

# MIAMI-DADE COUNTY PRODUCT CONTROL SECTION

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

### NOTICE OF ACCEPTANCE (NOA)

DURO-LAST Roofing, Inc. 525 Morley Drive Saginaw, MI 48601

#### **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:** DURO-LAST Single Ply PVC Roof Systems over Concrete Decks.

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

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

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

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

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

This NOA renews and revises NOA No. 13-0724.02 and consists of pages 1 through 67. The submitted documentation was reviewed by Jorge L. Acebo.



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#### **ROOFING SYSTEM APPROVAL**

Category:RoofingSub-Category:Single PlyMaterials:PVCDeck Type:ConcreteMaximum Design Pressure:-502.5 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>
Duro-Last Membrane	.037" thick, Various widths x 150 ft. rolls	ASTM D4434	PVC polymer blend polyester reinforced roofing membrane
Duro-Last Membrane	.045" thick, Various widths x 100 ft. rolls	ASTM D4434	PVC polymer blend polyester reinforced roofing membrane
Duro-Last Membrane	.057" thick, Various widths x 100 ft. rolls	ASTM D4434	PVC polymer blend polyester reinforced roofing membrane
Duro-Last Designer Series Membrane	.045" thick Various widths & lengths	ASTM D4434	PVC polymer blend polyester reinforced roofing membrane: Rock-Ply & Shingle-Ply.
Duro-Fleece Membrane	.047" thick Various widths x 100 ft. rolls	ASTM D4434	PVC polymer blend polyester reinforced fleece backed roofing membrane.
Duro-Fleece Membrane	.056" thick Various widths x 100 ft. rolls	ASTM D4434	PVC polymer blend polyester reinforced fleece backed roofing membrane.
Duro-Fleece Membrane	.080" thick Various widths x 65 ft. rolls	ASTM D4434	PVC polymer blend polyester reinforced fleece backed roofing membrane.
Duro-Fleece Plus Membrane	047" thick, Various widths x 100 ft. rolls	ASTM D4434	PVC polymer blend polyester reinforced fleece backed roofing membrane.
Duro-Fleece Plus Membrane	056" thick, Various widths x 80 ft. rolls	ASTM D4434	PVC polymer blend polyester reinforced fleece backed roofing membrane.
Duro-Tuff Membrane	045" thick Vaious widths x 100 ft rolls	ASTM D4434	PVC polymer blend polyester reinforced fleece backed roofing membrane.
Duro-Tuff Membrane	.057" thick Various widths x 100 ft rolls	ASTM D4434	PVC polymer blend polyester reinforced roofing membrane



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<u>Product</u>	<u>Dimensions</u>	Test Specification	Product Description
Duro-Tuff Membrane	.080" thick	ASTM D4434	PVC polymer blend polyester reinforced
Duro-Turr Memorane	Various widths x 65 ft rolls	ASTMI D4434	roofing membrane
Duro-Last EV	53 mil thick Various widths x 100 ft rolls	ASTM D4434	PVC polymer blend polyester reinforced roofing membrane with KEE films.
Duro-Last EV	60 mil thick Various widths x 100 ft rolls	ASTM D4434	PVC polymer blend polyester reinforced roofing membrane with KEE films.
Duro-Last Fascia Bar	1 <sup>3</sup> / <sub>4</sub> " x 10'; 4" x 10'	N/A	Extruded vinyl drip edge with holes punched 8" o.c
Duro-Last Fascia Bar Cover	1 <sup>3</sup> / <sub>4</sub> " x 10'; 4" x 10'	N/A	Extruded decorative cover for Duro-Last Fascia Bar
Duro-Last Fascia	2" & 4"	TAS 111	Kynar finish Galvalume, 24 ga., cover
<b>Duro-Last Snap Coping</b>	12"	TAS 111	Kynar finish Galvalume, 24 ga., coping
Duro-Last 2-Piece Metal "T-Edge"	N/A	TAS 111	Kynar finish Galvalume, 24 ga., with vinyl skirt
Duro-Last 2-Piece Compression Edge	N/A	TAS 111	Kynar finish Galvalume, 24 ga.
Duro-Last Drip Edge	2" face x 10'; 4" face x 10';	N/A	Extruded vinyl drip edge with holes punched 8" o.c.
Duro-Last Two-Way Roof Vents	N/A	N/A	Injection molded two-way roof vents with a Duro-Last membrane skirt.
Duro-Last Gravel Stop	2" face x 10'; 4" face x 10';	N/A	Extruded vinyl gravel stop with holes punched 8" o.c.
Roof-Trak III Walk Pads	30" x 60" .125" thick	N/A	Extruded vinyl walk way pads manufactured from Duro-Last membrane.
Duro-Last WB II Adhesive	5 gal. pail	N/A	Polymeric waterborne membrane adhesive.
Duro-Last SB IV	5 gal. pail	N/A	Low VOC solvent-based membrane adhesive.
Duro-Fleece Adhesive	10 gal.	N/A	Two-component membrane adhesive
Duro-Grip OlyBond 500	10 gal.	N/A	Dual-component polyurethane adhesive
Duro-Fleece CR-20 Adhesive	40 lbs. Cylinder A 35 lbs. Cylinder B	Proprietary	Dual component, low-rise polyurethane foam adhesive
Duro-Grip WeatherTite	Four 1.5 Liter	Proprietary	Insulation Adhesive
One Step Duro-Grip InstaStik	Cartridges 30 lb unit	Proprietary	Single component, moisture cured polyurethane adhesive.
Duro-Grip CR-20 Adhesive	40 lbs. Cylinder A 35 lbs. Cylinder B	Proprietary	Dual component, low-rise polyurethane foam adhesive



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<b>Product</b>	<b>Dimensions</b>	Test Specification	Product <u>Description</u>
Duro-Last Tab Sealer 4725	N/A	N/A	Solvent-based contact-bonding agent.
Duro-Last Accessories	Various	ASTM D 4434	Custom fabricated accessories for parapets and penetrations: Curb flashing, Inside & Outside Corner, Scuppers, Drain Boot, Parapet Flashing, Stack Flashing; all for use in the Duro-Last roofing systems.
Duro-Blue Separation Slip Sheet	4 mil x 20' x 360'; 4 mil x 20'x 100'	N/A	Separation slip sheet produced from coextruded polyethylene film
Duro-Last Duro-Weave Separation Slip Sheet	2.5 mil x 12' x 328'	N/A	Separation slip sheet produced from high density polyethylene tapes and coated on one side with low density polyethylene

# **APPROVED INSULATIONS:**

#### TABLE 2

Product Name	<b>Product Description</b>	Manufacturer (With Current NOA)
ACFoam II, ACFoam III, ACFoam IV	Polyisocyanurate foam insulation	Atlas Roofing Corp.
ISO 95+ GL	Polyisocyanurate foam insulation	Firestone Building Products Company, LLC
Type X Gypsum	Gypsum Wallboard	Generic
ENRGY 3	Polyisocyanurate foam insulation	Johns Manville
Invinsa Roof Board	High density polyisocyanurate board	Johns Manville
Duro-Guard EPS	Expanded polystyrene	Duro-Last Roofing, Inc.
Thermaroof Composite-3	Polyisocyanurate foam insulation.	Rmax Operating, LLC
DensDeck, DensDeck Prime	Silicon treated gypsum	Georgia-Pacific Gypsum LLC
SECUROCK Gypsum-Fiber Roof Board	Fiber reinforced insulation board	United States Gypsum Corporation
H-Shield	Polyisocyanurate foam insulation	Hunter Panels, LLC
H-Shield CG	Polyisocyanurate foam core laminated to a coated fiberglass facer	Hunter Panels, LLC
Duro-Guard ISO II-H, and Tapered	Polyisocyanurate foam insulation	Duro-Last Roofing, Inc.



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## **APPROVED INSULATIONS:**

#### TABLE 2

Product Name	<b>Product Description</b>	Manufacturer (With Current NOA)
Duro-Guard ISO III-H, and Tapered	Polyisocyanurate foam core laminated to a coated fiberglass facer	Duro-Last Roofing, Inc.
Duro-Guard ISO II-A, and Tapered	Polyisocyanurate foam insulation	Duro-Last Roofing, Inc.
Duro-Guard ISO III-A, and Tapered	Polyisocyanurate foam core laminated to a coated fiberglass facer	Duro-Last Roofing, Inc.
Duro-Guard ISO II-G	Polyisocyanurate insulation with fiberglass reinforced organic facers	Duro-Last Roofing, Inc.
Duro-Guard ISO HD-H	Polyisocyanurate foam insulation	Duro-Last Roofing, Inc.
Duro-Guard ISO HD-G	High density polyisocyanurate insulation with coated fibergalss facers	Duro-Last Roofing, Inc.
Duro-Guard ISO HD-A	Polyisocyanurate foam insulation	Duro-Last Roofing, Inc.
Multi-Max FA-3	Polyisocyanurate foam insulation	Rmax Operating, LLC
Insulfoam EPS	Polystyrene roof board insulation	Insulfoam LLC
Duro-Fold Underlayment Board	Extruded polystyrene with polypropylene facer	Duro-Last Roofing, Inc.
R-Tech Fan Fold	Type IX Expanded polystyrene with polymeric facers	Insulfoam, LLC
DEXcell Cement Roof Board	Cementitious core, fiberglass mesh facer insulation/roofing board	National Gypsum Company
DEXcell FA Glass Mat Roof Board	Gypsum core, heavy duty glass mat facer insulation/roof board	National Gypsum Company

# **APPROVED FASTENERS:**

#### TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	Duro-Last Duro-Coated Hex Head Screws	Roofing and insulation fasteners, Duro-Coated with #3 Phillips head.	Various Lengths	Duro-Last Roofing, Inc.
2.	Duro-Last 3" Metal Plates	Galvalume steel stress plates.	3" square	Duro-Last Roofing, Inc.
3.	Duro-Last Insulation Plates	Round plastic stress plates.	3" round	Duro-Last Roofing, Inc.
4.	Duro-Last Poly-Plate	Round plastic stress plates.	2" round	Duro-Last Roofing, Inc.

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## **APPROVED FASTENERS:**

#### TABLE 3

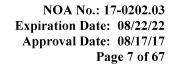
Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
5.	Duro-Last #14 Concrete Screws	Corrosion resistant, drill point fastener with #3 Phillips head.	Various Lengths	Duro-Last Roofing, Inc.
6.	Duro-Last Fluted Concrete Nails	Corrosion resistant, 0.22" shank with a flat top pan head.	Various Lengths	Duro-Last Roofing, Inc.
7.	Duro-Last Cleat Plate	0.035" thick galvalume stress plates.	2.4"	Duro-Last Roofing, Inc.
8.	OMG Eyehook Accuseam Plate	Stress plates	2-3/8"	OMG, Inc.
9.	Duro-Last #15 Extra Heavy Duty Drill Point Fastener	Corrosion resistant, drill point with a #3 Phillips truss head	Various Lengths	Duro-Last Roofing, Inc.
10.	Duro-Last #14 HD Fastener	Roofing and insulation fasteners, Duro-Coated with #3 Phillips head	Various Lengths	Duro-Last Roofing, Inc.
11.	Duro-Bond Plate 1302	Round, coated galvalume plate (Gold and Black)	3" round	Duro-Last Roofing, Inc.
12.	Duro-Last Batten Bar	18 ga. Galvalume steel batten bar with pre-punched holes every 6"	1" wide	Duro-Last Roofing, Inc.
13.	RhinoBond Insulation Plates	Primer coated plate used in heat welded applications	3" round	OMG, Inc.
14.	OMG XHD	Corrosion resistant, drill point with a #3 Phillips truss head	Various Lengths	OMG, Inc.
15.	Dekfast DF-#12-PH3 Fastener	#3 Phillpis drive, drill point fastener for use with steel and wood decks	Various	SFS Intec, Inc.
16.	Dekfast DF-#15-PH3 Fastener	#3 Phillpis drive fastener for use with steel, wood and concrete decks	Various	SFS Intec, Inc.
17.	Isoweld F1-P-6.8-PVC Plate	G-90 steel plate with PVC coating for insulation	3" dia.	SFS Intec, Inc.
18.	Dekfast 15 HS	Self-drilling carbon fastener for use with concrete, steel and wood decks.	Various	SFS Intec, Inc.



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# **EVIDENCE SUBMITTED:**

Test Agency/Identifier	<u>Name</u>	<u>Report</u>	<u>Date</u>
Architectural Testing	B8983.01-106-18	TAS 117(A)	08-27-12
Factory Mutual Research	J.I. 2M4A8 .AM	Class 4470	03-05-87
Corporation	J.I. 3Y5A6.AM	Class 4470	03-10-95
•	J.I. 1X2A7 .AM	Class 4470	08-90-99
	3005604	Class 4470	03-13-00
	3008342	Class 4470	10-19-00
	3023458	Class 4450	06-18-06
	3026128	Class 4450	08-04-06
	3026508	Class 4470	05-03-07
	3006989	Class 4470	02-09-01
	3015816	Class 4470	01-09-03
	3010289	Class 4470	04-13-01
	3014929	Class 4470	05-23-03
	3010987	Class 4470	04-23-02
	3032172	Class 4470	06-12-09
	3040346	Class 4470	09-28-11
	3014692	Class 4470	08-05-03
	3040741	Class 4470	10-17-11
	3054028	Class 4470	05-25-16
	3044466	Class 4470	11-07-12
Exterior Research & Design, LLC	02733.01.05-1	TAS 114	01-21-05
	02744.05.06	TAS 114	05-17-06
	02732.09.04	ASTM D4434	09-28-04
	02737.03.05-1	TAS 114	03-21-05
Trinity ERD	02750.02.08-R2	ASTM D4434 /AC75	08-03-12
•	D42370.07.12	ASTM D1084 /TAS 117	07-11-12
	D35210.08.11-R1	ASTM D4434	09-17-12
	D6760.08.07	TAS 114	08-01-07
	D42320.08.12	TAS 114	08-31-12
	D43030.01.13	TAS 114/TAS 117	03-13-13
	D40280.03.13	ASTM D4434	03-13-13
	D40260.03.13.1	<b>ASTM D4434</b>	03-29-13
	D44450.05.13-2	ASTM D4434	05-10-13
	D35210.08.11R3	ASTM D4434	03-25-13
	SC-13445.02.17	ASTM D4434	02-17-17
	D42320.11.12	TAS 114	11-30-12
Intertek Testing Services, NA Inc.	3119586-001	TAS 111	07-10-07
PRI Construction Materials	DLRI-030-02-01	TAS 114(D)	04-01-13
Technologies, LLC	DLRI-045-02-01	TAS 114(D)	08-24-13
	DLRI-021-02-01.12	ASTM D1761/ASTM D1876	06-27-17
		TAS 117(B)	
	DLRI-058-02-01	TAS 114(D)	07-06-14
	DLRI-073-02-01.1	TAS 114(J)	04-23-15
	DLRI-077-02-01.1	TAS114(J)	04-15-15
	DLRI-081-02-01	TAS 114	10-07-15





#### **APPROVED ASSEMBLIES:**

Single Ply, PVC **Membrane Type:** 

Deck Type 3I: Concrete Decks, Insulated

2500-psi structural concrete **Deck Description:** 

All Layers of insulation adhered with approved adhesive; membrane fully System Type A(1):

adhered.

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

One or more layers of any of the following insulations.

Base Insulation layer	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
Insulfoam EPS	` ,	•
Minimum 2" thick	N/A	N/A
<b>Top Insulation Layer</b>	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
DensDeck	,	-
Minimum ¼" thick	N/A	N/A

Note: Layers of insulation shall be adhered with OlyBond 500 applied in ribbons spaced 12-inch. o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Duro-Last membrane, Duro-Fleece Plus membrane, Duro-Tuff membrane or Membrane:

> Duro-Last EV membrane fully adhered to top insulation layer with Duro-Last WB II Adhesive at a minimum rate of 0.7 gal/sq. Laps are sealed with a

minimum 1.5" wide heat weld.

Maximum Design

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



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Single Ply, PVC **Membrane Type:** 

Deck Type 3I: Concrete Decks, Insulated

**Deck Description:** 2500-psi structural concrete

System Type A(2): All 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/ft <sup>2</sup>
ACFoam-IV		•
Minimum 2" thick	N/A	N/A
Multi-Max FA-3		
Minimum 1.5" thick	N/A	N/A
ACFoam-III, Duro-Guard ISO III-A		
Minimum 1.3" thick	N/A	N/A
ISO 95+ GL, H-Shield, H-Shield CG, ENRGY 3, Duro-G	Guard ISO II-H,	
Duro-Guard ISO III-H		
Minimum 1" thick	N/A	N/A
Top Insulation Layer	<b>Insulation Fasteners</b>	Fastener
•	(Table 3)	Density/ft <sup>2</sup>
SECUROCK Gypsum-Fiber Roof Board		·
Minimum 1/4" thick	N/A	N/A

Note: All insulation shall be adhered with Duro-Grip CR-20 Adhesive in 1.5 in. ribbons spaced at 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Duro-Last membrane, Duro-Tuff membrane or Duro-Last EV membrane

> fully adhered to top insulation layer with Duro-Last WB II Adhesive at a minimum rate of 0.7 gal/sq. Laps are sealed with a minimum 1.5" wide heat

weld. Or

Duro-Fleece Plus membrane adhered with Duro-Last WB II Adhesive at a minimum rate of 1.0 gal/sq. Laps are sealed with a minimum 1.5" wide heat

weld.

Maximum Design

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



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**Deck Type 3I:** Concrete Decks, Insulated

**Deck Description:** 2500-psi structural concrete

System Type A(3): All 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.

<b>Base Insulation Layer</b>	Insulation Fasteners	Fastener
	(Table 3)	Density/ft <sup>2</sup>

ACFoam II, Duro-Guard ISO II-A, H-Shield, Duro-Guard ISO II-H, ENRGY 3,

**Duro-Guard ISO II-G** 

Minimum 2" thick N/A N/A

Top Insulation Layer Insulation Fasteners Fastener (Table 3) Density/ft²

**SECUROCK Gypsum-Fiber Roof Board** 

Minimum 1/4" thick N/A N/A

Note: All insulation shall be adhered to the deck with hot asphalt in full coverage at 25 lb/sq. or Insta Stik™ Quik Set Insulation Adhesive, OlyBond 500 Adhesive, Duro-Grip CR-20 Adhesive or Millennium One-Step Foamable Adhesive in ¾ in. ribbons spaced at 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Duro-Last membrane, Duro-Tuff membrane or Duro-Last EV membrane fully

adhered to top insulation layer with Duro-Last WB II Adhesive at a minimum rate of 140 ft2/gal. Laps are sealed with a minimum 1.5" wide heat weld.

Or

Duro-Fleece or Duro-Fleece Plus adhered fully adhered to top insulation layer with Duro-Last WB II Adhesive at a minimum rate of 100 ft2/gal. Laps are

sealed with a minimum 1.5" wide heat weld.

Maximum Design

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



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Single Ply, PVC **Membrane Type:** 

**Deck Type 3I:** Concrete Decks, Insulated

**Deck Description:** 2500-psi structural concrete

System Type A(4): All 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	<b>Insulation Fasteners</b>	Fastener
	(Table 3)	Density/ft <sup>2</sup>
Duro-Guard EPS, Duro-Guard ISO II-A, Duro-Guard ISO	) II-G, Duro-Guard Iso II-H	
Minimum 1" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
DensDeck Prime	. ,	•

N/A N/A Minimum 1/4" thick

Note: All insulation shall be adhered to the deck with Duro-Grip CR-20 Insulation Adhesive applied 12" o.c. in 3/4"-1" wide ribbons. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: One ply of Duro-Last membrane, Duro-Tuff membrane or Duro-Last EV

membrane fully adhered with Duro-Last WB II Adhesive applied at a minimum rate of 140 ft2/gal. to substrate only. Laps are sealed with a

minimum of 1.5" wide heat weld.

One ply of Duro-Fleece membrane or Duro-Fleece Plus membrane fully adhered with Duro-Last WB II Adhesive applied at a minimum rate of 100 ft2/gal. to substrate only. Laps are sealed with a minimum 1.5" wide heat weld.

Or

One ply of Duro-Last membrane, Duro-Last Duro-Tuff or Duro-Last EV Membrane fully adhere with Duro-Last SB IV Adhesive applied at a minimum rate of 60 ft2/gal. (apply 120 ft2/gal. to both the membrane and substrate). Laps are sealed with a minimum of 1.5" wide heat weld.

Or

One ply of Duro-Fleece membrane or Duro-Fleece Plus membrane adhered with Duro-Fleece CR-20 Membrane Adhesive applied in a splatter pattern applied at a Rate of 8 lbs./100 ft2. Laps are sealed with a minimum of 1.5"

wide heat weld.

Maximum Design

Pressure: -202.5 psf (See General Limitation #9)



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Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500-psi structural concrete

System Type A(5): All 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

Duro-Guard EPS, Duro-Guard ISO II-A, Duro-Guard ISO II-G, Duro-Guard ISO II-H

Minimum 0.5" thick N/A N/A

Top Insulation Layer Insulation Fasteners Fastener (Table 3) Density/ft²

Duro-Guard EPS Fiberglass Facer (FGF), Duro-Guard ISO II-A, Duro-Guard ISO II-G, Duro-Guard ISO II-H, Duro-Guard ISO III-A, Duro-Guard ISO III-H, Duro-Guard ISO HD-A, Duro-Guard ISO HD-G, Duro-Guard ISO HD-H, DensDeck Prime,

**SECUROCK Gypsum-Fiber Roof Board** 

Minimum 1/2" thick N/A N/A

Note: All insulation shall be adhered to the deck with Duro-Grip CR-20, Duro-Grip Insta Stik or Duro-Grip OlyBond 500 applied 12" o.c. in ¾"-1" wide ribbons or Duro-Grip WeatherTite One Step Adhesive applied 12" o.c. in ½"- ¾" wide ribbons. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: One ply of Duro-Last membrane, Duro-Tuff membrane or Duro-Last EV

membrane fully adhered with Duro-Last WB II Adhesive applied at a minimum rate of 140 ft2/gal. to substrate only. Laps are sealed with a minimum of 1.5"

wide heat weld.

Or

One ply of Duro-Fleece membrane or Duro-Fleece Plus membrane fully adhered with Duro-Last WB II Adhesive applied at a minimum rate of 100 ft2/gal. to substrate only. Laps are sealed with a minimum 1.5" wide heat weld.

Or

One ply of Duro-Last membrane, Duro-Last Duro-Tuff or Duro-Last EV Membrane fully adhere with Duro-Last SB IV Adhesive applied at a minimum rate of 60 ft2/gal. (apply 120 ft2/gal. to both the membrane and substrate). Laps are sealed with a minimum of 1.5" wide heat weld.

Or

One ply of Duro-Fleece membrane or Duro-Fleece Plus membrane adhered with Duro-Fleece CR-20 Membrane Adhesive applied in a splatter pattern applied at a Rate of 8 lbs./100 ft2. Laps are sealed with a minimum of 1.5" wide heat weld.

Maximum Design

Pressure: -60 psf (See General Limitation #9)



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**Deck Type 3I:** Concrete Decks, Insulated

**Deck Description:** 2500-psi structural concrete

System Type A(6): All 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	Fastener
	(Table 3)	Density/ft <sup>2</sup>
Duro-Guard EPS, Duro-Guard ISO II-A, Duro-Guard	I ISO II-G, Duro-Guard ISO II-l	H
Minimum 1/2" thick	N/A	N/A
Top Insulation Layer (Optional)	<b>Insulation Fasteners</b>	Fastener
• • • • • • •	(Table 3)	Density/ft <sup>2</sup>
<b>DEXcell FA Glass Mat Roof Board</b>		•
Minimum ¼" thick	N/A	N/A
DEXcell Cement Roof Board		
Minimum 7/16" thick	N/A	N/A

Note: All insulation shall be adhered to the deck with Duro-Grip CR-20, Duro-Grip Insta Stik or Duro-Grip OlyBond 500 applied 12" o.c. in ¾"-1" wide ribbons or Duro-Grip WeatherTite One Step Adhesive applied 12" o.c. in ½"-¾" wide ribbons. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: One ply of Duro-Last membrane, Duro-Tuff membrane or Duro-Last EV

membrane fully adhered with Duro-Last WB II Adhesive applied at a minimum rate of 140 ft2/gal. to substrate only. Laps are sealed with a

minimum of 1.5" wide heat weld.

One ply of Duro-Fleece membrane or Duro-Fleece Plus membrane fully adhered with Duro-Last WB II Adhesive applied at a minimum rate of 100 ft2/gal. to substrate only. Laps are sealed with a minimum 1.5" wide heat

Or

weld.

One ply of Duro-Last membrane, Duro-Last Duro-Tuff or Duro-Last EV Membrane fully adhere with Duro-Last SB IV Adhesive applied at a minimum rate of 60 ft2/gal. (apply 120 ft2/gal. to both the membrane and substrate).

Laps are sealed with a minimum of 1.5" wide heat weld.

Or

One ply of Duro-Fleece membrane or Duro-Fleece Plus membrane adhered with Duro-Fleece CR-20 Membrane Adhesive applied in a splatter pattern applied at a Rate of 8 lbs./100 ft2. Laps are sealed with a minimum of 1.5"

wide heat weld.

Maximum Design

Pressure: -135 psf (See General Limitation #9)



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**Deck Type 3I:** Concrete Decks, Insulated

**Deck Description:** 2500-psi structural concrete

System Type A(7): All 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 (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
Duro-Guard ISO II-A		•
Minimum 0.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
<b>DEXcell FA Glass Mat Roof Board</b>		-
Minimum 1/4" thick	N/A	N/A

Note: All insulation shall be adhered to the primed deck in full mopping of approved ASTM D 312, Type IV hot asphalt within the EVT range and at a rate of 20-25 lbs./100 ft<sup>2</sup>. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down

Membrane: One ply of Duro-Last membrane fully adhered with Duro-Last SB IV

Adhesive applied at a minimum rate of 60 ft2/gal. (apply 120 ft2/gal. to both the membrane and substrate). Laps are sealed with a minimum of 1.5" wide

heat weld.

Or

One ply of Duro-Fleece membrane adhered with Duro-Fleece Membrane Adhesive applied in 3/4" wide ribbons. Laps are sealed with a minimum of

1.5" wide heat weld.

Or

One ply of Duro-Fleece Plus membrane adhered with Duro-Fleece CR-20 Membrane Adhesive applied in a splatter pattern applied at a rate of 8 lbs./100 ft2. Laps are sealed with a minimum of 1.5" wide heat weld.

Maximum Design

Pressure: -495 psf (See General Limitation #9)



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**Deck Type 3I:** Concrete Decks, Insulated

**Deck Description:** 2500-psi structural concrete

**System Type A(8):** All 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 (Optional)	Insulation Fasteners	Fastener
	(Table 3)	Density/ft <sup>2</sup>
Duro-Guard ISO II-A		
Minimum 0.5" thick	N/A	N/A
Top Insulation Layer	<b>Insulation Fasteners</b>	Fastener
	(Table 3)	Density/ft <sup>2</sup>
DEXcell FA Glass Mat Roof Board		
Minimum 1/4" thick	N/A	N/A

Note: All insulation shall be adhered to the deck with Duro-Grip CR-20 Insulation Adhesive applied 12" o.c. in 3/4"-1" wide ribbons. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: One ply of Duro-Last membrane, Duro-Tuff membrane or Duro-Last EV

membrane fully adhered with Duro-Last WB II Adhesive applied at a minimum rate of 140 ft2/gal. to substrate only. Laps are sealed with a minimum of 1.5"

wide heat weld.

Or

One ply of Duro-Fleece membrane or Duro-Fleece Plus membrane fully adhered with Duro-Last WB II Adhesive applied at a minimum rate of 100 ft2/gal. to substrate only. Laps are sealed with a minimum 1.5" wide heat weld.

Or

One ply of Duro-Last membrane or Duro-Last EV Membrane fully adhere with Duro-Last SB IV Adhesive applied at a minimum rate of 60 ft2/gal. (apply 120 ft2/gal. to both the membrane and substrate). Laps are sealed with a minimum of

1.5" wide heat weld.

Or

One ply of Duro-Fleece Plus membrane adhered with Duro-Fleece CR-20 Membrane Adhesive applied in a splatter pattern applied at a Rate of 8 lbs./100 ft2. Laps are sealed with a minimum of 1.5" wide heat weld.

Or

One ply of Duro-Fleece membrane adhered with Duro-Fleece Membrane Adhesive applied in <sup>3</sup>/<sub>4</sub>" ribbons spaced 12" o.c. Laps are sealed with a minimum of 1.5" wide heat weld.

Maximum Design

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



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**Deck Type 3I:** Concrete Decks, Insulated

2500-psi structural concrete **Deck Description:** 

All layers of insulation adhered with approved adhesive; membrane fully System Type A(9):

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 (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
Duro-Guard ISO II-A		- -
Minimum 0.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
DEXcell FA Glass Mat Roof Board		-
Minimum ¼" thick	N/A	N/A

Note: All insulation shall be adhered to the deck with Duro-Grip OlyBond 500 applied 12" o.c. in 3/4"-1" wide ribbons or Duro-Grip WeatherTite One Step Adhesive applied 12" o.c. in 1/2"- 3/4" wide ribbons. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: One ply of Duro-Last membrane, Duro-Tuff membrane or Duro-Last EV

membrane fully adhered with Duro-Last WB II Adhesive applied at a minimum rate of 140 ft2/gal. to substrate only. Laps are sealed with a minimum of 1.5"

wide heat weld.

Or

One ply of Duro-Fleece membrane or Duro-Fleece Plus membrane fully adhered with Duro-Last WB II Adhesive applied at a minimum rate of 100 ft2/gal. to substrate only. Laps are sealed with a minimum 1.5" wide heat weld.

One ply of Duro-Last membrane or Duro-Last EV Membrane fully adhere with Duro-Last SB IV Adhesive applied at a minimum rate of 60 ft2/gal. (apply 120 ft2/gal. to both the membrane and substrate). Laps are sealed with a minimum of

1.5" wide heat weld.

Or

One ply of Duro-Fleece Plus membrane adhered with Duro-Fleece CR-20 Membrane Adhesive applied in a splatter pattern applied at a Rate of 8 lbs./100 ft2. Laps are sealed with a minimum of 1.5" wide heat weld.

One ply of Duro-Fleece membrane adhered with Duro-Fleece Membrane Adhesive applied in 3/4" ribbons spaced 12" o.c. Laps are sealed with a minimum

of 1.5" wide heat weld.

Maximum Design

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



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**Deck Type 3I:** Concrete Decks, Insulated

**Deck Description:** 2500-psi structural concrete

System Type A(10): All 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 (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
<b>Duro-Guard ISO II-A</b>		•
Minimum 0.5" thick	N/A	N/A
Top Insulation Layer	<b>Insulation Fasteners</b>	Fastener
	(Table 3)	Density/ft <sup>2</sup>
<b>DEXcell FA Glass Mat Roof Board</b>		·
Minimum 1/4" thick	N/A	N/A

Note: All insulation shall be adhered to the deck with Duro-Grip Insta Stik or Duro-Grip OlyBond 500 applied 12" o.c. in ¾"-1" wide ribbons or Duro-Grip WeatherTite One Step Adhesive applied 12" o.c. in ½"-¾" wide ribbons. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: One ply of Duro-Last membrane, Duro-Tuff membrane or Duro-Last EV

membrane fully adhered with Duro-Last WB II Adhesive applied at a minimum rate of 140 ft2/gal. to substrate only. Laps are sealed with a minimum of 1.5"

wide heat weld.

Or

One ply of Duro-Fleece membrane or Duro-Fleece Plus membrane fully adhered with Duro-Last WB II Adhesive applied at a minimum rate of 100 ft2/gal. to substrate only. Laps are sealed with a minimum 1.5" wide heat weld.

Or

One ply of Duro-Last membrane or Duro-Last EV Membrane fully adhere with Duro-Last SB IV Adhesive applied at a minimum rate of 60 ft2/gal. (apply 120 ft2/gal. to both the membrane and substrate). Laps are sealed with a minimum of 1.5" wide heat weld.

Or

One ply of Duro-Fleece Plus membrane adhered with Duro-Fleece CR-20 Membrane Adhesive applied in a splatter pattern applied at a Rate of 8 lbs./100 ft2. Laps are sealed with a minimum of 1.5" wide heat weld.

Or

One ply of Duro-Fleece membrane adhered with Duro-Fleece Membrane Adhesive applied in <sup>3</sup>/<sub>4</sub>" ribbons spaced 12" o.c. Laps are sealed with a minimum of 1.5" wide heat weld.

Maximum Design

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



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**Deck Type 3I:** Concrete Decks, Insulated

**Deck Description:** 2500-psi structural concrete

**System Type A(11):** All 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	<b>Insulation Fasteners</b>	Fastener
•	(Table 3)	Density/ft <sup>2</sup>
Duro-Guard ISO II-A		
Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	<b>Insulation Fasteners</b>	Fastener
	(Table 3)	Density/ft <sup>2</sup>
SECUROCK Gypsum Fiber Roof Board		
Minimum 1/4" thick	N/A	N/A

Note: All insulation shall be adhered to the deck with Oly Bond Classic applied 12" o.c. in 3/4"-1" wide ribbons. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: One ply of Duro-Last membrane, Duro-Tuff membrane or Duro-Last EV

membrane fully adhered with Duro-Last WB II Adhesive applied at a minimum rate of  $140~\rm{ft2/gal}$ . to substrate only. Laps are sealed with a minimum of 1.5"

wide heat weld.

Or

One ply of Duro-Fleece membrane or Duro-Fleece Plus membrane fully adhered with Duro-Last WB II Adhesive applied at a minimum rate of 100 ft2/gal. to substrate only. Laps are sealed with a minimum 1.5" wide heat weld.

Or

One ply of Duro-Last membrane, Duro-Last Duro-Tuff or Duro-Last EV Membrane fully adhere with Duro-Last SB IV Adhesive applied at a minimum rate of 60 ft2/gal. (apply 120 ft2/gal. to both the membrane and substrate). Laps

are sealed with a minimum of 1.5" wide heat weld.

Or

One ply of Duro-Fleece membrane or Duro-Fleece Plus membrane adhered with Duro-Fleece CR-20 Membrane Adhesive applied in a splatter pattern applied at a Rate of 8 lbs./100 ft2. Laps are sealed with a minimum of 1.5" wide heat

weld.

Maximum Design

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



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**Deck Type 3I:** Concrete Decks, Insulated

**Deck Description:** 2500-psi structural concrete

System Type A(12): All 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	<b>Insulation Fasteners</b>	Fastener
	(Table 3)	Density/ft <sup>2</sup>
Duro-Guard ISO II-A, Duro-Guard ISO II-G, Duro-Guar	rd ISO II-H, Duro-Guard l	EPS
Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	<b>Insulation Fasteners</b>	Fastener
	(Table 3)	Density/ft <sup>2</sup>
DensDeck Prime		
Minimum 1/4" thick	N/A	N/A

Note: All insulation shall be adhered to the deck with Duro-Grip CR-20 applied in ¾" to 1" wide ribbons spaced 4" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: One ply of Duro-Last membrane, Duro-Tuff membrane or Duro-Last EV

membrane fully adhered with Duro-Last WB II Adhesive applied at a minimum rate of 140 ft2/gal. to substrate only. Laps are sealed with a minimum of 1.5"

wide heat weld.

Or

One ply of Duro-Fleece membrane or Duro-Fleece Plus membrane fully adhered with Duro-Last WB II Adhesive applied at a minimum rate of 100 ft2/gal. to substrate only. Laps are sealed with a minimum 1.5" wide heat weld.

Or

One ply of Duro-Last membrane, Duro-Last Duro-Tuff or Duro-Last EV Membrane fully adhere with Duro-Last SB IV Adhesive applied at a minimum rate of 60 ft2/gal. (apply 120 ft2/gal. to both the membrane and substrate). Laps

are sealed with a minimum of 1.5" wide heat weld.

Or

One ply of Duro-Fleece membrane or Duro-Fleece Plus membrane adhered with Duro-Fleece CR-20 Membrane Adhesive applied in a splatter pattern applied at a Rate of 8 lbs./100 ft2. Laps are sealed with a minimum of 1.5" wide heat

weld.

Maximum Design

Pressure: -225 psf (See General Limitation #9)



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Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500-psi structural concrete

**System Type B:** Base Layer of insulation mechanically attached, top insulation layer adhered with

approved asphalt or 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 Fastener
(Table 3) Density/ft²
ACFoam II, Duro-Guard Iso II-A, H-Shield, Duro-Guard Iso II-H, Duro-Guard Iso II-G
Minimum 1.5" thick 2 with 5 1:2 ft²

Note: Insulation layers 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).

Top Insulation Layer Insulation Fasteners Fastener (Table 3) Pensity/ft²

ACFoam II, Duro-Guard Iso II-A, Duro-Guard Iso III-A Duro-Guard ISO II-G, Duro-Guard ISO II-H, Duro-Guard ISO HD-A, Duro-Guard ISO HD-G, Duro-Guard Iso HD- H, DEXcell FA Glass Mat Roof Board, DEXcell Cement Roof Board

Minimum 1/2" thick N/A N/A

DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board

Minimum <sup>1</sup>/<sub>4</sub>" thick N/A N/A

Note: Top layer of insulation shall be adhered to base layer with Duro-Grip CR-20, Insta Stik Quik Set Insulation Adhesive, or OlyBond 500 applied in continuous ¾ in. wide ribbons spaced 6 in. o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Duro-Fleece or Duro-Fleece Plus membrane fully adhered with Duro-Last WB II

Adhesive applied at 100 ft<sup>2</sup>/gal. Laps are sealed with a minimum 1.5" wide heat

weld.

Or

Duro-Fleece or Duro-Fleece Plus membrane fully adhered with Duro-Fleece CR-20 applied at 8 lbs./100-ft2 in "splatter" pattern. Laps are sealed with a minimum

1.5" wide heat

Or

Duro-Tuff, Duro-Last EV membrane or Duro-Last membrane fully adhered with Duro-Last SB IV Adhesive applied at 60ft2/gal. (apply 120 ft²/gal. to both the membrane and substrate). Laps are sealed with a minimum 1.5" wide heat weld.

Or

Duro-Tuff, Duro-Last or Duro-Last EV membrane fully adhered with Duro-Last WB II Adhesive applied at 140 ft2/gal. Laps are sealed with a minimum 1.5" wide

heat weld.

Maximum Design

Pressure: —45 psf. (See General Limitation #9)

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**Deck Type 3I:** Concrete Decks, Insulated

**Deck Description:** 2500-psi structural concrete

**System Type C(1):** 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 (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
Any Approved EPS or XPS listed in Table 2.	, ,	
Minimum <sup>1</sup> / <sub>2</sub> " thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
ACFoam II, Duro-Guard Iso II-A, Duro-Guard Iso	II-G, Duro-Guard Iso III-A,	
Duro-Guard Iso III-H		
Minimum 1.5" thick	2 with 5	1:2 ft <sup>2</sup>
SECUROCK Gypsum Fiber Roof Board		
Minimum ½" thick	2 with 5	1:2 ft <sup>2</sup>

Note: Insulation layers shall be simultaneously 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: One ply of Duro-Last membrane, Duro-Tuff membrane or Duro-Last EV

membrane fully adhered with Duro-Last WB II Adhesive applied at a minimum rate of 140 ft2/gal. to substrate only. Laps are sealed with a minimum of 1.5"

wide heat weld.

Or

One ply of Duro-Fleece membrane or Duro-Fleece Plus membrane fully adhered with Duro-Last WB II Adhesive applied at a minimum rate of 100 ft2/gal. to substrate only. Laps are sealed with a minimum 1.5" wide heat weld.

Or

One ply of Duro-Last membrane, Duro-Last Duro-Tuff or Duro-Last EV Membrane fully adhere with Duro-Last SB IV Adhesive applied at a minimum rate of 60 ft2/gal. (apply 120 ft2/gal. to both the membrane and substrate). Laps are sealed with a minimum of 1.5" wide heat weld.

Or

One ply of Duro-Fleece membrane or Duro-Fleece Plus membrane adhered with Duro-Fleece CR-20 Membrane Adhesive applied in a splatter pattern applied at a Rate of 8 lbs./100 ft2. Laps are sealed with a minimum of 1.5" wide heat weld.

Maximum Design

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



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Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500-psi structural concrete

**System Type C(2):** Base Layer of insulation mechanically attached, membrane induction welded.

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) Density/ft²

ACFoam II, Duro-Guard ISO II-A, ISO 95+ GL, ENRGY 3, Multi-Max FA-3

Minimum 1.5" thick 17 with 18 1:5.33 ft<sup>2</sup>

Note: Insulation 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: Insulation Layer shall be through fastened to the concrete deck with the fastener

and plate listed above. The Duro-Last membrane (0.057" min) shall be bonded to the Isoweld F1-P-6.8-PVC Plates with the SFS Isoweld Induction Bonding Tool and Isoweld magnets. The minimum 2.5" side aps are sealed with a minimum

1.5" wide heat weld.

Maximum Design

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

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**Deck Type 3I:** Concrete Decks, Insulated

**Deck Description:** 2500-psi structural concrete

**System Type C(3):** 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 (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
Any Approved EPS or XPS listed in Table 2. Minimum ½" thick	N/A	N/A
Middle Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>

ACFoam II, ACFoam IV, Duro-Guard ISO II-A, Duro-Guard ISO III-A,

ENRGY 3, ISO 95+ GL, Multi-Max FA-3

Minimum1-½" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
Invinsa Roof Board		
Minimum 1/4" thick	2 with 5	1:2 ft <sup>2</sup>

Note: Insulation layers shall be simultaneously 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: Duro-Last membrane fully adhered to top insulation layer with Duro-Last SB IV

adhesive applied at 60 ft<sup>2</sup>/gal. Laps are sealed with a minimum 1.5" wide heat

weld.

Maximum Design

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



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Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500-psi structural concrete

System Type C(4): Base layer of insulation loose laid, top layer of insulation mechanically

fastened; 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 (Optional)	Insulation Fasteners	Fastener
	(Table 3)	Density/ft <sup>2</sup>
Any Approved EPS or XPS listed in Table 2.	•	•
Minimum 1/2" thick	N/A	N/A
Middle Insulation Layer	<b>Insulation Fasteners</b>	Fastener
·	(Table 3)	Density/ft <sup>2</sup>
ACFoam II, ACFoam III, ACFoam IV, Duro-Guard ISO	II-A, Duro-Guard ISO III-	-A,
ENRGY 3, ISO 95+ GL Multi-Max FA-3		
Minimum 1-1/2" thick	N/A	N/A
Top Insulation Layer	<b>Insulation Fasteners</b>	Fastener
	(Table 3)	Density/ft <sup>2</sup>

Note: Top 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: One ply of Duro-Last membrane, Duro-Tuff membrane or Duro-Last EV

membrane fully adhered with Duro-Last WB II Adhesive applied at a minimum rate of 140 ft $^2$ /gal. to substrate only. Laps are sealed with a minimum of 1.5"

2 with 5

wide heat weld.

Or

**SECUROCK Gypsum-Fiber Roof Board** 

Minimum 1/4" thick

One ply of Duro-Fleece membrane or Duro-Fleece Plus membrane fully adhered with Duro-Last WB II Adhesive applied at a minimum rate of 100 ft<sup>2</sup>/gal. to substrate only. Laps are sealed with a minimum 1.5" wide heat weld.

Or

One ply of Duro-Last membrane, Duro-Last Duro-Tuff or Duro-Last EV Membrane fully adhere with Duro-Last SB IV Adhesive applied at a minimum rate of 60 ft²/gal. (apply 120 ft²/gal. to both the membrane and substrate). Laps

are sealed with a minimum of 1.5" wide heat weld.

Or

One ply of Duro-Fleece membrane or Duro-Fleece Plus membrane adhered with Duro-Fleece CR-20 Membrane Adhesive applied in a splatter pattern applied at a Rate of 8 lbs./100 ft2. Laps are sealed with a minimum of 1.5" wide heat weld.

Maximum Design

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



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1:1.33 ft<sup>2</sup>

**Deck Type 3I:** Concrete Decks, Insulated

**Deck Description:** 2500-psi structural concrete

System Type C(5): Base layer of insulation loose laid, top layer of insulation mechanically

fastened; 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 (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
Any Approved EPS or XPS listed in Table 2.	` ,	•
Minimum ½" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
H-Shield, Duro-Guard ISO II-H	,	J
Minimum 1.5" thick	5 with 11	See Below

Note: Insulation 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: Insulation Layer shall be through fastened to the concrete deck with the fastener

and plate listed above. The Duro-Last membrane, Duro-Last EV membrane or Duro-Tuff membrane shall be welded to the Duro-Bond Plates in the manner and

the spacing specified below.

Fastening: Insulation shall be mechanically attached at 6" o.c., in rows spaced a maximum of

60" o.c. Membrane is welded to the Duro-Bond Plate 1302 with RhinoBond

Welder. Laps are sealed with a minimum 1.5" wide heat weld.

Maximum Design

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



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**Deck Type 3I:** Concrete Decks, Insulated

**Deck Description:** 2500-psi structural concrete

**System Type C(6):** Base layer of insulation loose laid, top layer of insulation mechanically

fastened; 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 (Optional)	<b>Insulation Fasteners</b>	Fastener
• • •	(Table 3)	Density/ft <sup>2</sup>
Any Approved EPS or XPS listed in Table 2.		
Minimum ½" thick	N/A	N/A
Top Insulation Layer	<b>Insulation Fasteners</b>	Fastener
	(Table 3)	Density/ft <sup>2</sup>
H-Shield, Duro-Guard ISO II-H		
Minimum 1.5" thick	10 with 11	See Below

Note: Insulation 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: Insulation Layer shall be through fastened to the concrete deck with the fastener

and plate listed above. The Duro-Last membrane, Duro-Last EV membrane and Duro-Tuff membrane shall be welded to the Duro-Bond Plates in the manner and

the spacing specified below.

Fastening: Insulation shall be mechanically attached at 6" o.c., in rows spaced a maximum of

48" o.c. Membrane is welded to the Duro-Bond Plate 1302 with RhinoBond

Welder. Laps are sealed with a minimum 1.5" wide heat weld.

Maximum Design

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



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**Deck Type 3I:** Concrete Decks, Insulated

**Deck Description:** 2500-psi structural concrete

**System Type C(7):** Base layer of insulation loose laid, top layer of insulation mechanically

fastened; 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 (Optional)	<b>Insulation Fasteners</b>	Fastener
	(Table 3)	Density/ft <sup>2</sup>
Any Approved EPS or XPS listed in Table 2.		
Minimum 1/2" thick	N/A	N/A
Top Insulation Layer	<b>Insulation Fasteners</b>	Fastener
	(Table 3)	Density/ft <sup>2</sup>
H-Shield, Duro-Guard Iso II-H		
Minimum 1.5" thick	10 with 11	1:2.67 ft <sup>2</sup>

Note: Insulation 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: Insulation Layer shall be through fastened to the concrete deck with the fastener

and plate and density listed above. The Duro-Last membrane, Duro-Last EV membrane or Duro-Tuff membrane shall be welded to the Duro-Bond Plates as

specified below.

Fastening: Membrane is welded to the Duro-Bond Plate 1302 with RhinoBond Welder. Laps

are sealed with a minimum 1.5" wide heat weld.

Maximum Design

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



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Single Ply, PVC **Membrane Type:** 

Deck Type 3I: Concrete Decks, Insulated

**Deck Description:** 2500-psi structural concrete

System Type C(8): Base layer of insulation loose laid, top layer of insulation mechanically

fastened; 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 (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
Any Approved EPS or XPS listed in Table 2.	,	·
Minimum ½" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
H-Shield, Duro-Guard ISO II-H	,	·
Minimum 1.5" thick	10 with 11	1:2 ft <sup>2</sup>

Note: Insulation 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: <u>Insulation Layer shall be through fastened to the concrete deck</u> with the fastener

> and plate and density listed above. The Duro-Last (.057" min) membrane -, Duro Tuff (.080" min) membrane or Duro-Last EV membrane (.060" min) shall be

welded to the Duro-Bond Plates as specified below.

Fastening: Membrane is welded to the Duro-Bond Plate 1302 with RhinoBond Welder. Laps

are sealed with a minimum 1.5" wide heat weld.

Maximum Design

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



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Single Ply, PVC **Membrane Type:** 

Deck Type 3I: Concrete Decks, Insulated

**Deck Description:** 2500-psi structural concrete

System Type C(9): All layers of insulation simultaneously attached, membrane adhered.

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

One or more layers of any of the following insulations.

Base Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
Any Approved EPS or XPS listed in Table 2.		
Minimum ½" thick	N/A	N/A
Top Insulation Layer	<b>Insulation Fasteners</b>	Fastener
•	(Table 3)	Density/ft <sup>2</sup>
H-Shield, Duro-Guard Iso II-H	,	·
Minimum 1½" thick	5 with 11	See below

Note: Insulation layer shall be mechanically attached with preliminary 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 with 48" Rows: Duro-Last membrane (0.037" min.), Duro-Last EV membrane or Duro-

> Tuff membrane bonded to Duro-Bond Plate 1302 spaced 6" o.c. with RhinoBond Welder. Laps are sealed with a minimum 1.5" wide heat

weld.

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

Duro-Last membrane (0.057" min.), Duro-Last EV (.060" min) or Duro-Tuff (.080" min) membrane bonded to Duro-Bond Plate 1302 spaced 6" o.c. with RhinoBond Welder. Laps are sealed with a minimum 1.5" wide heat weld.

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

Duro-Last membrane (0.057" min.), Duro-Last EV (.060" min) or Duro-Tuff (.080" min) membrane bonded to Duro-Bond Plate 1302 spaced 12" o.c. with RhinoBond Welder. Laps are sealed with a minimum 1.5" wide

heat weld.

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

Membrane with 60" Rows: Duro-Last membrane (0.057" min.), Duro-Last EV (.060" min) or Duro-

> Tuff (.080" min) membrane bonded to Duro-Bond Plate 1302 spaced 6" o.c. with RhinoBond Welder. Laps are sealed with a minimum 1.5" wide

heat weld.

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



NOA No.: 17-0202.03 **Expiration Date: 08/22/22** Approval Date: 08/17/17 Page 29 of 67 Membrane with 72" Rows: Duro-Last membrane (0.037" min.), Duro-Last EV membrane or Duro-

Tuff membrane bonded to Duro-Bond Plate 1302 spaced 6" o.c. with RhinoBond Welder. Laps are sealed with a minimum 1.5" wide heat

weld.

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

Membrane with 96" Rows: Duro-Last membrane (0.057" min.), Duro-Last EV (.060" min) or Duro-

Tuff (.080" min) membrane bonded to Duro-Bond Plate 1302 spaced 6" o.c. with RhinoBond Welder. Laps are sealed with a minimum 1.5" wide

heat weld.

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

Membrane with 120" Rows: Duro-Last membrane (0.057" min.), Duro-Last EV (.060" min) or Duro-

Tuff (.080" min) membrane bonded to Duro-Bond Plate 1302 spaced 6" o.c. with RhinoBond Welder. Laps are sealed with a minimum 1.5" wide

heat weld.

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

Maximum Design

Pressure: See fastening above.



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Deck Type 3I: Concrete Deck, Insulated

Deck Description: 2500 psi structural concrete

**System Type C(10):** Base layer of insulation loose laid. Top layer of insulation mechanically

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/ft <sup>2</sup>
ACFoam II, ACFoam III, Duro-Guard Iso II-A, Duro-Guard	Iso III-A, ENRGY 3, ISO	95+ GL,
H-Shield, Duro-Guard Iso II-H, Duro-Guard Iso II-G		
Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
SECUROCK Gypsum-Fiber Roof Board, DensDeck Prime	,	·
Minimum 1/4" thick	2 with 5	1:2 ft <sup>2</sup>
Duro-Guard ISO HD-G, Minimum 1/2" thick	2 with 5	1:2 ft <sup>2</sup>
Duro-Guard ISO II-G		
Minimum 1-1/2" thick	2 with 5	1:2 ft <sup>2</sup>
DEXcell Cement Roof Board		
Minimum 7/16" thick	2 with 5	1:2 ft <sup>2</sup>

Note: Top Insulation 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: Duro-Fleece or Duro-Fleece Plus membrane fully adhered with Duro-Last WB II

Adhesive applied at 100 ft<sup>2</sup>/gal. Laps are sealed with a minimum 1.5" wide heat weld.

Or

Duro-Fleece or Duro-Fleece Plus membrane fully adhered with Duro-Fleece CR-20 applied at 8 lbs./100-ft² in "splatter" pattern. Laps are sealed with a minimum 1.5"

wide heat

Or

Duro-Tuff, Duro-Last EV or Duro-Last membrane fully adhered with Duro-Last SB IV Adhesive applied at 60ft<sup>2</sup>/gal. (apply 120 ft<sup>2</sup>/gal. to both the membrane and substrate). Laps are sealed with a minimum 1.5" wide heat weld.

Or

Duro-Tuff, Duro-Last or Duro-Last EV membrane fully adhered with Duro-Last WB II Adhesive applied at 140 ft²/gal. Laps are sealed with a minimum 1.5" wide heat weld.

Maximum Design

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



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Deck Type 3I: Concrete Deck, Insulated

Deck Description: 2500 psi structural concrete

**System Type C(11):** Base layer of insulation loose laid. Top layer of insulation mechanically

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 Fastener (Table 3) Density/ft<sup>2</sup>
ACFoam II, ACFoam III, Duro-Guard Iso II-A, Duro-Guard Iso III-A, ENRGY 3, ISO 95+ GL,

ACF0am II, ACF0am III, Duro-Guard Iso II-A, Duro-Guard Iso III-A, ENRGY 3, ISO 95+ G H-Shield Duro-Guard Iso II-H Duro-Guard Iso II-G

H-Shield, Duro-Guard Iso II-H, Duro-Guard Iso II-G Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
SECUROCK Gypsum-Fiber Roof Board, DensDeck Prime Minimum ¼" thick	2 with 5	1: 1.33
Duro-Guard ISO HD-G, Minimum 1/2" thick	2 with 5	1: 1.33
Duro-Guard ISO II-G Minimum 1-1/2" thick	2 with 5	1: 1.33
DEXcell Cement Roof Board Minimum 7/16" thick	2 with 5	1: 1.33

Note: Top Insulation 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: Duro-Fleece or Duro-Fleece Plus membrane fully adhered with Duro-Last WB II

Adhesive applied at 100 ft<sup>2</sup>/gal. Laps are sealed with a minimum 1.5" wide heat weld.

Or

Duro-Fleece or Duro-Fleece Plus membrane fully adhered with Duro-Fleece CR-20 applied at 8 lbs./100-ft<sup>2</sup> in "splatter" pattern. Laps are sealed with a minimum 1.5"

wide heat

Or

Duro-Tuff, Duro-Last EV or Duro-Last membrane fully adhered with Duro-Last SB IV Adhesive applied at 60ft²/gal. (apply 120 ft²/gal. to both the membrane and substrate). Laps are sealed with a minimum 1.5" wide heat weld.

Or

Duro-Tuff, Duro-Last or Duro-Last EV membrane fully adhered with Duro-Last WB II Adhesive applied at  $140~\rm{ft^2/gal}$ . Laps are sealed with a minimum 1.5" wide heat weld.

Maximum Design

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



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Deck Type 3I: Concrete Deck, Insulated

Deck Description: 2500 psi structural concrete

**System Type C(12):** 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 Fastener (Table 3) Density/ft²
ACFoam II, ACFoam III, Duro-Guard Iso III-A, Duro-Guard Iso III-H

ACFoam II, ACFoam III, Duro-Guard Iso II-A, Duro-Guard Iso III-A, Duro-Guard Iso III-H Minimum 1.5" thick 2 with 5 1:1.33 ft<sup>2</sup>

Duro-Guard Iso II-H, Duro-Guard Iso II-G Minimum 2" thick

2 with 5 1:1.33 ft<sup>2</sup>

Note: Top Insulation 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: One ply of Duro-Fleece membrane or Duro-Fleece Plus membrane fully

adhered with Duro-Last WB II Adhesive applied at a minimum rate of 100 ft2/gal. to substrate only. Laps are sealed with a minimum 1.5" wide heat weld.

Maximum Design

Pressure: –67.5 psf. (See General Limitation #7)



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Single Ply, PVC **Membrane Type:** 

Deck Type 3I: Concrete Deck, Insulated **Deck Description:** 2500 psi structural concrete

System Type C(13): 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
ACFoam II, Duro-Guard Iso II-A, Duro-Guard	` ,	_ = = = = = = = = = = = = = = = = = = =
Duro-Guard Iso III-H	,	
Minimum1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
DensDeck Prime	(Table 3)	Density/it
Minimum ¼" thick	2 with 5	1:1.6 ft <sup>2</sup>
DEXcell Cement Roof Board		
Minimum 7/16" thick	2 with 5	1:1.6 ft <sup>2</sup>

Note: Insulation layers shall be simultaneously 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).

Duro-Fleece or Duro-Fleece Plus membrane fully adhered with Duro-Last WB II Membrane:

> Adhesive applied at 100 ft<sup>2</sup>/gal. Laps are sealed with a minimum 1.5" wide heat weld.

Or

Duro-Fleece or Duro-Fleece Plus membrane fully adhered with Duro-Fleece CR-20 applied at 8 lbs./100-ft<sup>2</sup> in "splatter" pattern. Laps are sealed with a minimum 1.5" wide heat

Or

Duro-Tuff, Duro-last EV or Duro-Last membrane fully adhered with Duro-Last SB IV Adhesive applied at 60ft<sup>2</sup>/gal. (apply 120 ft<sup>2</sup>/gal. to both the membrane and substrate). Laps are sealed with a minimum 1.5" wide heat weld.

Duro-Tuff, Duro-Last or Duro-Last EV membrane fully adhered with Duro-Last WB II Adhesive applied at 140 ft<sup>2</sup>/gal. Laps are sealed with a minimum 1.5" wide heat weld.

Maximum Design

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



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Deck Type 3I: Concrete Deck, Insulated

Deck Description: 2500 psi structural concrete

**System Type C(14):** Layer 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 <sup>2</sup>
ACFoam IV	,	J
Minimum 2" thick	2 with 9	1:2 ft <sup>2</sup>

Note: Insulation 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: Duro-Fleece or Duro-Fleece Plus membrane fully adhered with Duro-Last WB II

Adhesive applied at 100 ft<sup>2</sup>/gal. Laps are sealed with a minimum 1.5" wide heat

weld. Or

Duro-Tuff, Duro-Last EV or Duro-Last membrane fully adhered with Duro-Last SB IV Adhesive applied at 60ft<sup>2</sup>/gal. (apply 120 ft<sup>2</sup>/gal. to both the membrane and

substrate). Laps are sealed with a minimum 1.5" wide heat weld.

Or

Duro-Tuff, Duro-Last or Duro-Last EV membrane fully adhered with Duro-Last WB II Adhesive applied at 140 ft<sup>2</sup>/gal. Laps are sealed with a minimum 1.5" wide

heat weld.

Maximum Design

Pressure: –90 psf. (See General Limitation #7)



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Deck Type 3I: Concrete Deck, Insulated

Deck Description: 2500 psi structural concrete

System Type C(15): All layers of insulation simultaneously attached, membrane mechanically

attached.

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 Fastener (Table 3) Fastener

ACFoam II, ACFoam IV, Duro-Guard Iso II-A, Duro-Guard Iso III-A,

**Duro-Guard Iso II-H** 

Minimum 1.5" thick 9 with 11 or 13 1:6 ft<sup>2</sup>

Note: Insulation 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: <u>Insulation Layer shall be through fastened to the concrete deck</u> with the fastener

and plate and density listed above. The Duro-Last membrane, Duro-Last EV membrane or Duro-Tuff membrane shall be welded to the Plates as specified

below.

Fastening: Membrane is welded to the Duro-Bond Plate 1302 or Rhinobond Insulation

Plates. Laps are sealed with a minimum 2" wide heat weld.

Maximum Design

Pressure: –45 psf. (See General Limitation #9)



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Deck Type 31: Concrete Deck, Insulated

Deck Description: 2500 psi structural concrete

**System Type C(16):** All layers of insulation mechanically 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.

Bottom Insulation Layer (Optional)	Insulation Fasteners	Fastener
	(Table 3)	Density/ft <sup>2</sup>
Any Approved EPS or XPS listed in Table 2.		
Minimum ½" thick	N/A	N/A
Top Insulation Layer	<b>Insulation Fasteners</b>	Fastener
	(Table 3)	Density/ft <sup>2</sup>
Duro-Guard ISO II-A, Duro-Guard ISO III-A, Duro-	Guard ISO II-G, Duro Guard	ISO II-H,
Duro-Guard ISO III-H		
Minimum 1.5" thick	2 with 5	1:2 ft <sup>2</sup>
SECUROCK Gypsum-Fiber Roof Board, DensDeck P	rime, Duro-Guard ISO HD-G	
Minimum ½" thick	2 with 5	1:2 ft <sup>2</sup>
DEXcell Cement Roof Board		
Minimum 7/16" thick	2 with 5	1:2 ft <sup>2</sup>

Note: All Insulation layers 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: Duro-Fleece or Duro-Fleece Plus membrane fully adhered with Duro-Last WB II

Adhesive applied at 100 ft<sup>2</sup>/gal. Laps are sealed with a minimum 1.5" wide heat

weld. Or

Duro-Fleece or Duro-Fleece Plus membrane fully adhered with Duro-Fleece CR-20 applied at 8 lbs./100-ft<sup>2</sup> in "splatter" pattern. Laps are sealed with a minimum

1.5" wide heat

Or

Duro-Tuff, Duro-Last EV or Duro-Last membrane fully adhered with Duro-Last SB IV Adhesive applied at 60ft<sup>2</sup>/gal. (apply 120 ft<sup>2</sup>/gal. to both the membrane and substrate). Laps are sealed with a minimum 1.5" wide heat weld.

Or

Duro-Tuff, Duro-Last or Duro-Last EV membrane fully adhered with Duro-Last WB II Adhesive applied at 140 ft<sup>2</sup>/gal. Laps are sealed with a minimum 1.5" wide heat weld.

Maximum Design

Pressure: –45 psf. (See General Limitation #9)



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Deck Type 3I: Concrete Deck, Insulated

Deck Description: 2500 psi structural concrete

System Type C(17): All layers of insulation simultaneously attached, membrane adhered.

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

One or more layers of any of the following insulations.

Insulation Layer Insulation Fasteners Fastener (Table 3) Density/ft²

Duro-Guard Iso II-A, Duro-Guard Iso III-A, Duro-Guard Iso III-H,

**Duro-Guard Iso II-G** 

Minimum 1" thick 11 with 14 See below

Duro-Guard Iso HD-A, Duro-Guard Iso HD-G, Duro-Guard Iso HD-H

Minimum 0.5" thick 11 with 14 See below

DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board

Minimum 0.25" thick 11 with 14 See below

Note: Insulation layers shall be simultaneously 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: Duro-Last, Duro-Last EV membrane or Duro-Tuff membrane shall be induction

welded to Duro-Bond Plate 1302 in the manner and spacing specified below.

Fastening: Insulation shall be mechanically attached 24-inches o.c. in rows spaced 36-

inches o.c. Two rows are installed in a non-staggered pattern and two rows are staggered 12-inches. Membrane is welded to the Duro-Bond Plate 1302 with RhinoBond welder. Laps are sealed with a minimum 1.5" wide heat weld.

Maximum Design

Pressure: —45 psf. (See General Limitation #7)



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Deck Type 31: Concrete Deck, Insulated

Deck Description: 2500 psi structural concrete

**System Type C(18):** All layers of insulation simultaneously attached, membrane adhered.

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

One or more layers of any of the following insulations.

Insulation Layer Insulation Fasteners Fastener (Table 3) Density/ft²

Duro-Guard Iso II-A, Duro-Guard Iso III-A, Duro-Guard Iso III-H,

**Duro-Guard Iso II-G** 

Minimum 1" thick 11 with 14 See below

Duro-Guard Iso HD-A, Duro-Guard Iso HD-G, Duro-Guard Iso HD-H

Minimum 0.5" thick 11 with 14 See below

DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board

Minimum 0.25" thick 11 with 14 See below

Note: Insulation layers shall be simultaneously 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: Duro-Last, Duro-Last EV membrane or Duro-Tuff membrane shall be induction

welded to Duro-Bond Plate 1302 in the manner and spacing specified below.

Fastening: Insulation shall be mechanically attached 24-inches o.c. in rows spaced 24-

inches o.c. Two rows are installed in a non-staggered pattern and two rows are staggered 12-inches. Membrane is welded to the Duro-Bond Plate 1302 with RhinoBond welder. Lap seams are sealed with a 1-inch wide factory weld.

Maximum Design

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



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Deck Type 3I: Concrete Deck, Insulated

Deck Description: 2500 psi structural concrete

**System Type C(19):** All layers of insulation simultaneously attached, membrane adhered.

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

One or more layers of any of the following insulations.

Insulation Layer Insulation Fasteners Fastener (Table 3) Fastener

Duro-Guard Iso II-A, Duro-Guard Iso III-A, Duro-Guard Iso III-H, Duro-Guard Iso III-H,

**Duro-Guard Iso II-G** 

Minimum 1" thick 11 with 14 See below

Duro-Guard Iso HD-A, Duro-Guard Iso HD-G, Duro-Guard Iso HD-H

Minimum 0.5" thick 11 with 14 See below

DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board

Minimum 0.25" thick 11 with 14 See below

Note: Insulation layers shall be simultaneously 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: Duro-Last, Duro-Last EV membrane or Duro-Tuff membrane shall be induction

welded to Duro-Bond Plate 1302 in the manner and spacing specified below.

Fastening: Insulation shall be mechanically attached 24-inches o.c. in rows spaced 18-

inches o.c. Two rows are installed in a non-staggered pattern and two rows are staggered 12-inches. Membrane is welded to the Duro-Bond Plate 1302 with RhinoBond welder. Lap seams are sealed with a 1-inch wide factory weld.

Maximum Design

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



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Deck Type 3I: Concrete Deck, Insulated

Deck Description: 2500 psi structural concrete

**System Type C(20):** Layer of insulation simultaneously attached, membrane adhered.

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

One or more layers of the following insulations:

Insulation Layer Insulation Fasteners Fastener (Table 3) Fastener

ACFoam II, Duro-Guard ISO II-A

Minimum 1-½" thick 15 or 16 with 17 1:4 ft<sup>2</sup>

Note: Insulation 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: Insulation Layer shall be through fastened to the concrete deck with the fastener

and plate listed above. The Duro-Last membrane (0.057" min) shall be bonded to the Isoweld F1-P-6.8-PVC Plates in the manner and spacing specified below.

Fastening: Insulation shall be mechanically attached at 4 ft<sup>2</sup> per fastener in a 2' x 2',

staggered grid pattern. Membrane is bonded to the Isoweld F1-P-6.8-PVC Plate with the SFS Isoweld 3000 stand-up tool. Laps are sealed with a

minimum 1.5" wide heat weld.

Maximum Design

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



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Deck Type 3I: Concrete Deck, Insulated

Deck Description: 2500 psi structural concrete

**System Type C(21):** Layer of insulation simultaneously attached, membrane adhered.

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

One or more layers of the following insulations:

 $\begin{array}{ccc} \textbf{Insulation Layer} & \textbf{Insulation Fasteners} & \textbf{Fastener} \\ & \textbf{(Table 3)} & \textbf{Density/ft}^2 \end{array}$ 

**ACFoam II, Duro-Guard ISO II-A** 

Minimum 1-1/2" thick 15 or 16 with 17 1:3 ft<sup>2</sup>

Note: Insulation 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: Insulation Layer shall be through fastened to the concrete deck with the fastener

and plate listed above. The Duro-Last membrane (0.057" min) shall be bonded to the Isoweld F1-P-6.8-PVC Plates in the manner and spacing specified below.

Fastening: Insulation shall be mechanically attached at 4 ft<sup>2</sup> per fastener in a 1.5' x 2',

staggered grid pattern. Membrane is bonded to the Isoweld F1-P-6.8-PVC Plate with the SFS Isoweld 3000 stand-up tool. Laps are sealed with a

minimum 1.5" wide heat weld.

Maximum Design

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



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Deck Type 3I: Concrete Deck, Insulated

Deck Description: 2500 psi structural concrete

System Type C(22): Layer of insulation simultaneously attached, membrane adhered.

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

One or more layers of the following insulations:

ACFoam II, Duro-Guard ISO II-A

Minimum 1-1/2" thick 15 or 16 with 17 1:3 ft<sup>2</sup>

Note: Insulation 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: Insulation Layer shall be through fastened to the concrete deck with the fastener

and plate listed above. The Duro-Last membrane (0.057" min) shall be bonded to the Isoweld F1-P-6.8-PVC Plates in the manner and spacing specified below.

Fastening: Insulation shall be mechanically attached at 12-inches o.c. in rows spaced a

maximum of 5 ft. o.c. Membrane is bonded to the Isoweld F1-P-6.8-PVC Plate with the SFS Isoweld 3000 stand-up tool. Laps are sealed with a minimum 1.5"

wide heat weld.

Maximum Design

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



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Deck Type 3I: Concrete Deck, Insulated

Deck Description: 2500 psi structural concrete

System Type C(23): Layer of insulation simultaneously attached, membrane adhered.

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

One or more layers of the following insulations:

 $\begin{array}{ccc} \textbf{Insulation Layer (Optional)} & & \textbf{Insulation Fasteners} & \textbf{Fastener} \\ & & \textbf{(Table 3)} & & \textbf{Density/ft}^2 \end{array}$ 

ACFoam II, Duro-Guard ISO II-A

Minimum 1-½" thick 15 or 16 with 17 1:3 ft<sup>2</sup>

Note: Insulation 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: Insulation Layer shall be through fastened to the concrete deck with the fastener

and plate listed above. The Duro-Last membrane (0.057" min) shall be bonded to the Isoweld F1-P-6.8-PVC Plates in the manner and spacing specified below.

Fastening: Insulation shall be mechanically attached at 6-inches o.c. in rows spaced a

maximum of 5 ft. o.c. Membrane is bonded to the Isoweld F1-P-6.8-PVC Plate with the SFS Isoweld 3000 stand-up tool. Laps are sealed with a minimum 1.5"

wide heat weld.

Maximum Design

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



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**Deck Type 3I:** Concrete Decks, Insulated

**Deck Description:** 2500-psi structural concrete

System Type D(1): All layers of insulation are preliminarily attached to roof deck as specified

below. Membrane is mechanically attached to deck through the insulation

layers.

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)	<b>Insulation Fasteners</b>	Fastener
	(Table 3)	Density/ft <sup>2</sup>
Any Approved EPS or XPS listed in Table 2.		
Minimum ½" thick	N/A	N/A
Insulation Layer	<b>Insulation Fasteners</b>	Fastener
	(Table 3)	Density/ft <sup>2</sup>
ACFoam II, Duro-Guard Iso II-A, ENRGY 3, ENRGY 3	3 25 PSI, H-Shield, Duro-Gu	ard Iso II-H,
Any Approved EPS or XPS listed in Table 2.		
Minimum ½" thick	1, 2, 3	1:4 ft <sup>2</sup>
	1, 2, 3	1:6.4 ft <sup>2</sup>

Note: Insulation layers above shall be mechanically attached with preliminary fastening as specified above. All Insulation panels shall also be mechanically fastened along with the roof membrane as specified below. See Roofing Application Standard RAS 117 for fastening details.

Vapor Barrier: (Optional) Any UL or FM approved vapor barrier.

Fire Barrier: (Optional) Atlas Roofing Corporation FR-10®Fire Retardant Slip Sheet,

FR-50® Fire Retardant Slip Sheet, '4" DensDeck Prime, '2" thick UL Classification Type X Gypsum with a moisture resistant facer and core or a second sheet of barrier board may be used over the insulation

(See General Limitation #1).

Membrane with 28" tabs: Duro-Last® membrane shall be mechanically attached at its 3" tabs

spaced every 28" with Duro-Last fasteners and Duro-Last Poly-Plates or Duro-Last Cleat Plate spaced 18" o.c. maximum, through the insulation and into the deck. Laps are sealed with a minimum 1.5" wide heat weld.

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

Duro-Last® membrane shall be mechanically attached at its 3" tabs spaced every 28" with Duro-Last Fluted Concrete Nails, Duro-Last #14 Concrete Screws or Duro-Last #14 Concrete Screws with Duro-Last Poly-Plates or Duro-Last Cleat Plate spaced 18" o.c. maximum, through the insulation and into the deck. Laps are sealed with a minimum 1.5"

wide heat weld.

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



NOA No.: 17-0202.03 Expiration Date: 08/22/22 Approval Date: 08/17/17 Page 45 of 67 Membrane with 60" tabs:

Duro-Last® membrane shall be mechanically attached at its 3" tabs spaced every 60" with Duro-Last fasteners and Duro-Last Poly-Plates or Duro-Last Cleat Plate spaced 12" o.c. maximum, through the insulation and into the deck. Laps are sealed with a minimum 1.5" wide heat weld. (Maximum Design Pressure -45 psf; See General Limitation #7)

Duro-Last® membrane shall be mechanically attached at its 3" tabs, spaced every 60" with Duro-Last Fluted Concrete Nails, Duro-Last #14 Concrete Screws or Duro-Last #14 Concrete Screws with Duro-Last Poly-Plates or Duro-Last Cleat Plate spaced 6" o.c. maximum, through the insulation and into the deck. Laps are sealed with a minimum 1.5" wide heat weld.

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

Membrane with 120" tabs:

Duro-Last® membrane shall be mechanically attached at its minimum 6" tabs spaced every 120" with Duro-Last Fluted Concrete Nails, Duro-Last #14 Concrete Screws or Duro-Last #14 Concrete Screws with Poly-Plates or Duro-Last Cleat Plate, Duro-Last Poly-plates® spaced at 6" o.c. maximum, through the insulation and into the deck. Laps are sealed with a minimum 1.5" wide heat weld.

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

Maximum Design

Pressure: See fastening above.



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**Deck Type 3I:** Concrete Decks, Insulated **Deck Description:** 2500-psi structural concrete

System Type D(2): All layers of insulation are preliminarily attached to roof deck as specified

below. Membrane is mechanically attached to deck through the insulation

layers.

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 (Optional)	<b>Insulation Fasteners</b>	Fastener
	(Table 3)	Density/ft <sup>2</sup>
Any Approved EPS or XPS listed in Table 2.		
Minimum ½" thick	N/A	N/A
Insulation Layer	<b>Insulation Fasteners</b>	Fastener
	(Table 3)	Density/ft <sup>2</sup>
ACFoam II, Duro-Guard ISO II-A, H-Shield, Duro-Guard ISO	O II-H, ISO 95 +GL, Mul	ti-Max FA-3
Minimum 1.5" thick	4, 9	1:6.4 ft <sup>2</sup>

Note: Insulation layers above shall be mechanically attached with preliminary fastening as specified above. All Insulation panels shall also be mechanically fastened along with the roof membrane as specified below. See Roofing Application Standard RAS 117 for fastening details.

Membrane: Duro-Last membrane shall be mechanically attached at its 3" tabs spaced every

60" with Duro-Last #14 Concrete Screw or Duro-Last Fluted Concrete Nails with Duro-Last Batten Bar spaced 6" o.c. maximum, through the insulation and into the deck. Duro-Last Tab Sealer 4725 shall be applied over the tab membrane and to the overlying membrane underside at a rate of 60 ft2/gal. (two-sided application). Laps are sealed with a minimum 1.5" wide heat weld.

Maximum Design

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



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**Deck Type 31:** Concrete Decks, Insulated **Deck Description:** 2500-psi structural concrete

System Type D(3): All layers of insulation are preliminarily attached to roof deck as specified

below. Membrane is mechanically attached to deck through the insulation

layers.

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/ft <sup>2</sup>
Any Approved EPS or XPS listed in Table 2.	(188200)	20112103.10
Minimum ½" thick	N/A	N/A
Top Insulation Layer	<b>Insulation Fasteners</b>	Fastener
ı	(Table 3)	Density/ft <sup>2</sup>
ACFoam II, Duro-Guard Iso II-A, ENRGY 3, H-Shield,	Duro-Guard Iso II-H,	·
Any Approved EPS or XPS listed in Table 2.		
Minimum ½" thick	1, 2, 3	1:6.4 ft <sup>2</sup>
	1, 2, 3	1:4 ft <sup>2</sup>

Note: Insulation layers above shall be mechanically attached with preliminary fastening as specified above. All Insulation panels shall also be mechanically fastened along with the roof membrane as specified below. See Roofing Application Standard RAS 117 for fastening details.

Vapor Barrier: (Optional) Any UL or FM approved vapor barrier.

Fire Barrier: (Optional) Atlas Roofing Corporation FR-10®Fire Retardant Slip Sheet, FR-

50<sup>®</sup> Fire Retardant Slip Sheet,, ¼" DensDeck Prime, ½" thick UL

Classification Type X Gypsum with a moisture resistant facer and core or a second sheet of barrier board may be used over the insulation (see General

Limitation #1).

Membrane with 28" tabs: Duro-Last membrane shall be mechanically attached at its 3" tabs, spaced

every 28" with Duro-Last Fluted Concrete Nails, Duro-Last #14 Concrete Screws or Duro-Last #14 Concrete Screws and Duro-Last Poly-Plates or Duro-Last Cleat Plate spaced 12" o.c. maximum, through the insulation and

into the deck. Laps are sealed with a minimum 1.5" wide heat weld. (Maximum Design Pressure -75 psf; See General Limitation #7)

Duro-Last membrane shall be mechanically attached at its 3" tabs, spaced every 28" with Duro-Last Fluted Concrete Nails, Duro-Last #14 Concrete Screws, Duro-Last #14 Concrete Screws and Duro-Last Poly-Plates or Duro-Last Cleat Plate spaced 6" o.c. maximum, through the insulation and into the

deck. Laps are sealed with a minimum 1.5" wide heat weld.

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

Maximum Design

Pressure: See fastening above



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**Deck Type 3I:** Concrete Decks, Insulated **Deck Description:** 2500-psi structural concrete

System Type D(4): Membrane fastened over preliminarily fastened insulation. All layers of

insulation and membrane simultaneously attached.

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

Any Approved EPS or XPS listed in Table 2.

Minimum ½" thick N/A N/A

Top Insulation Layer Insulation Fasteners Fastener

(Table 3) Density/ft<sup>2</sup>

ACFoam II, ACFoam III, Duro-Guard Iso II-A, Duro-Guard Iso III-A, ENRGY 3, H-Shield,

Duro-Guard Iso II-H, Any Approved EPS or XPS listed in Table 2.

Minimum 1½" thick N/A N/A

Note: Insulation layer above shall be mechanically attached with preliminary fastening. All Insulation panels shall be mechanically fastened along with the roof membrane as specified below. See Roofing Application Standard RAS 117 for fastening details.

Fire Barrier: (Optional) Atlas Roofing Corporation FR-10®Fire Retardant Slip Sheet,

FR-50® Fire Retardant Slip Sheet,, ¼" DensDeck Prime, ½" thick UL Classification Type X Gypsum with a moisture resistant facer and core or a second sheet of barrier board may be used over the insulation (see

General Limitation #1).

Membrane with 25" tabs: Duro-Last membrane shall be mechanically attached at its 6" wide tabs,

spaced every 25" o.c. with Duro-Last #14 Concrete Screws or Duro-Last Fluted Concrete Nails with OMG Eyehook Accuseam Plateor Duro-Last Cleat Plates spaced 6" o.c. maximum, through the insulation and into the deck. Duro-Last Tab Sealer 4725 shall be applied over the tab membrane and to the overlying membrane underside at a rate of 60 ft²/gal. (two-sided

application). Laps are sealed with a minimum 1.5" wide heat weld. (Maximum Design Pressure -142.5 psf; See General Limitation #7)

Membrane with 57" tabs: Duro-Last membrane shall be mechanically attached at its 6" wide tabs,

spaced every 57" o.c. with Duro-Last #14Concrete Screws or Duro-Last Fluted Concrete Nails with Duro-Last 3-inch Metal Plates spaced 12" o.c. maximum, through the insulation and into the deck. Duro-Last Tab Sealer

4725 shall be applied over the tab membrane and to the overlying

membrane underside at a rate of 60 ft²/gal. (two-sided application). Laps

are sealed with a minimum 1.5" wide heat weld.

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

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NOA No.: 17-0202.03 Expiration Date: 08/22/22 Approval Date: 08/17/17 Page 49 of 67 Membrane with 57" tabs:

Duro-Last membrane shall be mechanically attached at its 6" wide tabs, spaced every 57" o.c. with Duro-Last #14Concrete Screws or Duro-Last Fluted Concrete Nails with Duro-Last 3-inch Metal Plates spaced 6" o.c. maximum, through the insulation and into the deck. Duro-Last Tab Sealer 4725 shall be applied over the tab membrane and to the overlying membrane underside at a rate of 60 ft²/gal. (two-sided application). Laps are sealed with a minimum 1.5" wide heat weld.

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

Membrane with 84" tabs:

Duro-Last membrane shall be mechanically attached at its 3" wide tabs, spaced every 84" o.c. with Duro-Last #14 Concrete Screws or Duro-Last Fluted Concrete Nails with Duro-Last Poly-Plates or Duro-Last Cleat Plate spaced 6" o.c. maximum, through the insulation and into the deck. Laps are sealed with a minimum 1.5" wide heat weld.

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

Duro-Last membrane shall be mechanically attached at its 6" wide tabs, spaced every 84" o.c. with Duro-Last #14 Concrete Screws or Duro-Last Fluted Concrete Nails with Duro-Last 3-inch Metal Plates spaced 6" o.c. maximum, through the insulation and into the deck. Duro-Last Tab Sealer 4725 shall be applied over the tab membrane and to the overlying membrane underside at a rate of 60 ft²/gal. (two-sided application). Laps are sealed with a minimum 1.5" wide heat weld.

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

Duro-Last membrane shall be mechanically attached at its 3" wide tabs, spaced every 84" o.c. with Duro-Last #14Concrete Screws or Duro-Last Fluted Concrete Nails with OMG Eyehook Accuseam Plateor Duro-Last Cleat Plates spaced 6" o.c. maximum, through the insulation and into the deck. Laps are sealed with a minimum 1.5" wide heat weld.

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

Membrane with 120" tabs:

Duro-Last membrane shall be mechanically attached at its 6" wide tabs, spaced every 120" o.c. with Duro-Last #14Concrete Screws or Duro-Last Fluted Concrete Nails with Duro-Last 3-inch Metal Plates spaced 6" o.c. maximum, through the insulation and into the deck. Duro-Last Tab Sealer 4725 shall be applied over the tab membrane and to the overlying membrane underside at a rate of 60 ft²/gal. (two-sided application). Laps are sealed with a minimum 1.5" wide heat weld.

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

Maximum Design Pressure:

See fastening above



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**Deck Type 3I:** Concrete Decks, Insulated

**Deck Description:** 2500-psi structural concrete

System Type D(5): All layers of insulation are preliminarily attached to roof deck as specified

below. Membrane is mechanically attached to deck through the insulation

layers.

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.

 $\begin{array}{cccc} Insulation \ Layer & Insulation \ Fasteners & Fastener \\ & (Table \ 3) & Density/ft^2 \end{array}$ 

ACFoam II, Duro-Guard Iso II-A, H-Shield, Duro-Guard Iso II-H, ISO 95 +GL, Multi-Max FA-3 Minimum 1/2" thick N/A N/A

Note: Insulation layers above shall be mechanically attached with preliminary fastening as specified above. All Insulation panels shall also be mechanically fastened along with the roof membrane as specified below. See Roofing Application Standard RAS 117 for fastening details.

Membrane: Duro-Tuff membrane shall be mechanically attached at its 6" tabs spaced every

54" with Duro-Last #14 Concrete Screw or Duro-Last Fluted Concrete Nails with Duro-Last Poly Plates or Duro-Last Cleat Plates 6" o.c. through the insulation and into the deck. Fasteners are centered 1.25" from tab edge.

Laps are sealed with a minimum 1.5" wide heat weld.

Maximum Design

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



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**Deck Type 3I:** Concrete Decks, Insulated

**Deck Description:** 2500-psi structural concrete

System Type D(6): All layers of insulation are preliminarily attached to roof deck as specified

below. Membrane is mechanically attached to deck through the insulation

layers.

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.

 $\begin{array}{ccc} Insulation \ Layer & Insulation \ Fasteners & Fastener \\ & (Table \ 3) & Density/ft^2 \end{array}$ 

ACFoam II, Duro-Guard Iso II-A, H-Shield, Duro-Guard Iso II-H, ISO 95 +GL, Multi-Max FA-3 Minimum 1-1/2" thick N/A N/A

Note: Insulation layers above shall be mechanically attached with preliminary fastening as specified above. All Insulation panels shall also be mechanically fastened along with the roof membrane as specified below. See Roofing Application Standard RAS 117 for fastening details.

Membrane: Duro-Last membrane shall be mechanically attached at its 6" tabs spaced every

57" with Duro-Last #14 Concrete Screw with Duro-Last Cleat Plates 12" o.c. through the insulation and into the deck. Fasteners are centered 1.25" from tab edge. Duro-Last Tab Sealer 4725 shall be applied over the tab membrane and

to the overlying membrane underside at a rate of 30 ft²/gal. (two-sided application). Laps are sealed with a minimum 1.5" wide heat weld.

Maximum Design

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

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Concrete Decks, Insulated **Deck Type 3I:** 

**Deck Description:** 2500-psi structural concrete

All layers of insulation are preliminarily attached to roof deck as specified System Type D(7):

below. Membrane is mechanically attached to deck through the insulation

layers.

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 Laver Insulation Fasteners Fastener** (Table 3) Density/ft<sup>2</sup>

ACFoam II, Duro-Guard Iso II-A, H-Shield, Duro-Guard Iso II-H, ISO 95 +GL, Multi-Max FA-3 Minimum 1-1/2" thick N/A

Note: Insulation layers above shall be mechanically attached with preliminary fastening as specified above. All Insulation panels shall also be mechanically fastened along with the roof membrane as specified below. See Roofing Application Standard RAS 117 for fastening details.

Membrane: Duro-Last membrane shall be mechanically attached at its 6" tabs spaced every

> 84" with Duro-Last #14 Concrete Screw or Fluted Concrete Nails with Duro-Last Cleat Plates 6" o.c. through the insulation and into the deck. Duro-Last Tab Sealer 4725 shall be applied over the tab membrane and to the overlying membrane underside at a rate of 30 ft<sup>2</sup>/gal. (two-sided application). Laps are

sealed with a minimum 1.5" wide heat weld.

Maximum Design

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

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**Deck Type 3I:** Concrete Decks, Insulated

**Deck Description:** 2500-psi structural concrete

System Type D(8): All layers of insulation are preliminarily attached to roof deck as specified

below. Membrane is mechanically attached to deck through the insulation

layers.

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 Fastener (Table 3) Density/ft<sup>2</sup>

ACFoam II, Duro-Guard Iso II-A, H-Shield, Duro-Guard Iso II-H, ISO 95 +GL, Multi-Max FA-3 Minimum 1-1/2" thick N/A N/A

Note: Insulation layers above shall be mechanically attached with preliminary fastening as specified above. All Insulation panels shall also be mechanically fastened along with the roof membrane as specified below. See Roofing Application Standard RAS 117 for fastening details.

Membrane: Duro-Last membrane shall be mechanically attached at its 3" tabs spaced every

28" with Duro-Last #14 Concrete Screw or Fluted Concrete Nails with Duro-Last Cleat Plates or Duro-Last Poly Plates 6" o.c. through the insulation and

into the deck. Laps are sealed with a minimum 1.5" wide heat weld.

Maximum Design

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



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**Deck Type 3I:** Concrete Decks, Insulated

**Deck Description:** 2500psi structural concrete

System Type D(9): Membrane fastened over preliminarily fastened insulation. All layers of

insulation and base sheet simultaneously attached.

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 (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
Any Approved EPS or XPS listed in Table 2.	, ,	·
Minimum 1/2" thick	N/A	N/A
Top Insulation Layer	<b>Insulation Fasteners</b>	Fastener
	(Table 3)	Density/ft <sup>2</sup>
Duro-Guard Iso II-A, Duro-Guard Iso II-H, D	ouro-Guard III-A, Duro-Guard Iso III-	-H, ENRGY 3,
H-Shield, ISO 95+ GL, ACFoam II, ACFoam	III, Duro-Guard Iso II-G	
Minimum 1½" thick	1, 2, 3, 10	1:6.4 ft <sup>2</sup>
ACFoam IV		
Minimum 2" thick	1, 2, 3, 10	1:6.4 ft <sup>2</sup>

Note: Insulation layers above shall be mechanically attached with preliminary fastening as specified above. All Insulation panels shall also be mechanically fastened along with the roof membrane as specified below. See Roofing Application Standard RAS 117 for fastening details.

Membrane: Minimum 50-mil Duro-Tuff membrane shall be mechanically attached 12" o.c in

rows spaced 116" o.c. with Duro-Last Cleat Plates and Duro-Last #15 Extra Heavy Duty Drill Point Fastener. Laps are sealed with minimum 1.5" wide heat

weld.

Maximum Design

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



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Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500psi structural concrete

**System Type D(10):** Membrane fastened over preliminarily fastened insulation. All layers of

insulation and membrane simultaneously attached

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:

Insulation Layer Insulation Fasteners Fastener (Table 3) Density/ft<sup>2</sup>

ACFoam II, ACFoam III, Duro-Guard Iso II-A, Duro-Guard Iso III-A, ENRGY 3, H-Shield, Duro-Guard Iso II-H, Duro-Guard Iso II-G

N/A N/A

Note: Insulation layer above shall be mechanically attached with preliminary fastening. All Insulation panels shall be mechanically fastened along with the roof membrane as specified below. See Roofing Application Standard RAS 117 for fastening details.

Membrane with 57" tabs: Duro-Last membrane shall be mechanically attached at its 6" wide tabs,

spaced every 57" o.c. with Duro-Last #15 Extra Heavy Duty Drill Point Fastener with Duro-Last 3-inch Metal Plates or Duro-Last Cleat Plates Spaced 12" o.c. maximum, through the insulation and into the deck. Duro-Last Tab Sealer 4725 shall be applied over the tab membrane and to the overlying membrane underside at a rate of 60 ft2/gal. (two-sided application). Laps are sealed with a minimum 1.5" wide heat weld. (Maximum Design Pressure -52.5 psf; See General Limitation #7)

Duro-Last membrane shall be mechanically attached at its 6" wide tabs, spaced every 57" o.c. with Duro-Last #15 Extra Heavy Duty Drill Point Fastener with Duro-Last 3-inch Metal Plates or Duro-last Cleat Plates spaced 6" o.c. maximum, through the insulation and into the deck. Duro-Last Tab Sealer 4725 shall be applied over the tab membrane and to the overlying membrane underside at a rate of 60 ft²/gal. (two-sided application). Laps are sealed with a minimum 1.5" wide heat weld. (Maximum Design Pressure -105 psf; See General Limitation #7)

Membrane with 84" tabs: Duro-Last membrane shall be mechanically attached at its 3" wide tabs,

spaced every 84" o.c. with Duro-Last #14 HD Fastener with Duro-Last Poly-plates or Duro-Last Cleat Plates spaced 6" o.c. maximum, through the insulation and into the deck. Laps are sealed with a minimum 1.5"

wide heat weld.

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



NOA No.: 17-0202.03 Expiration Date: 08/22/22 Approval Date: 08/17/17 Page 56 of 67 Membrane with 84" tabs:

Duro-Last membrane shall be mechanically attached at its 6" wide tabs, spaced every 84" o.c. with Duro-Last #15 Extra Heavy Duty Drill Point Fastener with Duro-Last 3"-inch Metal Plates or Duro-Last Cleat Plates spaced 6" o.c. maximum, through the insulation and into the deck. Duro-Last Tab Sealer 4725 shall be applied over the tab membrane and to the overlying membrane underside at a rate of 60 ft²/gal. (two-sided application). Laps are sealed with a minimum 1.5" wide heat weld. *Maximum Design Pressure -52.5 psf; See General Limitation #7*)

Duro-Last membrane shall be mechanically attached at its 3" wide tabs, spaced every 84" o.c. with Duro-Last #15 Extra Heavy Duty Drill Point Fastener with OMG Eyehook Accuseam Plates or Duro-Last Cleat Plates spaced 6" o.c. maximum, through the insulation and into the deck. Laps are sealed with a minimum 1.5" wide heat weld.

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

Membrane with 120" tabs:

Duro-Last membrane shall be mechanically attached at its 6" wide tabs, spaced every 120" o.c. with Duro-Last #15 Extra Heavy Duty Drill Point Fastener with Duro-Last 3-inch Metal Plates or Duro-Last Cleat Plates spaced 6" o.c. maximum, through the insulation and into the deck. Duro-Last Tab Sealer 4725 shall be applied over the tab membrane and to the overlying membrane underside at a rate of 60 ft²/gal. (two-sided application). Laps are sealed with a minimum 1.5" wide heat weld. (Maximum Design Pressure -82.5 psf; See General Limitation #7)

Maximum Design Pressure:

See fastening above



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**Deck Type 3I:** Concrete Decks, Insulated

**Deck Description:** 2500psi structural concrete

System Type D(11): Membrane fastened over preliminarily fastened insulation. All layers of

insulation and membrane simultaneously attached.

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:

Insulation Layer Insulation Fasteners Fastener (Table 3) Density/ft<sup>2</sup>

ENRGY-3, ISO 95+ GL, Multi-Max FA-3, ACFoam-II, ACFoam-III, Duro-Guard Iso II-A, Duro-Guard Iso III-A, Thermaroof Composite-3, Duro-Guard Iso II-G Minimum 1½" thick N/A

Note: Insulation layer above shall be mechanically attached with preliminary fastening. All Insulation panels shall be mechanically fastened along with the roof membrane as specified below. See Roofing Application Standard RAS 117 for fastening details.

Membrane with 57" tabs:

Duro-Last membrane shall be mechanically attached at its 6" wide tabs, spaced every 57" o.c. with Duro-Last #15 Extra Heavy Duty Drill Point fasteners with OMG Eyehook Accuseam Plateor Duro-Last Cleat Plates spaced 12" o.c. maximum, through the insulation and into the deck. Duro-Last Tab Sealer 4725 shall be applied over the tab membrane and to the overlying membrane underside at a rate of 30 ft²/gal. (two-sided application). Laps are sealed with a minimum 1.5" wide heat weld.

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

Duro-Last membrane shall be mechanically attached at its 6" wide tabs, spaced every 57" o.c. with Duro-Last #15 Extra Heavy Duty Drill Point fasteners with OMG Eyehook Accuseam Plateor Duro-Last Cleat Plates spaced 6" o.c. maximum, through the insulation and into the deck. Duro-Last Tab Sealer 4725 shall be applied over the tab membrane and to the overlying membrane underside at a rate of 30 ft²/gal. (two-sided application). Laps are sealed with a minimum 1.5" wide heat weld.

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

Membrane with 84" tabs:

Duro-Last membrane shall be mechanically attached at its 6" wide tabs, spaced every 84" o.c. with Duro-Last #15 Extra Heavy Duty Drill Point fasteners with OMG Eyehook Accuseam Plateor Duro-Last Cleat Plates spaced 12" o.c. maximum, through the insulation and into the deck. Duro-Last Tab Sealer 4725 shall be applied over the tab membrane and to the overlying membrane underside at a rate of 30 ft²/gal. (two-sided application). Laps are sealed with a minimum 1.5" wide heat weld.

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

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N/A

Membrane with 84" tabs:

Duro-Last membrane shall be mechanically attached at its 6" wide tabs, spaced every 84" o.c. with Duro-Last #15 Extra Heavy Duty Drill Point fasteners with 20MG Eyehook Accuseam Plateor Duro-Last Cleat Plates spaced 6" o.c. maximum, through the insulation and into the deck. Duro-Last Tab Sealer 4725 shall be applied over the tab membrane and to the overlying membrane underside at a rate of 30 ft<sup>2</sup>/gal. (two-sided application). Laps are sealed with a minimum 1.5" wide heat weld.

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

Membrane with 120" tabs: Duro-Last membrane shall be mechanically attached at its 6" wide tabs, spaced every 120" o.c. with Duro-Last #15 Extra Heavy Duty Drill Point fasteners with OMG Eyehook Accuseam Plateor Duro-Last Cleat Plates spaced 12" o.c. maximum, through the insulation and into the deck. Duro-Last Tab Sealer 4725 shall be applied over the tab membrane and to the overlying membrane underside at a rate of 30 ft<sup>2</sup>/gal. (two-sided application). Laps are sealed with a minimum 1.5" wide heat weld.

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

Duro-Last membrane shall be mechanically attached at its 6" wide tabs, spaced every 120" o.c. with Duro-Last #15 Extra Heavy Duty Drill Point fasteners with OMG Evehook Accuseam Plateor Duro-Last Cleat Plates spaced 6" o.c. maximum, through the insulation and into the deck. Duro-Last Tab Sealer 4725 shall be applied over the tab membrane and to the overlying membrane underside at a rate of 30 ft<sup>2</sup>/gal. (two-sided application). Laps are sealed with a minimum 1.5" wide heat weld.

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

Maximum Design Pressure:

See fastening above



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**Deck Type 3I:** Concrete Decks, Insulated

**Deck Description:** 2500psi structural concrete

System Type D(12): Membrane fastened over preliminarily fastened insulation. All layers of

insulation and base sheet simultaneously attached.

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:

<b>Base Insulation Layer (Optional)</b>	<b>Insulation Fasteners</b>	Fastener
	(Table 3)	Density/ft <sup>2</sup>

Any Approved EPS or XPS listed in Table 2.

Minimum ½" thick N/A N/A

Top Insulation Layer Insulation Fasteners Fastener (Table 3) Density/ft²

Duro-Guard Iso II-A, Duro-Guard Iso II-H, Duro-Guard III-A, Duro-Guard Iso III-H, ENRGY 3, H-Shield, ISO 95+ GL, ACFoam II, ACFoam III, Duro-Guard Iso II-G

Minimum 1½" thick

2 or 3 with 5

1:6.4 ft²

**ACFoam IV** 

Minimum 2" thick 2 or 3 with 5 1:6.4 ft<sup>2</sup>

Note: Insulation layers above shall be mechanically attached with preliminary fastening as specified above. All Insulation panels shall also be mechanically fastened along with the roof membrane as specified below. See Roofing Application Standard RAS 117 for fastening details.

Membrane: Minimum 50-mil Duro-Tuff membrane shall be mechanically attached 12" o.c

in rows spaced 116" o.c. with Duro-Last Cleat Plates and Duro-Last #15 Extra Heavy Duty Drill Point Fastener. Laps are sealed with minimum 1.5" wide heat

weld.

Maximum Design

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



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**Deck Type 3I:** Concrete Decks, Insulated

**Deck Description:** 2500psi structural concrete

System Type D(13): Membrane fastened over preliminarily fastened insulation. All layers of

insulation and base sheet simultaneously attached.

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 (Optional)	<b>Insulation Fasteners</b>	<b>Fastener</b>
	(Table 3)	Density/ft <sup>2</sup>
Any Approved EPS or XPS listed in Table 2.		

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Top Insulation Layer Insulation Fasteners Fastener (Table 3) Density/ft<sup>2</sup>

Duro-Guard Iso II-A, Duro-Guard Iso II-H, Duro-Guard III-A, Duro-Guard Iso III-H, ENRGY 3, H-Shield, ISO 95+ GL, ACFoam II, ACFoam III, Duro-Guard Iso II-G

Minimum 1½" thick 2 or 3 with 5 1:6.4 ft<sup>2</sup>

**ACFoam IV** 

Minimum 1/2" thick

Minimum 2" thick 2 or 3 with 5 1:6.4 ft<sup>2</sup>

Note: Insulation layers above shall be mechanically attached with preliminary fastening as specified above. All Insulation panels shall also be mechanically fastened along with the roof membrane as specified below. See Roofing Application Standard RAS 117 for fastening details.

Membrane: Minimum 50-mil Duro-Tuff membrane shall be mechanically attached 12" o.c.

in rows spaced 56" o.c with Duro-Last Cleat Plates and Duro-Last #15 Extra Heavy Duty Drill Point Fastener. Laps are sealed with minimum 1.5" wide heat

N/A

N/A

weld.

Maximum Design

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



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**Deck Type 3:** Concrete Decks, Non-Insulated

**Deck Description:** 2500-psi structural concrete

**System Type E:** Membrane mechanically attached to roof deck.

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.

Slip Sheet (Optional) One ply of Duro-Blue Separation Slip Sheet or Duro-Weave

Separation Slip Sheet applied as per manufacturer's installation

instructions.

Vapor Barrier: (Optional) Any UL or FM approved vapor barrier.

Fire Barrier: (Optional) Atlas Roofing Corporation FR-10<sup>®</sup> Fire Retardant Slip Sheet,

FR-50® Fire Retardant Slip Sheet,, ¼" DensDeck, ½" thick UL

Classification Type X Gypsum with a moisture resistant facer and core or a second sheet of barrier board may be used over the deck (see General

Limitation #1).

Membrane with 28" tabs: Duro-Last® membrane shall be mechanically attached at its 3" tabs

spaced every 28" with Duro-Last Fluted Concrete Nails, Duro-Last #14 Concrete Screws or Duro-Last #14 Concrete Screws with Duro-Last Poly-Plates or Duro-Last Cleat Plate spaced 18" o.c. maximum, through the insulation and into the deck. Laps are sealed with a minimum 1.5"

wide heat weld.

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

Duro-Last membrane shall be mechanically attached at its 3" tabs, spaced every 28" with Duro-Last Fluted Concrete Nails, Duro-Last #14 Concrete Screws or Duro-Last #14 Concrete Screws and Duro-Last Poly-Plates or Duro-Last Cleat Plate spaced 12" o.c. maximum, into the deck. Laps are

sealed with a minimum 1.5" wide heat weld.

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

Duro-Last membrane shall be mechanically attached at its 3" tabs, spaced every 28" with Duro-Last Fluted Concrete Nails, Duro-Last#14 Concrete Screws or Duro-Last #14 Concrete Screws and Duro-Last Poly-Plates or Duro-Last Cleat Plate spaced 6" o.c. maximum, into the deck. Laps are

sealed with a minimum 1.5" wide heat weld.

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



NOA No.: 17-0202.03 Expiration Date: 08/22/22 Approval Date: 08/17/17 Page 62 of 67 Membrane with 60" tabs: Duro-Last® membrane shall be mechanically attached at its 3" tabs

spaced every 60" with Duro-Last Fluted Concrete Nails, Duro-Last #14 Concrete Screws or Duro-Last #14Concrete Screws with Duro-Last Poly-Plates or Duro-Last Cleat Plate spaced 6" o.c. maximum, through the insulation and into the deck. Laps are sealed with a minimum 1.5" wide

heat weld.

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

Membrane with 120" tabs: Duro-Last® membrane shall be mechanically attached at its minimum 6"

tabs spaced every 120" with Duro-Last Fluted Concrete Nails, Duro-Last #14 Concrete Screws or Duro-Last #14 Concrete Screws with Poly-Plates

or Duro-Last Cleat Plate spaced at 6" o.c. maximum through the

installation and into the deck. Laps are sealed with a minimum 1.5" wide

heat weld.

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

Maximum Design

Pressure: See fastening above.



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Deck Type 3: Concrete Deck, Non-Insulated

Deck Description: 2500-psi structural concrete

**System Type F(1):** Membrane fully adhered to concrete deck

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

**Membrane:** Duro-Fleece membrane or Duro-Fleece Plus membrane fully adhered with Duro-

Fleece CR-20 Adhesive applied in "splatter pattern" at a rate of 8 lbs./100ft<sup>2</sup>. Laps

are sealed with a minimum 1.5" wide heat weld.

**Maximum Design** 

**Pressures:** -502.5 psf. (See General Limitation #9)

**Membrane Type:** Single Ply, PVC

Deck Type 3: Concrete Deck, Non-Insulated

Deck Description: 2500-psi structural concrete

**System Type F(2):** Membrane fully adhered to concrete deck

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

**Membrane:** Duro-Fleece membrane or Duro-Fleece Plus membrane fully adhered with Duro-

Last WB II Adhesive applied at a minimum rate of 100 ft<sup>2</sup>/gal. to substrate only.

Or

Duro-Last EV membrane fully adhered with Duro-Last WB II Adhesive

applied at a rate of gal/100ft<sup>2</sup>. Laps are sealed with a minimum 1.5" wide heat

weld.

**Maximum Design** 

**Pressures:** -502.5 psf. (See General Limitation #9)



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Deck Type 3: Concrete Deck, Non-Insulated

Deck Description: 2500-psi structural concrete

**System Type F(3):** Membrane fully adhered to concrete deck

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

**Membrane:** Minimum 40 mil Duro-Last membrane fully adhered with SB IV applied at a rate

of 60 ft<sup>2</sup>/gal. Laps are sealed with a minimum 1.5" wide heat weld.

**Maximum Design** 

**Pressures:** -102.5 psf. (See General Limitation #9)

**Membrane Type:** Single Ply, PVC

Deck Type 3: Concrete Deck, Non-Insulated

Deck Description: 2500-psi structural concrete

System Type F(4): Membrane fully adhered to concrete deck

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

**Membrane:** One ply of Duro-Last membrane, Duro-Tuff membrane or Duro-Last EV

membrane fully adhered with Duro-Last WB II Adhesive applied at a minimum rate of 140 ft<sup>2</sup>/gal. to substrate only. Laps are sealed with a minimum of 1.5"

wide heat weld.

**Maximum Design** 

**Pressures:** -127.5 psf. (See General Limitation #9)



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Single Ply, PVC **Membrane Type:** 

Deck Type 3: Concrete Deck, Non-Insulated **Deck Description:** 2500-psi structural concrete

System Type F(5): Membrane fully adhered to concrete deck

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.

Minimum 50 mil Duro-Fleece Plus membrane fully adhered with Duro-Last WB II Membrane:

Adhesive applied at a rate of 140 ft2/gal. Laps are sealed with a minimum 1.5"

wide heat weld.

**Maximum Design** 

-672.5 psf. (See General Limitation #9) **Pressures:** 

Single Ply, PVC **Membrane Type:** 

Deck Type 3: Concrete Deck, Non-Insulated **Deck Description:** 2500-psi structural concrete

Membrane fully adhered to concrete deck System Type F(6):

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.

Minimum 50 mil Duro-Fleece Plus membrane fully adhered with Duro-Fleece CR-**Membrane:** 

20 Membrane Adhesive applied in a splatter pattern at a rate of 8 lbs./100-ft2. Laps

are sealed with a minimum 1.5" wide heat weld.

**Maximum Design** 

**Pressures:** -870 psf. (See General Limitation #9)



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## **CONCRETE DECK SYSTEM LIMITATIONS:**

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:**

- 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
- All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
- 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 sidelap 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.

- 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 fieldtested, are below 275 lbf. insulation attachment shall not be acceptable.
- Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
- 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.)
- All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform with Roofing Application Standard RAS 111 and applicable wind load requirements.
- 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

MIAMI DADE COUNTY APPROVED

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