

#### MIAMI-DADE COUNTY PRODUCT CONTROL SECTION

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www.miamidade.gov/economy

### 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 Steel 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. 16-0517.02 and consists of pages 1 through 63. The submitted documentation was reviewed by Jorge L. Acebo.



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#### ROOFING SYSTEM APPROVAL

Category:RoofingSub-Category:Single PlyMaterials:PVCDeck Type:SteelMaximum Design Pressure:-142. 5 psf.

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

		Test	Product
<b>Product</b>	<b>Dimensions</b>	<b>Specification</b>	<b>Description</b>
<b>Duro-Last Membrane</b>	.037" thick,	ASTM D4434	PVC polymer blend polyester reinforced
	Various widths x		roofing membrane.
	150 ft. rolls		
Duro-Last Membrane	.045" thick,	<b>ASTM D4434</b>	PVC polymer blend polyester reinforced
	Various widths x		roofing membrane.
	100 ft. rolls		
Duro-Last Membrane	.057" thick,	ASTM D4434	PVC polymer blend polyester reinforced
	Various widths x		roofing membrane.
	100 ft. rolls		
Duro-Last Designer	.045" thick	ASTM D4434	PVC polymer blend polyester reinforced
Series Membrane	Various widths x		roofing membrane: Rock-Ply & Shingle-
D El Di	lengths	A C(T) 4 D 4 4 2 4	Ply.
Duro-Fleece Plus	.047" thick,	ASTM D4434	PVC polymer blend polyester reinforced
Membrane	Various widths x		fleece backed roofing membrane.
Duro-Fleece Plus	100 ft. rolls	ASTM D4434	DVC nolymer bland nelyester reinfered
Membrane	.056" thick, Various widths x	ASTM D4434	PVC polymer blend polyester reinforced fleece backed roofing membrane.
Memorane	100 ft. rolls		neece backed rooting memorane.
Duro-Fleece Membrane	.047" thick, .	ASTM D4434	PVC polymer blend polyester reinforced
Duro i recec internorune	Various widths x	7151W1 D 1151	fleece backed roofing membrane.
	100 ft. rolls		menoral rooms
Duro-Fleece Membrane	.056" thick,	ASTM D4434	PVC polymer blend polyester reinforced
	Various widths x		fleece backed roofing membrane.
	100 ft. rolls		C
Duro-Fleece Membrane	.080" thick	<b>ASTM D4434</b>	PVC polymer blend polyester reinforced
	Various widths x		fleece backed roofing membrane.
	65 ft rolls		
Duro-Tuff Membrane	.045" thick	ASTM D4434	PVC polymer blend polyester reinforced
	Vaious widths x		roofing membrane.
D	100 ft. rolls	1 CT 1 D 1 1 2 1	
Duro-Tuff Membrane	.057" thick	ASTM D4434	PVC polymer blend polyester reinforced
	Various widths x		roofing membrane.
D TCOM	100 ft. rolls	A CTM D 4 4 2 4	DVC ll-lll
Duro-Tuff Membrane	.080" thick Various widths x	ASTM D4434	PVC polymer blend polyester reinforced
	65 ft. rolls		roofing membrane.
Duro-Last EV 50 mil	53 mil thick		PVC polymer blend polyester reinforced
Duro-Last L V 30 IIII	Various widths x	ASTM D4434	roofing membrane with KEE films.
	100 ft rolls	7101111111777	rooming momorane with KLL filling.
	100 11 10115		NO 1 N 1 1 0000



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		Test	Product
<b>Product</b>	<b>Dimensions</b>	<b>Specification</b>	<b>Description</b>
Duro-Last EV 60 mil	60 mil thick		PVC polymer blend polyester reinforced
	Various widths x 100 ft rolls	ASTM D4434	roofing membrane with KEE films.
Duro-Last Fascia Bar	1 <sup>3</sup> / <sub>4</sub> " x 10'; 4" x 10'	Proprietary	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'	Proprietary	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"	Various	TAS 111	Kynar finish Galvalume, 24 ga., with vinyl skirt.
Duro-Last 2-Piece Compression Edge	Various	TAS 111	Kynar finish Galvalume, 24 ga.
Duro-Last Drip Edge	2" face x 10'; 4" face x 10';	Proprietary	Extruded vinyl drip edge with holes punched 8" o.c.
Duro-Last Two-Way Roof Vents		Proprietary	Injection molded two-way roof vents with a Duro-Last membrane skirt.
Duro-Last Gravel Stop	2" face x 10'; 4" face x 10';	Proprietary	Extruded vinyl gravel stop with holes punched 8" o.c.
Roof-Trak III Walk Pads	30" x 60" .125" thick	Proprietary	Extruded vinyl walk way pads manufactured from Duro-Last membrane.
Duro-Last WB II Adhesive	5 gal. pail	Proprietary	Polymeric waterborne membrane adhesive.
Duro-Last SB IV	5 gal. pail	Proprietary	Low VOC solvent-based membrane adhesive.
Duro-Fleece Adhesive	10 gal.	Proprietary	Two-component membrane adhesive.
Duro-Last Tab Sealer 4725	5 gal.	Proprietary	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-Fleece CR-20 Adhesive	Kit covers 2,000 ft <sup>2</sup>	Proprietary	Dual component, low-rise polyurethane foam adhesive
Duro-Grip CR-20 Adhesive	Kit covers $2,000 \text{ ft}^2$	Proprietary	Dual component, low-rise polyurethane foam adhesive
Duro-Grip Weather-Tite One Step	Four 1.5 Liter Cartridges	Proprietary	Insulation Adhesive
Duro-Blue Separation Slip Sheet	4 mil x 20' x 360'; 4 mil x 20'x 100'	Proprietary	Separation slip sheet produced from coextruded polyethylene film
Duro-Last Duro-Weave Separation Slip Sheet	2.5 mil x 12' x 328'	Proprietary	Separation slip sheet produced from high density polyethylene tapes and coated on one side with low density polyethylene



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APPROVED INSULATIONS: Product Name	TABLE 2 Product Description	Manufacturer (With Current NOA)
ACFoam II, ACFoam III, ACFoam IV, Tapered ACFoam IV	Polyisocyanurate foam insulation	Atlas Roofing Corp
ISO 95+ GL	Polyisocyanurate foam insulation	Firestone Building Products Company, LLC
Type X Gypsum	Gypsum Board	Generic
SECUROCK Gypsum-Fiber Roof Board	Gypsum roof board	United States Gypsum Corporation
SECUROCK Glass-Mat Roof Board	Gypsum roof board with fiberglass facer	United States Gypsum Corporation
DensDeck, DensDeck Prime	Silicon treated gypsum	Georgia-Pacific Gypsum LLC
Cellofoam Type IX EPS Insulation	Type IX Expanded Polystyrene (EPS)	Cellofoam North America, Inc.
H-Shield	Polyisocyanurate foam insulation	Hunter Panels, LLC
ENRGY 3	Polyisocyanurate foam insulation	Johns Manville
EnergyGuard Polyiso Insulation	Polyisocyanurate insulation with fiberglass reinforced organic facers	GAF
Kingspan GreenGuard Insulation Board CM	Extruded Polystyrene insulation	Kingspan Insulation, LLC
Invinsa Roof Board	High density Polyisocyanurate board	Johns Manville
Multi-Max FA-3	Polyisocyanurate foam insulation	Rmax Operating, LLC
Duro-Guard EPS	Expanded polystyrene	Duro-Last Roofing, Inc.
Insulfoam EPS	Polystyrene roof board insulation	Insulfoam LLC
R-Tech Fan Fold	Type IX Expanded polystyrene with polymeric facers	Insulfoam, LLC
Thermaroof Composite-3	Polyisocyanurate foam insulation laminated to perlite	Rmax Operating, LLC
Duro-Fold Underlayment Board	Extruded polystyrene with polypropylene facer	Duro-Last Roofing, Inc.
Duro-Guard Iso II-H & Tapered, Duro-Guard Iso III-H & Tapered,	Polyisocyanurate foam insulation	Duro-Last Roofing, Inc.
Duro-Guard Iso II-A & Tapered, Duro-Guard Iso III-A & Tapered,	Polyisocyanurate foam insulation	Duro-Last Roofing, Inc.
Duro-Guard ISO II-G & Tapered	Polyisocyanurate insulation with fiberglass reinforced organic facers	Duro-Last Roofing, Inc.
Duro-Guard ISO III-G & Tapered	Polyisocyanurate insulation with coated fiberglass facers	Duro-Last Roofing, Inc.
Duro-Guard ISO HD-G	High density polyisocyanurate insulation with coated fiberglass facers	Duro-Last Roofing, Inc.



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# APPROVED INSULATIONS: Product Name Product Description With Current NOA) DEXcell Cement Roof Board DEXcell FA Glass Mat Roof Board Ogypsum core, heavy duty glass mat facer insulation/roof board Ogypsum core, heavy duty glass mat facer insulation/roof board Ogypsum core, heavy duty glass mat facer insulation/roof board Ogypsum core, heavy duty glass mat facer insulation/roof board Ogypsum core, heavy duty glass mat facer insulation/roof board

#### **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-Plates	Round plastic stress plates.	2" round	Duro-Last Roofing, Inc.
5.	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.
6.	Eyehook Accuseam Plates	Stress plates	2-3/8"	OMG, Inc.
7.	Duro-Last Batten Bar	18 ga. Galvalume steel batten bar with pre-punched holes every 6"	1" wide	Duro-Last Roofing, Inc.
8.	Trufast EHD (#15) Fasteners	Corrosion resistant, drill point with a #3 Phillips truss head	Various Lengths	Altenloh, Brinck & Co. U.S., Inc.
9.	Duro-Last Cleat Plates	0.035" thick galvalume stress plate	2-3/8"	Duro-Last Roofing, Inc.
10.	Duro-Last #14 HD Fastener	Roofing and insulation fasteners	Various Lengths	Duro-Last Roofing, Inc.
11.	RhinoBond Insulation Plates	Primer coated plate used in heat welded applications	3" round	OMG, Inc.
12.	OMG XHD	#15 carbon steel fastener	Various	OMG, Inc.
13.	Trufast DP #12 Fasteners	Carbon steel screw with #3 phillips drive	#12 x 8" max. length	Altenloh, Brinck & Co. U.S., Inc.
14.	Duro-Bond Plate 1302	Round, coated galvalume plate (Gold and Black)	3" round	Duro-Last Roofing, Inc.
15.	Trufast 3" Metal Insulation Plate	Round stress plate with reinforcing ribs	3" round	Altenloh, Brinck & Co. U.S., Inc.
16.	Dekfast DF-#12-PH3 Fastener	#3 Phillpis drive, drill point fastener for use with steel and wood decks	Various	SFS Intec, Inc.



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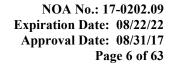
#### **APPROVED FASTENERS:**

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
17.	Dekfast DF-#15-PH3 Fastener	#3 Phillpis drive fastener for use with steel, wood and concrete decks	Various	SFS Intec, Inc.
18.	Isoweld F1-P-6.8-PVC Plate	G-90 steel plate with PVC coating for insulation	3" dia.	SFS Intec, Inc.
19.	Dekfast 15 HS	Self-drilling carbon fastener for use with concrete, steel and wood decks.	Various	SFS Intec, Inc.
N/A	OlyBond 500	Two-component, low-rise polyurethane foam adhesive	10 gallon Bag-in-Box sets or 1,500 ml cartridges	OMG, Inc.
N/A	Insta Stik <sup>TM</sup> Quik Set Insulation Adhesive	Single component polyurethane adhesive	30 lb. steel tank	The Dow Chemical Co.

#### **EVIDENCE SUBMITTED:**

Test Agency/Identifier	<u>Name</u>	<b>Report</b>	<b>Date</b>
Factory Mutual Research Corp.	J.I. 3Y5A6.AM	Class 4470	03/10/95
1	4D6A4.AM	Class 4470	08/09/99
	3005604	Class 4470	03/13/00
	3008342	Class 4470	10/19/00
	3026508	Class 4470	05/03/07
	3023458	Class 4470	07/18/06
	3033314	Class 4470	08/26/08
	3040346	Class 4470	09/28/11
	3040741	Class 4470	12/02/11
	3044466	Class 4470	11/07/12
	3054028	Class 4470	05/25/16
	3055227	FM 4470	05/21/15
Underwriters Laboratories	R10128	UL790	03/31/15
	R11183	UL723	11/19/09
RADCO	RAD-5135	ASTM C578	05/02/12
Exterior Research & Design, LLC	#02733.01.05-1	TAS 114	01/21/05
	#02744.05.06	TAS 114	05/17/06
	#D6760.08.07	TAS 114	08/01/07
	02732.09.04	ASTM D4434	09/28/04
Trinity ERD	02750.02.08-R2	ASTM D4434	08/03/12
	D42370.07.12	ASTM D1084 / TAS 117	07/11/12
	D35210.08.11-R1	ASTM D4434	09/17/12
	D35210.08.11-R3	ASTM D4434	03/29/13
	D40260.03.13-1	ASTM D4434	03/29/13
	D40280.03.13	ASTM D4434	03/13/13
	D43030.1.13-R1	TAS 114(J)/TAS 117(A)	10/02/13





#### **EVIDENCE SUBMITTED: (CONTINUED)**

Test Agency/Identifier	<u>Name</u>	Report	<b>Date</b>
Trinity ERD	D44450.05.13-2	<b>ASTM D4434</b>	05/10/13
	C8500SC.11.07	TAS 117(B)	11/30/07
	SC10010.02.16	TAS 114 J	02/29/16
	DL-SC13445.02.17	<b>ASTM D4434</b>	02/17/17
PRI Construction Materials		ASTM D1876/D1761	
Technologies, LLC	DLRI-021-02-01.12	TAS 117(A)/(B)	06/27/17
		TAS 114(D)	
	DLRI-030-02-01	TAS 114(D)	04/01/13
	DLRI-045-02-01	TAS 114(D)	08/24/13
	DLRI-053-02-01	ASTM D4434	06/26/14
	DLRI-068-02-01.2	TAS 114(J)	08/15/14
	DLRI-070-02-01	TAS 114 (J)	07/30/14
	DLRI-073-02-01.1	TAS 114(J)	04/23/15
	DLRI-077-02-01.1	TAS 114(J)	04/15/15
	DLRI-86-02-02.1	TAS 114(J)	10/07/15
	DLRI-090-02-01	TAS 114(J)	02/01/16
	DLRI-096-02-01.1	TAS 114(J)	08/28/17
Intertek Testing Services, NA Inc.	3119586-001	TAS 111	07/10/07

#### **DECK STRESS ANALYSIS CALCULATIONS/REPORTS**

Engineer/Agency	<u>Identifier</u>	<u>Assemblies</u>	<b>Date</b>
FM Approval Deck Limitations	N/A	C(5), C(6), C(7), C(8), C(24), D(1), D(2), D(3), D(4), D(5), D(6), D(7), D(8),	01/01/13
Zachary R. Priest, P.E.	Signed/Sealed	A	08/28/17
	Calculations	C(9), C(10), C(11), C(12), C(13),	02/18/16
		C(14), C(15), C(18), C(19),	02/18/16
		D(9), D(10), D(11), D(12),	02/18/16
		C(17), C(20),	07/24/17
		D(13), D(14), D(15), D(16), D(17), D(18)	07/24/17
		D(19), D(20), D(21)	10/07/15
		D(22)	08/28/17
		C(25), C(26), C(27), C(28)	08/31/17



NOA No.: 17-0202.09 Expiration Date: 08/22/22 Approval Date: 08/31/17 Page 7 of 63 **APPROVED ASSEMBLIES:** 

Membrane Type: Single Ply, PVC

Deck Type 2I: Steel, Insulated

**Deck Description:** Minimum 22 ga., Type B, Grade 33 steel deck is secured to steel deck supports

spaced maximum 6 ft. o.c. with 5/8" diameter puddle welds fastened at each flute. Panel laps stitched 24' o.c. with ½" – 14 x 7/8" HWH screws.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

**System Type A:** All layers of insulation adhered, 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

H-Shield, Duro-Guard II-H, AC-Foam II, Duro-Guard ISO II-A, EnergyGuard Polyiso Insulation, Duro-Guard ISO II-G

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

Note: Insulation shall be adhered to deck with Duro-Grip CR-20 Adhesive, Insta Stik<sup>TM</sup> Quik Set Insulation Adhesive, Duro-Grip Insta Stik, Duro-Grip Weather-Tite One Step or OlyBond 500 applied in continuous <sup>3</sup>/<sub>4</sub>' to 1" wide ribbons spaced 6" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: Minimum 40 mil Duro-Last membrane, minimum 50 mil Duro-Tuff or minimum

50 mil Duro-Last EV membrane shall be fully adhered with Duro-Last WB II Adhesive applied at a rate of  $140~\rm{ft^2/gal}$ . Minimum 3" wide laps are sealed with

a minimum 1.5" wide heat weld.

Or

Minimum 40 mil Duro-Last membrane, minimum 50 mil Duro-Tuff or minimum 50 mil Duro-Last EV membrane shall be fully adhered with Duro-Last SB IV Adhesive applied at a rate of 60 ft²/gal. (apply 120 ft²/gal to both the membrane and substrate). Minimum 3" wide laps are sealed with a minimum 1.5" wide

heat weld.

Or

Minimum 50 mil Duro-Fleece or Duro-Fleece Plus membrane shall be fully adhered with Duro-Last WB II Adhesive applied at a rate of 100 to 120 ft<sup>2</sup>/gal. Minimum 3" wide laps are sealed with a minimum 1.5" wide heat weld.

Or

Minimum 50 mil Duro-Fleece or Duro-Fleece Plus membrane shall be adhered with Duro-Fleece CR-20 Membrane Adhesive applied in a splatter pattern at a rate of 8 lbs/sq. Minimum 3" wide laps are sealed with a minimum 1.5" wide heat weld

Maximum Design

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

MIAMI-DADE COUNTY
APPROVED

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**Deck Description:** Minimum 22 ga., Type B, Grade 33 steel deck is secured to steel deck supports

spaced maximum 5 ft. o.c.

**System Type B(1):** 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) Density/ft<sup>2</sup>

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 ft2/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)

MIAMI-DADE COUNTY
APPROVED

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**Deck Description:** Minimum 22 ga., Type B, Grade 33 steel deck is secured to steel deck supports

spaced maximum 5 ft. o.c.

**System Type B(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.

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

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).

<u>Isoweld Plate Note: When using Isoweld F1-P-6.8-PVC Plates over steel decks, ensure that the combined thickness of the new insulation is minimum 1". This thickness shall be measured from the top rib of the steel deck.</u>

Membrane: Insulation Layer shall be through fastened to the steel 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 3000 stand-up tool. 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 Description:** Minimum 22 ga., Type B, Grade 33 steel deck is secured to steel deck supports

spaced maximum 5 ft. o.c.

**System Type C(1):** 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.

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 1	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 Prime	, 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-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 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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Minimum 22 ga., Type B, Grade 33 steel deck is secured to steel deck supports **Deck Description:** 

spaced maximum 5 ft. o.c.

System Type C(2): 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, 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	1:2 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-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

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



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**Deck Description:** Minimum 22 ga., Type B, Grade 33 steel deck is secured to steel deck supports

spaced maximum 5 ft. o.c.

System Type C(3): 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 5 with 11 or 14 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).

RhinoBond Plate Note: When using RhinoBond Plate over steel decks, ensure that the combined thickness of the new insulation is minimum 1". This thickness shall be measured from the top rib of the steel deck.

Membrane: <u>Insulation Layer shall be through fastened to the steel deck with the fastener and</u>

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 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 Description:** Minimum 22 ga., Type B, Grade 33 steel deck is secured to steel deck supports

spaced maximum 5 ft. o.c.

**System Type C(4):** 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 Fastener (Table 3) The Density/ft²

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

Minimum1.5" thick N/A N/A

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

**Invinsa Roof Board** 

Minimum  $\frac{1}{4}$ " thick 2 with 1 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 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 Description:** Minimum 22 ga., Type B, Grade 33 steel deck is secured to supports spaced 6

ft. o.c. with Traxx 5 fasteners spaced 6" o.c. (one fastener installed at each bearing attachment point) and Traxx 1 fasteners 24" o.c. at the side laps.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

**System Type C(5):** 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	<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	, Duro-Guard
Iso II-H, Duro-Guard Iso III-H, Duro-Guard Iso II-G		
Minimum1.5" 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 <sup>1</sup> / <sub>4</sub> " thick	2 with 10	1:1.33 ft <sup>2</sup>
DEXcell Cement Roof Board		
Minimum 7/16" thick	2 with 10	1:1.33 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-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 60ft²/gal total coverage. 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: -67.5 psf. (See General Limitation #7)



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**Deck Description:** Minimum 22 ga., Type B, Grade 33 steel deck is secured to supports spaced 6 ft.

o.c. with Traxx 5 fasteners spaced 6" o.c. (one fastener installed at each bearing

attachment point) and Traxx 1 fasteners 24" o.c. at the side laps.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

System Type C(6): 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/ft <sup>2</sup>
ACFoam II, Duro-Guard Iso II-A, Duro-Iso II-A, Duro	ard Iso III-A, , Duro-Guard Iso II-G,	·
Duro-Guard Iso III-H		
Minimum1.5" thick	N/A	N/A
<b>Top Insulation Layer</b>	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
DensDeck Prime 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).

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



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**Deck Description:** Minimum 22 ga., Type B, Grade 80 steel deck is secured to supports spaced 6 ft.

o.c. with Traxx 5 fasteners spaced 6" o.c. (one fastener installed at each bearing

attachment point) and Traxx 1 fasteners 24" o.c. at the side laps.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

**System Type C(7):** 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	Fastener
	(Table 3)	Density/ft <sup>2</sup>
ACFoam IV		
Minimum 2" thick	2 with 5	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-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 total coverage. 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: –90 psf. (See General Limitation #7)



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**Deck Description:** Minimum 22 ga. Grade 33 steel deck is secured to steel deck supports spaced

maximum 6 ft. o.c. with TRAXX/5 fasteners installed 6 in. on center. Side laps

secured with Traxx/1 fasteners at 24 in. o.c.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

**System Type C(8):** 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.

Fire Barrier Minimum. ½" SECUROCK Gypsum-Fiber Roof Board or SECUROCK Glass-

Mat Roof Board loose laid

One or more layers of any of the following insulations.

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

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

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

Minimum 1½" thick N/A N/A

**ACFoam IV** 

Minimum 2" thick N/A N/A
Top Insulation Layer Insulation Fasteners (Table 3) Fastener Density/ $ft^2$ 

**SECUROCK Gypsum-Fiber Roof Board** 

Minimum ½" thick 13 with 15 1:1.0 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-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 EVor Duro-Last membrane fully adhered with Duro-Last SB IV Adhesive applied at 60ft²/gal total coverage. 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

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

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**Deck Description:** Minimum 18 ga., Type B, Grade 33 steel deck is secured to steel deck supports

spaced maximum 6 ft. o.c. with Tek/5 fasteners installed 6 in. on center. Side

laps secured with Tek/1 fasteners at 12 in. o.c.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

**System Type C(9):** 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 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	(Tuble 5)	Density/it
Minimum ½" thick	N/A	N/A
Base 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-H, Duro-Guard Iso	III-H, Duro-
Guard Iso II-G		
Minimum 1.5" thick	5 with 14	See below
SECUROCK Gypsum-Fiber Roof Board, Duro-Guard Iso	HD-G	

DensDeck Prime

Minimum 0.5" thick

Minimum 0.25" thick 5 with 14 See below

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).

<u>Duro-Bond Plate Note: When using Duro-Bond Plate 1302 over steel decks, ensure that the combined thickness of the new insulation is minimum 1". This thickness shall be measured from the top rib of the steel deck.</u>

Membrane: Insulation Layer shall be through fastened to the steel deck with the fastener and

plate listed above. The Duro-Last membrane (0.057" min), Duro-Tuff (.080" min) membrane or Duro-Last EV membrane (.060" min) shall be induction welded to Duro-Bond Plates in the manner and spacing specified below.

5 with 14

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



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See below

**Deck Description:** Minimum 18 ga., Type B, Grade 33 steel deck is secured to steel deck supports

spaced maximum 6 ft. o.c. with Tek/5 fasteners installed 6 in. on center. Side

laps secured with Tek/1 fasteners at 12 in. o.c.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

**System Type C(10):** 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 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>
Duro-Guard Iso II-A, Duro-Guard Iso III-A, Duro-Guard	Iso II-H, Duro-Guard Iso	III-H, Duro-
Guard Iso II-G		
Minimum 1.5" thick	5 with 14	See below
SECUROCK Gypsum-Fiber Roof Board, Duro-Guard Iso	HD-G	
Minimum 0.5" thick	5 with 14	See below

**DensDeck Prime** 

Minimum 0.25" thick 5 with 14 See below

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).

<u>Duro-Bond Plate Note: When using Duro-Bond Plate 1302 over steel decks, ensure that the combined thickness of the new insulation is minimum 1". This thickness shall be measured from the top rib of the steel deck.</u>

Membrane: <u>Insulation Layer shall be through fastened to the steel deck</u> with the fastener and

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

spacing specified below.

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

of 72" 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 Description:** Minimum 18 ga., Type B, Grade 33steel deck is secured to steel deck supports

spaced maximum 6 ft. o.c. with Tek/5 fasteners installed 6 in. on center. Side

laps secured with Tek/1 fasteners at 12 in. o.c.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

**System Type C(11):** 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 any of the following insulations:

Base Insulation Layer (Optional)
Insulation Fasteners
(Table 3)

Any Approved EPS or XPS listed in Table 2

Insulation Fasteners
(Table 3)

Density/ft²

Minimum ½" thick N/A N/A

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

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

Minimum 1.5" thick 5 with 14 See below

SECUROCK Gypsum-Fiber Roof Board, Duro-Guard Iso HD-G

Minimum 0.5" thick 5 with 14 See below

**DensDeck Prime** 

Minimum 0.25" thick 5 with 14 See below

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).

<u>Duro-Bond Plate Note: When using Duro-Bond Plate 1302 over steel decks, ensure that the combined thickness of the new insulation is minimum 1". This thickness shall be measured from the top rib of the steel deck.</u>

Membrane: Insulation Layer shall be through fastened to the steel deck with the fastener and

plate listed above. The Duro-Last membrane (0.057" min), Duro-Tuff (.080" min) membrane or Duro-Last EV membrane (.060" min) shall be induction welded to Duro-Bond Plates in the manner and spacing specified below.

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

of 96" 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 Description:** Minimum 18 ga., Type B, Grade 33 steel deck is secured to steel deck supports

spaced maximum 6 ft. o.c. with Tek/5 fasteners installed 6 in. on center. Side

laps secured with Tek/1 fasteners at 12 in. o.c.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

**System Type C(12):** 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 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 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 I	so II-H, Duro-Guard Iso	III-H, Duro-
Guard Iso II-G		
Minimum 1.5" thick	5 with 14	See below
SECUROCK Gypsum-Fiber Roof Board, Duro-Guard Iso l	HD-G	
Minimum 0.5" thick	5 with 14	See below

**DensDeck Prime** 

Minimum 0.25" thick 5 with 14 See below

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).

<u>Duro-Bond Plate Note: When using Duro-Bond Plate 1302 over steel decks, ensure that the combined thickness of the new insulation is minimum 1". This thickness shall be measured from the top rib of the steel deck.</u>

Membrane: <u>Insulation Layer shall be through fastened to the steel deck</u> with the fastener and

plate listed above. The Duro-Last membrane (0.057" min), Duro-Tuff (.080" min) membrane or Duro-Last EV membrane (.060" min) shall be induction welded to Duro-Bond Plates in the manner and 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: -82.5 psf. (See General Limitation #7)



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Single Ply, PVC **Membrane Type:** Deck Type 2I: Steel, Insulated

Minimum 18 ga., Type B, Grade 33 steel deck is secured to steel deck supports **Deck Description:** 

spaced maximum 6 ft. o.c. with Tek/5 fasteners installed 6 in. on center. Side

laps secured with Tek/1 fasteners at 12 in. o.c.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

System Type C(13): 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 any of the following insulations:

Base Insulation Layer (Optional)	<b>Insulation Fasteners</b>	Fastener
	(Table 3)	Density/ft <sup>2</sup>
Any Annroyed FPS or YPS listed in Table 2		

Any Approved EPS or XPS listed in Table 2

Minimum ½" thick N/A N/A

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

Duro-Guard Iso II-A, Duro-Guard Iso III-A, Duro-Guard Iso III-H, D **Guard Iso II-G** 

Minimum 1.5" thick 5 with 14

See below

SECUROCK Gypsum-Fiber Roof Board, Duro-Guard Iso HD-G

Minimum 0.5" thick See below 5 with 14

**DensDeck Prime** 

Minimum 0.25" thick 5 with 14 See below

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).

Duro-Bond Plate Note: When using Duro-Bond Plate 1302 over steel decks, ensure that the combined thickness of the new insulation is minimum 1". This thickness shall be measured from the top rib of the steel deck.

Membrane: Insulation Layer shall be through fastened to the steel deck with the fastener and

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

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



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**Deck Description:** Minimum 18 ga., Type B, Grade 33 steel deck is secured to steel deck supports

spaced maximum 6 ft. o.c. with Tek/5 fasteners installed 6 in. on center. Side

laps secured with Tek/1 fasteners at 12 in. o.c.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

**System Type C(14):** 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 any of the following insulations:

Base Insulation Layer (Optional)

Insulation Fasteners Fastener
(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>

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

**Guard Iso II-G** 

Minimum 1.5" thick 5 with 14 See below

SECUROCK Gypsum-Fiber Roof Board, Duro-Guard Iso HD-G

Minimum 0.5" thick 5 with 14 See below

**DensDeck Prime** 

Minimum 0.25" thick 5 with 14 See below

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).

<u>Duro-Bond Plate Note: When using Duro-Bond Plate 1302 over steel decks, ensure that the combined thickness of the new insulation is minimum 1". This thickness shall be measured from the top rib of the steel deck.</u>

Membrane: Insulation Layer shall be through fastened to the steel deck with the fastener and

plate listed above. The Duro-Last membrane (0.057" min), Duro-Tuff ( .080" min) membrane or Duro-Last EV membrane (.060" min) shall be induction welded to Duro-Bond Plates in the manner and spacing specified below.

Fastening: Insulation shall be mechanically attached at 12" 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: -45 psf. (See General Limitation #7)



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**Deck Description:** Minimum 18 ga., Type B, Grade 33 steel deck is secured to steel deck supports

spaced maximum 6 ft. o.c. with Tek/5 fasteners installed 6 in. on center. Side

laps secured with Tek/1 fasteners at 12 in. o.c.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

**System Type C(15):** 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 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 ½" thick N/A N/A

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

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

**Guard Iso II-G** 

Minimum 1.5" thick 5 with 14 See below

SECUROCK Gypsum-Fiber Roof Board, Duro-Guard Iso HD-G

Minimum 0.5" thick 5 with 14 See below

**DensDeck Prime** 

Minimum 0.25" thick 5 with 14 See below

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).

<u>Duro-Bond Plate Note: When using Duro-Bond Plate 1302 over steel decks, ensure that the combined thickness of the new insulation is minimum 1". This thickness shall be measured from the top rib of the steel deck.</u>

Membrane: Insulation Layer shall be through fastened to the steel deck with the fastener and

plate listed above. The Duro-Last membrane (0.057" min), Duro-Tuff (.080" min) membrane or Duro-Last EV membrane (.060" min) shall be induction welded to Duro-Bond Plates in the manner and spacing specified below.

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

of 120" 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 Description:** Minimum 22 ga., Type B, Grade 33 steel deck is secured to steel deck supports

spaced maximum 5 ft. o.c.

**System Type C(16):** 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)	<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>
Duro-Guard Iso II-A, Duro-Guard Iso III-A, Duro-Gua	rd Iso II-H, Duro-Guard Iso	III-H, Duro-
Guard Iso II-G		
Minimum 1.5" thick	2 with 1	1:2 ft <sup>2</sup>
SECUROCK Gypsum-Fiber Roof Board, Duro-Guard I	Iso HD-G	
Minimum 0.5" thick	2 with 1	1:2 ft <sup>2</sup>
DensDeck Prime		
Minimum 0.25" thick	2 with 1	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-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 total coverage. 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 Description:** Minimum 22 ga., Type B, Grade 33 steel deck is secured to steel deck supports

spaced maximum 6 ft. o.c. with 5/8" diameter puddle welds fastened at each flute. Panel laps stitched 24' o.c. with  $\frac{1}{4}$ " – 14 x  $\frac{7}{8}$ " HWH screws.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

**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 III-G

Minimum 1" thick 12 with 14

Duro-Guard Iso HD-A, Duro-Guard Iso HD-G, Duro-Guard Iso HD-H
Minimum 0.5" thick

12 with 14

See below

DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board

Minimum 0.25" thick 12 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).

<u>Duro-Bond Plate Note: When using Duro-Bond Plate 1302 over steel decks, ensure that the combined thickness of the new insulation is minimum 1". This thickness shall be measured from the top rib of the steel deck.</u>

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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See below

**Deck Description:** Minimum 22 ga., type B, Grade 33 steel deck attached to steel supports spaced

6 ft. o.c. with 5/8" diameter puddle welds and washers at each flute. Panel laps

stitched 24' o.c. with  $\frac{1}{4}$ " – 14 x 7/8" HWH screws.

Or

Minimum 22 ga., Type B, Grade 33 steel deck is secured to steel deck supports spaced maximum 6 ft. o.c. with #12-24 x 1-1/4" HWH self-drilling screws fastened at each flute. Panel laps stitched 24' o.c. with  $\frac{1}{4}$ " – 14 x 7/8" HWH

screws.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

**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) Fastener

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

Guard Iso II-G

Minimum 1" thick 12 with 14 See below

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

Minimum 0.5" thick 12 with 14 See below

DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board

Minimum 0.25" thick 12 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).

<u>Duro-Bond Plate Note: When using Duro-Bond Plate 1302 over steel decks, ensure that the combined thickness of the new insulation is minimum 1". This thickness shall be measured from the top rib of the steel deck.</u>

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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Minimum 22 ga., Type B, Grade 33 steel deck is secured to steel deck supports **Deck Description:** 

spaced maximum 6 ft. o.c. with #12-24 x 1-1/4" HWH self-drilling screws fastened at each flute. Panel laps stitched 24' o.c. with  $\frac{1}{4}$ " – 14 x 7/8" HWH

screws. Or

Minimum 22 ga., type B, Grade 33 steel deck attached to steel supports spaced 6 ft. o.c. with 5/8" diameter puddle welds and washers at each flute. Panel laps

stitched 24' o.c. with  $\frac{1}{4}$ " – 14 x 7/8" HWH screws.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

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

Duro-Guard Iso II-A, Duro-Guard Iso III-A, Duro-Guard Iso III-H, D **Guard Iso II-G** 

Minimum 1" thick 12 with 14 See below

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

Minimum 0.5" thick 12 with 14 See below

DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board

Minimum 0.25" thick 12 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).

Duro-Bond Plate Note: When using Duro-Bond Plate 1302 over steel decks, ensure that the combined thickness of the new insulation is minimum 1". This thickness shall be measured from the top rib of the steel deck.

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 Description:** Minimum 22 ga., Type B, Grade 33 steel deck is secured to steel deck supports

spaced maximum 6 ft. o.c. with #12-24 x 1-1/4" HWH self-drilling screws fastened at each flute. Panel laps stitched 24' o.c. with  $\frac{1}{4}$ " – 14 x 7/8" HWH

screws.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

System Type C(20): All layers of insulation simultaneously attached, membrane adhered.

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

One or more layers of any of the following insulations.

Insulation Layer Insulation Fasteners Fastener (Table 3) Fastener

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

**Guard Iso II-G** 

Minimum 1" thick 12 with 14 See below

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

Minimum 0.5" thick 12 with 14 See below

DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board

Minimum 0.25" thick 12 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).

<u>Duro-Bond Plate Note: When using Duro-Bond Plate 1302 over steel decks, ensure that the combined thickness of the new insulation is minimum 1". This thickness shall be measured from the top rib of the steel deck.</u>

Membrane: Duro-Last (0.057" minimum)-, Duro Tuff (0.080" min) membrane or Duro-Last

EV membrane (.060" min) 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. Lap seams are sealed with a 1-inch wide factory weld.

Maximum Design

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



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**Deck Description:** Minimum 22 ga., Type B, Grade 33 steel deck is secured to steel deck supports

spaced maximum 5 ft. o.c.

**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 any of the following insulations:

Base Insulation (Optional)

Insulation Fasteners
(Table 3)

H-Shield, Duro-Guard II-H, AC-Foam II, Duro-Guard ISO II-A, EnergyGuard Polyiso Insulation,
Duro-Guard ISO II-G

Minimum ½" thick

N/A

N/A

Top Insulation Layer

Insulation Fasteners

Fastener

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

DEXcell FA Glass Mat Roof Board Minimum 1/2" thick

13 with 15 1:4.0 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 ft²/gal. to substrate only. Minimum 3" wide laps are

sealed with a minimum 1.5" wide heat weld.

Or

Minimum 50 mil Duro-Fleece or Duro-Fleece Plus membrane shall be adhered with Duro-Fleece CR-20 Membrane Adhesive applied in a splatter pattern at a rate of 8 lbs/sq. Minimum 3" wide 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. to substrate only. Minimum 3" wide laps are sealed with a minimum 1.5" wide heat weld.

Or

Duro-Last membrane or Duro-Last EV membrane fully adhered with Duro-Last SB IV Adhesive applied at a rate of 60 ft<sup>2</sup>/gal. to both the membrane and substrate (a combined rate of 120 ft<sup>2</sup>/gal. to both membrane and substrate). Minimum 3" wide laps are sealed with a minimum 1.5" wide heat weld.

Or

Duro-Fleece membrane adhered with Duro-Fleece Adhesive applied in <sup>3</sup>/<sub>4</sub>" to 1" wide ribbons spaced 12" o.c. Minimum 3" wide 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 Description:** Minimum 22 ga., Type B, Grade 33 steel deck is secured to steel deck supports

spaced maximum 5 ft. o.c.

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 any of the following insulations:

**Base Insulation (Optional) Insulation Fasteners** Fastener Density/ft<sup>2</sup> (Table 3) H-Shield, Duro-Guard II-H, AC-Foam II, Duro-Guard ISO II-A, EnergyGuard Polyiso Insulation, **Duro-Guard ISO II-G** Minimum ½" thick N/A N/A **Top Insulation Layer Insulation Fasteners Fastener** 

(Table 3) Density/ft<sup>2</sup> **DEXcell FA Glass Mat Roof Board** 

Minimum 1/4" thick

5 with 2 1:2.67 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. to substrate only. Minimum 3" wide laps are

sealed with a minimum 1.5" wide heat weld.

Minimum 50 mil Duro-Fleece or Duro-Fleece Plus membrane shall be adhered with Duro-Fleece CR-20 Membrane Adhesive applied in a splatter pattern at a rate of 8 lbs/sq. Minimum 3" wide 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. to substrate only. Minimum 3" wide laps are sealed with a minimum 1.5" wide heat weld.

Or

Duro-Last membrane or Duro-Last EV fully adhered with Duro-Last SB IV Adhesive applied at a rate of 60 ft<sup>2</sup>/gal. to both the membrane and substrate (a combined rate of 120 ft<sup>2</sup>/gal. to both membrane and substrate). Minimum 3" wide laps are sealed with a minimum 1.5" wide heat weld.

Duro-Fleece membrane adhered with Duro-Fleece Adhesive applied in 3/4" to 1" wide ribbons spaced 12" o.c. Minimum 3" wide 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 Description:** Minimum 22 ga., Type B, Grade 33 steel deck is secured to steel deck supports

spaced maximum 5 ft. o.c.

**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 any of the following insulations:

Base Insulation (Optional)

Insulation Fasteners
(Table 3)

H-Shield, Duro-Guard II-H, AC-Foam II, Duro-Guard ISO II-A, EnergyGuard Polyiso Insulation,
Duro-Guard ISO II-G

Minimum ½" thick

N/A

N/A

Top Insulation Layer

Insulation Fasteners
(Table 3)

Fastener
Density/ft²

DEXcell Cement Roof Board Minimum 7/16" thick

13 with 15 1:2.67 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 ft²/gal. to substrate only. Minimum 3" wide laps are

sealed with a minimum 1.5" wide heat weld.

Or

Minimum 50 mil Duro-Fleece or Duro-Fleece Plus membrane shall be adhered with Duro-Fleece CR-20 Membrane Adhesive applied in a splatter pattern at a rate of 8 lbs/sq. Minimum 3" wide 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. to substrate only. Minimum 3" wide laps are sealed with a minimum 1.5" wide heat weld.

Or

Duro-Last membrane or Duro-Last EV fully adhered with Duro-Last SB IV Adhesive applied at a rate of 60 ft²/gal. to both the membrane and substrate (a combined rate of 120 ft²/gal. to both membrane and substrate). Minimum 3" wide laps are sealed with a minimum 1.5" wide heat weld.

Or

Duro-Fleece membrane adhered with Duro-Fleece Adhesive applied in ¾" to 1" wide ribbons spaced 12" o.c. Minimum 3" wide 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 Description:** Minimum 22 ga., Type B, Grade 33 steel deck is secured to steel deck supports

spaced maximum 6 ft. o.c. with Tek/5 fasteners installed 6 in. on center. Side

laps secured with Tek/1 fasteners at 24" o.c.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

**System Type C(24):** 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 any of the following insulations:

Base Insulation	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
AC-Foam II, Duro-Guard ISO II-A, AC Foam III, E	NRGY 3, ISO 95+ GL, Multi-M	lax FA-3,
<b>Duro-Guard ISO III-A, Duro-Guard ISO III-A</b>		·
Minimum 1-1/2" thick	N/A	N/A
AC Foam IV		
Minimum 2" thick	N/A	N/A
Top Insulation Layer	<b>Insulation Fasteners</b>	Fastener
ı	(Table 3)	Density/ft <sup>2</sup>
DensDeck Prime	,	•
Minimum <sup>1</sup> / <sub>4</sub> " thick	10 with 2	1:1.33 ft <sup>2</sup>
Duro-Guard ISO II-G, Duro-Guard ISO III-H, Duro	-Guard ISO II-A, Duro-Guard	ISO III-A
Minimum 1-1/2" thick	10 with 2	1:1.33 ft <sup>2</sup>
SECUROCK Gypsum Fiber Roof Board		
Minimum ½" thick	10 with 2	1:1.33 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: Duro-Last, Duro-Tuff, Duro-Fleece, Duro-Last EV or Duro-Fleece Plus

membrane fully adhered with Duro-Last WB II Adhesive applied at 100 ft²/gal. to substrate only. Minimum 3" wide laps are sealed with a minimum 1.5" wide heat weld.

Or

Duro-Fleece or Duro-Fleece Plus membrane shall be adhered with Duro-Fleece CR-20 Membrane Adhesive applied in a splatter pattern at a rate of 8 lbs/sq. Minimum 3" wide laps are sealed with a minimum 1.5" wide heat weld.

or

Duro-Last or Duro-Tuff, fully adhered with Duro-Last SB IV Adhesive applied at a rate of 60 ft<sup>2</sup>/gal. to both the membrane and substrate (a combined rate of 120 ft<sup>2</sup>/gal. to both membrane and substrate). Minimum 3" wide laps are sealed with a minimum 1.5" wide heat wold.

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 2I: Steel, Insulated

**Deck Description:** Minimum 22 ga., Type B, Grade 80 steel deck is secured to steel deck supports

spaced maximum 6 ft. o.c. with Tek/5 fasteners installed 6-inches on center.

Side laps secured with Tek/1 fasteners at 36- inches o.c.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

System Type C(25): 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 Density/ft<sup>2</sup> (Table 3)

ACFoam II, Duro-Guard ISO II-A

Minimum 1-1/2" thick 17 with 18 See below

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).

Isoweld Plate Note: When using Isoweld F1-P-6.8-PVC Plates over steel decks, ensure that the combined thickness of the new insulation is minimum 1". This thickness shall be measured from the top rib of the steel deck.

Membrane: <u>Insulation Layer shall be through fastened to the steel deck</u> with the fastener and

plate listed above. The Duro-Last membrane 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 Description:** Minimum 22 ga., Type B, Grade 40 steel deck is secured to steel deck supports

spaced maximum 6 ft. o.c. with 5/8" diameter puddle welds (at each flute) 6-inches on center. Side laps secured with Tek/1 fasteners at 36- inches o.c.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

**System Type C(26):** 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 17 with 18 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).

<u>Isoweld Plate Note: When using Isoweld F1-P-6.8-PVC Plates over steel decks, ensure that the combined thickness of the new insulation is minimum 1". This thickness shall be measured from the top rib of the steel deck.</u>

Membrane: Insulation Layer shall be through fastened to the steel deck with the fastener and

plate listed above. The Duro-Last membrane 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 2I: Steel, Insulated

**Deck Description:** Minimum 22 ga., Type B, Grade 40 steel deck is secured to steel deck supports

spaced maximum 6 ft. o.c. with 5/8" diameter puddle welds (at each flute) 6-inches on center. Side laps secured with Tek/1 fasteners at 36- inches o.c.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

**System Type C(27):** 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 Density/ft²

ACFoam II, Duro-Guard ISO II-A

Minimum 1-½" thick 17 with 18 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).

<u>Isoweld Plate Note: When using Isoweld F1-P-6.8-PVC Plates over steel decks, ensure that the combined thickness of the new insulation is minimum 1". This thickness shall be measured from the top rib of the steel deck.</u>

Membrane: Insulation Layer shall be through fastened to the steel deck with the fastener and

plate listed above. The Duro-Last membrane 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 21: Steel, Insulated

**Deck Description:** Minimum 22 ga., Type B, Grade 50 steel deck is secured to steel deck supports

spaced maximum 5 ft. o.c. with Tek/5 fasteners installed 6-inches on center.

Side laps secured with Tek/1 fasteners at 30 inches o.c.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted.

**System Type C(28):** 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 17 with 18 See below

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 steel deck with the fastener and

plate listed above. The Duro-Last membrane 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 2I: Steel, Insulated

**Deck Description:** Minimum 22 gage Grade 80 steel deck. Attached with ITW Buildex Traxx/5

fastener at a maximum spacing of 6" o.c. to minimum 0.25" thick steel supports having a maximum span of 6 ft. o.c. with deck side laps fastened at a maximum

spacing of 24" o.c. with ITW Buildex Traxx/1.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

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 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 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 III-A, Duro-Guard I	so II-H, Duro-Guard Iso III	-H, ENRGY 3,
H-Shield, ISO 95+ GL, ACFoam II, ACFoam III, ACFo		
Minimum 1½" thick	1, 2, 3, 10	1:6.4 ft <sup>2</sup>
Cellofoam Type IX EPS Insulation, Insulfoam EPS		
Minimum ½" thick	1, 2, 3, 10	1:6.4 ft <sup>2</sup>
Kingspan GreenGuard Insulation Board CM		
Minimum 1" 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.

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, 1/4" Dens Deck, 1/2" 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 Duro-Last<sup>®</sup> membrane shall be mechanically attached at its 3" tabs, spaced every 60" tabs: 60" with Duro-Last #14 HD fasteners and Duro-Last Poly-plates<sup>®</sup> or Duro-Last

60" with Duro-Last #14 HD fasteners and Duro-Last Poly-plates® or Duro-Last Cleat Plates 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)



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Deck Type 2I: Steel, Insulated

**Deck Description:** Minimum 22 gage Grade 80 steel deck. Attached with ITW Buildex

Traxx/5 fastener at a maximum spacing of 6" o.c. to minimum 0.25" thick steel supports having a maximum span of 6 ft. o.c. with deck side laps fastened at a maximum spacing of 24" o.c. with ITW Buildex Traxx/1.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

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.

One or more layers 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 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 III-A, Duro-Guard I	so II-H, Duro-Guard Iso III	-H, ENRGY 3,
H-Shield, ISO 95+ GL, ACFoam II, ACFoam III, ACFoam II	am IV, Duro-Guard Iso II-G	r r
Minimum 1½"	1, 2, 3, 10	1:6.4 ft <sup>2</sup>
Cellofoam Type IX EPS Insulation, Insulfoam EPS		
Minimum ½" thick	1, 2, 3, 10	1:6.4 ft <sup>2</sup>
Kingspan GreenGuard Insulation Board CM		
Minimum 1" 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.

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  $^{\$}$ ,  $^{1}\!\!/_{4}$ " DensDeck,  $^{1}\!\!/_{2}$ " thick UL Classification Type X Gypsum with a moisture resistant facer and core, Duro-Fold Underlayment Board 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 #14 HD fasteners with Duro-Last Poly-plates® or Duro-Last Cleat Plates spaced at 18" o.c. maximum, through the insulation and into the deck. Laps are sealed with a minimum 1.5" wide heat weld.

Membrane with 60" tabs: Duro-Last® membrane shall be mechanically attached at its 3" tabs, spaced

every 60" with Duro-Last #14 HD fasteners with Duro-Last Poly-plates® or Duro-Last Cleat 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.

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Membrane with 120" tabs: Duro-Last® membrane shall be mechanically attached at its minimum 3"

tabs, spaced every 120" with Duro-Last #14 HD fasteners with Duro-Last Poly-plates® or Duro-Last Cleat 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)



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Deck Type 21: Steel, Insulated

**Deck Description:** Minimum 22 gage Grade 33 steel deck. Attached with ITW Buildex Traxx/5

fastener at a maximum spacing of 6" o.c. to minimum 0.25" thick steel supports having a maximum span of 6 ft. o.c. with deck side laps fastened at a maximum

spacing of 24" o.c. with ITW Buildex Traxx/1.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

**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 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	,	v
Minimum ½" thick	N/A	N/A
<b>Top Insulation Layer</b>	<b>Insulation Fasteners</b>	Fastener
	(Table 3)	Density/ft <sup>2</sup>
Duro-Guard Iso II-A, Duro-Guard III-A, Duro-Guard	so II-H, Duro-Guard Iso III	-H, ENRGY 3,
H-Shield, ISO 95+ GL, ACFoam II, ACFoam III, ACFo	am IV, Duro-Guard Iso II-G	
Minimum 1½" thick	1, 2, 3, 10	1:6.4 ft <sup>2</sup>
Cellofoam Type IX EPS Insulation, Insulfoam EPS		
Minimum ½" thick	1, 2, 3, 10	1:6.4 ft <sup>2</sup>
Kingspan GreenGuard Insulation Board CM		
Minimum 1" 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.

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, 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 insulation (see General Limitation #1).

Membrane with Duro-Last® membrane shall be inverted with the factory seam tabs on the top 27" tabs:

Duro-Last® membrane is mechanically attached through the membrane

adjacent to the tabs with Duro-Last #14 fasteners with Duro-Last Poly-plates® or Duro-Last Cleat Plates spaced at 12" o.c. maximum, through the insulation and into the deck. The tabs shall cover the fasteners and plates and be field welded a

minimum 1.5" wide.

Maximum Design

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



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Deck Type 2I: Steel, Insulated

**Deck Description:** Minimum 22 gage Grade 80 steel deck. Attached with ITW Buildex Traxx/5

fastener at a maximum spacing of 6" o.c. to minimum 0.25" thick steel supports having a maximum span of 6 ft. o.c. with deck side laps fastened at a maximum

spacing of 24" o.c. with ITW Buildex Traxx/1.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

**System Type D(4):** 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 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 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 III-A, Duro-Guard I	Iso II-H, Duro-Guard Iso III	-H, ENRGY 3,
H-Shield, ISO 95+ GL, ACFoam II, ACFoam III, ACFo	am IV, Duro-Guard Iso II-G	, , , , , , , , , , , , , , , , , , ,
Minimum 1½" thick	1, 2, 3, 10	1:6.4 ft <sup>2</sup>
Cellofoam Type IX EPS Insulation, Insulfoam EPS		
Minimum ½" thick	1, 2, 3, 10	1:6.4 ft <sup>2</sup>
Kingspan GreenGuard Insulation Board CM		
Minimum 1" 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.

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, 1/4" DensDeck, 1/2" 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 Duro-Last<sup>®</sup> membrane shall be mechanically attached at its 3" tabs, spaced every

28" tabs: 28" with Duro-Last fasteners with Duro-Last Poly-plates® or Duro-Last Cleat

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



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**Deck Type 2I:** Steel Deck, Insulated

**Deck Description:** Minimum 20 gauge, type B, Grade 80 steel deck attached to minimum 1/4" thick

steel supports spaced maximum 6 ft. o.c. with Traxx/5 fasteners and 3/4" O.D. steel washers spaced 6" o.c. at the supports. Steel deck side laps secured with

Traxx/1 screws maximum 24" o.c.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

**System Type D(5):** 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	<b>Insulation Fasteners</b>	Fastener
	(Table 3)	Density/ft <sup>2</sup>
ENRGY-3, ISO 95+ GL, Multi-Max FA-3, ACFoam-II, A	CFoam-III, Duro-Guard Is	so II-A,
Duro-Guard Iso III-A, Thermaroof Composite-3, Duro-G	uard Iso II-G	
Minimum 1½" thick	N/A	N/A
Cellofoam Type IX EPS Insulation, Insulfoam EPS		
Minimum ½" thick	N/A	N/A
Kingspan GreenGuard Insulation Board CM		
Minimum 1" 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.

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 2-3/8" Eyehook Accuseam 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 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 2-3/8" Eyehook Accuseam 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 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)



NOA No.: 17-0202.09 Expiration Date: 08/22/22 Approval Date: 08/31/17 Page 44 of 63 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 2-3/8" Eyehook Accuseam 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 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)

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 2-3/8" Eyehook Accuseam 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 30 ft²/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 2-3/8" Eyehook Accuseam 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 30 ft²/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 2-3/8" Eyehook Accuseam 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 30 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 2I:** Steel Deck, Insulated

**Deck Description:** Minimum 22 ga. steel deck meeting A653 SS Grade 80 or A1008 Grade 80 is

secured to steel deck supports spaced maximum 5.5 ft. o.c. with TRAXX/5 fasteners installed 6 in. on center. Side laps secured with Traxx/1 fasteners at 24

in. o.c. Or

Minimum 20 ga. deck meeting A653 SS Grade 80 or A1008 Grade 80 is secured to supports spaced maximum 6.0 ft. o.c. with TRAXX/5 fasteners installed 6 in.

on center. Side laps secured with Traxx/1 fasteners at 24 in. o.c.

This Tested Assembly has been analyzed for allowable deck stress. See evidence submitted table.

System Type D(6): 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/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/ft <sup>2</sup>
Duro-Guard Iso II-A, Duro-Guard Iso II-H	I, Duro-Guard III-A, Duro-Guard Iso III-	H, ENRGY 3,
H-Shield, ISO 95+ GL, ACFoam II, ACFoa		
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 2I:** Steel Deck, Insulated

**Deck Description:** Minimum 22 ga. steel deck meeting A653 SS Grade 80 or A1008 Grade 80 is

secured to steel deck supports spaced maximum 5.5 ft. o.c. with TRAXX/5 fasteners installed 6 in. on center. Side laps secured with Traxx/1 fasteners at 24

in. o.c. Or

Minimum 20 ga. deck meeting A653 SS Grade 80 or A1008 Grade 80 is secured to supports spaced maximum 6.0 ft. o.c. with TRAXX/5 fasteners installed 6 in.

on center. Side laps secured with Traxx/1 fasteners at 24 in. o.c.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

System Type D(7): 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 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, H,

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

Minimum 1½" thick N/A N/A

**ACFoam IV** 

Minimum 2" thick N/A N/A

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

DensDeck, SECUROCK Gypsum-Fiber Roof Board, SECUROCK Glass-Mat Roof Board
Minimum 1/4" 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 2I:** Steel Deck, Insulated

**Deck Description:** Minimum 22 ga. Grade 33 steel deck is secured to steel deck supports spaced

maximum 6 ft. o.c. with TRAXX/5 fasteners installed 6 in. on center. Side laps

secured with Traxx/1 fasteners at 24 in. o.c.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

**System Type D(8):** 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	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/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 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 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 weld.

Maximum Design

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



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**Deck Type 2I:** Steel Deck, Insulated

**Deck Description:** Minimum 18 ga., Type B, Grade 33 steel deck is secured to steel deck supports

spaced maximum 6 ft. o.c. with Tek/5 fasteners installed 6 in. on center. Side

laps secured with Tek/1 fasteners at 12 in. o.c.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

**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	Fastener
Any Approved EPS or XPS listed in Table 2	(Table 3)	Density/ft <sup>2</sup>
Minimum ½" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
Duro-Guard Iso II-A, Duro-Guard Iso II-H, Duro-Guar	d Iso II-G	·
Minimum 1½" thick	N/A	N/A
Cellofoam Type IX EPS Insulation, Insulfoam EPS Minimum ½" thick	N/A	N/A
	11/11	1 1/11
Kingspan GreenGuard Insulation Board CM	NT/A	NT/A
Minimum 1" 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 with 60" tabs: Duro-Last® membrane shall be mechanically attached at its 3" tabs, spaced

every 60" with Duro-Last #15 Extra Heavy Duty Drill Point Fasteners with

Duro-Last Poly-plates® or Duro-Last Cleat Plates spaced at 9" 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)



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**Deck Type 2I:** Steel Deck, Insulated

**Deck Description:** Minimum 22 gage, type B, Grade 80 steel deck is secured to steel deck supports

spaced maximum 5 ft. o.c. with Tek/5 fasteners installed 6 in. on center. Side

laps secured with Tek/1 fasteners at 24 in. o.c.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

System Type D(10): 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/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 IsoII-H, Duro-Guard	l Iso II-G	
Minimum 1½" thick	3, 4, 5, 8	1:6.4 ft <sup>2</sup>
Cellofoam Type IX EPS Insulation, Insulfoam EPS		
Minimum 1/2" thick	3, 4, 5, 8	1:6.4 ft <sup>2</sup>
Kingspan GreenGuard Insulation Board CM		
Minimum 1" thick	3, 4, 5, 8	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" wide tabs, spaced

every 60" o.c. with Duro-Last #15 Extra Heavy Duty Drill Point Fasteners with Duro-Last Batten Bar 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 2I:** Steel Deck, Insulated

**Deck Description:** Minimum 22 ga., Type B, Grade 80 steel deck is secured to steel deck supports

spaced maximum 6 ft. o.c. with #12-24 HWH self-drilling screws fastened at

each flute. No fasteners were installed in the side laps.

Or

Minimum 22 gage, type B, Grade 80 steel deck attached to steel supports spaced 6 ft o.c. with 5/8-inch puddle welds at each flute. No fasteners were installed in

the side laps.

This Tested Assembly has been analyzed for allowable deck stress. See evidence submitted table.

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 (Table 3)	Fastener Density/ft <sup>2</sup>
Duro-Guard Iso II-H, Duro-Guard Iso II-A, Duro-Iso II-	ard Iso II-G	·
Minimum 1" thick	N/A	N/A
Duro-Guard Iso HD-G Minimum 1/2" thick	N/A	N/A
	- 1112	1,712
SECUROCK Gypsum Fiber-Roof Board Minimum 1/4" thick	N/A	N/A
Cellofoam Type IX EPS Insulation, Insulfoam EPS		
Minimum 1/2" thick	N/A	N/A
Kingspan GreenGuard Insulation Board CM		
Minimum 1" 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.

Membrane: Minimum 40 mil Duro-Last membrane shall be mechanically attached at its 6"

wide tabs, spaced 120" o.c. with Duro-Last #15 Extra Heavy Duty Drill Point Fastener and Poly-Plates or Cleat-Plates spaced 6" o.c. maximum along the tab through the insulation and into the deck. Laps are sealed with a minimum 1"

wide factory weld.

Maximum Design

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



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**Deck Type 2I:** Steel Deck, Insulated

**Deck Description:** Minimum 22 gage, Type B, Grade 33 steel deck is secured to steel deck supports

spaced maximum 6 ft. o.c. with #12-24 HWH self-drilling screws fastened at

each flute. No fasteners were installed in the deck side laps.

Or

Minimum 22 gage, Type B, Grade 33 steel deck attached to steel supports spaced 6 ft o.c. with 5/8-inch puddle welds at each flute. No fasteners were

installed in the deck side laps.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

System Type D(12): 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 (Table 3)	Fastener Density/ft <sup>2</sup>
Duro-Guard ISO II-H, Duro-Guard Iso II-A, Duro-Gua	rd Iso II-G	·
Minimum 1" thick	N/A	N/A
Duro-Guard Iso HD-G		
Minimum 1/2" thick	N/A	N/A
SECUROCK Gypsum Fiber-Roof Board		
Minimum 1/4" thick	N/A	N/A
Cellofoam Type IX EPS Insulation, Insulfoam EPS		
Minimum 1/2" thick	N/A	N/A
Kingspan GreenGuard Insulation Board CM		
Minimum 1" 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.

Membrane: Minimum 40 mil Duro-Last membrane shall be mechanically attached at its 3"

wide tabs, spaced 60" o.c. with Duro-Last #15 Extra Heavy Duty Drill Point Fastener and Poly-Plates or Cleat Plates spaced 6" o.c. maximum along the tab through the insulation and into the deck. Laps are sealed with a minimum 1"

wide factory weld.

Maximum Design

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



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**Deck Type 2I:** Steel Deck, Insulated

**Deck Description:** Minimum 22 gage, type B, Grade 33 steel deck attached to steel supports

spaced 6 ft o.c. with 5/8-inch puddle welds at each flute. No fasteners were

installed in the side laps.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

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

of insulation 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 (Table 3)	Fastener Density/ft <sup>2</sup>
Duro-Guard ISO II-H,	(Table 3)	Density/it
Minimum 1" thick	N/A	N/A
Duro-Guard ISO II-G, Duro-Guard ISO HD-G		
Minimum 1/2" thick	N/A	N/A
SECUROCK Gypsum Fiber Roof Board, DEXCell FA G	lass Mat Roof Board	
Minimum ¼" thick	N/A	N/A
<b>DEXcell Cement Roof Board</b>		
Minimum 7/16" thick	N/A	N/A

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

Membrane: Minimum 50-mil Duro-Last EV Membrane shall be mechanically attached 12"

o.c. in rows spaced 54" o.c. with Duro-Last #15 Extra Heavy Duty Drill Point Fasteners and Duro-Last Poly Plates. Minimum 6" wide laps are sealed with

minimum 1.5" heat weld.

**Maximum Design** 

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



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Deck Type 2I: Steel Deck, Insulated

Minimum 22 gage, type B, Grade 80 steel deck attached to steel supports **Deck Description:** 

spaced 6 ft o.c. with 5/8-inch puddle welds at each flute. No fasteners were

installed in the side laps.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

Membrane fastened over preliminarily fastened insulation. All layers System Type D(14):

of insulation 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 (Table 3)	Fastener Density/ft <sup>2</sup>
Duro-Guard ISO II-H	,	·
Minimum 1" thick	N/A	N/A
Duro-Guard ISO II-G, Duro-Guard ISO HD-G		
Minimum ½" thick	N/A	N/A
SECUROCK Gypsum Fiber Roof Board, DEXcell FA	Glass Mat Roof Board	
Minimum <sup>1</sup> / <sub>4</sub> " thick	N/A	N/A
<b>DEXcell Cement Roof Board</b>		
Minimum 7/16" thick	N/A	N/A

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

Membrane: Minimum 50-mil Duro-Last EV Membrane shall be mechanically attached 6"

o.c. in rows spaced 114" o.c. with Duro-Last #15 Extra Heavy Duty Drill Point fasteners and Duro-Last Poly Plates. Minimum 6" wide laps are sealed with

minimum 1.5" heat weld.

**Maximum Design** 

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

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**Deck Type 2I:** Steel Deck, Insulated

**Deck Description:** Minimum 22 gage, type B, Grade 80 steel deck attached to steel supports

spaced 6 ft o.c. with 5/8-inch puddle welds at each flute. No fasteners were

installed in the side laps.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

System Type D(15): Membrane fastened over preliminarily fastened insulation to existing single ply

membrane roof.

All General and System Limitations apply. Roof accessories not listed in Table 1 of this NOA are not approved and shall not be 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 (Table 3)	Fastener Density/ft <sup>2</sup>
Minimum 1" thick	N/A	N/A
Duro-Guard ISO II-G, Duro-Guard ISO HD-G		
Minimum ½" thick	N/A	N/A
SECUROCK Gypsum Fiber Roof Board, DEXcell FA Gla	ass Mat Roof Board	
Minimum 1/4" thick	N/A	N/A
<b>DEXcell Cement Roof Board</b>		
Minimum 7/16" thick	N/A	N/A

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

**Membrane:** Minimum 50-mil Duro-Last EV Membrane shall be mechanically attached 6"

o.c. in rows spaced 114" o.c. with Duro-Last #15 Extra Heavy Duty Drill Point fasteners and Duro-Last Poly Plates. Minimum 6" wide laps are sealed with

minimum 1.5" heat weld.

**Maximum Design** 

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



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Deck Type 2I: Steel Deck, Insulated

Minimum 22 gage, type B, Grade 80 steel deck attached to steel supports **Deck Description:** 

spaced 6 ft o.c. with #12-24 x 1-1/4" HWH self-drilling screws fastened at each

flute. No fasteners were installed in the side laps.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

System Type D(16): Membrane fastened over preliminarily fastened insulation. All layers

of insulation 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 (Table 3)	Fastener Density/ft <sup>2</sup>
Duro-Guard ISO II-H		•
Minimum 1" thick	N/A	N/A
Duro-Guard ISO II-G, Duro-Guard ISO HD-G		
Minimum ½" thick	N/A	N/A
SECUROCK Gypsum Fiber Roof Board, DEXcell FA Gla	ass Mat Roof Board	
Minimum ¼" thick	N/A	N/A
DEXcell Cement Roof Board		
Minimum 7/16" thick	N/A	N/A

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

Membrane: Minimum 50-mil Duro-Last EV Membrane shall be mechanically attached 6"

> o.c. in rows spaced 114" o.c. with Duro-Last #15 Extra Heavy Duty Drill Point fasteners and Duro-Last Poly Plates. Minimum 6" wide laps are sealed with

minimum 1.5" heat weld.

**Maximum Design** 

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



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Deck Type 2I: Steel Deck, Insulated

Minimum 22 gage, type B, Grade 40 steel deck attached to steel supports **Deck Description:** 

spaced 6 ft o.c. with 5/8-inch puddle welds at each flute. No fasteners were

installed in the side laps.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

System Type D(17): Membrane fastened over preliminarily fastened insulation. All layers

of insulation 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>
Duro-Guard ISO II-H, Duro-Guard ISO II-A		
Minimum 1" thick	N/A	N/A
Duro-Guard ISO HD-G		
Minimum 1/2 " thick	N/A	N/A
SECUROCK Gypsum Fiber Roof Board, DensDeck Prin	ne, DEXcell FA Glass Mat l	Roof Board
Minimum 1/4" thick	N/A	N/A

**DEXcell Cement Roof Board** 

Minimum 7/16" thick N/A N/A

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

Membrane: Minimum 50-mil Duro-Last EV Membrane shall be mechanically attached 6"

o.c. in rows spaced 54" o.c. with Duro-Last #15 Extra Heavy Duty Drill Point Fasteners and Duro-Last Cleat Plates. Minimum 6" wide laps are sealed with

minimum 1.5" heat weld.

**Maximum Design** 

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

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**Deck Type 2I:** Steel Deck, Insulated

**Deck Description:** Minimum 22 gage, type B, Grade 40 steel deck attached to steel supports

spaced 6 ft o.c. with #12-24 x 1-1/4" HWH self-drilling screws fastened at each

flute. No fasteners were installed in the side laps.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

**System Type D(18):** Membrane fastened over preliminarily fastened insulation. All layers

of insulation 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	<b>Insulation Fasteners</b>	Fastener
	(Table 3)	Density/ft <sup>2</sup>
Duro-Guard ISO II-H, Duro-Guard ISO II-A		
Minimum 1" thick	N/A	N/A
Duro-Guard ISO HD-G		
Minimum 1/2 " thick	N/A	N/A
SECUROCK Gypsum Fiber Roof Board, DensDeck Prin	me, DEXcell FA Glass Mat I	Roof Board
Minimum <sup>1</sup> / <sub>4</sub> " thick	N/A	N/A
DEXcell Cement Roof Board		

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

**Membrane:** Minimum 50-mil Duro-Last EV Membrane shall be mechanically attached 6"

o.c. in rows spaced 54" o.c. with Duro-Last #15 Extra Heavy Duty Drill Point fasteners and Duro-Last Cleat Plates. Minimum 6" wide laps are sealed with

N/A

minimum 1.5" heat weld.

**Maximum Design** 

Minimum 7/16" thick

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

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N/A

Single Ply, PVC **Membrane Type:** 

Deck Type 2I: Steel Deck, Insulated

Minimum 22 gage, type B, Grade 33 steel deck attached to steel supports **Deck Description:** 

spaced 6 ft o.c. with 5/8-inch puddle welds at each flute. Panel laps stitched

24' o.c. with  $\frac{1}{4}$ " – 14 x 7/8" HWH screws.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

System Type D(19): Membrane fastened over preliminarily fastened insulation. All layers

of insulation 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 Laver Insulation Fasteners** Fastener Density/ft<sup>2</sup> (Table 3) **Duro-Guard EPS FGF, Duro-Guard ISO II-A** 

Minimum 1" thick N/A N/A

Duro-Guard ISO HD-G, Duro-Guard EPS, Duro-Guard ISO II-H, Duro-Guard ISO II-G, R-Tech Fan Fold, Duro-Guard ISO HD-A, Duro-Guard ISO HD-H, Duro-Guard ISO HD-G

Minimum 1/2 " thick N/A

SECUROCK Gypsum Fiber Roof Board, DensDeck Prime, DEXcell FA Glass Mat Roof Board Minimum 1/4" thick N/A N/A

**Duro-Fold Underlayment Board** 

Minimum 3/8" thick N/A N/A

Note: Insulation layers above shall be preliminarily attached with Duro-Last 3" insulation Plates and HD screws. Insulation panels shall also be mechanically fastened 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 6"

> o.c. in rows spaced 54" o.c. with Duro-Last #15 Extra Heavy Duty Drill Point Fasteners and Duro-Last Poly Plates. Center of plate is installed 1-1/4" from tab edge. Minimum 6" wide laps are sealed with minimum 1.5" heat weld.

**Maximum Design** 

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



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Single Ply, PVC **Membrane Type:** 

Deck Type 2I: Steel Deck, Insulated

Minimum 22 gage, type B, Grade 33 steel deck attached to steel supports **Deck Description:** 

spaced 6 ft o.c. with #12-24 HWH self-drilling screws at each flute. Panel laps

stitched 24' o.c. with  $\frac{1}{4}$ " – 14 x 7/8" HWH screws.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table.

System Type D(20): Membrane fastened over preliminarily fastened insulation. All layers

of insulation 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 Laver Insulation Fasteners** Fastener Density/ft<sup>2</sup> (Table 3) **Duro-Guard EPS FGF, Duro-Guard ISO II-A** 

Minimum 1" thick N/A N/A

Duro-Guard ISO HD-G, Duro-Guard EPS, Duro-Guard ISO II-H, Duro-Guard ISO II-G, R-Tech Fan Fold, Duro-Guard ISO HD-A, Duro-Guard ISO HD-H, Duro-Guard ISO HD-G

Minimum 1/2 " thick N/A

SECUROCK Gypsum Fiber Roof Board, DensDeck Prime, DEXcell FA Glass Mat Roof Board Minimum 1/4" thick N/A N/A

**Duro-Fold Underlayment Board** 

Minimum 3/8" thick N/A N/A

Note: Insulation layers above shall be preliminarily attached with Duro-Last 3" Insulation Plates and HD screws. Insulation panels shall also be mechanically fastened 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 6"

> o.c. in rows spaced 54" o.c. with Duro-Last #15 Extra Heavy Duty Drill Point Fasteners and Duro-Last Poly Plates. Center of plate is installed 1-1/4" from tab edge. Minimum 6" wide laps are sealed with minimum 1.5" heat weld.

**Maximum Design** 

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



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**Deck Type 2I:** Steel Deck, Insulated

**Deck Description:** Minimum 22 gage, type B, Grade 40 steel deck attached to steel supports

spaced 6 ft o.c. with 5/8-inch puddle welds at each flute. Panel laps stitched

24' o.c. with  $\frac{1}{4}$ " – 14 x 7/8" HWH screws.

Or

Minimum 22 gage, type B, Grade 50 steel deck attached to steel supports spaced 6 ft o.c. with #12-24 HWH self-drilling screws at each flute. Panel laps

stitched 24' o.c. with  $\frac{1}{4}$ " – 14 x 7/8" HWH screws.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted table DLRI-086-02-02 page 27 and 33.

System Type D(21): Membrane fastened over preliminarily fastened insulation. All layers

of insulation 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/ft²

**Duro-Guard EPS FGF, Duro-Guard ISO II-A** 

Minimum 1" thick N/A N/A

Duro-Guard ISO HD-G, Duro-Guard EPS, Duro-Guard ISO II-H, Duro-Guard ISO II-G, R-Tech Fan Fold, Duro-Guard ISO HD-A, Duro-Guard ISO HD-H, Duro-Guard ISO HD-G

Minimum 1/2 " thick N/A

SECUROCK Gypsum Fiber Roof Board, DensDeck Prime, DEXcell FA Glass Mat Roof Board Minimum 1/4" thick

N/A

N/A

**Duro-Fold Underlayment Board** 

Minimum 3/8" thick N/A N/A

Note: Insulation layers above shall be preliminarily attached with Duro-Last 3" insulation Plates and HD screws. Insulation panels shall also be mechanically fastened 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 6"

o.c. in rows spaced 114" o.c. with Duro-Last #15 Extra Heavy Duty Drill Point Fasteners and Duro-Last Poly Plates. Center of plate is installed 1-1/4" from tab edge. Minimum 6" wide laps are sealed with minimum 1.5" heat weld.

**Maximum Design** 

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



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N/A

Deck Type 2I: Steel Deck, Insulated

**Deck Description:** Minimum 18 to 22 gage, type B, Grade 80 steel deck attached to steel supports

spaced 6 ft. o.c. with Teks 5 fasteners spaced 6" o.c. at each flute. Deck side

laps stitched 24' o.c. with Teks 1 fasteners.

This Tested Assembly has been analyzed for allowable deck stress. See

evidence submitted.

System Type D(22): 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 Density/ft<sup>2</sup> (Table 3) 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 Minimum 1½" thick N/A N/A Cellofoam Type IX EPS Insulation, Insulfoam EPS Minimum 1/2" thick N/A N/A Kingspan GreenGuard Insulation Board CM Minimum 1" 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.

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

spaced every 25" o.c. with Duro-Last #15 Extra Heavy Duty Drill Point Fastener with 2-3/8" Eyehook Accuseam 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 ft<sup>2</sup>/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)



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## STEEL DECK SYSTEM LIMITATIONS:

- If mechanical attachment to the structural deck through the lightweight Insulationg 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.
- 2. For steel deck application where specific deck construction is not referenced: The deck shall be a minimum 22 gage attached with 5/8" puddle welds with weld washers at every flute with maximum deck spans of 5 ft. o.c.

## **GENERAL LIMITATIONS:**

- 1. Fire classification is not part of this acceptance, refer to a current Approved Roofing Materials Directory for fire ratings of this product.
- 2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
- 3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
- 4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each 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.

- 5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. insulation attachment shall not be acceptable.
- 6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
- 7. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased for both insulation and base sheet as calculated in compliance with Roofing Application Standard RAS 117 and/or RAS 137. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant (When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)
- 8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform with Roofing Application Standard RAS 111 and applicable wind load requirements.
- 9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). (When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)
- 10. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 61G20-3 of the Florida Administrative Code.

## END OF THIS ACCEPTANCE

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