 1.3" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): **Tapered Fiber Glass**				
Minimum: ¾" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): **Retro-Fit Board**				
Minimum: ½" x 4' x 4'	N/A	N/A	N/A	N/A

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft^2. Please refer to Roofing Application Standard RAs 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

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Anchor Sheet:	(Optional) One, two or three plies of GlasBase, GlasBase Plus, DynaBase, DynaPly, GlasPly Premier, PermaPly No.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 No. 28, DynaBase, GlasBase, 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, GlasBase Plus, PermaPly No. 28, GlasPly Premier, Glas Ply IV, DynaLastic 180S, DynaBase or DynaPly adhered to the base sheet 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, DynaLastic 250, DynaLastic 250 FR, Dynalastic 180, Dynalastic 180 FR 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 DynaWeld Cap FR heat welded. (See application instructions for approved method of installation).
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).

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Membrane Type: SBS

Deck Type 3I: Concrete Decks, Insulated, New Construction

Deck Description: 2500 psi structural concrete or concrete plank

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

All General and System Limitations apply.

Insulation Base Layer	**Fastener Type**	**Fastening Detail No.** (See RAS 117)	**Fasteners Per Board**	**Fastener Density**
Approved Type(s): **E'NRG'Y 2**				
Minimum: 1.5" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): **Fesco Foam**				
Minimum: 1.5" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): **Fesco**				
Minimum: ¾" x 2' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): **DuraBoard**				
Minimum: ½" x 4' x 4'	N/A	N/A	N/A	N/A

Insulation Top Layer (Optional)	**Fastener Type**	**Fastening Detail No.** (See RAS 117)	**Fasteners Per Board**	**Fastener Density**
One or more layers of any of the following insulations:				
Approved Type(s): **Tapered Fesco**				
Minimum: ¾" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): **Tapered E'NRG'Y 2**				
Minimum: 1.3" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): **Retro-Fit**				
Minimum: ½" x 4' x 4'	N/A	N/A	N/A	N/A

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft^2. Please refer to Roofing Application Standard RAs 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

Anchor Sheet: (Optional) One, two or three plies of GlasBase, GlasBase Plus, DynaBase, DynaPly, GlasPly Premier, PermaPly No.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..

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Base Sheet:	(Optional) One ply of PermaPly No. 28, DynaBase, GlasBase, 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, GlasBase Plus, PermaPly No. 28, GlasPly Premier, Glas Ply IV, DynaLastic 180S, DynaBase or DynaPly adhered to the base sheet 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, DynaLastic 250, DynaLastic 250 FR, Dynalastic 180, Dynalastic 180 FR 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 DynaWeld Cap FR heat welded. (See application instructions for approved method of installation).
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).

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Membrane Type: SBS

Deck Type 3I: Concrete Decks, Insulated, New Construction

Deck Description: 2500 psi structural concrete or concrete plank

System Type B: Base layer of insulation mechanically fastened, top layer of insulation fully adhered with approved asphalt.

All General and System Limitations apply.

Insulation Base Layer	Fastener Type	Fastening Detail No. (See RAS 117)	Fasteners Per Board	Fastener Density
Approved Type(s): **Multi-Max, E'NRG'Y 2, ACFoam-II**				
Minimum: 1.2" x 4' x 4'	UltraFast S/P	[3]	8	1:2 ft²
Minimum: 1.2" x 4' x 4'	Olympic CD-10	[3]	8	1:2 ft²
Minimum: 1.2" x 4' x 4'	CD-10	[3]	8	1:2 ft²
Approved Type(s): **Fesco Foam**				
Minimum: 1.5" x 4' x 4'	UltraFast S/P	[3]	8	1:2 ft²
Minimum: 1.5" x 4' x 4'	Olympic CD-10	[3]	8	1:2 ft²
Minimum: 1.5" x 4' x 4'	CD-10	[3]	8	1:2 ft²
Approved Type(s): **Fesco**				
Minimum: ¾" x 2' x 4'	UltraFast S/P	[1]	4	1:2 ft²
Minimum: ¾" x 2' x 4'	Olympic CD-10	[1]	4	1:2 ft²
Minimum: ¾" x 2' x 4'	CD-10	[1]	4	1:2 ft²

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).

Insulation Top Layer	Fastener Type	Fastening Detail No. (See RAS 117)	Fasteners Per Board	Fastener Density
Approved Type(s): **Any insulations listed for Base Layer, above**				
Approved Type(s): **Retro-Fit**				
Minimum: ½" x 2' x 4'	N/A	N/A	N/A	N/A

Note: Optional top layer of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

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Base Sheet:	(Optional) One ply of PermaPly No. 28, DynaBase, GlasBase, 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, two or three plies of GlasBase, GlasBase Plus, PermaPly No. 28, DynaBase, GlasPly Premier, Glas Ply IV, DynaLastic 180S or DynaPly adhered to the base sheet 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, DynaLastic 250, DynaLastic 250 FR, Dynalastic 180, Dynalastic 180 FR 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 DynaWeld Cap FR heat welded. (See application instructions for approved method of installation).
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:	-45psf (See General Limitation #9).

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Membrane Type: SBS

Deck Type 3I: Concrete Decks, Insulated, New Construction

Deck Description: 2500 psi structural concrete or concrete plank

System Type C: All layers of insulation simultaneously mechanically fastened.

All General and System Limitations apply.

Optional Insulation Base Layer	**Fastener Type**	**Fastening Detail No.** (See RAS 117)	**Fasteners Per Board**	**Fastener Density**
Approved Type(s): **ACFoam-II, E'NRG'Y 2, MultiMax**				
Minimum: 1" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): **Fesco Foam**				
Minimum: 1.5" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): **Fesco**				
Minimum: ¾" x 2' x 4'	N/A	N/A	N/A	N/A

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

Insulation Top Layer	**Fastener Type**	**Fastening Detail No.** (See RAS 117)	**Fasteners Per Board**	**Fastener Density**
Approved Type(s): **Fesco Foam**				
Minimum: 1.5" x 4' x 4'	UltraFast S/P	[3]	4	1:2 ft²
Minimum: 1.5" x 4' x 4'	Olympic CD-10	[3]	4	1:2 ft²
Minimum: 1.5" x 4' x 4'	CD-10	[3]	4	1:2 ft²
Approved Type(s): **Fesco**				
Minimum: ¾" x 2' x 4'	UltraFast S/P	[1]	2	1:2 ft²
Minimum: ¾" x 2' x 4'	Olympic CD-10	[1]	2	1:2 ft²
Minimum: ¾" x 2' x 4'	CD-10	[1]	2	1:2 ft²
Approved Type(s): **Retro-Fit**				
Minimum: ½" x 2' x 4'	UltraFast S/P	[1]	2	1:2 ft²
Minimum: ½" x 2' x 4'	Olympic CD-10	[1]	2	1:2 ft²
Minimum: ½" x 2' x 4'	CD-10	[1]	2	1:2 ft²

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

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Base Sheet:	(Optional) One ply of PermaPly No. 28, DynaBase, GlasBase, 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 DynaBase, GlasBase, GlasBase Plus, PermaPly No. 28, GlasPly Premier, Glas Ply IV, or DynaPly adhered to the base sheet 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, DynaLastic 250, DynaLastic 250 FR, Dynalastic 180, Dynalastic 180 FR 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 DynaWeld Cap FR heat welded. (See application instructions for approved method of installation).
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).

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Membrane Type: SBS

Deck Type 3I: Concrete Decks, Insulated, New Construction

Deck Description: 2500 psi structural concrete or concrete plank

System Type C: All layers of insulation simultaneously mechanically fastened.

All General and System Limitations apply.

Optional Insulation Base Layer	**Fastener Type**	**Fastening Detail No.** (See RAS 117)	**Fasteners Per Board**	**Fastener Density**
Approved Type(s): **E'NRG'Y 2**				
Minimum: 1.5" x 4' x 4'	N/A	N/A	N/A	N/A

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

Insulation Top Layer	**Fastener Type**	**Fastening Detail No.** (See RAS 117)	**Fasteners Per Board**	**Fastener Density**
Approved Type(s): **DuraBoard**				
Minimum: ¾" x 4' x 4'	UltraFast S/P	[1]	12	1:1.33 ft²

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

Base Sheet: One or more plies of DynaWeld Base heat welded.

Membrane: One ply of DynaWeld Cap FR heat welded to the base sheet.

Maximum Design Pressure: -75 psf (See General Limitation #7).

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Membrane Type: SBS

Deck Type 3I: Concrete Decks, Insulated, New Construction

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.

Insulation Layer	Fastener Type	Fastening Detail No. (See RAS 117)	Fasteners Per Board	Fastener Density
One or more layers of any of the following insulations:				
Approved Type(s): **ACFoam-II, E'NRG'Y 2, MultiMax**				
Minimum: 1.3" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): **Fesco Foam**				
Minimum: 1.5" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): **Fesco**				
Minimum: ¾" x 2' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): **Retro-Fit**				
Minimum: ½" x 2' x 4'	N/A	N/A	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, 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 DynaBase, GlasBase, GlasBase Plus, PermaPly No. 28, GlasPly Premier, Glas Ply IV, DynaLastic 180S or DynaPly adhered to the base sheet 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, DynaLastic 250, DynaLastic 250 FR, Dynalastic 180, Dynalastic 180 FR 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 DynaWeld Cap FR heat welded (See application instructions for approved method of installation).

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

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Membrane Type: SBS

Deck Type 3I: Concrete Decks, Insulated, New Construction

Deck Description: 2500 psi structural concrete or concrete plank

System Type D: Optional anchor/base sheet adhered with approved asphalt; one or more layers of insulation adhered with approved asphalt.

All General and System Limitations apply.

Insulation Base Layer	**Fastener Type**	**Fastening Detail No.** (See RAS 117)	**Fasteners Per Board**	**Fastener Density**
Approved Type(s): **E'NRG'Y 2** Minimum: 1.5" x 4' x 4'	N/A	N/A	N/A	N/A

Insulation Top Layer (Optional)	**Fastener Type**	**Fastening Detail No.** (See RAS 117)	**Fasteners Per Board**	**Fastener Density**
Approved Type(s): **E'NRG'Y 2** Minimum: 1.5" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): **Fesco** Minimum: ¾" x 2' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): **Retro-Fit** Minimum: ½" x 2' x 4'	N/A	N/A	N/A	N/A

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft^2. Please refer to Roofing Application Standard RAs 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

Base Sheet: (Optional) One ply of GlasPly Premier, GlasPly IV, PermaPly or GlasBase, fastened to the deck through the insulation as described below.

Ply Sheet: One or more plies in any combination of DynaBase, GlasBase, GlasBase Plus, PermaPly No. 28, GlasPly Premier, GlasPly IV, DynaLastic 180S or DynaPly adhered to the base sheet 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, DynaLastic 250, DynaLastic 250 FR, Dynalastic 180, Dynalastic 180 FR 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 DynaWeld Cap FR heat welded (See application instructions for approved method of installation).

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Surfacing: (Optional) Install one of the following:

1. 2-3 gallons TopGard A or 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).

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Membrane Type: SBS

Deck Type 3: Concrete Decks, Non-insulated, New Construction

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, 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 DynaBase, GlasBase, GlasBase Plus, PermaPly No. 28, GlasPly Premier, Glas Ply IV, or DynaPly adhered to the base sheet 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, DynaLastic 250, DynaLastic 250 FR, Dynalastic 180, DynaLastic 180 FR 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 DynaWeld Cap FR heat welded (See application instructions for approved method of installation).

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).

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Membrane Type: SBS

Deck Type 3: Concrete Decks, Insulated, New Construction

Deck Description: 2500 psi structural concrete or concrete plank

System Type F: (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 No. 28, DynaBase, DynaPly, GlasBase, 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, two or three plies of GlasPly Premier, Glas Ply IV, GlasBase, GlasBase Plus, DynaBase DynaLastic 180S or DynaPly adhered to the base sheet 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, DynaLastic 250, DynaLastic 250 FR, Dynalastic 180, Dynalastic 180 FR 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 DynaWeld Cap FR heat welded (See application instructions for approved method of installation).

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).

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Membrane Type: SBS

Deck Type 3: Concrete Decks, Insulated, New Construction

Deck Description: 2500 psi structural concrete or concrete plank

System Type F: (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 heat welded to concrete deck.

Membrane: One ply of DynaWeld Cap FR heat welded to the base sheet.

Maximum Design Pressure: -315 psf (See General Limitation #9).

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1. The following assembly is approved to a maximum design pressure of **-155* psf**. No substitutions shall be made

   Deck: Primed concrete deck

   Insulation: Min. 1.5" thick Fesco Foam, installed isocyanurate side down applied to a 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.

   or

   Min. 1.4" thick UltraGard installed over a 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. followed by min. ½" thick Retro-fit board installed over the base layer of insulation in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

   Base Sheet: GlasBase, GlasBase Plus, DynaBase, GlasPly Premier, GlasPly IV or 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 the EVT range and at a rate of 20-40 lbs./sq.

   Membrane: One ply of DynaKap, DynaKap FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, Dynalastic 180, Dynalastic 180 FR, DynaLastic 250, DynaLastic 250 FR 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 DynaWeld Cap FR heat welded.

   Surfacing: (Where required for fire rating) Install one of the following:

   1. 1¾ -2 gal./sq. TopGard A or B emulsion or 2.0 gal./sq. aluminum coating.
   2. Flood coat and gravel/slag with an application rate of 60 lbs./sq. and 400 lbs./sq., respectively.

2. The following assembly is approved to a maximum design pressure of **-200* psf**. No substitutions shall be made

   Deck: Primed concrete deck

   Insulation: Min. ¾" thick Fiber Glass Roof Insulation installed over a 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.

   Base Sheet: GlasBase, GlasBase Plus, DynaBase, GlasPly Premier, GlasPly IV or 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, two or three plies of GlasPly Premier or GlasPly IV fiber glass felts adhered in a full mopping of approved asphalt applied within the the EVT range and at a rate of 20-40 lbs./sq.

   Membrane: One ply of DynaKap, DynaKap FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, Dynalastic 180, Dynalastic 180 FR, DynaLastic 250, DynaLastic 250 FR 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 DynaWeld Cap FR heat welded.

   Surfacing: (Where required for fire rating) Install one of the following:

   1. 1¾ -2 gal./sq. TopGard A or B emulsion or 2.0 gal./sq. aluminum coating.
   2. Flood coat and gravel/slag with an application rate of 60 lbs./sq. and 400 lbs./sq., respectively.

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3. The following assembly is approved to a maximum design pressure of **-130* psf**. No substitutions shall be made

Deck:	Primed concrete deck
Insulation:	1.5" min. Fesco Foam installed isocyanurate side down to a properly primed concrete deck in a full mopping of approved asphalt applied within the EVT range and a t a rate of 20-40 lbs/sq. or Optional base layer of min. ¾" thick JM Fesco over a properly primed concrete deck in a full mopping of approved asphalt applied within the EVT rang and at a rate of 20-40 lbs/sq.
Base Sheet:	GlasBase, GlasBase Plus, DynaBase, GlasPly Premier, PermaPly No. 28 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, two or three plies of GlasPly Premier, PermaPly No. 28 or GlasPly IV fiber glass felts adhered in a full mopping of approved asphalt applied within the the EVT range and at a rate of 20-40 lbs./sq.
Membrane:	One ply of DynaKap, DynaKap FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, Dynalastic 180, Dynalastic 180 FR, DynaLastic 250, DynaLastic 250 FR 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 DynaWeld Cap FR heat welded.
Surfacing:	(Where required for fire rating) 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.

4. The following assembly is approved to a maximum design pressure of **-107* psf**. No substitutions shall be made

Deck:	Primed concrete deck
Insulation:	Optional base layer of min. 1.4" thick Miami-Dade Approved polyisocyanurate insulation over a 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. followed by min. ¾" thick JM Fesco board installed over the base layer of insulation or directly to primed deck in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Base Sheet:	GlasBase, GlasBase Plus, DynaBase, GlasPly Premier, GlasPly IV or 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 the EVT range and at a rate of 20-40 lbs./sq.
Membrane:	One ply of DynaKap, DynaKap FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, Dynalastic 180, Dynalastic 180 FR, DynaLastic 250, DynaLastic 250 FR 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 DynaWeld Cap FR heat welded.
Surfacing:	(Where required for fire rating) 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.

***Note:** **The maximum design pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, corners). No rational analysis, nor extrapolation shall be permitted for enhanced fastening at elevated pressure zones (i.e. perimeters, extended corners, and corners)**

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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 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 sidelap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq. **Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.**
5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
7. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased for both insulation and base sheet as calculated in compliance with Roofing Application Standard RAS 117. **(When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)**
8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform with Roofing Application Standard RAS 111 and applicable wind load requirements.
9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). **(When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)**

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NOTICE OF ACCEPTANCE STANDARD CONDITIONS

1 Renewal of this Acceptance (approval) shall be considered after a renewal application has been filed and the original submitted documentation, including test supporting data, engineering documents, are no older than eight (8) years.

2 Any and all approved products shall be permanently labeled with the manufacturer's name, city, state, and the following statement: "Miami-Dade County Product Control Approved", or as specifically stated in the specific conditions of this Acceptance.

3 Renewals of Acceptance will not be considered if:
a) There has been a change in the South Florida Building Code affecting the evaluation of this product and the product is not in compliance with the code changes;
b) The product is no longer the same product (identical) as the one originally approved;
c) If the Acceptance holder has not complied with all the requirements of this acceptance, including the correct installation of the product;
d) The engineer who originally prepared, signed and sealed the required documentation initially submitted, is no longer practicing the engineering profession.

4 Any revision or change in the materials, use, and/or manufacture of the product or process shall automatically be cause for termination of this Acceptance, unless prior written approval has been requested (through the filing of a revision application with appropriate fee) and granted by this office.

5 Any of the following shall also be grounds for removal of this Acceptance:
a) Unsatisfactory performance of this product or process;
b) Misuse of this Acceptance as an endorsement of any product, for sales, advertising or any other purposes.

6 The Notice of Acceptance 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 Notice of Acceptance is displayed, then it shall be done in its entirety.

7 A copy of this Acceptance as well as approved drawings and other documents, where it applies, shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at all times. The copies need not be resealed by the engineer.

8 Failure to comply with any section of this Acceptance shall be cause for termination and removal of Acceptance.

9 This Acceptance contains pages 1 through 29.

END OF THIS ACCEPTANCE

Frank Zuloaga, RRC
Roofing Product Control Examiner