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 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 Wood Decks**

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

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

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

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

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

This consists of pages 1 through 21.
The submitted documentation was reviewed by Frank Zuloaga, RRC

## ROOFING ASSEMBLY APPROVAL

| | |
|---|---|
| Category: | Roofing |
| Sub-Category: | SBS Modified Bitumen |
| Deck Type: | Wood |
| Maximum Design Pressure | -52.5 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 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. |
| 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. |

| Product | Dimensions | Test Specification | Product Description |
|---|---|---|---|
| Flex-I-Drain | various | BOCA 76-61<br>SBCCI 89204<br>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. |

## APPROVED INSULATIONS:

**TABLE 2**

| Product Name | Product Description | Manufacturer (With Current NOA) |
|---|---|---|
| ENRGY 2, ENERGY 3, PSI-25 | Isocyanurate Insulation. | Johns Manville |
| ENRGY 2 Composite | Polyisocyanurate insulation laminated to perlite. | Johns Manville |
| ENRGY 2 Plus | Polyisocyanurate insulation laminated to wood fiber. | Johns Manville |
| Fesco Foam, DuraFoam | Isocyanurate Insulation with perlite facer | Johns Manville |
| Retro-Fit Board, DuraBoard | A high-density perlite roof insulation. | Johns Manville |
| Fesco Board | Rigid perlite roof insulation board. | Johns Manville |
| Fiber Glass Roof Insulation | Fiberglas roof insulation. | Johns Manville |

## APPROVED INSULATIONS:

**TABLE 2**

| Product Name | Product Description | Manufacturer (With Current NOA) |
|---|---|---|
| Millox | Isocyanurate Insulation with wood fiberboard facer | Apache Products Co. |
| Pyrox, White Line | Isocyanurate Insulation | Apache Products Co. |
| ACFoam Composite | Isocyanurate Insulation with perlite facer | Atlas Roofing Corp. |
| ACFoam II | Isocyanurate Insulation | Atlas Roofing Corp. |
| Styrofoam | Extruded polystyrense 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 |
| Fiber Base | Asphalt coated wood fiber insulation | Temple Inland Forest Products Corp. |

## APPROVED FASTENERS:

**TABLE 3**

| Fastener Number | Product Name | Product Description | Dimensions | Manufacturer (With Current NOA) |
|---|---|---|---|---|
| 1. | UltraFast | Insulation fastener for wood and steel. | | Johns Manville |
| 2. | UltraFast ASAP | Pre-assembled Insulation fastener and plate | | Johns Manville |
| 3. | UltraFast Metal Plate | Galvalume AZ55 steel plate | 3" square & 3" round | Johns Manville |
| 4. | UltraFast Plastic Plate | High Density Polyolefin round plate | 3" round | Johns Manville |
| 5. | Olympic Fastener #12 & #14 | Insulation fastener | | Olympic Mfg. Group |
| 6. | Olympic Fastener ASAP | Pre-assembled Insulation fastener and plate | | Olympic Mfg. Group |
| 7. | Olympic Polypropylene | Polypropylene plastic plate | 3.25" round | Olympic Mfg. Group |

## APPROVED FASTENERS:

TABLE 3

| Fastener Number | Product Name | Product Description | Dimensions | Manufacturer (With Current NOA) |
|---|---|---|---|---|
| 8. | Olympic G-2 | 3.5" round galvalume AZ55 steel plate | 3.5" round | Olympic Mfg. Group |
| 9. | Olympic Standard | 3" round galvalume AZ50 steel plate | 3" round | Olympic Mfg. Group |

## EVIDENCE SUBMITTED:

| Test Agency/Identifier | Name | Report | Date |
|---|---|---|---|
| Factory Mutual Research | J.I. # 3001482 | FM Approval Report | 08.11.98 |
| | J.I. # 3001629 | FM Approval Report | 09.10.98 |
| | J.I. # 0Z8A9.AM | | |
| | J.I. # 3D4A4.AM | FM Approval Report | 09.28.98 |
| | J.I. # 3000949 | | |
| | 3007148 | FM Class 4450 | 04.19.00 |
| | 3007148 | FM Class 4450 | 09.15.00 |
| Dynatech Engineering | 4360.03.95-1 | Wind Uplift Classification | 3.95 |
| | 4360.03.95-2 | | |
| | 4361.5.95-1 | Wind Uplift Classification | 5.95 |
| Underwriters Laboratories | R-10167 (N) | Fire Classification | 01.01.95 |
| Exterior Research & Design | #4361-2.04.97-1 | Uplift Resistance | 02.04.97 |
| | #10390A-12.97-1 | Uplift Resistance | 12.00.97 |
| IRT, Inc. | #99004 | Uplift Resistance | 03.00.99 |

## APPROVED ASSEMBLIES

**Membrane Type:** SBS

**Deck Type 1I:** Wood, Insulated, New Construction

**Deck Description:** $^{19}/_{32}$" or greater plywood or wood plank, fastened with #12-3" Olympic STD screws @ 6" o.c.

**System Type A(1):** 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:

| Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft$^2$ |
|---|---|---|
| **ENRGY 2, ENRGY 3**<br>**Minimum 1.3" thick** | **N/A** | **N/A** |
| **Fesco Foam, DuraFoam**<br>**Minimum 1.5" thick** | **N/A** | **N/A** |
| **Fesco Board**<br>**Minimum ¾" thick** | **N/A** | **N/A** |
| **Retro-Fit Board, DuraBoard**<br>**Minimum ½" thick** | **N/A** | **N/A** |

**Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 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 GlasPly Premier fastened to the deck as described below:

Fastening: Anchor sheet shall be lapped 3" and fastened with 2 ¼" Ultrafast screws and 3" plates, 8" o.c. at the lap and three rows staggered in the center of the sheet 8" o.c..

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: (Optional) One or more plies of GlasPly Premier, Glas Ply IV, DynaLastic 180S, DynaBase, DynaBase XT, DynaBase PR or DynaPly adhered to the a base sheet or perlite top layer with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Base heat welded.

| | |
|---|---|
| Membrane: | One or more plies 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).<br>Or<br>(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:<br>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.<br>2. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively.<br>3. GlasKap Adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. |
| Maximum Design Pressure: | -52.5 (See General Limitation #7). |

**Membrane Type:** SBS

**Deck Type 1I:** Wood, Insulated, New Construction

**Deck Description:** $^{15}/_{32}$" or greater plywood or wood plank

**System Type A(2):** 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:

| **Insulation Layer** | **Insulation Fasteners (Table 3)** | **Fastener Density/ft$^2$** |
|---|---|---|
| **ENRGY 2, ENRGY 3**<br>**Minimum 1.3" thick** | **N/A** | **N/A** |
| **Fesco Foam, DuraFoam**<br>**Minimum 1.5" thick** | **N/A** | **N/A** |
| **Fesco Board**<br>**Minimum ¾" thick** | **N/A** | **N/A** |
| **Retro-Fit Board, DuraBoard**<br>**Minimum ½" thick** | **N/A** | **N/A** |

**Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 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: Two plies of PermaPly 28, DynaBase, GlasBase Plus, or Ventsulation fastened to the deck as described below:

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

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: (Optional) One or more plies of GlasPly Premier, Glas Ply IV, DynaLastic 180S, DynaBase, DynaBase XT, DynaBase PR or DynaPly adhered to the a base sheet or perlite top layer with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Base, DynaWeld Base PR or DynaWeld 180S heat welded.

| | |
|---|---|
| Membrane: | One or more plies 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).<br>Or<br>(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:<br>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.<br>2. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively.<br>3. GlasKap Adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. |
| Maximum Design Pressure: | -52.5 (See General Limitation #7). |

**Membrane Type:** SBS

**Deck Type 1I:** Wood, Insulated, New Construction

**Deck Description:** $^{15}/_{32}$" or greater plywood or wood plank

**System Type A(3):** 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:

| **Insulation Layer** | **Insulation Fasteners (Table 3)** | **Fastener Density/ft$^2$** |
|---|---|---|
| **ENRGY 2, ENRGY 3**<br>**Minimum 1.3" thick** | **N/A** | **N/A** |
| **Fesco Foam, DuraFoam**<br>**Minimum 1.5" thick** | **N/A** | **N/A** |
| **Fesco Board**<br>**Minimum ¾" thick** | **N/A** | **N/A** |
| **Retro-Fit Board, DuraBoard**<br>**Minimum ½" thick** | **N/A** | **N/A** |

**Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 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 28, DynaBase, GlasBase Plus or Ventsulation fastened to the deck as described below:

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

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: (Optional) One or more plies of GlasPly Premier, Glas Ply IV, DynaLastic 180S, DynaBase, DynaBase XT, DynaBase PR or DynaPly adhered to the a base sheet or perlite top layer with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Base heat welded.

| | |
|---|---|
| Membrane: | One or more plies 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).<br>Or<br>(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:<br>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.<br>2. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively.<br>3. GlasKap Adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. |
| Maximum Design Pressure: | -45 psf (See General Limitation #9). |

**Membrane Type:** SBS

**Deck Type 1I:** Wood, Insulated, New Construction

**Deck Description:** $^{19}/_{32}$" or greater plywood or wood plank

**System Type B:** Base layer of insulation mechanically attached, 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 1.2" thick** | **1, 2, 5 or 6** | **1:2 ft$^2$** |
| **Fesco Foam Minimum 1.5" thick** | **1, 2, 5 or 6** | **1:2 ft$^2$** |
| **Fesco Minimum ¾" thick** | **1, 2, 5 or 6** | **1:2 ft$^2$** |
| **Retro-Fit Board Minimum ½" thick** | **1, 2, 5 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 (Optional) | Insulation Fasteners (Table 3) | Fastener Density/ft$^2$ |
|---|---|---|
| **Any insulation listed for Base Layer, above** | | |
| **Retro-Fit Board Minimum ½" thick** | **N/A** | **N/A** |

**Note: Optional top layer of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-40 lbs/100 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 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: (Optional) One or more plies of DynaBase, DynaBase XT, DynaBase PR, GlasBase Plus, PermaPly 28, GlasPly Premier, Glas Ply IV, DynaLastic 180S or DynaPly adhered to the a base sheet or perlite top layer with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Base heat welded.

| | |
|---|---|
| Membrane: | One or more plies 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).<br>Or<br>(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:<br>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.<br>2. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively.<br>3. GlasKap Adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. |
| Maximum Design Pressure: | -45 psf (See General Limitation #9). |

**Membrane Type:** SBS

**Deck Type 1I:** Wood, Insulated, New Construction

**Deck Description:** $^{19}/_{32}$" or greater plywood or wood plank

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

**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$^2$ |
|---|---|---|
| **ENRGY 2, ENRGY 3**<br>**Minimum 1" thick** | **N/A** | **N/A** |
| **Fesco Foam, DuraFoam**<br>**Minimum 1.5" thick** | **N/A** | **N/A** |
| **Fesco Board**<br>**Minimum ¾" thick** | **N/A** | **N/A** |
| **Retro-Fit Board, DuraBoard**<br>**Minimum ½" thick** | **N/A** | **N/A** |

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

| Top Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft$^2$ |
|---|---|---|
| **Retro-Fit Board, DuraBoard**<br>**Minimum ½" thick** | **1, 2, 5 or 6** | **1:2 ft$^2$** |
| **Fesco Foam, DuraFoam**<br>**Minimum 1.5" thick** | **1, 2, 5 or 6** | **1:2 ft$^2$** |
| **Fesco Board**<br>**Minimum ¾" thick** | **1, 2, 5 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 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: | (Optional) One or more plies of DynaBase, DynaBase XT, DynaBase PR, GlasBase Plus, PermaPly 28, GlasPly Premier, Glas Ply IV, DynaLastic 180S or DynaPly adhered to the a base sheet or perlite top layer with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Base heat welded. |
| Membrane: | One or more plies 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).<br>Or<br>(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:<br>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.<br>2. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively.<br>3. GlasKap Adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. |
| Maximum Design Pressure: | -45 psf (See General Limitation #9). |

**Membrane Type:** SBS

**Deck Type 1I:** Wood, Insulated, New Construction

**Deck Description:** $^{19}/_{32}$" or greater plywood or wood plank, fastened with #12-3" Olympic STD screws @ 6" o.c.

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

**All General and System limitations apply.**

One or more layers of any of the following insulations:

| Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft$^2$ |
|---|---|---|
| **ENRGY 2, ENRGY 3**<br>**Minimum 1.3" thick** | **N/A** | **N/A** |
| **Fesco Foam, DuraFoam**<br>**Minimum 1.5" thick** | **N/A** | **N/A** |
| **Fesco Board**<br>**Minimum ¾" thick** | **N/A** | **N/A** |
| **Retro-Fit Board, DuraBoard**<br>**Minimum ½" thick** | **N/A** | **N/A** |

**Note: Top layer shall have preliminary attachment, prior to the installation of the base/anchor sheet, at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.**

Base Sheet: One ply of GlasPly Premier fastened to the deck as described below:

Fastening : Fasten base sheet with UltraFast screws and 3" metal plates at 8" o.c. in the lap and three additional rows in the field at 8" o.c.

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

Membrane: One or more plies 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.
3. GlasKap Adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

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

**Membrane Type:** SBS

**Deck Type 1**: Wood, Non-insulated

**Deck Description:** $^{19}/_{32}$" or greater plywood or wood plank decks

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

**All General and System limitations apply.**

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

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

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

Membrane: One or more plies 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.

3. GlasKap Adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

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

**Membrane Type:** SBS

**Deck Type 1:** Wood, Non-insulated

**Deck Description:** $^{19}/_{32}$" or greater plywood or wood plank, fastened with #12-3" Olympic STD screws @ 6" o.c.

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

**All General and System limitations apply.**

Base Sheet: One ply of GlasPly Premier fastened to the deck as described below:

Fastening: Base sheet shall be lapped 3" and fastened with UltraFast screws and 3" plates 8" o.c. in the lap and three rows staggered in the center of the sheet 8" o.c..

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

Membrane: One or more plies 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.
3. GlasKap Adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

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

## WOOD DECK SYSTEM LIMITATIONS:

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

## GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance, refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each 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**