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)

The Garland Company, Inc.
3800 East 91st Street
Cleveland, OH 44105-2197

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: Garland Modified Bitumen Roof System Over Lightweight Concrete Deck.

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 NOA No. 11-0621.18 and consists of pages 1 through 52.
The submitted documentation was reviewed by Jorge L. Acebo.

MIAMI-DADE COUNTY APPROVED

ROOFING SYSTEM APPROVAL

Category:	Roofing
Sub-Category:	Modified Bitumen
Material:	SBS/SIS/SEBS
Deck Type:	Lightweight Concrete
Maximum Design Pressure:	-500 psf

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

Product	Dimensions	Test Specification	Product Description
VersiPly 40	39” x 68’ 7”	ASTM D 4601 Type II	Smooth surfaced, SBS modified, fiberglass scrim reinforced roofing membrane **for use as a base sheet only**.
HPR Tri-Base Premium	36” x 72’	ASTM D 4601	Double asphalt coated, polyester/fiberglass/polyester scrim reinforced base sheet.
HPR Glasfelt	36” x 180’	ASTM D 2178, Type IV	Asphalt impregnated glass felt
HPR Premium Glasfelt	36" x 180'	ASTM D 2178, Type VI	Asphalt impregnated glass felt
HPR Glasbase	36” x 108’	ASTM D 4601, Type II	Asphalt coated fiberglass base sheet.
HPR Premium Glasbase	36” x 72’	ASTM D 4601, Type II	Asphalt coated fiberglass base sheet.
Millennium Base	39” x 51’5”	ASTM D 6162	Smooth surfaced, SBS modified coal tar, fiberglass/polyester reinforced base sheet.
HPR Torch Base Sheet	39” x 34’8”	ASTM D 6163	SBS modified, fiberglass reinforced, torch applied base sheet.
FlexBase Plus 80	39” x 34’8”	ASTM D 6162, Type III	SBS modified, fiberglass/polyester reinforced base sheet
FlexBase Plus 120	39” x 34’8”	ASTM D 6162, Type III	SBS modified, fiberglass/polyester reinforced base sheet
FlexBase E 80	39” x 34’8”	ASTM D 6162, Type III	SBS/SIS modified, fiberglass/polyester reinforced base sheet.
FlexBase E 120	39” x 34’8”	ASTM D 6162, Type III	SBS/SIS modified, fiberglass/polyester reinforced base sheet.
StressBase 80	39” x 52’	ASTM D 6163, Type I	SBS modified, fiberglass reinforced base sheet.
StressBase 120	39” x 52’	ASTM D 6163, Type I	SBS modified, fiberglass reinforced base sheet.

Product	Dimensions	Test Specification	Product Description
FlexBase 80	39” x 34’8”	ASTM D 6163, Type III	SBS modified, fiberglass reinforced base sheet.
FlexBase 120	39” x 34’8”	ASTM D 6163, Type III	SBS modified, fiberglass reinforced base sheet.
BK Glasfelt	36” x 180’	ASTM D 4990, Type I	Coal Tar impregnated glass felt
BK Premium Glasfelt	36" x 180'	ASTM D 4990, Type I	Coal Tar impregnated glass felt
HPR Polyscrim Plus	40” x 324’	ASTM D 5726	Polyester felt
Millennium Mineral	39” x 26’	ASTM D 6162	Mineral surfaced, SBS modified coal tar, fiberglass/polyester reinforced membrane.
Millennium FR Mineral	39” x 26’	ASTM D 6162	Mineral surfaced, SBS modified coal tar, fiberglass/polyester reinforced membrane.
StressPly EUV FR Mineral	39” x 26’2”	ASTM D 6162, Type III	Mineral surfaced, SBS/SIS modified, fiberglass/polyester reinforced membrane.
StressPly EUV	39" x 34’8”	ASTM D 6162, Type III	Smooth surfaced, SBS/SIS modified, fiberglass/polyester reinforced membrane.
StressPly Plus	39" x 34'8”	ASTM D 6162, Type III	Smooth surfaced, SBS modified, fiberglass/polyester scrim membrane.
StressPly Plus FR Mineral	39” x 26’2”	ASTM D 6162, Type III	Mineral surfaced, SBS modified, fire retardant, UV resistant, fiberglass/polyester scrim membrane.
StressPly E	39" x 34'8”	ASTM D 6162, Type III	Smooth surfaced, SBS/SIS modified, fiberglass/polyester reinforced membrane.
StressPly E FR Mineral	39" x 26'2”	ASTM D 6162, Type III	Mineral surfaced, SBS/SIS modified, fire retardant, fiberglass/polyester reinforced membrane.
StressPly IV Plus	39” x 26’2”	ASTM D 6162, Type III	Smooth surfaced, SBS modified, fiberglass/polyester reinforced, torch applied cap sheet.
StressPly IV Plus Mineral	39” x 26’2”	ASTM D 6162, Type III	Mineral surfaced, SBS modified, fiberglass/polyester reinforced, torch applied cap sheet.
StressPly IV Plus UV Mineral	39” x 26’2”	ASTM D 6162, Type III	Mineral surfaced, SBS modified, fiberglass/polyester reinforced, torch applied cap sheet.
BiFlex Smooth	39" x 34'8”	ASTM D 6163, Type I	Smooth surfaced, SBS modified, fiberglass reinforced, cap sheet.
BiFlex Mineral	39" x 34'8”	ASTM D 6163, Type I	Mineral surfaced, SBS modified, fiberglass reinforced, cap sheet.
StressPly	39" x 34'8”	ASTM D 6163, Type III	Smooth surfaced , SBS modified, fiberglass scrim reinforced roofing membrane.

Product	Dimensions	Test Specification	Product Description
StressPly FR Mineral	39” x 26’2”	ASTM D 6163, Type III	Mineral surfaced, SBS modified, fire retardant, fiberglass scrim membrane.
VersiPly 60	39" x 34'8”	ASTM D 6163, Type III	Smooth surfaced, SBS modified, fiberglass scrim reinforced roofing membrane.
VersiPly 80	39" x 34'8”	ASTM D 6163, Type III	Smooth surfaced, SBS modified, fiberglass scrim reinforced roofing membrane.
VersiPly Mineral	39" x 26'2”	ASTM D 6163, Type III	Mineral surfaced, SBS modified, fiberglass scrim reinforced roofing membrane.
StressPly IV	39” x 26’2”	ASTM D 6163, Type III	Smooth surfaced, SBS modified, fiberglass reinforced, torch applied cap sheet.
StressPly IV Mineral	39” x 26’2”	ASTM D 6163, Type III	Mineral surfaced, SBS modified, fiberglass reinforced, torch applied cap sheet.
StressPly IV UV Mineral	39” x 26’2”	ASTM D 6163, Type III	Mineral surfaced, SBS modified, fiberglass reinforced, torch applied cap sheet.
Garla-Prime	5, 55 gallon	ASTM D 41	Non-fibered, quick drying asphalt roof primer
Garla-Prime WB	5, 55 gallon	ASTM D 41	Non-fibered, quick drying asphalt roof primer
Insul-Lock II	3 gallon	Proprietary	Polyurethane low rise insulation adhesive
Insul-Lock HR	1.5 liters	Proprietary	Polyurethane two component high rise insulation adhesive
Black-Knight	70 lb. keg	Proprietary	Polymer modified coal tar pitch.
Black-Knight LV Flood Coat	70 lb. keg	Proprietary	Polymer modified coal tar pitch.
Black-Knight CTP	200 lb. keg	Proprietary	Polymer modified coal tar pitch.
Black-Knight Cold	5, 55 gallon	Proprietary	Polymer modified coal tar pitch.
Green-Lock Membrane Adhesive	5 gallon	Proprietary	Cold process roof coating and adhesive.
Weatherking	5, 55 gallon	ASTM D 3019, Type III	Cold process roof coating and adhesive.
Weatherking Plus WC	5, 55 gallon	ASTM D 3019, Type III	Cold process roof coating and adhesive.
Weatherking Flashing Adhesive	5, 55 gallon	ASTM D 3019, Type III	Cold process roof flashing adhesive.
Garlastic KM Plus	60 lb. keg	TAS 121	SEBS modified, hot applied asphalt.
HPR All Temp Asphalt	100 lb. keg	TAS 121	Hot asphalt adhesive for modified bitumen and BUR roof systems.
GarMesh	6” x 150’	ASTM D 1668	SBR coated woven fiberglass reinforcing membrane.
Grip Polyester Firm	10 sq.	ASTM D 1682	Polyester reinforcing fabric for use in cold applied systems.

Product	Dimensions	Test Specification	Product Description
Grip Polyester Soft	10 sq.	ASTM D 1682	Polyester reinforcing fabric, for use in cold applied systems.
Pyramic	5, 55 gallon	Proprietary	White acrylic reflective roof coating
Solex	5, 55 gallon	Proprietary	White kynar Reflective roof coating
White-Knight	5, 55 gallon	Proprietary	White urethane reflective roof coating.
Garla-Shield	5, 55 gallon	ASTM D 1227, Type IV	Asphalt emulsion roof coating.
Silver-Shield	5, 55 gallon	ASTM D 2824, Type III	High solids, aluminized roof coating.
WeatherScreen	5, 55 gallon	ASTM D 4479, Type I	Asbestos-free, heavy-bodied, fiber-reinforced, fire-rated asphalt roof coating.
Garla-Brite	5, 55 gallon	ASTM D 4479, Type I	Asbestos-free, heavy-bodied, fiber-reinforced, fire-rated asphalt roof coating.
Energizer K Plus FR	5, 55 gallon	ASTM D 4479, Type I	Multipurpose, rubberized, liquid waterproofing membrane.
Green-Lock Flashing Adhesive	3.5 gallon	Proprietary	Trowel grade, roofing mastic for use in repair and patching against leaks in built-up roofs.
Black-Knight Mastic	5 gallon	Proprietary	Trowel grade, tar based roofing mastic for use in repair and patching.
Flashing Bond	5 gallon	ASTM D 4586	Trowel grade, asphalt based roofing mastic for use in repair and patching against leaks in built-up asphalt roofs.
Silver-Flash	5 gallon	ASTM D 4586	Trowel grade, asphalt based roofing mastic for use in repair and patching against leaks in built-up asphalt roofs.
Garla-Flex	2, 5 gallon pail	ASTM D 4586	Elastomeric, asphaltic compound formulated from a special weather and ozone-resistant thermoplastic rubber, plasticizing oils and bitumen. Asbestos free.

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
ACFoam II	Polyisocyanurate foam insulation	Atlas Energy Products
ISO 95+ GL	Polyisocyanurate foam insulation	Firestone Building Products
EnergyGuard	Polyisocyanurate foam insulation	GAF Materials Corp.
DensDeck, DensDeck Prime	Water resistant gypsum board	G-P Gypsum Corp.
ENRGY 3, ENRGY 3 PSI-25	Polyisocyanurate foam insulation	Johns Manville
SECUROCK Gypsum-Fiber Roof Board	Gypsum/Cellulosic fiber panels	USG Company
H-Shield	Polyisocyanurate insulation	Hunter Panels
Fesco Board	Expanded mineral fiber insulation	Johns Manville
Structodek High Density Fiberboard Roof Insulation	High Density wood fiber insulation board	Blue Ridge Fiberboard
Retrofit Board	A high density perlite roof insulation.	Johns Manville
Fiber Glass Roof Insulation	Glass fiber/Mineral fiber insulation	Generic

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	FM-30, FM-60, FM-90 Fasteners and Twin-Loc	Base ply fastening systems for lightweight concrete decks.	Various	ES Products, Inc.
2.	CR Base Sheet Fastener and Plate	Base sheet fastening assembly.	Various	OMG, Inc.
3.	CR Assembled Base Sheet Fastener (1.7")	G-90 galvanized base sheet fastener & plate	1.125" x 1.75"	OMG, Inc.
4.	Base-Lok Fastener	Nylon base sheet fastener.	Various	Simplex Nails & Fasteners
5.	FM-260, FM-260V, FM-290	Base ply fasteners for lightweight concrete decks.	Various	ES Products, Inc.

EVIDENCE SUBMITTED:

Test Agency	Test Identifier	Description	Date
Dynatech Engineering Corp.	#4530.05.95-1	TAS 114	5/31/95
Factory Mutual Research Corporation	IVOA7.AM	FM 4470	02/21/95
	1B4A7.AM	FM 4470	12/15/97
	4B4A9.AM	FM 4470	12/31/97
	0Y5A6.AM	FM 4470	09/08/97
	3D3A5.AM	FM 4470	09/15/98
	3004392	FM 4470	09/21/99
	0D9A0.AM	FM 4470	05/02/00
	3004907	FM 4470	05/16/00
	3009117	FM 4470	12/21/00
	3010113	FM 4470	11/18/02
	3019046	FM 4470	03/04/05
	3021718	FM 4470	04/11/05
	3023724	FM 4470	07/05/06
	3032165	FM 4470	04/22/08
	3032163	FM 4470	07/21/08
	3032647	FM 4470	07/28/08
	3014692	FM 4470	08/05/03
	3023458	FM 4450	07/18/06
	3029834	FM 4470	03/24/09
	3036229	FM 4470	10/09/09
Momentum Technologies, Inc.	EX22B7A	ASTM D 6162	04/11/07
	TX21G5A	ASTM D5147	04/25/06
	DX14C7A	ASTM D 6163	03/16/07
	EX11L5A	ASTM D 5147	03/19/07
	RX18C8A-R	ASTM D 6162/6163	03/28/08
PRI Asphalt Technologies, Inc.	GRD-03-02-01	ASTM D5147	01/07/98
	GRD-05-02-01	ASTM D5147	12/18/97
	GRD-06-02-01	ASTM D5147	01/09/98
PRI Construction Materials Technologies	GRD-054-02-01	ASTM D 2626	11/17/11
	GRD-051-02-01	ASTM D 2178	10/28/11
	GRD-052-02-01	ASTM D 2178	10/28/11
Trinity | ERD	4533.05.98-1-R1	TAS 114(J)	09/09/11
	4545.11.06	TAS 114(J)	11/22/06
	GI0800.9.08	TAS 114	9/15/08
	G17060.10.09-R1	TAS 114 (D)	07/16/10
	G30050.08.09	TAS 117 (B) / TAS 114 (H)	08/20/09
	C8500SC.11.07-R1	TAS 117 / ASTM D6862	08/07/09
	G32950.05.10	ASTM D4601	05/03/10
	G32950.06.10	ASTM D4601	06/11/10
	G32700.09.11-1	ASTM D4601	09/16/11
	G39620.07.12	ASTM D4990	07/02/12
	G37200.10.12-1-R1	ASTM D6163/D4798	12/05/12
	G37200.10.12-2-R1	ASTM D6162/D4798	12/05/12
	G37200.10.12-3-R1	ASTM D6162/D4798	12/05/12
	G37200.10.12-4-R1	ASTM D6162	12/05/12
	G37200.10.12-5-R1	ASTM D6162	12/05/12

Test Agency	Test Identifier	Description	Date
Trinity | ERD	G37200.10.12-6-R1	ASTM D6162/D4798	12/05/12
	G37200.10.12-7-R1	ASTM D6162	12/05/12
	G37200.10.12-9-R1	ASTM D6162/D4798	12/05/12
	G37200.10.12-10-R1	ASTM D6163/D4798	12/05/12
	G37200.10.12-11-R1	ASTM D6163/D4798	12/05/12
	G37200.10.12-12-R1	ASTM D6163/D4798	12/05/12
	G37200.10.12-13-R1	ASTM D6162	12/05/12
	G39630.07.12	Physical Properties	07/12/12
Atlantic & Caribbean Roof	08-057	TAS 114	10/24/08
Consulting, LLC	08-029	TAS 114	04/24/08
Certified Testing Laboratories	CTLA 114R-1A	TAS 114	09/17/09
	CTLA 114R-2A	TAS 114	09/17/09
	CTLA 114R-3A	TAS 114	09/17/09
	CTLA 116R-2A	TAS 114	11/16/09
	CTLA 116R-1A	TAS 114	11/16/09
	CTLA 116RA	TAS 114	11/16/09

APPROVED ASSEMBLIES:

Membrane Type: SBS/SIS/SEBS

Deck Type 4I: Lightweight Concrete, Insulated

Deck Description: Mearlcrete, Celcore or Elastizell cellular lightweight concrete, min. 200 psi, over steel or concrete deck

System Type A(1): Anchor sheet mechanically fastened; one or more layers of insulation adhered with approved asphalt.

All General and System Limitations apply.

Deck: 2500 psi structural concrete or concrete plank
Or
22 ga., type B, galvanized, slotted steel decking attached to supports spaced maximum 5 ft. o.c. with 5/8" puddle welds spaced 6" o.c. (every bottom flute). Steel deck side laps attached 18" o.c. between each 5 ft. span with Traxx/1 fasteners

Anchor Sheet: ***(Option #1.)*** One ply of HPR Glasbase, HPR Premium Glasbase or HPR Tri-Base Premium mechanically attached using OMG CR Base Sheet Fasteners or ES Products FM-90 Fasteners spaced 7" o.c. in a 4" side lap and 7" o.c. in two staggered rows in the center of the sheet.

(Option #2.) One ply of Garland HPR Glasbase, HPR Premium Glasbase or HPR Tri-Base Premium mechanically attached using Simplex Base-Lok Fasteners spaced 9" o.c. in a 4" side lap and 9" o.c. in two staggered rows in the center of the sheet.

One or more layers of the following insulations:

Insulation Layer	Insulation Fasteners	Fastener Density/ft^2
ACFoam II, EnergyGuard, ENRGY 3, ENRGY 3 PSI-25, ISO-95+GL, H-Shield		
Minimum 1" thick	N/A	N/A
Approved High Density Fiberboard, Structodek High Density Fiberboard Roof Insulation, Fesco Board, Retrofit Board		
Minimum ½" thick	N/A	N/A
DensDeck, DensDeck Prime		
Minimum ¼" thick	N/A	N/A

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot 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 may be used as a top layer placed with the polyisocyanurate side facing down.

Base/Ply Sheet: One or more plies of HPR Glasbase, HPR Premium Glasbase, HPR Tri-Base Premium Plus, HPR Glasfelt, HPR Premium Glasfelt, HPR Polyscrim Plus adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq. (Note: Minimum two plies of ASTM D 2178, type VI or three plies of type IV is required for VersiPly 60 applications.)

Membrane: One ply of StressPly E, StressPly E FR Mineral, StressPly EUV, StressPly EUV FR Mineral, StressPly, StressPly FR Mineral, StressPly Plus, StressPly Plus FR Mineral, VersiPly 60, VersiPly 80, or VersiPly Mineral adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq. or in Black-Knight Flood Coat or Black-Knight LV Flood Coat at 70 lb/sq. or Black-Knight Cold or at 5 gal/sq.
2. Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
3. Energizer K Plus FR applied at 3.5 gal/sq with minimum two coats of Garla-Brite applied at min 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
4. WeatherScreen applied at min. 4 gal./sq. with minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
5. WeatherScreen applied at min. 4 gal./sq. with #11 roofing granules at 60 lb./sq.
6. WeatherScreen applied at applied at min. 4 gal./sq. with roofing gravel applied at 400 lb./sq.
7. Green-Lock Membrane Adhesive applied at min 3-5 gal./sq. with roofing gravel applied at 400 lb./sq.

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

Membrane Type: SBS/SIS/SEBS

Deck Type 4I: Lightweight Concrete, Insulated

Deck Description: Mearlcrete, Celcore or Elastizell cellular lightweight concrete, min. 200 psi, over steel or concrete deck

System Type A(2): Anchor sheet mechanically fastened; one or more layers of insulation adhered with approved asphalt.

All General and System Limitations apply.

Deck: 2500 psi structural concrete or concrete plank
Or
22 ga., type B, galvanized, slotted steel decking attached to supports spaced maximum 5 ft. o.c. with 5/8" puddle welds spaced 6" o.c. (every bottom flute). Steel deck side laps attached 18" o.c. between each 5 ft. span with Traxx/1 fasteners

Anchor Sheet: ***(Option #1.)*** One ply of HPR Glasbase, HPR Premium Glasbase or HPR Tri-Base Premium mechanically attached using OMG CR Base Sheet Fasteners or ES Products FM-90 Fasteners spaced 7" o.c. in a 4" side lap and 7" o.c. in two staggered rows in the center of the sheet.

(Option #2.) One ply of Garland HPR Glasbase, HPR Premium Glasbase, HPR Tri-Base Premium, mechanically attached using Simplex Base-Lok Fasteners spaced 9" o.c. in a 4" side lap and 9" o.c. in two staggered rows in the center of the sheet.

One or more layers of the following insulations:

Insulation Layer	Insulation Fasteners	Fastener Density/ft^2
ACFoam II, EnergyGuard, ENRGY 3, ENRGY 3 PSI-25, ISO-95+GL, H-Shield		
Minimum 1" thick	N/A	N/A
Approved High Density Fiberboard, Structodek High Density Fiberboard Roof Insulation, Fesco Board, Retrofit Board		
Minimum ½" thick	N/A	N/A
Approved Fiber Glass Roof Insulation (Standard or Wide Flute)		
Minimum $^{15}/_{16}$" thick	N/A	N/A
DensDeck, DensDeck Prime		
Minimum ¼" thick	N/A	N/A

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot 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 may be used as a top layer placed with the polyisocyanurate side facing down.

Base/Ply Sheet: One more plies of HPR Glasbase, HPR Premium Glasbase, HPR Tri-Base Premium, HPR Glasfelt, HPR Premium Glasfelt, adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq.
Or
One or more plies of HPR Torch Base Sheet, torch applied to coverboard.

Membrane: One ply of StressPly IV, StressPly IV Mineral, StressPly IV UV Mineral, StressPly IV Plus, StressPly IV Plus UV Mineral or StressPly IV Plus Mineral torch applied.

Surfacing: Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq. or in Black-Knight Flood Coat or Black-Knight LV Flood Coat at 70 lb/sq. or Black-Knight Cold at 5 gal/sq.
2. Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
3. Energizer K Plus FR applied at 3.5 gal/sq with minimum two coats of Garla-Brite applied at min 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
4. WeatherScreen applied at min. 4 gal./sq. with minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
5. WeatherScreen applied at min. 4 gal./sq. with #11 roofing granules at 60 lb./sq.
6. WeatherScreen applied at applied at min. 4 gal./sq. with roofing gravel applied at 400 lb./sq.
7. Green-Lock Membrane Adhesive applied at min 3-5 gal./sq. with roofing gravel applied at 400 lb./sq.

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

Membrane Type: SBS/SIS/SEBS

Deck Type 4I: Lightweight Concrete, Insulated

Deck Description: Mearlcrete cellular lightweight concrete, min. 300 psi, over steel or concrete deck

System Type A(3): Anchor sheet mechanically fastened; one or more layers of insulation adhered with approved asphalt.

All General and System Limitations apply.

Deck: 2500 psi structural concrete or concrete plank
Or
22 ga., type B, galvanized, slotted steel decking attached to supports spaced maximum 5 ft. o.c. with 5/8" puddle welds spaced 6" o.c. (every bottom flute). Steel deck side laps attached 18" o.c. between each 5 ft. span with Traxx/1 fasteners

Anchor Sheet: ***(Option #1.)*** One ply of HPR Tri-Base Premium, mechanically attached using Simplex Base-Lok Fasteners spaced 9" o.c. in a 4" side lap and 12" o.c. in two staggered rows in the center of the sheet.

(Option #2.) Garland HPR Glasbase, HPR Premium Glasbase or HPR Tri-Base Premium, is mechanically fastened with OMG CR Base Felt Fasteners at 7 in. (178 mm) o.c. in the 4 in. (102 mm) wide lap and in two rows spaced equally between the overlaps and staggered in the field of the sheet

One or more layers of the following insulations:

Insulation Layer	Insulation Fasteners	Fastener Density/ft^2
ACFoam II, EnergyGuard, ENRGY 3, ENRGY 3 PSI-25, ISO-95+GL, H-Shield		
Minimum 1" thick	N/A	N/A
Approved High Density Fiberboard, FStructodek High Density Fiberboard Roof Insulation, Fesco Board, Retrofit Board		
Minimum ½" thick	N/A	N/A
Approved Fiber Glass Roof Insulation (Standard or Wide Flute)		
Minimum 15/16" thick	N/A	N/A
DensDeck, DensDeck Prime		
Minimum ¼" thick	N/A	N/A

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot 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 may be used as a top layer placed with the polyisocyanurate side facing down.

Base/Ply Sheet: One or more plies of HPR Glasbase, HPR Premium Glasbase, HPR Tri-Base Premium, HPR Glasfelt, HPR Premium Glasfelt, HPR Polyscrim Plus adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq. (Note: Minimum two plies of ASTM D 2178, type VI or three plies of type IV is required for VersiPly 60 applications.)

Membrane: One ply of StressPly E, StressPly E FR Mineral, StressPly EUV, StressPly EUV FR Mineral, StressPly, StressPly FR Mineral, StressPly Plus, StressPly Plus FR Mineral, VersiPly 60, VersiPly 80, or VersiPly Mineral adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq. or in Black-Knight Flood Coat or Black-Knight LV Flood Coat at 70 lb/sq. or Black-Knight Cold at 5 gal/sq.
2. Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
3. Energizer K Plus FR applied at 3.5 gal/sq with minimum two coats of Garla-Brite applied at min 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
4. WeatherScreen applied at min. 4 gal./sq. with minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
5. WeatherScreen applied at min. 4 gal./sq. with #11 roofing granules at 60 lb./sq.
6. WeatherScreen applied at applied at min. 4 gal./sq. with roofing gravel applied at 400 lb./sq.
7. Green-Lock Membrane Adhesive applied at min 3-5 gal./sq. with roofing gravel applied at 400 lb./sq.

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

Membrane Type: SBS/SIS/SEBS

Deck Type 4I: Lightweight Concrete, Insulated

Deck Description: Mearlcrete cellular lightweight concrete, min. 300 psi, over steel or concrete deck

System Type A(4): Anchor sheet mechanically fastened; one or more layers of insulation adhered with approved asphalt.

All General and System Limitations apply.

Deck: 2500 psi structural concrete or concrete plank
Or
22 ga., type B, galvanized, slotted steel decking attached to supports spaced maximum 5 ft. o.c. with 5/8" puddle welds spaced 6" o.c. (every bottom flute). Steel deck side laps attached 18" o.c. between each 5 ft. span with Traxx/1 fasteners

Anchor Sheet: ***(Option #1.)*** One ply of HPR Tri-Base Premium, mechanically attached using Simplex Base-Lok Fasteners spaced 9" o.c. in a 4" side lap and 12" o.c. in two staggered rows in the center of the sheet.

(Option #2.) Garland HPR Glasbase, HPR Premium Glasbase or HPR Tri-Base Premium is mechanically fastened with OMG CR Base Felt Fasteners at 7 in. (178 mm) o.c. in the 4 in. (102 mm) wide lap and in two rows spaced equally between the overlaps and staggered in the field of the sheet

One or more layers of the following insulations:

Insulation Layer	Insulation Fasteners	Fastener Density/ft^2
ACFoam II, EnergyGuard, ENRGY 3, ENRGY 3 PSI-25, ISO-95+GL, H-Shield		
Minimum 1" thick	N/A	N/A
Approved High Density Fiberboard, Structodek High Density Fiberboard Roof Insulation, Fesco Board, Retrofit Board		
Minimum ½" thick	N/A	N/A
Approved Fiber Glass Roof Insulation (Standard or Wide Flute)		
Minimum $^{15}/_{16}$" thick	N/A	N/A
DensDeck, DensDeck Prime		
Minimum ¼" thick	N/A	N/A

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot 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 may be used as a top layer placed with the polyisocyanurate side facing down.

Base/Ply Sheet: One more plies of HPR Glasbase HPR Premium Glasbase, HPR Tri-Base Premium, HPR Glasfelt, HPR Premium Glasfelt, adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq.
Or
One or more plies ply of HPR Torch Base Sheet, torch applied to coverboard.

Membrane: One ply of StressPly IV or StressPly IV Mineral, StressPly IV UV Mineral, StressPly IV Plus, StressPly IV Plus UV Mineral or StressPly IV Plus Mineral torch applied.

Surfacing: Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq. or in Black-Knight Flood Coat or Black-Knight LV Flood Coat at 70 lb/sq. or Black-Knight Cold at 5 gal/sq.
2. Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
3. Energizer K Plus FR applied at 3.5 gal/sq with minimum two coats of Garla-Brite applied at min 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
4. WeatherScreen applied at min. 4 gal./sq. with minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
5. WeatherScreen applied at min. 4 gal./sq. with #11 roofing granules at 60 lb./sq.
6. WeatherScreen applied at applied at min. 4 gal./sq. with roofing gravel applied at 400 lb./sq.
7. Green-Lock Membrane Adhesive applied at min 3-5 gal./sq. with roofing gravel applied at 400 lb./sq.

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

Membrane Type: SBS/SIS/SEBS

Deck Type 4I: Lightweight Concrete, Insulated

Deck Description: Elastizell Lightweight Concrete slab

System Type A(5): One or more layers of insulation adhered with approved asphalt or cold bonding adhesive.

All General and System Limitations apply.

Deck: 2500 psi structural concrete or concrete plank

One or more layers of the following insulations:

Base Insulation Layer	**Insulation Fasteners**	**Fastener Density/ft^2**
ACFoam II Minimum 2" thick	N/A	N/A

Top Insulation Layer (Optonal)	**Insulation Fasteners**	**Fastener Density/ft^2**
SECUROCK Gypsum-Fiber Roof Board Minimum ¼" thick	N/A	N/A

Note: All insulation shall be adhered with OMG OlyBond 500 Adhesive Fastener in ¾" ribbons spaced 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 may be used as a top layer placed with the polyisocyanurate side facing down.

Base/Ply Sheet: One or more plies of StressBase 80, 120 or FlexBase 80, 120, Plus 80, Plus 120, E 80 or E 120 adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq. or Green-Lock Membrane Adhesive at a min rate of 1.5 gal/sq or WeatherKing or Weatherking Plus WC Adhesive at a rate of 2½ gal/sq.

Membrane: One ply of Bi-Flex Cap Smooth, BiFlex Cap Mineral, StressPly E, StressPly E FR Mineral, StressPly EUV, StressPly EUV FR Mineral, StressPly, StressPly FR Mineral, StressPly Plus or StressPly Plus FR Mineral adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq. or Green-Lock Membrane Adhesive at a min rate of 1.5 gal/sq or WeatherKing or Weatherking Plus WCAdhesive at a rate of 2 ½ gal/sq.

Surfacing: Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq. or in Black-Knight Flood Coat or Black-Knight LV Flood Coat at 70 lb/sq. or Black-Knight Cold at 5 gal/sq.
2. Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
3. Energizer K Plus FR applied at 3.5 gal/sq with minimum two coats of Garla-Brite applied at min 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
4. WeatherScreen applied at min. 4 gal./sq. with minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
5. WeatherScreen applied at min. 4 gal./sq. with #11 roofing granules at 60 lb./sq.
6. WeatherScreen applied at applied at min. 4 gal./sq. with roofing gravel applied at 400 lb./sq.
7. Green-Lock Membrane Adhesive applied at min 3-5 gal./sq. with roofing gravel applied at 400 lb./sq.

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

Membrane Type: SBS/SIS/SEBS

Deck Type 4I: Lightweight Concrete, Insulated

Deck Description: Elastizell Lightweight Concrete slab

System Type A(6): One or more layers of insulation adhered with approved asphalt or cold bonding adhesive.

All General and System Limitations apply.

Deck: 2500 psi structural concrete or concrete plank

One or more layers of the following insulations:

Base Insulation Layer	**Insulation Fasteners**	**Fastener Density/ft^2**
ACFoam II, H-Shield Minimum 2" thick	N/A	N/A
Top Insulation Layer	**Insulation Fasteners**	**Fastener Density/ft^2**
SECUROCK Gypsum-Fiber Roof Board Minimum ¼" thick	N/A	N/A

Note: Top insulation layer primed with Garla-Prime. All insulation shall be adhered with OMG OlyBond 500 Adhesive Fastener in ¾" ribbons spaced 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 may be used as a top layer placed with the polyisocyanurate side facing down.

Base/Ply Sheet: One or more plies of HPR Torch Base Sheet, torch applied to coverboard.

Membrane: One ply of StressPly IV Mineral, StressPly IV UV Mineral, or StressPly IV Plus UV Mineral torch applied.

Surfacing: Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq. or in Black-Knight Flood Coat or Black-Knight LV Flood Coat at 70 lb/sq. or Black-Knight Cold at 5 gal/sq.
2. Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
3. Energizer K Plus FR applied at 3.5 gal/sq with minimum two coats of Garla-Brite applied at min 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
4. WeatherScreen applied at min. 4 gal./sq. with minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
5. WeatherScreen applied at min. 4 gal./sq. with #11 roofing granules at 60 lb./sq.
6. WeatherScreen applied at applied at min. 4 gal./sq. with roofing gravel applied at 400 lb./sq.
7. Green-Lock Membrane Adhesive applied at min 3-5 gal./sq. with roofing gravel applied at 400 lb./sq.

Maximum Design Pressure: -220 psf. (See General Limitation #9.)

Membrane Type: SBS/SIS/SEBS

Deck Type 4I: Lightweight Concrete, Insulated

Deck Description: Celcore MF Cellular concrete, 264 psi, with Celcore HS Rheology Modifying Admixture is poured over structural concrete and Celcore PVA Curing Compound, sprayed applied, at a minimum rate of 0.5 gal/sq.

System Type A(7): One or more layers of insulation adhered with approved asphalt or cold bonding adhesive.

All General and System Limitations apply.

Deck: 2500 psi structural concrete or concrete plank

One or more layers of the following insulations:

Insulation Layer	Insulation Fasteners	Fastener Density/ft^2
SECUROCK Gypsum-Fiber Roof Board Minimum ½" thick	N/A	N/A

Note: All insulation shall be adhered with Insul-Lock HR in beads spaced 6" 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 may be used as a top layer placed with the polyisocyanurate side facing down.

System 1

Base/Ply Sheet: One or more plies of StressBase 80, 120 or FlexBase 80, 120, Plus 80, Plus 120, E 80 or E 120 adhered with hot asphalt at a rate of 25 lb/sq (1.0 kg/m^2) within the EVT range and at a rate of 20-40 lbs./sq. or Green-Lock Membrane Adhesive at a rate of 2.0 – 2.5 gal/sq

Membrane: One ply of StressPly E, StressPly E FR Mineral, StressPly EUV, StressPly EUV FR Mineral, StressPly, StressPly Plus FR Mineral or VersiPly Mineral adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq., or Green-Lock Membrane Adhesive at a rate of 2.0 – 2.5 gal./sq.

Maximum Desing Pressure: -272.5 psf (See General Limitation #9)

System 2

Base/Ply Sheet: One or more plies of HPR Torch Base Sheet, torch applied to coverboard

Membrane: One ply of StressPly IV Mineral, StressPly IV Plus UV Mineral torch applied.

Maximum Desing Pressure: -220 psf (See General Limitation #9)

System 3

Base/Ply Sheet: One or more plies of Millennium Base adhered with Green-Lock Membrane Adhesive at a min rate of 1.5 gal/sq (0.61 L/m^2) or hot coal tar at a rate of 30 lbs./sq.

Membrane: One ply of Millennium Mineral or Millennium FR Mineral adhered with Green-Lock Membrane Adhesive at a min rate of 1.5 gal/sq (0.61 L/m^2) or hot coal tar at a rate of 30 lbs./sq.

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

Surfacing: Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq. or in Black-Knight Flood Coat or Black-Knight LV Flood Coat at 70 lb/sq. or Black-Knight Cold at 5 gal/sq.
2. Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
3. Energizer K Plus FR applied at 3.5 gal/sq with minimum two coats of Garla-Brite applied at min 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
4. WeatherScreen applied at min. 4 gal./sq. with minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
5. WeatherScreen applied at min. 4 gal./sq. with #11 roofing granules at 60 lb./sq.
6. WeatherScreen applied at applied at min. 4 gal./sq. with roofing gravel applied at 400 lb./sq.
7. Green-Lock Membrane Adhesive applied at min 3-5 gal./sq. with roofing gravel applied at 400 lb./sq.

Maximum Design Pressure: **See Systems Above.**

Membrane Type: SBS/SIS/SEBS

Deck Type 4I: Lightweight Concrete, Insulated

Deck Description: Elastizell Lightweight Concrete slab

System Type A(8): One or more layers of insulation adhered with approved asphalt or cold bonding adhesive.

All General and System Limitations apply.

Deck: 2500 psi structural concrete or concrete plank

One or more layers of the following insulations:

Base Insulation Layer	**Insulation Fasteners**	**Fastener Density/ft^2**
ACFoam II, H-Shield Minimum 2" thick	N/A	N/A
Top Insulation Layer	**Insulation Fasteners**	**Fastener Density/ft^2**
SECUROCK Gypsum-Fiber Roof Board Minimum ½" thick	N/A	N/A

Note: All insulation shall be adhered with OMG OlyBond 500 Adhesive Fastener in ¾" ribbons spaced 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 may be used as a top layer placed with the polyisocyanurate side facing down.

Base Sheet: One or more plies of Millennium Base adhered with Green-Lock Membrane Adhesive at a min rate of 1.5 gal/sq (0.61 L/m^2), Black-Knight at a rate of 30 lb/sq, Black-Knight LV at a rate of 30 lb/sq, Black-Knight CTP at a rate of 30 lb/sq or Black-Knight Cold adhesive at a rate of 1.5 - 2.0 gal/sq.

Membrane: One ply of Millennium Mineral or Millennium FR Mineral adhered with Green-Lock Membrane Adhesive at a min rate of 1.5 gal/sq (0.61 L/m^2), Black-Knight at a rate of 30 lb/sq, Black-Knight LV at a rate of 30 lb/sq , Black-Knight CTP at a rate of 30 lb/sq or Black-Knight Cold adhesive at a rate of 1.5 – 2.0 gal/sq.

Surfacing: Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq. or in Black-Knight Flood Coat or Black-Knight LV Flood Coat at 70 lb/sq. or Black-Knight Cold at 5 gal/sq.
2. Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
3. Energizer K Plus FR applied at 3.5 gal/sq with minimum two coats of Garla-Brite applied at min 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
4. WeatherScreen applied at min. 4 gal./sq. with minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
5. WeatherScreen applied at min. 4 gal./sq. with #11 roofing granules at 60 lb./sq.
6. WeatherScreen applied at applied at min. 4 gal./sq. with roofing gravel applied at 400 lb./sq.
7. Green-Lock Membrane Adhesive applied at min 3-5 gal./sq. with roofing gravel applied at 400 lb./sq.

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

Membrane Type: SBS/SIS/SEBS

Deck Type 4I: Lightweight Concrete, Insulated

Deck Description: Elastizell Lightweight Concrete slab

System Type A(9): One or more layers of insulation adhered with approved asphalt or cold bonding adhesive.

All General and System Limitations apply.

Deck: 2500 psi structural concrete or concrete plank

One or more layers of the following insulations:

Base Insulation Layer	**Insulation Fasteners**	**Fastener Density/ft^2**
ACFoam II, H-Shield Minimum 2" thick	N/A	N/A
Top Insulation Layer	**Insulation Fasteners**	**Fastener Density/ft^2**
SECUROCK Gypsum-Fiber Roof Board Minimum ¼" thick	N/A	N/A

Note: All insulation shall be adhered with OMG OlyBond 500 Adhesive Fastener in ¾" ribbons spaced 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 may be used as a top layer placed with the polyisocyanurate side facing down.

Base/Ply Sheet: One or more plies of StressBase 80, 120 or FlexBase 80, 120, Plus 80, Plus 120, E 80 or E 120 adhered with hot asphalt at a rate of 25 lb/sq (1.0 kg/m^2), HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq. or Green-Lock Membrane Adhesive at a min rate of 2 gal/sq

Membrane: One ply of StressPly E, StressPly E FR Mineral, StressPly EUV, StressPly EUV FR Mineral, StressPly, StressPly Plus FR Mineral or VersiPly Mineral adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq., or Green-Lock Membrane Adhesive at a min rate of 2 gal./sq.

Surfacing: Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq. or in Black-Knight Flood Coat or Black-Knight LV Flood Coat at 70 lb/sq. or Black-Knight Cold at 5 gal/sq.
2. Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
3. Energizer K Plus FR applied at 3.5 gal/sq with minimum two coats of Garla-Brite applied at min 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
4. WeatherScreen applied at min. 4 gal./sq. with minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
5. WeatherScreen applied at min. 4 gal./sq. with #11 roofing granules at 60 lb./sq.
6. WeatherScreen applied at applied at min. 4 gal./sq. with roofing gravel applied at 400 lb./sq.
7. Green-Lock Membrane Adhesive applied at min 3-5 gal./sq. with roofing gravel applied at 400 lb./sq.

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

Membrane Type: SBS/SIS/SEBS

Deck Type 4I: Lightweight Concrete, Insulated

Deck Description: Celcore MF Cellular concrete, 264 psi, with Celcore HS Rheology Modifying Admixture is poured over structural concrete and Celcore PVA Curing Compound, sprayed applied, at a minimum rate of 0.5 gal/sq.

System Type A(10): One or more layers of insulation adhered with approved asphalt or cold bonding adhesive.

All General and System Limitations apply.

Deck: 2500 psi structural concrete or concrete plank

One or more layers of the following insulations:

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

Note: All insulation shall be adhered with Insul-Lock HR in beads spaced 6" 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 may be used as a top layer placed with the polyisocyanurate side facing down.

Base Sheet: One ply of Millennium Base applied in hot coal tar at a rate of 30lbs./sq.

Membrane: One ply Millennium Mineral or Millennium FR Mineral applied in hot coal tar at a rate of 30 lbs./sq.

Surfacing: Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq. or in Black-Knight Flood Coat or Black-Knight LV Flood Coat at 70 lb/sq. or Black-Knight Cold at 5 gal/sq.
2. Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
3. Green-Lock Membrane Adhesive applied at min 3-5 gal./sq. with roofing gravel applied at 400 lb./sq.

Maximum Design Pressure: -500 psf. (See General Limitation #9.)

Membrane Type: SBS/SIS/SEBS

Deck Type 4: Lightweight Concrete, Non-insulated

Deck Description: Mearlcrete, Celcore or Elastizell cellular lightweight concrete, min. 200 psi, over steel or concrete deck.

System Type E(1): Base sheet mechanically fastened.

All General and System Limitations apply.

Base Sheet: ***(Option #1.)*** One ply of HPR Glasbase, HPR Premium Glasbase, HPR Tri-Base Premium, mechanically attached using OMG CR Base Sheet Fasteners or ES Products FM-90 Fasteners spaced 7" o.c. in a 4" side lap and 7" o.c. in two staggered rows in the center of the sheet.

(Option #2.) One ply of Garland HPR Glasbase, HPR Premium Glasbase, HPR Tri-Base Premium, mechanically attached using Simplex Base-Lok Fasteners spaced 9" o.c. in a 4" side lap and 9" o.c. in two staggered rows in the center of the sheet.

Ply Sheet: One or more plies of HPR Glasbase, HPR Premium Glasbase, HPR Tri-Base Premium, HPR Glasfelt, HPR Premium Glasfelt, HPR Polyscrim Plus adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq. (Note: Minimum two plies of ASTM D 2178, type VI or three plies of type IV is required for VersiPly 60 applications.)

Membrane: One ply of StressPly E, StressPly E FR Mineral, StressPly EUV, StressPly EUV FR Mineral, StressPly, StressPly FR Mineral, StressPly Plus, StressPly Plus FR Mineral, VersiPly 60, VersiPly 80, or VersiPly Mineral adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq. or in Black-Knight Flood Coat or Black-Knight LV Flood Coat at 70 lb/sq. or Black-Knight Cold at 5 gal/sq.
2. Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
3. Energizer K Plus FR applied at 3.5 gal/sq with minimum two coats of Garla-Brite applied at min 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
4. WeatherScreen applied at min. 4 gal./sq. with minimum two coats of GarlaBrite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
5. WeatherScreen applied at min. 4 gal./sq. with #11 roofing granules at 60 lb./sq.
6. WeatherScreen applied at applied at min. 4 gal./sq. with roofing gravel applied at 400 lb./sq.
7. Green-Lock Membrane Adhesive applied at min 3-5 gal./sq. with roofing gravel applied at 400 lb./sq.

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

Membrane Type: SBS/SIS/SEBS

Deck Type 4: Lightweight Concrete, Non-insulated

Deck Description: Mearlcrete, Celcore or Elastizell cellular lightweight concrete, min. 200 psi, over steel or concrete deck

System Type E(2): Base sheet mechanically fastened.

All General and System Limitations apply.

Deck: 2500 psi structural concrete or concrete plank. Or 22 ga., type B, galvanized, slotted steel decking attached to supports spaced maximum 5 ft. o.c. with 5/8" puddle welds spaced 6" o.c. (every bottom flute). Steel deck side laps attached 18" o.c. between each 5 ft. span with Traxx/1 fasteners

Base Sheet: ***(Option #1.)*** One ply of HPR Glasbase, HPR Premium Glasbase, HPR Tri-Base Premium mechanically attached using OMG CR Base Sheet Fasteners or ES Products FM-90 Fasteners spaced 7" o.c. in a 4" side lap and 7" o.c. in two staggered rows in the center of the sheet.

(Option #2.) One ply of HPR Glasbase, HPR Premium Glasbase, HPR Tri-Base Premium, mechanically attached using Simplex Base-Lok Fasteners spaced 9" o.c. in a 4" side lap and 9" o.c. in two staggered rows in the center of the sheet.

Ply Sheet: One more plies of HPR Glasbase, HPR Premium Glasbase, HPR Tri-Base Premium, HPR Glasfelt, HPR Premium Glasfelt, adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq.
Or
One ply of HPR Torch Base Sheet, torch applied to base sheet.

Membrane: One ply of StressPly IV or StressPly IV Mineral, StressPly IV UV Mineral, StressPly IV Plus, StressPly IV Plus UV Mineral or StressPly IV Plus Mineral torch applied.

Surfacing: Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq. or in Black-Knight Flood Coat or Black-Knight LV Flood Coat at 70 lb/sq. or Black-Knight Cold at 5 gal/sq.
2. Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
3. Energizer K Plus FR applied at 3.5 gal/sq with minimum two coats of Garla-Brite applied at min 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
4. WeatherScreen applied at min. 4 gal./sq. with minimum two coats of GarlaBrite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
5. WeatherScreen applied at min. 4 gal./sq. with #11 roofing granules at 60 lb./sq.
6. WeatherScreen applied at applied at min. 4 gal./sq. with roofing gravel applied at 400 lb./sq.
7. Green-Lock Membrane Adhesive applied at min 3-5 gal./sq. with roofing gravel applied at 400 lb./sq.

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

Membrane Type: SBS/SIS/SEBS

Deck Type 4: Lightweight Concrete, Non-insulated

Deck Description: Cellular lightweight concrete, min. 200 psi, over steel or concrete deck

System Type E(3): Base sheet mechanically fastened.

All General and System Limitations apply.

Deck: 2500 psi structural concrete or concrete plank. Or 22 ga., type B, galvanized, slotted steel deck attached to supports spaced maximum 5 ft. o.c. with 5/8" puddle welds spaced 6" o.c. (every bottom flute). Steel deck side laps attached 18" o.c. between each 5 ft. span with Traxx/1 fasteners

Base Sheet: ***(Option #1.)*** One ply of HPR Tri-Base Premium, mechanically attached using Simplex Base-Lok Fasteners spaced 9" o.c. in a 4" side lap and 12" o.c. in two staggered rows in the center of the sheet.

(Option #2.) One ply of HPR Glasbase, HPR Premium Glasbase or HPR Tri-Base Premium mechanically attached using OMG CR 1.7" Base Ply Fasteners spaced 7" o.c. in a 4" side lap and 7" o.c. in two staggered rows in the center of the sheet.

Ply Sheet: One or more plies of HPR Glasbase, HPR Premium Glasbase, HPR Tri-Base Premium, adhered with Weatherking or Weatherking Plus WC Adhesive at a rate of 2½ gal/sq.

Membrane: One ply of StressPly E, StressPly E FR Mineral, StressPly EUV, StressPly EUV FR Mineral, StressPly, StressPly FR Mineral, StressPly Plus, StressPly Plus FR Mineral, VersiPly 80, or VersiPly Mineral adhered with Weatherking or Weatherking Plus WC Adhesive at a rate of 2½ gal/sq.

Surfacing: Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq. or in Black-Knight Flood Coat or Black-Knight LV Flood Coat at 70 lb/sq. or Black-Knight Cold at 5 gal/sq. (asphalt applied systems only, Not compatable with Weatherking and Weatherking Plus WC applied systems)
2. Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
3. Energizer K Plus FR applied at 3.5 gal/sq with minimum two coats of Garla-Brite applied at min 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
4. WeatherScreen applied at min. 4 gal./sq. with minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
5. WeatherScreen applied at min. 4 gal./sq. with #11 roofing granules at 60 lb./sq.
6. WeatherScreen applied at applied at min. 4 gal./sq. with roofing gravel applied at 400 lb./sq.
7. Green-Lock Membrane Adhesive applied at min 3-5 gal./sq. with roofing gravel applied at 400 lb./sq.

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

Membrane Type: SBS/SIS/SEBS

Deck Type 4: Lightweight Concrete, Non-insulated

Deck Description: Celcore cellular lightweight concrete with min. compressive strength of. 300 psi; ¼" thick slurry is poured over the steel (above the top flange) or concrete deck. Min 1" thick, 1.0 pcf EPS holey board is placed into the slurry, followed by a minimum 2" thick top coat.

System Type E(4): Base sheet mechanically fastened.

All General and System Limitations apply.

Deck: 2500 psi structural concrte or concrete plank
Or
Min. 22 ga., 1.5" type B, G 90, galvanized, slotted steel decking attached to supports spaced maximum 6 ft. o.c. with 5/8" puddle welds spaced 6" o.c. (every bottom flute). Steel deck side laps attached 12" o.c. between each 6 ft. span with #12 self drilling screws

Base Sheet: One ply of HPR Glasbase, HPR Premium Glasbase, HPR Tri-Base Premium, mechanically attached using ES Products 1.8" Twin Loc-Nails or FM-290 Fasteners spaced 7" o.c. in a 4" side lap and 7" o.c. in three staggered rows in the center of the sheet.

Ply Sheet: Three or more plies of BK Glasfelt or BK Premium Glasfelt applied in hot coal tar at a rate of 30 lbs./sq.

Membrane: (Optional) One ply BK Glasfelt, BK Premium Glasfelt, Millennium Mineral or Millennium FR Mineral applied in hot coal tar at a rate of 30 lbs./sq.

Surfacing: Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping coal tar at an application rate of 60 lb./sq. or in Black-Knight Flood Coat or Black-Knight LV Flood Coat at 70 lb/sq. or Black-Knight Cold at 5 gal/sq.
2. (Mineral or Smooth Millennium only) Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.

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

Membrane Type: SBS/SIS/SEBS

Deck Type 4: Lightweight Concrete, Non-insulated

Deck Description: Celcore cellular lightweight concrete, min. 200 psi, over steel or concrete deck

System Type E(5): Base sheet mechanically fastened.

All General and System Limitations apply.

Base Sheet: ***(Option #1.)*** One ply of HPR Tri-Base Premium, mechanically attached using OMG CR Base Sheet Fasteners or ES Products FM-90 Fasteners spaced 7" o.c. in a 4" side lap and 7" o.c. in two staggered rows in the center of the sheet.

(Option #2.) One ply of HPR Tri-Base Premium, mechanically attached using Simplex Base-Lok Fasteners spaced 9" o.c. in a 4" side lap and 9" o.c. in two staggered rows in the center of the sheet.

(Option #3.) One ply of HPR Tri-Base Premium, mechanically attached using ES Products FM-290 Fasteners spaced 7" o.c. in a 4" side lap and 7" o.c. in three staggered rows in the center of the sheet.

Ply Sheet: One or more plies of Millennium Base, BK Glasfelt or BK Premium Glasfelt applied in hot coal tar at a rate of 30 lbs./sq.

Membrane: One ply of Millennium Mineral or Millennium FR Mineral applied in hot coal tar at a rate of 30 lbs./sq.

Surfacing: Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq. or in Black-Knight Flood Coat or Black-Knight LV Flood Coat at 70 lb/sq. or Black-Knight Cold at 5 gal/sq.
2. Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
3. Energizer K Plus FR applied at 3.5 gal/sq with minimum two coats of Garla-Brite applied at min 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
4. WeatherScreen applied at min. 4 gal./sq. with minimum two coats of GarlaBrite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
5. WeatherScreen applied at min. 4 gal./sq. with #11 roofing granules at 60 lb./sq.
6. WeatherScreen applied at applied at min. 4 gal./sq. with roofing gravel applied at 400 lb./sq.
7. Green-Lock Membrane Adhesive applied at min 3-5 gal./sq. with roofing gravel applied at 400 lb./sq.

Maximum Design Pressure: -45 psf. (See General Limitation #7.) ***using Fastening Options 1 & 2***
-75 psf. (See General Limitation #7.) ***using Fastening Option 3***

Membrane Type: SBS/SIS/SEBS
Deck Type 4: Lightweight Concrete, Non-insulated
Deck Description: Mearlcrete cellular lightweight concrete, min. 200 psi, over steel or concrete deck
System Type E(6): Base sheet mechanically fastened.
All General and System Limitations apply.

Base Sheet: ***(Option #1.)*** One ply of HPR Tri-Base Premium, mechanically attached using Simplex Base-Lok Fasteners spaced 9" o.c. in a 4" side lap and 12" o.c. in two staggered rows in the center of the sheet.
(Option #2.) HPR Glasbase, HPR Premium Glasbase or HPR Tri-Base Premium is mechanically fastened with OMG CR Base Felt Fasteners at 7 in. (178 mm) o.c. in the 4 in. (102 mm) wide lap and in two rows spaced equally between the overlaps and staggered in the field of the sheet

Base/Ply Sheet: One or more plies of HPR Glasbase, HPR Premium Glasbase, HPR Tri-Base Premium, HPR Glasfelt, HPR Premium Glasfelt, HPR Polyscrim Plus, adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq. (Note: Minimum two plies of ASTM D 2178, type VI or three plies of type IV is required for VersiPly 60 applications.)

Membrane: One ply of StressPly E, StressPly E FR Mineral, StressPly EUV, StressPly EUV FR Mineral, StressPly, StressPly FR Mineral, StressPly Plus, StressPly Plus FR Mineral, VersiPly 60, VersiPly 80, or VersiPly Mineral adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq. or in Black-Knight Flood Coat or Black-Knight LV Flood Coat at 70 lb/sq. or Black-Knight Cold at 5 gal/sq.
2. Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
3. Energizer K Plus FR applied at 3.5 gal/sq with minimum two coats of Garla-Brite applied at min 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
4. WeatherScreen applied at min. 4 gal./sq. with minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
5. WeatherScreen applied at min. 4 gal./sq. with #11 roofing granules at 60 lb./sq.
6. WeatherScreen applied at applied at min. 4 gal./sq. with roofing gravel applied at 400 lb./sq.
7. Green-Lock Membrane Adhesive applied at min 3-5 gal./sq. with roofing gravel applied at 400 lb./sq.

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

Membrane Type: SBS/SIS/SEBS
Deck Type 4: Lightweight Concrete, Non-insulated
Deck Description: Mearlcrete, Celcore or Elastizell cellular lightweight concrete, min. 200 psi, over steel or concrete deck
System Type E(7): Base sheet mechanically fastened.
All General and System Limitations apply.
Base Sheet: ***(Option #1.)*** One ply of HPR Tri-Base Premium mechanically attached using Simplex Base-Lok Fasteners spaced 9" o.c. in a 4" side lap and 12" o.c. in two staggered rows in the center of the sheet.
(Option #2.) HPR Glasbase, HPR Premium Glasbase or HPR Tri-Base Premium is mechanically fastened with OMG CR Base Felt Fasteners at 7 in. (178 mm) o.c. in the 4 in. (102 mm) wide lap and in two rows spaced equally between the overlaps and staggered in the field of the sheet.
Ply Sheet: One more plies of HPR Glasbase, HPR Premium Glasbase, HPR Tri-Base Premium, HPR Glasfelt, HPR Premium Glasfelt adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq.
Or
One or more plies of HPR Torch Base Sheet, torch applied to Base Sheet.
Membrane: One ply of StressPly IV or StressPly IV Mineral, StressPly IV UV Mineral, StressPly IV Plus, StressPly IV Plus UV Mineral or StressPly IV Plus Mineral torch applied.
Surfacing: Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq. or in Black-Knight Flood Coat or Black-Knight LV Flood Coat at 70 lb/sq. or Black-Knight Cold at 5 gal/sq.
2. Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
3. Energizer K Plus FR applied at 3.5 gal/sq with minimum two coats of Garla-Brite applied at min 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
4. WeatherScreen applied at min. 4 gal./sq. with minimum two coats of GarlaBrite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
5. WeatherScreen applied at min. 4 gal./sq. with #11 roofing granules at 60 lb./sq.
6. WeatherScreen applied at applied at min. 4 gal./sq. with roofing gravel applied at 400 lb./sq.
7. Green-Lock Membrane Adhesive applied at min 3-5 gal./sq. with roofing gravel applied at 400 lb./sq

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

Membrane Type: SBS/SIS/SEBS

Deck Type 4: Lightweight Concrete, Non-insulated

Deck Description: Elastizell cellular lightweight concrete with min. compressive strength of. 250-300 psi; ¼" thick slurry is poured over the steel (above the top flange) or concrete deck. Min 1" thick, 1.0 pcf of Insulfoam EPS board is placed into the slurry, followed by a minimum 2" thick top coat.

System Type E(8): Base sheet mechanically fastened.

All General and System Limitations apply.

Deck: 2500 psi structural concrte or concrete plank. Or Min. 22 ga., 1.5" type B, G 90 galvanized, slotted steel decking attached to supports spaced maximum 6 ft. o.c. with 5/8" puddle welds spaced 6" o.c. (every bottom flute). Steel deck side laps attached 12" o.c. between each 6 ft. span with #12 self drilling screws.

Base Sheet: One ply of HPR Glasbase, HPR Premium Glasbase, HPR Tri-Base Premium mechanically attached using ES Products FM-290 Fasteners spaced 7" o.c. in a 5" side lap and 7" o.c. in three staggered rows in the center of the sheet.

Ply Sheet: One more plies of HPR Glasbase, HPR Premium Glasbase, HPR Tri-Base Premium, HPR Glasfelt,HPR Premium Glasfelt, adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: One ply of, StressPly E, StressPly E FR Mineral, StressPly EUV, StressPly EUV FR Mineral, StressPly, StressPly FR Mineral, StressPly Plus, StressPly Plus FR Mineral, VersiPly 80, or VersiPly Mineral adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq. or in Black-Knight Flood Coat or Black-Knight LV Flood Coat at 70 lb/sq. or Black-Knight Cold at 5 gal/sq.
2. Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
3. Energizer K Plus FR applied at 3.5 gal/sq with minimum two coats of Garla-Brite applied at min 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
4. WeatherScreen applied at min. 4 gal./sq. with minimum two coats of GarlaBrite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
5. WeatherScreen applied at min. 4 gal./sq. with #11 roofing granules at 60 lb./sq.
6. WeatherScreen applied at applied at min. 4 gal./sq. with roofing gravel applied at 400 lb./sq.
7. Green-Lock Membrane Adhesive applied at min 3-5 gal./sq. with roofing gravel applied at 400 lb./sq.

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

Membrane Type: SBS/SIS/SEBS

Deck Type 4: Lightweight Concrete, Non-insulated

Deck Description: Elastizell cellular lightweight concrete, min. 350 psi, over steel or concrete deck

System Type E(9): Base sheet mechanically fastened.

All General and System Limitations apply.

Deck: 2500 psi structural concrte or concrete plank
Or
Min. 22 ga., type B, Grade 33, galvanized, slotted steel decking attached to supports spaced maximum 5 ft. o.c. with Tek/5 screws spaced 6" o.c. (every bottom flute). Steel deck side laps attached 12" o.c. between each 5 ft. span with Tek/1 screws

Base Sheet: One ply of HPR Tri-Base Premium mechanically attached using ES Products FM-260, FM-260V or FM 290 fasteners spaced 9" o.c. in a 4" side lap and 9" o.c. in three, equally spaced, staggered rows in the center of the sheet.

Base/Ply Sheet: One or more plies of HPR Glasbase, HPR Premium Glasbase, HPR Tri-Base Premium, HPR Glasfelt, HPR Premium Glasfelt, HPR Polyscrim Plus, adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq. (Note: Minimum two plies of ASTM D 2178, type VI or three plies of type IV is required for VersiPly 60 applications.)

Membrane: One ply of StressPly E, StressPly E FR Mineral, StressPly EUV, StressPly EUV FR Mineral, StressPly, StressPly FR Mineral, StressPly Plus, StressPly Plus FR Mineral, VersiPly 60, VersiPly 80, or VersiPly Mineral adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq

Surfacing: Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq. or in Black-Knight Flood Coat or Black-Knight LV Flood Coat at 70 lb/sq. or Black-Knight Cold at 5 gal/sq.
2. Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
3. Energizer K Plus FR applied at 3.5 gal/sq with minimum two coats of Garla-Brite applied at min 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq..
4. WeatherScreen applied at min. 4 gal./sq. with minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
5. WeatherScreen applied at min. 4 gal./sq. with #11 roofing granules at 60 lb./sq.
6. WeatherScreen applied at applied at min. 4 gal./sq. with roofing gravel applied at 400 lb./sq.
7. Green-Lock Membrane Adhesive applied at min 3-5 gal./sq. with roofing gravel applied at 400 lb./sq

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

Membrane Type: SBS/SIS/SEBS

Deck Type 4: Lightweight Concrete, Non-insulated

Deck Description: Elastizell cellular lightweight concrete, min. 350 psi, over steel or concrete deck

System Type E(10): Base sheet mechanically fastened.

All General and System Limitations apply.

Deck: 2500 psi structural concrte or concrete plank
Or
Min. 22 ga., type B, Grade 33, galvanized, slotted steel decking attached to supports spaced maximum 5 ft. o.c. with Tek/5 screws spaced 6" o.c. (every bottom flute). Steel deck side laps attached 12" o.c. between each 5 ft. span with Tek/1 screws

Base Sheet: One ply of HPR Tri-Base Premium mechanically attached using ES Products FM-260, FM-260V or FM 290 fasteners spaced 9" o.c. in a 4" side lap and 9" o.c. in three, equally spaced, staggered rows in the center of the sheet.

Ply Sheet: One more plies of HPR Glasbase, HPR Premium Glasbase, HPR Tri-Base Premium, HPR Glasfelt, HPR Premium Glasfelt,adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq.
Or
One or more plies of HPR Torch Base Sheet, torch applied to Base Sheet.

Membrane: One ply of StressPly IV or StressPly IV Mineral, StressPly IV UV Mineral, StressPly IV Plus, StressPly IV Plus UV Mineral or StressPly IV Plus Mineral torch applied.

Surfacing: Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq. or in Black-Knight Flood Coat or Black-Knight LV Flood Coat at 70 lb/sq. or Black-Knight Cold at 5 gal/sq.
2. Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
3. Energizer K Plus FR applied at 3.5 gal/sq with minimum two coats of Garla-Brite applied at min 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
4. WeatherScreen applied at min. 4 gal./sq. with minimum two coats of GarlaBrite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
5. WeatherScreen applied at min. 4 gal./sq. with #11 roofing granules at 60 lb./sq.
6. WeatherScreen applied at applied at min. 4 gal./sq. with roofing gravel applied at 400 lb./sq.
7. Green-Lock Membrane Adhesive applied at min 3-5 gal./sq. with roofing gravel applied at 400 lb./sq.

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

Membrane Type: SBS/SIS/SEBS

Deck Type 4: Lightweight Concrete, Non-insulated

Deck Description: Elastizell cellular lightweight concrete, min. 350 psi, over steel or concrete deck

System Type E(11): Base sheet mechanically fastened.

All General and System Limitations apply.

Deck: 2500 psi structural concrte or concrete plank
Or
Min. 22 ga., type B, Grade 33, galvanized, slotted steel decking attached to supports spaced maximum 5 ft. o.c. with Tek/5 screws spaced 6" o.c. (every bottom flute). Steel deck side laps attached 12" o.c. between each 5 ft. span with Tek/1 screws

Base Sheet: One ply of HPR Tri-Base Premium mechanically attached using ES Products FM-260 ,FM-260V or FM 290 fasteners spaced 9" o.c. in a 4" side lap and 9" o.c. in three, equally spaced, staggered rows in the center of the sheet.

Ply Sheet: One or more plies of HPR Glasbase, HPR Premium Glasbase, HPR Tri-Base Premium, or adhered with Weatherking or Weatherking Plus WC Adhesive at a rate of 2½ gal/sq.

Membrane: One ply of StressPly E, StressPly E FR Mineral, StressPly EUV, StressPly EUV FR Mineral, StressPly, StressPly FR Mineral, StressPly Plus, StressPly Plus FR Mineral, VersiPly 80 or VersiPly Mineral adhered with Weatherking or Weatherking Plus WC Adhesive at a rate of 2½ gal/sq

Surfacing: Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq. or in Black-Knight Flood Coat or Black-Knight LV Flood Coat at 70 lb/sq. or Black-Knight Cold at 5 gal/sq. (asphalt applied systems only, Not compatable with Weatherking and Weatherking Plus WC applied systems)
2. Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
3. Energizer K Plus FR applied at 3.5 gal/sq with minimum two coats of Garla-Brite applied at min 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
4. WeatherScreen applied at min. 4 gal./sq. with minimum two coats of GarlaBrite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
5. WeatherScreen applied at min. 4 gal./sq. with #11 roofing granules at 60 lb./sq.
6. WeatherScreen applied at applied at min. 4 gal./sq. with roofing gravel applied at 400 lb./sq.
7. Green-Lock Membrane Adhesive applied at min 3-5 gal./sq. with roofing gravel applied at 400 lb./sq.

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

Membrane Type: SBS/SIS/SEBS

Deck Type 4: Lightweight Concrete, Non-insulated

Deck Description: Celcore cellular lightweight concrete or exsisting cellular lightweight concrete with min. compressive strength of. 300 psi; ¼" thick slurry is poured over the steel (above the top flange) or concrete deck. Min 1" thick, 1.0 pcf EPS holey board is placed into the slurry, followed by a minimum 2" thick top coat.

System Type E(12): Base sheet mechanically fastened.

All General and System Limitations apply.

Deck: 2500 psi structural concrte or concrete plank.

Or

Min. 22 ga., 1.5" type B, G 90, galvanized, slotted steel decking attached to supports spaced maximum 6 ft. o.c. with 5/8" puddle welds spaced 6" o.c. (every bottom flute). Steel deck side laps attached 12" o.c. between each 6 ft. span with #12 self drilling screws.

Base Sheet: One ply of HPR Tri-Base Premium, mechanically attached using ES Products FM-290 Fasteners spaced 7" o.c. in a 4" side lap and 7" o.c. in three staggered rows in the center of the sheet.

Ply Sheet: One ply of StressBase 80, StressBase 120, FlexBase 80, FlexBase 120, FlexBase Plus 80, FlexBase Plus 120, FlexBase E 80, FlexBase E 120 adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: One ply of BiFlex Smooth, BiFlex Mineral, StressPly E, StressPly E FR Mineral, StressPly EUV, StressPly EUV FR Mineral, StressPly, StressPly FR Mineral, StressPly Plus, StressPly Plus FR Mineral, VersiPly 80 or VersiPly Mineral adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq

Surfacing: Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq. or in Black-Knight Flood Coat or Black-Knight LV Flood Coat at 70 lb/sq. or Black-Knight Cold at 5 gal/sq.
2. Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
3. Energizer K Plus FR applied at 3.5 gal/sq with minimum two coats of Garla-Brite applied at min 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
4. WeatherScreen applied at min. 4 gal./sq. with minimum two coats of GarlaBrite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
5. WeatherScreen applied at min. 4 gal./sq. with #11 roofing granules at 60 lb./sq.
6. WeatherScreen applied at applied at min. 4 gal./sq. with roofing gravel applied at 400 lb./sq.
7. Green-Lock Membrane Adhesive applied at min 3-5 gal./sq. with roofing gravel applied at 400 lb./sq.

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

Membrane Type: SBS/SIS/SEBS

Deck Type 4: Lightweight Concrete, Non-insulated

Deck Description: Celcore cellular lightweight concrete with min. 42 pcf wet cast density; 1/8" thick slurry is poured over the steel deck (above the top flange). Min 1" thick Dyplast Carpernter or Cellofoam Holey Board Polystyrene Insulation is placed into the slurry. The following day, a minimum 2" thick top coat is placed. After setting, Celcore PVA Curing Compound is applied at a rate of 300 ft^2/gal.

System Type E(13): Base sheet mechanically fastened.

All General and System Limitations apply.

Deck: 2500 psi structural concrete or concrete plank

Or

Min. 0.029" thick, 1.5" type B, galvanized deck attached to supports spaced maximum 5 ft. o.c. with ½" puddle welds and washers. Side laps attached using Traxx/1 screws at midspan.

Base Sheet: One ply of HPR Glasbase or HPR Tri-Base Premium is mechanically attached using ES Products FM-90 Base Ply Fasteners or OMG CR Base Felt Fasteners and plates spaced 7" o.c. in a 3" side lap and 7" o.c. in two rows (evenly spaced between the side laps) in the field of the sheet in line and perpendicular to the laps.

System 1

Ply Sheet: Two plies of HPR Glasbase, HPR Premium Glasbase, HPR Glasfelt, HPR Premium Glasfelt, HPR Polyscrim Plus, fully adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq

Membrane: One ply of StressPly E, StressPly E FR Mineral, StressPly EUV, StressPly EUV FR Mineral, StressPly, StressPly FR Mineral, StressPly Plus, StressPly Plus FR Mineral, VersiPly 60, VersiPly 80 or VersiPly Mineral adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq.

System 2

Ply Sheet: One or more plies of StressBase 80, 120 or FlexBase 80, 120, Plus 80, Plus 120, E 80 or E 120 adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: One ply of StressPly E, StressPly E FR Mineral, StressPly EUV, StressPly EUV FR Mineral, StressPly, StressPly FR Mineral, StressPly Plus, StressPly Plus FR Mineral, VersiPly 60, VersiPly 80, or VersiPly Mineral adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq.

System 3

Ply Sheet: One or more plies of Millennium Base, BK Glasfelt or BK Premium Glasfelt applied in hot coal tar at a rate of 30 lbs./sq. (only when HPR Tri-Base Premium is used).

Membrane: One ply of Millennium Mineral or Millennium FR Mineral applied in hot coal tar at a rate of 30 lbs./sq. (only when HPR Tri-Base Premium is used).

Surfacing: Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping coal tar at an application rate of 60 lb./sq. or in Black-Knight Flood Coat or Black-Knight LV Flood Coat at 70 lb/sq. or Black-Knight Cold at 5 gal/sq.
2. (Mineral or Smooth Millennium only) Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
3. Energizer K Plus FR applied at 3.5 gal/sq with minimum two coats of Garla-Brite applied at min 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
4. WeatherScreen applied at min. 4 gal./sq. with minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
5. WeatherScreen applied at min. 4 gal./sq. with #11 roofing granules at 60 lb./sq.
6. WeatherScreen applied at applied at min. 4 gal./sq. with roofing gravel applied at 400 lb./sq.
7. Green-Lock Membrane Adhesive applied at min 3-5 gal./sq. with roofing gravel applied at 400 lb./sq.

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

Membrane Type: SBS/SIS/SEBS

Deck Type 4: Lightweight Concrete, Non-insulated

Deck Description: Min. 2.0 inch thick Celcore cellular lightweight concrete with min. 42 pcf wet cast density, followed by Celcore PVA Curing Compound at a rate of 300 ft^2/gal.

System Type E(14): Base sheet mechanically fastened.

All General and System Limitations apply.

Deck: Structural Concrete.

Base Sheet: One ply of HPR Glasbase or HPR Tri-Base Premium is mechanically attached using ES Products FM-90 Base Ply Fasteners or OMG CR Base Felt Fasteners and plates spaced 7" o.c. in a 3" side lap and 7" o.c. in two rows (evenly spaced between the side laps) in the field of the sheet in line and perpendicular to the laps.

System 1

Ply Sheet: Two plies of HPR Glasbase, HPR Premium Glasbase, HPR Glasfelt, HPR Premium Glasfelt, HPR Polyscrim Plus, fully adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq

Membrane: One ply of StressPly E, StressPly E FR Mineral, StressPly EUV, StressPly EUV FR Mineral, StressPly, StressPly FR Mineral, StressPly Plus, StressPly Plus FR Mineral, VersiPly 60, VersiPly 80 or VersiPly Mineral adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq.

System 2

Ply Sheet: One or more plies of StressBase 80, 120 or FlexBase 80, 120, Plus 80, Plus 120, E 80 or E 120 adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: One ply of StressPly E, StressPly E FR Mineral, StressPly EUV, StressPly EUV FR Mineral, StressPly, StressPly FR Mineral, StressPly Plus, StressPly Plus FR Mineral, VersiPly 60, VersiPly 80, or VersiPly Mineral adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq.

System 3

Ply Sheet: One or more plies of Millennium Base, BK Glasfelt or BK Premium Glasfelt applied in hot coal tar at a rate of 30 lbs./sq. (only when HPR Tri-Base Premium is used).

Membrane: One ply of Millennium Mineral or Millennium FR Mineral applied in hot coal tar at a rate of 30 lbs./sq. (only when HPR Tri-Base Premium is used).

Surfacing: Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping coal tar at an application rate of 60 lb./sq. or in Black-Knight Flood Coat or Black-Knight LV Flood Coat at 70 lb/sq. or Black-Knight Cold at 5 gal/sq.
2. (Mineral or Smooth Millennium only) Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
3. Energizer K Plus FR applied at 3.5 gal/sq with minimum two coats of Garla-Brite applied at min 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
4. WeatherScreen applied at min. 4 gal./sq. with minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
5. WeatherScreen applied at min. 4 gal./sq. with #11 roofing granules at 60 lb./sq.
6. WeatherScreen applied at applied at min. 4 gal./sq. with roofing gravel applied at 400 lb./sq.
7. Green-Lock Membrane Adhesive applied at min 3-5 gal./sq. with roofing gravel applied at 400 lb./sq.

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

Membrane Type: SBS/SIS/SEBS

Deck Type 4: Lightweight Concrete, Non-insulated

Deck Description: Concrecel concrete with min. 43 pcf wet cast density; ¼" thick slurry is poured over the steel deck (above the top flange). Min 1" thick Apache Holey Board Polystyrene insulation is tapped into the slurry and allowed to dry overnight. A minimum 2.25" thick Concrecel concrete top coat is applied. After setting, Concrecel Curing Compound is applied at a rate of 600 ft^2/gal (14.7 m^2/L). **Concrecel Bonding Agent spray applied at a rate of 600 ft^2/gal (14.7 m^2/L) shall be used prior to applying Concrecel concrete when steel decking is used.**

System Type E(15): Base sheet mechanically fastened.

All General and System Limitations apply.

Deck: 2500 psi structural concrete or concrete plank

Or

22 ga., type B, galvanized, slotted steel decking attached to supports spaced maximum 5 ft. o.c. with 5/8" puddle welds spaced 6" o.c. Side laps attached using Traxx/1 screws at midspan.

Base Sheet: One ply of HPR Tri-Base Premium mechanically attached using CR assembled base sheet fasteners (1.7 in.), CR Base sheet disc and CR Base Sheet Fasteners (1.7 in.) or FM-90 assembled base fasterners applied at maximum 7" o.c. in a 3" side lap and 7" o.c. in two evenly spaced rows in the field of the sheet.

System 1

Ply Sheet: Two plies of HPR Glasbase, HPR Premium Glasbase, HPR Glasfelt, HPR Premium Glasfelt, HPR Polyscrim Plus, fully adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: One ply of StressPly E, StressPly E FR Mineral, StressPly EUV, StressPly EUV FR Mineral, StressPly, StressPly FR Mineral, StressPly Plus, StressPly Plus FR Mineral, VersiPly 60, VersiPly 80, or VersiPly Mineral adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq.

System 2

Ply Sheet: One or more plies of Millennium Base, BK Glasfelt or BK Premium Glasfelt applied in hot coal tar at a rate of 30 lbs./sq.

Membrane: One ply of Millennium Mineral or Millennium FR Mineral applied in hot coal tar at a rate of 30 lbs./sq.

Surfacing: Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping coal tar at an application rate of 60 lb./sq. or in Black-Knight Flood Coat or Black-Knight LV Flood Coat at 70 lb/sq. or Black-Knight Cold at 5 gal/sq.
2. (Mineral or Smooth Millennium only) Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
3. Energizer K Plus FR applied at 3.5 gal/sq with minimum two coats of Garla-Brite applied at min 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
4. WeatherScreen applied at min. 4 gal./sq. with minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
5. WeatherScreen applied at min. 4 gal./sq. with #11 roofing granules at 60 lb./sq.
6. WeatherScreen applied at applied at min. 4 gal./sq. with roofing gravel applied at 400 lb./sq.
7. Green-Lock Membrane Adhesive applied at min 3-5 gal./sq. with roofing gravel applied at 400 lb./sq.

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

Membrane Type: SBS/SIS/SEBS

Deck Type 4: Lightweight Concrete, Non-insulated

Deck Description: Minimum 2.25" thick, min. 43 pcf wet cast density, Concrecel concrete is applied followed by Concrecel Curing Compound at a rate of 600 ft^2/gal (14.7 m^2/L).

System Type E(16): Base sheet mechanically fastened.

All General and System Limitations apply.

Deck: Structural concrete

Base Sheet: One ply of HPR Tri-Base Premium mechanically attached using CR assembled base sheet fasteners (1.7 in.), CR Base sheet disc and CR Base Sheet Fasteners (1.7 in.) or FM-90 assembled base fasterners applied at maximum 7" o.c. in a 3" side lap and 7" o.c. in two evenly spaced rows in the field of the sheet.

System 1

Ply Sheet: Two plies of HPR Glasbase, HPR Premium Glasbase, HPR Glasfelt, HPR Premium Glasfelt, HPR Polyscrim Plus, fully adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: One ply of StressPly E, StressPly E FR Mineral, StressPly EUV, StressPly EUV FR Mineral, StressPly, StressPly FR Mineral, StressPly Plus, StressPly Plus FR Mineral, VersiPly 60, VersiPly 80, or VersiPly Mineral adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq.

System 2

Ply Sheet: One or more plies of Millennium Base, BK Glasfelt or BK Premium Glasfelt applied in hot coal tar at a rate of 30 lbs./sq.

Membrane: One ply of Millennium Mineral or Millennium FR Mineral applied in hot coal tar at a rate of 30 lbs./sq.

Surfacing: Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping coal tar at an application rate of 60 lb./sq. or in Black-Knight Flood Coat or Black-Knight LV Flood Coat at 70 lb/sq. or Black-Knight Cold at 5 gal/sq.
2. (Mineral or Smooth Millennium only) Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
3. Energizer K Plus FR applied at 3.5 gal/sq with minimum two coats of Garla-Brite applied at min 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
4. WeatherScreen applied at min. 4 gal./sq. with minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
5. WeatherScreen applied at min. 4 gal./sq. with #11 roofing granules at 60 lb./sq.
6. WeatherScreen applied at applied at min. 4 gal./sq. with roofing gravel applied at 400 lb./sq.
7. Green-Lock Membrane Adhesive applied at min 3-5 gal./sq. with roofing gravel applied at 400 lb./sq.

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

Membrane Type: SBS/SIS/SEBS

Deck Type 4: Lightweight Concrete, Non-insulated

Deck Description: 38 – 42 pcf wet cast density; 1/8" thick slurry of Celcore MF Cellular concrete, 330 psi, with Celcore HS Rheology Modifying Admixture is poured over the steel deck (above the top flange). Min 1" thick Insulfoam EPS holey board is placed, in a brick-like pattern, into the slurry, followed by a minimum 2" thick layer of Celcore MF Cellular concrete, 350 psi, with Celcore HS Rheology Modifying Admixture. The following day a Celcore PVA Curing Compound is sprayed applied at a minimum rate of 0.5 gallons per 100 ft^2.

System Type E(17): Base sheet mechanically fastened.

All General and System Limitations apply.

Deck: 22 ga., type B, galvanized, secured to supports spaced maximum 5 ft. o.c. with ½" puddle welds at the bottom of each corrugation. Steel deck side laps attached using three evenly spaced ITW-Buildex fasteners between supports (15", 30" and 45").

Base Sheet: One ply of Tri-Base Premium, mechanically attached using FM-90 base ply fasteners applied at 8" o.c. in a 4" wide lap and 8" o.c in three evenly spaced rows between the laps.

Ply Sheet: One or more plies of HPR Torch Base Sheet, torch applied with a minimum 4" lap.

Membrane: One ply of StressPly IV, StressPly IV Mineral, StressPly IV UV Mineral or StressPly IV Plus UV Mineral torch applied with a minimum 4" lap.

Surfacing: Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping coal tar at an application rate of 60 lb./sq. or in Black-Knight Flood Coat or Black-Knight LV Flood Coat at 70 lb/sq. or Black-Knight Cold at 5 gal/sq.
2. (Mineral or Smooth Millennium only) Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
3. Energizer K Plus FR applied at 3.5 gal/sq with minimum two coats of Garla-Brite applied at min 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
4. WeatherScreen applied at min. 4 gal./sq. with minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
5. WeatherScreen applied at min. 4 gal./sq. with #11 roofing granules at 60 lb./sq.
6. WeatherScreen applied at applied at min. 4 gal./sq. with roofing gravel applied at 400 lb./sq.
7. Green-Lock Membrane Adhesive applied at min 3-5 gal./sq. with roofing gravel applied at 400 lb./sq.

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

Membrane Type: SBS/SIS/SEBS

Deck Type 4: Lightweight Concrete, Non-insulated

Deck Description: 38 – 42 pcf wet cast density; 1/8" thick slurry of Celcore MF Cellular concrete, 330 psi, with Celcore HS Rheology Modifying Admixture is poured over the steel deck (above the top flange). Min 1" thick Insulfoam EPS holey board is placed, in a brick-like pattern, into the slurry, followed by a minimum 2" thick layer of Celcore MF Cellular concrete, 330 psi, with Celcore HS Rheology Modifying Admixture. The following day a Celcore PVA Curing Compound is sprayed applied at a minimum rate of 0.5 gallons per 100 ft^2.

System Type E(18): Base sheet mechanically fastened.

All General and System Limitations apply.

Deck: 22 ga., type B, galvanized, secured to supports spaced maximum 5 ft. o.c. with ½" puddle welds at the bottom of each corrugation. Steel deck side laps attached using three evenly spaced ITW-Buildex fasteners between supports (15", 30" and 45").

Base Sheet: One ply of VersiPly 40 Base, mechanically attached using FM-90 base ply fasteners applied at 8" o.c. in a 4" wide lap and 8" o.c in three evenly spaced rows between the laps.

Ply Sheet: One or more plies of StressBase 80, 120 or FlexBase 80, 120, Plus 80, Plus 120, E 80 or E 120 adhered with a minimum 4" lap in a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq. or Green-Lock Membrane Adhesive at a min rate of 2 gal/sq.

Membrane: One ply of StressPly E, StressPly E FR Mineral, StressPly EUV, StressPly EUV FR Mineral, StressPly Plus FR Mineral, VersiPly 80 or VersiPly Mineral with a minimum 4" lap adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-25 lbs/sq. or Green-Lock Membrane Adhesive at a min rate of 2 gal/sq.

Surfacing: Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping coal tar at an application rate of 60 lb./sq. or in Black-Knight Flood Coat or Black-Knight LV Flood Coat at 70 lb/sq. or Black-Knight Cold at 5 gal/sq.
2. (Mineral or Smooth Millennium only) Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
3. Energizer K Plus FR applied at 3.5 gal/sq with minimum two coats of Garla-Brite applied at min 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
4. WeatherScreen applied at min. 4 gal./sq. with minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
5. WeatherScreen applied at min. 4 gal./sq. with #11 roofing granules at 60 lb./sq.
6. WeatherScreen applied at applied at min. 4 gal./sq. with roofing gravel applied at 400 lb./sq.
7. Green-Lock Membrane Adhesive applied at min 3-5 gal./sq. with roofing gravel applied at 400 lb./sq.

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

Membrane Type: SBS/SIS/SEBS

Deck Type 4: Lightweight Concrete, Non-insulated

Deck Description: 38 – 42 pcf wet cast density; 1/8" thick slurry of Celcore MF Cellular concrete, 320 psi, with Celcore HS Rheology Modifying Admixture is poured over the steel deck (above the top flange). Min 1" thick Insulfoam EPS holey board is placed, in a brick-like pattern, into the slurry, followed by a minimum 2" thick layer of Celcore MF Cellular concrete, 290 psi, with Celcore HS Rheology Modifying Admixture. The following day a Celcore PVA Curing Compound is sprayed applied at a minimum rate of 0.5 gallons per 100 ft^2.

System Type E(19): Base sheet mechanically fastened.

All General and System Limitations apply.

Deck: 22 ga., type B, galvanized, secured to supports spaced maximum 5 ft. o.c. with ½" puddle welds at the bottom of each corrugation. Steel deck side laps attached using three evenly spaced ITW-Buildex fasteners between supports (15", 30" and 45").

Base Sheet: One ply of HPR Tri-Base Premium mechanically attached using FM-90 base ply fasteners applied at 8" o.c. in a 4" wide lap and 8" o.c in three evenly spaced rows between the laps.

Ply Sheet: Two or more plies of HPR Glasfelt, HPR Premium Glasfelt, HPR Polyscrim Plus fully adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: One ply of StressPly E, StressPly E FR Mineral, StressPly EUV, StressPly EUV FR Mineral, StressPly Plus FR Mineral, VersiPly 80, or VersiPly Mineral with a minimum 4" lap adhered with a full mopping of approved asphalt, HPR All Temp or Garlastic KM Plus within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping coal tar at an application rate of 60 lb./sq. or in Black-Knight Flood Coat or Black-Knight LV Flood Coat at 70 lb/sq. or Black-Knight Cold at 5 gal/sq.
2. (Mineral or Smooth Millennium only) Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
3. Energizer K Plus FR applied at 3.5 gal/sq with minimum two coats of Garla-Brite applied at min 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
4. WeatherScreen applied at min. 4 gal./sq. with minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
5. WeatherScreen applied at min. 4 gal./sq. with #11 roofing granules at 60 lb./sq.
6. WeatherScreen applied at applied at min. 4 gal./sq. with roofing gravel applied at 400 lb./sq.
7. Green-Lock Membrane Adhesive applied at min 3-5 gal./sq. with roofing gravel applied at 400 lb./sq.

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

Membrane Type: SBS/SIS/SEBS

Deck Type 4: Lightweight Concrete, Non-insulated

Deck Description: 38 – 42 pcf wet cast density; 1/8" thick slurry of Celcore MF Cellular, 330 psi, concrete with Celcore HS Rheology Modifying Admixture is poured over the steel deck (above the top flange). Min 1" thick Insulfoam EPS holey board is placed, in a brick-like pattern, into the slurry, followed by a minimum 2" thick top coat. The following day a Celcore PVA Curing Compound is sprayed applied at a minimum rate of 0.5 gallons per 100 ft^2

System Type E(20): Base sheet mechanically fastened.

All General and System Limitations apply.

Deck: Min. 22 ga., 1.5" type B, G 90, galvanized, slotted steel decking attached to supports spaced maximum 5 ft. o.c. with ½" diameter puddle welds at the bottom of each corrugation. Steel deck side laps attached using three evenly spaced ITW-Buildex fasteners between supports (15", 30" and 45").

Base Sheet: One ply of HPR Glasbase mechanically attached using FM-290 Fasteners spaced 10" o.c. in a 4" side lap and 10" o.c. in three staggered rows in the center of the sheet between the laps.

Ply Sheet: Three or more plies of BK Glasfelt or BK Premium Glasfelt applied in hot Coal Tar Pitch at a rate of 30-35 lbs per ply per 100 ft^2.

Surfacing: Optional for FR or mineral surfaced Membranes. Required for non-FR or smooth surfaced membranes. Apply one of the below or any approved coatings:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping coal tar at an application rate of 60 lb./sq. or in Black-Knight Flood Coat or Black-Knight LV Flood Coat at 70 lb/sq. or Black-Knight Cold at 5 gal/sq.
2. (Mineral or Smooth Millennium only) Minimum two coats of Garla-Brite applied at min. 0.5 gal/sq/coat, minimum two coats of Pyramic applied at min. 1.0 gal/sq/coat or minimum one coat of Pyramic applied at a min. 1.0 gal/sq and a minimum one coat of Solex applied at a min. 0.50 gal/sq.
3. A continuous layer of Coal Tar Pitch at 30 lbs per 100 ft^2.

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

LIGHTWEIGHT CONCRETE DECK SYSTEM LIMITATIONS:

1. If mechanical attachment to the structural deck through the lightweight insulating concrete is proposed, a field withdrawal resistance testing shall be performed to determine equivalent or enhanced fastener patterns and density. All testing and fastening design shall be in compliance with Testing Application Standard TAS 105 and Roofing Application Standard RAS 117; calculations shall be signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant.
2. For steel deck application where specific deck construction is not referenced: The deck shall be a minimum 22 gage attached with 5/8" puddle welds with weld washers at every flute with maximum deck spans of 5 ft. o.c.
3. For systems where specific lightweight insulating concrete is not referenced, the minimum design mix shall be a minimum of 250 psi.

GENERAL LIMITATIONS:

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

END OF THIS ACCEPTANCE