



DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION

11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
T (786) 315-2590 F (786) 315-2599

www.miamidade.gov/economy

NOTICE OF ACCEPTANCE (NOA)

Mule-Hide Products Co., Inc.
1195 Prince Hall Drive
Beloit, WI 53511

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section 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 Section (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. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section 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 including the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: Mule-Hide Single Ply TPO Roof Systems over Concrete Decks

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

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

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

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

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

This NOA revises NOA# 18-0109.11 and consists of pages 1 through 98.
The submitted documentation was reviewed by Alex Tigera.



NOA No: 19-0306.06
Expiration Date: 08/31/23
Approval Date: 03/14/19
Page 1 of 98

ROOFING SYSTEM APPROVAL

| | |
|--------------------------------|---------------------------|
| Category: | Roofing |
| Sub-Category: | Single Ply |
| Material: | TPO |
| Deck Type: | Concrete |
| Maximum Design Pressure | -495 psf |
| Fire Classification: | See General Limitation #1 |

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

| <u>Product Name</u> | <u>Dimensions</u> | <u>Test Specifications</u> | <u>Product Description</u> |
|---------------------------------|-------------------|----------------------------|---|
| Mule-Hide TPO-c | various | TAS 131 | Reinforced white or colored, 45-mil or 60-mil thick, TPO membrane. |
| Mule-Hide TPO-c EXTRA | various | TAS 131 | Reinforced white or colored, 80-mil thick, TPO membrane. |
| Mule-Hide TPO-c (FR) | various | TAS 131 | Reinforced white or colored, 45-mil, 60-mil or 80-mil thick, TPO membrane. |
| TPO-c Fleece Back Plus 120 | Various | TAS 131 | Reinforced white or colored, 120-mil thick, TPO membrane with fleece backing. |
| TPO-c Fleece Back Plus 135 | Various | TAS 131 | Reinforced white or colored, 135-mil thick, TPO membrane with fleece backing. |
| TPO-c Fleece Back Plus 155 | Various | TAS 131 | Reinforced white or colored, 155-mil thick, TPO membrane with fleece backing. |
| Mule-Hide TPO-c Fleece Back 100 | various | TAS 131 | Reinforced white or colored, 100-mil thick, TPO membrane with fleece backing. |
| Mule-Hide TPO-c Fleece Back 115 | various | TAS 131 | Reinforced white or colored, 115-mil thick, TPO membrane with fleece backing. |
| Mule-Hide TPO-c Fleece Back 135 | various | TAS 131 | Reinforced white or colored, 135-mil thick, TPO membrane with fleece backing. |
| TPO Pressure Sensitive RUSS | various | TAS 131 | TPO Reinforced Universal Securement Strip. |
| Aqua Base 120 Bonding Adhesive | Various | TAS 110 | Water-based bonding adhesive |
| Cold Applied Adhesive | Various | TAS 110 | Asphalt-Modified Polyether Adhesive |



TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

| <u>Product Name</u> | <u>Dimensions</u> | <u>Test Specifications</u> | <u>Product Description</u> |
|---|-------------------------------|----------------------------|--|
| FAST 100 LV Adhesive | 15 & 50-gal. drum | TAS 110 | Two-part, low-rise polyurethane adhesive |
| FAST 5 Gallon Jug Adhesive | 5-gal. Box | TAS 110 | Two-part, low-rise polyurethane adhesive |
| FAST Dual Cartridge Adhesive | Per carton - 4 cartridge sets | TAS 110 | Two-part, low-rise polyurethane adhesive |
| FAST Dual Tank Adhesive | Per carton - 4 cartridge sets | TAS 110 | Two-part, low-rise polyurethane adhesive |
| Flexible FAST Dual Cartridge Adhesive | 15 & 50-gal. drum | TAS 110 | Two-part, low-rise polyurethane adhesive |
| HydroBond Adhesive | 5-gal. pail | | Water-based bonding adhesive |
| Sure-WeldMule-Hide TPO-c Bonding Adhesive | 5-gal. pail | TAS 110 | Solvent-based bonding adhesive. |



APPROVED INSULATIONS:

TABLE 2

| <u>Product Name</u> | <u>Product Description</u> | <u>Manufacturer (With Current NOA)</u> |
|--|--|---|
| Mule-Hide Poly ISO 1, Mule-Hide Poly ISO 1NB H-Shield CG | Polyisocyanurate roof insulation. | Mule-Hide Products Co., Inc. |
| Mule-Hide Poly ISO 1 HD H-Shield HD Composite CG | Polyisocyanurate foam core with a coated glass facer. | Hunter Panels, LLC |
| DensDeck, DensDeck Prime | Polyisocyanurate foam core and high-density cover board | Mule-Hide Products Co., Inc. |
| Structodek High Density Fiberboard Roof Insulation | Polyisocyanurate foam core with a coated glass facer. | Hunter Panels, LLC |
| Insulfoam EPS, InsulFoam SP, InsulFoam R-TECH | Silicon treated gypsum | Georgia-Pacific Gypsum, LLC. |
| SECUROCK Gypsum-Fiber Roof Board | High Density Wood Fiber insulation board. | Blue Ridge Fiberboard, Inc. |
| STYROFOAM ROOFMATE | Expanded polystyrene | Insulfoam, a Div. of Carlisle Const. Materials |
| | Gypsum based board stock | USG Corp. |
| | Extruded polystyrene | The Dow Chemical Co. |



APPROVED FASTENERS/ADHESIVES:

TABLE 3

| <u>Fastener Number</u> | <u>Product Name</u> | <u>Product Description</u> | <u>Dimensions</u> | <u>Manufacturer (With Current NOA)</u> |
|------------------------|---------------------------------------|---|-------------------|--|
| 1. | OMG Heavy Duty | Insulation/membrane fastener for concrete decks. | Various | OMG, Inc. |
| 2. | Mule-Hide EHD Fastener | Insulation and membrane fastener | Various | Mule-Hide Products Co., Inc. |
| 3. | OMG 2-3/8" Barbed XHD Plate | Metal plates used for membrane securement with Sure-Seal fasteners. | 2-3/8" dia | OMG, Inc. |
| 4. | CD-10 | Insulation/membrane fastener for concrete decks. | Various | OMG, Inc. |
| 5. | #12 Standard Roofgrip | Insulation and membrane fastener | Various | OMG, Inc. |
| 6. | #14 Roofgrip | Insulation and membrane fastener | Various | OMG, Inc. |
| 7. | Mule-Hide HDP Fastener | Insulation and membrane fastener | Various | Mule-Hide Products Co., Inc. |
| 8. | Mule-Hide Drill Point Fastener | Insulation and membrane fastener | Various | Mule-Hide Products Co., Inc. |
| 9. | Mule-Hide Insulation Plate | Insulation and membrane fastener | Various | Mule-Hide Product Co., Inc. |
| 10. | Mule-Hide 2.4" Seam Plate | Insulation and membrane fastener | Various | Mule-Hide Product Co., Inc. |
| 11. | RhinoBond Insulation Plate (TPO) | Coated galvalume plate | 3" round | OMG, Inc. |
| 12. | RhinoBond TreadSafe Plate (TPO) | Coated galvalume plate | 3" round | OMG, Inc. |
| 13. | OMG 3 in. Galvalume Steel Plate | Coated galvalume plate | 3" round | OMG, Inc. |
| 14. | Dekfast DF-#12-PH3 | Insulation and membrane fastener | Various | SFS Group USA, Inc. |
| 15. | Dekfast DF-#14-PH3 | Insulation and membrane fastener | Various | SFS Group USA, Inc. |
| 16. | Dekfast PLT-H-2-7/8 | Galvalume AZ50 stress plate | 2-7/8" x 3-1/4" | SFS Group USA, Inc. |
| 17. | Dekfast PLT-R-3 | Galvalume AZ50 stress plate | 3" round | SFS Group USA, Inc. |
| 18. | Millennium One Step Foamable Adhesive | A two component, low rise, polyurethane foam adhesive | | H.B. Fuller Company |
| 19. | OMG OlyBond 500 | Two-part, low-rise polyurethane adhesive | Various | OMG, Inc. |
| 20. | HydroBond Adhesive | Water-based bonding adhesive | 5-gal. pail | Carlisle Syntec, a division of Carlisle Construction Materials, Inc. |



EVIDENCE SUBMITTED:

| <u>Test Agency</u> | <u>Test Identifier</u> | <u>Description</u> | <u>Date</u> |
|-------------------------------|----------------------------|-------------------------------------|-------------|
| Architectural Testing Inc. | ATI-37050.01 | Wind Uplift Classification | 03/13/00 |
| | ATI-37490-01 | Membrane Brittleness Testing | 07/07/00 |
| | D7442.01-106-31 | ASTM D2196 | 05/16/14 |
| Factory Mutual Research Corp. | 3Z9A1.AM | Wind Uplift and Fire Classification | 10/15/97 |
| | 3001522 (Letter Report) | Wind Uplift Classification | 11/03/98 |
| | 3003393 (Letter Report) | Wind Uplift Classification | 03/26/99 |
| | 3001522 | Wind Uplift Classification | 03/26/99 |
| | 3003393 | Wind Uplift Classification | 03/30/99 |
| | Approval Guide Excerpt | Wind Uplift and Fire Listings | 05/00 |
| | 3007710 | FM 4470 | 03/12/01 |
| | 3008869 | FM 4470 | 03/19/01 |
| | 3006110 | FM 4470 | 06/13/01 |
| | 3011220 | FM 4470 | 08/16/01 |
| | 3011494 | FM 4450 | 08/22/01 |
| | 3011329 | FM 4470 | 06/10/02 |
| | 3012879 | FM 4470 | 04/04/03 |
| | 3013584 | FM 4470 | 06/27/03 |
| | 3014692 | FM 4470 | 08/05/03 |
| | 3014751 | FM 4470 | 08/27/03 |
| | 3016355 | FM 4450 | 09/15/03 |
| | 3016162 | FM 4470 | 11/25/03 |
| | 3012144 | FM 4470 | 06/04/04 |
| | 3019890 | FM 4470 | 12/16/04 |
| | 3017662 | FM 4470 | 06/07/05 |
| | 3023032 | FM 4470 | 07/20/05 |
| | 3022181 | FM 4470 | 09/01/05 |
| | 3022187 | FM 4470 | 09/15/05 |
| | 3019897 | FM 4470 | 10/07/05 |
| | 3020845 | FM 4470 | 01/22/06 |
| | 3021941 | FM 4470 | 03/20/06 |
| 3023340 | FM 4470 | 03/20/06 | |
| 3023458 | FM 4450 | 07/18/06 | |
| 3026316 | FM 4470 | 04/24/07 | |
| 3021235 | FM 4450 | 06/01/07 | |
| 3026964 | FM 4470 | 07/25/07 | |
| 3028438 | FM 4470 | 08/22/07 | |
| 3026951 | FM 4470 | 01/21/08 | |
| 3029840 | FM 4470 | 09/08/08 | |
| 3033217 | FM 4470 | 12/08/08 | |
| 3035880 | FM 4470 | 07/02/09 | |
| 3034776 | FM 4470 | 08/07/09 | |
| 3034297 | FM 4470 | 11/13/09 | |



EVIDENCE SUBMITTED:

| <u>Test Agency</u> | <u>Test Identifier</u> | <u>Description</u> | <u>Date</u> |
|--------------------------------------|------------------------|------------------------------------|-------------|
| | 3038140 | FM 4470 | 08/04/10 |
| | 3041797 | FM 4470 | 10/13/11 |
| | 3039073 | FM 4470 | 11/22/11 |
| | 3040260 | FM 4470 | 02/27/12 |
| | 3039762 | FM 4470 | 09/07/12 |
| | 3040006 | FM 4470 | 09/13/12 |
| | 3047327 | FM 4470 | 09/13/12 |
| | 3040639 | FM 4470 | 09/18/12 |
| | 3043858 | FM 4470 | 09/25/12 |
| | 3046083 | FM 4470 | 03/27/14 |
| | 3049189 | FM 4470 | 03/31/15 |
| | 3055462 | FM 4470 | 11/03/15 |
| | 3056745 | FM 4470 | 09/28/16 |
| Celotex Corporation Testing Services | 520257 | Membrane Physical Property Testing | 4/19/00 |
| SGS U.S. Testing Company Inc. | 131248-R2 | Membrane Ozone Testing | 1/6/00 |
| Trinity ERD | C41040.03.12-R1 | ASTM D2196 | 03/28/12 |
| | C46470.07.14-1A | TAS 131 | 07/16/14 |
| | C46470.07.14-1B | TAS 131 | 07/16/14 |
| | C46470.07.14-4-R1 | TAS 131 | 07/21/14 |
| | C46470.07.14-2A | TAS 131 | 07/30/14 |
| Atlantic & Caribbean Roof Consulting | ACRC 10-019 | TAS 114 | 08/25/10 |
| | ACRC 10-018 | TAS 114 | 08/25/10 |
| | ACRC 15-019 | TAS 114 | 07/14/15 |
| | ACRC 15-020 | TAS 114 | 07/14/15 |
| | ACRC 15-021 | TAS 114 | 07/15/15 |
| | ACRC 15-037 | TAS 114 | 12/28/15 |
| | ACRC 15-038 | TAS 114 | 12/28/15 |
| | ACRC 15-045 | TAS 114 | 01/11/16 |
| | ACRC 15-046 | TAS 114 | 01/11/16 |
| | ACRC 15-047 | TAS 114 | 01/12/16 |



APPROVED ASSEMBLIES

Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete.

System Type A(1): One or more layers of insulation adhered with FAST 100 LV Adhesive, Flexible FAST Adhesive or FAST Dual Tank Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Vapor Retarder: Any UL or FM approved vapor retarder applied to the roof deck.
(Optional)

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.5” thick | N/A | N/A |
| <u>(Optional) Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| DensDeck, DensDeck Prime Minimum ¼” thick | N/A | N/A |

Note: All insulation shall be fully adhered to the deck with FAST 100 LV Adhesive, FAST Dual Tank Adhesive or Flexible FAST Adhesive at a rate of 1 gal./sq. 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 used as a top layer shall be placed with the Polyisocyanurate side facing down.

Membrane: Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA membrane fully adhered to the insulation using Aqua Base 120 Bonding Adhesive applied to the substrate and underside of the membrane at a rate of 1 gal/120 ft² (finished surface). Outside 1.5” of side laps are heat welded.

Maximum Design Pressure: -90 psf. (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(2): One or more layers of insulation adhered with FAST Dual Tank Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations:

| <u>Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|------------------------------------|---|--|
| InsulFoam SP Minimum 1.0" thick | N/A | N/A |

Note: All insulation shall be adhered to the deck in FAST Dual Tank Adhesive applied in ¾" to 1" ribbons spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membrane adhered to the insulation using FAST 100 LV Adhesive or Flexible FAST Adhesive applied in ½" to ¾" ribbons spaced 12" o.c. Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -112.5 psf; (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(3): One or more layers of insulation adhered with FAST Dual Tank Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.0" thick | N/A | N/A |

Note: All insulation shall be adhered to the deck in FAST Dual Tank Adhesive applied in 3/4" to 1" ribbons spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membrane adhered to the insulation using FAST 100 LV Adhesive or Flexible FAST Adhesive applied in 1/2" to 3/4" ribbons spaced 12" o.c. or FAST Dual Cartridge Adhesive or FAST 5 Gallon Jug Adhesive applied in 3/4" to 1" ribbons spaced 12" o.c. or HydroBond Adhesive applied to the substrate only at a rate 100 ft²/gal. Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -112.5 psf. (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(4): One or more layers of insulation adhered with FAST Dual Tank Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations:

| <u>Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|--|---|--|
| H-Shield HD Composite CG Minimum 1.5" thick | N/A | N/A |

Note: All insulation shall be adhered to the primed concrete deck with FAST Dual Tank Adhesive applied in ¾" to 1" ribbons spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membrane fully adhered to the insulation using FAST 100 LV Adhesive or Flexible FAST Adhesive applied to the substrate at a rate of 1 gal/sq. Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -112.5 psf; (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(5): One or more layers of insulation adhered with FAST Dual Tank Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO I, H-Shield CG, H-Shield HD Composite CG Minimum 1.0" thick | N/A | N/A |
| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| Mule-Hide Poly ISO 1 HD Minimum ½" thick | N/A | N/A |

Note: All insulation shall be adhered to the deck in FAST Dual Tank Adhesive applied in ¾" to 1" ribbons spaced 12" o.c. 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 used as a top layer shall be placed with the Polyisocyanurate side facing down.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membrane adhered to the insulation using FAST 100 LV Adhesive or Flexible FAST Adhesive applied in ½" to ¾" ribbons spaced 12" o.c. or FAST Dual Cartridge Adhesive or FAST 5 Gallon Jug Adhesive applied in ¾" to 1" ribbons spaced 12" o.c. or HydroBond Adhesive applied to the substrate only at a rate 100 ft²/gal. Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -112.5 psf; (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(6): One or more layers of insulation adhered with FAST Dual Tank Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.0" thick | N/A | N/A |
| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| SECUROCK Gypsum-Fiber Roof Board Minimum ¼" thick | N/A | N/A |

Note: All insulation shall be adhered to the deck in FAST Dual Tank Adhesive applied in ¾" to 1" ribbons spaced 12" o.c. 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 used as a top layer shall be placed with the Polyisocyanurate side facing down.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membrane adhered to the insulation using FAST 100 LV Adhesive or Flexible FAST Adhesive applied in ½" to ¾" ribbons spaced 12" o.c. or FAST Dual Cartridge Adhesive or FAST 5 Gallon Jug Adhesive applied in ¾" to 1" ribbons spaced 12" o.c. or HydroBond Adhesive applied to the substrate only at a rate 100 ft²/gal. Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -112.5 psf. (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(7): One or more layers of insulation adhered with FAST Dual Tank Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| H-Shield CG, Mule-Hide Poly ISO 1, H-Shield HD Composite CG Minimum 1.5" thick | N/A | N/A |
| Insulfoam EPS Minimum 1" thick | N/A | N/A |
| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| DensDeck Prime Minimum 1/4" thick | N/A | N/A |

Note: All insulation shall be adhered to the deck in FAST Dual Tank Adhesive applied in 3/4" to 1" ribbons spaced 12" o.c. 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 used as a top layer shall be placed with the Polyisocyanurate side facing down.

Membrane: Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA membrane fully adhered to the insulation using Mule-Hide TPO-c Bonding Adhesive applied to the substrate and underside of the membrane at a rate of 1 gal/60ft² (finished surface area). Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -112.5 psf; (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(8): One or more layers of insulation adhered with OMG OlyBond 500 or Millennium One Step Foamable Insulation Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Vapor Retarder: Any UL or FM approved vapor retarder applied to the roof deck.
(Optional)

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.5” thick | N/A | N/A |
| Structodek High Density Fiberboard Roof Insulation, HP Recovery Board Minimum ½” thick | N/A | N/A |
| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| Structodek High Density Fiberboard Roof Insulation Minimum ½” thick | N/A | N/A |

Note: All insulation shall be adhered with **OMG OlyBond 500** applied in ¾” to 1” wide ribbons spaced 12” o.c., or **Millennium One Step Foamable Adhesive** applied in ½” to ¾” wide ribbons spaced 12” o.c. 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 used as a top layer shall be placed with the Polyisocyanurate side facing down.

Membrane: Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA membrane fully adhered to the insulation using Mule-Hide TPO-c Bonding Adhesive applied to the substrate at a rate of 1 gal/60 ft² (finished surface) or Aqua Base 120 Bonding Adhesive applied to the substrate and underside of the membrane at a rate of 1 gal/120 ft² (finished surface). Outside 1.5” of side laps are heat welded.
 Or
 TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membrane fully adhered to the insulation using FAST 100 LV Adhesive or Flexible FAST Adhesive applied to the substrate at a rate of 1 gal/sq or Aqua Base 120 Bonding Adhesive applied to the substrate only at a rate of 1 gal/120 ft². Outside 1.5” of side laps are heat welded.



Or

TPO-c Fleece Back Plus 120, TPO-c Fleece Back Plus 135 or TPO-c Fleece Back Plus 155 membrane adhered to the insulation in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-25 lbs./sq or Cold Applied Adhesive applied to the substrate only at a rate of 1 gal/67 ft². Outside 1.5" of side laps are heat welded.

**Maximum Design
Pressure:**

-127.5 psf; (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(9): One or more layers of insulation adhered with OMG OlyBond 500 Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Vapor Retarder: Any UL or FM approved vapor retarder applied to the roof deck.
(Optional)

One or more layers of any of the following insulations.

| <u>Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.5” thick | N/A | N/A |

Note: All insulation shall be adhered with OMG OlyBond 500 applied in 3/4” to 1” wide ribbons spaced 12” o.c. 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 used as a top layer shall be placed with the Polyisocyanurate side facing down.

Membrane: Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA membrane fully adhered to the insulation using Mule-Hide TPO-c Bonding Adhesive applied to the substrate at a rate of 1 gal/60 ft² (finished surface) or Aqua Base 120 Bonding Adhesive applied to the substrate and underside of the membrane at a rate of 1 gal/120 ft² (finished surface). Outside 1.5” of side laps are heat welded.
 Or
 TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membrane fully adhered to the insulation using FAST 100 LV Adhesive or Flexible FAST Adhesive applied to the substrate at a rate of 1 gal/sq. or Aqua Base 120 Bonding Adhesive applied to the substrate only at a rate of 1 gal/120 ft² or HydroBond Adhesive applied to the substrate only at a rate 100 ft²/gal. Outside 1.5” of side laps are heat welded.
 Or
 TPO-c Fleece Back Plus 120, TPO-c Fleece Back Plus 135 or TPO-c Fleece Back Plus 155 membrane adhered to the insulation in Cold Applied Adhesive applied to the substrate only at a rate of 1 gal/67 ft². Outside 1.5” of side laps are heat welded.

Maximum Design Pressure: -127.5 psf. (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(10): One or more layers of insulation adhered with approved asphalt or OMG OlyBond 500. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations:

| <u>Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---------------------------------------|--|
| Mule-Hide Poly ISO 1 NB Minimum 1.5” thick | N/A | N/A |

Note: All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft², or OMG OlyBond 500 applied in 3/4” to 1” wide ribbons spaced 12” o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA membrane fully adhered to the insulation using Mule-Hide TPO-c Bonding Adhesive applied to the substrate at a rate of 1 gal/60 ft² (finished surface) or Aqua Base 120 Bonding Adhesive applied to the substrate and underside of the membrane at a rate of 1 gal/120 ft² (finished surface). Outside 1.5” of side laps are heat welded.
 Or
 TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membrane fully adhered to the insulation using FAST 100 LV Adhesive or Flexible FAST Adhesive applied to the substrate at a rate of 1 gal/sq or Aqua Base 120 Bonding Adhesive applied to the substrate only at a rate of 1 gal/120 ft² or HydroBond Adhesive applied to the substrate only at a rate 100 ft²/gal. Outside 1.5” of side laps are heat welded.
 Or
 TPO-c Fleece Back Plus 120, TPO-c Fleece Back Plus 135 or TPO-c Fleece Back Plus 155 membrane adhered to the insulation in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-25 lbs./sq or Cold Applied Adhesive applied to the substrate only at a rate of 1 gal/67 ft². Outside 1.5” of side laps are heat welded.

Maximum Design Pressure: -150 psf; (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(11): One or more layers of insulation adhered with approved asphalt or OMG OlyBond 500. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Vapor Retarder: (Optional) Any UL of FM approved vapor retarder applied to the roof deck.

One or more layers of any of the following insulations.

| <u>(Optional) Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.5” thick | N/A | N/A |
| DensDeck, DensDeck Prime Minimum ¼” thick | N/A | N/A |
| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| DensDeck, DensDeck Prime Minimum ¼” thick | N/A | N/A |

Note: All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft², or OMG OlyBond 500 applied in ¾” to 1” wide ribbons spaced 12” o.c. 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 used as a top layer shall be placed with the Polyisocyanurate side facing down.

Membrane: Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA membrane fully adhered to the insulation using Mule-Hide TPO-c Bonding Adhesive applied to the substrate at a rate of 1 gal/60 ft² (finished surface) or Aqua Base 120 Bonding Adhesive applied to the substrate and underside of the membrane at a rate of 1 gal/120 ft² (finished surface). Outside 1.5” of side laps are heat welded.
 Or
 TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membrane fully adhered to the insulation using FAST 100 LV Adhesive or Flexible FAST Adhesive applied to the substrate at a rate of 1 gal/sq or Aqua Base 120 Bonding Adhesive applied to the substrate only at a rate of 1 gal/120 ft² or HydroBond Adhesive applied to the substrate only at a rate 100 ft²/gal. Outside 1.5” of side laps are heat welded.



Or
TPO-c Fleece Back Plus 120, TPO-c Fleece Back Plus 135 or TPO-c Fleece Back Plus 155
membrane adhered to the insulation in a full mopping of approved asphalt applied within the
EVT range and at a rate of 20-25 lbs./sq or Cold Applied Adhesive applied to the substrate only
at a rate of 1 gal/67 ft². Outside 1.5” of side laps are heat welded.

**Maximum Design
Pressure:**

-150 psf; (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(12): One or more layers of insulation adhered with FAST 5 Gallon Jug Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations:

| <u>Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|------------------------------------|---------------------------------------|--|
| InsulFoam SP Minimum 1.0" thick | N/A | N/A |

Note: All insulation shall be adhered to the deck in FAST 5 Gallon Jug Adhesive applied in ¾" to 1" ribbons spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membrane fully adhered to the insulation using FAST 5 Gallon Jug Adhesive applied in ¾" to 1" ribbons spaced 12" o.c. Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -157.5 psf; (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(13): One or more layers of insulation adhered with approved asphalt, FAST 100 LV Adhesive, Flexible FAST Adhesive, FAST Dual Cartridge Adhesive, FAST Dual Tank Adhesive or FAST 5 Gallon Jug Adhesive, OMG OlyBond 500 or Millennium One Step Foamable Insulation Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---------------------------------------|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 0.5” thick | N/A | N/A |
| <u>(Optional) Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield CGH-Shield HD Composite CG, Mule-Hide Poly ISO 1, Mule-Hide Poly ISO 1 CG, Mule-Hide Poly ISO 1 HD Composite CG Minimum 0.5” thick | N/A | N/A |

Note: All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-25 lbs/100 ft² or FAST Dual Tank Adhesive at a rate of 1 gal./sq. or FAST 100 LV Adhesive or Flexible FAST Adhesive applied at a rate of 1 gal./sq. or in 1/2” to 3/4” wide ribbons spaced 12” o.c. or OMG OlyBond 500 or FAST Dual Cartridge Adhesive or FAST 5 Gallon Jug Adhesive applied in 3/4” to 1” ribbons spaced 12” o.c. or Millennium One Step Foamable Adhesive applied in 1/2” to 3/4” wide ribbons spaced 12” o.c. 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 used as a top layer shall be placed with the Polyisocyanurate side facing down.

Membrane: Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA membrane fully adhered to the insulation using Mule-Hide TPO-c Bonding Adhesive applied to the substrate at a rate of 1 gal/60 ft² (finished surface) or Aqua Base 120 Bonding Adhesive applied to the substrate and underside of the membrane at a rate of 1 gal/120 ft² (finished surface). Outside 1.5” of side laps are heat welded.
 Or
 TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membrane fully adhered to the insulation using FAST 100 LV Adhesive or Flexible FAST Adhesive applied to the substrate at a rate of 1 gal/sq or Aqua Base 120 Bonding Adhesive applied to the substrate only at a rate of 1 gal/120 ft² or HydroBond Adhesive applied to the substrate only at a rate 100 ft²/gal. Outside 1.5” of side laps are heat welded.



Or
TPO-c Fleece Back Plus 120, TPO-c Fleece Back Plus 135 or TPO-c Fleece Back Plus 155
membrane adhered to the insulation Cold Applied Adhesive applied to the substrate only at a
rate of 1 gal/67 ft². Outside 1.5” of side laps are heat welded.

Maximum Design

Pressure: -157.5 psf; (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(14): One or more layers of insulation adhered with FAST 100 LV Adhesive, Flexible FAST Adhesive, FAST Dual Cartridge Adhesive or FAST 5 Gallon Jug Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.0" thick | N/A | N/A |
| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| Mule-Hide Poly ISO 1 HD Minimum ½" thick | N/A | N/A |

Note: All insulation shall be adhered to the deck in FAST 100 LV Adhesive or Flexible FAST Adhesive applied in ½" to ¾" ribbons spaced 12" o.c. or in FAST Dual Cartridge Adhesive or FAST 5 Gallon Jug Adhesive applied in ¾" to 1" ribbons spaced 12" o.c. 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 used as a top layer shall be placed with the Polyisocyanurate side facing down.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membrane adhered to the insulation using HydroBond Adhesive applied to the substrate only at a rate 100 ft²/gal. Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -160.0 psf; (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(15): One or more layers of insulation adhered with FAST 100 LV Adhesive, Flexible FAST Adhesive, FAST Dual Cartridge Adhesive or FAST 5 Gallon Jug Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.0" thick | N/A | N/A |
| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| Mule-Hide Poly ISO 1 HD Minimum ½" thick | N/A | N/A |

Note: All insulation shall be adhered to the deck in FAST 100 LV Adhesive or Flexible FAST Adhesive applied in ½" to ¾" ribbons spaced 12" o.c. or in FAST Dual Cartridge Adhesive or FAST 5 Gallon Jug Adhesive applied in ¾" to 1" ribbons spaced 12" o.c. 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 used as a top layer shall be placed with the Polyisocyanurate side facing down.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membrane adhered to the insulation using FAST 100 LV Adhesive or Flexible FAST Adhesive applied in ½" to ¾" ribbons spaced 12" o.c. or FAST Dual Cartridge Adhesive or FAST 5 Gallon Jug Adhesive applied in ¾" to 1" ribbons spaced 12" o.c. Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -172.5 psf; (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(16): One or more layers of insulation adhered with ADCO Millennium One Step or with FAST 100 LV Adhesive, FAST Dual Tank Adhesive or Flexible FAST Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations:

| <u>Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---------------------------------------|--|
| Mule-Hide Poly ISO 1 NB Minimum 1.5” thick | N/A | N/A |

Note: All insulation shall be adhered to the deck in FAST 100 LV Adhesive, FAST Dual Tank Adhesive or Flexible FAST Adhesive at a rate of 1.2 gal./sq. or Millennium One Step Foamable Adhesive at a rate of 1/3 gal./sq. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA membrane fully adhered to the insulation using Mule-Hide TPO-c Bonding Adhesive applied to the substrate at a rate of 1 gal/60 ft² (finished surface) or Aqua Base 120 Bonding Adhesive applied to the substrate and underside of the membrane at a rate of 1 gal/120 ft² (finished surface). Outside 1.5” of side laps are heat welded.
 Or
 TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membrane fully adhered to the insulation using FAST 100 LV Adhesive or Flexible FAST Adhesive applied to the substrate at a rate of 1 gal/sq or Aqua Base 120 Bonding Adhesive applied to the substrate only at a rate of 1 gal/120 ft² or HydroBond Adhesive applied to the substrate only at a rate 100 ft²/gal. Outside 1.5” of side laps are heat welded.
 Or
 TPO-c Fleece Back Plus 120, TPO-c Fleece Back Plus 135 or TPO-c Fleece Back Plus 155 membrane adhered to the insulation in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-25 lbs./sq or Cold Applied Adhesive applied to the substrate only at a rate of 1 gal/67 ft². Outside 1.5” of side laps are heat welded.

Maximum Design Pressure: -187.5 psf; (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete.

System Type A(17): One or more layers of insulation adhered with FAST 100 LV Adhesive, Flexible FAST Adhesive, FAST Dual Cartridge Adhesive or FAST 5 Gallon Jug Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.0" thick | N/A | N/A |
| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| SECUROCK Gypsum-Fiber Roof Board Minimum ¼" thick | N/A | N/A |

Note: All insulation shall be adhered to the deck in FAST 100 LV Adhesive or Flexible FAST Adhesive applied in ½" to ¾" ribbons spaced 12" o.c. or in FAST Dual Cartridge Adhesive or FAST 5 Gallon Jug Adhesive applied in ¾" to 1" ribbons spaced 12" o.c. 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 used as a top layer shall be placed with the Polyisocyanurate side facing down.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membrane adhered to the insulation using FAST 100 LV Adhesive or Flexible FAST Adhesive applied in ½" to ¾" ribbons spaced 12" o.c. or FAST Dual Cartridge Adhesive or FAST 5 Gallon Jug Adhesive applied in ¾" to 1" ribbons spaced 12" o.c. Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -120 psf. (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(18): One or more layers of insulation adhered with FAST 100 LV Adhesive, Flexible FAST Adhesive, FAST Dual Cartridge Adhesive or FAST 5 Gallon Jug Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---------------------------------------|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.5" thick | N/A | N/A |
| STYROFOAM ROOFMATE Minimum 1" thick | N/A | N/A |
| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| DensDeck Prime Minimum 1/4" thick | N/A | N/A |

Note: All insulation shall be adhered to the deck in FAST 100 LV Adhesive or Flexible FAST Adhesive applied in 1/2" to 3/4" ribbons spaced 12" o.c. or in FAST Dual Cartridge Adhesive or FAST 5 Gallon Jug Adhesive applied in 3/4" to 1" ribbons spaced 12" o.c. 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 used as a top layer shall be placed with the Polyisocyanurate side facing down.

Membrane: Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA membrane fully adhered to the insulation using Mule-Hide TPO-c Bonding Adhesive applied to the substrate and underside of the membrane at a rate of 1 gal/60ft² (finished surface area). Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -232.5 psf; (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(19): One or more layers of insulation adhered with approved adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Vapor Retarder: Any UL of FM approved vapor retarder applied to the roof deck.
(Optional)

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.5” thick | N/A | N/A |
| DensDeck, DensDeck Prime Minimum ¼” thick | N/A | N/A |
| <u>(Optional) Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| DensDeck, DensDeck Prime Minimum ¼” thick | N/A | N/A |

Note: All insulation shall be adhered with Millennium One Step Foamable Adhesive applied in ½” to ¾” wide ribbons spaced 12” o.c. 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 used as a top layer shall be placed with the Polyisocyanurate side facing down.

Membrane: Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA membrane fully adhered to the insulation using Mule-Hide TPO-c Bonding Adhesive applied to the substrate at a rate of 1 gal/60 ft² (finished surface) or Aqua Base 120 Bonding Adhesive applied to the substrate and underside of the membrane at a rate of 1 gal/120 ft² (finished surface). Outside 1.5” of side laps are heat welded.
 Or
 TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membrane fully adhered to the insulation using FAST 100 LV Adhesive or Flexible FAST Adhesive applied to the substrate at a rate of 1 gal/sq or Aqua Base 120 Bonding Adhesive applied to the substrate only at a rate of 1 gal/120 ft² or HydroBond Adhesive applied to the substrate only at a rate 100 ft²/gal. Outside 1.5” of side laps are heat welded.



Or
TPO-c Fleece Back Plus 120, TPO-c Fleece Back Plus 135 or TPO-c Fleece Back Plus 155 membrane adhered to the insulation in a full mopping of approved asphalt (*only to DensDeck or DensDeck Prime*) applied within the EVT range and at a rate of 20-25 lbs./sq or Cold Applied Adhesive applied to the substrate only at a rate of 1 gal/67 ft² Outside 1.5” of side laps are heat welded.

Maximum Design

Pressure: -232.5 psf; (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(20): One or more layers of insulation adhered with FAST Dual Cartridge Adhesive or FAST 5 Gallon Jug Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---------------------------------------|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.0" thick | N/A | N/A |

Note: All insulation shall be adhered to the deck in FAST Dual Cartridge Adhesive or FAST 5 Gallon Jug Adhesive applied in 3/4" to 1" ribbons spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membrane adhered to the insulation using HydroBond Adhesive applied to the substrate only at a rate 100 ft²/gal. or FAST 100 LV Adhesive or Flexible FAST Adhesive applied in 1/2" to 3/4" ribbons spaced 12" o.c. or FAST Dual Cartridge Adhesive or FAST 5 Gallon Jug Adhesive applied in 3/4" to 1" ribbons spaced 12" o.c. Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -240.0 psf. (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(21): One or more layers of insulation adhered with FAST Dual Cartridge Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations:

| <u>Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|--|---|--|
| InsulFoam SP Minimum 1.0" thick | N/A | N/A |

Note: All insulation shall be adhered to the deck in FAST Dual Cartridge Adhesive applied in 3/4" to 1" ribbons spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membrane adhered to the insulation using FAST Dual Cartridge Adhesive applied in 3/4" to 1" ribbons spaced 12" o.c. Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -240 psf; (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(22): One or more layers of insulation adhered with FAST Dual Cartridge Adhesive or FAST 5 Gallon Jug Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.0" thick | N/A | N/A |
| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| SECUROCK Gypsum-Fiber Roof Board Minimum ¼" thick | N/A | N/A |

Note: All insulation shall be adhered to the deck in FAST Dual Cartridge Adhesive or FAST 5 Gallon Jug Adhesive applied in ¾" to 1" ribbons spaced 12" o.c. Refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membrane adhered to the insulation using HydroBond Adhesive applied to the substrate only at a rate 100 ft²/gal. Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -240.0 psf. (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(23): One or more layers of insulation adhered with hot asphalt or OMG OlyBond 500 or Millennium One Step Foamable Insulation Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 2.0" thick | N/A | N/A |
| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| SECUROCK Gypsum-Fiber Roof Board Minimum ¼" thick | N/A | N/A |

Note: All insulation shall be adhered to the deck in hot asphalt in full coverage at 25 lb/sq. or with OMG OlyBond 500 or Millennium One Step Foamable Adhesive applied in ¾" ribbons spaced 12" o.c. 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 used as a top layer shall be placed with the Polyisocyanurate side facing down.

Membrane: Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA membrane fully adhered to the insulation using Aqua Base 120 Bonding Adhesive applied to the substrate and underside of the membrane at a rate of 1 gal/120 ft² (finished surface). Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -247.5 psf. (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(24): One or more layers of insulation adhered with FAST 100 LV Adhesive or Flexible FAST Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.0" thick | N/A | N/A |

Note: All insulation shall be adhered to the deck in FAST 100 LV Adhesive or Flexible FAST Adhesive applied in ½" to ¾" ribbons spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membrane adhered to the insulation using HydroBond Adhesive applied to the substrate only at a rate 100 ft²/gal. Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -232.5 psf. (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete.

System Type A(25): One or more layers of insulation adhered with FAST 100 LV Adhesive or Flexible FAST Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations:

| <u>Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|--|---|--|
| H-Shield HD Composite CG Minimum 1.5" thick | N/A | N/A |

Note: All insulation shall be adhered to the primed concrete deck with FAST 100 LV Adhesive or Flexible FAST Adhesive applied in 1/2" to 3/4" ribbons spaced 12" oc. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membrane fully adhered to the insulation using FAST 100 LV Adhesive or Flexible FAST Adhesive applied to the substrate at a rate of 1 gal/sq. Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -285 psf; (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(26): One or more layers of insulation adhered with FAST Dual Tank Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Vapor Retarder: Any UL of FM approved vapor retarder applied to the roof deck.
(Optional)

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.5” thick | N/A | N/A |
| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| DensDeck, DensDeck Prime Minimum ¼” thick | N/A | N/A |

Note: All insulation shall be fully adhered to the deck with FAST Dual Tank Adhesive at a rate of 1 gal./sq. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membranes fully adhered to the insulation using FAST 100 LV Adhesive or Flexible FAST Adhesive applied to the substrate at a rate of 1 gal/sq. or Aqua Base 120 Bonding Adhesive applied to the substrate only at a rate of 1 gal/120 ft² or HydroBond Adhesive applied to the substrate only at a rate 100 ft²/gal. Outside 1.5” of side laps are heat welded.

Maximum Design Pressure: -285 psf; Membrane adhered with Aqua Base 120 Bonding Adhesive (See General Limitation #9)
-382.5 psf; Membrane adhered with all other membrane adhesives (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(27): One or more layers of insulation adhered with FAST 100 LV Adhesive or Flexible FAST Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Vapor Retarder: Any UL of FM approved vapor retarder applied to the roof deck.
(Optional)

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.5” thick | N/A | N/A |
| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| DensDeck, DensDeck Prime Minimum ¼” thick | N/A | N/A |

Note: All insulation shall be fully adhered to the deck with FAST 100 LV Adhesive or Flexible FAST Adhesive at a rate of 1 gal./sq. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membranes fully adhered to the insulation using FAST 100 LV Adhesive or Flexible FAST Adhesive applied to the substrate at a rate of 1 gal/sq. or Aqua Base 120 Bonding Adhesive applied to the substrate only at a rate of 1 gal/120 ft² or HydroBond Adhesive applied to the substrate only at a rate 100 ft²/gal. Outside 1.5” of side laps are heat welded.

Maximum Design Pressure: -285 psf; Membrane adhered with HydroBond Adhesive or Aqua Base 120 Bonding Adhesive (See General Limitation #9)
-457.5 psf; Membrane adhered with all other membrane adhesives (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(28): One or more layers of insulation adhered with FAST 100 LV Adhesive or Flexible FAST Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations:

| <u>Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|--|---|--|
| InsulFoam SP Minimum 1.0" thick | N/A | N/A |

Note: All insulation shall be adhered to the deck in FAST 100 LV Adhesive or Flexible FAST Adhesive applied in 1/2" to 3/4" ribbons spaced 12" oc. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membrane adhered to the insulation using FAST 100 LV Adhesive or Flexible FAST Adhesive applied in 1/2" to 3/4" ribbons spaced 12" o.c. Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -290 psf; (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(29): One or more layers of insulation adhered with FAST 100 LV Adhesive, FAST Dual Tank Adhesive or Flexible FAST Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Vapor Retarder: (Optional) Any UL of FM approved vapor retarder applied to the roof deck.

One or more layers of any of the following insulations.

| <u>(Optional) Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| DensDeck, DensDeck Prime Minimum ¼” thick | N/A | N/A |
| | | |
| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.2” thick | N/A | N/A |
| Structodek High Density Fiberboard Roof Insulation Minimum ½” thick | N/A | N/A |
| DensDeck, DensDeck Prime Minimum ¼” thick | N/A | N/A |

Note: All insulation shall be adhered with FAST 100 LV Adhesive, FAST Dual Tank Adhesive or Flexible FAST Adhesive at a rate of 1 gal./sq. 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 used as a top layer shall be placed with the Polyisocyanurate side facing down.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membrane fully adhered to the insulation using FAST 100 LV Adhesive or Flexible FAST Adhesive applied to the substrate at a rate of 1 gal/sq. or Aqua Base 120 Bonding Adhesive applied to the substrate only at a rate of 1 gal/120 ft² or HydroBond Adhesive (*not for use with fiberboard insulation*) applied to the substrate only at a rate 100 ft²/gal. Outside 1.5” of side laps are heat welded.

Maximum Design Pressure: -322.5 psf; (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(30): One or more layers of insulation adhered with FAST 100 LV Adhesive or Flexible FAST Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations:

| <u>Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---------------------------------------|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG H-Shield HD Composite CG Minimum 1.0" thick | N/A | N/A |

Note: All insulation shall be adhered to the deck in FAST 100 LV Adhesive or Flexible FAST Adhesive applied in 1/2" to 3/4" ribbons spaced 12" oc. 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 used as a top layer shall be placed with the Polyisocyanurate side facing down.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membrane adhered to the insulation using FAST 100 LV Adhesive or Flexible FAST Adhesive applied in 1/2" to 3/4" ribbons spaced 12" o.c. Outside 1.5" of side laps are heat welded.
 Or
 TPO-c Fleece Back Plus 120, TPO-c Fleece Back Plus 135 or TPO-c Fleece Back Plus 155 membrane adhered to the insulation using Cold Applied Adhesive applied to the substrate only at a rate of 1 gal/67 ft². Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -244 psf; (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(31): One or more layers of insulation adhered with FAST 100 LV Adhesive, Flexible FAST Adhesive, FAST Dual Cartridge Adhesive or FAST 5 Gallon Jug Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---------------------------------------|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.5" thick | N/A | N/A |
| STYROFOAM ROOFMATE Minimum 1" thick | N/A | N/A |
| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| Structodek High Density Fiberboard Roof Insulation Minimum 1/2" thick | N/A | N/A |

Note: All insulation shall be adhered to the deck in FAST 100 LV Adhesive or Flexible FAST Adhesive applied in 1/2" to 3/4" ribbons spaced 12" o.c. or in FAST Dual Cartridge Adhesive or FAST 5 Gallon Jug Adhesive applied in 3/4" to 1" ribbons spaced 12" o.c. Top insulation shall be staggered when placed over base insulation layer. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA membrane fully adhered with Mule-Hide TPO-c Bonding Adhesive applied to the substrate and underside of the membrane at a rate of 1 gal/60ft² (finished surface area). Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -322.5 psf; (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(32): One or more layers of insulation adhered with FAST 100 LV Adhesive, Flexible FAST Adhesive, FAST Dual Cartridge Adhesive or FAST 5 Gallon Jug Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---------------------------------------|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.5" thick | N/A | N/A |
| STYROFOAM ROOFMATE Minimum 1" thick | N/A | N/A |
| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| Structodek High Density Fiberboard Roof Insulation Minimum 1/2" thick | N/A | N/A |

Note: All insulation shall be adhered to the deck in FAST 100 LV Adhesive or Flexible FAST Adhesive applied in 1/2" to 3/4" ribbons spaced 12" o.c. or in FAST Dual Cartridge Adhesive or FAST 5 Gallon Jug Adhesive applied in 3/4" to 1" ribbons spaced 12" o.c. Top insulation shall be staggered when placed over base insulation layer. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membrane fully adhered to the insulation using FAST 100 LV Adhesive or Flexible FAST Adhesive applied to the substrate at a rate of 1 gal/sq. Outside 1.5" of side laps are heat welded.
 Or
 TPO-c Fleece Back Plus 120, TPO-c Fleece Back Plus 135 or TPO-c Fleece Back Plus 155 membrane adhered to the insulation with Cold Applied Adhesive applied to the substrate only at a rate of 1 gal/67 ft². Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -330 psf; (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(33): One or more layers of insulation adhered with FAST 100 LV Adhesive, FAST Dual Tank Adhesive or Flexible FAST Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Vapor Retarder: (Optional) Any UL or FM approved vapor retarder applied to the roof deck.

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.5” thick | N/A | N/A |
| <u>(Optional) Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| DensDeck, DensDeck Prime Minimum ¼” thick | N/A | N/A |

Note: All insulation shall be fully adhered to the deck with FAST 100 LV Adhesive, FAST Dual Tank Adhesive or Flexible FAST Adhesive at a rate of 1 gal./sq. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA membrane fully adhered to the insulation using Mule-Hide TPO-c Bonding Adhesive applied to the substrate at a rate of 1 gal/60 ft² (finished surface). Outside 1.5” of side laps are heat welded.

Maximum Design Pressure: -352.5 psf. (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete.

System Type A(34): One or more layers of insulation adhered with FAST Dual Tank Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Vapor Retarder: Any UL of FMRC approved vapor retarder applied to the roof deck.

(Optional)

One or more layers of any of the following insulations.

Base Insulation Layer

Insulation Fasteners
(Table 3)

Fastener
Density/ft²

Polyisocyanurate HP-H, InsulBase, SecurShield, SecurShield HD Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG
Minimum 1.5” thick

N/A

N/A

(Optional) Top Insulation Layer

Insulation Fasteners
(Table 3)

Fastener
Density/ft²

DensDeck, DensDeck Prime
Minimum ¼” thick

N/A

N/A

Note: All insulation shall be fully adhered to the deck with FAST Dual Tank Adhesive at a rate of 1 gal./sq. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Sure-Weld AFX 120, Sure-Weld AFX 135 or Sure-Weld AFX 155 membrane adhered to the insulation in a full mopping of approved asphalt (*only to DensDeck or DensDeck Prime*) applied within the EVT range and at a rate of 20-25 lbs./sq or Cold Applied Adhesive applied to the substrate only at a rate of 1 gal/67 ft². Outside 1.5” of side laps are heat welded.

Maximum Design Pressure: -375 psf. With DensDeck or DensDeck Prime (See General Limitation #9)
-382.5 psf. With all other insulation boards (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete.

System Type A(35): One or more layers of insulation adhered with FAST 100 LV Adhesive or Flexible FAST Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Vapor Retarder: Any UL of FMRC approved vapor retarder applied to the roof deck.
(Optional)

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|--|--|---|
| Polyisocyanurate HP-H, InsulBase, SecurShield, SecurShield HD Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG Minimum 1.5" thick | N/A | N/A |

| <u>(Optional) Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|--|--|---|
| DensDeck, DensDeck Prime Minimum ¼" thick | N/A | N/A |

Note: All insulation shall be fully adhered to the deck with FAST 100 LV Adhesive or Flexible FAST Adhesive at a rate of 1 gal./sq. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Sure-Weld AFX 120, Sure-Weld AFX 135 or Sure-Weld AFX 155 membrane adhered to the insulation in a full mopping of approved asphalt (*only to DensDeck or DensDeck Prime*) applied within the EVT range and at a rate of 20-25 lbs./sq or Cold Applied Adhesive applied to the substrate only at a rate of 1 gal/67 ft². Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -375 psf. With DensDeck or DensDeck Prime (See General Limitation #9)
-457.5 psf. With all other insulation boards (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(36): One or more layers of insulation adhered with FAST Dual Tank Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations:

| <u>Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|--|---|--|
| H-Shield HD Composite CG Minimum 1.5" thick | N/A | N/A |

Note: All insulation shall be fully adhered to deck with FAST Dual Tank Adhesive at a rate of 1 gal./sq. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membranes fully adhered to the insulation using FAST 100 LV Adhesive or Flexible FAST Adhesive applied to the substrate at a rate of 1 gal/sq. or Aqua Base 120 Bonding Adhesive applied to the substrate only at a rate of 1 gal/120 ft² or HydroBond Adhesive applied to the substrate only at a rate 100 ft²/gal. Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -382.5 psf; (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(37): One or more layers of insulation adhered with FAST Dual Tank Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Vapor Retarder: (Optional) Any UL or FM approved vapor retarder applied to the roof deck.

One or more layers of any of the following insulations.

| <u>(Optional) Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG | | |
| Minimum 1.5" thick | N/A | N/A |
| | | |
| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| DensDeck, DensDeck Prime | | |
| Minimum 1/4" thick | N/A | N/A |
| Plywood | | |
| Minimum 19/32" thick | N/A | N/A |

Note: All insulation shall be fully adhered to the deck with FAST Dual Tank Adhesive at a rate of 1 gal./sq. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membranes fully adhered to the insulation using FAST 100 LV Adhesive or Flexible FAST Adhesive applied to the substrate at a rate of 1 gal/sq. Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -382.5 psf. (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(38): One or more layers of insulation adhered with FAST 100 LV Adhesive or Flexible FAST Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.0" thick | N/A | N/A |
| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| SECUROCK Gypsum-Fiber Roof Board Minimum ¼" thick | N/A | N/A |

Note: All insulation shall be adhered to the deck in FAST 100 LV Adhesive or Flexible FAST Adhesive applied in ½" to ¾" ribbons spaced 12" oc. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membrane adhered to the insulation using HydroBond Adhesive applied to the substrate only at a rate 100 ft²/gal. Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -395.0 psf. (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(39): One or more layers of insulation adhered with FAST 100 LV Adhesive or Flexible FAST Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations:

| <u>Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|--|---|--|
| H-Shield HD Composite CG Minimum 1.5” thick | N/A | N/A |

Note: All insulation shall be fully adhered to the primed concrete deck with FAST 100 LV Adhesive or Flexible FAST Adhesive at a rate of 1 gal./sq. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membrane fully adhered to the insulation using FAST 100 LV Adhesive or Flexible FAST Adhesive applied to the substrate at a rate of 1 gal/sq. Outside 1.5” of side laps are heat welded.

Maximum Design Pressure: -427.5 psf; (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(40): One or more layers of insulation adhered with FAST 100 LV Adhesive or Flexible FAST Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Vapor Retarder: Any UL or FM approved vapor retarder applied to the roof deck.
(Optional)

One or more layers of any of the following insulations.

| <u>(Optional) Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG | | |
| Minimum 1.5" thick | N/A | N/A |
| | | |
| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| DensDeck, DensDeck Prime | | |
| Minimum ¼" thick | N/A | N/A |
| Plywood | | |
| Minimum 19/32" thick | N/A | N/A |

Note: All insulation shall be fully adhered to the deck with FAST 100 LV Adhesive or Flexible FAST Adhesive at a rate of 1 gal./sq. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membranes fully adhered to the insulation using FAST 100 LV Adhesive or Flexible FAST Adhesive applied to the substrate at a rate of 1 gal/sq. Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -457.5 psf. (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(41): One or more layers of insulation adhered with FAST 100 LV Adhesive or Flexible FAST Adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Vapor Retarder: (Optional) Any UL or FM approved vapor retarder applied to the roof deck.

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---------------------------------------|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.5” thick | N/A | N/A |

Note: All insulation shall be fully adhered to the deck with FAST 100 LV Adhesive or Flexible FAST Adhesive at a rate of 1 gal./sq. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membranes fully adhered to the insulation using FAST 100 LV Adhesive or Flexible FAST Adhesive applied to the substrate at a rate of 1 gal/sq. or Aqua Base 120 Bonding Adhesive applied to the substrate only at a rate of 1 gal/120 ft² or HydroBond Adhesive applied to the substrate only at a rate 100 ft²/gal. Outside 1.5” of side laps are heat welded.

Maximum Design Pressure: -480 psf. (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type B(1): Base layers of insulation mechanically attached, top layer adhered with approved adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.5” thick | 1, 4, 5, 6 | 1:2 ft ² |
| | | |
| <u>(Optional) Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| DensDeck, DensDeck Prime Minimum ¼” thick | N/A | N/A |

Note: Top insulation layer shall be fully adhered with OMG OlyBond Adhesive applied at a rate of 1 gal.sq. 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 used as a top layer shall be placed with the Polyisocyanurate side facing down.

Membrane: Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA membrane fully adhered to the insulation using Mule-Hide TPO-c Bonding Adhesive applied to the substrate at a rate of 1 gal/60 ft² (finished surface) or Aqua Base 120 Bonding Adhesive applied to the substrate and underside of the membrane at a rate of 1 gal/120 ft² (finished surface). Outside 1.5” of side laps are heat welded.

Maximum Design Pressure: -45.0 psf (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type B(2): Base layers of insulation mechanically attached, top layer adhered with approved adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.5” thick | 1, 4 | 1:2 ft ² |
| | | |
| <u>(Optional) Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.5” thick | N/A | N/A |

Note: Top insulation layer shall be adhered to the deck in FAST 100 LV Adhesive, Flexible FAST Adhesive, FAST Dual Cartridge Adhesive, FAST Dual Tank Adhesive or FAST 5 Gallon Jug Adhesive applied in ¾” to 1” ribbons spaced 12” oc. 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 used as a top layer shall be placed with the Polyisocyanurate side facing down.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membrane adhered to the insulation using FAST 100 LV Adhesive, Flexible FAST Adhesive, FAST Dual Cartridge Adhesive or FAST 5 Gallon Jug Adhesive applied in ¾” to 1” ribbons spaced 12” o.c. (Offset 6” o.c. from ribbons securing insulation). Outside 1.5” of side laps are heat welded.

Maximum Design Pressure: -45.0 psf (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type B(3): Base layers of insulation mechanically attached, top layer adhered with approved adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG | | |
| Minimum 1.5" thick | 1, 4 | 1:3.2 ft ² |
| Minimum 2" thick | 1, 4 | 1:4 ft ² |
| | | |
| <u>(Optional) Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG | | |
| Minimum 1" thick | N/A | N/A |
| | | |
| DensDeck Prime | | |
| Minimum 1/4" thick | N/A | N/A |

Note: Top insulation layer shall be adhered with FAST 100 LV Adhesive, Flexible FAST Adhesive, FAST Dual Cartridge Adhesive, FAST Dual Tank Adhesive or FAST 5 Gallon Jug Adhesive applied in ribbons spaced 12 in. o.c. Adhesive ribbons are staggered 6 in. from layer below when using additional layers of insulation. 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 used as a top layer shall be placed with the Polyisocyanurate side facing down.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membranes fully adhered to the insulation using Fast 100 LV Adhesive or Flexible FAST Adhesive applied to the substrate at a rate of 1 gal/sq. or Aqua Base 120 Bonding Adhesive applied to the substrate only at a rate of 1 gal/120 ft² or HydroBond Adhesive applied to the substrate only at a rate 100 ft²/gal. Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -45.0 psf (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type B(4): Base layers of insulation mechanically attached, top layer adhered with approved adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 2.0" thick | 1, 4, 5, 6, 8 | 1:2.67 ft ² |
| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| SECUROCK Gypsum-Fiber Roof Board Minimum ¼" thick | N/A | N/A |

Note: Top insulation layer shall be adhered with OMG OlyBond 500 or Millennium One Step Foamable Adhesive applied in ¾" ribbons spaced 12" o.c. 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 used as a top layer shall be placed with the Polyisocyanurate side facing down.

Membrane: Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA membrane fully adhered to the insulation using Aqua Base 120 Bonding Adhesive applied to the substrate and underside of the membrane at a rate of 1 gal/120 ft² (finished surface). Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -45.0 psf (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type B(5): Base layers of insulation mechanically attached, top layer adhered with approved adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 2.0” thick | 1, 4, 5, 6 | 1:1.6 ft ² |
| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| SECUROCK Gypsum-Fiber Roof Board Minimum ¼” thick | N/A | N/A |

Note: Top insulation layer shall be adhered with OMG OlyBond 500 or Millennium One Step Foamable Adhesive applied in ¾” ribbons spaced 12” o.c. 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 used as a top layer shall be placed with the Polyisocyanurate side facing down.

Membrane: Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA membrane fully adhered to the insulation using Aqua Base 120 Bonding Adhesive applied to the substrate and underside of the membrane at a rate of 1 gal/120 ft² (finished surface). Outside 1.5” of side laps are heat welded.

Maximum Design Pressure: -60.0 psf (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type B(6): Base layers of insulation mechanically attached, top layer adhered with approved adhesive. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.5" thick | 1, 4 | 1:1.6 ft ² |
| | | |
| <u>(Optional) Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.5" thick | N/A | N/A |

Note: Top insulation shall be adhered with Fast 100 LV Adhesive, Flexible FAST Adhesive, FAST Dual Cartridge Adhesive, FAST Dual Tank Adhesive or FAST 5 Gallon Jug Adhesive applied in 3/4" to 1" ribbons spaced 6 in. o.c. Adhesive ribbons are staggered 3 in. from layer below when using additional layers of insulation. 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 used as a top layer shall be placed with the Polyisocyanurate side facing down.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membranes fully adhered to the insulation using Fast 100 LV Adhesive or Flexible FAST Adhesive applied to the substrate at a rate of 1 gal/sq. or Aqua Base 120 Bonding Adhesive applied to the substrate only at a rate of 1 gal/120 ft² or HydroBond Adhesive applied to the substrate only at a rate 100 ft²/gal. Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -82.5 psf (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type C(1): All layers of insulation simultaneously attached. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.5" thick | N/A | N/A |
| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| DensDeck Prime Minimum ¼" thick | 1, 4 | 1:2 ft ² |

Note: Top insulation layer shall be mechanically attached using the fastener density listed above. 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. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membrane adhered to the insulation using FAST 100 LV Adhesive, Flexible FAST Adhesive, FAST Dual Cartridge Adhesive or FAST 5 Gallon Jug Adhesive applied in ¾" to 1" ribbons spaced 12" o.c. Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -45.0 psf (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type C(2): All layers of insulation simultaneously attached. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.5" thick | N/A | N/A |
| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| SECUROCK Gypsum-Fiber Roof Board | | |
| Minimum ¼" thick | 1, 4, 7, 8, 14, 15 | 1:2 ft ² |
| Minimum ½" thick | 1, 4 | 1:3.2 ft ² |
| Minimum 5/8" thick | 1, 4 | 1:4 ft ² |

Note: Top insulation layer shall be mechanically attached using the fastener density listed above. 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. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA membrane fully adhered to the insulation using Mule-Hide TPO-c Bonding Adhesive applied to the substrate and underside of the membrane at a rate of 1.66 gal/sq. or with Aqua Base 120 Bonding Adhesive applied to the substrate and underside of the membrane at a rate of 1 gal/120 ft² (finished surface). Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -45.0 psf (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type C(3): All layers of insulation simultaneously attached. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Vapor Retarder: Any UL or FM approved vapor retarder applied to the roof deck.
(Optional)

One or more layers of any of the following insulations.

| <u>Base or Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.4" thick | 1, 4, 7 | 1:3.2 ft ² |
| Minimum 2" thick | 1, 4, 7 | 1:4 ft ² |
| DensDeck, DensDeck Prime Minimum 1/4" thick | 1, 4 | 1:2 ft ² |

Note: 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. Top layer of insulation may be adhered with Fast 100 LV Adhesive, Flexible FAST Adhesive, FAST Dual Cartridge Adhesive or FAST 5 Gallon Jug Adhesive. 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.

Membrane: Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA membranes fully adhered to the insulation using Mule-Hide TPO-c Bonding Adhesive applied to the substrate at a rate of 1 gal/60 ft² (finished surface) or Aqua Base 120 Bonding Adhesive applied to the substrate and underside of the membrane at a rate of 1 gal/120 ft². Outside 1.5" of side laps are heat welded.

Or

TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membranes fully adhered to the insulation using FAST 100 LV Adhesive or Flexible FAST Adhesive applied to the substrate at a rate of 1 gal/sq. or Aqua Base 120 Bonding Adhesive applied to the substrate only at a rate of 1 gal/120 ft² or HydroBond Adhesive (*not for use with fiberboard insulation*) applied to the substrate only at a rate 100 ft²/gal. Outside 1.5" of side laps are heat welded

Or

TPO-c Fleece Back Plus 120, TPO-c Fleece Back Plus 135 or TPO-c Fleece Back Plus 155 membrane fully adhered to the insulation in a mopping of approved asphalt (*not for use with polyiso*) applied within the EVT range and at a rate of 20-25 lbs./sq. or Cold Applied Adhesive applied to the substrate only at a rate of 1 gal./67 ft². Outside 1.5" of side laps are heat welded

Maximum Design Pressure: -45 psf (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type C(4): All layers of insulation simultaneously attached. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.5” thick | 1 with 11, 12 | 1: 5.33 ft ² |

Note: Insulation layer shall be mechanically attached using the fastener density listed above. 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. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Mule-Hide TPO-c or Mule-Hide TPO-c EXTRA membrane shall be bonded to RhinoBond Plates with RhinoBond induction welding tool. Outside 1.5” of side laps are heat welded.

Maximum Design Pressure: -45.0 psf (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type C(5): All layers of insulation simultaneously attached. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|--|---|--|
| Any approved polyisocyanurate insulation listed in Table 2 Minimum 1.5” thick | N/A | N/A |
| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| Plywood Minimum 19/32” thick | 1, 4 | 1:1.9 ft ² |

Note: Top insulation layer shall be mechanically attached using the fastener density listed above. 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. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA membrane fully adhered with Aqua Base 120 Bonding Adhesive applied to the substrate and underside of the membrane at a rate of 1 gal/120 ft². Outside 1.5” of side laps are heat welded.

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



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type C(6): All layers of insulation simultaneously attached. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.5” thick | 1 with 11, 12 | 1:4 ft ² |

Note: Insulation layer shall be mechanically attached using the fastener density listed above. 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. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Mule-Hide TPO-c or Mule-Hide TPO-c EXTRA membrane shall be bonded to RhinoBond Plates with RhinoBond induction welding tool. Outside 1.5” of side laps are heat welded.

Maximum Design Pressure: -60.0 psf (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type C(7): All layers of insulation simultaneously attached. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Vapor Retarder: Any UL or FM approved vapor retarder applied to the roof deck.
(Optional)

One or more layers of any of the following insulations.

| <u>Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.5” thick | See Fastening Details | See Fastening Details |

Note: All insulation shall have preliminary attachment prior to the application of RhinoBond Plates and fasteners as outlined below. See membrane description for fastener details. 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. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Mule-Hide TPO-c or Mule-Hide TPO-c EXTRA membranes shall be bonded to RhinoBond Insulation Plates as specified below:

Fastening: Insulation shall be mechanically attached with OMG Heavy Duty fasteners and RhinoBond Insulation Plates or RhinoBond TreadSafe Plates spaced 6” o.c. in rows spaced 5’ o.c. Membrane shall be bonded to RhinoBond Plates with RhinoBond induction welding tool. Outside 1.5” of side laps are heat welded.

Maximum Design Pressure: -67.5 psf (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type C(8): All layers of insulation simultaneously attached. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.0" thick | N/A | N/A |
| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| SECUROCK Gypsum-Fiber Roof Board Minimum ½" thick | 1, 4 | 1:1.66 ft ² |

Note: Top insulation layer shall be mechanically attached using the fastener density listed above. 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. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA membrane fully adhered to the insulation using Mule-Hide TPO-c Bonding Adhesive applied to the substrate and underside of the membrane at a rate of 1.66 gal/sq. Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -75.0 psf (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type C(9): All layers of insulation simultaneously attached. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 2.0" thick | 1, 4 | 1:1.6 ft ² |

Note: Insulation layer shall be mechanically attached using the fastener density listed above. 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. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA membrane fully adhered to the insulation using Mule-Hide TPO-c Bonding Adhesive applied to the substrate at a rate of 1 gal/60 ft² (finished surface) or Aqua Base 120 Bonding Adhesive applied to the substrate and underside of the membrane at a rate of 1 gal/120 ft² (finished surface). Outside 1.5" of side laps are heat welded.

Or

TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membranes fully adhered to the insulation using FAST 100 LV Adhesive or Flexible FAST Adhesive applied to the substrate at a rate of 1 gal/sq. or Aqua Base 120 Bonding Adhesive applied to the substrate only at a rate of 1 gal/120 ft² or HydroBond Adhesive applied to the substrate only at a rate 100 ft²/gal. Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -75.0 psf (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type C(10): All layers of insulation simultaneously attached. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|--|---------------------------------------|--|
| Any approved polyisocyanurate insulation listed in Table 2 Minimum 1.5" thick | N/A | N/A |
| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| Plywood Minimum 19/32" thick | 1, 4 | 1:1.9 ft ² |

Note: Top insulation layer shall be mechanically attached using the fastener density listed above. 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. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA membrane fully adhered with Mule-Hide TPO-c Bonding Adhesive applied to the substrate and underside of the membrane at a rate of 1 gal/60ft² (finished surface area). Outside 1.5" of side laps are heat welded.
 Or
 TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membranes fully adhered to the insulation using FAST 100 LV Adhesive or Flexible FAST Adhesive applied to the substrate at a rate of 1 gal/sq. or Aqua Base 120 Bonding Adhesive applied to the substrate only at a rate of 1 gal/120 ft² or HydroBond Adhesive applied to the substrate only at a rate 100 ft²/gal. Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -75.0 psf (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type C(11): All layers of insulation simultaneously attached. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Vapor Retarder: Any UL or FM approved vapor retarder applied to the roof deck.
(Optional)

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Any approved XPS listed in Table 2 Minimum 1” thick | N/A | N/A |
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.5” thick | N/A | N/A |
| Structodek High Density Fiberboard Roof Insulation Minimum ¾” thick | N/A | N/A |
| Structodek High Density Fiberboard Roof Insulation Minimum ½” thick | N/A | N/A |
| Structodek High Density Fiberboard Roof Insulation Minimum 1” thick | N/A | N/A |

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. 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. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|--------------------------------------|---|--|
| DensDeck Prime Minimum 5/8” thick | 1, 4 | 1:1.33 ft ² |

Note: 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. Please refer to Roofing Application Standard RAS 117 for insulation attachment.



Membrane: Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA membrane fully adhered to the insulation using Mule-Hide TPO-c Bonding Adhesive applied to the substrate at a rate of 1 gal/60 ft² (finished surface). Outside 1.5” of side laps are heat welded.

Maximum Design Pressure: -90 psf (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type C(12): All layers of insulation simultaneously attached. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|--|---|--|
| Any approved polyisocyanurate insulation listed in Table 2 Minimum 1.5” thick | 1 with 11, 12 | 1:2 ft ² |

Note: Insulation layers shall be staggered by 1’ parallel to the 8’ length. 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. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Mule-Hide TPO-c or Mule-Hide TPO-c EXTRA membrane shall be bonded to RhinoBond Plates with RhinoBond induction welding tool. Outside 1.5” of side laps are heat welded.

Maximum Design Pressure: -97.5 psf (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type C(13): All layers of insulation simultaneously attached. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.5” thick | N/A | N/A |
| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| Plywood Minimum 19/32” thick | 1, 4 | 1:1 ft ² |

Note: Top insulation layer shall be mechanically attached using the fastener density listed above. 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. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA membrane fully adhered to the insulation using Mule-Hide TPO-c Bonding Adhesive applied to the substrate at a rate of 1 gal/60 ft² (finished surface). Outside 1.5” of side laps are heat welded.

Maximum Design Pressure: -97.5 psf (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type C(14): All layers of insulation simultaneously attached. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| H-Shield CG, H-Shield HD Composite CG Minimum 2.0” thick | 1, 4 | 1:1 ft ² |

Note: Insulation layer shall be mechanically attached using the fastener density listed above. 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. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA membrane fully adhered to the insulation using Mule-Hide TPO-c Bonding Adhesive applied to the substrate at a rate of 1 gal/60 ft² (finished surface). Outside 1.5” of side laps are heat welded.

Maximum Design Pressure: -112.5 psf (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type C(15): All layers of insulation simultaneously attached. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 2” thick | N/A | N/A |
| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| SECUROCK Gypsum-Fiber Roof Board Minimum ½” thick | 1, 4 | 1:1.33 ft ² |

Note: Top insulation layer shall be mechanically attached using the fastener density listed above. 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. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA membrane fully adhered to the insulation using Mule-Hide TPO-c Bonding Adhesive applied to the substrate at a rate of 1 gal/60 ft² (finished surface) or Aqua Base 120 Bonding Adhesive applied to the substrate and underside of the membrane at a rate of 1 gal/120 ft² (finished surface). Outside 1.5” of side laps are heat welded.

Maximum Design Pressure: -112.5 psf (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type C(16): All layers of insulation simultaneously attached. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|--|---|--|
| SECUROCK Gypsum-Fiber Roof Board Minimum 5/8" thick | 1, 4 | 1:1.33 ft ² |

Note: Insulation layer shall be mechanically attached using the fastener density listed above. 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. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA membrane fully adhered to the insulation using Mule-Hide TPO-c Bonding Adhesive applied to the substrate at a rate of 1 gal/60 ft² (finished surface) or Aqua Base 120 Bonding Adhesive applied to the substrate and underside of the membrane at a rate of 1 gal/120 ft² (finished surface). Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -112.5 psf (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type C(17): All layers of insulation simultaneously attached. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| H-Shield CG, H-Shield HD Composite CG Minimum 2.0” thick | 1, 4 | 1:1 ft ² |

Note: Insulation layer shall be mechanically attached using the fastener density listed above. 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. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA membrane fully adhered to the insulation using Mule-Hide TPO-c Bonding Adhesive applied to the substrate at a rate of 1 gal/60 ft² (finished surface). Outside 1.5” of side laps are heat welded.

Maximum Design Pressure: -120.0 psf (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type C(18): All layers of insulation simultaneously attached. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.5” thick | N/A | N/A |
| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| SECUROCK Gypsum-Fiber Roof Board Minimum ½” thick | 1, 4 | 1:1 ft ² |

Note: Top insulation layer shall be mechanically attached using the fastener density listed above. 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. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA membrane fully adhered to the insulation using Aqua Base 120 Bonding Adhesive applied to the substrate and underside of the membrane at a rate of 1 gal/120 ft² (finished surface). Outside 1.5” of side laps are heat welded.

Maximum Design Pressure: -127.5 psf (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type C(19): All layers of insulation simultaneously attached. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.5" thick | N/A | N/A |
| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| SECUROCK Gypsum-Fiber Roof Board Minimum ½" thick | 1, 4 | 1:1 ft ² |

Note: Top insulation layer shall be mechanically attached using the fastener density listed above. 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. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membrane adhered to the insulation using FAST 100 LV Adhesive or Flexible FAST Adhesive applied in ½" to ¾" ribbons spaced 4" o.c. or FAST Dual Cartridge Adhesive or FAST 5 Gallon Jug Adhesive applied in ¾" to 1" ribbons spaced 4" o.c. Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -135 psf (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type C(20): All layers of insulation simultaneously attached. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.5” thick | N/A | N/A |
| <u>Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| Plywood Minimum 19/32” thick | 1, 4 | 1:1 ft ² |

Note: Top insulation layer shall be mechanically attached using the fastener density listed above. 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. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membranes fully adhered to the insulation using FAST 100 LV Adhesive or Flexible FAST Adhesive applied in 3/4” to 1” ribbons spaced 4” o.c. or applied to the substrate at a rate of 100 ft²/gal. Outside 1.5” of side laps are heat welded.

Maximum Design Pressure: -135.0 psf (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type C(21): All layers of insulation simultaneously attached. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|-----------------------------------|---|--|
| H-Shield CG Minimum 2.0" thick | 1, 4 | 1:1 ft ² |

Note: Insulation layer shall be mechanically attached using the fastener density listed above. 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. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membranes fully adhered to the insulation using FAST 100 LV Adhesive, Flexible FAST Adhesive, FAST Dual Cartridge Adhesive or FAST 5 Gallon Jug Adhesive applied in 3/4" to 1" ribbons spaced 4" o.c. Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -135.0 psf (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type C(22): All layers of insulation simultaneously attached. Membrane adhered.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

One or more layers of any of the following insulations.

| <u>Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|--|---|--|
| H-Shield HD Composite CG Minimum 2.0" thick | 1, 4 | 1:1 ft ² |

Note: Insulation layer shall be mechanically attached using the fastener density listed above. 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. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membranes fully adhered to the insulation using FAST 100 LV Adhesive, Flexible FAST Adhesive, FAST Dual Cartridge Adhesive or FAST 5 Gallon Jug Adhesive applied in 3/4" to 1" ribbons spaced 4" o.c. Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -157.5 psf (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type D(1): Membrane mechanically attached over preliminarily fastened insulation.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Vapor Retarder: Any UL or FM approved vapor retarder applied to the roof deck.
(Optional)

One or more layers of any of the following insulations.

| <u>Base or Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|--|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG or Any approved Polyisocyanurate listed in Table 2 Minimum 1.5” thick | N/A | N/A |
| Structodek High Density Fiberboard Roof Insulation Minimum ½” thick | N/A | N/A |
| Structodek High Density Fiberboard Roof Insulation Minimum ¾” thick | N/A | N/A |
| DensDeck, DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board Minimum ¼” thick | N/A | N/A |
| H-Shield CG HD Minimum ½” thick | N/A | N/A |

Note: All layers of insulation and base sheet shall be simultaneously attached. See base sheet below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. 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. Single and multiple layers of insulation can be attached to the deck with FAST 100 LV Adhesive, Flexible FAST Adhesive, FAST Dual Cartridge Adhesive, FAST 5 Gallon Jug Adhesive, OMG OlyBond 500 or Millennium One Step Foamable Adhesive.

Membrane: Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA secured through the preliminarily attached insulation as specified below.



Fastening #1: OMG Heavy Duty or CD-10 fasteners with Mule-Hide 2.4" Seam Plates 9" o.c. through the Mule-Hide TPO-c (FR) Membrane in the lap or through a Sure-Weld Pressure Sensitive RUSS Strip in rows spaced 9'-7" o.c.

Fastening #2: OMG Heavy Duty or CD-10 fasteners with Mule-Hide 2.4" Seam Plates 12" o.c. through the Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA. Membrane in the lap or through a TPO Pressure Sensitive strip in rows spaced 9'-7" o.c.

Maximum Design Pressure: -45 psf. (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type D(2): Membrane mechanically attached over preliminarily fastened insulation.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Vapor Retarder: Any UL or FM approved vapor retarder applied to the roof deck.
(Optional)

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|--|---|--|
| Any approved Polyisocyanurate listed in Table 2, Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.5” thick | N/A | N/A |
| H-Shield CG HD Minimum ½” thick | N/A | N/A |

Note: All layers of insulation and base sheet shall be simultaneously attached. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. 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.

Membrane: Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA secured through the preliminarily attached insulation as specified below.

Fastening: OMG Heavy Duty or CD-10 fasteners with Mule-Hide 2.4” Seam Plates 12” o.c. through the Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA membrane in the lap or through a TPO Pressure Sensitive strip in rows spaced 7'-7" o.c.

Maximum Design Pressure: -45 psf. (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type D(3): Membrane mechanically attached over preliminarily fastened insulation.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Vapor Retarder: Any UL or FM approved vapor retarder applied to the roof deck.
(Optional)

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| One of the following covered with the boards listed in “Base or Top Insulation Layer”. | | |
| Any approved XPS insulation listed in Table 2 | | |
| Minimum 1” thick | N/A | N/A |
| | | |
| <u>Base or Top Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
| Any approved polyisocyanurate insulation listed in Table 2, Mule-Hide Poly ISO 1,H-Shield CG, H-Shield HD Composite CG | | |
| Minimum 1.4” thick | N/A | N/A |
| | | |
| H-Shield CG HD | | |
| Minimum ½” thick | N/A | N/A |
| | | |
| Any Approved High Density Fiberboard Roof Insulation listed in Table 2 | | |
| Minimum ¾” thick | N/A | N/A |
| | | |
| DensDeck, DensDeck Prime | | |
| Minimum ¼” thick | N/A | N/A |

Note: All layers of insulation and base sheet shall be simultaneously attached. See base sheet below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. 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. Single and multiple layers of insulation can be attached to the deck with FAST 100 LV Adhesive, Flexible FAST Adhesive, FAST Dual Cartridge Adhesive, FAST 5 Gallon Jug Adhesive, OMG OlyBond 500 or Millennium One Step Foamable Adhesive.



- Membrane:** Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA, secured through the preliminarily attached insulation as specified below.
- Fastening #1:** OMG Heavy Duty or CD-10 fasteners with Mule-Hide 2.4" Seam Plates 9" o.c. through the Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA membrane in the lap or through a TPO Pressure Sensitive strip in rows spaced 9'-6" o.c.
Maximum Design Pressure: -45 psf. (See General Limitation #7)
- Fastening #2:** OMG Heavy Duty or CD-10 fasteners with Mule-Hide 2.4" Seam Plates 6" o.c. through the Mule-Hide TPO-c (FR) membrane in the lap or through a TPO Pressure Sensitive strip in rows spaced 9'-7" o.c.
Maximum Design Pressure: -52.5 psf. (See General Limitation #7)
- Maximum Design Pressure:** See Fastening Options Above



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type D(4): Membrane mechanically attached over preliminarily fastened insulation.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Vapor Retarder: Any UL or FM approved vapor retarder applied to the roof deck.
(Optional)

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|--|---|--|
| Any approved polyisocyanurate insulation listed in Table 2 Minimum 1.5" thick | N/A | N/A |
| Structodek High Density Fiberboard Roof Insulation Minimum 1/2" thick Minimum 3/4" thick | N/A N/A | N/A N/A |
| DensDeck, DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board Minimum 1/4" thick | N/A | N/A |
| H-Shield CG HD Minimum 1/2" thick | N/A | N/A |

Note: All layers of insulation and base sheet shall be simultaneously attached. See base sheet below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. 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.

Membrane: Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA, secured through the preliminarily attached insulation as specified below.

Fastening: OMG Heavy Duty or CD-10 fasteners with Mule-Hide 2.4" Seam Plates 12" o.c. through the 5.5" wide lap in rows spaced 3'-6" o.c. Outside 1.5" of side laps are heat welded.

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



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type D(5): Membrane mechanically attached over preliminarily fastened insulation.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Vapor Retarder: Any UL or FM approved vapor retarder applied to the roof deck.
(Optional)

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|--|---|--|
| Any approved polyisocyanurate insulation listed in Table 2, Mule-Hide Poly ISO 1,H-Shield CG, H-Shield HD Composite CG Minimum 1.4” thick | N/A | N/A |
| Any Approved High Density Fiberboard Roof Insulation listed in Table 2 Minimum ¾” thick | N/A | N/A |
| DensDeck, DensDeck Prime Minimum ¼” thick | N/A | N/A |
| H-Shield CG HD Minimum ½” thick | N/A | N/A |

Note: All layers of insulation and base sheet shall be simultaneously attached. See base sheet below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. 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. Single and multiple layers of insulation can be attached to the deck with FAST 100 LV Adhesive, Flexible FAST Adhesive, FAST Dual Cartridge Adhesive, FAST 5 Gallon Jug Adhesive, OMG OlyBond 500 or Millennium One Step Foamable Adhesive.

Membrane: Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA secured through the preliminarily attached insulation as specified below.

Fastening #1: OMG Heavy Duty or CD-10 fasteners with Mule-Hide 2.4” Seam Plates 6" o.c. through the Sure-Weld or Mule-Hide TPO-c EXTRA Membrane in the lap or through a TPO Pressure Sensitive strip in rows spaced 9'-7" o.c.



Fastening #2: OMG Heavy Duty or CD-10 fasteners with Mule-Hide 2.4" Seam Plates 6" o.c. through the Mule-Hide TPO-c (FR) Membrane in the lap or through a TPO Pressure Sensitive strip in rows spaced 7'-7" o.c.

Fastening #3: OMG Heavy Duty or CD-10 fasteners with Mule-Hide 2.4" Seam Plates 6" o.c. through the Mule-Hide TPO-c, Mule-Hide TPO-c (FR) or Mule-Hide TPO-c EXTRA Membrane in the lap or through a TPO Pressure Sensitive strip in rows spaced 11'-7" o.c.

Maximum Design Pressure: -60 psf. (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type D(6): Membrane mechanically attached over preliminarily fastened insulation.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Vapor Retarder: Any UL or FM approved vapor retarder applied to the roof deck.
(Optional)

One or more layers of any of the following insulations.

| <u>Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|---|---|--|
| Mule-Hide Poly ISO 1, H-Shield CG, H-Shield HD Composite CG Minimum 1.5" thick | N/A | N/A |
| Structodek High Density Fiberboard Minimum 1/2" thick Minimum 3/4" thick | N/A N/A | N/A N/A |
| DensDeck, DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board Minimum 1/4" thick | N/A | N/A |
| H-Shield CG HD Minimum 1/2" thick | N/A | N/A |

Note: All layers of insulation and base sheet shall be simultaneously attached. See base sheet below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. 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. Single and multiple layers of insulation can be attached to the deck with FAST 100 LV Adhesive, Flexible FAST Adhesive, FAST Dual Cartridge Adhesive, FAST 5 Gallon Jug Adhesive, OMG OlyBond 500 or Millennium One Step Foamable Adhesive.

Membrane: Mule-Hide TPO-c or Mule-Hide TPO-c EXTRA secured through the preliminarily attached insulation as specified below.

Fastening: OMG Heavy Duty or CD-10 fasteners with Mule-Hide 2.4" Seam Plates 6" o.c. through the lap in rows spaced 7'-7" o.c.

Maximum Design Pressure: -67.5 psf. (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type D(7): Membrane mechanically attached over preliminarily fastened insulation.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Vapor Retarder: Any UL or FM approved vapor retarder applied to the roof deck.
(Optional)

One or more layers of any of the following insulations.

| <u>Base Insulation Layer</u> | <u>Insulation Fasteners (Table 3)</u> | <u>Fastener Density/ft²</u> |
|--|---|--|
| Any approved polyisocyanurate insulation listed in Table 2 Minimum 1.5” thick | N/A | N/A |
| Structodek High Density Fiberboard Roof Insulation Minimum ½” thick Minimum ¾” thick | N/A N/A | N/A N/A |
| DensDeck, DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board Minimum ¼” thick | N/A | N/A |
| H-Shield CG HD Minimum ½” thick | N/A | N/A |

Note: All layers of insulation and base sheet shall be simultaneously attached. See base sheet below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. 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.

Membrane: Mule-Hide TPO-c or Mule-Hide TPO-c EXTRA secured through the preliminarily attached insulation as specified below.

Fastening: OMG Heavy Duty or CD-10 fasteners with Mule-Hide 2.4” Seam Plates 6" o.c. through the 5.5” wide lap in rows spaced 3'-6" o.c. Outside 1.5” of side laps are heat welded.

Maximum Design Pressure: -82.5 psf. (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK

Deck Type 3 Concrete Decks, Non-Insulated

Deck Description: 2500 psi structural concrete.

System Type F(1): Membrane adhered with FAST Dual Cartridge Adhesive.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membrane adhered to the insulation using FAST Dual Cartridge Adhesive applied in ¾” to 1” ribbons spaced 12” o.c. Outside 1.5” of side laps are heat welded.

Maximum Design Pressure: -240.0 psf; (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK

Deck Type 3 Concrete Decks, Non-Insulated

Deck Description: 2500 psi structural concrete.

System Type F(2): Membrane adhered with FAST 100 LV Adhesive or Flexible FAST Adhesive.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membrane adhered to the insulation using FAST 100 LV Adhesive or Flexible FAST Adhesive applied in 1/2" to 3/4" ribbons spaced 12" o.c. Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -392.5 psf; (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3: Concrete Decks, Non-Insulated
Deck Description: 2500 psi structural concrete.
System Type F(3): Membrane adhered with FAST 100 LV Adhesive, Flexible FAST Adhesive or Aqua Base 120 Bonding Adhesive.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membrane fully adhered to the deck using FAST 100 LV Adhesive or Flexible FAST Adhesive applied to the substrate at a rate of 1 gal/sq. or Aqua Base 120 Bonding Adhesive applied to the substrate only at a rate of 1 gal/120 ft².

Maximum Design Pressure: -480 psf with Aqua Base 120 Bonding Adhesive (See General Limitation #9)
-495 psf with all other applications (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK

Deck Type 3 Concrete Decks, Non-Insulated

Deck Description: 2500 psi structural concrete.

System Type F(4): Membrane adhered with FAST 100 LV Adhesive or Flexible FAST Adhesive.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Membrane: TPO-c Fleece Back 100, TPO-c Fleece Back 115 or TPO-c Fleece Back 135 membrane fully adhered to the insulation using FAST 100 LV Adhesive or Flexible FAST Adhesive applied at a rate of 1 gal/sq. Outside 1.5” of side laps are heat welded.

Maximum Design Pressure: -495.0 psf; (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, FleeceBACK
Deck Type 3 Concrete Decks, Non-Insulated
Deck Description: 2500 psi structural concrete.
System Type F(5): Membrane adhered with Asphalt or Cold Applied Adhesive.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be installed unless said accessories demonstrate compliance with prescriptive Florida Building Code requirements and are field fabricated utilizing the approved membranes listed in Table 1.

Membrane: TPO-c Fleece Back Plus 120, TPO-c Fleece Back Plus 135 or TPO-c Fleece Back Plus 155 membrane adhered to primed (cut-back asphalt) deck in a full mopping of approved asphalt within the EVT range and at a rate of 20-25 lbs./sq. or Cold Applied Adhesive applied to the substrate only at a rate of 1 gal./67ft².

Maximum Design Pressure: -495.0 psf (See General Limitation #9)



CONCRETE DECK SYSTEM LIMITATIONS:

1. If mechanical attachment to the structural deck through the lightweight insulating concrete is proposed, a field withdrawal resistance testing shall be performed to determine equivalent or enhanced fastener patterns and density. All testing and fastening design shall be in compliance with Testing Application Standard TAS 105 and Roofing Application Standard RAS 137, calculations shall be signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant.



GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance; refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each side lap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq. **Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.**
5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. Insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
7. 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 and/or RAS 137. 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.)**
10. All membranes or packaging shall bear the imprint or identifiable marking of the manufacturer's name or logo and the following statement: "Miami-Dade County Product Control Approved" or the Miami-Dade County Product Control Seal as shown below.



11. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 61G20-3 of the Florida Administrative Code.

END OF THIS ACCEPTANCE



NOA No: 19-0306.06
Expiration Date: 08/31/23
Approval Date: 03/14/19
Page 98 of 98