MIAMI-DADE

BUILDING CODE COMPLIANCE OFFICE (BCCO)
PRODUCT CONTROL DIVISION

MIAMI-DADE COUNTY, FLORIDA
METRO-DADE FLAGLER BUILDING
140 WEST FLAGLER STREET, SUITE 1603
MIAMI, FLORIDA 33130-1563
(305) 375-2901 FAX (305) 375-2908

# NOTICE OF ACCEPTANCE (NOA)

**Siplast**
**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 by the BCCO and accepted by the Building Code and Product Review Committee 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 Division (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. BORA reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Division 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.

**DESCRIPTION: Siplast Modified Bitumen Roofing Systems Over Concrete Decks**

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

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

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

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

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

This NOA revises NOA No. 03-1211.05 and consists of pages 1 through 32.
The submitted documentation was reviewed by Jorge L. Acebo.

PRODUCT CONTROL ACCEPTED

## ROOFING ASSEMBLY NOTICE OF ACCEPTANCE

| | |
|---|---|
| Category: | Roofing |
| Sub-Category: | SBS/SBS Foil Modified Bitumen |
| Deck Type: | Concrete |
| Maximum Design Pressure | -405 psf |
| Fire Classification: | See General Limitation #1 |

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

**TABLE 1**

| Product | Dimensions | Test Specification | Product Description |
|---|---|---|---|
| Parabase | 3' x 108' | ASTM D 4601 | Asphalt coated fiberglass base sheet for mechanically fastened applications. |
| Parabase FS | 3' x 108' | ASTM D 4601 | Asphalt coated fiberglass base sheet with a polyolefin back surfacing for mechanically fastened applications. |
| Parabase Plus | 3.28' x 102.3'; 28 lbs./sq. | ASTM D 5147 | Elastomeric asphalt coated base sheet. |
| Paraglas | 3' x 180'; 12 lbs./sq. | ASTM D 2178 Type IV | Asphalt coated fiberglass mat used as a base or ply sheet. |
| Paravent | 3' x 108' | ASTM D 4601 | Asphalt coated venting fiberglass base sheet with 1.5 inch perforations. |
| Paravent FS | 3' x 108' | ASTM D 4601 | Asphalt coated venting fiberglass base sheet with 1.5 inch perforations and a polyolefin back surfacing.. |
| Paradiene 20 | 3.28' x 50'; 90 lbs./ sq. | ASTM D 6163 | 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 D 6163 | 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 D 6163 | 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 D 6163 | 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 D 6162 | 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 D 6163 | Asphalt elastomer sheet with random fiberglass reinforcement used as the base ply of a Paradiene 20/30 TG Series system. |

| Product | Dimensions | Test Specification | Product Description |
|---|---|---|---|
| Paradiene 20 TG F | 3.28' x 33.5'; 70 lbs./sq. | ASTM D 4601 | Asphalt elastomer sheet with random fiberglass reinforcement and a silica parting agent on the top surface, for use 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 D 6163 | 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 D 5147 | Heavy duty asphalt elastomer sheet with fiberglass scrim reinforced for use as a base ply in Paradiene 20TG/30TG systems. |
| Paradiene 20 HV TG | 3.28' x 33.5'; 100 lbs./sq. | ASTM D 6163 | 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 D 6164 | 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 D 6163 | High performance, semi adhered SBS modified bitumen with random fiberglass mat reinforcement used as a base ply of Paradiene 20/30 systems. |
| Paradiene 20 TS SA | 3.28' x 33.5'; 76 lbs./sq. | ASTM D 6163 | High performance, semi adhered, self adhesive, SBS modified bitumen with random fiberglass mat reinforcement used as a base ply of Paradiene 20/30 systems. |
| Paradiene 20 HT TS SA | 3.28' x 33.5'; 73 lbs./sq. | ASTM D 6163 | High performance, semi adhered, self adhered, SBS modified bitumen with random fiberglass mat/fiberglass scrim reinforcement used as a base ply of Paradiene 20/30 systems. |
| Paradiene 20 SA | 3.28' x 33.5'; 72 lbs./sq. | ASTM D 6163 | High performance, self adhesive, SBS modified bitumen with random fiberglass mat reinforcement used as a utility sheet. |
| Paradiene 20 EG SA | 3.28' x 33.5'; 90 lbs./sq. | ASTM D 6163 | High duty, self-adhesive, asphalt elastomer sheet with fiberglass scrim reinforcement for use as a base ply in Paradiene systems. |
| Paradiene 20 HT SA | 3.28' x 50'; 90 lbs./sq. | ASTM D 6163 | High performance, self adhesive, asphalt elastomer sheet with fiberglass scrim reinforcement for use as a base ply of a Paradiene 20/30 systems. |
| Terabase | 3.28' x 50'; 90 lbs./sq. | ASTM D 6163 | Asphalt elastomer sheet with random fiberglass mat reinforcement used as the base ply for Teranap systems. |

| Product | Dimensions | Test Specification | Product Description |
|---|---|---|---|
| Terabase TG | 3.28' x 33.5'; 70 lbs./sq. | ASTM D 6163 | Asphalt elastomer sheet with random fiberglass reinforcement used as the base ply for Teranap systems. |
| Teranap | 3.28' x 26'; 97 lbs./sq. | ASTM D 5147 | A non-woven polyester mat impregnated and coated with high quality SBS modified bitumen. The surface of the sheet is protected by a polyester film or by sand. |
| Paradiene 30<br>Paradiene 30 CR | 3.28' x 33.5'; 85 lbs./sq. | ASTM D 6163 | Asphalt elastomer sheet with mineral surfacing and random glass mat reinforcement, for use as the top ply of a Paradiene 20/30 system. |
| Paradiene 30FR<br>Paradiene 30 FR CR | 3.28' x 33.5'; 85 lbs./sq. | ASTM D 6163 | 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 | 3.28' x 33.5'; 85 lbs./sq. | ASTM D 6163 | Asphalt elastomer sheet with mineral surfacing and fiberglass scrim reinforcement for use as the top ply of a Paradiene 20/30 system. |
| Paradiene 30 HTFR | 3.28' x 33.5'; 87 lbs./sq. | ASTM D 6163 | 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 MW | 3.28' x 33.5'; 87 lbs./sq. | ASTM D 6163 | Asphalt elastomer sheet with mineral surfacing and ultra high tensile fiberglass reinforcement for use as the top ply of a Paradiene 20/30 FR system. |
| Paradiene 30 MW FR | 3.28' x 33.5'; 87 lbs./sq. | ASTM D 6163 | Fire rated asphalt elastomer sheet with mineral surfacing and ultra high tensile fiberglass reinforcement for use as the top ply of a Paradiene 20/30 FR system. |
| Paradiene 30 TG<br>Paradiene 30 CR TG | 3.28' x 25.25'; 80 lbs./sq. | ASTM D 5147 | 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 FRTG<br>Paradiene 30 CR FR TG | 3.28' x 25.25'; 80 lbs./sq. | ASTM D 6163 | 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 HTTG | 3.28' x 25.25'; 80 lbs./sq. | ASTM D 6163 | Asphalt elastomer sheet with mineral surfacing and fiberglass scrim reinforcement for use as the top ply of a Paradiene 20/30 TG Series system requiring high tensile strength. |

| Product | Dimensions | Test Specification | Product Description |
|---|---|---|---|
| Paradiene 30 HTFRTG | 3.28' x 25.25'; 80 lbs./sq. | ASTM D 6163 | 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 D 5147 | 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 D 6162 | Heavy duty asphalt elastomer sheet with mineral surfacing, polyester mat/fiberglass scrim reinforced. |
| Paralosa TS | 3.28' x 26.25'; 141 lbs./sq. | ASTM D 6162 | Heavy duty asphalt elastomer sheet with mineral surfacing, polyester mat/fiberglass scrim reinforced. For use as single ply membrane over concrete decks. |
| IREX 30 | 3.28' x 34'; 74 lbs./sq. | ASTM D 5147 | High-melt asphalt sheet with random fiberglass mat reinforcement for use as the base ply sheet for a Veral system. |
| IREX 40 | 3.28' x 34'; 89 lbs./sq. | ASTM D 5147 | 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 D 5147 | High-melt asphalt sheet with fiberglass scrim reinforcement for use as a base ply sheet for the Veral system. |
| IREX PR | 3.28' x 34'; 89 lbs./sq. | ASTM D 5147 | High-melt asphalt sheet with polyester mat / fiberglass scrim reinforcement for use as a mechanically fastened base sheet with the Veral system. |
| Veral Aluminum | 3.28' x 33.5'; 90 lbs./sq. | ASTM D 6298 | Aluminum clad asphalt elastomer sheet with woven fiberglass reinforcement for use as the top ply sheet of a Veral system. |
| Veral Copper | 3.28' x 33.5'; 105 lbs./sq. | ASTM D 6298 | Copper clad asphalt elastomer sheet with fiberglass scrim reinforcement for use as the top ply of a Veral system. |
| Veral Stainless Steel | 3.28 ' x 33.5'; 105 lbs./sq. | ASTM D 6298 | Stainless steel clad asphalt elastomer sheet with fiberglass scrim reinforcement for use as the top ply sheet of a Veral system. |
| Veral Spectra Series | 3.28' x 33.5'; 90 lbs./sq. | ASTM D 6298 | Aluminum clad asphalt elastomer sheet with fiberglass scrim reinforcement and factory finished with a Kynar PVDF coating. |
| PA 100 Mopping Asphalt | | ASTM D 312 Type IV | Mopping Asphalt |
| PA 311/311 M/311LS Adhesive | 5 or 55 gal. | ASTM D 4479 | Blend of adhesive asphalts and quick-drying solvents. |

| Product | Dimensions | Test Specification | Product Description |
|---|---|---|---|
| PA 828 Flashing Cement | 5 gal. | ASTM D 4586 | Flashing Cement |
| PA 1021 Plastic Cement | 5 gal. | ASTM D 4586 | Asphalt cutback reinforced general purpose cement with non-asbestos fibers. |
| PA 1125 Asphalt Primer | 5 or 55 gal. | ASTM D 41 | Asphalt primer. |
| PC – 227 | 5 or 55 gal | ASTM D 6083 | Elastomeric roof coating. |
| Para-Stik Insulation Adhesive | 30 lb pressurized cylinders | N/A | A single component moisture curing Urethane foam adhesive |

## APPROVED INSULATIONS:

**TABLE 2**

| Product Name | Product Description | Manufacturer (With Current NOA) |
|---|---|---|
| Paratherm, Paratherm W, Paratherm H | Isocyanurate Insulation | Siplast |
| Siplast Wood Fiberboard | Wood fiber insulation | Siplast |
| ACFoam I, II | Isocyanurate Insulation | Atlas Roofing Corp. |
| Fiberglas | Fiber glass roof insulation. | Generic |
| High Density Wood Fiberboard | High Density Wood Fiber insulation board. | Generic |
| High Density Wood Fiberboard | High Density Wood Fiber insulation board | Georgia Pacific |
| Perlite Insulation Board | Perlite Insulation | Generic |
| Dens Deck, Dens Deck Prime | Water resistant gypsum | G-P Gypsum Corp. |
| H-Panel | Isocyanurate Insulation. | Hunter Panels LLC |
| ENRGY 2 | Isocyanurate Insulation. | Johns Manville |
| Fiber Glass Roof Insulation | Fiberglas roof insulation. | Johns Manville |
| ISORoc | Polyisocyanurate foam insulation. | Johns Manville |
| DuraBoard | Expanded Mineral Fiber | Johns Manville |
| FescoBoard | Perlite Insulation | Johns Manville |
| Multi-Max, FA | Polyisocyanurate foam insulation. | RMax Inc. |
| SecuRock | Water resistant recycled cellulose and synthetic gypsum | USG |

## APPROVED FASTENERS:

**TABLE 3**

| Fastener Number | Product Name | Product Description | Dimensions | Manufacturer (With Current NOA) |
|---|---|---|---|---|
| 1. | N/A | N/A | N/A | N/A |

## EVIDENCE SUBMITTED:

| Test Agency/Identifier | Name | Report | Date |
|---|---|---|---|
| Factory Mutual Research Corp. | FMRC 4470 - TAS 114 | J.I. 2Y1A1.AM | 04.15.96 |
| | FMRC 4470 - TAS 114 | J.I. 3Z3A7.AM | 04.12.96 |
| | FMRC 4470 | 3008071 | 01.18.01 |
| | FMRC 4470 | 3008210 | 04.10.01 |
| | FMRC 4470 | 3015680 | 11.24.03 |
| | FMRC 4470 | 3021507 | 11 04.05 |
| | FMRC 4470 | 3023079 | 05.12.06 |
| Atlantic & Caribbean Roof Consulting, LLC | TAS 114-95 Appendix D | 04-002 | 10.05.04 |
| | TAS 114-95 Appendix D | 04-003 | 10.05.04 |
| | TAS 114-95 Appendix D | 06-025 | 06.28.06 |
| Underwriters Laboratories, Inc. | UL 790 - PA 114 | R10630 | 01.01.96 |
| Exterior Research & Design, LLC. | TAS 114 | #4701.02.96-1 | 02.28.96 |
| | TAS 114 | #4701.09.96-1 | 08.22.96 |

## APPROVED ASSEMBLIES

**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 with approved asphalt.

**All General and System limitations apply.**

| Insulation Layer | Insulation Fasteners | Fastener Density/ft$^2$ |
|---|---|---|
| One or more layers of any of the following insulations: | | |
| **ENRGY-2, ACFoam-I, II, Paratherm W**<br>**Minimum 1" thick** | **N/A** | **N/A** |
| **ISORoc**<br>**Minimum 1.3" thick** | **N/A** | **N/A** |
| **Fiberglas**<br>**Minimum 1" thick** | **N/A** | **N/A** |
| **Perlite**<br>**Minimum ¾" thick** | **N/A** | **N/A** |
| **High Density Wood Fiberboard**<br>**Minimum ½" 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 base sheet. 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.**

Base Sheet: (Optional) One or more plies of Paraglas adhered to the insulation with approved mopping asphalt at an application rate of 20-40 lbs/sq.

Ply Sheet: Paradiene 20 TG, 20 TG F, 20 HVTG, 20 HTTG, 20 EGTG or Terabase TG adhered by torch or Paradiene 20, 20 FR, 20 HT, 20 HV, 20 EG or Terabase adhered with approved mopping asphalt at an application rate of 20-40 lbs/sq. or with PA 311/311M adhesive.

Membrane: Paradiene 20 PR, 30 FR,30CRFR, 30 MW FR or 30 HTFR adhered in approved mopping asphalt or PA 311/311M adhesive, or Paradiene 20, PRTG, Teranap, Paradiene 30 FRTG,30 CRFRTG, 30 HTFRTG or Parafor 50 LT adhered by torch.

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

Maximum Design Pressure: -52 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(2):** All layers of insulation adhered to deck with approved asphalt.

**All General and System limitations apply.**

| **Insulation Layer** | **Insulation Fasteners** | **Fastener Density/ft$^2$** |
|---|---|---|
| One or more layers of any of the following insulations: | | |
| **ENRGY-2, ACFoam-I, II, Paratherm W**<br>**Minimum 1" thick** | **N/A** | **N/A** |
| **ISORoc**<br>**Minimum 1.3" thick** | **N/A** | **N/A** |
| **Fiberglas**<br>**Minimum 1" thick** | **N/A** | **N/A** |
| **Perlite**<br>**Minimum ¾" thick** | **N/A** | **N/A** |
| **High Density Wood Fiberboard**<br>**Minimum ½" 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 base sheet. 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.**

| | |
|---|---|
| Base Sheet: | (Optional) One or more plies of Paraglas adhered to the insulation with approved mopping asphalt at an application rate of 20-40 lbs/100 ft$^2$. |
| Ply Sheet: | IREX 30, IREX 40, IREX HT, Paradiene 20, 20 FR, 20 HT, 20 HV or 20 EG adhered in approved mopping asphalt at an application rate of 20-40 lbs/sq. or IREX 40, IREX HT, Paradiene 20 TG, 20 TG F, 20 HVTG, 20 HTTG or 20 EGTG applied by torch. |
| Membrane: | Veral adhered in approved mopping asphalt or by torch. |
| Surfacing: | None |
| Maximum Design Pressure: | -45 psf (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.**

| Insulation Layer | Insulation Fasteners | Fastener Density/ft$^2$ |
|---|---|---|
| One or more layers of any of the following insulations: | | |
| **Paratherm, ENRGY-2, ACFoam-I, II, Paratherm W Minimum 1.4" 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 /Para-Stik 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: | One ply of Paravent or Paravent FS loose laid and lapped a minimum of 1". |
| Ply Sheet: | Paradiene 20 TG, 20 TG F, 20 HVTG, 20 HTTG or 20 EGTG or Terabase TG adhered by torch or Paradiene 20, 20 FR, 20 HT, 20 HV, 20 EG or Terabase adhered with approved mopping asphalt at an application rate of 20-40 lbs/sq. or with PA 311/311M adhesive. |
| Membrane: | Paradiene 20 PR, 30 FR,30CRFR, 30 MW FR or 30 HTFR adhered in approved mopping asphalt or PA 311/311M adhesive, or Paradiene 20, PRTG, Teranap, Paradiene 30 FRTG,30CRFRTG or 30 HTFRTG adhered by torch. |
| **Note:** | **Refer to manufacturer's specifications for specific application requirements.** |
| Maximum Design Pressure: | -90 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(4):** All layers of insulation adhered to deck with approved asphalt or adhesive.

**All General and System limitations apply.**

| **Insulation Layer** | **Insulation Fasteners** | **Fastener Density/ft$^2$** |
|---|---|---|
| One or more layers of any of the following insulations: | | |
| **Paratherm, ENRGY-2, ACFoam-I, II, Paratherm W Minimum 1.4" 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/Para-Stik 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: | One ply of Paravent or Paravent FS loose laid and lapped a minimum of 1". |
| Ply Sheet: | IREX 30, IREX 40, IREX HT, Paradiene 20, 20 FR, 20 HT, 20 HV or 20 EG adhered in approved mopping asphalt at an application rate of 20-40 lbs/sq. |
| Membrane: | Veral adhered in approved mopping asphalt or by torch. |
| **Note:** | **Refer to manufacturer's specifications for specific application requirements.** |
| Maximum Design Pressure: | -90 psf (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(5):** All layers of insulation adhered to deck with approved asphalt or adhesive.

**All General and System limitations apply.**

| **Base Insulation Layer (Optional)** | **Insulation Fasteners** | **Fastener Density/ft$^2$** |
|---|---|---|
| One or more layers of any of the following insulations: | | |
| **Paratherm H, MultiMax, FA, H-Shield Minimum 1.5" thick** | **N/A** | **N/A** |

| **Top Insulation Layer** | **Insulation Fasteners** | **Fastener Density/ft$^2$** |
|---|---|---|
| **Dens Deck 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/Para-Stik 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: | (Optional) One or more plies of Paraglas adhered to the insulation with approved mopping asphalt at an application rate of 20-25 lbs./sq. See General Limitation #4. |
| Ply Sheet: | Paradiene 20 TG, 20 TG F, 20 HVTG, 20 HTTG or 20 EGTG or Terabase TG adhered by torch or Paradiene 20, 20 FR, 20 HT, 20 HV, 20 EG or Terabase adhered with approved mopping asphalt at an application rate of 20-40 lbs/sq. or with PA 311/311M adhesive. |
| Membrane: | Paradiene 20 PR, 30 FR,30CRFR, 30 MW FR or 30 HTFR adhered in approved mopping asphalt or PA 311/311M adhesive, or Paradiene 20, PRTG, Teranap, Paradiene 30 FRTG,30CRFRTG or 30 HTFRTG adhered by torch. |
| **Note:** | **Refer to manufacturer's specifications for specific application requirements.** |
| Maximum Design Pressure: | -157.5 psf (using Dens Deck) (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(6):** All layers of insulation adhered to deck with approved asphalt or adhesive.

**All General and System limitations apply.**

| **Base Insulation Layer (Optional)** | **Insulation Fasteners** | **Fastener Density/ft$^2$** |
|---|---|---|
| One or more layers of any of the following insulations: | | |
| **MultiMax, FA, H-Shield, Paratherm H Minimum 1.5" thick** | **N/A** | **N/A** |

| **Top Insulation Layer** | **Insulation Fasteners** | **Fastener Density/ft$^2$** |
|---|---|---|
| **Dens Deck 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/Para-Stik 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: | (Optional) One or more plies of Paraglas adhered to the insulation with approved mopping asphalt at an application rate of 20-25 lbs./sq. See General Limitation #4. |
| Ply Sheet: | IREX 30, IREX 40, IREX HT, Paradiene 20, 20 FR, 20 HT, 20 HV or 20 EG adhered in approved mopping asphalt at an application rate of 20-40 lbs./sq. |
| Membrane: | Veral adhered in approved mopping asphalt or by torch. |
| **Note:** | **Refer to manufacturer's specifications for specific application requirements.** |
| Maximum Design Pressure: | -157.5 psf (using Dens Deck) (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(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** | **Fastener Density/ft$^2$** |
|---|---|---|
| **ENRGY-2**<br>**Minimum 1.5" thick** | **N/A** | **N/A** |

| **Top Insulation Layer** | **Insulation Fasteners** | **Fastener Density/ft$^2$** |
|---|---|---|
| **Perlite**<br>**Minimum ¾" thick** | **N/A** | **N/A** |
| **High Density Wood Fiberboard**<br>**Minimum ½" thick** | **N/A** | **N/A** |
| **Dens Deck**<br>**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.**

Base Sheet: (Optional) One or more plies Paraglas adhered in full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs/sq.

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

Membrane: Paradiene 20 PR, 30 FR,30CRFR, 30 MW FR or 30 HTFR adhered in full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs/sq or PA 311/311M adhesive or Paradiene 20, PRTG, Teranap, Paradiene 30 FRTG,30CRFRTG, 30 HTFRTG or Parafor 50 LT adhered by torch.

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

Maximum Design Pressure:
-240 psf (using Perlite) (See General Limitation #9)
-370 psf (using Dens Deck) (See General Limitation #9)
-375 psf (using High Density Wood Fiberboard) (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(8):** 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** | **Fastener Density/ft$^2$** |
|---|---|---|
| **ENRGY-2**<br>**Minimum 1.5" thick** | **N/A** | **N/A** |

| **Top Insulation Layer** | **Insulation Fasteners** | **Fastener Density/ft$^2$** |
|---|---|---|
| **Perlite**<br>**Minimum ¾" thick** | **N/A** | **N/A** |
| **High Density Wood Fiberboard**<br>**Minimum ½" thick** | **N/A** | **N/A** |
| **Dens Deck**<br>**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.**

Base Sheet: (Optional) One or more plies Paraglas adhered in full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs/sq.

Ply Sheet: Paradiene 20, 20 FR, 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 311/311M adhesive or Paradiene 20 TG, 20 TS F, 20 HVTG, 20 HTTG or 20 EGTG, adhered by torch.

Membrane: Veral 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.**

Maximum Design Pressure:
-240 psf (using Perlite) (See General Limitation #9)
-370 psf (using Dens Deck) (See General Limitation #9)
-375 psf (using High Density Wood Fiberboard) (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):** All layers of insulation adhered to deck with approved asphalt or adhesive.

**All General and System limitations apply.**

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

| **Top Insulation Layer** | **Insulation Fasteners** | **Fastener Density/ft$^2$** |
|---|---|---|
| **Dens Deck Prime, Strataguard 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$^2$ or Insta-Stik/Para-Stik 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 TS SA self-adhered sheet.

Ply Sheet: None.

Membrane: Paradiene 30 FRTG,30 CRFRTG, 30 HTFRTG, Parafor 50 LT or Veral adhered by torch.

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

Maximum Design Pressure: -90 psf (using Dens Deck) (See General Limitation #9)
-120 psf (using Strataguard) (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):** 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:

| Insulation Layer | Insulation Fasteners | Fastener Density/ft$^2$ |
|---|---|---|
| **H-Shield Minimum 1.5" thick** | **N/A** | **N/A** |
| **AC Foam III Minimum 2" 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/Para-Stik 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 TS SA self-adhered sheet.

Ply Sheet: None.

Membrane: Paradiene 30 FRTG,30 CRFRTG, 30 HTFRTG, Parafor 50 LT or Veral adhered by torch.

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

Maximum Design Pressure: -127.5 psf (using H-Shield) (See General Limitation #9)
-135 psf (using AC Foam III) (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(11):** 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** | **Fastener Density/ft$^2$** |
|---|---|---|
| **ACFoam II, Paratherm W Minimum 1.5" thick** | **N/A** | **N/A** |

| **Top Insulation Layer** | **Insulation Fasteners** | **Fastener Density/ft$^2$** |
|---|---|---|
| **Dens Deck 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 FR, 20 HT, 20 HV or 20 EG adhered with PA 311/311M.

Membrane: Paradiene , 30 FR,30 CRFR, or 30 HTFR adhered in PA 311/311M

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

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(12):** 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** | **Fastener Density/ft$^2$** |
|---|---|---|
| **ACFoam II, Paratherm W Minimum 1.5" thick** | **N/A** | **N/A** |

| **Top Insulation Layer** | **Insulation Fasteners** | **Fastener Density/ft$^2$** |
|---|---|---|
| **Georgia Pacific High Density Roof Fiberboard Minimum ½" 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 FR, 20 HT, 20 HV or 20 EG adhered with PA 311/311M.

Membrane: Paradiene , 30 FR,30 CRFR, or 30 HTFR adhered in PA 311/311M

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

Maximum Design Pressure: -75 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(13):** 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** | **Fastener Density/ft$^2$** |
|---|---|---|
| **ACFoam II, Paratherm W Minimum 1.5" thick** | **N/A** | **N/A** |

| **Top Insulation Layer** | **Insulation Fasteners** | **Fastener Density/ft$^2$** |
|---|---|---|
| **Johns Manville 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 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 FR, 20 HT, 20 HV or 20 EG adhered with PA 311/311M.

Membrane: Paradiene , 30 FR,30 CRFR, or 30 HTFR adhered in PA 311/311M

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

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(14):** 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** | **Fastener Density/ft$^2$** |
|---|---|---|
| **ACFoam II, Paratherm W Minimum 1.5" thick** | **N/A** | **N/A** |

| **Top Insulation Layer** | **Insulation Fasteners** | **Fastener Density/ft$^2$** |
|---|---|---|
| **Johns Manville 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 FR, 20 HT, 20 HV or 20 EG adhered with PA 311/311M.

Membrane: Paradiene , 30 FR,30 CRFR, or 30 HTFR adhered in PA 311/311M

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

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(15):** All layers of insulation adhered to deck with approved asphalt or adhesive.

**All General and System limitations apply.**

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

| **Top Insulation Layer** | **Insulation Fasteners** | **Fastener Density/ft$^2$** |
|---|---|---|
| **SecuRock Roof Guard Panels 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 with Insta-Stik/Para-Stik 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 FR, 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 311/311M/311LS cold adhesive applied at a rate of 1.5-2.5 gal/square or Paradiene 20 TG, 20 HTTG or 20 EGTG, adhered by torch.

Ply Sheet: None.

Membrane: Paradiene 30, 30 FR,30 CRFR, or 30 HTFR adhered in approved mopping asphalt or PA 311/311M/311 LS adhesive, or Paradiene 30 FRTG,30 CRFRTG, 30 HTFRTG, Parafor 30 Parafor 50 LT, Veral Aluminum, Veral Copper, Veral Stainless, or Veral Spectra adhered by torch.

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

Maximum Design Pressure: -285 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 asphalt or adhesive.

**All General and System limitations apply.**

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

| **Top Insulation Layer** | **Insulation Fasteners** | **Fastener Density/ft$^2$** |
|---|---|---|
| **SecuRock Roof Guard Panels, G-P Gypsum Corp DensDeck DuraGuard 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 with Insta-Stik/Para-Stik 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 TS SA base membrane is self-adhered to the Top Insulation Layer.

Ply Sheet: None.

Membrane: Paradiene 30, 30 FR,30 CRFR, 30 HTFR, Parafor 30, or Parafor 50 LT adhered in PA 311/311M/311 LS adhesive applied at a rate of 1.5-2.5 gal/square.

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

Maximum Design Pressure: -112.5 psf (using SecuRock) (See General Limitation #9)
-187.5 psf (using Dens Deck) (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 asphalt or adhesive.

**All General and System limitations apply.**

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

| **Top Insulation Layer** | **Insulation Fasteners** | **Fastener Density/ft$^2$** |
|---|---|---|
| **SecuRock Roof Guard Panels G-P Gypsum Corp DensDeck DuraGuard 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 with Insta-Stik/Para-Stik 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 SA base membrane is self-adhered to the Top Insulation Layer.

Ply Sheet: None.

Membrane: Paradiene 30 TG, 30 FRTG, 30 CRFRTG, 30 HTFRTG, Parafor 30 TG, Parafor 50 TG, Parafor 50 LT TG, Veral Aluminum, Veral Copper, Veral Stainless Steel, or Veral Spectra surfacing membrane is torch adhered to base membrane.

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

Maximum Design Pressure: -255 psf (using SecuRock) (See General Limitation #9)
-405 psf (using Dens Deck DuraGuard) (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):** Optional vented base sheet, loose laid, followed by asphalt or torch applied ply sheet.

**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.**

Base Sheet: (Optional) One ply of Paravent or Paravent FS loose laid and lapped a minimum of 1".

Ply Sheet: Paradiene 20 TG, 20 TG F, 20 HVTG, 20 HTTG or 20 EGTG or Terabase TG adhered by torch or Paradiene 20, 20 FR, 20 HT, 20 HV, 20 EG or Terabase adhered with approved mopping asphalt at an application rate of 20-40 lbs/sq. or with PA 311/311M adhesive.

Membrane: Paradiene 20 PR, 30 FR,30 CRFR, 30 MW FR or 30 HTFR adhered in approved mopping asphalt or PA 311/311M adhesive, or Paradiene 20, PRTG, Teranap, Paradiene 30 FRTG,30 CRFRTG, 30 HTFRTG or Parafor 50adhered by torch.

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

Surfacing: None

Maximum Design Pressure: -120 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):** Optional vented base sheet, loose laid, followed by asphalt or torch applied ply sheet.

**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.**

Base Sheet: (Optional) Paravent or Paravent FS loose laid and lapped a minimum of 1"

Ply Sheet: IREX 30, IREX 40, IREX HT, Paradiene 20, 20 FR, 20 HT, 20 HV or 20 EG adhered in approved mopping asphalt at an application rate of 20-40 lbs/sq. or IREX 40, IREX HT, Paradiene 20 TG, 20 TG F, 20 HVTG, 20 HTTG or 20 EGTG applied by torch.

Membrane: Veral adhered in approved mopping asphalt or by torch

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

Surfacing: None

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(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.**

| | |
|---|---|
| Base Sheet: | (Optional) One or more plies Paraglas adhered in full mopping of approved asphalt applied within the EVT range and at a rate of 20-25 lbs/sq. |
| Ply Sheet: | Paradiene 20, 20 FR, 20 HT, 20 HV, 20 EG or Terabase adhered in full mopping of approved asphalt applied within the EVT range and at a rate of 20-25 lbs/sq or with PA 311/311M adhesive or Paradiene 20 TG, 20 TG F, 20 HVTG, 20 HTTG, 20 EGTG or Terabase TG adhered by torch. |
| Membrane: | Paradiene 20 PR, 30 FR,30 CRFR, 30 MW FR or 30 HTFR adhered in approved mopping asphalt or PA 311/311M adhesive, or Paradiene 20, PRTG, Teranap, Paradiene 30 FRTG,30 CRFRTG, 30 HTFRTG or Parafor 50 LT adhered by torch. |
| **Note:** | **Refer to manufacturer's specifications for specific application requirements.** |
| Surfacing: | None |
| 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(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.**

Base Sheet: (Optional) One or more plies Paraglas adhered in full mopping of approved asphalt applied within the EVT range and at a rate of 20-25 lbs/sq.

Ply Sheet: Paradiene 20, 20 FR, 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 311/311M adhesive or Paradiene 20 TG, 20 TG F, 20 HVTG, 20 HTTG or 20 EGTG, adhered by torch.

Membrane: Veral 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: None

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(5):** 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.**

Base Sheet: None.

Ply Sheet: Paradiene 20 TG, 20 TG F, 20 HVTG, 20 HTTG, 20 EGTG or Terabase TG adhered by torch

Membrane: Paradiene 20 PR, 30 FR,30 CRFR, 30 MW FR or 30 HTFR adhered in approved mopping asphalt or PA 311/311M adhesive, or Paradiene 20, PRTG, Teranap, Paradiene 30 FRTG,30 CRFRTG, 30 HTFRTG or Parafor 50 LT adhered by torch.

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

Surfacing: None

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(6):** 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.**

Base Sheet: None.

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

Membrane: Veral 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: None

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(7):** 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 FRTG,30 CRFRTG, 30 HTFRTG, or Parafor 50 LT adhered by torch.

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

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(8):** 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.**

Membrane: Paralosa TS adhered by torch.

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

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

**Membrane Type:** SBS

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

**Deck Description:** 3000 psi structural concrete or concrete plank

**System Type F(9):** 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.**

Membrane: Terabase "TG" adhered by torch followed by Teranap "1M" adhered by torch then pour 2" Structural Concrete over membranes.

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

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

**Membrane Type:** SBS

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

**Deck Description:** 3000 psi structural concrete or concrete plank

**System Type F(10):** 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.**

**Membrane:** Terabase "TG" adhered by torch followed by Teranap "1M" adhered by torch then pour 1.5" Mortar mix over Siplast membranes and install and set 2" x 24" square Hanover Concrete Pavers in mortar mix.

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

**Maximum Design Pressure:** -115 psf (See General Limitation #9)

**Membrane Type:** SBS

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

**Deck Description:** 3000 psi structural concrete or concrete plank

**System Type F(11):** 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.**

**Membrane:** Terabase "TG" adhered by torch followed by Teranap "1M" adhered by torch then 2" x 24" square Hanover concrete pavers set over Hanover pedestals and clipped at 4 corners. Pedestals fully adhered to top ply with Siplast PS 304 elastomeric sealant.

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

**Maximum Design Pressure:** -170 psf (See General Limitation #9)

## CONCRETE DECK SYSTEM LIMITATIONS:

1. If mechanical attachment to the structural deck through the lightweight insulating concrete is proposed, a field withdrawal resistance testing shall be performed to determine equivalent or enhanced fastener patterns and density. All testing and fastening design shall be in compliance with Testing Application Standard TAS 105 and Roofing Application Standard RAS 137, calculations shall be signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant.
2. Veral may be applied in approved mopping asphalt at slopes ranging from ½":12" to 2½":12". Veral may be torched at any slope above ½":12".

## 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 9B-72 of the Florida Administrative Code.

# END OF THIS ACCEPTANCE