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

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
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NOTICE OF ACCEPTANCE (NOA)

Mule-Hide Products Co., Inc.
1195 Prince Hall Dr.
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 TPO-c 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 renews NOA# 21-0609.09 and consists of pages 1 through 98.
The submitted documentation was reviewed by Alex Tigera.

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

Product Name	Dimensions	Test Specifications	Product Description
TPO-c	various	TAS 131	Reinforced white or colored, 45-mil or 60-mil thick, TPO membrane.
TPO-c EXTRA	various	TAS 131	Reinforced white or colored, 80-mil thick, TPO membrane.
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.
TPO-c Fleece Back 100	various	TAS 131	Reinforced white or colored, 100-mil thick, TPO membrane with fleece backing.
TPO-c Fleece Back 115	various	TAS 131	Reinforced white or colored, 115-mil thick, TPO membrane with fleece backing.
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
OlyBond 500	Various	TAS 110	Two-part, low-rise polyurethane adhesive
Cold Applied Adhesive	Various	TAS 110	Asphalt-Modified Polyether Adhesive

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

Product Name	Dimensions	Test Specifications	Product Description
FAST 100 LV	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
Helix Max Low-Rise Adhesive	15 & 50-gal. drum	TAS 110	Two-part, low-rise polyurethane adhesive
HydroBond Adhesive	5-gal. pail		Water-based bonding adhesive
TPO-c Bonding Adhesive	5-gal. pail	TAS 110	Solvent-based bonding adhesive.
Low VOC Bonding Adhesive	5-gal. pail	TAS 110	Low VOC solvent based bonding adhesive

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
Poly ISO 1, Poly ISO 1 NB,	Polyisocyanurate roof insulation.	Mule-Hide Products Co., Inc.
Poly ISO 1 HD	Polyisocyanurate foam core and high-density cover board	Mule-Hide Products Co., Inc.
Poly ISO 1-DWD	Rigid-roof insulation panel comprised of closed cell Polyisocyanurate foam core with coated glass facers	Mule-Hide Products Co., Inc.
Poly ISO 1-HD-Composite	Rigid-roof composite insulation panel comprised of closed cell Polyisocyanurate foam core and high-density cover board.	Mule-Hide Products Co., Inc.
Dens Deck, Dens Deck Prime	Silicon treated gypsum	Georgia-Pacific Gypsum, LLC.
H-Shield, H-Shield NB, H-Shield CG, H-Shield HD	Isocyanurate Insulation	Hunter Panels, a div of Carlisle construction Materials, LLC.
H-Shield HD Composite CG	Polyisocyanurate foam core with a coated glass facer.	Hunter Panels, a div of Carlisle construction Materials, LLC.
Structodek High Density Fiberboard Roof Insulation	High Density Wood Fiber insulation board.	Blue Ridge Fiberboard, Inc.
Insulfoam EPS, InsulFoam SP, InsulFoam R-TECH	Expanded polystyrene	Insulfoam, a Div. of Carlisle Const. Materials
SECUROCK Gypsum-Fiber Roof Board	Gypsum based board stock	USG Corp.
STYROFOAM ROOFMATE	Extruded polystryrene	DuPont de Nemours, Inc.

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	OMG Heavy Duty	Insulation/membrane fastener for concrete decks.	Various	OMG, Inc.
2.	OMG XHD, OMG Super XHD	Insulation and membrane fastener	Various	OMG, Inc.
3.	3 in. Ribbed Galvalume Plate	Metal plates used for membrane securement with Sure-Seal fasteners.	3" dia	OMG, Inc.
4.	OMG 2-3/8" Barbed XHD Plate	Metal plates used for membrane securement with Sure-Seal fasteners.	2-3/8" dia	OMG, Inc.
5.	EHD Fastener	Insulation and membrane fastener	Various	Mule-Hide Products Co., Inc.
6.	CD-10	Insulation/membrane fastener for concrete decks.	Various	OMG, Inc.
7.	#12 Standard Roofgrip	Insulation and membrane fastener	Various	OMG, Inc.
8.	#14 Roofgrip	Insulation and membrane fastener	Various	OMG, Inc.
9.	HDP Fasteners	Insulation and membrane fastener	Various	Mule-Hide Products Co., Inc.
10.	Drill Point Fasteners	Insulation and membrane fastener	Various	Mule-Hide Products Co., Inc.
11.	3” Insulation Plates	Insulation and membrane fastener	Various	Mule-Hide Products Co., Inc
12.	2.4” Seam Plate	Insulation and membrane fastener	Various	Mule-Hide products Co., Inc.
13.	RhinoBond Insulation Plate (TPO)	Coated galvalume plate	3” round	OMG, Inc.
14.	RhinoBond TreadSafe Plate (TPO)	Coated galvalume plate	3” round	OMG, Inc.
15.	RhinoBond Insulation Plate	Coated galvalume plate	3” round	Carlisle Syntec, a div of Carlisle construction Materials, LLC.
16.	OMG 3 in. Galvalume Steel Plate	Coated galvalume plate	3” round	OMG, Inc.
17.	Dekfast DF-#12-PH3	Insulation and membrane fastener	Various	SFS Group USA, Inc.
18.	Dekfast DF-#14-PH3	Insulation and membrane fastener	Various	SFS Group USA, Inc.
19.	Dekfast PLT-H-2-7/8	Galvalume AZ50 stress plate	2-7/8” x 3-1/4”	SFS Group USA, Inc.
20.	Dekfast PLT-R-3	Galvalume AZ50 stress plate	3” round	SFS Group USA, Inc.
21.	Fluted Concrete Fastener	Concrete fastener to secure coverboards and insulation	Various	Mule-Hide Products Co., Inc.

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
22.	Millennium One Step Foamable Adhesive	A two component, low rise, polyurethane foam adhesive		H.B. Fuller Company
23.	OMG OlyBond Adhesive	Two-part, low-rise polyurethane adhesive		OMG, Inc.

EVIDENCE SUBMITTED:

Test Agency	Test Identifier	Description	Date
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

EVIDENCE SUBMITTED:

Test Agency	Test Identifier	Description	Date
	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
	3034776	FM 4470	08/07/09
	3034297	FM 4470	11/13/09
	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, Helix Max Low-Rise 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: (Optional) Any UL of FMRC approved vapor retarder applied to the roof deck.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-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/ft^2
Dens Deck, Dens Deck Prime Minimum ¼" thick	**N/A**	**N/A**

Note: All insulation shall be fully adhered to the deck with FAST 100 LV, FAST Dual Tank Adhesive or Helix Max Low-Rise 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, TPO-c (FR) or 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, Fleece Back

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:

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
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 or Helix Max Low-Rise 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, Fleece Back

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.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, 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 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 or Helix Max Low-Rise 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 ft^2/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, Fleece Back

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:

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1-HD-Composite, 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 or Helix Max Low-Rise 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, Fleece Back

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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG		
Minimum 1.0" thick	**N/A**	**N/A**

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1 HD, H-Shield 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 or Helix Max Low-Rise 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 ft^2/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, Fleece Back

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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG		
Minimum 1.0" thick	**N/A**	**N/A**

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
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 or Helix Max Low-Rise 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 ft^2/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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG Minimum 1.5" thick	**N/A**	**N/A**
Insulfoam EPS, Minimum 1" thick	**N/A**	**N/A**

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Dens Deck Prime 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, TPO-c (FR) or TPO-c EXTRA membrane fully adhered to the insulation using TPO-c Bonding Adhesive or Low VOC 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, Fleece Back

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete.

System Type A(8): One or more layers of insulation adhered with OlyBond 500 or One-Step 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 FMRC approved vapor retarder applied to the roof deck.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG Minimum 1.5" thick	**N/A**	**N/A**
Structodek High Density Fiberboard Roof Insulation Minimum ½" thick	**N/A**	**N/A**

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Structodek High Density Fiberboard Roof Insulation Minimum ½" thick	**N/A**	**N/A**

Note: All insulation shall be adhered with 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: TPO-c, TPO-c (FR) or TPO-c EXTRA membrane fully adhered to the insulation using TPO-c Bonding Adhesive or Low VOC 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 or Helix Max Low-Rise 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, Fleece Back

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete.

System Type A(9): One or more layers of insulation adhered with 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 of FMRC approved vapor retarder applied to the roof deck.

(Optional)
One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG Minimum 1.5" thick	**N/A**	**N/A**

Note: All insulation shall be adhered with 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: TPO-c, TPO-c (FR) or TPO-c EXTRA membrane fully adhered to the insulation using TPO-c Bonding Adhesive or Low VOC 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 or Helix Max Low-Rise 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 ft^2/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, Fleece Back

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 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:

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1 NB, H-Shield 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 ft^2, or OlyBond 500 applied in ¾" to 1" wide ribbons spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: TPO-c, TPO-c (FR) or TPO-c EXTRA membrane fully adhered to the insulation using TPO-c Bonding Adhesive or Low VOC 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 or Helix Max Low-Rise 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 ft^2 or HydroBond Adhesive applied to the substrate only at a rate 100 ft^2/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, Fleece Back

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 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 FMRC approved vapor retarder applied to the roof deck.

One or more layers of any of the following insulations.

(Optional) Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG Minimum 1.5" thick	**N/A**	**N/A**
Dens Deck, Dens Deck Prime Minimum ¼" thick	**N/A**	**N/A**

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
Dens Deck, Dens Deck 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 Carlisle OlyBond 500BA 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: TPO-c, TPO-c (FR) or TPO-c EXTRA membrane fully adhered to the insulation using TPO-c Bonding Adhesive or Low VOC 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 or Helix Max Low-Rise 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, Fleece Back

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:

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
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, Helix Max Low-Rise Adhesive, FAST Dual Cartridge Adhesive, FAST Dual Tank Adhesive or FAST 5 Gallon Jug Adhesive, OlyBond 500 or One-Step 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.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG Minimum 0.5" thick	**N/A**	**N/A**

(Optional) Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield 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 or Helix Max Low-Rise Adhesive applied at a rate of 1 gal./sq. or in ½" to ¾" wide ribbons spaced 12" o.c. or Carlisle OlyBond 500BA or FAST Dual Cartridge Adhesive or FAST 5 Gallon Jug Adhesive applied in ¾" to 1" 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: TPO-c, TPO-c (FR) or TPO-c EXTRA membrane fully adhered to the insulation using TPO-c Bonding Adhesive or Low VOC 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 or Helix Max Low-Rise 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, Fleece Back

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, Helix Max Low-Rise 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.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG Minimum 1.0" thick	**N/A**	**N/A**

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Poly ISO 1 HD, H-Shield HD Minimum ½" thick	**N/A**	**N/A**

Note: All insulation shall be adhered to the deck in FAST 100 LV or Helix Max Low-Rise 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 ft^2/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, Fleece Back

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, Helix Max Low-Rise 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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG Minimum 1.0" thick	**N/A**	**N/A**

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1 HD, H-Shield HD Minimum ½" thick	**N/A**	**N/A**

Note: All insulation shall be adhered to the deck in FAST 100 LV or Helix Max Low-Rise 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 or Helix Max Low-Rise 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, Fleece Back

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete.

System Type A(16): One or more layers of insulation adhered with One-Step Adhesive or with FAST 100 LV, FAST Dual Tank Adhesive or Helix Max Low-Rise 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:

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1 NB, H-Shield NB Minimum 1.5" thick	**N/A**	**N/A**

Note: All insulation shall be adhered to the deck in FAST 100 LV, FAST Dual Tank Adhesive or Helix Max Low-Rise 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: TPO-c, TPO-c (FR) or TPO-c EXTRA membrane fully adhered to the insulation using TPO-c Bonding Adhesive or Low VOC 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 or Helix Max Low-Rise 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 ft^2 or HydroBond Adhesive applied to the substrate only at a rate 100 ft^2/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, Fleece Back

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, Helix Max Low-Rise 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.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG Minimum 1.0" thick	**N/A**	**N/A**

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
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 or Helix Max Low-Rise 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 or Helix Max Low-Rise 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, Helix Max Low-Rise 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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, 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**

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Dens Deck Prime		
Minimum ¼" thick	**N/A**	**N/A**

Note: All insulation shall be adhered to the deck in FAST 100 LV or Helix Max Low-Rise 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, TPO-c (FR) or TPO-c EXTRA membrane fully adhered to the insulation using TPO-c Bonding Adhesive or Low VOC 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, Fleece Back

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 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**
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG Minimum 1.5" thick	**N/A**	**N/A**
Dens Deck, Dens Deck Prime Minimum ¼" thick	**N/A**	**N/A**

(Optional) Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
Dens Deck, Dens Deck 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: TPO-c, TPO-c (FR) or TPO-c EXTRA membrane fully adhered to the insulation using TPO-c Bonding Adhesive or Low VOC 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 or Helix Max Low-Rise 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 Dens Deck or Dens Deck 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, Fleece Back

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.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, 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 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 HydroBond Adhesive applied to the substrate only at a rate 100 ft^2/gal. or FAST 100 LV or Helix Max Low-Rise 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: –240.0 psf. (See General Limitation #9)

Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, Fleece Back

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:

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
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 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 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 psf; (See General Limitation #9)

Membrane Type: Single Ply, Thermoplastic, TPO, Fleece Back

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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG Minimum 1.0" thick	**N/A**	**N/A**

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
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 ft^2/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 OlyBond 500 or One-Step 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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG		
Minimum 2.0" thick	**N/A**	**N/A**

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
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 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: TPO-c, TPO-c (FR) or 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, Fleece Back

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 or Helix Max Low-Rise 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.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, 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 or Helix Max Low-Rise 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 ft^2/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, Fleece Back

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 or Helix Max Low-Rise 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:

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1-HD-Composite, 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 or Helix Max Low-Rise 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 fully adhered to the insulation using FAST 100 LV or Helix Max Low-Rise 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, Fleece Back

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

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG Minimum 1.5" thick	**N/A**	**N/A**

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Dens Deck, Dens Deck 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 or Helix Max Low-Rise 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 ft^2/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, Fleece Back

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 or Helix Max Low-Rise 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 FMRC approved vapor retarder applied to the roof deck.

One or more layers of any of the following insulations.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG		
Minimum 1.5" thick	**N/A**	**N/A**

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Dens Deck, Dens Deck Prime		
Minimum ¼" thick	**N/A**	**N/A**

Note: All insulation shall be fully adhered to the deck with FAST 100 LV or Helix Max Low-Rise 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 or Helix Max Low-Rise 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 ft^2/gal. Outside 1.5" of side laps are heat welded.

Maximum Design Pressure: -285 psf; Membrane adhered with HydroBond 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, Fleece Back

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 or Helix Max Low-Rise 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:

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
InsulFoam SP Minimum 1.0" thick	**N/A**	**N/A**

Note: All insulation shall be adhered to the deck in FAST 100 LV or Helix Max Low-Rise 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 FAST 100 LV or Helix Max Low-Rise Adhesive applied in ½" to ¾" 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, Fleece Back

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, FAST Dual Tank Adhesive or Helix Max Low-Rise 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 FMRC approved vapor retarder applied to the roof deck.

One or more layers of any of the following insulations.

(Optional) Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Dens Deck, Dens Deck Prime Minimum ¼" thick	**N/A**	**N/A**

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, 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**
Dens Deck, Dens Deck Prime Minimum ¼" thick	**N/A**	**N/A**

Note: All insulation shall be adhered with FAST 100 LV, FAST Dual Tank Adhesive or Helix Max Low-Rise 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 or Helix Max Low-Rise 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 ft^2/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, Fleece Back

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 or Helix Max Low-Rise 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:

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1, Poly ISO 1-DWD, H-Shield, H-Shield CG, Poly ISO 1-HD-Composite, 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 or Helix Max Low-Rise Adhesive applied in ½" to ¾" 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 or Helix Max Low-Rise Adhesive applied in ½" to ¾" 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, Helix Max Low-Rise 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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, 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**

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Structodek High Density Fiberboard Roof Insulation		
Minimum ½" thick	**N/A**	**N/A**

Note: All insulation shall be adhered to the deck in FAST 100 LV or Helix Max Low-Rise 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. 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, TPO-c (FR) or TPO-c EXTRA membrane fully adhered with TPO-c Bonding Adhesive or Low VOC 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, Fleece Back

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, Helix Max Low-Rise 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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, 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**

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Structodek High Density Fiberboard Roof Insulation		
Minimum ½" thick	**N/A**	**N/A**

Note: All insulation shall be adhered to the deck in FAST 100 LV or Helix Max Low-Rise 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. 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 or Helix Max Low-Rise 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, FAST Dual Tank Adhesive or Helix Max Low-Rise 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 FMRC approved vapor retarder applied to the roof deck.

One or more layers of any of the following insulations.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-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**
Dens Deck, Dens Deck Prime Minimum ¼" thick	**N/A**	**N/A**

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

Membrane: TPO-c, TPO-c (FR) or TPO-c EXTRA membrane fully adhered to the insulation using TPO-c Bonding Adhesive or Low VOC 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, Fleece Back

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

One or more layers of any of the following insulations.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
Poly ISO 1, Poly ISO 1-DWD, H-Shield, H-Shield CG, Poly ISO 1-HD-Composite, H-Shield HD Composite CG Minimum 1.5" thick	**N/A**	**N/A**

(Optional) Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
Dens Deck, Dens Deck 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 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 Dens Deck or Dens Deck 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 Dens Deck or Dens Deck Prime (See General Limitation #9)
–382.5 psf. With all other insulation boards (See General Limitation #9)

Membrane Type: Single Ply, Thermoplastic, TPO, Fleece Back

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 or Helix Max Low-Rise 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 FMRC approved vapor retarder applied to the roof deck.

One or more layers of any of the following insulations.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-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**
Dens Deck, Dens Deck Prime		
Minimum ¼" thick	**N/A**	**N/A**

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

Membrane: 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 Dens Deck or Dens Deck 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 Dens Deck or Dens Deck Prime (See General Limitation #9)
–457.5 psf. With all other insulation boards (See General Limitation #9)

Membrane Type: Single Ply, Thermoplastic, TPO, Fleece Back

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:

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1-HD-Composite, 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 or Helix Max Low-Rise 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 ft^2/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, Fleece Back

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 of FMRC approved vapor retarder applied to the roof deck.

One or more layers of any of the following insulations.

(Optional) Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Poly ISO 1, Poly ISO 1-DWD, H-Shield, H-Shield CG, Poly ISO 1-HD-Composite, H-Shield HD Composite CG Minimum 1.5" thick	**N/A**	**N/A**

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Dens Deck, Dens Deck 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 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 or Helix Max Low-Rise 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, Fleece Back

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 or Helix Max Low-Rise 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.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG Minimum 1.0" thick	**N/A**	**N/A**

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
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 or Helix Max Low-Rise 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 ft^2/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, Fleece Back

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 or Helix Max Low-Rise 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:

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1-HD-Composite, 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 or Helix Max Low-Rise 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 or Helix Max Low-Rise 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, Fleece Back

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 or Helix Max Low-Rise 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 FMRC approved vapor retarder applied to the roof deck.

One or more layers of any of the following insulations.

(Optional) Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Poly ISO 1, Poly ISO 1-DWD, H-Shield, H-Shield CG, Poly ISO 1-HD-Composite, H-Shield HD Composite CG Minimum 1.5" thick	**N/A**	**N/A**

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Dens Deck, Dens Deck 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 or Helix Max Low-Rise 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 or Helix Max Low-Rise 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, Fleece Back

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 or Helix Max Low-Rise 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 FMRC approved vapor retarder applied to the roof deck.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, 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 or Helix Max Low-Rise 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 or Helix Max Low-Rise 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 ft^2/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.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
Poly ISO 1, Poly ISO 1-HD-Composite, Poly ISO 1-DWD, H-Shield, H-Shield CG, H-Shield HD Composite CG Minimum 1.5" thick	**1, 6, 7, 8, 8, 21**	**1:2 ft²**

(Optional) Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
Dens Deck, Dens Deck 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: TPO-c, TPO-c (FR) or TPO-c EXTRA membrane fully adhered to the insulation using TPO-c Bonding Adhesive or Low VOC 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.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG Minimum 1.5" thick	**1, 6, 7, 21**	**1:2 ft²**

(Optional) Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, 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, Helix Max Low-Rise 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, Helix Max Low-Rise 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, Fleece Back

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.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG		
Minimum 1.5" thick	**1, 6, 7, 9, 21**	**1:3.2 ft²**
Minimum 2" thick	**1, 6, 7, 9, 21**	**1:4 ft²**

(Optional) Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG		
Minimum 1" thick	**N/A**	**N/A**
Dens Deck Prime		
Minimum ¼" thick	**N/A**	**N/A**

Note: Top insulation layer shall be adhered with FAST 100 LV, Helix Max Low-Rise 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 or Helix Max Low-Rise 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 ft^2 or HydroBond Adhesive applied to the substrate only at a rate 100 ft^2/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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG Minimum 2.0" thick	**1, 6, 7, 8, 9, 21**	**1:2.67 ft²**

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
SECUROCK Gypsum-Fiber Roof Board Minimum ¼" thick	**N/A**	**N/A**

Note: Top insulation layer shall be adhered with 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: TPO-c, TPO-c (FR) or 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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1,, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, InsulBase, SecurShield, SecurShield HD Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG		
Minimum 1.5" thick	**1, 6, 7, 8, 21**	**1:1.8 ft²**

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
SecurShield HD, H-Shield HD		
Minimum ½" thick	**N/A**	**N/A**

Note: Top insulation layer shall be adhered with Helix Max Low-Rise Adhesive applied in ¾" to 1" ribbons spaced 6 in. 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, TPO-c (FR) or TPO-c EXTRA membranes shall fully adhered using Low VOC Bonding Adhesive applied to the underside of 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: -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 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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG		
Minimum 2.0" thick	**1, 6, 7, 8, 9, 21**	**1:1.6 ft²**

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
SECUROCK Gypsum-Fiber Roof Board		
Minimum ¼" thick	**N/A**	**N/A**

Note: Top insulation layer shall be adhered with 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: TPO-c, TPO-c (FR) or 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

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete.

System Type B(7): 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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG Minimum 1.5" thick	**1, 5, 6, 7, 9, 21**	**1:1.33 ft²**

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
SecurShield HD, H-Shield HD Minimum ½" thick	**N/A**	**N/A**

Note: Top insulation layer shall be adhered with Helix Max Low-Rise Adhesive applied in ¾" to 1" ribbons spaced 4 in. 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, TPO-c (FR) or TPO-c EXTRA membranes shall fully adhered using Low VOC Bonding Adhesive applied to the underside of 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: -82.5 psf (See General Limitation #7)

Membrane Type: Single Ply, Thermoplastic, TPO, Fleece Back

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete.

System Type B(8): 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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG Minimum 1.5" thick	**1, 6, 9, 21**	**1:1.6 ft²**

(Optional) Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, 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, Helix Max Low-Rise Adhesive, FAST Dual Cartridge Adhesive, FAST Dual Tank Adhesive or FAST 5 Gallon Jug Adhesive applied in ¾" 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 or Helix Max Low-Rise 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 ft^2 or HydroBond Adhesive applied to the substrate only at a rate 100 ft^2/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

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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG		
Minimum 1.5" thick	**N/A**	**N/A**

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Dens Deck Prime		
Minimum ¼" thick	**1, 6, 9, 21**	**1:2 ft²**

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, Helix Max Low-Rise 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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG (flat or tapered)		
Minimum 1.5" thick	**N/A**	**N/A**

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
SECUROCK Gypsum-Fiber Roof Board		
Minimum ¼" thick	**1, 6, 9, 17, 18, 21**	**1:2 ft²**
Minimum ½" thick	**1, 6, 9, 21**	**1:3.2 ft²**
Minimum 5/8" thick	**1, 6, 9, 21**	**1:4 ft²**

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, TPO-c (FR) or TPO-c EXTRA membrane fully adhered to the insulation using TPO-c Bonding Adhesive, Low VOC 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, Fleece Back

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

One or more layers of any of the following insulations.

Base or Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG		
Minimum 1.4" thick	**1, 6, 9, 21**	**1:3.2 ft²**
Minimum 2" thick	**1, 6, 9, 21**	**1:4 ft²**
Dens Deck, Dens Deck Prime		
Minimum ¼" thick	**1, 6, 9, 21**	**1:2 ft²**

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, Helix Max Low-Rise 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: TPO-c, TPO-c (FR) or TPO-c EXTRA membranes fully adhered to the insulation using TPO-c Bonding Adhesive or Low VOC Bonding Adhesive applied to the substrate at a rate of 1 gal/60 ft^2 (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 or Helix Max Low-Rise 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 ft^2 or HydroBond Adhesive (*not for use with fiberboard insulation)* applied to the substrate only at a rate 100 ft^2/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 ft^2. 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.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG		
Minimum 1.5" thick	**1 with 13, 14, 15**	**1: 5.33 ft²**

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 or 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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Any approved polyisocyanurate insulation listed in Table 2 Minimum 1.5" thick	**N/A**	**N/A**

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Plywood Minimum 19/32" thick	**1, 6, 9, 21**	**1:1.9 ft²**

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, TPO-c (FR) or 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 ft^2. 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.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG		
Minimum 1.5" thick	**1 with 13, 14, 15**	**1: 4 ft²**

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

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, 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: TPO-c or 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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG (flat or tapered)		
Minimum 1.0" thick	**N/A**	**N/A**

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
SECUROCK Gypsum-Fiber Roof Board		
Minimum ½" thick	**1, 6, 9, 21**	**1:1.66 ft²**

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, TPO-c (FR) or TPO-c EXTRA membrane fully adhered to the insulation using TPO-c Bonding Adhesive or Low VOC 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, Fleece Back

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.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG		
Minimum 2.0" thick	**1, 6, 9, 21**	**1:1.6 ft²**

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, TPO-c (FR) or TPO-c EXTRA membrane fully adhered to the insulation using TPO-c Bonding Adhesive or Low VOC 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 or Helix Max Low-Rise 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 ft^2 or HydroBond Adhesive applied to the substrate only at a rate 100 ft^2/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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Any approved polyisocyanurate insulation listed in Table 2 Minimum 1.5" thick	**N/A**	**N/A**

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Plywood Minimum 19/32" thick	**1, 6, 9, 21**	**1:1.9 ft²**

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, TPO-c (FR) or TPO-c EXTRA membrane fully adhered with TPO-c Bonding Adhesive or Low VOC 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 or Helix Max Low-Rise 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 ft^2 or HydroBond Adhesive applied to the substrate only at a rate 100 ft^2/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: (Optional) Any UL or FMRC approved vapor retarder applied to the roof deck.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Any approved XPS listed in Table 2 Minimum 1" thick	**N/A**	**N/A**
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, 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. Single and multiple layers of insulation can be attached to base layer with Carlisle Syntec FAST Adhesive.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Dens Deck Prime Minimum ⅝" thick	**1, 6**	**1:1.33 ft²**

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: TPO-c, TPO-c (FR) or TPO-c EXTRA membrane fully adhered to the insulation using TPO-c Bonding Adhesive or Low VOC 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.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Any approved polyisocyanurate insulation listed in Table 2 Minimum 1.5" thick	**1 with 13, 14, 15**	**1:2 ft²**

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: TPO-c or 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, Fleece Back

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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG		
Minimum 1.5" thick	**N/A**	**N/A**

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Plywood		
Minimum 19/32" thick	**1, 6, 9, 21**	**1:1 ft²**

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, TPO-c (FR) or TPO-c EXTRA membrane fully adhered to the insulation using TPO-c Bonding Adhesive or Low VOC 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.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
H-Shield CG, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield HD Composite CG (flat or tapered) Minimum 2.0" thick	**1, 6, 9, 21**	**1:1 ft²**

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, TPO-c (FR) or TPO-c EXTRA membrane fully adhered to the insulation using TPO-c Bonding Adhesive or Low VOC 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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG		
Minimum 2" thick	**N/A**	**N/A**

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
SECUROCK Gypsum-Fiber Roof Board		
Minimum ½" thick	**1, 6, 9, 21**	**1:1.33 ft²**

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, TPO-c (FR) or TPO-c EXTRA membrane fully adhered to the insulation using TPO-c Bonding Adhesive or Low VOC 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.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
SECUROCK Gypsum-Fiber Roof Board Minimum 5/8" thick	**1, 6, 9, 21**	**1:1.33 ft²**

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, TPO-c (FR) or TPO-c EXTRA membrane fully adhered to the insulation using TPO-c Bonding Adhesive or Low VOC 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.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
H-Shield CG, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield HD Composite CG (flat or tapered) Minimum 2.0" thick	**1, 6, 9, 21**	**1:1 ft²**

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, TPO-c (FR) or TPO-c EXTRA membrane fully adhered to the insulation using TPO-c Bonding Adhesive or Low VOC 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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1, Poly ISO 1-DWD, H-Shield, H-Shield CG, Poly ISO 1-HD-Composite, H-Shield HD Composite CG (flat or tapered)		
Minimum 1.5" thick	**N/A**	**N/A**

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
SECUROCK Gypsum-Fiber Roof Board		
Minimum ½" thick	**1, 6, 9, 21**	**1:1 ft²**

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, TPO-c (FR) or TPO-c EXTRA membrane fully adhered to the insulation using Low VOC 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: -127.5 psf (See General Limitation #7)

Membrane Type: Single Ply, Thermoplastic, TPO, Reinforced, Fleece Back

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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG (flat or tapered)		
Minimum 1.5" thick	**N/A**	**N/A**

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
SECUROCK Gypsum-Fiber Roof Board		
Minimum ½" thick	**1, 6, 9, 21**	**1:1 ft²**

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 or Helix Max Low-Rise 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, Fleece Back

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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG		
Minimum 1.5" thick	**N/A**	**N/A**

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Plywood		
Minimum 19/32" thick	**1, 6, 9, 21**	**1:1 ft²**

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 or Helix Max Low-Rise Adhesive applied in ¾" to 1" ribbons spaced 4" o.c. or applied to the substrate at a rate of 100 ft^2/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, Fleece Back

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.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1-DWD, H-Shield CG (flat or tapered) Minimum 2.0" thick	**1, 6, 9, 21**	**1:1 ft²**

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, Helix Max Low-Rise Adhesive, 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: -135.0 psf (See General Limitation #7)

Membrane Type: Single Ply, Thermoplastic, TPO, Fleece Back

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.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1-HD-Composite, H-Shield HD Composite CG (flat or tapered) Minimum 2.0" thick	**1, 6, 9, 21**	**1:1 ft²**

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, Helix Max Low-Rise Adhesive, 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: -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: (Optional) Any UL or FMRC approved vapor retarder applied to the roof deck.

One or more layers of any of the following insulations.

Base or Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Any approved Polyisocyannurate 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**
Dens Deck, Dens Deck Prime, SECUROCK Gypsum-Fiber Roof Board Minimum ¼" thick	**N/A**	**N/A**
Poly ISO 1 HD, H-Shield 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, Helix Max Low-Rise Adhesive, FAST Dual Cartridge Adhesive, FAST 5 Gallon Jug Adhesive, OlyBond 500 or Millennium One Step Foamable Adhesive.

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

Fastening #1: OMG Heavy Duty or CD-10 Fasteners with OMG 2-3/8" Barbed XHD Plates, or HDP Fasteners or Fluted Concrete Fasteners with 2.4" Seam Plates 9" o.c. through the TPO-c (FR) Membrane in the lap or through a TPO Pressure Sensitive RUSS Strip in rows spaced 9'-7" o.c.

Fastening #2: OMG Heavy Duty or CD-10 Fasteners with OMG 2-3/8" Barbed XHD Plate or HDP Fasteners or Fluted Concrete Fasteners with 2.4" Seam Plates 12" o.c. through the TPO-c, TPO-c (FR) or TPO-c EXTRA. Membrane in the lap or through a TPO Pressure Sensitive RUSS 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: (Optional) Any UL or FMRC approved vapor retarder applied to the roof deck.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Any approved Polyisocyannurate listed in Table 2 Minimum 1.5" thick	**N/A**	**N/A**
Poly ISO 1 HD, H-Shield 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: TPO-c, TPO-c (FR) or TPO-c EXTRA secured through the preliminarily attached insulation as specified below.

Fastening: OMG Heavy Duty or CD-10 Fasteners with OMG 2-3/8" Barbed XHD Plate or HDP Fasteners or Fluted Concrete Fasteners with 2.4" Seam Plates 12" o.c. through the TPO-c, TPO-c (FR) or TPO-c EXTRA membrane in the lap or through a TPO Pressure Sensitive RUSS 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: (Optional) Any UL or FMRC approved vapor retarder applied to the roof deck.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
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**

Base or Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Any approved polyisocyanurate insulation listed in Table 2 Minimum 1.4" thick	**N/A**	**N/A**
Poly ISO 1 HD, H-Shield 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**
Dens Deck, Dens Deck 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, Helix Max Low-Rise Adhesive, FAST Dual Cartridge Adhesive, FAST 5 Gallon Jug Adhesive, OlyBond 500 or Millennium One Step Foamable Adhesive.

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

Fastening #1: OMG Heavy Duty or CD-10 Fasteners with OMG 2-3/8" Barbed XHD Plate orHDP Fasteners or Fluted Concrete Fasteners with 2.4" Seam Plates 9" o.c. through the TPO-c, TPO-c (FR) or TPO-c EXTRA membrane in the lap or through a TPO Pressure Sensitive RUSS 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 OMG 2-3/8" Barbed XHD Plate orHDP Fasteners or Fluted Concrete Fasteners with 2.4" Seam Plates 6" o.c. through the TPO-c (FR) membrane in the lap or through a TPO Pressure Sensitive RUSS 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: (Optional) Any UL or FMRC approved vapor retarder applied to the roof deck.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
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	**N/A**	**N/A**
Minimum ¾" thick	**N/A**	**N/A**
Dens Deck, Dens Deck Prime, SECUROCK Gypsum-Fiber Roof Board Minimum ¼" thick	**N/A**	**N/A**
Poly ISO 1 HD, H-Shield 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: TPO-c, TPO-c (FR) or TPO-c EXTRA, secured through the preliminarily attached insulation as specified below.

Fastening: OMG Heavy Duty or CD-10 Fasteners with OMG 2-3/8" Barbed XHD Plate or HDP Fasteners or Fluted Concrete Fasteners with 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: (Optional) Any UL or FMRC approved vapor retarder applied to the roof deck.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Any approved polyisocyanurate insulation listed in Table 2 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**
Dens Deck, Dens Deck Prime Minimum ¼" thick	**N/A**	**N/A**
Poly ISO 1 HD, H-Shield 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, Helix Max Low-Rise Adhesive, FAST Dual Cartridge Adhesive, FAST 5 Gallon Jug Adhesive, OlyBond 500 or Millennium One Step Foamable Adhesive.

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

Fastening #1: OMG Heavy Duty or CD-10 Fasteners with OMG 2-3/8" Barbed XHD Plates or HDP Fasteners or Fluted Concrete Fasteners with 2.4" Seam Plates 6" o.c. through the TPO-c or TPO-c EXTRA Membrane in the lap or through a TPO Pressure Sensitive RUSS Strip in rows spaced 9'-7" o.c.

Fastening #2: OMG Heavy Duty or CD-10 Fasteners with OMG 2-3/8" Barbed XHD Plate or HDP Fasteners or Fluted Concrete Fasteners with 2.4" Seam Plates 6" o.c. through the TPO-c (FR) Membrane in the lap or through a TPO Pressure Sensitive RUSS Strip in rows spaced 7'-7" o.c.

Fastening #3: OMG Heavy Duty or CD-10 Fasteners with OMG 2-3/8" Barbed XHD Plate or HDP Fasteners or Fluted Concrete Fasteners with 2.4" Seam Plates 6" o.c. through the TPO-c, TPO-c (FR) or TPO-c EXTRA Membrane in the lap or through a TPO Pressure Sensitive RUSS 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: (Optional) Any UL or FMRC approved vapor retarder applied to the roof deck.

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Poly ISO 1, Poly ISO 1-DWD, Poly ISO 1-HD-Composite, H-Shield, H-Shield CG, H-Shield HD Composite CG		
Minimum 1.5" thick	**N/A**	**N/A**
Structodek High Density Fiberboard		
Minimum ½" thick	**N/A**	**N/A**
Minimum ¾" thick	**N/A**	**N/A**
Dens Deck, Dens Deck Prime, SECUROCK Gypsum-Fiber Roof Board		
Minimum ¼" thick	**N/A**	**N/A**
Poly ISO 1 HD, H-Shield 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, Helix Max Low-Rise Adhesive, FAST Dual Cartridge Adhesive, FAST 5 Gallon Jug Adhesive, OlyBond 500 or Millennium One Step Foamable Adhesive.

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

Fastening: OMG Heavy Duty or CD-10 Fasteners with OMG 2-3/8" Barbed XHD Plate or HDP Fasteners or Fluted Concrete Fasteners with 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: (Optional) Any UL or FMRC approved vapor retarder applied to the roof deck.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
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	**N/A**	**N/A**
Minimum ¾" thick	**N/A**	**N/A**
Dens Deck, Dens Deck Prime, SECUROCK Gypsum-Fiber Roof Board		
Minimum ¼" thick	**N/A**	**N/A**
Poly ISO 1 HD, H-Shield 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: TPO-c or TPO-c EXTRA secured through the preliminarily attached insulation as specified below.

Fastening: OMG Heavy Duty or CD-10 Fasteners with OMG 2-3/8" Barbed XHD Plate or HDP Fasteners or Fluted Concrete Fasteners with 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, Fleece Back

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, Fleece Back

Deck Type 3 Concrete Decks, Non-Insulated

Deck Description: 2500 psi structural concrete.

System Type F(2): Membrane adhered with FAST 100 LV or Helix Max Low-Rise 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 or Helix Max Low-Rise Adhesive applied in ½" to ¾" 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, Fleece Back

Deck Type 3: Concrete Decks, Non-Insulated

Deck Description: 2500 psi structural concrete.

System Type F(3): Membrane adhered with FAST 100 LV, Helix Max Low-Rise 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 or Helix Max Low-Rise 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 ft^2.

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, Fleece Back

Deck Type 3 Concrete Decks, Non-Insulated

Deck Description: 2500 psi structural concrete.

System Type F(4): Membrane adhered with FAST 100 LV or Helix Max Low-Rise 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 or Helix Max Low-Rise 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, Fleece Back

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 AFX 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./67ft^2.

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.

MIAMI-DADE COUNTY APPROVED

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