MIAMI-DADE

BUILDING CODE COMPLIANCE OFFICE (BCCO)
PRODUCT CONTROL DIVISION

MIAMI-DADE COUNTY, FLORIDA
METRO-DADE FLAGLER BUILDING
140 WEST FLAGLER STREET, SUITE 1603
MIAMI, FLORIDA 33130-1563
(305) 375-2901 FAX (305) 375-2908

NOTICE OF ACCEPTANCE (NOA)

Johns Manville Corporation
717 17th Street
Denver, CO 80202

SCOPE:
This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed by the BCCO and accepted by the Building Code and Product Review Committee 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 Poured Gypsum 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 consists of pages 1 through 18.
The submitted documentation was reviewed by Frank Zuloaga, RRC

PRODUCT CONTROL ACCEPTED

ROOFING ASSEMBLY APPROVAL

Category:	Roofing
Sub-Category:	SBS Modified Bitumen
Deck Type:	Poured Gypsum
Maximum Design Pressure	-55 psf
Fire Classification:	See General Limitation #1

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

Product	Dimensions	Test Specification	Product Description
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.
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.
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.

Product	Dimensions	Test Specification	Product Description
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	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.
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.

Product	Dimensions	Test Specification	Product Description
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.
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.

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

TRADE NAMES OF PRODUCTS MANUFACTURED BY OTHERS:

TABLE 2

Product	Dimensions	Test Specification	Product Description	Manufacturer
Pyrox	various	PA 110	Polyisocyanurate foam insulation	Apache Products Co. (with current NOA)
Asphalt Emulsion		PA 121	Asphalt emulsion	Gardner (with current NOA)
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
High Density Wood Fiberboard	various	PA 110	Wood fiber insulation board	Generic

Product	Dimensions	Test Specification	Product Description	Manufacturer
Polyethylene	4 mil min.		Vapor barrier / Air barrier	Generic
Type X Gypsum	various		Fire resistant rated gypsum	Generic
Dens-Deck	4' x 8'	PA 110	Gypsum board	Georgia-Pacific (with current PCA)
Sturdi-Top	various	PA 110	Wood fiberboard	Georgia-Pacific (with current PCA)
Nail-Tite Type (A or R) base ply Fasteners		PA 114	Galvalume AZ55 base ply fastening systems for gypsum decks.	ES Products, Inc. (with current PCA)
FM-30 disks	2.7" round	PA 114	Round galvalume AZ55 stress plate	ES Products, Inc. (with current PCA)
Tube-Lok Fastener		PA 114	Two piece base sheet fastener for LWC or gypsum decks.	Simplex Nails & Fasteners, Inc. (with current PCA)
Structodeck	various	PA 110	High density wood fiber	Masonite

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	Polymer Gyptec	Glass reinforced nylon gypsum & CWF decks fastener		ITW Buildex (with current PCA)
2.	Polymer Gyptec Metal Plate	Square galvalume AZ55 steel plate	3" square	ITW Buildex (with current PCA)
3.	NTB Magnum	Glass reinforced Nylon insulation fastener for gypsum & CWF decks.		Johns Manville
4.	NTB Plastic plate	Polypropylene plastic plate	3" round	Johns Manville
5.	NTB Plate	Round galvalume AZ55 steel plate	3" round	Johns Manville
6.	Powerlite Fastener	Glass reinforced Zytel Nylon insulation fastener for gypsum & CWF decks.		Powers Fasteners, Inc.
7.	Powerlite Plate	Round galvalume AZ55 steel plate	3" round	Powers Fasteners, Inc.
8.	Rawl Speed-Lock Toggle Fastener	Steel bolt and toggle fastener for gypsum & CWF decks.		Powers Fasteners, Inc.

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
9.	Rawl Insulation Plate	Round galvalume AZ55 steel plate decks.	3" round	Powers Fasteners, Inc.

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 (current)	Current Insulation and Fastening Requirements.□	(Current)
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
	#4361-2.04. -1	Uplift Resistance PA 114	04.00.97
	#10390A-10.97-1 #10390A-12.97-1	Uplift Resistance PA 114	10.00.97 12.00.97

APPROVED ASSEMBLIES

Membrane Type: SBS

Deck Type 6I: Poured Gypsum, Insulated, New Construction

Deck Description: Poured Gypsum Concrete

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

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
E'NRG'Y 2 Minimum 1.4" thick	**N/A**	**N/A**
Fesco Foam Minimum 1.5" thick	**N/A**	**N/A**
Fesco, Fiber Glass Minimum ¾" thick	**N/A**	**N/A**
Retro-Fit Minimum ½" thick	**N/A**	**N/A**

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Tapered UltraGard Minimum 1.4" thick	**N/A**	**N/A**
Tapered Fesco, Tapered Fiber Glass Minimum ¾" thick	**N/A**	**N/A**

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 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: One ply of PermaPly No. 28, DynaBase, DyanBase XT, DynaPly, GlasBase, GlasBase Plus or Ventsulation fastened to the deck as described below:

Fastening: ES Products Nail-Tite Type A or Type R or Simplex Tube-Lok spaced 9" o.c. at the lap and in two rows staggered 12" in the field of the sheet.

Base Sheet:	(Optional) One ply of PermaPly No. 28, DynaBase, DynaBase XT, DynaBase PR, 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, GlasPly Premier, Glas Ply 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. (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:	-55 (See General Limitation #9).

Membrane Type: SBS

Deck Type 6I: Poured Gypsum, Insulated, New Construction

Deck Description: Poured Gypsum Concrete

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

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
E'NRG'Y 2 Minimum 1.3" thick	**3 or 6**	**1:4 ft^2**
Fesco Minimum ¾" thick	**1, 3 or 6**	**1:2 ft^2**

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

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
E'NRG'Y 2 Minimum 1.3" thick	**N/A**	**N/A**
Fesco Minimum ¾" thick	**N/A**	**N/A**
Retro-Fit Minimum ½" thick	**N/A**	**N/A**

Note: Optional top layer of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft^2. 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 No. 28, DynaBase, DynaBase XT, DynaBase PR, 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, GlasPly Premier, Glas Ply 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. (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:	-55 (See General Limitation #9).

Membrane Type: SBS

Deck Type 6I: Poured Gypsum, Insulated, New Construction

Deck Description: Poured Gypsum Concrete

System Type C: All layers of insulation simultaneously fastened.

All General and System limitations apply.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
E'NRG'Y 2 **Minimum 1.3" thick**	**N/A**	**N/A**
Fesco **Minimum ¾" thick**	**N/A**	**N/A**
Retro-Fit **Minimum ½" thick**	**N/A**	**N/A**

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

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
E'NRG'Y 2 **Minimum 1.3" thick**	**1,3, 6 or 8**	**1:4 ft^2**
Fesco **Minimum ¾" thick**	**1,3 or 6**	**1:2 ft^2**

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

Base Sheet: (Optional) One ply of PermaPly No. 28, DynaBase, DynaBase XT, DynaBase PR, 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, GlasPly Premier, Glas Ply 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. (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:	-55 (See General Limitation #9).

Membrane Type: SBS

Deck Type 6I: Poured Gypsum, Insulated, New Construction

Deck Description: Poured Gypsum Concrete

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

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
E'NRG'Y 2 Minimum 1.3" thick	**N/A**	**N/A**
Fesco Foam Minimum 1.5" thick	**N/A**	**N/A**
Fesco Minimum ¾" thick	**N/A**	**N/A**
Retro-Fit Minimum ½" thick	**N/A**	**N/A**

Note: Top layer shall have preliminary attachment, prior to the installation of the base/anchor sheet, at an 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, DyanBase XT, DynaPly, GlasBase, GlasBase Plus or Ventsulation fastened to the deck as described below:

Fastening: Fasten base sheet with Powerlite, NTB or Polymer Gyptec fasteners with 3" round plates spaced 9" o.c. at the lap and in two rows staggered 12" in the field of the sheet.

Ply Sheet: (Optional) One or more plies of GlasBase, GlasBase Plus, GlasPly Premier, Glas Ply 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. (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: -55 (See General Limitation #9).

Membrane Type: SBS

Deck Type 6I: Poured Gypsum, Insulated, New Construction

Deck Description: Poured Gypsum Concrete

System Type E: Base sheet mechanically fastened.

All General and System limitations apply.

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

Fastening: ES Nail-Tite Type 'A' or Type 'R' fasteners spaced 9" o.c. at the lap and in two rows staggered 12" o.c. in the field.

Ply Sheet: (Optional) One or more plies of PermaPly R, GlasBase, GlasBase Plus, GlasPly Premier, Glas Ply IV, 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. (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: -55 (See General Limitation #9).

GENERAL LIMITATIONS:

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

END OF THIS ACCEPTANCE