MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
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DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

NOTICE OF ACCEPTANCE (NOA)

Siplast, Inc.
1111 Highway 67 South
Arkadelphia, AR 71923

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: Siplast Modified Bitumen Roof Systems over Concrete Decks.

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

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

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

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

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

This NOA renews and revises NOA No. 18-0620.04 and consists of pages 1 through 35.
The submitted documentation was reviewed by Jorge L. Acebo.

MIAMI-DADE COUNTY APPROVED

ROOFING SYSTEM APPROVAL

Category:	Roofing
Sub-Category:	Modified Bitumen
Deck Type:	Concrete
Material:	SBS
Maximum Design Pressure:	-402.5 psf.

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

Product	Dimensions	Test Specification	Product Description
Paradiene 20	3.28' x 50' 90 lbs./sq.	ASTM D6163	Asphalt elastomer sheet with random fiberglass mat reinforcement used as the base ply of a Paradiene 20/30 system.
Paradiene 20 HT	3.28' x 50' 90 lbs./sq.	ASTM D6163	Asphalt elastomer sheet with fiberglass scrim reinforcement for use as a base ply of a Paradiene 20/30 system.
Paradiene 20 EG	3.28' x 33.5' 90 lbs./sq.	ASTM D6163	Heavy duty asphalt elastomer sheet with fiberglass scrim reinforcement for use as a base ply in Paradiene systems.
Paradiene 20 HV	3.28' x 33.5' 90 lbs./sq.	ASTM D6163	Heavy duty asphalt elastomer sheet with random fiberglass mat reinforcement used as a base ply of a Paradiene 20/30 system.
Paradiene 20 PR	3.28' x 50' 55 lbs./sq.	ASTM D6164	Asphalt elastomer sheet with polyester fiberglass scrim composite reinforcement used as the top ply of a Paradiene 20/20 PR system having a gravel surfacing. Has additional puncture resistance.
Paradiene 20 TG	3.28' x 33.5' 70 lbs./sq.	ASTM D6163	Asphalt elastomer sheet with random fiberglass reinforcement used as the base ply of a Paradiene 20/30 TG Series system.
Paradiene 20 TG F	3.28' x 33.5' 70 lbs./sq.	ASTM D6163	Asphalt elastomer sheet with random fiberglass reinforcement used as the base ply of a Paradiene 20/30 TG Series system.
Paradiene 20 HT TG	3.28' x 33.5' 70 lbs./sq.	ASTM D6163	Asphalt elastomer sheet with fiberglass scrim reinforcement for use as a base ply of a Paradiene 20/30 system.
Paradiene 20 EG TG	3.28’ x 33.5’ 100 lbs./sq.	ASTM D6163	Heavy duty asphalt elastomer sheet with fiberglass scrim reinforced for use as a base ply in Paradiene 20TG/30TG systems.

Product	Dimensions	Test Specification	Product Description
Paradiene 20 HV TG	3.28’ x 33.5’ 100 lbs./sq.	ASTM D6163	Heavy duty asphalt elastomer sheet with random fiberglass mat reinforcement used as a base ply of a Paradiene 20TG/30TG system.
Paradiene 20 PR TG	3.28’ x 33.5’ 96 lbs./sq.	ASTM D6164	High performance SBS modified bitumen finish ply designed for use in gravel surfaced. Used as a surface ply of a Paradiene 20/20TG system.
Paradiene 20 TS	3.28’ x 33.5’ 76 lbs./sq.	ASTM D6163	High performance, semi adhered SBS modified bitumen with random fiberglass mat reinforcement used as a base ply of Paradiene 20/30 systems.
Paradiene 30 FR	3.28' x 33.5' 85 lbs./sq.	ASTM D6163	Asphalt elastomer sheet with mineral surfacing and random glass mat reinforcement, for use as the top ply of a Paradiene 20/30 system.
Paradiene 30 HT FR	3.28' x 33.5' 87 lbs./sq.	ASTM D6163	Fire-rated asphalt elastomer sheet with mineral surfacing and fiberglass scrim reinforcement for use as the top ply of a Paradiene 20/30 FR system.
Paradiene 30 FR TG	3.28' x 25.25' 80 lbs./sq.	ASTM D6163	Fire rated asphalt elastomer sheet with mineral surfacing and random fiberglass mat reinforcement for use as the top ply sheet of a Paradiene 20/30 TG Series system.
Paradiene 30 HT FR TG	3.28' x 25.25' 80 lbs./sq.	ASTM D6163	Fire rated asphalt elastomer sheet with mineral surfacing and fiberglass scrim reinforcement for use as the top ply of a Paradiene TG Series system.
Paradiene 40 FR	3.28’ x 26’ 115 lbs./sq.	ASTM D6163	Fire rated asphalt elastomer sheet with mineral surfacing, glass mat/glass scrim reinforced.
Paradiene 40 FR TG	3.28’ x 26’ 115 lbs./sq.	ASTM D6163	Fire rated asphalt elastomer sheet with mineral surfacing, glass mat/glass scrim reinforced.
Parafor 50 LT	3.28’ x 17.5’ 114 lbs./sq.	ASTM D6162	Heavy duty asphalt elastomer sheet with mineral surfacing, polyester mat scrim reinforced.
Parafor 50 TG	3.28’ x 17.5’ 114 lbs./sq.	ASTM D6162	Heavy duty asphalt elastomer sheet with mineral surfacing, polyester mat scrim reinforced.
IREX 40	3.28' x 34' 89 lbs./sq.	ASTM D6163	High-melt asphalt sheet with random fiberglass mat reinforcement for use as the base ply sheet for a Veral system.
IREX HT	3.28' x 34' 89 lbs./sq.	ASTM D6163	High-melt asphalt sheet with fiberglass scrim reinforcement for use as a base ply sheet for the Veral system.

Product	Dimensions	Test Specification	Product Description
Veral Aluminum	3.28' x 33.5' 90 lbs./sq.	ASTM D6298	Aluminum clad asphalt elastomer sheet with woven fiberglass reinforcement for use as the top ply sheet of a Veral system.
Parafast Insulation Adhesive C	Box of four 4 1,500 ml cartridges	Proprietary	Quick curing, two-component, bead-applied polyurethane adhesive
PA 311/ 311 M	5 or 55 gal.	ASTM D4479	Blend of adhesive asphalts and quick-drying solvents.
PA 828	5 gal.	ASTM D4586	Flashing Cement
PA 1021	5 gal.	ASTM D4586	Asphalt cutback reinforced general purpose cement with non-asbestos fibers.
PA 1125	5 or 55 gal.	ASTM D41	Asphalt primer.
PC – 227	5 or 55 gal.	ASTM D6083	Elastomeric roof coating.
Para-Stik Insulation Adhesive	30 lb pressurized cylinders	Proprietary	A single component moisture curing Urethane foam adhesive
SFT Adhesive	5 gal.	Proprietary	A single component, solvent free, modified asphalt adhesive

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
Paratherm W	Polyisocyanurate Insulation	Siplast
ACFoam II	Polyisocyanurate Insulation	Atlas Roofing Corp.
DensDeck, DensDeck Prime	Water resistant gypsum	Georgia-Pacific Gypsum LLC
H-Shield H-Shield Tapered	Polyisocyanurate Insulation.	Hunter Panels LLC
Paratherm H Tapered Paratherm H	Polyisocyanurate Insulation	Siplast
ENRGY-3 ENRGY 3 Tapered	Polyisocyanurate Insulation.	Johns Manville
ENRGY 3 AGF ENRGY 3 AGF Tapered	25 psi Polyisocyanurate Insulation with Uncoated Glass Facer	Johns Manville
ENRGY 3 AGF 25 PSI ENRGY 3 AGF 25 PSI Tapered	25 psi Polyisocyanurate Insulation with Uncoated Glass Facer	Johns Manville
ENRGY 3 CGF 25 PSI ENRGY 3 CGF 25 PSI Tapered	25 psi Polyisocyanurate Insulation with Coated Glass Facer	Johns Manville
ENRGY 3 CGF ENRGY 3 CGF Tapered	Polyisocyanurate Insulation with Coated Glass Facer	Johns Manville
ValuTherm AGF ValuTherm AGF Tapered	Polyisocyanurate Insulation with Uncoated Glass Facer	Johns Manville
ValuTherm CGF ValuTherm CGF Tapered	Polyisocyanurate Insulation with Coated Glass Facer	Johns Manville
ValuTherm AGF 25 PSI ValuTherm AGF 25 PSI Tapered	Polyisocyanurate Insulation with Uncoated Glass Facer	Johns Manville
ValuTherm CGF 25 PSI ValuTherm CGF 25 PSI Tapered	Polyisocyanurate Insulation with Coated Glass Facer	Johns Manville
DuraBoard	Expanded Mineral Fiber	Johns Manville
FescoBoard	Rigid perlite roof insulation board.	Johns Manville
Multi-Max FA-3	Polyisocyanurate foam insulation.	Rmax Operating, LLC
SECUROCK Gypsum-Fiber Roof Board	Water resistant recycled cellulose and synthetic gypsum	US Gypsum Corporation
EnergyGuard Polyiso Insulation	Polyiso insulation with fiberglass reinforced organic facers	GAF
EnergyGuard Ultra Polyiso Insulation	Polyiso insulation with coated fiberglass facers	GAF
Paratherm N Paratherm N Tapered	Polyisocyanurate Insulation	Siplast, Inc.
Paratherm N CG Paratherm N CG Tapered	Polyisocyanurate Insulation with Coated Glass Facer	Siplast, Inc.
Paratherm N 25 psi Paratherm N 25 psi Tapered	25 psi Polyisocyanurate Insulation	Siplast, Inc.
Paratherm N 25 psi CG Paratherm N 25 psi CG Tapered	25 psi Polyisocyanurate Insulation with Coated Glass Facer	Siplast, Inc.
Paratherm G Paratherm G Tapered	Polyiso insulation with fiberglass reinforced organic facers	Siplast, Inc.
Paratherm G CG Paratherm G CG Tapered	Polyiso insulation with coated fiberglass facers	Siplast, Inc.

APPROVED FASTENERS / ADHESIVES:

TABLE 3

Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
OMG Olybond Adhesive	Dual component polyurethane adhesive	55-gallon drum	OMG, Inc.
OMG Olybond 500 Adhesive	Two-component, low-rise polyurethane foam adhesive	10-gallon or 1,500 ml cartridges	OMG, Inc
Insta Stik Quik Set Insulation Adhesive	Single component polyurethane adhesive	30 lb. tank	The Dow Chemical Co.

EVIDENCE SUBMITTED:

Test Agency/Identifier	Name	Report	Date
FM Approvals	FM 4470	3008071	01/18/01
	FM 4470	3045166	07/24/12
	FM 4470	3041769	05/26/11
	FM 4470	3047738	03/20/14
	FM 4470	3037540	10/20/10
	FM 4470	3021507	11/04/05
	FM 4470	3023079	05/12/06
	FM 4470	3026749	07/27/06
	FM 4470	3031655	05/27/08
	FM 4470	3033854	01/16/09
	FM 4470	3041101	12/23/20
	FM 4470	3057643	12/15/16
Trinity Engineering	TAS 114	#4701.02.96-1	02/28/96
Trinity-ERD	TAS 117	C8500SC.11.07	11/30/07
PRI Construction Materials Technologies LLC	ASTM D3019	SRI-101-02-01	02/17/17
	ASTM D6083	SRI-101-02-02	04/21/17
	ASTM D6083	SRI-102-02-02	04/21/17
	ASTM D6163	SRI-104-02-01	01/25/18
	ASTM D6164	SRI-105-02-02	01/03/18
	ASTM D6163	SRI-106-02-01	01/03/18
	ASTM D6163	SRI-116-02-02.1	08/15/18
	ASTM D6163	SRI-125-02-03	08/21/19
	ASTM D6163	SRI-126-02-03	08/21/19
	ASTM D6162	SRI-127-02-03	09/09/19
	ASTM D6298	824T0098	03/21/23
Atlantic & Caribbean Roof Consulting, LLC	TAS 114-D	07-035	05/29/07

Membrane Type: SBS

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(1): All layers of insulation adhered to deck with approved asphalt or adhesive.

All General and System limitations apply.

Base Insulation Layer (Optional)	**Insulation Fasteners Table 3**	**Fastener Density/ft²**
One or more layers of any of the following insulations:		
Paratherm H, Multi-Max FA-3, H-Shield Minimum 1.5" thick	**N/A**	**N/A**

Top Insulation Layer	**Insulation Fasteners Table 3**	**Fastener Density/ft²**
DensDeck Minimum ¼" thick	**N/A**	**N/A**
DuraBoard Minimum ¾" thick	**N/A**	**N/A**

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of insulation. All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs./100 ft² or Insta Stik Quik Set Insulation Adhesive/ Para-Stik Insulation Adhesive applied in continuous ¾" to 1" wide beads at a maximum spacing of 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Ply Sheet: Paradiene 20 TG, 20 HV TG, 20 HT TG or 20 EG TG adhered by torch or Paradiene 20, 20 HT, 20 HV, 20 EG adhered with approved mopping asphalt at an application rate of 20-40 lbs./sq. or with PA 311 or PA 311 M adhesive at a rate of 1.5-2 gal/sq.

Membrane: Paradiene 20 PR, 30 FR, 30 MW FR or 30 HT FR adhered in approved mopping asphalt at an application rate of 20-40 lbs./sq. or PA 311 or PA 311 M adhesive at a rate of 1.5-2 gal/sq. or Paradiene 20 PR TG, Paradiene 30 FR TG or 30 HT FR TG adhered by torch.

Note: Refer to manufacturer's specifications for specific application requirements.

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -157.5 psf. (using DensDeck) (See General Limitation #9)
-112.5 psf. (using DuraBoard) (See General Limitation #9)

Membrane Type: SBS Foil

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(2): All layers of insulation adhered to deck with approved asphalt or adhesive.

All General and System limitations apply.

Base Insulation Layer (Optional)	**Insulation Fasteners Table 3**	**Fastener Density/ft^2**
One or more layers of any of the following insulations:		
Multi-Max FA-3, H-Shield, Paratherm H Minimum 1.5" thick	**N/A**	**N/A**
Top Insulation Layer	**Insulation Fasteners Table 3**	**Fastener Density/ft^2**
DensDeck Minimum ¼" thick	**N/A**	**N/A**
DuraBoard Minimum ¾" thick	**N/A**	**N/A**

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of insulation. All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs./100 ft^2 or Insta Stik Quik Set Insulation Adhesive/ Para-Stik Insulation Adhesive applied in continuous ¾" to 1" wide beads at a maximum spacing of 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Ply Sheet: IREX 40, IREX HT, Paradiene 20, 20 HT, 20 HV or 20 EG adhered in approved mopping asphalt at an application rate of 20-40 lbs./sq.

Membrane: Veral Aluminum adhered in approved mopping asphalt at an application rate of 20-40 lbs./sq. or by torch.

Note: **Refer to manufacturer's specifications for specific application requirements.**

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -157.5 psf. (using DensDeck) (See General Limitation #9)
-112.5 psf. (using DuraBoard) (See General Limitation #9)

Membrane Type: SBS

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(3): All layers of insulation adhered to deck with approved asphalt or adhesive.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners Table 3**	**Fastener Density/ft^2**
ENRGY-3, H-Shield, Paratherm H, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, Paratherm N, Paratherm N CG, Paratherm N 25 PSI CG		
Minimum 1.5" thick	**N/A**	**N/A**

Top Insulation Layer	**Insulation Fasteners Table 3**	**Fastener Density/ft^2**
DensDeck		
Minimum ¼" thick	**N/A**	**N/A**

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of insulation. All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs./100 ft^2. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Ply Sheet: Paradiene 20, 20 HT, 20 HV, 20 EG adhered in full mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with PA 311 or PA 311 M adhesive at a rate of 1.5-2 gal/sq. or Paradiene 20 TG, 20 HV TG, 20 HT TG or 20 EG TG, adhered by torch.

Membrane: Paradiene 20 PR, 30 FR, or 30 HT FR adhered in full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or PA 311 or PA 311 M adhesive at a rate of 1.5-2 gal/sq. or Paradiene 20 PR TG, Paradiene 30 FR TG, 30 HT FR TG or Parafor 50 TG adhered by torch.

Note: **Refer to manufacturer's specifications for specific application requirements.**

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure:
-370 psf. (using ENRGY-3, H-Shield & Paratherm H)
(See General Limitation #9)
-277.5 psf. (using others insulation listed under the Base Insulation Layer)
(See General Limitation #9)

Membrane Type: SBS Foil

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(4): All layers of insulation adhered to deck with approved asphalt or adhesive.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners Table 3**	**Fastener Density/ft^2**
ENRGY-3, H-Shield, Paratherm H, ENRGY 3 AGF, ENRGY 3 AGF 25 PSI, ENRGY 3 CGF, ENRGY 3 CGF 25 PSI, ValuTherm AGF, ValuTherm AGF 25 PSI, ValuTherm CGF, ValuTherm CGF 25 PSI, Paratherm N, Paratherm N CG, Paratherm N 25 PSI CG		
Minimum 1.5" thick	**N/A**	**N/A**

Top Insulation Layer	**Insulation Fasteners Table 3**	**Fastener Density/ft^2**
DensDeck		
Minimum ¼" thick	**N/A**	**N/A**

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of insulation. All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs./100 ft^2. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Ply Sheet: Paradiene 20, 20 HT, 20 HV or 20 EG adhered in full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with PA 311 or PA 311 M adhesive at a rate of 1.5-2 gal/sq. or Paradiene 20 TG, 20 HV TG, 20 HT TG or 20 EG TG, adhered by torch.

Membrane: Veral Aluminum adhered in full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or adhered by torch.

Note: Refer to manufacturer's specifications for specific application requirements.

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -370 psf. (using ENRGY-3, H-Shield & Paratherm H)
(See General Limitation #9)
-277.5 psf. (using others insulation listed under the Base Insulation Layer)
(See General Limitation #9)

Membrane Type: SBS Foil

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(5): All layers of insulation adhered to deck with approved asphalt or adhesive.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners Table 3**	**Fastener Density/ft^2**
ACFoam II, Paratherm W, H-Shield, Paratherm H		
Minimum 1.5" thick	**N/A**	**N/A**

Top Insulation Layer	**Insulation Fasteners Table 3**	**Fastener Density/ft^2**
DensDeck		
Minimum ¼" thick	**N/A**	**N/A**

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of insulation. All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs./100 ft^2. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Ply Sheet: Paradiene 20, 20 HT, 20 HV or 20 EG adhered with PA 311 or PA 311 M at a rate of 1.5-2 gal/sq.

Membrane: Paradiene 30 FR, or 30 HT FR adhered in PA 311 or PA 311 M at a rate of 1.5-2 gal/sq.

Note: **Refer to manufacturer's specifications for specific application requirements.**

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -180 psf. (See General Limitation #9)

Membrane Type: SBS Foil

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(6): All layers of insulation adhered to deck with approved asphalt or adhesive.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners Table 3**	**Fastener Density/ft²**
ACFoam II, Paratherm W, H-Shield, Paratherm H Minimum 1.5" thick	**N/A**	**N/A**
Top Insulation Layer	**Insulation Fasteners Table 3**	**Fastener Density/ft²**
FescoBoard Minimum ¾" thick	**N/A**	**N/A**

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of insulation. All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Ply Sheet: Paradiene 20, 20 HT, 20 HV or 20 EG adhered with PA 311 or PA 311 M at a rate of 1.5-2 gal/sq.

Membrane: Paradiene 30 FR, or 30 HT FR adhered in PA 311 or PA 311 M at a rate of 1.5-2 gal/sq.

Note: Refer to manufacturer's specifications for specific application requirements.

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -120 psf. (See General Limitation #9)

Membrane Type: SBS Foil

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(7): All layers of insulation adhered to deck with approved asphalt or adhesive.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners Table 3**	**Fastener Density/ft^2**
ACFoam II, Paratherm W, H-Shield Minimum 1.5" thick	**N/A**	**N/A**
Top Insulation Layer	**Insulation Fasteners Table 3**	**Fastener Density/ft^2**
DuraBoard Minimum ¾" thick	**N/A**	**N/A**

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of insulation. All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs./100 ft^2. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Ply Sheet: Paradiene 20, 20 HT, 20 HV or 20 EG adhered with PA 311 or PA 311 M at a rate of 1.5-2 gal/sq.

Membrane: Paradiene 30 FR, or 30 HT FR adhered in PA 311 or PA 311 M at a rate of 1.5-2 gal/sq.

Note: **Refer to manufacturer's specifications for specific application requirements.**

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -82.5 psf. (See General Limitation #9)

Membrane Type: SBS/SBS Foil

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(8): All layers of insulation adhered to deck with approved asphalt or adhesive.

All General and System limitations apply.

Base Insulation Layer	**Insulation Fasteners Table 3**	**Fastener Density/ft²**
One or more layers of any of the following insulations:		
ACFoam II, Paratherm W, H-Shield, Paratherm H Minimum 1.5" thick	**N/A**	**N/A**
Top Insulation Layer	**Insulation Fasteners Table 3**	**Fastener Density/ft²**
SECUROCK Gypsum-Fiber Roof Board Minimum ¼" thick	**N/A**	**N/A**

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of insulation. All insulation shall be adhered with Insta Stik Quik Set Insulation Adhesive/Para-Stik Insulation Adhesive applied in continuous ¾" to 1" wide beads at a maximum spacing of 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Base Sheet: Paradiene 20, 20 HT, 20 HV or 20 EG adhered in full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with PA 311 or PA 311 M/311LS cold adhesive at a rate of 1.5-2 gal/sq. applied at a rate of 1.5-2.5 gal/square or Paradiene 20 TG, 20 HT TG or 20 EG TG, adhered by torch.

Ply Sheet: None.

Membrane: Paradiene 30 FR, or 30 HT FR adhered in approved mopping asphalt at an application rate of 20-40 lbs./sq. or PA 311 or PA 311 M or 311 LS adhesive at a rate of 1.5-2 gal/sq. or Paradiene 30 FR TG, 30 HT FR TG, Parafor 50 LT or Veral Aluminum, adhered by torch.

Note: **Refer to manufacturer's specifications for specific application requirements.**

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -285 psf. (torch adhered or hot asphalt adhered base sheets or membranes) (See General Limitation #9)
-105 psf. (PA 311 or PA 311 M adhered base sheets or membranes) (See General Limitation #9)

Membrane Type: SBS/SBS Foil

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(9): Vapor barrier and insulation adhered with approved asphalt or adhesive.

All General and System Limitations apply.

Vapor Barrier: Paradiene 20 TG, Paradiene 20 HT TG or Paradiene 20 EG TG torch adhered or Paradiene 20, Paradiene 20 HT, Paradiene 20 EG or Paradiene 20 HV adhered to the deck with hot asphalt at an application rate of 20-25 lbs./sq.

Insulation Base Layer (Optional):	**Insulation Fasteners Table 3**	**Fastener Density/ft^2**
Multi-Max FA-3, H-Shield, Paratherm H, EnergyGuard Polyiso Insulation, Paratherm G, EnergyGuard Ultra Polyiso Insulation, Paratherm G CG		
Minimum: 1.5" thick	**N/A**	**N/A**

Insulation Top Layer:	**Insulation Fasteners Table 3**	**Fastener Density/ft^2**
DensDeck		
Minimum ¼" thick	**N/A**	**N/A**
DuraBoard		
Minimum ¾" thick	**N/A**	**N/A**

Note: All insulation shall be adhered with Para-Stik Insulation Adhesive *(not for EnergyGuard Polyiso Insulation, EnergyGuard Ultra Polyiso Insulation, Paratherm G, Paratherm G CG)* **or OMG OlyBond 500 Adhesive applied in continuous ¾ to 1 in. ribbons spaced 12 in. o.c. or OMG OlyBond Adhesive** *(not for EnergyGuard Polyiso Insulation, EnergyGuard Ultra Polyiso Insulation, Paratherm G, Paratherm G CG)* **applied at a rate of 1.0 gal/sq. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.**

Base Sheet: Paradiene 20 TG, Paradiene 20 HT TG or Paradiene 20 EG TG torch adhered or Paradiene 20, Paradiene 20 HT, Paradiene 20 EG, Paradiene 20 HV, IREX 40 or IREX HT hot asphalt applied at an application rate of 20-40 lbs./sq. or adhered with Siplast PA-311 or PA-311 M cold adhesive at a rate of 1.5-2 gal/sq.

Membrane: Paradiene 30 FR, Paradiene 30 HT FR, Paradiene 30 FR TG, Paradiene 30 HT FR TG, Paradiene 40 FR, Veral Aluminum, or Parafor 50 LT adhered to the base sheet with hot asphalt at an application rate of 20-40 lbs./sq.; Siplast PA-311 or PA-311 M cold adhesive at a rate of 1.5-2 gal/sq.; or torch adhered (if torch grade membrane is used).

Note: Refer to manufacturer's specifications for specific application requirements.

Surfacing:	Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following: 1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq. 2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.
Maximum Design Pressure:	-82.5 psf. with PA-311 M adhesive over DuraBoard as Top Layer. (See General Limitation #9) -112.5 psf. with hot asphalt or PA-311 adhesive over DuraBoard as Top Layer. (See General Limitation #9) -157.5 psf. with any adhesive listed above over DensDeck as Top Layer. (See General Limitation #9)

Membrane Type: SBS/SBS Foil

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(10): Vapor barrier torch adhered onto deck and insulation adhered with approved asphalt onto vapor barrier.

All General and System Limitations apply.

Vapor Barrier: Paradiene 20 TG, Paradiene 20 HT TG or IREX 40 vapor retarder is torch adhered to deck primed with PA-1125 at a rate of 1 gal/square (0.4 liter/m²).

Insulation Base Layer:	**Insulation Fasteners Table 3**	**Fastener Density/ft²**
Paratherm H, Paratherm W, ACFoam II, H-Shield Minimum 1" thick	**N/A**	**N/A**

Insulation Top Layer:	**Insulation Fasteners Table 3**	**Fastener Density/ft²**
DensDeck Minimum ¼" thick	**N/A**	**N/A**

Note: All insulation shall be adhered in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Base Sheet: *Option 1* — Paradiene 20 TG, Paradiene 20 HT TG, or Paradiene 20 EG TG torch adhered onto DensDeck cover board only.

Membrane: *Option 1* — Paradiene 30 FR TG, , 30 HT FR TG torch adhered onto the base sheet (option 1) above.

Membrane: *Option 2* — Paradiene 30 FR, 30 HT FR, or Parafor 50 LT surfacing membrane is hot asphalt applied at a minimum rate of 20 lb/sq (0.1 kg/m²) onto the base sheet (option 2) above.

Note: **Refer to manufacturer's specifications for specific application requirements.**

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -202.5 psf. (see general limitation 9)

Membrane Type: SBS/SBS Foil

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 3000 psi structural concrete

System Type A(11): Vapor barrier torch adhered to deck and insulation adhered with approved adhesive onto vapor barrier.

All General and System Limitations apply.

Vapor Barrier: IREX 40 torch adhered to deck primed with PA-1125 at a rate of 1½ -2 gal/square.

Insulation Base Layer:	**Insulation Fasteners Table 3**	**Fastener Density/ft²**
ACFoam II, Paratherm W Minimum: 1.5" thick	**N/A**	**N/A**

Insulation Top Layer:	**Insulation Fasteners Table 3**	**Fastener Density/ft²**
DensDeck Minimum ¼" thick	**N/A**	**N/A**

Note: All insulation shall be adhered with Para-Stik Insulation Adhesive applied in continuous ¾ to 1 in. ribbons spaced 12 in. o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Base Sheet: Paradiene 20 TG torched adhered onto Den Deck primed with PA-1125 at a rate of 2-2½ gal/square.

Membrane: Paradiene 30 FR TG torch adhered onto the base sheet.

Note: Refer to manufacturer's specifications for specific application requirements.

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -142.5psf. (See General Limitation #9)

Membrane Type: SBS/SBS Foil

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 3000 psi structural concrete

System Type A(12): Vapor barrier torch adhered to primed deck and insulation adhered with approved adhesive onto vapor barrier.

All General and System Limitations apply.

Vapor Barrier: IREX 40 torch adhered to deck primed with ASTM D-41 Primer at a rate of 1½ -2 gal/square.

Insulation Base Layer:	**Insulation Fasteners Table 3**	**Fastener Density/ft²**
ACFoam II, Paratherm W Minimum: 1.5" thick	N/A	N/A

Insulation Top Layer:	**Insulation Fasteners Table 3**	**Fastener Density/ft²**
Dens Deck Prime Minimum ¼" thick	N/A	N/A

Note: All insulation shall be adhered with Para-Stik Insulation Adhesive applied in continuous ¾ to 1 in. ribbons spaced 6 in. o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Base Sheet: Paradiene 20 TG, Paradiene 20 HT TG, Paradiene 20 HV TG, Paradiene 20 EG TG torched adhered onto Dens Deck Prime

Membrane: Paradiene 30 FR TG, Paradiene 30 HT FR TG, Parafor 50 TG, and Veral Aluminum, torch adhered onto the base sheet.

Note: Refer to manufacturer's specifications for specific application requirements.

Maximum Design Pressure: -262.5psf. (See General Limitation #9)

Membrane Type: SBS/SBS Foil

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 3000 psi structural concrete

System Type A(13): Vapor barrier torch adhered to primed deck and insulation adhered with approved adhesive onto vapor barrier.

All General and System Limitations apply.

Vapor Barrier: IREX 40 torch adhered to deck primed with ASTM D-41 Primer at a rate of 1½ -2 gal/square.

Insulation Base Layer:	**Insulation Fasteners Table 3**	**Fastener Density/ft²**
H-Shield, Paratherm H Minimum: 1.5" thick	N/A	N/A

Insulation Top Layer:	**Insulation Fasteners Table 3**	**Fastener Density/ft²**
Dens Deck Prime Minimum ¼" thick	N/A	N/A

Note: All insulation shall be adhered with Para-Stik Insulation Adhesive applied in continuous ¾ to 1 in. ribbons spaced 6 in. o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Base Sheet: Paradiene 20 TG, Paradiene 20 HT TG, Paradiene 20 HV TG, Paradiene 20 EG TG torched adhered onto Dens Deck Prime

Membrane: Paradiene 30 FR TG, Paradiene 30 HT FR TG, Parafor 50 TG, and Veral Aluminum torch adhered onto the base sheet.

Note: **Refer to manufacturer's specifications for specific application requirements.**

Maximum Design Pressure: -292.5psf. (See General Limitation #9)

Membrane Type: SBS/SBS Foil

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(14): All layers of insulation adhered to deck with approved adhesive.

All General and System limitations apply.

Base Insulation Layer	**Insulation Fasteners Table 3**	**Fastener Density/ft^2**
One or more layers of any of the following insulations: **ACFoam II, Paratherm W, H-Shield, Paratherm H** **Minimum 1.5" thick**	**N/A**	**N/A**
Middle Layer (Optional) **ACFoam II, Paratherm W, H-Shield, Paratherm H** **Minimum 1.5" thick**	**N/A**	**N/A**

CoverBoard:	**Insulation Fasteners Table 3**	**Fastener Density/ft^2**
DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board **Minimum ¼" thick**	**N/A**	**N/A**

Note: All insulation shall be adhered with Insta Stik Quik Set Insulation Adhesive/Para-Stik Insulation Adhesive or Parafast Insulation Adhesive C applied to the substrate in continuous ¾" to 1" wide beads at a maximum spacing of 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Base Sheet:	One ply of Paradiene 20, 20 HT, 20 EG or 20 HV is fully adhered to the coverboard with PA311 or PA311M applied to the substrate at 1.5 - 2.0 gal/sq. with a squeegee. Minimum 3" wide side and end laps of the base sheet are sealed with PA311 or PA311M.
Ply Sheet:	One ply of Paradiene 20, 20 HT, 20 EG or 20 HV fully adhered to the base ply with PA311 or PA311M applied to the substrate at 1.5 - 2.0 gal/sq. with a squeegee. Minimum 3" wide side and end laps of the ply sheet are sealed with PA311 or PA311M.
Membrane:	One ply of Paradiene 30 FR or 30 HT FR fully adhered to the ply sheet with PA311 or PA311M applied to the substrate at 1.5 - 2.0 gal/sq. with a squeegee. Minimum 3" wide side and end laps of the ply sheet are sealed with PA311 or PA311M
Maximum Design Pressure:	-187.5 psf. (See General Limitation #9)

Membrane Type: SBS/SBS Foil

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(15): All layers of insulation adhered to deck with approved adhesive.

All General and System limitations apply.

Base Insulation Layer	**Insulation Fasteners Table 3**	**Fastener Density/ft^2**
One or more layers of any of the following insulations: **ACFoam II, Paratherm W, H-Shield, Paratherm H** **Minimum 1.5" thick**	**N/A**	**N/A**
Intermediate Layer (Optional) **ACFoam II, Paratherm W, H-Shield, Paratherm H** **Minimum 1.5" thick**	**N/A**	**N/A**

CoverBoard:	**Insulation Fasteners Table 3**	**Fastener Density/ft^2**
SECUROCK Gypsum-Fiber Roof Board **Minimum ¼" thick**	**N/A**	**N/A**

Note: All insulation shall be adhered with Insta Stik Quik Set Insulation Adhesive/Para-Stik Insulation Adhesive or Parafast Insulation Adhesive C applied to the substrate in continuous ¾" to 1" wide beads at a maximum spacing of 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Base Sheet:	One ply of Paradiene 20, 20 HT, 20 EG or 20 HV is fully adhered to the coverboard with SFT Adhesive applied to the substrate at 2.0 gal/sq. with a squeegee. Minimum 3" wide side and end laps of the base sheet are sealed with SFT Adhesive.
Ply Sheet:	One ply of Paradiene 20, 20 HT, 20 FR, 20 HT FR, 20 EG or 20 HV is fully adhered to the base ply with SFT Adhesive applied to the substrate at 2.0 gal/sq. with a squeegee. Minimum 3" wide side and end laps of the base sheet are sealed with SFT Adhesive.
Membrane:	One ply of Paradiene 30 FR or 30 HT FR fully adhered to the ply sheet with SFT Adhesive applied to the substrate at 1.5 - 2.0 gal/sq. with a squeegee. Minimum 3" wide side and end laps of the ply sheet are sealed with SFT Adhesive.
Maximum Design Pressure:	-127.5 psf. (See General Limitation #9)

Membrane Type: SBS/SBS Foil

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(16): All layers of insulation adhered to deck with approved adhesive.

All General and System limitations apply.

Base Insulation Layer	**Insulation Fasteners Table 3**	**Fastener Density/ft^2**
One or more layers of any of the following insulations: **ACFoam II, Paratherm W, H-Shield, Paratherm H** **Minimum 1.5" thick**	**N/A**	**N/A**
Medium Layer (Optional) **ACFoam II, Paratherm W, H-Shield, Paratherm H** **Minimum 1.5" thick**	**N/A**	**N/A**

CoverBoard:	**Insulation Fasteners Table 3**	**Fastener Density/ft^2**
DensDeck Prime **Minimum ¼" thick**	**N/A**	**N/A**

Note: All insulation shall be adhered with Insta Stik Quik Set Insulation Adhesive/Para-Stik Insulation Adhesive or Parafast Insulation Adhesive C applied to the substrate in continuous ¾" to 1" wide beads at a maximum spacing of 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Base Sheet:	One ply of Paradiene 20, 20 HT, 20 EG or 20 HV is fully adhered to the coverboard with SFT Adhesive applied to the substrate at 2.0 gal/sq. with a squeegee. Minimum 3" wide side and end laps of the base sheet are sealed with SFT Adhesive
Ply Sheet:	One ply of Paradiene 20, 20 HT, 20 EG or 20 HV is fully adhered to the base ply with SFT Adhesive applied to the substrate at 2.0 gal/sq. with a squeegee. Minimum 3" wide side and end laps of the base sheet are sealed with SFT Adhesive.
Membrane:	One ply of Paradiene 30 FR or 30 HT FR fully adhered to the ply sheet with SFT Adhesive applied to the substrate at 1.5 - 2.0 gal/sq. with a squeegee. Minimum 3" wide side and end laps of the ply sheet are sealed with SFT Adhesive.
Maximum Design Pressure:	-135 psf. (See General Limitation #9)

Membrane Type: SBS/SBS Foil

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(17): All layers of insulation adhered to deck with approved adhesive.

All General and System limitations apply.

Base Insulation Layer	**Insulation Fasteners Table 3**	**Fastener Density/ft^2**
One or more layers of any of the following insulations: **ACFoam II, Paratherm W, H-Shield, Paratherm H Minimum 1.5" thick**	**N/A**	**N/A**
CoverBoard:	**Insulation Fasteners Table 3**	**Fastener Density/ft^2**
DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board Minimum ¼" thick	**N/A**	**N/A**

Note: All insulation shall be adhered with Para-Stik Insulation Adhesive applied to the substrate in continuous ¾" to 1" wide beads at a maximum spacing of 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Base Sheet:	One ply of Paradiene 20, 20 FR, 20 HT, 20 HT FR, 20 EG or 20 HV is fully adhered to the coverboard with SFT Adhesive applied to the substrate at 2.0 gal/sq. with a squeegee. Minimum 3" wide side and end laps of the base sheet are sealed with SFT Adhesive.
Cap Sheet:	One ply of Paradiene 30 FR or 30 HT FR is fully adhered to the base ply with SFT Adhesive applied to the substrate at 1.5 gal/sq. with a squeegee. Minimum 3" wide side and end laps of the base sheet are sealed with SFT Adhesive.
Maximum Design Pressure:	-150 psf. (using DensDeck Prime) (See General Limitation #9) -210 psf. (using SECUROCK Gypsum-Fiber Roof Board) (See General Limitation #9)

Membrane Type: SBS/SBS Foil

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(18): All layers of insulation adhered to deck with approved adhesive.

All General and System limitations apply.

Base Insulation Layer	**Insulation Fasteners Table 3**	**Fastener Density/ft^2**
One or more layers of any of the following insulations: **ACFoam II, Paratherm W, H-Shield, Paratherm H Minimum 1.5" thick**	**N/A**	**N/A**

CoverBoard:	**Insulation Fasteners Table 3**	**Fastener Density/ft^2**
SECUROCK Gypsum-Fiber Roof Board Minimum ¼" thick	**N/A**	**N/A**

Note: All insulation shall be adhered with Para-Stik Insulation Adhesive applied to the substrate in continuous ¾" to 1" wide beads at a maximum spacing of 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Base Sheet:	One ply of Paradiene 20, 20 FR, 20 HT, 20 HT FR, 20 EG or 20 HV is fully adhered to the coverboard with PA311 or PA311M applied to the substrate at 1.5 – 2.5 gal/sq. with a squeegee. Minimum 3" wide side and end laps of the base sheet are sealed with PA311 or PA311M.
Cap Sheet:	One ply of Paradiene 30 FR or 30 HT FR is fully adhered to the base ply with PA311 or PA311M applied to the substrate at 1.5 – 2.0 gal/sq. with a squeegee. Minimum 3" wide side and end laps of the base sheet are sealed with PA311 or PA311M
Maximum Design Pressure:	-180 psf. (See General Limitation #9)

Membrane Type: SBS/SBS Foil

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(19): Vapor barrier and insulation adhered with approved asphalt or adhesive

All General and System limitations apply.

Vapor Barrier: One ply of Paradiene 20 is fully adhered to deck with SFT Adhesive applied to the substrate at 1.5 - 2.0 gal/sq. with a squeegee. Minimum 3" wide side and end laps of the vapor barrier are sealed with SFT Adhesive.

Base Insulation Layer	**Insulation Fasteners Table 3**	**Fastener Density/ft^2**
One or more layers of any of the following insulations: **ACFoam II, Paratherm W, H-Shield, Paratherm H Minimum 1.5" thick**	**N/A**	**N/A**
CoverBoard:	**Insulation Fasteners Table 3**	**Fastener Density/ft^2**
SECUROCK Gypsum-Fiber Roof Board Minimum ¼" thick	**N/A**	**N/A**

Note: All insulation shall be adhered with Para-Stik Insulation Adhesive applied to the substrate in continuous ¾" to 1" wide beads at a maximum spacing of 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Base Sheet: One ply of Paradiene 20, 20 HT, 20 FR, 20 HT FR, 20 EG or 20 HV is fully adhered to the coverboard with SFT Adhesive applied to the substrate at 2.0 gal/sq. with a squeegee. Minimum 3" wide side and end laps of the base sheet are sealed with SFT Adhesive.

Membrane: One ply of Paradiene 30 FR or 30 HT FR fully adhered to the base ply with SFT Adhesive applied to the substrate at 1.5 gal/sq. with a squeegee. Minimum 3" wide side and end laps of the ply sheet are sealed with SFT Adhesive.

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

Membrane Type: SBS/SBS Foil

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(20): Vapor barrier and insulation adhered with approved asphalt or adhesive

All General and System limitations apply.

Vapor Barrier: One ply of Paradiene 20 is self-adhered to the deck primed with ASTM D-41 Primer at a rate of 0.5 gal/sq. Minimum 3" wide side and end laps of the vapor barrier are self-adhered.

Base Insulation Layer	**Insulation Fasteners Table 3**	**Fastener Density/ft^2**
One or more layers of any of the following insulations: **ACFoam II, Paratherm W, H-Shield, Paratherm H Minimum 1.5" thick**	**N/A**	**N/A**
CoverBoard:	**Insulation Fasteners Table 3**	**Fastener Density/ft^2**
DensDeck Prime Minimum ¼" thick	**N/A**	**N/A**

Note: All insulation shall be adhered with Para-Stik Insulation Adhesive applied to the substrate in continuous ¾" to 1" wide beads at a maximum spacing of 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Base Sheet: One ply of Paradiene 20, 20 HT, 20 FR, 20 HT FR, 20 EG or 20 HV is fully adhered to the cover board with PA311 or PA311M applied to the substrate at 1.5 – 2.5 gal/sq. with a squeegee. Minimum 3" wide side and end laps of the base sheet are sealed with PA311 or PA311M.

Membrane: One ply of Paradiene 30 FR or 30 HT FR fully adhered to the base ply with PA311 or PA311M applied to the substrate at 1.5 – 2.0 gal/sq. with a squeegee. Minimum 3" wide side and end laps of the ply sheet are sealed with PA311 or PA311M.

Maximum Design Pressure: -67.5 psf. (See General Limitation #9)

Membrane Type: SBS/SBS Foil

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(21): Vapor barrier and insulation adhered with approved asphalt or adhesive

All General and System limitations apply.

Vapor Barrier: Paradiene 20 TG is torch adhered to the concrete deck. Minimum 3" wide side and end laps of the vapor barrier are self-adhered.

Base Insulation Layer	**Insulation Fasteners Table 3**	**Fastener Density/ft^2**
One or more layers of any of the following insulations: **ACFoam II, Paratherm W, H-Shield, Paratherm H, EnergyGuard Polyiso Insulation, EnergyGuard Ultra Polyiso Insulation, Paratherm G, Paratherm G CG Minimum 1.5" thick**	**N/A**	**N/A**

CoverBoard:	**Insulation Fasteners Table 3**	**Fastener Density/ft^2**
DensDeck Prime Minimum ¼" thick	**N/A**	**N/A**

Note: All insulation shall be adhered with OMG Olybond 500 Adhesive applied to the substrate in continuous ¾" to 1" wide beads at a maximum spacing of 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Base Sheet: One ply of Paradiene 20 TG, 20 HT TG or 20 HT TG is torch adhered to the cover board. Minimum 3" wide side and end laps of the base sheet are torch adhered.

Membrane: One ply of Paradiene 20 FR TG, 30 FR TG or 30 HT FR TG is torch adhered to the base ply. Minimum 3" wide side and end laps of the ply sheet are torch adhered.

Surfacing: Siplast PC-227 Elastomeric Coating roller applied to the top surface of the membrane in two coats. Each coat is applied at a rate of 1.0 gal/sq.

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

Membrane Type: SBS

Deck Type 3: Concrete Decks, Non-insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type F(1): Membrane adhered with asphalt or torch applied.

All General and System limitations apply.

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of anchor sheet.

Ply Sheet:	Paradiene 20, 20 HT, 20 HV, 20 EG adhered in full mopping of approved asphalt applied within the EVT range and at a rate of 20-25 lbs./sq. or Paradiene 20 TG, 20 TG F, 20 HV TG, 20 HT TG, 20 EG TG adhered by torch.
Membrane:	Paradiene 20 PR, 30 FR, or 30 HT FR adhered in approved mopping asphalt at an application rate of 20-40 lbs./sq. or Paradiene 20 PR TG, Paradiene 30 FR TG, , 30 HT FR TG or Parafor 50 TG adhered by torch.
Note:	**Refer to manufacturer's specifications for specific application requirements.**
Surfacing:	Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following: 1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq. 2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.
Maximum Design Pressure:	-230 psf. (See General Limitation #9)

Membrane Type: SBS Foil

Deck Type 3: Concrete Decks, Non-insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type F(2): Membrane adhered with asphalt or torch applied.

All General and System limitations apply.

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of anchor sheet.

Ply Sheet:	Paradiene 20, 20 HT, 20 HV or 20 EG adhered in full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with PA 311 or PA 311 M adhesive at a rate of 1.5-2 gal/sq. or Paradiene 20 TG, 20 HV TG, 20 HT TG or 20 EG TG, adhered by torch.
Membrane:	Veral Aluminum adhered in full mopping of approved asphalt applied within the EVT range and at a rate of 20-25 lbs./sq. or adhered by torch.
Note:	**Refer to manufacturer's specifications for specific application requirements.**
Surfacing:	Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following: 1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq. 2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.
Maximum Design Pressure:	-230 psf. (See General Limitation #9)

Membrane Type: SBS

Deck Type 3: Concrete Decks, Non-insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type F(3): Membrane adhered with asphalt or torch applied.

All General and System limitations apply.

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of anchor sheet.

Ply Sheet:	Paradiene 20 TG, 20 HV TG, 20 HT TG, 20 EG TG adhered by torch
Membrane:	Paradiene 20 PR TG, Paradiene 30 FR TG, 30 HT FR TG or Parafor 50 TG adhered by torch.
Note:	**Refer to manufacturer's specifications for specific application requirements.**
Surfacing:	Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following: 1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq. 2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.
Maximum Design Pressure:	-402.5 psf. (See General Limitation #9)

Membrane Type: SBS Foil

Deck Type 3: Concrete Decks, Non-insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type F(4): Membrane adhered with asphalt or torch applied.

All General and System limitations apply.

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of anchor sheet.

Ply Sheet: IREX 40 or IREX HT adhered by torch.

Membrane: Veral Aluminum adhered by torch.

Note: Refer to manufacturer's specifications for specific application requirements.

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -402.5 psf. (See General Limitation #9)

Membrane Type: SBS

Deck Type 3: Concrete Decks, Non-insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type F(5): Membrane adhered by torch.

All General and System limitations apply.

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of anchor sheet.

Ply Sheet: Paradiene 20 TS adhered by torch.

Membrane: Paradiene 30 FR TG, 30 HT FR TG, or Parafor 50 TG adhered by torch.

Note: **Refer to manufacturer's specifications for specific application requirements.**

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -120 psf. (See General Limitation #9)

Membrane Type: SBS

Deck Type 3: Concrete Decks, Non-insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type F(6): Membrane adhered with asphalt or torch applied.

All General and System limitations apply.

Note: Concrete deck shall be primed with Paradiene PA-1125 applied at a rate of 1 gal/square and allowed to dry prior to application of base sheet.

Base Sheet: Paradiene 20 TS or Paradiene 20 TG base membrane torch adhered to primed concrete

Membrane: Paradiene 30 FR TG cap sheet torch adhered to the base sheet or Paradiene 30 FR or 30 HT FR, adhered to the base sheet in hot asphalt at 20-25 lbs./sq.

Note: Refer to manufacturer's specifications for specific application requirements.

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -352.5 psf. with Paradiene 20 TS base membrane (See General Limitation #9)
-367.5 psf. with Paradiene 20 TG base membrane (See General Limitation #9)

CONCRETE DECK SYSTEM LIMITATIONS:

1. If mechanical attachment to the structural deck through the lightweight insulating concrete is proposed, a field withdrawal resistance testing shall be performed to determine equivalent or enhanced fastener patterns and density. All testing and fastening design shall be in compliance with Testing Application Standard TAS 105 and Roofing Application Standard RAS 137, calculations shall be signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant.

GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance, refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each side lap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq. **Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.**
5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
7. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased for both insulation and base sheet as calculated in compliance with Roofing Application Standard RAS 117. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant **(When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)**
8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform to Roofing Application Standard RAS 111 and applicable wind load requirements.
9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). **(When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)**
10. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 61G20-3 of the Florida Administrative Code.

END OF THIS ACCEPTANCE