

DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER) BOARD AND CODE ADMINISTRATION DIVISION NOTICE OF ACCEPTANCE (NOA) MIAMI-DADE COUNTY PRODUCT CONTROL SECTION 11805 SW 26 Street, Room 208 Miami, Florida 33175-2474 T (786)315-2590 F (786) 315-2599

www.miamidade.gov/economy

IB Roof Systems 506 E. Dallas Road, Suite 300 Grapevine, TX 75061

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: IB PVC Single Ply Roof Systems Over Concrete Decks.

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

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

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

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

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

This NOA renews and revises NOA No. 20-0608.03 and consists of pages 1 through 36.

The submitted documentation was reviewed by Jorge L. Acebo.

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ROOFING SYSTEM APPROVAL

<u>Category:</u>	Roofing
<u>Sub-Category:</u>	Single Ply Roofing
<u>Material:</u>	PVC
<u>Deck Type:</u>	Concrete
Maximum Design Pressure:	-512.5 psf.

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT: TABLE 1

<u>Product</u>	<u>Dimensions</u>	Test <u>Specification</u>	Product <u>Description</u>
IB PVC Single Ply	50, 60, 80 mil	ASTM D4434	Polyester reinforced PVC membrane.
IB PVC Single Ply Fleeceback	50, 60, 80 mil	ASTM D4434	Polyester reinforced PVC membrane with a non-woven polyester fleeceback.
IB Water Borne Adhesive	3 gal.	Proprietary	Adhesive for bonding IB membranes to wood, concrete and glass faced polyisocyanurate insulations.
IB Vertibond PVC Bonding Adhesive	5 gal.	Proprietary	Adhesive for bonding IB membranes to metal, wood, concrete and certain insulation boards.
IB Rapid Set Insulation Adhesive	Various	Proprietary	Elastomeric, one-step, all-purpose, foamable adhesive.
IB Rapid Set Pump Grade Adhesive	Various	Proprietary	Polyurethane two component low rise adhesive.
Sopravap'r	45" x 133'	Various	Self-adhering air/vapor barrier membrane.
Elastocol Stick	Various	ASTM D41	Asphalt primer.
Elastocol Stick Zero	Various	ASTM D41	Asphalt primer.
Flintlastic GMS	39 3 / 8 " x 32' 10"		Granule surfaced SBS Modified Bitumen membrane with non-woven polyester mat reinforcement.
Flintlastic SA Cap	39 3 / 8 " x 32'11"		Self-adhering, polyester reinforced, SBS modified bitumen membrane.
Flintlastic GTA	39 3/8" x 32' 10"		Granule surfaced APP Modified Bitumen membrane with non-woven polyester mat reinforcement.
Elastophene GR	39" x 33' (1 sq.)	ASTM D6163	Fiberglass reinforced modified bitumen membrane with fire retardants, sanded on the bottom and mineral granules on the top. Applied in hot asphalt, cold adhesive or ribbon stripping.
			NOA No.: 22-03



<u>Product</u>	Dimensions	Test <u>Specification</u>	Product <u>Description</u>
Colphene FR GR	39" x 33' (1 sq.)	ASTM D 6163	Self-adhered, granule surfaced, fiberglass reinforced membranes.
Elastophene Flam GR	39" x 33' (1 sq.)	ASTM D6163	Fiberglass reinforced modified bitumen membrane with fire retardants, a plastic burn-off film on the bottom and mineral granules on the top. Applied by heat welding.
APPex 4.5M	39-3/8" x 32'10"	ASTM D6222 Type I	APP modified asphalt, polyester reinforced, mineral surfaced membrane

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
IB EnergyBoard II	Polyisocyanurate Insulation	IB Roof Systems
IB EnergyBoard III	Polyisocyanurate Insulation	IB Roof Systems
ACFoam–II	Polyisocyanurate Insulation	Atlas Roofing Corp.
ACFoam-III	Polyisocyanurate Insulation	Atlas Roofing Corp.
ACFoam-HD Coverboard	Polyisocyanurate Insulation	Atlas Roofing Corp.
DensDeck	Gypsum insulation	Georgia Pacific Gypsum LLC
DensDeck Prime	Gypsum insulation	Georgia Pacific Gypsum LLC
ENRGY 3	Polyisocyanurate Insulation	Johns Manville
SECUROCK Gypsum-Fiber Roof Board	Gypsum insulation	USG Corp.
Multi-Max FA-3	Polyisocyanurate Insulation	Rmax Operating, A Buisiness Unit of Sika Corporation
H-Shield	Polyisocyanurate insulation	Hunter Panels, a div. of Carlisle Const. Materials, LLC
H-Shield CG	Polyisocyanurate insulation	Hunter Panels, a div. of Carlisle Const. Materials, LLC
ISO 95+ GL	Polyisocyanurate foam insulation	Firestone Building Products Company, LLC
Insulfoam EPS	Closed-cell, Type IX (min 1.8 pcf) expanded polystyrene.	Insulfoam, a Div. of Carlisle Const. Materials



APPROVED FASTENERS / ADHESIVES:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	Dekfast DF-#12- PH3, Dekfast DF- #14-PH3, Dekfast DF-#15-PH3	Insulation and membrane fastener	Various	SFS Group USA, Inc.
2.	Dekfast PLT-R-2- 4B	Galvalume stress plate.	2" round	SFS Group USA, Inc.
3.	CD-10	Non-threaded fastener designed to secure insulation and single-ply membrane to structural concrete	Various	OMG, Inc.
4.	OMG 2-3/8" Barbed XHD Plate	Insulation steel seam plate	2-3/8" round	OMG, Inc.
5.	IB CD-10 Roofing Fasteners	Non-threaded fastener designed to secure insulation and single-ply membrane to structural concrete	Various	IB Roof Systems
6.	IB 2-3/8" Barbed Seam Plate	Insulation steel seam plate	2-3/8" round	IB Roof Systems
7.	IB SD #12 Insulation Fastener	Insulation and membrane fastener	Various	IB Roof Systems
8.	IB HD #14 Roofing Fastener	Insulation and membrane fastener	Various	IB Roof Systems
9.	IB XHD #15 Roofing Fastener	Insulation and membrane fastener	Various	IB Roof Systems
10.	IB 3" Isoweld Plate	Round, coated galvalume plate (Silver and Gold) used for PVC membranes	3" round	IB Roof Systems
11.	Isoweld F1-P-6.8- PVC Plate	Round, coated galvalume plate (Silver and Gold) used for PVC membranes	3" round	SFS Group USA, Inc.
12.	Millennium One Step Foamable Adhesive	Polyurethane one-step, all- purpose, foamable adhesive	1.5 liters	H.B. Fuller Company
13.	Millennium PG-1 Low Viscosity Insulation Adhesive	Polyurethane two component low rise adhesive.	5 gal to 50 gal Part (A) or Part (B)	H.B. Fuller Company
14.	Millennium PG-1 Pump Grade Adhesive	Polyurethane two component low rise adhesive	5 gal to 50 gal Part (A) or Part (B)	H.B. Fuller Company
15.	ICP Adhesive CR- 20	Polyurethane two component low rise insulation adhesive	Two kits (A = 40lb and B = 35lb cylinders)	ICP Adhesives & Sealants, Inc.



APPROVED FASTENERS / ADHESIVES:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
16.	•	Polyurethane one component moisture curing adhesive	It is supplied in pressurized cylinders with a net weight of 23 lbs., with a total unit weight of 30 lbs.	DuPont de Nemours, Inc.
17.	OMG OlyBond 500 Adhesive	Spray polyurethane foam insulation adhesive	10 gal. bag-in-box set and 1.5 liters SpotShot cartridge	OMG, Inc.
18.	OMG OlyBond Classic	Spray polyurethane foam insulation adhesive	15 gal. or 55 gal.	OMG, Inc.
19.	FlintBond Brush	SBS modified bitumen cold applied adhesive.	15 gal. or 55 gal.	CertainTeed LLC
20.	Blackhawk 5300 Series Modified Bitumen Adhesive (7U)	Modified asphalt adhesive	15 gal. or 55 gal.	Ergon Asphalt & Emulsions, Inc.

EVIDENCE SUBMITTED:

Test Agency/Identifier	<u>Name</u>	<u>Report</u>	<u>Date</u>
FM Approvals	2D5A9.AM	FM 4450	06/22/99
	3009502	FM 4470	12/21/00
	3012321	FM 4470	07/29/02
	3015444	FM 4450	07/11/03
	3014692	FM 4470	08/05/03
	3014751	FM 4450	08/27/03
	3023458	FM 4450	07/18/06
	3026128	FM 4450	08/04/06
	PR460143	FM 4470	11/04/21
UL LLC	02NK18635	CGSB-37.54-95	11/12/03
Trinity ERD	02762.03.05-R1	TAS 114-D/TAS 114-J	12/10/07
	I11110.02.09	TAS 114-J	02/05/09
	03903.05.06-2-R1	TAS 114-J	07/13/09
	03900.05.05-R1	TAS 114-D	03/23/10
	I33030.03.11	TAS 114	03/11/11
	02642.01.05-1-R2	TAS 114-J	06/07/11
	SC5160.01.15-R1	TAS 114	02/03/15
	SFS-SC10010.02.16	TAS 114	02/29/16
NEMO ETC, LLC	1j-IBR-20-GNSPT-01.C	ASTM D4434	04/24/20
	1j-IBR-20-GNSPT-01.D	ASTM D4434	04/24/20



APPROVED ASSEMBLIES:

Membrane Type:	Single Ply, PVC
Deck Type 3I:	Concrete, Insulated
Deck Description:	Min. 2500 psi structural concrete or concrete plank
System Type A(1):	One or more layers of insulation adhered with approved <u>adhesive onto vapor</u> <u>barrier</u> , 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 the following insulations:

Base Insulation Layer	Insulation Fasteners	Fastener
	(Table 3)	Density/ft ²
Insulfoam EPS		
Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners	Fastener
Top Insulation Enger	(Table 3)	Density/ft ²
DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board		
Minimum ¹ /4" thick	N/A	N/A

Note: All insulation shall be adhered to the deck or subsequent layers of insulation in ³⁄₄" – 1" wide beads 12" o.c. of IB Rapid Set Pump Grade Adhesive, Insta Stik[™] Quik Set Insulation Adhesive, Millennium PG-1 Low Viscosity Insulation Adhesive, Millennium PG-1 Pump Grade Adhesive or OMG OlyBond Classic Adhesive. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane:	IB PVC Single Ply roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/125 – 175 ft ² (substrate only). Side laps are min. 3-inch wide sealed with min. 1- ¹ / ₂ " heat weld. Or IB PVC Single Ply roof cover adhered to the insulation with IB Vertibond PVC Bonding Adhesive at 1 gal/50 - 70 ft ² (contact both sides). Side laps are min. 3-inch wide sealed with min. 1- ¹ / ₂ " heat weld. Or
	IB PVC Single Ply Fleeceback roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/100 – 160 ft ² (substrate only) or IB Vertibond PVC Bonding Adhesive at 1 gal/45 – 60 ft ² (contact both sides). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld.
Maximum Design	
Pressure:	-105 psf. (See General Limitation #9.)



Membrane Type:	Single Ply, PVC
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 <u>adhesive onto vapor</u> <u>barrier</u> , membrane fully adhered

Primer: Structural concrete primed with Elastocol Stick applied at 1.0 gal/sq.

Vapor Barrier: One ply of Sopravap'r, self-adhered to primed deck.

One or more layers of the following insulations: Base Insulation Layer

Dase insulation Layer	(Table 3)	Density/ft ²
Insulfoam EPS		v
Minimum 1.5" thick	N/A	N/A

Insulation Fastanars

Note: Base insulation shall be adhered to the deck or subsequent layers of insulation in ³/₄" − 1" wide beads 12" o.c. of Insta StikTM Quik Set Insulation Adhesive. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board		
Minimum ¹ /4" thick	N/A	N/A

Note: Top insulation shall be adhered to the subsequent layers of insulation in ³⁄₄" – 1" wide beads 12" o.c. of IB Rapid Set Pump Grade Adhesive, Insta Stik[™] Quik Set Insulation Adhesive, Millennium PG-1 Low Viscosity Insulation Adhesive, Millennium PG-1 Pump Grade Adhesive or OMG OlyBond Classic Adhesive. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane:	Drane: IB PVC Single Ply roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/125 – 175 ft ² (substrate only). Side laps are min. 3-inch w sealed with min. $1-\frac{1}{2}$ " heat weld. Or	
	IB PVC Single Ply roof cover adhered to the insulation with IB Vertibond PVC Bonding Adhesive at 1 gal/50 - 70 ft ² (contact both sides). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld. Or	
	IB PVC Single Ply Fleeceback roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/100 – 160 ft ² (substrate only) or IB Vertibond PVC Bonding Adhesive at 1 gal/45 – 60 ft ² (contact both sides). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld.	
Maximum Design Pressure:	-112.5 psf. (See General Limitation #9.)	



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Membrane Type:	Single Ply, PVC
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 <u>adhesive</u> , membrane fully adhered

One or more layers of the following insulations:

Base Insulation Layer	Insulation Fasteners	Fastener
	(Table 3)	Density/ft ²
Insulfoam EPS		
Minimum 1.5" thick	N/A	N/A

Note: Base insulation shall be adhered to the deck or subsequent layers of insulation in ³/₄" – 1" wide beads 12" o.c. of IB Rapid Set Pump Grade Adhesive, Millennium PG-1 Low Viscosity Insulation Adhesive, Millennium PG-1 Pump Grade Adhesive or OMG OlyBond Classic Adhesive. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
DensDeck Prime (<i>only with OMG OlyBond Classic</i>) Minimum ¼" thick	N/A	N/A
SECUROCK Gypsum-Fiber Roof Board Minimum ¼" thick	N/A	N/A

Note: Top insulation shall be adhered to the subsequent layers of insulation in ³/₄" – 1" wide beads 12" o.c. of IB Rapid Set Pump Grade Adhesive, Insta StikTM Quik Set Insulation Adhesive, Millennium PG-1 Low Viscosity Insulation Adhesive, Millennium PG-1 Pump Grade Adhesive or OMG OlyBond Classic Adhesive. Please refer to Roofing Application Standard RAS 117 for insulation attachment.



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Membrane:	IB PVC Single Ply roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/ $125 - 175$ ft ² (substrate only). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld. Or	
	(Only with DensDeck Prime) IB PVC Single Ply roof cover adhered to the insulation with IB Vertibond PVC Bonding Adhesive at 1 gal/50 - 70 ft ² (contact both sides). Side laps are min. 3-inch wide sealed with min. 1- ¹ / ₂ " heat weld. Or	
	IB PVC Single Ply Fleeceback roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/100 – 160 ft ² (substrate only) or IB Vertibond PVC Bonding Adhesive at 1 gal/45 – 60 ft ² (contact both sides). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld. Or	
	(Only with DensDeck Prime) IB PVC Single Ply Fleeceback roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/100 – 160 ft ² (substrate only). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld.	
Maximum Design Pressure:	-187.5 psf. (See General Limitation #9.)	



Membrane Type:	Single Ply, PVC
Deck Type 3I:	Concrete, Insulated
Deck Description:	Min. 2500 psi structural concrete or concrete plank
System Type A(4):	One or more layers of insulation adhered with approved <u>adhesive</u> , membrane fully adhered

One or more layers of the following insulations: **Insulation Laver**

Insulation Layer	Insulation Fasteners	Fastener
	(Table 3)	Density/ft ²
ACFoam-II, IB EnergyBoard II, Multi-Max FA-3		
Minimum 1.5" thick	N/A	N/A

Note: All insulation shall be adhered to the deck or subsequent layers of insulation in 1/2" to 3/4" wide beads 12" o.c. of Millennium One Step Foamable Adhesive or IB Rapid Set Insulation Adhesive, 3" to 3.5" wide beads 12" o.c. of ICP Adhesives CR-20 or full mopping of approved asphalt within the EVT range and at a rate of 25 lbs/100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane:	IB PVC Single Ply roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/125 – 175 ft ² (substrate only). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld. Or
	IB PVC Single Ply roof cover adhered to the insulation with IB Vertibond PVC Bonding Adhesive at 1 gal/50 - 70 ft ² (contact both sides). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld. Or
	IB PVC Single Ply Fleeceback roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/100 – 160 ft ² (substrate only) or IB Vertibond PVC Bonding Adhesive at 1 gal/45 – 60 ft ² (contact both sides). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld.
Maximum Design Pressure:	-215 psf. (See General Limitation #9.)



Membrane Type:	Single Ply, PVC
Deck Type 3I:	Concrete, Insulated
Deck Description:	Min. 2500 psi structural concrete or concrete plank
System Type A(5):	One or more layers of insulation adhered with approved <u>adhesive</u> , membrane fully adhered

One or more layers of the following insulations: **Base Insulation Layer**

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ACFoam-II, IB EnergyBoard II, Multi-Max FA-3 Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
DensDeck, SECUROCK Gypsum-Fiber Roof Board Minimum 0.5" thick	N/A	N/A

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Note: All insulation shall be adhered to the deck or subsequent layers of insulation in 3" to 3.5" wide beads 12" o.c. of ICP Adhesives CR-20 or full mopping of approved asphalt within the EVT range and at a rate of 25 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.

Membrane:	IB PVC Single Ply roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/125 – 175 ft ² (substrate only). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld. Or	
	IB PVC Single Ply roof cover adhered to the insulation with IB Vertibond PVC Bonding Adhesive at 1 gal/50 - 70 ft ² (contact both sides). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld.	
	Or IB PVC Single Ply Fleeceback roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/100 – 160 ft ² (substrate only) or IB Vertibond PVC Bonding Adhesive at 1 gal/45 – 60 ft ² (contact both sides). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld.	
Maximum Design Pressure:	-236 psf. (See General Limitation #9.)	



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Membrane Type:	Single Ply, PVC
Deck Type 3I:	Concrete, Insulated
Deck Description:	Min. 2500 psi structural concrete or concrete plank
System Type A(6):	One or more layers of insulation adhered with approved <u>adhesive</u> , membrane fully adhered

One or more layers of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
Insulfoam EPS		· ·
Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
DensDeck, SECUROCK Gypsum-Fiber Roof Board Minimum 0.25" thick	N/A	N/A

Note: All insulation shall be adhered to the deck or subsequent layers of insulation in full mopping of approved asphalt within the EVT range and at a rate of 25 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.

Membrane:	IB PVC Single Ply roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/125 – 175 ft ² (substrate only). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld. Or
	IB PVC Single Ply roof cover adhered to the insulation with IB Vertibond PVC Bonding Adhesive at 1 gal/50 - 70 ft ² (contact both sides). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld. Or
	IB PVC Single Ply Fleeceback roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/100 – 160 ft ² (substrate only) or IB Vertibond PVC Bonding Adhesive at 1 gal/45 – 60 ft ² (contact both sides). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld.
Maximum Design Pressure:	-186.1 psf. (See General Limitation #9.)



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Membrane Type:	Single Ply, PVC
Deck Type 3I:	Concrete, Insulated
Deck Description:	Min. 2500 psi structural concrete or concrete plank
System Type A(7):	One or more layers of insulation adhered with approved <u>adhesive</u> , membrane fully adhered.

One or more layers of the following insulations:

Base Insulation Layer	Insulation Fasteners	Fastener
	(Table 3)	Density/ft ²
ACFoam-II, IB EnergyBoard II, H-Shield, ISO 95+ GL		
Minimum 1.5" thick	N/A	N/A
(Optional) Top Insulation Layer	Insulation Fasteners	Fastener
	(Table 3)	Density/ft ²
DensDeck, SECUROCK Gypsum-Fiber Roof Board		
Minimum 0.25" thick	N/A	N/A

Note: All insulation shall be adhered to the deck or subsequent layers of insulation in $\frac{3}{4}$ " – 1" wide beads 12" o.c. of OMG OlyBond 500 Adhesive. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Membrane:	IB PVC Single Ply roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/125 – 175 ft ² (substrate only). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld. Or
	IB PVC Single Ply roof cover adhered to the insulation with IB Vertibond
	PVC Bonding Adhesive at 1 gal/50 - 70 ft ² (contact both sides). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld.
	Or
	IB PVC Single Ply Fleeceback roof cover adhered to the insulation with IB
	Water Borne Adhesive at 1 gal/100 – 160 ft ² (substrate only) or IB Vertibond PVC Bonding Adhesive at 1 gal/45 – 60 ft ² (contact both sides). Side laps are
	min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld.
Maximum Design	
Pressure:	-150 psf. (See General Limitation #9.)



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Membrane Type:	Single Ply, PVC
Deck Type 3I:	Concrete, Insulated
Deck Description:	Min. 2500 psi structural concrete or concrete plank
System Type A(8):	One or more layers of insulation adhered with approved <u>adhesive</u> , membrane fully adhered

One or more layers of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
Insulfoam EPS		
Minimum 2.0" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners	Fastener
	(Table 3)	Density/ft ²
DensDeck, SECUROCK Gypsum-Fiber Roof Board		
Minimum 0.25" thick	N/A	N/A

Note: All insulation shall be adhered to the deck or subsequent layers of insulation in $\frac{3}{4}$ " – 1" wide beads 12" o.c. of OMG OlyBond 500 Adhesive. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Membrane:	IB PVC Single Ply roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/125 – 175 ft ² (substrate only). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld. Or
	IB PVC Single Ply roof cover adhered to the insulation with IB Vertibond PVC Bonding Adhesive at 1 gal/50 - 70 ft ² (contact both sides). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld. Or
	IB PVC Single Ply Fleeceback roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/100 – 160 ft ² (substrate only) or IB Vertibond PVC Bonding Adhesive at 1 gal/45 – 60 ft ² (contact both sides). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld.
Maximum Design Pressure:	-120 psf. (See General Limitation #9.)



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Membrane Type:	Single Ply, PVC
Deck Type 3I:	Concrete, Insulated
Deck Description:	Min. 2500 psi structural concrete or concrete plank
System Type A(9):	One or more layers of insulation adhered with approved <u>adhesive</u> , membrane fully adhered

One or more layers of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ACFoam-II, IB EnergyBoard II, Multi-Max FA-3 Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
DensDeck, SECUROCK Gypsum-Fiber Roof Board Minimum 0.25" thick	N/A	N/A

Note: All insulation shall be adhered to the deck or subsequent layers of insulation in $1/2^{\circ} - 3/4^{\circ}$ wide beads 12" o.c. of Millennium One Step Foamable Adhesive or IB Rapid Set Insulation Adhesive. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Membrane:	IB PVC Single Ply roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/125 – 175 ft ² (substrate only). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld.
	Or ID DVC Single Diverse for even address data the insulation with ID Vertiliand
	IB PVC Single Ply roof cover adhered to the insulation with IB Vertibond
	PVC Bonding Adhesive at 1 gal/50 - 70 ft ² (contact both sides). Side laps are
	min. 3-inch wide sealed with min. 1- ¹ / ₂ " heat weld.
	Or
	IB PVC Single Ply Fleeceback roof cover adhered to the insulation with IB
	Water Borne Adhesive at 1 gal/100 – 160 ft ² (substrate only) or IB Vertibond
	PVC Bonding Adhesive at 1 gal/ $45 - 60$ ft ² (contact both sides). Side laps are
	min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld.
Maximum Design	
Pressure:	-232.5 psf. (See General Limitation #9.)



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Membrane Type:	Single Ply, PVC
Deck Type 3I:	Concrete, Insulated
Deck Description:	Min. 2500 psi structural concrete or concrete plank
System Type A(10):	One or more layers of insulation adhered with approved <u>adhesive</u> , membrane fully adhered

One or more layers of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ACFoam–II, IB EnergyBoard II	× ,	· ·
Minimum 1.5" thick	N/A	N/A
Multi-Max FA-3		
Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
DensDeck, SECUROCK Gypsum-Fiber Roof Board Minimum 0.25" thick	N/A	N/A

Note: All insulation shall be adhered to the deck or subsequent layers of insulation in ³/₄" – 1" wide beads 12" o.c. of Insta-Stik Quik Set Insulation Adhesive. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Membrane:	IB PVC Single Ply roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/125 – 175 ft ² (substrate only). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld. Or IB PVC Single Ply roof cover adhered to the insulation with IB Vertibond PVC Bonding Adhesive at 1 gal/50 - 70 ft ² (contact both sides). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld. Or IB PVC Single Ply Fleeceback roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/100 – 160 ft ² (substrate only) or IB Vertibond PVC Bonding Adhesive at 1 gal/45 – 60 ft ² (contact both sides). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld.
Maximum Design	-120 psf. (using ACFoam-II) (See General Limitation #9.)
Pressure:	-67.5 psf. (using Multi-Max FA-3) (See General Limitation #9.)



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Membrane Type:	Single Ply, PVC
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 <u>adhesive</u> , membrane fully adhered

One or more layers of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
Insulfoam EPS Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
DensDeck, SECUROCK Gypsum-Fiber Roof Board Minimum 0.25" thick	N/A	N/A

Note: All insulation shall be adhered to the deck or subsequent layers of insulation in $\frac{3}{4}$ " – 1" wide beads 12" o.c. of Insta-Stik Quik Set Insulation Adhesive. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Membrane:	IB PVC Single Ply roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/125 – 175 ft ² (substrate only). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld.
	Or IB PVC Single Ply roof cover adhered to the insulation with IB Vertibond PVC Bonding Adhesive at 1 gal/50 - 70 ft ² (contact both sides). Side laps are min. 3- inch wide sealed with min. 1-½" heat weld.
	Or IB PVC Single Ply Fleeceback roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/100 – 160 ft ² (substrate only) or IB Vertibond PVC Bonding Adhesive at 1 gal/45 – 60 ft ² (contact both sides). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld.
Maximum Design	
Pressure:	-120 psf. (See General Limitation #9.)



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Membrane Type:	Single Ply, PVC
Deck Type 3I:	Concrete, Insulated
Deck Description:	Min. 2500 psi structural concrete or concrete plank
System Type A(12):	One or more layers of insulation adhered with approved <u>adhesive</u> onto vapor barrier, membrane fully adhered

Primer:	Any approved ASTM D41 Asphaltic primer.
Vapor Barrier / Secondary Roof:	Hot-applied, Self-adhering, Torch-applied or Cold-applied vapor barrier or Secondary roof is installed to the primed concrete deck as indicated below:
Hot-applied:	Optional hot asphalt-applied base and/or ply sheets approved for use with roof cover followed by asphalt applied CertainTeed Flintlastic GMS or Soprema Elastophene GR.
	Maximum Design Pressure –215 psf. (See General Limitation #9.)
Self-Adhered:	Optional self-adhered base membrane approved for use with roof cover followed by CertainTeed Flintlastic SA Cap or Soprema Colphene FR GR.
	Maximum Design Pressure –210 psf. (See General Limitation #9.)
Torch-applied:	Optional torch-applied base membrane approved for use with roof cover followed by CertainTeed Flintlastic GTA, Johns Manville APPex 4.5M or Soprema Elastophene Flam GR.
	Maximum Design Pressure –105 psf. (See General Limitation #9.)
Cold-applied:	Optional cold-applied base and/or ply sheet approved for use with the roof cover followed by CertainTeed Flintlastic GMS in FlintBond Brush or Soprema Elastophene GR in Blackhawk 5300 Series Modified Bitumen Adhesive (7U).
	Maximum Design Pressure –55 psf. (See General Limitation #9.)
One or more layers of the following insulations:	

Base Insulation Layer	Insulation Fasteners	Fastener
	(Table 3)	Density/ft ²
ACFoam-II, IB EnergyBoard II, ACFoam-III, IB Ene	rgyBoard III, Multi-Max FA-3	, H-Shield,
ISO 95+ GL		
Minimum 1.5" thick	N/A	N/A

Note: All insulation shall be adhered to the Secondary Roof or subsequent layers of insulation in 3" to 3.5" wide beads 12" o.c. of ICP Adhesive CR-20. Please refer to Roofing Application Standard RAS 117 for insulation attachment.



Membrane:	IB PVC Single Ply roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/125 – 175 ft ² (substrate only). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld.
	Or
	IB PVC Single Ply roof cover adhered to the insulation with IB Vertibond PVC Bonding Adhesive at 1 gal/50 - 70 ft ² (contact both sides). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld.
	Or
	IB PVC Single Ply Fleeceback roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/100 – 160 ft ² (substrate only) or IB Vertibond PVC Bonding Adhesive at 1 gal/45 – 60 ft ² (contact both sides). Side laps are min. 3- inch wide sealed with min. $1-\frac{1}{2}$ " heat weld.
Maximum Design Pressure:	See Vapor Barrier/ Secondary Roof Options Above.



Membrane Type:	Single Ply, PVC
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 <u>adhesive</u> onto vapor barrier, membrane fully adhered

Primer:	Any approved ASTM D41 Asphaltic primer.
Vapor Barrier / Secondary Roof:	Hot-applied, Self-adhering, Torch-applied or Cold-applied vapor barrier or Secondary roof is installed to the primed concrete deck as indicated below:
Hot-applied:	Optional hot asphalt-applied base and/or ply sheets approved for use with roof cover followed by asphalt applied CertainTeed Flintlastic GMS or Soprema Elastophene GR.
	Maximum Design Pressure –236.6 psf. (See General Limitation #9.)
Self-adhered:	Optional self-adhered base membrane approved for use with roof cover followed by CertainTeed Flintlastic SA Cap or Soprema Colphene FR GR.
	Maximum Design Pressure –210 psf. (See General Limitation #9.)
Torch-applied:	Optional torch-applied base membrane approved for use with roof cover followed by CertainTeed Flintlastic GTA, Johns Manville APPex 4.5M or Soprema Elastophene Flam GR.
	Maximum Design Pressure –105 psf. (See General Limitation #9.)
Cold-applied:	Optional cold-applied base and/or ply sheet approved for use with the roof cover followed by CertainTeed Flintlastic GMS in FlintBond Brush, or Soprema Elastophene GR in Blackhawk 5300 Series Modified Bitumen Adhesive (7U).
	Maximum Design Pressure –55 psf. (See General Limitation #9.)

One or more layers of the following insulations:

Base Insulation Layer	Insulation Fasteners	Fastener
	(Table 3)	Density/ft ²
ACFoam-II, IB EnergyBoard II, ACFoam-III, IB EnergyBoard III, Multi-Max FA-3, H-Shield,		
ISO 95+ GL		
Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners	Fastener
	(Table 3)	Density/ft ²
DensDeck, SECUROCK Gypsum-Fiber Roof Board		-
Minimum 0.25" thick	N/A	N/A

Note: All insulation shall be adhered to the deck or subsequent layers of insulation in 3" to 3.5" wide beads 12" o.c. of ICP Adhesive CR-20. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.



Membrane:	IB PVC Single Ply roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/125 – 175 ft ² (substrate only). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld.
	Or
	IB PVC Single Ply roof cover adhered to the insulation with IB Vertibond PVC Bonding Adhesive at 1 gal/50 - 70 ft ² (contact both sides). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld.
	Or
	IB PVC Single Ply Fleeceback roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/100 – 160 ft ² (substrate only) or IB Vertibond PVC Bonding Adhesive at 1 gal/45 – 60 ft ² (contact both sides). Side laps are min. 3-inch wide sealed with min. 1- $\frac{1}{2}$ " heat weld.
Maximum Design Pressure:	See Vapor Barrier/ Secondary Roof Options Above.



Membrane Type:	Single Ply, PVC
Deck Type 3I:	Concrete, Insulated
Deck Description:	Min. 2500 psi structural concrete or concrete plank
System Type A(14):	One or more layers of insulation adhered with approved <u>adhesive</u> onto vapor barrier, membrane fully adhered

Primer:	Any approved ASTM D41 Asphaltic primer.
Vapor Barrier / Secondary Roof:	Hot-applied, Self-adhering, Torch-applied or Cold-applied vapor barrier or Secondary roof is installed to the primed concrete deck as indicated below:
Hot-applied:	Optional hot asphalt-applied base and/or ply sheets approved for use with roof cover followed by asphalt applied CertainTeed Flintlastic GMS or Soprema Elastophene GR.
	Maximum Design Pressure –180 psf. (See General Limitation #9.)
Self-adhered:	Optional self-adhered base membrane approved for use with roof cover followed by CertainTeed Flintlastic SA Cap or Soprema Colphene FR GR.
	Maximum Design Pressure –180 psf. (See General Limitation #9.)
Torch-applied:	Optional torch-applied base membrane approved for use with roof cover followed by CertainTeed Flintlastic GTA, Johns Manville APPex 4.5M or Soprema Elastophene Flam GR.
	Maximum Design Pressure –105 psf. (See General Limitation #9.)
Cold-applied:	Optional cold-applied base and/or ply sheet approved for use with the roof cover followed by CertainTeed Flintlastic GMS in FlintBond Brush, or Soprema Elastophene GR in Blackhawk 5300 Series Modified Bitumen Adhesive (7U).
	Maximum Design Pressure –55 psf. (See General Limitation #9.)

One or more layers of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
Insulfoam EPS		·
Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
DensDeck, SECUROCK Gypsum-Fiber Roof Board Minimum 0.25" thick	N/A	N/A

Note: All insulation shall be adhered to the deck or subsequent layers of insulation in 3" to 3.5" wide beads 12" o.c. of ICP Adhesive CR-20. 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.

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Membrane:	IB PVC Single Ply roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/125 – 175 ft ² (substrate only). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld.
	Or
	IB PVC Single Ply roof cover adhered to the insulation with IB Vertibond PVC Bonding Adhesive at 1 gal/50 - 70 ft ² (contact both sides). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld.
	Or
	IB PVC Single Ply Fleeceback roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/100 – 160 ft ² (substrate only) or IB Vertibond PVC Bonding Adhesive at 1 gal/45 – 60 ft ² (contact both sides). Side laps are min. 3- inch wide sealed with min. $1-\frac{1}{2}$ " heat weld.
Maximum Design Pressure:	See Vapor Barrier/ Secondary Roof Options Above.



Membrane Type:	Single Ply, PVC
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 <u>adhesive</u> , membrane fully adhered

One or more layers of the following insulations:

Base Insulation Layer (Optional):	Insulation Fasteners	Fastener
	(Table 3)	Density/ft ²
H-Shield, ACFoam-II, IB EnergyBoard II, ACFoam-III, IB EnergyBoard III, H-Shield CG		
Minimum 1.0" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners	Fastener
	(Table 3)	Density/ft ²
DensDeck Prime, ACFoam-HD Coverboard		
Minimum 0.25" thick	N/A	N/A

Note: All insulation shall be adhered to the deck or subsequent layers of insulation in $\frac{3}{4}$ " – 1" wide beads 12" o.c. of OlyBond 500 Adhesive or $\frac{1}{2}$ " – $\frac{3}{4}$ " wide beads 12" o.c. of Millennium One Step Foamable Adhesive or IB Rapid Set Insulation Adhesive. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Membrane:	IB PVC Single Ply roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/ $125 - 175$ ft ² (substrate only). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld.
	Or IB PVC Single Ply roof cover adhered to the insulation with IB Vertibond PVC Bonding Adhesive at 1 gal/50 - 70 ft ² (contact both sides). Side laps are min. 3- inch wide sealed with min. 1- ¹ / ₂ " heat weld.
	Or IB PVC Single Ply Fleeceback roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/100 – 160 ft ² (substrate only) or IB Vertibond PVC Bonding Adhesive at 1 gal/45 – 60 ft ² (contact both sides). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld.
Maximum Design	
Pressure:	-257.5 psf. (See General Limitation #9.)



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Membrane Type:	Single Ply, PVC
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 <u>adhesive</u> , membrane fully adhered

One or more layers of the following insulations:

Base Insulation Layer (Optional):	Insulation Fasteners	Fastener
	(Table 3)	Density/ft ²
H-Shield, ACFoam-II, IB EnergyBoard II, ACFoam-III, IB EnergyBoard III, H-Shield CG		
Minimum 1.0" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners	Fastener
	(Table 3)	Density/ft ²
SECUROCK Gypsum-Fiber Roof Board		
Minimum 0.25" thick	N/A	N/A

Note: All insulation shall be adhered to the deck or subsequent layers of insulation in $\frac{3}{4}$ " – 1" wide beads 12" o.c. of OlyBond 500 Adhesive or $\frac{1}{2}$ " – $\frac{3}{4}$ " wide beads 12" o.c. of Millennium One Step Foamable Adhesive or IB Rapid Set Insulation Adhesive. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Membrane:	IB PVC Single Ply roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/ $125 - 175$ ft ² (substrate only). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld.
	Or IB PVC Single Ply roof cover adhered to the insulation with IB Vertibond PVC Bonding Adhesive at 1 gal/50 - 70 ft ² (contact both sides). Side laps are min. 3- inch wide sealed with min. 1- ¹ / ₂ " heat weld.
	Or IB PVC Single Ply Fleeceback roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/100 – 160 ft ² (substrate only) or IB Vertibond PVC Bonding Adhesive at 1 gal/45 – 60 ft ² (contact both sides). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld.
Maximum Design	
Pressure:	-267.5 psf. (See General Limitation #9.)



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Membrane Type:	Single Ply, PVC
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 <u>adhesive</u> , membrane fully adhered

One or more layers of the following insulations: **Base Insulation Layer:**

(Table 3)Density/ft2H-Shield, ACFoam-III, IB EnergyBoard II, ACFoam-III, IB EnergyBoard III or H-Shield CGMinimum 1.0" thickN/A

Insulation Fasteners

Note: All insulation shall be adhered to the deck or subsequent layers of insulation in $\frac{3}{4}$ " – 1" wide beads 12" o.c. of OlyBond 500 Adhesive or $\frac{1}{2}$ " – $\frac{3}{4}$ " wide beads 12" o.c. of Millennium One Step Foamable Adhesive or IB Rapid Set Insulation Adhesive. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Membrane:	IB PVC Single Ply roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/125 – 175 ft ² (substrate only). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld. Or	
	IB PVC Single Ply roof cover adhered to the insulation with IB Vertibond PVC Bonding Adhesive at 1 gal/50 - 70 ft ² (contact both sides). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld. Or	
	IB PVC Single Ply Fleeceback roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/100 – 160 ft ² (substrate only) or IB Vertibond PVC Bonding Adhesive at 1 gal/45 – 60 ft ² (contact both sides). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld.	
Maximum Design Pressure:	-327.5 psf. (See General Limitation #9.)	

Fastener

Membrane Type:	Single Ply, PVC
Deck Type 3I:	Concrete, Insulated
Deck Description:	Min. 2500 psi structural concrete or concrete plank
System Type A(18):	One or more layers of insulation adhered with approved <u>adhesive</u> , membrane fully adhered

Primer:	Structural concrete primed with Elastocol Stick or Elastocol Stick Zero applied at
	1.0 gal/sq.

Vapor Barrier: One ply of Sopravap'r, self-adhered to primed deck.

One or more layers of the following insulations:

Base Insulation Layer (Optional):	Insulation Fasteners	Fastener
	(Table 3)	Density/ft ²
H-Shield, ACFoam-II, IB EnergyBoard II, ACFoam-III, IB EnergyBoard III or H-Shield CG		
Minimum 1.0" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners	Fastener
	(Table 3)	Density/ft ²

DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board, ACFoam-HD Coverboard Minimum 0.25" thick N/A N/A

Note: All insulation shall be adhered to the deck or subsequent layers of insulation in $\frac{3}{4}$ " – 1" wide beads 12" o.c. of OlyBond 500 Adhesive or $\frac{1}{2}$ " – $\frac{3}{4}$ " wide beads 12" o.c. of Millennium One Step Foamable Adhesive or IB Rapid Set Insulation Adhesive. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Membrane:	IB PVC Single Ply roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/125 – 175 ft ² (substrate only). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld. Or
	IB PVC Single Ply roof cover adhered to the insulation with IB Vertibond PVC Bonding Adhesive at 1 gal/50 - 70 ft ² (contact both sides). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld.
	Or IB PVC Single Ply Fleeceback roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/100 – 160 ft ² (substrate only) or IB Vertibond PVC Bonding Adhesive at 1 gal/45 – 60 ft ² (contact both sides). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld.
Maximum Design Pressure:	-307.5 psf. (See General Limitation #9.)



Membrane Type:	Single Ply, PVC
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 <u>adhesive</u> , membrane fully adhered

Primer:	Structural concrete primed with Elastocol Stick or Elastocol Stick Zero applied at
	1.0 gal/sq.

Vapor Barrier: One ply of Sopravap'r, self-adhered to primed deck.

One or more layers of the following insulations:

Base Insulation Layer:	Insulation Fasteners	Fastener
	(Table 3)	Density/ft ²
H-Shield, ACFoam-II, IB EnergyBoard II, ACFoam-III, IB EnergyBoard III or H-Shield CG		
Minimum 1.0" thick	N/A	N/A

Note: All insulation shall be adhered to the deck or subsequent layers of insulation in $\frac{3}{4}$ " – 1" wide beads 12" o.c. of OlyBond 500 Adhesive or $\frac{1}{2}$ " – $\frac{3}{4}$ " wide beads 12" o.c. of Millennium One Step Foamable Adhesive or IB Rapid Set Insulation Adhesive. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Membrane:	IB PVC Single Ply roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/125 – 175 ft ² (substrate only). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld. Or
	IB PVC Single Ply roof cover adhered to the insulation with IB Vertibond PVC
	Bonding Adhesive at 1 gal/50 - 70 ft ² (contact both sides). Side laps are min. 3-
	inch wide sealed with min. $1-\frac{1}{2}$ " heat weld.
	Or
	IB PVC Single Ply Fleeceback roof cover adhered to the insulation with IB
	Water Borne Adhesive at 1 gal/100 – 160 ft ² (substrate only) or IB Vertibond
	PVC Bonding Adhesive at 1 gal/ $45 - 60$ ft ² (contact both sides). Side laps are
	min. 3-inch wide sealed with min. 1-1/2" heat weld.
Maximum Design	
Pressure:	-290 psf. (See General Limitation #9.)



Membrane Type:	Single Ply, PVC
Deck Type 3I:	Concrete, Insulated
Deck Description:	Min. 2500 psi structural concrete or concrete plank
System Type C(1):	Membrane heat welded to fastener plates mechanically attaching insulation layer.

One or more layers of the following.

Insulation Layer	Insulation Fasteners	Fastener	
	(Table 3)	Density/ft ²	
ACFoam-II, IB EnergyBoard II, ACFoam-III, IB EnergyBoard III			
Minimum 1.5" thick	N/A	N/A	

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

Membrane:	IB PVC Single Ply roof cover shall be heat welded to bonding plates as specified below:
Fastening:	Insulation shall be mechanically attached with Dekfast DF-#12-PH3, Dekfast DF-#14-PH3, Dekfast DF-#15-PH3, IB SD #12 Insulation Fasteners, IB HD #14 Roofing Fasteners, IB XHD #15 Roofing Fasteners with Isoweld F1-P-6.8-PVC Plates and IB 3" Isoweld Plates spaced 12" o.c. in fastener rows spaced 60" o.c. Membrane shall be bonding to plates with SFS Isoweld 3000 stand-up bonding tool. Side laps are sealed with minimum 1.5" heat weld.
Maximum Design Pressure:	-45 psf. (See General Limitation #7.)

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Membrane Type:	Single Ply, PVC
Deck Type 3I:	Concrete, Insulated
Deck Description:	Min. 2500 psi structural concrete or concrete plank
System Type C(2):	Membrane heat welded to fastener plates mechanically attaching insulation layer.

One or more layers of the following.

Insulation Layer	Insulation Fasteners	Fastener	
	(Table 3)	Density/ft ²	
ACFoam-II, IB EnergyBoard II, ACFoam-III, IB EnergyBoard III			
Minimum 1.5" thick	N/A	N/A	

Membrane:	IB PVC Single Ply roof cover shall be heat welded to bonding plates as specified below:
Fastening:	Insulation shall be mechanically attached with Dekfast DF-#15-PH3, IB XHD #15 Roofing Fasteners with Isoweld F1-P-6.8-PVC Plates and IB 3" Isoweld Plates spaced 2' o.c. in staggered fastener rows spaced 2' o.c (grid pattern). Membrane shall be bonding to plates with SFS Isoweld 3000 stand-up bonding tool. Side laps are sealed with minimum 1.5" heat weld.
Maximum Design Pressure:	-52.5 psf. (See General Limitation #7.)



Membrane Type:	Single Ply, PVC
Deck Type 3I:	Concrete, Insulated
Deck Description:	Min. 2500 psi structural concrete or concrete plank
System Type C(3):	Membrane heat welded to fastener plates mechanically attaching insulation layer.

One or more layers of the following.

Insulation Layer	Insulation Fasteners	Fastener	
	(Table 3)	Density/ft ²	
ACFoam-II, IB EnergyBoard II, ACFoam-III, IB EnergyBoard III			
Minimum 1.5" thick	N/A	N/A	

Membrane:	IB PVC Single Ply roof cover shall be heat welded to bonding plates as specified below:
Fastening:	Insulation shall be mechanically attached with Dekfast DF-#15-PH3, IB XHD #15 Roofing Fasteners with Isoweld F1-P-6.8-PVC Plates and IB 3" Isoweld Plates spaced 2' o.c. in staggered fastener rows spaced 3' o.c (grid pattern). Membrane shall be bonding to plates with SFS Isoweld 3000 stand-up bonding tool. Side laps are sealed with minimum 1.5" heat weld.
Maximum Design Pressure:	-52.5 psf. (See General Limitation #7.)



Membrane Type:	Single Ply, PVC
Deck Type 3I:	Concrete, Insulated
Deck Description:	Min. 2500 psi structural concrete or concrete plank
System Type C(4):	Membrane heat welded to fastener plates mechanically attaching insulation layer.

One or more layers of the following.

Insulation Layer	Insulation Fasteners	Fastener	
	(Table 3)	Density/ft ²	
ACFoam-II, IB EnergyBoard II, ACFoam-III, IB EnergyBoard III			
Minimum 1.5" thick	N/A	N/A	

Membrane:	IB PVC Single Ply roof cover shall be heat welded to bonding plates as specified below:
Fastening:	Insulation shall be mechanically attached with Dekfast DF-#15-PH3, IB XHD #15 Roofing Fasteners with Isoweld F1-P-6.8-PVC Plates and IB 3" Isoweld Plates spaced 1.5' o.c. in staggered fastener rows spaced 3' o.c (grid pattern). Membrane shall be bonding to plates with SFS Isoweld 3000 stand-up bonding tool. Side laps are sealed with minimum 1.5" heat weld.
Maximum Design Pressure:	-82.5 psf. (See General Limitation #7.)



Membrane Type:	Single Ply, PVC
Deck Type 3I:	Concrete, Insulated
Deck Description:	Min. 2500 psi structural concrete or concrete plank
System Type C(5):	Membrane heat welded to fastener plates mechanically attaching insulation layer.

One or more layers of the following.

Insulation Layer	Insulation Fasteners	Fastener	
	(Table 3)	Density/ft ²	
ACFoam-II, IB EnergyBoard II, ACFoam-III, IB EnergyBoard III			
Minimum 1.5" thick	N/A	N/A	

Membrane:	IB PVC Single Ply roof cover shall be heat welded to bonding plates as specified below:
Fastening:	Insulation shall be mechanically attached with Dekfast DF-#15-PH3, IB XHD #15 Roofing Fasteners with Isoweld F1-P-6.8-PVC Plates and IB 3" Isoweld Plates spaced 6" o.c. in fastener rows spaced 60" o.c. Membrane shall be bonding to plates with SFS Isoweld 3000 stand-up bonding tool. Side laps are sealed with minimum 1.5" heat weld.
Maximum Design Pressure:	-90 psf. (See General Limitation #7.)



Membrane Type:	Single Ply, PVC
Deck Type 3I:	Concrete, Insulated
Deck Description:	2500 psi structural concrete.
System Type D:	Membrane mechanically attached over preliminary fastened insulation.

One or more layers of the following.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ACFoam-II, IB EnergyBoard II, ENRGY 3 Minimum 1.0" thick	N/A	N/A
ACFoam-III, IB EnergyBoard III Minimum 1.5" thick	N/A	N/A

Note: All layers of insulation and membrane sheet shall be simultaneously fastened. See membrane sheet below for fasteners and density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane:	IB PVC Single Ply mechanically fastened through the insulation as specified below:
Fastening #1:	Install maximum 72" wide sheets with a 5" overlap fastened 6" o.c. using OMG CD-10 fasteners and OMG 2-3/8" Barbed XHD Plates or IB CD-10 Roofing Fasteners and IB 2-3/8" Barbed Seam Plates or Dekfast DF-#15-PH3 fasteners, IB XHD #15 Roofing Fasteners and Dekfast PLT-R-2-4B plates. Side laps are sealed with a minimum $1-\frac{1}{2}$ " heat weld. <i>Maximum Design Pressure -60 psf. (See General Limitation #7.)</i>
Fastening #2:	Install maximum 72" wide sheets with a 5" overlap fastened 12" o.c. using OMG CD-10 fasteners and OMG 2-3/8" Barbed XHD Plates or IB CD-10 Roofing Fasteners and IB 2-3/8" Barbed Seam Plates or Dekfast DF-#15-PH3 fasteners, IB XHD #15 Roofing Fasteners and Dekfast PLT-R-2-4Bplates. Side laps are sealed with a minimum 1-½" heat weld. <i>Maximum Design Pressure -45 psf. (See General Limitation #7.)</i>
Maximum Design Pressure:	See Fastening Options Above



Membrane Type:	Single Ply, PVC
Deck Type 3:	Concrete, Non-Insulated
Deck Description:	Min 2500 psi structural concrete or concrete plank
System Type F:	Membrane fully adhered to deck.

Membrane:	IB PVC Single Ply roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/125 – 175 ft ² (substrate only). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld.
	Or
	IB PVC Single Ply roof cover adhered to the insulation with IB Vertibond PVC Bonding Adhesive at 1 gal/50 - 70 ft ² (contact both sides). Side laps are min. 3-inch wide sealed with min. $1-\frac{1}{2}$ " heat weld.
	Or
	IB PVC Single Ply Fleeceback roof cover adhered to the insulation with IB Water Borne Adhesive at 1 gal/100 – 160 ft ² (substrate only) or IB Vertibond PVC Bonding Adhesive at 1 gal/45 – 60 ft ² (contact both sides). Side laps are min. 3-inch wide sealed with min. 1- $\frac{1}{2}$ " heat weld.
Maximum Design Pressure:	-512.5 psf. (See General Limitation #9.)

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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



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