



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

NOTICE OF ACCEPTANCE (NOA)

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION

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Holcim Solutions and Products US, LLC
26 Century Boulevard, Suite 205
Nashville, TN 37214

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: Firestone UltraPly TPO & TPO XR Single Ply Roof Systems over Concrete Decks.

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

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

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

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

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

This NOA revises NOA No. 21-0211.03 and consists of pages 1 through 74.

The submitted documentation was reviewed by Jorge L. Acebo.



NOA-No.: 23-0613.39
Expiration Date: 05/18/26
Approval Date: 09/07/23
Page 1 of 74

ROOFING SYSTEM APPROVAL

Category: Roofing
Sub-Category: Single Ply Roofing
Material: TPO
Deck Type: Concrete
Maximum Design Pressure: -500 psf.

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

<u>Product</u>	<u>Dimensions</u>	<u>Test Specifications</u>	<u>Product Description</u>
UltraPly TPO	Various	TAS 131 ASTM D6878	Reinforced TPO 0.045" to 0.080" thick membrane.
UltraPly TPO XR 100	Various	TAS 131 ASTM D6878	Reinforced TPO.
UltraPly TPO XR 115	Various	TAS 131 ASTM D6878	Reinforced TPO.
UltraPly TPO Reinforced Curb Corner	Various	TAS 131 ASTM D6878	TPO curb flashing.
UltraPly 18" Curb Flashing	Various	TAS 131 ASTM D6878	TPO curb flashing.
UltraPly TPO Inside/Outside Corner	Various	TAS 131 ASTM D6878	Molded TPO for corner flashing.
UltraPly TPO Large Pipe Flashing	Various	TAS 131 ASTM D6878	TPO flashing for large round penetrations.
UltraPly TPO T-Joint Cover	Various	TAS 131 ASTM D6878	TPO flashing for T-joints.
UltraPly TPO Penetration Kit	Various	TAS 131 ASTM D6878	A penetration sealing kit for UltraPly TPO.
UltraPly TPO Walkway Pad	Various	TAS 131 ASTM D6878	TPO walkway pad.
UltraPly TPO Coated Metal	Various	TAS 131 ASTM D6878	TPO laminated to hot-dipped galvanized steel for flashing.
UltraPly TPO Premium Walkway Pad	Various	TAS 131 ASTM D6878	TPO walkway pad.
UltraPly TPO Reinforced Split Pipe Boot	Various	TAS 131 ASTM D6878	TPO flashing for round penetrations 1" to 9" in diameter.
UltraPly TPO 8" Reinforced Cover Strip	Various	TAS 131 ASTM D6878	8" wide 60 mil TPO cover strip.
UltraPly TPO Universal Pipe Boot	Various	TAS 131 ASTM D6878	TPO flashing for round penetrations 1" to 6" in diameter.
UltraPly TPO Unsupported Flashing	Various	TAS 131	Unreinforced TPO used for flashing.

<u>Product</u>	<u>Dimensions</u>	<u>Test Specifications</u>	<u>Product Description</u>
UltraPly QuickSeam R.M.A. Strip	10" x 100'	Proprietary	Strip of UltraPly TPO with QuickSeam Tape for anchoring membrane to substrate.
Single-Ply QuickPrime Primer	1 gallon & 3 gallon	Proprietary	Primer for TPO QuickSeam Flashing.
SBS Base	3.3" x 50'	ASTM D6163	Fiberglass reinforced SBS base sheet.
SBS Poly Torch Base	39.4" x 33'6"	ASTM D6164	Polyester reinforced modified bitumen membrane. Torch applied.
SBS Glass Torch Base	39.4" x 33'10"	ASTM D6163	Modified bitumen base sheet with a burn-off film and reinforced with non-woven fiberglass mat.
XR Bonding Adhesive	5 gal. pail	Proprietary	Solvent based adhesive.
UltraPly Bonding Adhesive	5 gal. pail	Proprietary	Solvent based adhesive.
XR Stick Membrane Adhesive	5 gal. pail	Proprietary	A low-rise polyurethane, low VOC, membrane adhesive.
I.S.O. Stick	5 gal & 1500 ml	Proprietary	A dual component polyurethane adhesive.
I.S.O. Twin Pack Insulation Adhesive	1500 ml	Proprietary	A dual component polyurethane adhesive.
I.S.O. Fix II	30 lbs.	Proprietary	A single component polyurethane adhesive.

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
ISO 95+ GL, ISO 95+ GL Tapered	Polyisocyanurate foam insulation	Holcim Solutions and Products US, LLC
ISOGARD HD	Polyisocyanurate with a coated fiberglass facer	Holcim Solutions and Products US, LLC
ISOGARD HD Composite	Polyisocyanurate with a coated fiberglass facer composite insulation.	Holcim Solutions and Products US, LLC
DensDeck, DensDeck Prime	Silicon treated gypsum	Georgia Pacific Gypsum LLC
RESISTA	Polyisocyanurate foam core laminated to a coated fiberglass facer	Holcim Solutions and Products US, LLC

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	Firestone Heavy-Duty	#15 Fastener for steel, Wood, concrete decks	N/A	Holcim Solutions and Products US, LLC
2.	Firestone All-Purpose	#14 Fastener for steel, Wood, concrete decks	N/A	Holcim Solutions and Products US, LLC
3.	Firestone Pre-Assembled Fastener & Plate	#14 w/insulation plate for steel, Wood, concrete decks	N/A	Holcim Solutions and Products US, LLC
4.	HD HailGard Fastener	Insulation and membrane fastener	Various	Holcim Solutions and Products US, LLC
5.	Insulation Fastening Plate	Galvalume insulation plate	3" diameter	Holcim Solutions and Products US, LLC
6.	Concrete Drive Fastener	Structural concrete fastener	Various	Holcim Solutions and Products US, LLC
7.	Firestone Heavy-Duty Plus	Insulation and membrane fastener	Various	Holcim Solutions and Products US, LLC
8.	Firestone HD Seam Plate	AZ55 or AZ50 galvalume insulation plate.	2-3/8" diameter	Holcim Solutions and Products US, LLC
9.	Firestone HD Plus Seam Plate	Galvalume insulation plate	2¾" diameter	Holcim Solutions and Products US, LLC
10.	Metal Batten Bar	Galvalume AZ55 batten strip	10' long, 1" wide	Holcim Solutions and Products US, LLC
11.	Coiled Metal Batten Bar	Galvalume AZ55 batten strip	220' long, 1" wide	Holcim Solutions and Products US, LLC
12.	Firestone Polymer Batten Strip	Polymer, corrosion –free, batten strip.	250' long, ¾" or 1" wide	Holcim Solutions and Products US, LLC
13.	UltraPly TPO InvisiWeld Plates	High-performance TPO membrane fastening system	3" diameter	Holcim Solutions and Products US, LLC

EVIDENCE SUBMITTED:

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Description</u>	<u>Date</u>
UL LLC	R9516	UL 790	04/22/21
FM Approvals	3006983	4470	02/08/00
	3003830	4470	05/26/99
	3001925	4470	05/24/99
	3014031	4470	07/22/02
	3014918	4470	12/17/03
	3012931	4470	04/04/04
	3017120	4470	04/30/04
	3027508	4470	02/07/07
	3030650	4470	07/10/09
	3033218	4470	08/12/08
	3014692	4470	08/05/03
	3036642	4470	10/09/09
	3032272	4470	05/22/09
	3033921	4470	01/12/09
	3039133	4470	04/07/11
	3036747	4470	02/12/10
	3040535	4470	10/05/10
	3035017	4470	08/22/12
	3038546	4470	12/17/10
	3038770	4470	08/04/11
	3038191	4470	08/04/11
	3035560	4470	01/11/10
	3040205	4470	06/08/10
	3051348	4470	01/13/14
	3041949	4470	06/10/11
Trinity ERD	F8300.07.08	TAS 131/ASTM D6878	07/30/08
	F8300.11.08-R3	TAS 131/ASTM D6878	02/25/11
	F8960.04.08	TAS 114-F/TAS 114-D	04/15/08
	F10980.09.08	TAS 114	09/17/08
	F34280.11.10	TAS 114	11/16/10
	F45600.09.13-R1	TAS 131/ASTM 6878	12/30/13
PRI Construction Materials Technologies, LLC	FBP-054-02-04, R1	TAS 114 D	02/07/13
	FBP-044-02-01.9	TAS 114 H, J	06/01/17
	FBP-054-02-05, R1	TAS 114 D	02/07/13
	FBP-038-02-02	ATSM D6164	12/10/10
	FBP-053-02-01, R1	ASTM D6163	10/08/12
	FBP-063-02-01	TAS 114	07/10/12
	FBP-094-02-01	ASTM D6878	11/20/13
	FBP-115-02-01	ASTM D1644/ASTM D2196	04/04/13
	FBP-166-02-01	ASTM D6163	05/15/14

APPROVED ASSEMBLIES:

Membrane Type:	Single Ply, TPO
Deck Type 3I:	Concrete, Insulated
Deck Description:	2500 psi or greater structural concrete or concrete plank
System Type A(1):	One or more layers of insulation adhered with approved adhesive; membrane fully 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.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
DensDeck, DensDeck Prime Minimum 1/4" thick	N/A	N/A

Note: Insulation shall be adhered to the deck with I.S.O. Stick applied in 3/4" to 1" wide ribbons spaced max. 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: UltraPly TPO membrane fully adhered to the top insulation layer with UltraPly Bonding Adhesive applied to both the substrate and the underside of the roof cover for a combined rate of 120 ft²/gal. The roof cover side and end laps are sealed with a minimum 1.5 in. heat weld.

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



Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank.

System Type A(2): One or more layers of insulation adhered with approved adhesive; membrane fully 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
ISO 95+ GL Minimum 1.5" thick	N/A	N/A
Middle Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISOGARD HD Minimum ½" thick	N/A	N/A

Note: All Insulation layers shall be adhered to the deck or previous layer of roof insulation with I.S.O. Twin Pack Insulation Adhesive applied in ½" to ¾" wide ribbons spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: UltraPly TPO membrane fully adhered to the top insulation layer with UltraPly Bonding Adhesive roller applied at a rate of 60 ft²/gallon (120 ft²/gallon to both the underside of membrane and substrate). The roof cover side laps are sealed with a 1.5 in." wide heat weld.

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



Membrane Type: Single Ply, TPO
Deck Type 3I: Concrete, Insulated
Deck Description: Min. 2500 psi structural concrete or concrete plank.
System Type A(3): One or more layers of insulation adhered with approved adhesive; membrane fully 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
ISO 95+ GL		
Minimum 1.5" thick	N/A	N/A

Note: All Insulation layers shall be adhered to the deck with I.S.O. Twin Pack Insulation Adhesive applied in ½" to ¾" wide ribbons spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: UltraPly TPO membrane fully adhered to the top insulation layer with UltraPly Bonding Adhesive or roller applied at a rate of 60 ft²/gallon (120 ft²/gallon to both the underside of membrane and substrate) The roof cover side laps are sealed with a 1.5 in. wide heat weld placed along the outside edge of the lap.

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



Membrane Type: Single Ply, TPO
Deck Type 3I: Concrete, Insulated
Deck Description: Min. 2500 psi structural concrete or concrete plank.
System Type A(4): Vapor Barrier and 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 Barrier One ply of SBS Base fully adhered to the concrete deck with a full mopping of hot asphalt applied at a rate of 20-25 lbs./square.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL		
Minimum 1" thick	N/A	N/A
Middle Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL Tapered		
Minimum ½" thick with a ¼" per ft. taper	N/A	N/A
Top Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISOGARD HD		
Minimum ½" thick	N/A	N/A
DensDeck Prime		
Minimum ¼" thick	N/A	N/A

Note: Insulation shall be adhered using I.S.O. Twin Pack Insulation Adhesive in continuous ½" to ¾" wide beads spaced max. 12" o.c. or I.S.O. Fix II or I.S.O. Stick applied in continuous ¾" to 1" wide ribbons spaced max. 12" o.c. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density. See Roofing Application Standard RAS 117 for fastening details.

Membrane: UltraPly TPO XR 100 or UltraPly TPO XR 115 adhered with XR Stick Membrane Adhesive applied in continuous 1" wide ribbons spaced 4" o.c. and allowed to expand to full coverage prior to placement of the roof membrane. The 2" wide roof cover side laps are sealed with a minimum 1.5 in. heat weld placed on the outside edge of the lap.

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



Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank.

System Type A(5): Vapor Barrier and 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 Barrier One ply of SBS Base fully adhered to the concrete deck with a full mopping of hot asphalt applied at a rate of 20 – 25 lbs./square.

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISOGARD HD		
Minimum ½” thick	N/A	N/A
DensDeck Prime		
Minimum ¼” thick	N/A	N/A

Note: Insulation shall be adhered using I.S.O. Twin Pack Insulation Adhesive in continuous ½” to ¾” wide beads spaced 12” o.c. or I.S.O. Fix II or I.S.O. Stick applied in continuous ¾” to 1” wide ribbons spaced 12” o.c. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density. See Roofing Application Standard RAS 117 for fastening details.

Membrane: UltraPly TPO XR 100 or UltraPly TPO XR 115 adhered with XR Stick Membrane Adhesive applied in continuous 1” wide ribbons spaced 4” o.c. and allowed to expand to full coverage prior to placement of the roof membrane. The 2” wide roof cover side laps are sealed with a minimum 1.5 in. heat weld placed on the outside edge of the lap.

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



Membrane Type:	Single Ply, TPO
Deck Type 3I:	Concrete, Insulated
Deck Description:	2500 psi or greater structural concrete or concrete plank
System Type A(6):	One or more layers of insulation adhered with approved asphalt; membrane fully 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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL Minimum 1.5" thick	N/A	N/A
Middle Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL Tapered Minimum ½" thick start with a ¼" per ft. taper	N/A	N/A
Top Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
DensDeck Minimum ¼" thick	N/A	N/A

Note: Base 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. All subsequent layers of insulation shall be adhered to the previous layer of insulation in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft². 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:	UltraPly TPO membrane fully adhered to the top insulation layer with UltraPly Bonding Adhesive applied to both the substrate and the underside of the roof cover for a combined rate of 120 ft ² /gal. The roof cover side and end laps are sealed with a minimum 1.5 in. heat weld.
Maximum Design Pressure:	-195 psf. with DensDeck cover board (See General Limitation #9) -180 psf. without cover board (See General Limitation #9)

Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: 2500 psi or greater structural concrete or concrete plank

System Type A(7): One or more layers of insulation adhered with approved adhesive; membrane fully 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.

Use Two (2) base insulation layers

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL		
Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
DensDeck Prime		
Minimum ¼" thick	N/A	N/A

Note: Insulation shall be adhered to the previous layer of insulation and to the deck using I.S.O. Twin Pack Insulation Adhesive applied in ½" to ¾" wide ribbons spaced 8" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulations listed as the base layer shall only be used as the base layer with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Membrane: UltraPly TPO membrane fully adhered to the top insulation layer With UltraPly Bonding Adhesive applied to both the substrate and the underside of the roof cover for a combined rate of 120 ft² /gal. The roof cover side and end laps are sealed with a minimum 1.5 in. heat weld.

Maximum Design Pressure: -195 psf. (See General Limitation #9)



Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank.

System Type A(8): Vapor Barrier and insulation adhered with approved adhesive; membrane fully 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 Barrier SBS Poly Torch Base or SBS Glass Torch Base membrane is torch adhered to the primed concrete deck.

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of Vapor Barrier. Insulation shall be adhered to the Vapor Barrier using I.S.O. Twin Pack Insulation Adhesive, applied in ½” to ¾” wide ribbons spaced 4” on center. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL Minimum 1.5” thick	N/A	N/A
Middle Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL Minimum 1.5” thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
DensDeck Prime Minimum ¼” thick	N/A	N/A

Membrane: UltraPly TPO fully adhered to coverboard using UltraPly Bonding Adhesive, applied to both the substrate and the underside of the roof cover for a combined rate of 120 ft²/gal. The roof cover side and end laps are sealed with a minimum 1.5” heat weld.

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

Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: 2500 psi or greater structural concrete or concrete plank

System Type A(9): One or more layers of insulation adhered with approved adhesive; membrane fully 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.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
DensDeck Prime Minimum 1/4" thick	N/A	N/A

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

Membrane: UltraPly TPO XR 100 or UltraPly TPO XR 115 fully adhered with XR Bonding Adhesive applied at a rate of 70-90 ft²/gallon. The roof cover laps are sealed with a minimum 1.5 in. heat weld.

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



Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: 2500 psi or greater structural concrete or concrete plank

System Type A(10): One or more layers of insulation adhered with approved adhesive; membrane fully 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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
DensDeck Prime Minimum ¼" thick	N/A	N/A

Note: Base insulation shall be adhered to the deck with I.S.O. Twin Pack Insulation Adhesive applied in ½ to ¾ in. wide ribbons or with I.S.O. Stick applied in ¾ to 1 in. wide ribbons, spaced as listed below. All subsequent layers of insulation shall be adhered to the previous layer of insulation using the same method of adhesion as the base layer. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulations listed as the base layer shall only be used as the base layer with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Membrane: Min. 45 mil UltraPly TPO membrane fully adhered to the top insulation layer with UltraPly Bonding Adhesive applied to both the substrate and the underside of the roof cover for a combined rate of 120 ft²/gal. The roof cover side and end laps are sealed with a minimum 1.5 in. heat weld.

Maximum Design Pressure:

- 127.5 psf. using I.S.O Twin Pack Insulation Adhesive in ribbons spaced 12" o.c. (See General Limitation #9)
- 150 psf. using I.S.O Stick in ribbons spaced 12" o.c. (See General Limitations #9)
- 187.5 psf. using I.S.O Twin Pack Insulation Adhesive in ribbons spaced 8" o.c. (See General Limitation #9)
- 247.5 psf. using I.S.O Twin Pack Insulation Adhesive in ribbons spaced 4" o.c. (See General Limitation #9)

Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank.

System Type A(11): One or more layers of insulation adhered with approved adhesive; membrane fully 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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL Minimum 1.5" thick	N/A	N/A
Middle Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
Plywood Minimum 19/32" thick	N/A	N/A

Note: Insulation Layers shall be adhered to the deck with I.S.O. Stick applied in ¾" to 1" wide ribbons spaced max. 12" o.c. or I.S.O. Twin Pack Insulation Adhesive applied in ½" to ¾" wide ribbons spaced max. 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: UltraPly TPO membrane fully adhered with UltraPly Bonding Adhesive applied to both the substrate and the underside of the roof cover for a combined rate of 120 ft²/gal. The roof cover side and end laps are sealed with a minimum 1.5" heat weld.

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



Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: 2500 psi or greater structural concrete or concrete plank

System Type A(12): One or more layers of insulation adhered with approved adhesive; membrane fully 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.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISOGARD HD		
Minimum ½” thick	N/A	N/A

Note: Insulation shall be adhered to the deck with I.S.O. Fix II applied in ¾” – 1” wide ribbons spaced 4” o.c. or with I.S.O. Stick applied in continuous ¾” – 1” wide ribbons spaced 12” o.c. Adhesive. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: UltraPly TPO membrane fully adhered to the top insulation layer with UltraPly Bonding Adhesive applied to both the substrate and the underside of the roof cover for a combined rate of 120 ft²/gal. The roof cover side and end laps are sealed with a minimum 1.5 in. heat weld.

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



Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank.

System Type A(13): One or more layers of insulation adhered with approved adhesive; membrane fully 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
ISO 95+ GL Minimum 1.5" thick	N/A	N/A
Middle Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISOGARD HD Minimum ½" thick	N/A	N/A

Note: All insulation layers shall be adhered with I.S.O. Twin Pack Insulation Adhesive applied in continuous 1/2 to 3/4 in. wide ribbons spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: UltraPly TPO membrane fully adhered to the top insulation layer with UltraPly Bonding Adhesive roller applied at a rate of 60 ft²/gallon (120 ft²/gallon to both the underside of membrane and substrate). The 3" wide roof cover side laps are sealed with a 1.5 in. wide heat weld.

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



Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: 2500 psi or greater structural concrete or concrete plank

System Type A(14): One or more layers of insulation adhered with approved adhesive; membrane fully 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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL		
Minimum 1.5" thick	N/A	N/A

Note: Base insulation shall be adhered to the deck with I.S.O. Twin Pack Insulation Adhesive applied in ½ to ¾ in. wide ribbons or with I.S.O. Stick applied in ¾ to 1 in. wide ribbons, spaced as listed below. All subsequent layers of insulation shall be adhered to the previous layer of insulation using the same method of adhesion as the base layer. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulations listed as the base layer shall only be used as the base layer with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Membrane: UltraPly TPO membrane fully adhered to the top insulation layer with UltraPly Bonding Adhesive applied to both the substrate and the underside of the roof cover for a combined rate of 120 ft²/gal. The roof cover side and end laps are sealed with a minimum 1.5 in. heat weld.

Maximum Design Pressure:

- 150 psf. using I.S.O Stick Adhesive with ribbons spaced 12" o.c. (See General Limitations #9)
- 165 psf. using I.S.O. Twin Pack Insulation Adhesive with ribbons spaced 12" o.c. (See General Limitation #9)
- 240 psf. using I.S.O. Twin Pack Insulation Adhesive with ribbons spaced 8" o.c. (See General Limitation #9)
- 285 psf. Using I.S.O. Twin Pack Insulation Adhesive with ribbons spaced 4" o.c. (See General Limitation #9)



Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank.

System Type A(15): One or more layers of insulation adhered with approved adhesive; membrane fully 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
ISO 95+ GL Minimum 1.5" thick	N/A	N/A
Middle Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISOGARD HD Minimum ½" thick	N/A	N/A

Note: All insulation layers shall be adhered with I.S.O. Fix II applied in continuous 3/4 to 1 in. wide ribbons spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: UltraPly TPO membrane fully adhered to the top insulation layer with UltraPly Bonding Adhesive roller applied at a rate of 60 ft²/gallon (120 ft²/gallon to both the underside of membrane and substrate). The 3" wide roof cover side laps are sealed with a 1.5 in. wide heat weld.

Maximum Design Pressure: -300 psf. (See General Limitation #9)



Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank.

System Type A(16): One or more layers of insulation adhered with approved adhesive; membrane fully 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
ISO 95+ GL Minimum 1.5" thick	N/A	N/A
Middle Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISOGARD HD Minimum ½" thick	N/A	N/A

Note: All insulation layers shall be adhered with I.S.O. Stick applied in continuous 3/4 to 1 in. wide ribbons spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: UltraPly TPO membrane fully adhered to the top insulation layer with UltraPly Bonding Adhesive roller applied at a rate of 60 ft²/gallon (120 ft²/gallon to both the underside of membrane and substrate) The 3" wide roof cover side laps are sealed with a 1.5 in. wide heat weld.

Maximum Design Pressure: -300 psf. (See General Limitation #9)



Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank.

System Type A(17): One or more layers of insulation adhered with approved adhesive; membrane fully 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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL		
Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
DensDeck Prime		
Minimum ¼" thick	N/A	N/A

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer at a rate of ¾ to 1 gal/sq. and allowed to dry prior to application of insulation. 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/sq. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: UltraPly TPO XR 100 or UltraPly TPO XR 115 fully adhered with hot asphalt applied at a rate of 20-25 lbs./sq. or with XR Bonding Adhesive applied at a rate of 70-90 ft²/gallon. The roof cover laps are sealed with a minimum 1.5" heat weld.

Maximum Design Pressure: -457.5 psf. with Hot Asphalt Applied (See General Limitation #9)
-300 psf. with XR Bonding Adhesive Applied (See General Limitation #9)

Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: 2500 psi or greater structural concrete or concrete plank

System Type A(18): One or more layers of insulation adhered with approved adhesive; membrane fully 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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
DensDeck Prime Minimum ¼" thick	N/A	N/A

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

Membrane: UltraPly TPO XR 100, or UltraPly TPO XR 115 fully adhered with hot asphalt applied at a rate of 20-25 lbs./sq. The roof cover laps are sealed with a minimum 1.5 in. heat weld.

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



Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank.

System Type A(19): One or more layers of insulation adhered with approved adhesive; membrane fully 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	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISOGARD HD Minimum ½” thick	N/A	N/A

Note: All insulation layers shall be adhered with I.S.O. Stick applied in continuous ¾” – 1” wide ribbons spaced 12” o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: UltraPly TPO membrane fully adhered to the top insulation layer with UltraPly Bonding Adhesive or roller applied at a rate of 60 ft²/gallon (120 ft²/gallon to both the underside of membrane and the substrate). The 3 in wide roof cover side and end laps are sealed with a minimum 1.5 in. heat weld on the outside edge of the lap. Top surface of roof cover is then broomed to ensure contact.

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



Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank.

System Type A(20): One or more layers of insulation adhered with approved adhesive; membrane fully 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	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISOGARD HD		
Minimum ½” thick	N/A	N/A

Note: All insulation layers shall be adhered with I.S.O. Stick applied in continuous ¾” – 1” wide ribbons spaced 12” o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: UltraPly TPO XR 100, or UltraPly TPO XR 115
membrane fully adhered to the top insulation layer with XR Bonding Adhesive textured or roller applied at a rate of 70 – 90 ft²/gallon. The 3 in wide roof cover side and end laps are sealed with a minimum 1.5 in. heat weld on the outside edge of the lap. Top surface of roof cover is then broomed to ensure contact.

Maximum Design Pressure: -360 psf. (See General Limitation #9)

Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank.

System Type A(21): One or more layers of insulation adhered with approved adhesive; membrane fully 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
RESISTA		
Minimum 1.5" thick	N/A	N/A
Top Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
RESISTA		
Minimum 1.5" thick	N/A	N/A

Note: Base insulation shall be adhered to the deck with I.S.O. Twin Pack Insulation Adhesive applied in ½" to ¾" wide ribbons spaced 6" o.c. or with I.S.O. Stick applied in ¾" to 1" wide ribbons, spaced 6" o.c. or in full mopping of approved asphalt within the EVT range and at a rate of 20-25 lbs/sq. Optional middle insulation layer shall be adhered to the previous layer of insulation using the same method of adhesion as the base layer. Optional top layer of insulation shall be adhered with I.S.O. Stick applied in continuous ¾" to 1" wide ribbons spaced 6" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: UltraPly TPO membrane fully adhered to the top insulation layer with UltraPly Bonding Adhesive roller applied at a rate of 60 ft²/gallon (120 ft²/gallon to both the underside of membrane and the substrate). The 3 in wide roof cover side and end laps are sealed with a minimum 1.5" heat weld on the outside edge of the lap.

Maximum Design Pressure: -360 psf. (See General Limitation #9)



Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank.

System Type A(22): 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.

One or more layers of any of the following insulations.

Insulation	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL Minimum 1" thick	N/A	N/A

Note: Insulation shall be adhered to the deck with I.S.O. Fix II applied in ¾" to 1" wide ribbons, spaced 12" o.c. or I.S.O. Twin Pack Insulation Adhesive or I.S.O. Stick applied in continuous ½" – ¾" wide ribbons spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: UltraPly TPO XR 100 membrane adhered to the top insulation layer with XR Stick Membrane Adhesive or ISO Spray R applied in continuous ¾" to 1" wide ribbons spaced 12" o.c. The minimum 3" wide roof cover side laps are sealed with a minimum 1.5" heat weld.

Maximum Design Pressure: -145 psf. (See General Limitation #9)



Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank.

System Type A(23): 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.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL Minimum 1" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
DensDeck Prime Minimum ¼" thick	N/A	N/A

Note: All layers of insulation shall be adhered to the deck with I.S.O. Fix II or I.S.O. Stick applied in ¾" to 1" wide ribbons, spaced 12" o.c. or I.S.O. Twin Pack Insulation Adhesive applied in ½" to ¾" wide ribbons, spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: UltraPly TPO XR 100membrane adhered to the top insulation layer with XR Stick Membrane Adhesive applied in continuous ¾" to 1" wide ribbons spaced 12" o.c. The roof cover side laps are sealed with a minimum 1.5" heat weld.

Maximum Design Pressure: -160 psf. (See General Limitation #9)



Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank

System Type B(1): Base layer of insulation mechanically fastened, optional top layer fully adhered with approved 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.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL		
Minimum 1.5" thick	1 with 5	1:2 ft²
Top Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL		
Minimum 1.5" thick	N/A	N/A
Tapered ISO 95+ GL		
Minimum ½" thick with a ¼" per ft. taper	N/A	N/A

Note: Base layer shall be mechanically attached with fasteners and density described. All other layers of insulation shall be adhered to base insulations with I.S.O. Twin Pack Insulation Adhesive applied in ½ – ¾ in. wide ribbons spaced 12 in. o.c. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density. See Roofing Application Standard RAS 117 for fastening details.

Membrane: UltraPly TPO membrane fully adhered to the top insulation layer with UltraPly Bonding Adhesive roller applied at a rate of 60 ft²/gallon (120 ft²/gallon to both the underside of the roof cover and the substrate). The roof cover side laps are sealed with a minimum 1.5 in. heat weld.

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



Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank

System Type B(2): Base layer of insulation mechanically fastened, optional top layer adhered with approved 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.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL		
Minimum 1.5" thick	1 or 6 with 5	1:2 ft²
Middle Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL		
Minimum 1" thick	N/A	N/A
Additional Middle Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL Tapered		
Minimum ½" thick with a ¼" per ft. taper	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
DensDeck Prime		
Minimum ¼" thick	N/A	N/A

Note: Base layer shall be mechanically attached with fasteners and density described. All other layers of insulation shall be adhered to base insulations with I.S.O. Twin Pack Insulation Adhesive in continuous ½" to ¾" wide beads spaced max. 12" o.c. or I.S.O. Fix II or I.S.O. Stick applied in continuous ¾" to 1" wide ribbons spaced max. 12" o.c. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density. See Roofing Application Standard RAS 117 for fastening details.

Membrane: UltraPly TPO XR 100 or UltraPly TPO XR 115 membrane adhered to the top insulation layer with XR Stick Membrane Adhesive applied in continuous ¾" – 1" wide ribbons spaced 6" o.c. The 2-inch. wide roof cover side and end laps are sealed with a minimum 1.5 in. heat weld.

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



Membrane Type:	Single Ply, TPO
Deck Type 3I:	Concrete, Insulated
Deck Description:	Min. 2500 psi structural concrete or concrete plank
System Type B(3):	Base layer of insulation mechanically fastened, optional top layer adhered with approved 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.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL		
Minimum 1.5" thick	1 or 6 with 5	1:2 ft²
Middle Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL		
Minimum 1" thick	N/A	N/A
Additional Middle Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
Tapered ISO 95+ GL		
Minimum ½" thick with a ¼" per ft. taper	N/A	N/A
Top Insulation Layer (cover board)	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISOGARD HD		
Minimum ½" thick	N/A	N/A

Note: Base layer shall be mechanically attached with fasteners and density described. All other layers of insulation shall be adhered to base insulations with I.S.O. Twin Pack Insulation Adhesive in continuous ½" – ¾" wide beads spaced 12" o.c. or I.S.O. Fix II or I.S.O. Stick applied in continuous ¾" – 1" wide ribbons spaced 12" o.c. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density. See Roofing Application Standard RAS 117 for fastening details.

Membrane:	UltraPly TPO XR 100, or UltraPly TPO XR 115 membrane adhered to the top insulation layer with XR Stick Membrane Adhesive applied in continuous ¾" – 1" wide ribbons spaced 4" o.c. and allowed to expand to full coverage prior to placement of the roof membrane. The 2 in.ch wide roof cover side and end laps are sealed with a minimum 1.5 in. heat weld.
Maximum Design Pressure:	-45 psf. (See General Limitation #7)



Membrane Type:	Single Ply, TPO
Deck Type 2I:	Concrete, Insulated
Deck Description:	Min. 2500 psi structural concrete or concrete plank
System Type B(4):	Base layer of insulation mechanically fastened, top layer adhered with approved 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.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL		
Minimum 1.5" thick	1 or 6 with 5	1:1.6 ft²
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
DensDeck Prime		
Minimum ½" thick	N/A	N/A

Note: Base layer shall be mechanically attached with fasteners and density described. Top layer of insulation shall be adhered to base insulations with I.S.O. Twin Pack Insulation Adhesive in continuous ½" to ¾" wide beads spaced 6" o.c. or I.S.O. Fix II or I.S.O. Stick applied in continuous ¾" to 1" wide ribbons spaced 6" o.c. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density. See Roofing Application Standard RAS 117 for fastening details.

Membrane:	UltraPly TPO XR 100, or UltraPly TPO XR 115 membrane adhered to the top insulation layer with XR Stick Membrane Adhesive applied in continuous ¾" – 1" wide ribbons spaced 6" o.c. The 2 in. wide roof cover side and end laps are sealed with a minimum 1.5 in. heat weld placed on the outside edge of lap.
Maximum Design Pressure:	-60 psf. (See General Limitation #7)



Membrane Type: Single Ply, TPO

Deck Type 2I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank

System Type B(5): Base layer of insulation mechanically fastened, optional top layer adhered with approved 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.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL Minimum 2" thick	1 or 6 with 5	1:1.6 ft ²
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL Minimum 1" thick	N/A	N/A

Note: Base layer shall be mechanically attached with fasteners and density described. Top layer of insulation shall be adhered to base insulations with I.S.O. Twin Pack Insulation Adhesive in continuous ½" to ¾" wide beads spaced 6" o.c. or I.S.O. Fix II or I.S.O. Stick applied in continuous ¾" to 1" wide ribbons spaced 6" o.c. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density. See Roofing Application Standard RAS 117 for fastening details.

Membrane: UltraPly TPO XR 100, or UltraPly TPO XR 115 membrane adhered to the top insulation layer with XR Stick Membrane Adhesive applied in continuous ¾" – 1" wide ribbons spaced 6" o.c. The 2 in. wide roof cover side and end laps are sealed with a minimum 1.5 in. heat weld.

Maximum Design Pressure: -75 psf. (See General Limitation #7)



Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank

System Type B(6): Base layer of insulation mechanically fastened, top layer adhered with approved 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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL Minimum 2" thick	1 or 6 with 5	1:1 ft ²
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISOGARD HD Minimum ½" thick	N/A	N/A

Note: Base layer shall be mechanically attached with fasteners and density described. Top layer of insulation shall be adhered to base insulations with I.S.O. Twin Pack Insulation Adhesive in continuous ½" to ¾" wide beads spaced 12" o.c. or I.S.O. Fix It or I.S.O. Stick applied in continuous ¾" to 1" wide ribbons spaced 12" o.c. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density. See Roofing Application Standard RAS 117 for fastening details.

Membrane: UltraPly TPO membrane fully adhered to the top insulation layer with UltraPly Bonding Adhesive applied to both the substrate and the underside of the roof cover for a combined rate of 120 ft²/gal. The roof cover side and end laps are sealed with a minimum 1.5 in. heat weld.

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

Membrane Type: Single Ply, TPO

Deck Type 2I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank

System Type B(7): Base layer of insulation mechanically fastened, top layer adhered with approved 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.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL Minimum 2" thick	1 or 6 with 5	1:1 ft ²
Top Insulation Layer (cover board)	Insulation Fasteners (Table 3)	Fastener Density/ft ²
DensDeck Prime Minimum ½" thick	N/A	N/A

Note: Base layer shall be mechanically attached with fasteners and density described. Top layer of insulation shall be adhered to base insulations with I.S.O. Twin Pack Insulation Adhesive in continuous ½" – ¾" wide beads spaced 4" o.c. or I.S.O. Fix II or I.S.O. Stick applied in continuous ¾" – 1" wide ribbons spaced 4" o.c. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density. See Roofing Application Standard RAS 117 for fastening details.

Membrane: UltraPly TPO XR 100, or UltraPly TPO XR 115 membrane adhered to the top insulation layer with XR Stick Membrane Adhesive applied in continuous ¾" – 1" wide ribbons spaced 4" o.c. and allowed to expand to full coverage prior to placement of the roof membrane. The 2 in. wide roof cover side and end laps are sealed with a minimum 1.5 in. heat weld placed on the outside edge of lap.

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



Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank

System Type B(8): Base layer of insulation mechanically fastened, top layer adhered with approved 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.

One or more layers of any of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL Minimum 2" thick	1 & 5 or 6 & 5	1:1 ft ²
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISOGARD HD Minimum 1/2" thick	N/A	N/A

Note: Base layer shall be mechanically attached with fasteners and density described. Top layer of insulation shall be adhered to base insulations with I.S.O. Twin Pack Insulation Adhesive in continuous 1/2" – 3/4" wide beads spaced 12" o.c. or I.S.O. Stick applied in continuous 3/4" – 1" wide ribbons spaced 12" o.c. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density. See Roofing Application Standard RAS 117 for fastening details.

Membrane: UltraPly TPO membrane fully adhered to the top insulation layer with UltraPly Bonding Adhesive roller applied at a rate of 60 ft²/gallon (120 ft²/gallon to both the underside of membrane and the substrate). The 3-in wide roof coverside and end laps are sealed with a minimum 1.5 in. heat weld on the outside edge of the lap. Top surface of roof cover is then broomed to ensure contact.

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



Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank

System Type B(9): Base layer of insulation mechanically fastened, top layer adhered with approved 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.

One or more layers of any of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
RESISTA Minimum 1.5" thick	1 or 6 with 5	1:1 ft ²
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
RESISTA Minimum 1.5" thick	N/A	N/A

Note: Base layer shall be mechanically attached with fasteners and density described. Top layer of insulation shall be adhered to base insulations with I.S.O. Twin Pack Insulation Adhesive in continuous ½" to ¾" wide beads spaced 12" o.c. or I.S.O. Stick applied in continuous ¾" to 1" wide ribbons spaced 12" o.c. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density. See Roofing Application Standard RAS 117 for fastening details.

Membrane: UltraPly TPO membrane fully adhered to the top insulation layer with UltraPly Bonding Adhesive roller applied at a rate of 60 ft²/gallon (120 ft²/gallon to both the underside of membrane and the substrate). The 3 in. wide roof cover side and end laps are sealed with a minimum 1.5 in. heat weld on the outside edge of the lap. Top surface of roof cover is then broomed to ensure contact.

Maximum Design Pressure: -120 psf. (See General Limitation #7)



Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank.

System Type C(1): Membrane bonded over mechanically fastened insulation.

Thermal Barrier: (Optional) Minimum ¼” thick DensDeck, DensDeck Prime loose laid.

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
ISO 95+ GL		
Minimum 1.5” 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.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISOGARD HD		
Minimum ½” thick	1 or 6 with 13	1:5.3 ft²
DensDeck, DensDeck Prime		
Minimum ¼” thick	1 or 6 with 13	1:5.3 ft²
Plywood		
Minimum 19/32” thick	1 or 6 with 13	1:5.3 ft²

Membrane: UltraPly TPO is bonded to the UltraPly TPO InvisiWeld Plates using a RhinoBond Portable Bonding Tool and weighted RhinoBond Cooling Clamps. The minimum 6 in.” wide roof cover side laps are sealed with a minimum 1.5 in.” wide heat weld on the outside edge of the lap.

Maximum Design Pressure: -45 psf. (See General Limitation #9)



Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank.

System Type C(2): Membrane bonded over mechanically 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.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL Minimum 1.5" 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.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISOGARD HD Minimum ½" thick	1 or 6 and 13	See Design Pressure
DensDeck, DensDeck Prime Minimum ¼" thick	1 or 6 and 13	See Design Pressure
Plywood Minimum 19/32" thick	1 or 6 and 13	See Design Pressure

Membrane: UltraPly TPO is bonded to the UltraPly TPO InvisiWeld Plates using a RhinoBond Portable Bonding Tool and weighted RhinoBond Cooling Clamps. The minimum 3 in. wide roof cover side laps are sealed with a minimum 1.5 in. wide heat weld on the outside edge of the lap.

Maximum Design Pressure:	Maximum Pressure -45 psf. (See General Limitation #7)	Fastener Spacing 12 in.	Fastener Row Spacing 5 ft.
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Membrane Type: Single Ply, TPO
Deck Type 3I: Concrete, Insulated
Deck Description: Min. 2500 psi structural concrete or concrete plank
System Type C(3): Membrane fully adhered over mechanically 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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL Minimum 1.5" 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.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISOGARD HD Minimum 1" thick	1 or 6 with 5	1: 1.8 ft ²

Membrane: UltraPly TPO membrane fully adhered to the top insulation layer with UltraPly Bonding Adhesive applied to both the substrate and the underside of the roof cover for a combined rate of 120 ft² /gal. The roof cover side and end laps are sealed with a minimum 1.5 in. heat weld.

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

Membrane Type: Single Ply, TPO

Deck Type 2I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank

System Type C(4): Membrane adhered over mechanically 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.

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL		
Minimum 1.5" thick	1 or 6 with 5	1:2 ft²

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

Membrane: UltraPly TPO XR 100 or UltraPly TPO XR 115 membrane adhered to the top insulation layer with XR Stick Membrane Adhesive applied in continuous ¾" – 1" wide ribbons spaced 12" o.c. The 2 in. wide roof cover side and end laps are sealed with a minimum 1.5 in. heat weld on the outside edge of the lap.

Maximum Design Pressure: -45 psf. (See General Limitation #9)



Membrane Type: Single Ply, TPO
Deck Type 3I: Concrete, Insulated
Deck Description: Min. 2500 psi structural concrete or concrete plank
System Type C(5): Membrane adhered over mechanically 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.

One or more layers of any of the following insulations.

Base Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL Minimum 1" thick	N/A	N/A
Tapered ISO 95+ GL Minimum ½" thick with a ¼" per ft. taper	N/A	N/A

Note: Base 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.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL Minimum 2 ¼" thick	1 or 6 with 5	1:4 ft ²
Additional Top Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL Minimum 1.5" thick	N/A	N/A

Note: Top layer shall be mechanically attached with fasteners and density described. Additional layers of insulation shall be adhered to top insulation with I.S.O. Twin Pack Insulation Adhesive in continuous ½" – ¾" wide beads spaced 12" o.c. or I.S.O. Fix II or I.S.O. Stick applied in continuous ¾" – 1" wide ribbons spaced 12" o.c. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density. See Roofing Application Standard RAS 117 for fastening details.

Membrane: UltraPly TPO XR 100 or UltraPly TPO XR 115 membrane adhered to the top insulation layer with XR Stick Membrane Adhesive applied in continuous ¾" – 1" wide ribbons spaced 12" o.c. The 2 in. wide roof cover side and end laps are sealed with a minimum 1.5 in. heat weld placed on the outside edge of the lap.

Maximum Design Pressure: -45 psf. (See General Limitation #9)



Membrane Type: Single Ply, TPO

Deck Type 2I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank

System Type C(6): Membrane adhered over mechanically 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.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL Minimum 1.5" thick	N/A	N/A
Middle Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL Tapered Minimum ½" thick with a ¼" per ft. taper	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
DensDeck Prime Minimum ½" thick	1 or 6 with 5	1:2 ft ²
Plywood Minimum 19/32" thick	1 or 6 with 5	1:2 ft ²

Note: All layers shall be simultaneously fastened; see top layer 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.

Membrane: UltraPly TPO XR 100 or UltraPly TPO XR 115 membrane adhered to the top insulation layer with XR Stick Membrane Adhesive applied in continuous ¾" to 1" wide ribbons spaced max. 4" o.c. The 2" wide roof cover side and end laps are sealed with a minimum 1.5" heat weld placed on the outside edge of the lap.

Maximum Design Pressure: -45 psf. (See General Limitation #9)

Membrane Type: Single Ply, TPO

Deck Type 2I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank

System Type C(7): Membrane adhered over mechanically 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.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL		
Minimum 1.5" thick	N/A	N/A
Middle Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
Tapered ISO 95+ GL		
Minimum ½" thick with a ¼" per ft. taper	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.

Top Insulation Layer (cover board)	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISOGARD HD		
Minimum ½" thick	1 or 6 with 5	1:2 ft ²

Membrane: UltraPly TPO XR 100 or UltraPly TPO XR 115 membrane adhered to the top insulation layer with XR Stick Membrane Adhesive applied in continuous 1" wide ribbons spaced 4" o.c. and allowed to expand to full coverage prior to the placement of the roof membrane. The 2 in. wide roof cover side and end laps are sealed with a minimum 1.5 in. heat weld placed on the outside edge of the lap.

Maximum Design Pressure: -45 psf. (See General Limitation #9)



Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank

System Type C(8): All layers of insulation simultaneously attached; membrane fully 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
ISO 95+GL Minimum 1.5" 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.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISOGARD HD Minimum ½" thick	1 & 5 or 6 & 5	1:33 ft²

Membrane: UltraPly TPO membrane fully adhered to the top insulation layer with UltraPly Bonding Adhesive roller applied at a rate of 60 ft²/gallon (120 ft²/gallon to both the underside of membrane and the substrate). The 3 -in. wide roof cover side and end laps are sealed with a minimum 1.5 in. heat weld on the outside edge of the lap. Top surface of roof cover is then broomed to ensure contact.

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



Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank

System Type C(9): All layers of insulation simultaneously attached; membrane fully 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
ISOGARD HD Composite Minimum 1" thick	1 & 5 or 6 & 5	1:1.33 ft ²

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 using the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: UltraPly TPO membrane fully adhered to the top insulation layer with UltraPly Bonding Adhesive roller applied at a rate of 60 ft²/gallon (120 ft²/gallon to both the underside of membrane and the substrate). The 3 in. wide roof cover side and end laps are sealed with a minimum 1.5 in. heat weld on the outside edge of the lap. Top surface of roof cover is then broomed to ensure contact.

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

Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank.

System Type C(10): Membrane bonded over mechanically 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.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISOGARD HD Minimum ½" thick	1 or 6 with 13	1:4 ft ²
DensDeck, DensDeck Prime Minimum ¼" thick	1 or 6 with 13	1:4 ft ²
Plywood Minimum 19/32" thick	1 or 6 with 13	1:4 ft ²

Note: All layers shall be simultaneously fastened; see top layer 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.

Membrane: UltraPly TPO is bonded to the UltraPly TPO InvisiWeld Plates using a RhinoBond Portable Bonding Tool and weighted RhinoBond Cooling Clamps. The minimum 6" wide roof cover side laps are sealed with a minimum 1.5" wide heat weld on the outside edge of the lap.

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



Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank

System Type C(11): Membrane fully adhered over mechanically 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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL		
Minimum 1.5" 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.

Top Insulation Layer (cover board)	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISOGARD HD		
Minimum ½" thick	1 or 6 with 5	1: 1.33 ft²

Membrane: UltraPly TPO membrane fully adhered to the top insulation layer with UltraPly Bonding Adhesive applied to both the substrate and the underside of the roof cover for a combined rate of 120 ft² /gal. The roof cover side and end laps are sealed with a minimum 1.5 in. heat weld.

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

Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank.

System Type C(12): Membrane bonded over mechanically 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.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL		
Minimum 1.5" 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.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISOGARD HD		
Minimum ½" thick	1 or 6 with 13	1:2.7 ft ²
DensDeck, DensDeck Prime		
Minimum ¼" thick	1 or 6 with 13	1:2.7 ft ²
Plywood		
Minimum 19/32" thick	1 or 6 with 13	1:2.7 ft ²

Membrane: UltraPly TPO is bonded to the UltraPly TPO InvisiWeld Plates using a RhinoBond Portable Bonding Tool and weighted RhinoBond Cooling Clamps. The minimum 6 in. wide roof cover side laps are sealed with a minimum 1.5 in. wide heat weld on the outside edge of the lap.

Maximum Design Pressure: -75 psf. (See General Limitation #7)



Membrane Type: Single Ply, TPO
Deck Type 3I: Concrete, Insulated
Deck Description: Min. 2500 psi structural concrete or concrete plank
System Type C(13): Membrane fully adhered over mechanically 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.

Insulation Layer	Fastener Type (Table 3)	Fastener Density/ft²
ISO 95+ GL Minimum 2" thick	3 with 5	1:1.6

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

Membrane: UltraPly TPO membrane fully adhered to the top insulation layer with UltraPly Bonding Adhesive applied to both the substrate and the underside of the roof cover for a combined rate of 120 ft² /gal. The roof coverside and end laps are sealed with a minimum 1.5 in. heat weld.

Maximum Design Pressure: -75 psf. (See General Limitation #7)



Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank

System Type C(14): All layers of insulation simultaneously attached; membrane fully 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
RESISTA Minimum 1.5" thick	1 & 5 or 6 & 5	1:1.6 ft ²

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 using the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: UltraPly TPO membrane fully adhered to the top insulation layer with UltraPly Bonding Adhesive roller applied at a rate of 60 ft²/gallon (120 ft²/gallon to both the underside of membrane and the substrate). The 3 in. wide roof cover side and end laps are sealed with a minimum 1.5 in. heat weld on the outside edge of the lap. Top surface of roof cover is then broomed to ensure contact.

Maximum Design Pressure: -75 psf. (See General Limitation #7)



Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank.

System Type C(15): Membrane bonded over mechanically 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.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL		
Minimum 1.5" 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.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISOGARD HD	1 or 6 with 13	See Design Pressure
Minimum ½" thick		
DensDeck, DensDeck Prime	1 or 6 with 13	See Design Pressure
Minimum ¼" thick		
Plywood	1 or 6 with 13	See Design Pressure
Minimum 19/32" thick		

Membrane: UltraPly TPO is bonded to the UltraPly TPO InvisiWeld Plates using a RhinoBond Portable Bonding Tool and weighted RhinoBond Cooling Clamps. The minimum 3 in. wide roof cover side laps are sealed with a minimum 1.5 in. wide heat weld on the outside edge of the lap.

Maximum Design Pressure:	Maximum Pressure	Fastener Spacing	Fastener Row Spacing
	-82.5 psf.	6 in.	5 ft.
	(See General Limitation #7)		



Membrane Type: Single Ply, TPO

Deck Type 2I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank

System Type C(16): Membrane adhered over mechanically 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.

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL Minimum 2" thick	1 or 6 with 5	1:1.6 ft²

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

Membrane: UltraPly TPO XR 100 or UltraPly TPO XR 115 membrane adhered to the top insulation layer with XR Stick Membrane Adhesive applied in continuous ¾" to 1" wide ribbons spaced max 6" o.c. The 2" wide roof cover side and end laps are sealed with a minimum 1.5" heat weld placed on the outside edge of the lap.

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



Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank

System Type C(17): All layers of insulation simultaneously attached; membrane fully 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
RESISTA Minimum 2" thick	1 & 5 or 6 & 5	1:1.6 ft ²

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 using the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: UltraPly TPO membrane fully adhered to the top insulation layer with UltraPly Bonding Adhesive roller applied at a rate of 60 ft²/gallon (120 ft²/gallon to both the underside of membrane and the substrate). The 3" wide roof cover side and end laps are sealed with a minimum 1.5" heat weld on the outside edge of the lap. Top surface of roof cover is then broomed to ensure contact.

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



Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank.

System Type C(18): Membrane bonded over mechanically 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.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL		
Minimum 1.5" 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.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISOGARD HD		
Minimum ½" thick	1 or 6 with 13	1:2 ft ²
DensDeck, DensDeck Prime		
Minimum ¼" thick	1 or 6 with 13	1:2 ft ²
Plywood		
Minimum 19/32" thick	1 or 6 with 13	1:2 ft ²

Membrane: UltraPly TPO is bonded to the UltraPly TPO InvisiWeld Plates using a RhinoBond Portable Bonding Tool and weighted RhinoBond Cooling Clamps. The minimum 6 in. wide roof cover side laps are sealed with a minimum 1.5 in. wide heat weld on the outside edge of the lap.

Maximum Design Pressure: -105 psf. (See General Limitation #7)



Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank

System Type C(19): All layers of insulation simultaneously attached; membrane fully 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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL Minimum 1.5" 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.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
DensDeck Prime Minimum ½" thick	1 with 5	See MDP Below

Membrane: UltraPly TPO membrane fully adhered to the top insulation layer with UltraPly Bonding Adhesive applied to both the substrate and the underside of the roof cover for a combined rate of 120 ft²/gal. The roof cover side and end laps are sealed with a minimum 1.5 in. heat weld.

Maximum Design Pressure: -105 psf. at a fastener density of 1:1 ft² (See General Limitation #7)

Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank

System Type C(20): All layers of insulation simultaneously attached; membrane fully 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
RESISTA Minimum 2" thick	1 & 5 or 6 & 5	1:1.33 ft ²

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 using the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: UltraPly TPO membrane fully adhered to the top insulation layer with UltraPly Bonding Adhesive roller applied at a rate of 60 ft²/gallon (120 ft²/gallon to both the underside of membrane and the substrate). The 3 in wide roof cover side and end laps are sealed with a minimum 1.5 in. heat weld on the outside edge of the lap. Top surface of roof cover is then broomed to ensure contact.

Maximum Design Pressure: -105 psf. (See General Limitation #7)



Membrane Type: Single Ply, TPO
Deck Type 3I: Concrete, Insulated
Deck Description: Min. 2500 psi structural concrete or concrete plank
System Type C(21): All layers of insulation simultaneously attached; membrane fully 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
ISOGARD HD Composite Minimum 1.5" thick	1 & 5 or 6 & 5	1:1.33 ft ²

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 using the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: UltraPly TPO membrane fully adhered to the top insulation layer with UltraPly Bonding Adhesive roller applied at a rate of 60 ft²/gallon (120 ft²/gallon to both the underside of membrane and the substrate). The 3 in. wide roof cover side and end laps are sealed with a minimum 1.5 in. heat weld on the outside edge of the lap. Top surface of roof cover is then broomed to ensure contact.

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



Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank

System Type C(22): All layers of insulation simultaneously attached; membrane fully 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
ISOGARD HD Composite Minimum 2" thick	1 & 5 or 6 & 5	1:1.33 ft²

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 using the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: UltraPly TPO membrane fully adhered to the top insulation layer with UltraPly Bonding Adhesive roller applied at a rate of 60 ft²/gallon (120 ft²/gallon to both the underside of membrane and the substrate). The 3 in. wide roof cover side and end laps are sealed with a minimum 1.5 in. heat weld on the outside edge of the lap. Top surface of roof cover is then broomed to ensure contact.

Maximum Design Pressure: -120 psf. (See General Limitation #7)



Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank

System Type C(23): Membrane adhered over mechanically 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.

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL Minimum 2" thick	1 or 6 with 5	1:1 ft ²

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

Membrane: UltraPly TPO XR 100 or UltraPly TPO XR 115 membrane adhered to the top insulation layer with XR Stick Membrane Adhesive applied in continuous $\frac{3}{4}$ " – 1" wide ribbons spaced 4" o.c. and allowed to expand to full coverage prior to placement of the roof membrane. The 2 in. wide roof cover side and end laps are sealed with a minimum 1.5 in. heat weld placed on the outside edge of lap.

Maximum Design Pressure: -142.5 psf. (See General Limitation #7)

Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank

System Type C(24): All layers of insulation simultaneously attached; membrane fully 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
RESISTA Minimum 2" thick	1 & 5 or 6 & 5	1:1 ft ²

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 using the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: UltraPly TPO membrane fully adhered to the top insulation layer with UltraPly Bonding Adhesive roller applied at a rate of 60 ft²/gallon (120 ft²/gallon to both the underside of membrane and the substrate). The 3 in. wide roof cover side and end laps are sealed with a minimum 1.5 in. heat weld on the outside edge of the lap. Top surface of roof cover is then broomed to ensure contact.

Maximum Design Pressure: -150 psf. (See General Limitation #7)



Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank.

System Type D(1): Membrane mechanically attached over preliminary 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.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL Minimum 1.5" thick	N/A	N/A

Note: All layers of insulation and membrane shall be simultaneously attached. See membrane 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.

Membrane: Mechanically attach UltraPly QuickSeam R.M.A. Strips with Firestone Heavy-Duty Fasteners 6" o.c. in Coiled Metal Batten Bar centered within the 4" wide center section of the UltraPly QuickSeam R.M.A Strips in rows 10 ft. o.c. UltraPly TPO roof cover is adhered to the UltraPly QuickSeam R.M.A. Strips by first priming the underside of the roof cover, at the strip locations, with Single-Ply QuickPrime Primer and placing the primed portion of the roof cover onto the strips. Minimum 2" wide side laps are sealed with a minimum 1.5" wide heat weld.

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

Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank.

System Type D(2): Membrane mechanically attached over preliminary 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.

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
DensDeck		
Minimum ¼" thick	N/A	N/A
ISO 95+ GL, ISOGARD HD		
Minimum ½" thick	N/A	N/A

Note: All layers of insulation and membrane shall be simultaneously attached. See top layer 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.

Membrane: UltraPly TPO is placed over the insulation and mechanically secured to the deck with Firestone Heavy-Duty Fastener and Firestone HD Seam Plate. Fastener rows are spaced at a maximum 7.5 ft. o.c. and fasteners are spaced 12" o.c. within the 6" wide roof cover side laps. The minimum 6 in. wide roof cover side laps are sealed with a minimum 1.5 in. wide heat weld on the outside edge of the lap.

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

Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank

System Type D(3): Membrane mechanically attached over 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.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL Minimum 1.5" thick	N/A	N/A

Note: Insulation shall be loose-laid and membrane mechanically fastened. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements.

Membrane: UltraPly TPO roof cover is mechanically fastened to the deck with Firestone Heavy-Duty fasteners and Firestone HD seam plate spaced 6 in. o.c. within the 6 in. wide side laps. Fastener rows are spaced 142 in. o.c. The roof cover side laps are sealed with a 1.5 in. wide heat weld placed along the outside edge of the lap.

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

Membrane Type: Single Ply, TPO

Deck Type 3I: Concrete, Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank

System Type D(4): Membrane mechanically attached over preliminary 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.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ISO 95+ GL Minimum 1.5" thick	N/A	N/A

Note: All layers of insulation and membrane shall be simultaneously attached. See membrane 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.

Membrane: UltraPly TPO mechanically fastened to the deck through the insulation as described below:

Fastening #1: Membrane is mechanically attached using Firestone Heavy-Duty Plus Fasteners and Firestone HD Plus Seam Plates spaced 6" o.c. within minimum 6" wide laps. Laps are spaced at maximum 142" o.c. and sealed with a minimum 1.5" heat weld.
Maximum Design Pressure: -60 psf. (See General Limitation #7)

Fastening #2: Membrane is mechanically attached using Firestone Heavy-Duty Plus Fasteners and 1" wide Coiled Metal Batten Bar with fasteners spaced 6" o.c. along the batten bar within minimum 6" wide laps. Laps are spaced at maximum 142" o.c. and sealed with a minimum 5" wide heat weld that encapsulates the fasteners and batten strip.
Maximum Design Pressure: -60 psf. (See General Limitation #7)

Fastening #3: Membrane is mechanically attached using Firestone Heavy-Duty Plus Fasteners and Firestone HD Plus Seam Plates spaced 6" o.c. within minimum 6" wide laps. Laps are spaced at maximum 114" o.c. and sealed with a minimum 1.5" heat weld.
Maximum Design Pressure: -67.5 psf. (See General Limitation #7)

Fastening #4: Membrane is mechanically attached using Firestone Heavy-Duty Plus Fasteners and 1" wide Coiled Metal Batten Bar with fasteners spaced 6" o.c. along the batten bar within minimum 6" wide laps. Laps are spaced at maximum 114" o.c. and sealed with a minimum 5" wide heat weld that encapsulates the fasteners and batten strip.
Maximum Design Pressure: -67.5 psf. (See General Limitation #7)

Fastening #5: Membrane is mechanically attached using Firestone Heavy-Duty Fasteners and Firestone HD Seam Plate spaced max 12" o.c. within minimum 6" wide laps. Laps are spaced at maximum 142" o.c. and sealed with a minimum 1.5" heat weld.
Maximum Design Pressure: -52.5 psf. (See General Limitation #7)

- Fastening #6:** Membrane is mechanically attached using Firestone Heavy-Duty Fasteners and 1" wide Coiled Metal Batten Bar with fasteners spaced 6" o.c. along the batten bar within minimum 6" wide laps. Laps are spaced at maximum 142" o.c. and sealed with a minimum 5" wide heat weld that encapsulates the fasteners and batten strip.
Maximum Design Pressure: -52.5 psf. (See General Limitation #7)
- Fastening #7:** Membrane is mechanically attached using Firestone Heavy-Duty Plus Fasteners and ¾" or 1" Firestone Polymer Batten Strips with fasteners spaced 6" o.c. along the batten bar in rows spaced 142" o.c. and along one intermediate field row centered in the field of the sheet. Side laps are sealed with a minimum 5" heat weld and the intermediate field row is covered with a minimum 5" wide strip of UltraPly TPO and sealed with a minimum 1.5" heat weld on either side of the batten.
Maximum Design Pressure: -135 psf. (See General Limitation #7)
- Fastening #8:** Membrane is mechanically attached using Firestone Heavy-Duty Fasteners and ¾" or 1" Firestone Polymer Batten Strips with fasteners spaced 6" o.c. along the batten bar within minimum 6" wide laps. Laps are spaced at maximum 68" o.c. and sealed with a minimum 5" wide heat weld that encapsulates the fasteners and batten strip.
Maximum Design Pressure: -82.5 psf. (See General Limitation #7)
- Maximum Design Pressure:** See Fastening Options Above

Membrane Type: Single Ply, TPO

Deck Type 3: Concrete, Non-Insulated

Deck Description: Min. 2500 psi structural concrete or concrete plank

System Type F(1): Membrane adhered to primed substrate

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 Barrier: None.

Membrane: One ply of UltraPly TPO XR 110 membrane adhered to the primed deck with XR Stick Membrane Adhesive applied in continuous $\frac{3}{4}$ " – 1" wide ribbons spaced 12" o.c. The 2 in. wide roof cover side and end laps are sealed with a minimum 1.5 in. heat weld.

Maximum Design Pressure: -97.5 psf. (See General Limitation #9)



Membrane Type: Single Ply, TPO
Deck Type 3: Concrete, Non-Insulated
Deck Description: Min. 2500 psi structural concrete or concrete plank
System Type F(2): Membrane adhered to primed substrate

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 Barrier: None.

Membrane: One ply of UltraPly TPO XR 100 membrane adhered to the primed deck with XR Stick Membrane Adhesive applied in continuous $\frac{3}{4}$ " – 1" wide ribbons spaced 6" o.c. The 2 in. wide roof cover side and end laps are sealed with a minimum 1.5 in. heat weld.

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



Membrane Type: Single Ply, TPO
Deck Type 3: Concrete, Non-Insulated
Deck Description: Min. 2500 psi structural concrete or concrete plank
System Type F(3): Membrane adhered to primed substrate

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 Barrier One ply of SBS Base fully adhered to the concrete deck with a full mopping of hot asphalt applied at a rate of 20 – 25 lbs./square.

Membrane: One ply of UltraPly TPO XR 100 or UltraPly TPO XR 115 adhered to the vapor retarder with XR Stick Membrane Adhesive applied in continuous ¾” to 1” wide ribbons spaced 4” o.c. and allowed to expand to full coverage prior to placement of the roof membrane. The 2” wide roof cover side and end laps are sealed with a minimum 1.5” heat weld placed on the outside edge of the lap.

Maximum Design Pressure: -315 psf. (See General Limitation #9)



Membrane Type: Single Ply, TPO
Deck Type 3: Concrete, Non-Insulated
Deck Description: Min. 2500 psi structural concrete or concrete plank
System Type F(4): Membrane adhered to substrate

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 Barrier: None.
Membrane: UltraPly TPO XR 100 or UltraPly TPO XR 115 Membrane fully adhered to the deck with XR Bonding Adhesive applied at a rate of 70-90 ft²/gallon. The roof cover laps are sealed with a minimum 1.5" heat weld.
Maximum Design Pressure: -470 psf. (See General Limitation #9)



Membrane Type: Single Ply, TPO
Deck Type 3: Concrete, Non-Insulated
Deck Description: Min. 2500 psi structural concrete or concrete plank
System Type F(5): Membrane adhered to primed substrate

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.

Primer: Concrete deck shall be primed with ASTM D 41 asphalt primer at a rate of $\frac{3}{4}$ to 1 gal/sq. and allowed to dry prior to the application of the specified roofing membrane.

Membrane: One ply of UltraPly TPO XR 115 adhered to primed deck with hot asphalt applied at a rate of 20-25 lbs./sq. or with XR Bonding Adhesive applied at a rate of 70-90 ft²/gallon. The roof cover laps are sealed with a minimum 1.5" heat weld.

Maximum Design Pressure: -495 psf. with Hot Asphalt Applied (See General Limitation #9)
-180 psf. with XR Bonding Adhesive Applied (See General Limitation #9)



Membrane Type: Single Ply, TPO
Deck Type 3: Concrete, Non-Insulated
Deck Description: Min. 2500 psi structural concrete or concrete plank
System Type F(6): Membrane adhered to substrate.

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 Barrier: None.
Membrane: UltraPly TPO XR 100 or UltraPly TPO XR 115 Membrane fully adhered with Hot Asphalt with the EVT range at a rate of 20-40 lbs. per 100 sq. ft. The roof cover laps are sealed with a minimum 1.5" heat weld.
Maximum Design Pressure: -500 psf. (See General Limitation #9)



Membrane Type: Single Ply, TPO
Deck Type 3: Concrete, Non-Insulated
Deck Description: Min. 2500 psi structural concrete or concrete plank
System Type F(7): Membrane adhered to substrate.

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 Barrier: None.

Membrane: UltraPly TPO XR 100 or UltraPly TPO XR 115 Membrane adhered with XR Stick Membrane Adhesive applied in continuous $\frac{3}{4}$ " – 1" wide ribbons spaced 12" o.c. The roof cover laps are sealed with a minimum 1.5" heat weld.

Maximum Design Pressure: -150 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 117 and/or 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 Professional Engineer, Registered 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 products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 61G20-3 of the Florida Administrative Code.

END OF THIS ACCEPTANCE



NOA-No.: 23-0613.39
Expiration Date: 05/18/26
Approval Date: 09/07/23
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