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 Florida Building Code and 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 revises NOA No. 07-0228.08 and consists of pages 1 through 18.
The submitted documentation was reviewed by Jorge L. Acebo.

MIAMI-DADE COUNTY APPROVED

## ROOFING ASSEMBLY APPROVAL

| | |
|---|---|
| Category: | Roofing |
| Sub-Category: | Modified Bitumen |
| Material: | SBS |
| Deck Type: | Poured Gypsum |
| Maximum Design Pressure | -75 psf |

## 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 180 gram polyester mat 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. |

| Product | Dimensions | Test Specification | Product Description |
|---|---|---|---|
| DynaPly | 39-3/8" x 32'-10"; roll weight: 90 lbs. | ASTM D 6162 Type II Grade S | A polyester reinforced SBS modified bitumen ply sheet for use in conventional and modified bitumen built-up roof systems. |
| DynaLastic 250 | 39-3/8" x 32'-10"; roll weight: 114 lbs. | ASTM D 6164 Type II Grade G | A 250 gram polyester mat reinforced, granular-surfaced, modified bitumen cap sheet. |
| DynaLastic 250 FR | 39-3/8" x 32'-10"; roll weight: 115 lbs. | ASTM D 6164 Type II Grade G | A 250 gram polyester mat reinforced, granular-surfaced, modified bitumen cap sheet for use in fire-rated systems. |
| DynaLastic 250 S | 39-3/8" x 32'-10"; roll weight: 90 lbs | ASTM D 6164 Type II Grade S | A 250 gram polyester reinforced, SBS modified bitumen Base/Ply sheet for use as a base or ply sheet only . |
| 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. |
| GlasKap | 36" x 36'; roll weight: 72 lbs | ASTM D 3909 | A mineral surfaced, asphalt coated, fiberglass cap sheet. |
| GlasKap CR | 36" x 36'; roll weight: 72 lbs | ASTM D 3909 | A white mineral surfaced, white acrylic coated, fiberglass 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. |

| Product | Dimensions | Test Specification | Product Description |
|---|---|---|---|
| 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. |
| 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 | TAS 114 | A multi-piece fascia and flashing system for built-up and modified bitumen roofing systems manufactured from aluminum or steel. |

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

## APPROVED INSULATIONS:

TABLE 2

| Product Name | Product Description | Manufacturer (With Current NOA) |
|---|---|---|
| ENERGY 3, PSI-25 | Polyisocyanurate Insulation. | Johns Manville |
| ENRGY 3 Plus | Polyisocyanurate insulation laminated to wood fiber. | Johns Manville |
| Fesco Foam, DuraFoam | Polyisocyanurate 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 |
| Invinsa Roof Board | High density polyisocyanurate board | Johns Manville |
| ACFoam Composite | Polyisocyanurate Insulation with perlite facer | Atlas Roofing Corp. |
| ACFoam II | Polyisocyanurate Insulation | Atlas Roofing Corp. |
| Styrofoam | Extruded polystyrene insulation | Dow |
| DensDeck | Silicon treated gypsum | G-P Products |
| SECUROCK™ Roof Board | Rigid, gypsum-based board stock | USG Corp. |
| 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. | Polymer Gyptec | Glass reinforced nylon gypsum & CWF decks fastener | Various | 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. | Various | 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. | Various | 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. | Various | Powers Fasteners, Inc. |
| 9. | Rawl Insulation Plate | Round galvalume AZ55 steel plate decks. | 3" round | Powers Fasteners, Inc. |
| 10. | Nail-Tite Type (A or R) base ply Fasteners | Galvalume AZ55 base ply fastening systems for gypsum decks. | 1.7" dia. Cap | ES Products, Inc. |
| 11. | FM-30 disks | Round galvalume AZ55 stress plate | 2.7" dia. plate | ES Products, Inc. |
| 12. | Twin Loc-Nail | Base sheet fastener with integrated Plate. | 2.7" dia. plate | ES Products, Inc. |
| 13. | Tube-Lok Fastener | Two piece base sheet fastener for LWC or gypsum decks. | Various lengths; 1" dia. cap | Simplex Nails & Fasteners, Inc. |
| 14 | Ultralok | Base sheet fastener with integral plate | 2.7" dia. Plate | OMG |

## EVIDENCE SUBMITTED:

| Test Agency/Identifier | Name | Report | Date |
|---|---|---|---|
| Factory Mutual Research Corp. | J.I. # 3001482 | FM Class 4470 | 08/11/98 |
| | J.I. # 3001629 | FM Class 4470 | 09/10/98 |
| | J.I. # 0Z8A9.AM | | |
| | J.I. # 3D4A4.AM | FM Class 4470 | 09/28/98 |
| | J.I. # 3000949 | | |
| | 3012974 | FM Class 4450 | 06/03/02 |
| | 3014090 | FM Class 4470 | 09/05/02 |
| | 3001457 | FM Class 4470 | 03/04/02 |
| | FMRC (current) | Current Insulation and Fastening Requirements. | (Current) |
| | 3037222 | FM Class 4470 | 10/02/09 |
| | 3026130 | FM Class 4470 | 04/26/09 |
| Dynatech Engineering, Inc. | 4360.03.95-1 | TAS 114 | 3/95 |
| | 4360.03.95-2 | | |
| | 4361.5.95-1 | TAS 114 | 5/95 |
| Underwriters Laboratories, Inc. | R-10167 (N) | Fire Classification Listing | 01/01/95 |
| Exterior Research & Design, LLC | #4361-2.04.97-1 | TAS 114 | 04/28/97 |
| | #4361-2.04. -1 | TAS 114 | 04/00/97 |
| | 10391.01.03 | | 01/29/03 |
| | #10390A-10.97-1 | TAS 114 | 10/01/97 |
| | #10390A-12.97-1 | | 12/01/97 |
| | 00257.03.05-1 | ASTM D 6162/63/64 ASTM D6298 | 03/17/05 |
| Trinity\|ERD | 02843.02.07 | TAS 114 | 02/07/07 |
| | J7670.06.08 | ASTM D3909 | 06/16/08 |
| | J17040.11.09-R1 | ASTM D6164 | 03/11/10 |
| IRT-Arcon, Inc. | 02-011 | TAS 114 | 02/07/02 |
| | 02-026 | | 07/26/02 |

## APPROVED ASSEMBLIES

**Membrane Type:** SBS

**Deck Type 6I:** Poured Gypsum, Insulated

**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$^2$** |
|---|---|---|
| **ENRGY 3 Minimum 1.4" thick** | **N/A** | **N/A** |
| **Fesco Foam, DuraFoam Minimum 1.5" thick** | **N/A** | **N/A** |
| **Fesco Board, DuraBoard Minimum ¾" thick** | **N/A** | **N/A** |
| **Retro-Fit Board Minimum ½" thick** | **N/A** | **N/A** |

| **Top Insulation Layer** | **Insulation Fasteners (Table 3)** | **Fastener Density/ft$^2$** |
|---|---|---|
| **Tapered Fesco Board, Tapered DuraBoard 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 #1: 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.
***(Maximum Design Pressure -55 psf, See General Limitation #9)***

Fastening #2: ES Products 1.8" Twin Loc-Nail or Ultralok fasteners spaced 9" o.c. at the 3" side lap and two rows staggered 12" o.c. in the field.
***(Maximum Design Pressure –75 psf, See General Limitation #7)***

Base Sheet: (Optional) One ply of PermaPly 28, DynaBase, DynaBase XT 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.

| | |
|---|---|
| Ply Sheet: | One or more plies of, GlasBase Plus, GlasPly Premier, GlasPly IV, DynaLastic 180 S, DynaBase, DynaBase XT 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 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<br>(Only with a modified Base or Ply sheet) GlasKap or GlasKap CR 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. |
| Maximum Design Pressure: | See Fastening Options Above |

**Membrane Type:** SBS

**Deck Type 6I:** Poured Gypsum, Insulated

**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$^2$ |
|---|---|---|
| **ENRGY 3 Minimum 1.3" thick** | **3, 6 or 12** | **1:4 ft$^2$** |
| **Fesco Board, DuraBoard Minimum ¾" thick** | **1, 3, 6 or 12** | **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$^2$ |
|---|---|---|
| **Fesco Board, DuraBoard Minimum ¾" thick** | **N/A** | **N/A** |
| **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 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.

Ply Sheet: One or more plies of GlasBase Plus, GlasPly Premier, GlasPly IV, DynaLastic 180 S, DynaLastic 250 S, DynaBase, DynaBase XT 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 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.<br>Or<br>(Only with a modified Base or Ply sheet) GlasKap or GlasKap CR 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. |
| Maximum Design Pressure: | -55 psf (See General Limitation #9). |

**Membrane Type:** SBS

**Deck Type 6I:** Poured Gypsum, Insulated

**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$^2$** |
|---|---|---|
| **ENRGY 3 Minimum 1.3" thick** | **N/A** | **N/A** |
| **Fesco Board, DuraBoard Minimum ¾" thick** | **N/A** | **N/A** |
| **Retro-Fit Board 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$^2$** |
|---|---|---|
| **Fesco Board, DuraBoard Minimum ¾" thick** | **1, 3, 6 or 12** | **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 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.

Ply Sheet: One or more plies of GlasBase Plus, GlasPly Premier, GlasPly IV, DynaLastic 180 S, DynaBase, DynaBase XT 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 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
(Only with a modified Base or Ply sheet) GlasKap or GlasKap CR 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><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><br>2. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively. |
| Maximum Design Pressure: | -55 psf (See General Limitation #9). |

**Membrane Type:** SBS

**Deck Type 6I:** Poured Gypsum, Insulated

**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$^2$ |
|---|---|---|
| **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, DuraBoard**<br>**Minimum ¾" thick** | **N/A** | **N/A** |
| **Retro-Fit Board**<br>**Minimum ½" thick** | **N/A** | **N/A** |
| **DensDeck, SECUROCK Roof Board, InvinsaBoard**<br>**Minimum ¼" 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 28, DynaBase, DyanBase XT, DynaPly, GlasBase Plus or Ventsulation fastened to the deck as described below:

Fastening: Fasten base sheet with 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 Plus, GlasPly Premier, GlasPly IV, DynaLastic 180 S, DynaLastic 250 S, DynaBase, DynaBase XT or DynaPly adhered to the base sheet with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive at an application rate of 1.5 gal./sq.

Membrane: One ply of DynaKap, DynaKap FR, DynaMax, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas 30 FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 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 with MBR Bonding Adhesive at an application rate of 1.5 gal./sq.
Or
(Only with a modified Base or Ply sheet) GlasKap or GlasKap CR Adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

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|---|---|
| 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. |
| Maximum Design Pressure: | -55 psf (See General Limitation #9). |

**Membrane Type:** SBS

**Deck Type 6:** Poured Gypsum, Non-Insulated

**Deck Description:** Poured Gypsum Concrete

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

**All General and System Limitations apply.**

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

Fastening : Attach base sheet with ES Products 1.8" Twin Loc-Nail or Ultralok fasteners spaced 9" o.c. at the 3" side lap and two rows staggered 12" o.c. in the field.

Ply Sheet: (Optional) One or more plies of GlasBase Plus, GlasPly Premier, GlasPly IV, DynaLastic 180 S, DynaLastic 250 S, DynaBase, DynaBase XT or DynaPly adhered to the base sheet with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive at an application rate of 1.5 gal./sq.

Membrane: One ply of DynaClad, 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 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 with MBR Bonding Adhesive at an application rate of 1.5 gal./sq.
Or
(Only with a modified Base or Ply sheet) GlasKap or GlasKap CR 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: -75 psf (See General Limitations #7).

**Membrane Type:** SBS

**Deck Type 6**: Poured Gypsum, Non-Insulated

**Deck Description:** Poured Gypsum Concrete

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

**All General and System limitations apply.**

Base Sheet: One ply of PermaPly No. 28, DynaBase, DyanBase XT, DynaPly, 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, GlasPly IV, DynaBase, DynaBase XT or DynaPly adhered to the base sheet with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive at an application rate of 1.5 gal./sq.

Membrane: One ply of DynaKap, DynaKap FR, DynaMax, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas 30 FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 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 with MBR Bonding Adhesive at an application rate of 1.5 gal./sq.
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 psf (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 side lap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq.
   **Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.**
5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. Insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
7. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased for both insulation and base sheet as calculated in compliance with Roofing Application Standard RAS 117. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant. **(When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)**
8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform to Roofing Application Standard RAS 111 and applicable wind load requirements.
9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). **(When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)**

# END OF THIS ACCEPTANCE