MIAMI-DADE

BUILDING CODE COMPLIANCE OFFICE (BCCO)
PRODUCT CONTROL DIVISION

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

NOTICE OF ACCEPTANCE (NOA)

GAF Material Corporation
1361 Alps Road
Wayne, NJ 07470

Scope:
This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed by the BCCO and accepted by the Building Code and Product Review Committee to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Division (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. BORA reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Division that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code and the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: GAF RUBEROID® Modified Bitumen Roof System for LWC Decks.

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

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

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

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

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

This NOA renews NOA No. 07-1018.01 and consists of pages 1 through 43.
The submitted documentation was reviewed by Jorge L. Acebo.

MIAMI-DADE COUNTY APPROVED

NOA No.: 08-0221.02
Expiration Date: 11/06/13
Approval Date: 05/22/08

ROOFING ASSEMBLY APPROVAL

Category:	Roofing
Sub-Category:	APP/SBS Modified Bitumen
Deck Type:	Lightweight Insulating Concrete
Maximum Design Pressure	-112.5 psf
Fire Classification:	See General Limitation #1

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

Product	Dimensions	Test Specification	Product Description
Leak Buster™ Matrix™ 307 Premium Asphalt Primer	3, 5, 55 gallons	ASTM D 41	Asphalt concrete primer used to promote adhesion of asphalt in built-up roofing.
GAF Mineral Shield® Granules	60 lb. Bags 100 lb. bags	ASTM D 1863	Granules for surfacing of exposed asphalt, cold process cement or emulsion. GAF Mineral Shield® Granules shall be used for flashing applications only.
Leak Buster™ Matrix™ 305 Fibered Asphalt Emulsion	5 gallons	ASTM 1227	Surface coating for smooth surfaced roofs.
Leak Buster™ Matrix™ 303 Premium Aluminum Roof Coating	1, 5 gallons	ASTM D 2824	Fibered aluminum coating.
Leak Buster™ Matrix™ 204 Wet/Dry Roof Cement	1, 5 gallons	ASTM D 3019 ASTM D 3409	Refined asphalt blended with a mineral stabilizer and fibers. Permits adhesion to wet and dry surfaces.
GAFGLAS® #75 Base Sheet	39.37" (1 meter) wide	ASTM D 4601	Asphalt impregnated and coated glass mat base sheet.
GAFGLAS® #80 Ultima™ Base Sheet	39.37" (1 meter) wide	ASTM D4601	Asphalt impregnated and coated, fiberglass base sheet
GAFGLAS® Flex Ply™ 6	39.37" (1 meter) wide	ASTM D 2178	Type VI asphalt impregnated glass felt with asphalt coating.
GAFGLAS® Ply 4	39.37" (1 meter) wide	ASTM D 2178	Type IV asphalt impregnated glass felt with asphalt coating.
GAFGLAS® Mineral Surfaced Cap Sheet	39.37" (1 meter) wide	ASTM D 3909	Asphalt coated, glass fiber mat cap sheet surfaced with mineral granules.
GAFGLAS® EnergyCap™ Mineral Surface Cap Sheet	39.37" (1 meter) wide	ASTM D 3909 Energystar™ Title 24 Compliant	Asphalt coated, glass fiber mat cap sheet surfaced with mineral granules with factory applied EnergyCote™
GAFGLAS® Flashing	39.4" (1 meter) wide		Asphalt coated glass fiber mat flashing sheet.

Product	Dimensions	Test Specification	Product Description
GAFGLAS® STRATAVENT® Eliminator™ Perforated	39.37" (1 meter) wide	ASTM D3672 ASTM D 4897	Fiberglass base sheet coated on both sides with asphalt. Surfaced on the bottom side with mineral granules embedded in asphaltic coating with factory perforations.
GAFGLAS® STRATAVENT® Eliminator™ Nailable	39.37" (1 meter) wide	ASTM D3672 ASTM D 4897	Fiberglass base sheet coated on both sides with asphalt. Surfaced on the bottom side with mineral granules embedded in asphaltic coating.
RUBEROID® SBS Heat-Weld™ Smooth	1 meter (39.37") wide	ASTM D-6164	Non-Woven Polyester mat coated with polymer-modified asphalt and smooth surfaced.
RUBEROID® SBS Heat-Weld™ Granule	1 meter (39.37") wide	ASTM D-6164	Non-Woven Polyester mat coated with polymer modified asphalt and surfaced with mineral granules.
RUBEROID® SBS Heat-Weld™ 170 FR	1 meter (39.37") wide	ASTM D-6164	Non-Woven Polyester mat coated with fire retardant polymer modified asphalt and surfaced with mineral granules.
RUBEROID® SBS Heat-Weld™ Plus	1 meter (39.37") wide	ASTM D-6164	Non-Woven Polyester mat coated with polymer modified asphalt and surfaced with mineral granules.
RUBEROID® SBS Heat-Weld™ Plus FR	1 meter (39.37") wide	ASTM D-6164	Non-Woven Polyester mat coated with fire retardant polymer modified asphalt and surfaced with mineral granules.
RUBEROID® SBS Heat-Weld™ 25	1 meter (39.37") wide	ASTM D-6164	Non-Woven Polyester mat coated with polymer-modified asphalt and smooth surfaced.
RUBEROID® Mop Granule	39.37" (1 meter) wide	ASTM D 6222 ASTM D 5147	Non-woven polyester mat coated with polymer modified asphalt and surfaced with mineral granules.
RUBEROID® Mop Smooth	1 meter (39.37") wide	ASTM D 6298 ASTM D 5147	Non-woven polyester mat coated with polymer-modified asphalt and smooth surfaced.
RUBEROID® Mop Plus (Granule)	39.37" (1 meter) wide	ASTM D 6164 ASTM D 5147	Non-woven polyester mat coated with polymer modified asphalt and surfaced with mineral granules.
RUBEROID® Mop 170FR	39.37" (1 meter) wide	ASTM D 6164 ASTM D 5147	Non-Woven polyester mat coated with fire retardant polymer modified asphalt and surfaced with mineral granules.
RUBEROID® Mop FR	39.37" (1 meter) Wide	ASTM D 6164 ASTM D 5147	Non-Woven polyester mat coated with fire retardant polymer modified asphalt and surfaced with mineral granules.

Product	Dimensions	Test Specification	Product Description
RUBEROID® Torch Smooth	39.37" (1 meter) wide	ASTM D 6222 ASTM D 5147	Heavy duty, polyester reinforced, asphalt modified bitumen membrane, smooth surface.
RUBEROID® Torch Granule	39.37" (1 meter) wide	ASTM D 6222 ASTM D 5147	Heavy duty, polyester reinforced, asphalt modified bitumen membrane, granule surface.
RUBEROID® Torch Plus (Granule)	39.37" (1 meter) wide	ASTM D 6222 ASTM D 5147	Heavy duty, polyester reinforced, asphalt modified bitumen membrane, granule surface.
RUBEROID® Torch FR	39.37" (1 meter) wide	ASTM D 6222 ASTM D 5147	Heavy duty, polyester reinforced, coated with fire retardant asphalt modified bitumen membrane, granule surface.
RUBEROID® Torch 170 FR	39.37" (1 meter) wide	ASTM D 6222 ASTM D 5147	Heavy duty, polyester reinforced, coated with fire retardant asphalt modified bitumen membrane, granule surface.
RUBEROID® 20	39.37" (1 meter) wide	ASTM D 6163 ASTM D 5147	SBS modified asphalt base sheet reinforce with a glass fiber mat.
RUBEROID® 30	39.37" (1 meter) wide	ASTM D 6163 ASTM D 5147	Non woven fiberglass mat coated with polymer modified asphalt and surfaced with mineral granules.
RUBEROID® 30 FR	39.37" (1 meter) wide	ASTM D 6298 ASTM D 5147	Non woven fiberglass mat coated with fire retardant, polymer modified asphalt and surfaced with mineral granules.
ULTRACLAD® SBS	39.37" (1 meter) wide	ASTM D 6163 ASTM D 5147	Woven fiberglass mat coated with Polymer modified asphalt surfaced with aluminum, copper or stainless steel foil.
RUBEROID® SBS Dual FR	39.37" (1 meter) Wide	ASTM D 6164 ASTM D 5147	Non-woven polyester and fiberglass mat coated with file retardant, polymer-modified asphalt and surfaced with mineral granules.
Metalastic® Expansion Joint Covers	various	proprietary	Flexible expansion joint cover assembly.
M-Weld® Gravel Guard MB	various	proprietary	Metal edge gravel guard with perforated flange.
M-Weld® MDrain	various	proprietary	Spun aluminum or copper roof drain.
M-Weld® M Pan	various	proprietary	A prefabricated pitch pan and modified bitumen flashing assembly.
M-Weld® MScupper	various	proprietary	Prefabricated scupper.
M-Weld® Preflashed Lead Jack	various	proprietary	Pre flashed vent pipe waterproofing assembly.

Product	Dimensions	Test Specification	Product Description
M-Weld® Standard, Adjustable, One Way MVent	various	proprietary	Prefabricated stack cover for use in soil pipe waterproofing.
Vent Stacks (metal and plastic)	various	PA 100(A) ASTM D 1929 ASTM D 635	One-way valve vent used to relieve built-up pressure within the roof system. GAF Vent Stacks are available in metal or plastic.
M-Curb Flashing Detail	various	proprietary	Proprietary flashing detail component for roof penetrations.
Leak Buster™ Matrix™ 304 Non-Fibered Aluminum Roof Coating	5 gallons	ASTM D2824, Type I	Non-fibered. Aluminum pigmented, asphalt roof coating
GAF Built-Up Roofing Asphalt	100 lb. cartons, bulk	ASTM D312, Types I, II, III and IV	Interply mopping and surfacing asphalt
RUBEROID® MOD Asphalt, Asphalt L & Asphalt P	60 lb. kegs	ASTM D-312, Type III or IV	SEBS modified asphalt
Leak Buster™ Matrix™ 602 MB Xtra Elastomeric Roofing Membrane	5 gallons	ASTM D-412 ASTM B-117 ASTM C-794 ASTM G-21 FTMS141.6271 ASTM D-21-96 ASTM D-1475 ASTM E-1644	Surface coating for smooth surfaced and mineral surfaced roofs.
Leak Buster™ Matrix™ 715 MB Elastomeric Roofing Membrane	5 gallons	ASTM D-3412 ASTM D-21-96 ASTM D-1475 ASTM E-1644 ASTM D-6083	Surface coating for smooth surfaced and mineral surfaced roofs.
Leak Buster™ Matrix 531 WeatherCote™ Elastomeric Flashing	5 gallons	proprietary	Surface coating for smooth surfaced and mineral surfaced roofs.
Leak Buster™ Matrix™ 201 Premium SBS Flashing Cement	5 gallons	ASTM D3019	Cold Applied Modified SEBS Asphalt Adhesive – Flashing Grade.
Leak Buster™ Matrix™ 102 SBS Membrane Adhesive	5 gallons	ASTM D3019	Cold Applied Modified SEBS Asphalt Adhesive.
Leak Buster™ Matrix™ 202 SBS Flashing Cement	5 gallons	ASTM D4586	Cold Applied Modified SEBS Asphalt Adhesive – Flashing Grade.
Leak Buster™ Matrix™ 203 Plastic Roof Cement	5 gallons	ASTM D4586	Standard Plastic Asphalt Roofing Cement

Product	Dimensions	Test Specification	Product Description
Leak Buster™ Matrix™ 103 Cold Process Adhesive	5 gallons	ASTM D3019	Cold Applied Asphalt Adhesive.
Leak Buster™ Matrix™ 322 Elastomeric Roof Coating		ASTM D-1653 ASTM D-12 ASTM E-470 ASTM D-6038	Surface coating for smooth surfaced and mineral surfaced roofs.
SeamCote™		proprietary	Elastomeric protective coating.
TOPCOAT® MB+		ASTM D-3412 ASTM D-21-96 ASTM D-1475 ASTM E-1644 ASTM D-6083	Surface coating for smooth surfaced and mineral surfaced roofs.
TOPCOAT® Fireshield Elastomeric Roofing Membrane		ASTM D-3412 ASTM D-21-96 ASTM D-1475 ASTM E-1644 ASTM D-6083	Surface coating for smooth surfaced and mineral surfaced roofs with fire prevention additives.
EnergyCote™ Roof Coating		proprietary	Surface coating for smooth surfaced and mineral surfaced roofs.
TOPCOAT® Surface Seal		ASTM D-412 ASTM B-117 ASTM C-794 ASTM G-21 FTMS141.6271 ASTM D-21-96 ASTM D-1475 ASTM E-1644	Surface coating for smooth surfaced and mineral surfaced roofs.
TOPCOAT® Fireshield SB Solvent Base Elastomeric Roofing Membrane		ASTM D-412 ASTM B-117 ASTM C-794 ASTM G-21 FTMS141.6271 ASTM D-21-96 ASTM D-1475 ASTM E-1644	Surface coating for smooth surfaced and mineral surfaced roofs.

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
EnergyGuard™ RA, RN	Polyisocyanurate foam insulation	GAF Materials Corp.
EnergyGuard™ Composite, RA & RN	Polyisocyanurate foam insulation with high density fiberboard or perlite insulation.	GAF Materials Corp.
EnergyGuard™ Fiberboard	Fiberboard insulation.	GAF Materials Corp.
EnergyGuard™ Perlite	Perlite insulation board.	GAF Materials Corp.
EnergyGuard™ Perlite Cant Strip	Cut perlite board	GAF Materials Corp.
EnergyGuard™ Perlite Recover Board	Perlite recover board	GAF Materials Corp.
EnergyGuard™ Perlite Tapered Edge Strip	Tapered perlite board	GAF Materials Corp.
EnergyGuard™ High Density Fiberboard	High density wood fiberboard insulation.	GAF Materials Corp.
EnergyGuard™ PolyIso, RA	Polyisocyanurate foam insulation	BMCA
EnergyGuard™ Composite, RA	Polyisocyanurate/wood fiberboard or perlite composite	BMCA
Wood Fiber	Wood fiber insulation board	generic
High Density Wood Fiberboard	Wood fiber insulation board	generic
Perlite Insulation	Perlite insulation board	generic
Dens Deck®, Dens Deck Prime™	Water resistant gypsum board	G-P Gypsum Corp.
Structodeck	Wood fiber insulation board	Knight Celotex
DensDeck®	High Density Fire Resistant Insulation Boards	Georgia Pacific
DensDeck® Prime	High Density Fire Resistant Insulation Boards	Georgia Pacific
DensDeck® DureGuard™	High Density Fire Resistant Insulation Boards	Georgia Pacific
SECUROCK®	High Density Fire Resistant Insulation Boards	USG

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	Drill-Tec™ #12 Standard, #14 and #15 extra Heavy Duty Fastener , Heavy Duty Roofing Fastener	Insulation fastener and Base Ply fastener for steel, wood & concrete decks.	various	GAF Materials Corp.
2.	Drill-Tec™ ASAP	Pre-assembled Drill-Tec™ Fasteners and metal and plastic plates.	various	GAF Materials Corp.
3.	Drill-Tec™ CR Base Sheet Fastener and Plate	Base sheet fastening assembly.	various	GAF Materials Corp.
4.	Drill-Tec™ AccuTrac Plate or Drill-Tec™ Steel Plates	Square or Round Galvalume® coated steel plates	Plate Diameter: 3" and 3 ½"	GAF Materials Corp.
5.	Drill-Tec™ Plastic	Round polypropylene stress plates.	Plate Diameter: 3" and 3 ½"	GAF Materials Corp.
6.	NTB Fasteners	Fastener for use in gypsum, tectum and lightweight insulating concrete decks.	various	GAF Materials Corp.
7.	Twin-Loc Fasteners	Base ply fastening systems for lightweight concrete decks.	various	ES Products, Inc.
8.	Drill-Tec™ CD-10	Insulation fastener and Base Ply fastener for concrete decks.	various	GAF Materials Corp.

EVIDENCE SUBMITTED:

Test Agency/Identifier	Name	Report	Date
Factory Mutual Research Corp.	Current Insulation Attachment Requirements	FMRC 1996	01.01.96
	4470	J.I. 0D0A8.AM	07.09.97
	4470	J.I. 2B8A4.AM	07.02.97
	4470	J.I. 3005640	11.09.00
	4470	J.I. 3006845	10.17.00
	4470	J.I. 3005175	05.23.00
	4470	J.I. 3005177	05.19.00
	4470	J.I. 3007500	06.15.00
	4470	J.I. 3008178	12.27.00
	4470	3017250	05.05.04
	4470	J.I. 1B9A8.AM	09.04.97
	4470	J.I. 3D4Q2.AM	04.30.97
	4470	3029832	05.11.07
Independent Roof Testing & Consulting of South Florida	TAS 114, Appendix "J"	No.00001 No.00002	03.30.00
	TAS 114	04-009	01.26.04
Exterior Research & Design, LLC	TAS 114	#4483.04.97-1	06-06-97
	TAS 114	4674.11.01-1	11.21.01
Trinity | ERD	ASTM D 3909	G6850.08.07-1	08.13.07
Underwriters Laboratories, Inc.	UL 790 - TAS 114	R1306, 00NK07638	07.17.00
Atlantic & Caribbean Roof Consulting, LLC	TAS 114-95, Appendix "J"	06-044	11.16.06
	TAS 114-95, Appendix "J"	06-048	12.21.06
	TAS 114-95, Appendix "J"	06-049	12.22.06

APPROVED ASSEMBLIES

Membrane Type: APP/SBS Heat Weld

Deck Type 4I: Lightweight Concrete, Insulated, (See System Limitation)

Deck Description: Cellular or Aggregate Lightweight Concrete

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

All General and System Limitations shall apply.

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
EnergyGuard® PolyIso RA Minimum 1.2" thick	N/A	N/A
EnergyGuard™ PolyIso, RA Minimum 1.3" thick	N/A	N/A
EnergyGuard™ PolyIso Minimum 1.4" thick	N/A	N/A
EnergyGuard™ Composite, EnergyGuard™ Composite, EnergyGuard™ Composite RN, EnergyGuard™ RA Composite, EnergyGuard™ PolyIso RA, RN Minimum 1½" thick	N/A	N/A
EnergyGuard™ RA Minimum 1¾" thick	N/A	N/A
EnergyGuard™ Perlite, Gypsum Board, High Density Fiberboard, EnergyGuard™ Fiberboard Minimum ½" 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. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation panels may be used as a top layer placed with the Polyisocyanurate side facing down.

Anchor Sheet: Install one ply of GAFGLAS® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® STRATAVENT® Eliminator™ Nailable, RUBEROID® Mop Smooth or RUBEROID® 20 mechanically fastened as described below.

Fasteners: Drill-Tec™ CR-Base Sheet Fasteners at a fastener spacing of 9" o.c. at the 2" wide side laps and 9" o.c. in two equally spaced rows in the field of the base sheet.
Or
Drill-Tec™ CR-Base Sheet Fasteners at a fastener spacing of 12" o.c. at the 2" wide side laps and 12" o.c. in three equally spaced rows in the field of the base sheet.

Base Sheet: One ply of RUBEROID® 20, GAFGLAS® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® STRATAVENT Eliminator™ Perforated (laid dry), GAFGLAS® #80 Ultima™ Base Sheet, RUBEROID® Mop Smooth or GAFGLAS® #75 Base Sheet adhered to the insulation in a full mopping of an approved asphalt at an application rate of 25 lbs./sq. ± 15% see General Limitation #4.

Ply Sheet: (Optional, required if used with GAFGLAS® STRATAVENT® Eliminator™ Perforated, laid dry) One or more plies of GAFGLAS® # 75 Base Sheet, GAFGLAS® # 80 Ultima™ Base Sheet, GAFGLAS® Ply 4 or GAFGLAS® FlexPly™ 6, RUBEROID® Mop Smooth or RUBEROID® 20 in an approved asphalt at an application rate of 20-40 lbs./sq.

Membrane: One or more plies of RUBEROID® Torch Smooth, RUBEROID® Torch Granule, RUBEROID® Torch Plus Granule, RUBEROID® Torch 170 FR, or RUBEROID® Torch FR torch applied according to manufacturer's application instructions.
Or,
RUBEROID® SBS Heat-Weld™ Smooth, RUBEROID® SBS Heat-Weld™ FR, RUBEROID® SBS Heat-Weld™ Plus FR, RUBEROID® SBS Heat-Weld™ 25, RUBEROID® SBS Heat-Weld™ Granule, RUBEROID® SBS Heat-Weld™ 170 FR, RUBEROID® SBS Heat-Weld™ Plus FR, ULTRACLAD® SBS or RUBEROID® SBS Dual FR applied according to manufacturer's application instructions.

Surfacing: (Optional, required over RUBEROID® Torch Smooth, RUBEROID® SBS Heat-Weld™ Smooth or RUBEROID® SBS Heat-Weld™ 25) Install one of the following

1. Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq. or applied in a flood coat of Leak Buster™ Matrix™ 103 Cold Process Adhesive applied at a rate of 3 gal./sq.
2. GAFGLAS® Mineral Surfaced Cap Sheet, GAFGLAS® Energy Cap Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3. Leak Buster™ Matrix™ 303 Premium Fibered Aluminum Roof Coating, at 1.5 gal./sq.
4. Leak Buster™ Matrix™ 715 , Leak Buster™ Matrix™ 322, TOPCOAT® MB+, TOPCOAT® Fireshield Elastomeric Roofing Membrane, applied at 1 to 1.5 gal./sq.
5. Leak Buster™ Matrix™ 602 MB Xtra Elastomeric Roofing Membrane, EnergyCote™ roof coating applied at 1 to 1.5 gal./sq.
6. TOPCOAT® Surface Seal, TOPCOAT® Fireshield® SB Solvent based Elastomeric Roofing Membrane applied at 1 to 1.5 gal./sq.
7. Advance Green Technologies Photovoltaic Laminate solar energy collector auxiliary roof equipment installed in compliance with manufacturer's specifications and applicable Building Codes.

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

Membrane Type: SBS

Deck Type 4I: Lightweight Concrete, (See System Limitation)

Deck Description: Cellular or Aggregate Lightweight Concrete

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

All General and System Limitations shall apply.

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft2
EnergyGuard® PolyIso RA Minimum 1.2" thick	N/A	N/A
EnergyGuard™ PolyIso, RA Minimum 1.3" thick	N/A	N/A
EnergyGuard™ PolyIso Minimum 1.4" thick	N/A	N/A
EnergyGuard™ Composite, EnergyGuard™ Composite, EnergyGuard™ Composite RN, EnergyGuard™ RA Composite, EnergyGuard™ PolyIso RA, RN Minimum 1½" thick	N/A	N/A
EnergyGuard™ RA Minimum 1¾" thick	N/A	N/A
EnergyGuard™ Perlite, Gypsum Board, High Density Fiberboard, EnergyGuard™ Fiberboard Minimum ½" 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. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation panels may be used as a top layer placed with the Polyisocyanurate side facing down.

Anchor Sheet: Install one ply of GAFGLAS® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® STRATAVENT® Eliminator™ Nailable, RUBEROID® Mop Smooth or RUBEROID® 20 mechanically fastened as described below.

Fasteners: Drill-Tec™ CR-Base Sheet Fasteners at a fastener spacing of 9" o.c. at the 2" wide side laps and 9" o.c. in two equally spaced rows in the field of the base sheet.
Or
Drill-Tec™ CR-Base Sheet Fasteners at a fastener spacing of 12" o.c. at the 2" wide side laps and 12" o.c. in three equally spaced rows in the field of the base sheet.

Base Sheet: One ply of GAFGLAS® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® STRATAVENT® Eliminator™ Perforated (laid dry), GAFGLAS® #80 Ultima™ Base Sheet, RUBEROID® Mop Smooth, RUBEROID® 20 or GAFGLAS® #75 Base Sheet adhered to the insulation in a full mopping of an approved asphalt at an application rate of 20-40 lbs./sq. See General Limitation #4.

Ply Sheet: (Optional) One or more plies of RUBEROID® 20, RUBEROID® Mop Smooth, GAFGLAS® # 75 Base Sheet, GAFGLAS® # 80 Ultima™ Base Sheet, GAFGLAS® Ply 4 or GAFGLAS® FlexPly™ 6 in an approved asphalt at an application rate of 25 lb./sq. ± 15%.

Membrane: One or more plies of RUBEROID® 20, RUBEROID® 30, RUBEROID® 30 FR RUBEROID® Mop Smooth, RUBEROID® Mop 170 FR, RUBEROID® Mop Granule, RUBEROID® Mop Plus, RUBEROID® Mop FR, ULTRACLAD® SBS or RUBEROID® SBS Dual FR fully adhered in type III or IV of an approved asphalt at an application rate 20-40 lbs./sq. or Matrix 102 at an application rate or 1 gallon/sq.
Or
RUBEROID® SBS Heat-Weld™ Smooth, RUBEROID® SBS Heat-Weld™ FR, RUBEROID® SBS Heat-Weld™ Plus FR, RUBEROID® SBS Heat-Weld™ 25, RUBEROID® SBS Heat-Weld™ Granule, RUBEROID® SBS Heat-Weld™ 170 FR, RUBEROID® SBS Heat-Weld™ Plus FR, or ULTRACLAD® SBS applied according to manufacturer's application instructions.

Surfacing: (Optional, required over RUBEROID® 20 or RUBEROID® Mop Smooth) Install one of the following:

1. Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq. or applied in a flood coat of Leak Buster™ Matrix™ 103 Cold Process Adhesive applied at a rate of 3 gal./sq.
2. GAFGLAS® Mineral Surfaced Cap Sheet, GAFGLAS® Energy Cap Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3. Leak Buster™ Matrix™ 303 Premium Fibered Aluminum Roof Coating, at 1.5 gal./sq.
4. Leak Buster™ Matrix™ 715 , Leak Buster™ Matrix™ 322, TOPCOAT® MB+, TOPCOAT® Fireshield Elastomeric Roofing Membrane, applied at 1 to 1.5 gal./sq.
5. Leak Buster™ Matrix™ 602 MB Xtra Elastomeric Roofing Membrane, EnergyCote™ roof coating applied at 1 to 1.5 gal./sq.
6. TOPCOAT® Surface Seal, TOPCOAT® Fireshield® SB Solvent based Elastomeric Roofing Membrane applied at 1 to 1.5 gal./sq.
7. Advance Green Technologies Photovoltaic Laminate solar energy collector auxiliary roof equipment installed in compliance with manufacturer's specifications and applicable Building Codes.

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

Membrane Type: APP/SBS Heat Weld

Deck Type 4I: Lightweight Concrete, Insulated, (See System Limitation)

Deck Description: Cellular or Aggregate Lightweight Concrete

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

All General and System Limitations shall apply.

One or more layers of any of the following insulations

Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
EnergyGuard™ Composite, EnergyGuard™ Composite A, EnergyGuard™ Composite N, EnergyGuard™ RA Composite, EnergyGuard™ Isotherm RA, Isotherm RN		
Minimum 1½" thick	N/A	N/A
EnergyGuard™ Perlite, Gypsum Board, EnergyGuard™ High Density Fiberboard, EnergyGuard™ Fiberboard		
Minimum ½" 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. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation panels may be used as a top layer placed with the Polyisocyanurate side facing down.

Anchor Sheet: Install one ply of GAFGLAS® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® STRATAVENT® Eliminator™ Nailable, RUBEROID® Mop Smooth or RUBEROID® 20 mechanically fastened as described below.

Fasteners: Drill-Tec™ CR Base Sheet Fasteners at a fastener spacing of 7.5" o.c. at the 3" wide side laps and 7.5" o.c. in two equally spaced rows in the field of the base sheet.

Base Sheet: One ply of RUBEROID® 20, GAFGLAS® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® STRATAVENT® Eliminator™ Perforated (laid dry), GAFGLAS® #80 Ultima™ Base Sheet, RUBEROID® Mop Smooth or GAFGLAS® #75 Base Sheet adhered to the insulation in a full mopping of an approved asphalt at an application rate of 20-40 lbs./sq. or adhered in a strip or spot mopping of an approved asphalt; see General Limitation #4.

Ply Sheet: (Optional, required if used with GAFGLAS® STRATAVENT® Eliminator™ Perforated, laid dry) one or more plies of GAFGLAS® # 75 Base Sheet, GAFGLAS® # 80 Ultima™ Base Sheet, GAFGLAS® Ply 4, GAFGLAS® FlexPly™ 6, RUBEROID® Mop Smooth, or RUBEROID® 20 in an approved asphalt at an application rate of 20-40 lbs./sq.

Membrane: One or more plies of RUBEROID® Torch Smooth, RUBEROID® Torch Granule, RUBEROID® Torch Plus Granule, RUBEROID® Torch 170 FR or RUBEROID® Torch FR torch applied according to manufacturer's application instructions.
Or,
RUBEROID® SBS Heat-Weld™ Smooth, RUBEROID® SBS Heat-Weld™ FR, RUBEROID® SBS Heat-Weld™ Plus FR, RUBEROID® SBS Heat-Weld™ 25, RUBEROID® SBS Heat-Weld™ Granule, RUBEROID® SBS Heat-Weld™ 170 FR, RUBEROID® SBS Heat-Weld™ Plus FR, or ULTRACLAD® SBS applied according to manufacturer's application instructions.

Surfacing: (Optional, required over RUBEROID® Torch Smooth, RUBEROID® SBS Heat-Weld™ 25 or RUBEROID® SBS Heat-Weld™ Smooth) Install one of the following:

1. Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq. or applied in a flood coat of Leak Buster™ Matrix™ 103 Cold Process Adhesive applied at a rate of 3 gal./sq.
2. GAFGLAS® Mineral Surfaced Cap Sheet, GAFGLAS® Energy Cap Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3. Leak Buster™ Matrix™ 303 Premium Fibered Aluminum Roof Coating, at 1.5 gal./sq.
4. Leak Buster™ Matrix™ 715 , Leak Buster™ Matrix™ 322, TOPCOAT® MB+, TOPCOAT® Fireshield Elastomeric Roofing Membrane, applied at 1 to 1.5 gal./sq.
5. Leak Buster™ Matrix™ 602 MB Xtra Elastomeric Roofing Membrane, EnergyCote™ roof coating applied at 1 to 1.5 gal./sq.
6. TOPCOAT® Surface Seal, TOPCOAT® Fireshield® SB Solvent based Elastomeric Roofing Membrane applied at 1 to 1.5 gal./sq.
7. Advance Green Technologies Photovoltaic Laminate solar energy collector auxiliary roof equipment installed in compliance with manufacturer's specifications and applicable Building Codes.

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

Membrane Type: SBS

Deck Type 4I: Lightweight Concrete, Insulated, (See System Limitation)

Deck Description: Cellular or Aggregate Lightweight Concrete

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

All General and System Limitations shall apply.

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
EnergyGuard™ Composite, EnergyGuard™ Composite A, EnergyGuard™ Composite N, EnergyGuard™ RA Composite, EnergyGuard™ Isotherm RA, Isotherm RN		
Minimum 1½" thick	N/A	N/A
EnergyGuard™ Perlite, Gypsum Board, EnergyGuard™ High Density Fiberboard, EnergyGuard™ Fiberboard		
Minimum ½" 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. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation panels may be used as a top layer placed with the Polyisocyanurate side facing down.

Anchor Sheet: Install one ply of GAFGLAS® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® STRATAVENT® Eliminator™ Nailable, RUBEROID® Mop Smooth or RUBEROID® 20 mechanically fastened as described below.

Fasteners: Drill-Tec™ CR Base Sheet Fasteners at a fastener spacing of 7.5" o.c. at the 3" wide side laps and 7.5" o.c. in two equally spaced rows in the field of the base sheet.

Base Sheet: One ply of RUBEROID® 20, GAFGLAS® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® STRATAVENT® Eliminator™ Perforated (laid dry), GAFGLAS® #80 Ultima™ Base Sheet, RUBEROID® Mop Smooth or GAFGLAS® #75 Base Sheet adhered to the insulation in a full mopping of an approved asphalt at an application rate of 25 lbs./sq. ± 15%; see General Limitation #4.

Ply Sheet: (Optional) One or more plies of GAFGLAS® # 75 Base Sheet, GAFGLAS® # 80 Ultima™ Base Sheet, RUBEROID® 20, RUBEROID® Mop Smooth, GAFGLAS® Ply 4 or GAFGLAS® FlexPly™ 6 in an approved asphalt at an application rate of 25 lb./sq. ± 15%.

Membrane: One or more plies of RUBEROID® 20 , RUBEROID® 30, RUBEROID® 30 FR, RUBEROID® Mop Smooth, RUBEROID® Mop 170 FR, RUBEROID® Mop Granule, RUBEROID® Mop Plus, RUBEROID® Mop FR, RUBEROID® SBS Dual FR or ULTRACLAD® SBS, fully adhered in type III or IV of an approved asphalt at an application rate 20-40 lbs./sq. or Matrix 102 at an application rate or 1 gallon/sq.

Or

RUBEROID® SBS Heat-Weld™ Smooth, RUBEROID® SBS Heat-Weld™ FR, RUBEROID® SBS Heat-Weld™ Plus FR, RUBEROID® SBS Heat-Weld™ 25, RUBEROID® SBS Heat-Weld™ Granule, RUBEROID® SBS Heat-Weld™ 170 FR, RUBEROID® SBS Heat-Weld™ Plus FR, or ULTRACLAD® SBS applied according to manufacturer's application instructions.

Surfacing: (Optional, required if RUBEROID® Mop Smooth or RUBEROID® 20 is top membrane) Install one of the following:

1. Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq. or applied in a flood coat of Leak Buster™ Matrix™ 103 Cold Process Adhesive applied at a rate of 3 gal./sq.
2. GAFGLAS® Mineral Surfaced Cap Sheet, GAFGLAS® Energy Cap Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3. Leak Buster™ Matrix™ 303 Premium Fibered Aluminum Roof Coating, at 1.5 gal./sq.
4. Leak Buster™ Matrix™ 715 , Leak Buster™ Matrix™ 322, TOPCOAT® MB+, TOPCOAT® Fireshield Elastomeric Roofing Membrane, applied at 1 to 1.5 gal./sq.
5. Leak Buster™ Matrix™ 602 MB Xtra Elastomeric Roofing Membrane, EnergyCote™ roof coating applied at 1 to 1.5 gal./sq.
6. TOPCOAT® Surface Seal, TOPCOAT® Fireshield® SB Solvent based Elastomeric Roofing Membrane applied at 1 to 1.5 gal./sq.
7. Advance Green Technologies Photovoltaic Laminate solar energy collector auxiliary roof equipment installed in compliance with manufacturer's specifications and applicable Building Codes.

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

Membrane Type: SBS Heat Weld

Deck Type 4I: Lightweight Concrete, Insulated, (See System Limitation)

Deck Description: Cellular or Aggregate Lightweight Concrete

System Type D: Base Sheet mechanically fastened through one or more layers of loose laid insulation.

All General and System Limitations shall apply.

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft2
EnergyGuard® PolyIso RA Minimum 1.2" thick	N/A	N/A
EnergyGuard™ PolyIso, RA Minimum 1.3" thick	N/A	N/A
EnergyGuard™ PolyIso Minimum 1.4" thick	N/A	N/A
EnergyGuard™ Composite, EnergyGuard™ Composite, EnergyGuard™ Composite RN, EnergyGuard™ RA Composite, EnergyGuard™ PolyIso RA, RN Minimum 1½" thick	N/A	N/A
EnergyGuard™ RA Minimum 1¾" thick	N/A	N/A
EnergyGuard™ Perlite, Gypsum Board, High Density Fiberboard, EnergyGuard™ Fiberboard Minimum ½" thick	N/A	N/A

Separator Sheet: Required between the rigid insulation boards and the lightweight insulating concrete deck. Install one of the following products loose laid: GAFGLAS® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® STRATAVENT® Eliminator™ Nailable, or 20 mil polyethylene sheet.

Base Sheet: Install one ply of RUBEROID® SBS Heat-Weld™ Smooth, RUBEROID® SBS Heat-Weld™ 25 mechanically fastened through insulation as described below.

Fasteners: Drill-Tec™ #12 fastener for steel, Drill-Tec™ #14 fastener for structural concrete with Drill-Tec™ 2" Barbed metal plate. Screws and Plates are placed through 4" wide bottom lap spaced at 12" o.c., lap is then torched sealed.

Ply Sheet: (Optional) One ply RUBEROID® SBS Heat-Weld™ Smooth, RUBEROID® SBS Heat-Weld™ 25

Membrane: RUBEROID® SBS Heat-Weld™ Smooth, RUBEROID® SBS Heat-Weld™ FR, RUBEROID® SBS Heat-Weld™ Plus FR, RUBEROID® SBS Heat-Weld™ 25, RUBEROID® SBS Heat-Weld™ Granule, RUBEROID® SBS Heat-Weld™ 170 FR, or RUBEROID® SBS Heat-Weld™ Plus FR applied according to manufacturer's application instructions.

Surfacing: (Optional, required over RUBEROID® SBS Heat-Weld™ 25 or RUBEROID® SBS Heat-Weld™ Smooth) Install one of the following:

1. Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq. or applied in a flood coat of Leak Buster™ Matrix™ 103 Cold Process Adhesive applied at a rate of 3 gal./sq.
2. GAFGLAS® Mineral Surfaced Cap Sheet, GAFGLAS® Energy Cap Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3. Leak Buster™ Matrix™ 303 Premium Fibered Aluminum Roof Coating, at 1.5 gal./sq.
4. Leak Buster™ Matrix™ 715 , Leak Buster™ Matrix™ 322, TOPCOAT® MB+, TOPCOAT® Fireshield Elastomeric Roofing Membrane, applied at 1 to 1.5 gal./sq.
5. Leak Buster™ Matrix™ 602 MB Xtra Elastomeric Roofing Membrane, EnergyCote™ roof coating applied at 1 to 1.5 gal./sq.
6. TOPCOAT® Surface Seal, TOPCOAT® Fireshield® SB Solvent based Elastomeric Roofing Membrane applied at 1 to 1.5 gal./sq.
7. Advance Green Technologies Photovoltaic Laminate solar energy collector auxiliary roof equipment installed in compliance with manufacturer's specifications and applicable Building Codes.

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

Membrane Type: APP/SBS Heat Weld

Deck Type 4I: Lightweight Concrete, Non-insulated, (See System Limitations)

Deck Description: Cellular or aggregate lightweight concrete

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

All General and System Limitations shall apply.

Base Sheet: Install one ply of GAFGLAS® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® STRATAVENT® Eliminator™ Nailable, RUBEROID® Mop Smooth or RUBEROID® 20 mechanically fastened as described below.

Fastening Options: Drill-Tec™ CR Base Sheet Fasteners at a fastener spacing of 9" o.c. at the 2" wide side laps and 9" o.c. in two equally spaced rows in the field of the base sheet.
(Maximum Design Pressure -45 psf, See General Limitation #7)

Drill-Tec™ CR Base Sheet Fasteners at a fastener spacing of 12" o.c. at the 2" wide side laps and 9" o.c. in three equally spaced rows in the field of the base sheet.
(Maximum Design Pressure -45 psf, See General Limitation #7)

ES Products Twin Loc-Nail at a fastener spacing of 9" o.c. at the 4" wide side laps and 9" o.c. in two equally spaced rows in the field of the base sheet.
(Maximum Design Pressure -60 psf, See General Limitation #7)

Drill-Tec™ CR Base Sheet Fasteners at a fastener spacing of 7.5" o.c. at the 3" wide side laps and 7.5" o.c. in two equally spaced rows in the field of the base sheet.
(Maximum Design Pressure -75 psf, See General Limitation #7)

Ply Sheet: (Optional) One ply RUBEROID® SBS Heat-Weld™ Smooth, RUBEROID® SBS Heat-Weld™ 25

Membrane: One or more plies of RUBEROID® Torch Smooth, RUBEROID® Torch Granule, RUBEROID® Torch Plus Granule, RUBEROID® Torch FR or RUBEROID® Torch 170 FR torch applied according to manufacturer's application instructions.
Or,
RUBEROID® SBS Heat-Weld™ Smooth, RUBEROID® SBS Heat-Weld™ FR, RUBEROID® SBS Heat-Weld™ Plus FR, RUBEROID® SBS Heat-Weld™ 25, RUBEROID® SBS Heat-Weld™ Granule, RUBEROID® SBS Heat-Weld™ 170 FR, RUBEROID® SBS Heat-Weld™ Plus FR, ULTRACLAD® SBS or SBS Dual FR applied according to manufacturer's application instructions.

Surfacing: (Optional, required over RUBEROID® Torch Smooth, RUBEROID® SBS Heat-Weld™ Smooth or RUBEROID® SBS Heat-Weld™ 25) Install one of the following:

1. Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq. or applied in a flood coat of Leak Buster™ Matrix™ 103 Cold Process Adhesive applied at a rate of 3 gal./sq.
2. GAFGLAS® Mineral Surfaced Cap Sheet, GAFGLAS® Energy Cap Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3. Leak Buster™ Matrix™ 303 Premium Fibered Aluminum Roof Coating, at 1.5 gal./sq.
4. Leak Buster™ Matrix™ 715 , Leak Buster™ Matrix™ 322, TOPCOAT® MB+, TOPCOAT® Fireshield Elastomeric Roofing Membrane, applied at 1 to 1.5 gal./sq.
5. Leak Buster™ Matrix™ 602 MB Xtra Elastomeric Roofing Membrane, EnergyCote™ roof coating applied at 1 to 1.5 gal./sq.
6. TOPCOAT® Surface Seal, TOPCOAT® Fireshield® SB Solvent based Elastomeric Roofing Membrane applied at 1 to 1.5 gal./sq.
7. Advance Green Technologies Photovoltaic Laminate solar energy collector auxiliary roof equipment installed in compliance with manufacturer's specifications and applicable Building Codes.

Maximum Design Pressure: See Fastening Options Above

Membrane Type: SBS – Hot Asphalt Applied or Cold Applied Matrix Adhesive

Deck Type 4: Lightweight Concrete, Non-insulated (See System Limitation)

Deck Description: Cellular or aggregate lightweight concrete

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

All General and System Limitations shall apply.

Base Sheet: Install one ply of GAFGLAS® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® STRATAVENT® Eliminator™ Nailable, RUBEROID® Mop Smooth or RUBEROID® 20 mechanically fastened as described below.

Fastening Options: Drill-Tec™ CR Base Sheet Fasteners at a fastener spacing of 9" o.c. at the 2" wide side laps and 9" o.c. in two equally spaced rows in the field of the base sheet.
(Maximum Design Pressure -45 psf, See General Limitation #7)

Drill-Tec™ CR Base Sheet Fasteners at a fastener spacing of 12" o.c. at the 2" wide side laps and 9" o.c. in three equally spaced rows in the field of the base sheet.
(Maximum Design Pressure -45 psf, See General Limitation #7)

ES Products Twin Loc-Nail at a fastener spacing of 9" o.c. at the 4" wide side laps and 9" o.c. in two equally spaced rows in the field of the base sheet.
(Maximum Design Pressure -60 psf, See General Limitation #7)

Drill-Tec™ CR Base Sheet Fasteners at a fastener spacing of 7.5" o.c. at the 3" wide side laps and 7.5" o.c. in two equally spaced rows in the field of the base sheet.
(Maximum Design Pressure -75 psf, See General Limitation #7)

Ply Sheet: (Optional) One or more plies of RUBEROID® 20, GAFGLAS® Ply 4, GAFGLAS® FlexPly™ 6 , RUBEROID® Mop Smooth, GAFGLAS® # 75 Base Sheet or GAFGLAS® # 80 Ultima™ Base Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or Leak Buster™ Matrix™ 102 SBS Membrane Adhesive at 1 to 2 gal./sq.

Membrane: One or more plies of RUBEROID® Mop Smooth, RUBEROID® Mop 170 FR, RUBEROID® Mop Granule, RUBEROID® 20, RUBEROID® Mop Plus Granule, RUBEROID® 30 or RUBEROID® 30 FR, RUBEROID® Mop FR or ULTRACLAD® SBS (adhered in hot asphalt only) adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with Leak Buster™ Matrix™ 102 SBS Membrane Adhesive at 1 to 2 gal./sq.
Or
RUBEROID® SBS Heat-Weld™ Smooth, RUBEROID® SBS Heat-Weld™ FR, RUBEROID® SBS Heat-Weld™ Plus FR, RUBEROID® SBS Heat-Weld™ 25, RUBEROID® SBS Heat-Weld™ Granule, RUBEROID® SBS Heat-Weld™ 170 FR, RUBEROID® SBS Heat-Weld™ Plus FR, or ULTRACLAD® SBS applied according to manufacturer's application instructions.

Surfacing: (Optional, required if RUBEROID® Mop Smooth or RUBEROID® 20 is top membrane) Install one of the following:

1. Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq. or applied in a flood coat of Leak Buster™ Matrix™ 103 Cold Process Adhesive applied at a rate of 3 gal./sq.
2. GAFGLAS® Mineral Surfaced Cap Sheet, GAFGLAS® Energy Cap Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3. Leak Buster™ Matrix™ 303 Premium Fibered Aluminum Roof Coating, at 1.5 gal./sq.
4. Leak Buster™ Matrix™ 715 , Leak Buster™ Matrix™ 322, TOPCOAT® MB+, TOPCOAT® Fireshield Elastomeric Roofing Membrane, applied at 1 to 1.5 gal./sq.
5. Leak Buster™ Matrix™ 602 MB Xtra Elastomeric Roofing Membrane, EnergyCote™ roof coating applied at 1 to 1.5 gal./sq.
6. TOPCOAT® Surface Seal, TOPCOAT® Fireshield® SB Solvent based Elastomeric Roofing Membrane applied at 1 to 1.5 gal./sq.
7. Advance Green Technologies Photovoltaic Laminate solar energy collector auxiliary roof equipment installed in compliance with manufacturer's specifications and applicable Building Codes.

Maximum Design Pressure: See Fastening Options Above

Membrane Type: APP / SBS HEAT WELD

Deck Type 4: Lightweight Concrete, Non-insulated, (See System Limitation)

Deck Description: Mearlcrete Cellular Lightweight Insulating concrete

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

All General and System Limitations shall apply.

Base Sheet: Install one ply of GAFGLAS® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® STRATAVENT® Eliminator™ Nailable, RUBEROID® Mop Smooth or RUBEROID® 20 mechanically fastened as described below.

Fasteners: Drill-Tec™ CR Base Sheet Fasteners at a fastener spacing of 7" o.c. at the 3" wide side laps and 7" o.c. in two equally spaced rows in the field of the base sheet.

Ply Sheet: (Optional, required when using RUBEROID® 20 or RUBEROID® Mop Smooth) one or more plies of GAFGLAS® # 75 Base Sheet, GAFGLAS® # 80 Ultima™ Base Sheet, GAFGLAS® Ply 4 or GAFGLAS® FlexPly™ 6 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: One or more plies of RUBEROID® Torch Smooth, RUBEROID® Torch Granule, RUBEROID® Torch Plus Granule, RUBEROID® Torch 170 FR or RUBEROID® Torch FR torch applied according to manufacturer's application instructions.
Or,
RUBEROID® SBS Heat-Weld™ Smooth, RUBEROID® SBS Heat-Weld™ FR, RUBEROID® SBS Heat-Weld™ Plus FR, RUBEROID® SBS Heat-Weld™ 25, RUBEROID® SBS Heat-Weld™ Granule, RUBEROID® SBS Heat-Weld™ 170 FR, RUBEROID® SBS Heat-Weld™ Plus FR, or ULTRACLAD® SBS applied according to manufacturer's application instructions.

Surfacing: (Optional, required over RUBEROID® Torch Smooth, RUBEROID® SBS Heat-Weld™ 25 or RUBEROID® SBS Heat-Weld™ Smooth) Install one of the following:

1. Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq. or applied in a flood coat of Leak Buster™ Matrix™ 103 Cold Process Adhesive applied at a rate of 3 gal./sq.
2. GAFGLAS® Mineral Surfaced Cap Sheet, GAFGLAS® Energy Cap Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3. Leak Buster™ Matrix™ 303 Premium Fibered Aluminum Roof Coating, at 1.5 gal./sq.
4. Leak Buster™ Matrix™ 715 , Leak Buster™ Matrix™ 322, TOPCOAT® MB+, TOPCOAT® Fireshield Elastomeric Roofing Membrane, applied at 1 to 1.5 gal./sq.
5. Leak Buster™ Matrix™ 602 MB Xtra Elastomeric Roofing Membrane, EnergyCote™ roof coating applied at 1 to 1.5 gal./sq.
6. TOPCOAT® Surface Seal, TOPCOAT® Fireshield® SB Solvent based Elastomeric Roofing Membrane applied at 1 to 1.5 gal./sq.
7. Advance Green Technologies Photovoltaic Laminate solar energy collector auxiliary roof equipment installed in compliance with manufacturer's specifications and applicable Building Codes.

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

Membrane Type: SBS – Hot Asphalt Applied or Cold Applied Leak Buster™ Matrix™ Adhesive

Deck Type 4: Lightweight Concrete, Non-insulated (See Systems Limitations)

Deck Description: Mearlcrete Cellular Lightweight Insulating Concrete

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

All General and System Limitations shall apply.

Base Sheet: Install one ply of GAFGLAS® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® STRATAVENT® Eliminator™ Nailable, RUBEROID® Mop Smooth or RUBEROID® 20 mechanically fastened as described below.

Fasteners: Drill-Tec™ CR Base Sheet Fasteners at a fastener spacing of 9" o.c. at the 2" wide side laps and 9" o.c. in two equally spaced rows in the field of the base sheet.

Ply Sheet: (Optional) One or more plies of RUBEROID® 20, GAFGLAS® Ply 4, GAFGLAS® FlexPly™ 6 , RUBEROID® Mop Smooth, GAFGLAS® # 75 Base Sheet or GAFGLAS® # 80 Ultima™ Base Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or Leak Buster™ Matrix™ 102 SBS Membrane Adhesive at 1 to 2 gal./sq.

Membrane: One or more plies of RUBEROID® Mop Smooth, RUBEROID® Mop 170 FR, RUBEROID® Mop Granule, RUBEROID® 20, RUBEROID® Mop Plus Granule, RUBEROID® 30 or RUBEROID® 30 FR or RUBEROID® Mop FR or ULTRACLAD® SBS (adhered in hot asphalt only) adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with Leak Buster™ Matrix™ 102 SBS Membrane Adhesive at 1 to 2 gal./sq.
Or
RUBEROID® SBS Heat-Weld™ Smooth, RUBEROID® SBS Heat-Weld™ FR, RUBEROID® SBS Heat-Weld™ Plus FR, RUBEROID® SBS Heat-Weld™ 25, RUBEROID® SBS Heat-Weld™ Granule, RUBEROID® SBS Heat-Weld™ 170 FR, RUBEROID® SBS Heat-Weld™ Plus FR, or ULTRACLAD® SBS applied according to manufacturer's application instructions.

Surfacing: (Optional, required if RUBEROID® Mop Smooth or RUBEROID® 20 is top membrane) Install one of the following:

1. Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq. or applied in a flood coat of Leak Buster™ Matrix™ 103 Cold Process Adhesive applied at a rate of 3 gal./sq.
2. GAFGLAS® Mineral Surfaced Cap Sheet, GAFGLAS® Energy Cap Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3. Leak Buster™ Matrix™ 303 Premium Fibered Aluminum Roof Coating, at 1.5 gal./sq.
4. Leak Buster™ Matrix™ 715, Leak Buster™ Matrix™ 322, TOPCOAT® MB+, TOPCOAT® Fireshield Elastomeric Roofing Membrane, applied at 1 to 1.5 gal./sq.
5. Leak Buster™ Matrix™ 602 MB Xtra Elastomeric Roofing Membrane, EnergyCote™ roof coating applied at 1 to 1.5 gal./sq.
6. TOPCOAT® Surface Seal, TOPCOAT® Fireshield® SB Solvent based Elastomeric Roofing Membrane applied at 1 to 1.5 gal./sq.
7. Advance Green Technologies Photovoltaic Laminate solar energy collector auxiliary roof equipment installed in compliance with manufacturer's specifications and applicable Building Codes.

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

Membrane Type: SBS/SBS Heat -Weld

Deck Type 4: Elastizell Cellular lightweight concrete (See System Limitation)

Deck Description: Structural concrete min 2500 psi or min. 22 ga. steel deck placed over 0.25 in. thick structural steel supports spaced max. 6 ft o.c. attached with 5/8" puddle welds and washers spaced max. 6 in. o.c. at every flute. Side laps secured with #10 TEK screws fastened at a max. of 18 in o.c.

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

All General and System Limitations shall apply.

Base Sheet: Install one ply of GAFGLAS® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® STRATAVENT® Eliminator™ Nailable, RUBEROID® Mop Smooth or RUBEROID® 20 mechanically fastened as described below.

Fasteners: Drill-Tec™ CR Base Sheet Fasteners, spaced one row 7" o.c. in the 3" wide side laps and 7" o.c. in two equally spaced rows in the field of the sheet.

Ply Sheet: (Optional) One or more plies of RUBEROID® SBS Heat-Weld™ Smooth or RUBEROID® SBS Heat-Weld™ 25 torched applied.

Or

(Optional) One or more plies of GAFGLAS® # 75 Base Sheet, GAFGLAS® # 80 Ultima™ Base Sheet, RUBEROID® Mop Smooth, RUBEROID® 20, GAFGLAS® Ply 4, GAFGLAS® FlexPly™ 6 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: One or more plies of RUBEROID® Mop Smooth, RUBEROID® Mop 170 FR, RUBEROID® Mop Granule, RUBEROID® Mop Plus Granule, RUBEROID® 20, RUBEROID® 30, RUBEROID® 30 FR, RUBEROID® Mop FR ULTRACLAD® SBS or RUBEROID® SBS Dual FR in adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or Matrix™ 102 SBS Membrane Adhesive at 1 to 2 gal./sq.

Or

RUBEROID® SBS Heat-Weld™ Smooth, RUBEROID® SBS Heat-Weld™ FR, RUBEROID® SBS Heat-Weld™ Plus FR, RUBEROID® SBS Heat-Weld™ 25, RUBEROID® SBS Heat-Weld™ Granule, RUBEROID® SBS Heat-Weld™ 170 FR, RUBEROID® SBS Heat-Weld™ Plus FR, or ULTRACLAD® SBS applied according to manufacturer's application instructions.

Surfacing: (Optional, required over RUBEROID® 20, RUBEROID® Mop Smooth, RUBEROID® SBS Heat-Weld™ 25 or RUBEROID® SBS Heat-Weld™ Smooth) Install one of the following:

1. Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq. or applied in a flood coat of Leak Buster™ Matrix™ 103 Cold Process Adhesive applied at a rate of 3 gal./sq.
2. GAFGLAS® Mineral Surfaced Cap Sheet, GAFGLAS® Energy Cap Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3. Leak Buster™ Matrix™ 303 Premium Fibered Aluminum Roof Coating, at 1.5 gal./sq.
4. Leak Buster™ Matrix™ 715 , Leak Buster™ Matrix™ 322, TOPCOAT® MB+, TOPCOAT® Fireshield Elastomeric Roofing Membrane, applied at 1 to 1.5 gal./sq.
5. Leak Buster™ Matrix™ 602 MB Xtra Elastomeric Roofing Membrane, EnergyCote™ roof coating applied at 1 to 1.5 gal./sq.
6. TOPCOAT® Surface Seal, TOPCOAT® Fireshield® SB Solvent based Elastomeric Roofing Membrane applied at 1 to 1.5 gal./sq.
7. Advance Green Technologies Photovoltaic Laminate solar energy collector auxiliary roof equipment installed in compliance with manufacturer's specifications and applicable Building Codes.

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

Membrane Type: SBS/SBS Heat- Weld

Deck Type 4: Elastizell Cellular lightweight concrete (See System Limitation)

Deck Description: Structural concrete min 2500 psi or min. 22 ga. steel deck placed over 0.25 in. thick structural steel supports spaced max. 5 ft o.c. attached with 5/8" puddle welds and washers spaced max. 6 in. o.c. at every flute. Side laps secured with #10 TEK screws fastened at a max. of 24 in o.c.

System Type E(6): Base sheet mechanically attached.

All General and System Limitations shall apply.

(Optional) Fireboard min ¼" DensDeck™ or minimum ¼" Securock® loose laid.

Base Sheet: Install one ply of RUBEROID® SBS Heat-Weld™ Smooth, RUBEROID® SBS Heat-Weld™ Granule, RUBEROID® Mop Smooth, RUBEROID® Mop Granule (Inverted) with granular surfaced face down against the deck with 4" heat welded side lap, mechanically fastened as described below.

Fasteners: Drill-Tec™ #12 fastener for steel, Drill-Tec™ #14 fastener for structural concrete, with Drill-Tec™ 3"steel plate, or Drill-Tec™ 3"AccuTrac steel plate fastened 12"o.c. in the 4" heat welded side lap and screwed through the lightweight concrete into the structural deck. With two additional rows of fasteners spaced 12" o.c. in the field of the sheet.

Ply Sheet: (Optional) RUBEROID® SBS Heat-Weld™ Smooth, RUBEROID® SBS Heat-Weld™ 25 torched applied, RUBEROID® Mop Smooth or RUBEROID® 20 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: RUBEROID® SBS Heat-Weld™ Smooth, RUBEROID® SBS Heat-Weld™ FR, RUBEROID® SBS Heat-Weld™ Plus FR, RUBEROID® SBS Heat-Weld™ 25, RUBEROID® SBS Heat-Weld™ Granule, RUBEROID® SBS Heat-Weld™ 170 FR, RUBEROID® SBS Heat-Weld™ Plus FR, or ULTRACLAD® SBS applied according to manufacturer's application instructions.

Or

One or more plies of RUBEROID® Mop Smooth, RUBEROID® Mop 170 FR, RUBEROID® Mop Granule, RUBEROID® Mop Plus Granule, RUBEROID® 30 or RUBEROID® 30 FR, RUBEROID® 20, RUBEROID® Mop FR, RUBEROID® Dual FR or ULTRACLAD® SBS in adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or Matrix™ 102 SBS Membrane Adhesive at 1 gal./sq.

Surfacing: (Optional, required over RUBEROID® 20, RUBEROID® Mop Smooth, RUBEROID® SBS Heat-Weld™ 25 or RUBEROID® SBS Heat-Weld™ Smooth) Install one of the following:

1. Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq. or applied in a flood coat of Leak Buster™ Matrix™ 103 Cold Process Adhesive applied at a rate of 3 gal./sq.
2. GAFGLAS® Mineral Surfaced Cap Sheet, GAFGLAS® Energy Cap Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3. Leak Buster™ Matrix™ 303 Premium Fibered Aluminum Roof Coating, at 1.5 gal./sq.
4. Leak Buster™ Matrix™ 715 , Leak Buster™ Matrix™ 322, TOPCOAT® MB+, TOPCOAT® Fireshield Elastomeric Roofing Membrane, applied at 1 to 1.5 gal./sq.
5. Leak Buster™ Matrix™ 602 MB Xtra Elastomeric Roofing Membrane, EnergyCote™ roof coating applied at 1 to 1.5 gal./sq.
6. TOPCOAT® Surface Seal, TOPCOAT® Fireshield® SB Solvent based Elastomeric Roofing Membrane applied at 1 to 1.5 gal./sq.
7. Advance Green Technologies Photovoltaic Laminate solar energy collector auxiliary roof equipment installed in compliance with manufacturer's specifications and applicable Building Codes.

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

Membrane Type: SBS

Deck Type 4: Elastizell (II Special Mix) min 350 psi. mix, with Zell-Crete fibers and Zell-Erator curing sealer.

Deck Description: Structural concrete 2500 psi or Min. 22 ga. steel deck placed over 0.25 in. thick structural steel supports spaced max. 5 ft o.c. attached with 5/8" puddle welds and washers spaced max. 5 in. o.c. at every flute. Side laps shall be secured with #10 TEK screws fastened at a max. spacing of 15 in. o.c.

System Type E(7): Base sheet Spot attached.

All General and System Limitations shall apply.

Primed Deck: Deck is primed with ASTM D

Base Sheet: Install one ply of GAFGLAS® STRATAVENT® Eliminator™ Perforated laid Dry over deck.

Ply Sheet: (Optional) one or more plies of RUBEROID® 20, RUBEROID® Mop Smooth, GAFGLAS® Ply 4 or GAFGLAS® FlexPly™ 6 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: One or more plies of RUBEROID® Mop Smooth, RUBEROID® Mop 170 FR, RUBEROID® Mop Granule, RUBEROID® Mop Plus Granule, RUBEROID® 20, RUBEROID® 30, RUBEROID® 30 FR, RUBEROID® Mop FR, RUBEROID® SBS Dual FR or ULTRACLAD® SBS in adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: (Optional, required if RUBEROID® Mop Smooth or RUBEROID® 20 is top membrane) Install one of the following:

1. Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq. or applied in a flood coat of Leak Buster™ Matrix™103 Cold Process Adhesive applied at a rate of 3 gal./sq.
2. GAFGLAS® Mineral Surfaced Cap Sheet, GAFGLAS® Energy Cap Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3. Leak Buster™ Matrix™ 303 Premium Fibered Aluminum Roof Coating, at 1.5 gal./sq.
4. Leak Buster™ Matrix™ 715 , Leak Buster™ Matrix™ 322, TOPCOAT® MB+, TOPCOAT® Fireshield Elastomeric Roofing Membrane, applied at 1 to 1.5 gal./sq.
5. Leak Buster™ Matrix™ 602 MB Xtra Elastomeric Roofing Membrane, EnergyCote™roof coating applied at 1 to 1.5 gal./sq.
6. TOPCOAT® Surface Seal, TOPCOAT® Fireshield® SB Solvent based Elastomeric Roofing Membrane applied at 1 to 1.5 gal./sq.
7. Advance Green Technologies Photovoltaic Laminate solar energy collector auxiliary roof equipment installed in compliance with manufacturer's specifications and applicable Building Codes.

Maximum Design Pressure: -112.5 psf (See General Limitation #9)

Membrane Type: SBS

Deck Type 4: Lightweight Concrete, Non-insulated

Deck Description: Celcore Lightweight Insulating Concrete

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

Deck : Structural concrete 2500 psi or Min. 22 ga., Type B steel decking over ¼" thick steel supports spaced max. 6 ft o.c. attached 6" o.c. using min. 5/8" diameter puddle welds with washers or Traxx/5 fasteners. Deck side laps are attached 24" o.c. using Traxx/1 fasteners. Steel deck is covered with a Celcore lightweight concrete pour consisting of a 1/8" slurry coat, min. 2" thick Holey Board and a min. 2" thick top coat.

All General and System Limitations shall apply.

Base Sheet: Install one ply of GAFGLAS® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® STRATAVENT® Eliminator™ Nailable, RUBEROID® Mop Smooth or RUBEROID® 20 mechanically fastened as described below.

Fasteners: Drill-Tec™ CR 1.2 Base Sheet Fasteners and plates fastened at a spacing of 7" o.c. at the 3" wide side laps and 7" o.c. in two equally spaced rows in the field of the base sheet.

Ply Sheet: (Optional) one or more plies of RUBEROID® Mop Smooth, RUBEROID® 20, GAFGLAS® Ply 4, GAFGLAS® FlexPly™ 6 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: One or more plies of RUBEROID® Mop Smooth, RUBEROID® Mop 170 FR, RUBEROID® Mop Granule, RUBEROID® 20, RUBEROID® Mop Plus Granule, RUBEROID® 30 or RUBEROID® 30 FR, RUBEROID® Mop FR or ULTRACLAD® SBS adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or Matrix™ 102 SBS Membrane Adhesive at 1 to 2 gal./sq.

Or

RUBEROID® SBS Heat-Weld™ Smooth, RUBEROID® SBS Heat-Weld™ FR, RUBEROID® SBS Heat-Weld™ Plus FR, RUBEROID® SBS Heat-Weld™ 25, RUBEROID® Heat-Weld™ Granule, RUBEROID® SBS Heat-Weld™ 170 FR, RUBEROID® SBS Heat-Weld™ Plus FR, or ULTRACLAD® SBS applied according to manufacturer's application instructions.

Surfacing: (Optional, required if RUBEROID® Mop Smooth or RUBEROID® 20 is top membrane) Install one of the following:

1. Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq. or applied in a flood coat of Leak Buster™ Matrix™ 103 Cold Process Adhesive applied at a rate of 3 gal./sq.
2. GAFGLAS® Mineral Surfaced Cap Sheet, GAFGLAS® Energy Cap Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3. Leak Buster™ Matrix™ 303 Premium Fibered Aluminum Roof Coating, at 1.5 gal./sq.
4. Leak Buster™ Matrix™ 715 , Leak Buster™ Matrix™ 322, TOPCOAT® MB+, TOPCOAT® Fireshield Elastomeric Roofing Membrane, applied at 1 to 1.5 gal./sq.
5. Leak Buster™ Matrix™ 602 MB Xtra Elastomeric Roofing Membrane, EnergyCote™ roof coating applied at 1 to 1.5 gal./sq.
6. TOPCOAT® Surface Seal, TOPCOAT® Fireshield® SB Solvent based Elastomeric Roofing Membrane applied at 1 to 1.5 gal./sq.
7. Advance Green Technologies Photovoltaic Laminate solar energy collector auxiliary roof equipment installed in compliance with manufacturer's specifications and applicable Building Codes.

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

Membrane Type: SBS – Heat Weld

Deck Type 4: Lightweight Concrete, (See System Limitation)

Deck Description: Cellular or aggregate lightweight concrete

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

All General and System Limitations shall apply.

Base Sheet: Install one ply of GAFGLAS® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® STRATAVENT® Eliminator™ Nailable, RUBEROID® Mop Smooth or RUBEROID® 20 mechanically fastened as described below.

Fasteners: Drill-Tec™ CR Base Sheet Fasteners at a fastener spacing of 9" o.c. at the 2" wide side laps and 9" o.c. in two equally spaced rows in the field of the base sheet.
(Maximum Design Pressure -45 psf, See General Limitation #7)

Drill-Tec™ CR Base Sheet Fasteners at a fastener spacing of 7" o.c. at the 3" wide side laps and 7" o.c. in two equally spaced rows in the field of the base sheet.
(Maximum Design Pressure -75 psf, See General Limitation #7)

Ply Sheet: (Optional) RUBEROID® SBS Heat-Weld™ Smooth or RUBEROID® SBS Heat-Weld™ 25.

Membrane: RUBEROID® SBS Heat-Weld™ Smooth, RUBEROID® SBS Heat-Weld™ FR, RUBEROID® SBS Heat-Weld™ Plus FR, RUBEROID® SBS Heat-Weld™ 25, RUBEROID® SBS Heat-Weld™ Granule, RUBEROID® SBS Heat-Weld™ 170 FR, RUBEROID® SBS Heat-Weld™ Plus FR or ULTRACLAD® SBS applied according to manufacturer's application instructions.

Surfacing: (Optional, required over RUBEROID® SBS Heat-Weld™ 25 or RUBEROID® SBS Heat-Weld™ Smooth) Install one of the following:

1. Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq. or applied in a flood coat of Leak Buster™ Matrix™ 103 Cold Process Adhesive applied at a rate of 3 gal./sq.
2. GAFGLAS® Mineral Surfaced Cap Sheet, GAFGLAS® Energy Cap Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3. Leak Buster™ Matrix™ 303 Premium Fibered Aluminum Roof Coating, at 1.5 gal./sq.
4. Leak Buster™ Matrix™ 715 , Leak Buster™ Matrix™ 322, TOPCOAT® MB+, TOPCOAT® Fireshield Elastomeric Roofing Membrane, applied at 1 to 1.5 gal./sq.
5. Leak Buster™ Matrix™ 602 MB Xtra Elastomeric Roofing Membrane, EnergyCote™roof coating applied at 1 to 1.5 gal./sq.
6. TOPCOAT® Surface Seal, TOPCOAT® Fireshield® SB Solvent based Elastomeric Roofing Membrane applied at 1 to 1.5 gal./sq.
7. Advance Green Technologies Photovoltaic Laminate solar energy collector auxiliary roof equipment installed in compliance with manufacturer's specifications and applicable Building Codes.

Maximum Design Pressure: See Fastening Options Above

Membrane Type: SBS

Deck Type 4: Lightweight Concrete, Non-insulated

Deck Description: Elastizel Lightweight Insulating Concrete with min. compressive strength of 250 psi, ¼" thick slurry of Elastizel Lightweight Insulating Concrete was poured over the deck. A layer of EPS Dyplast with a density of 1.0 lb was firmly pressed over the slurry. Elastizel lightweight insulating concrete was poured over the EPS Board to a thickness of 2" minimum.

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

Deck : Structural concrete 2500 psi or 22 gauge vented metal deck, 1.5" type "B" mechanically fastened to steel channel-framing joists. The Joists were spaced at 6' o.c. The metal deck was fastened with #5 Tek screws at 6" o.c. along the perimeter of the test frame, one fastener in each flute of the metal deck along the joist in the field of the test frame and at 6" o.c. along the side laps with #12-24 self drilling screws.

All General and System Limitations shall apply.

(Optional) Fireboard min ¼" DensDeck™ or ¼" Securock® loose laid.

Base Sheet: Install one ply of GAFGLAS® FlexPly™ 6, GAFGLAS® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® STRATAVENT® Eliminator™ Nailable, RUBEROID® Mop Smooth or RUBEROID® 20 mechanically fastened as described below.

Fasteners: Base Sheet fastened with Drill-Tec™ # 14, Drill-Tec™ CD-10 for structural concrete or Drill-Tec™ # 12 Fasteners and 3" Drill-Tec™ steel plate or Drill-Tec™ AccuTrac plates into the steel deck at 12" o.c. in the 4" side laps and two staggered rows in the field of the sheet spaced 12" o.c.

Ply Sheet: (Optional) One or more plies of RUBEROID® Mop Smooth, RUBEROID® 20, GAFGLAS® Ply 4, GAFGLAS® FlexPly™ 6 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: One or more plies of RUBEROID® Mop Smooth, RUBEROID® Mop 170 FR, RUBEROID® Mop Granule, RUBEROID® 20, RUBEROID® Mop Plus Granule, RUBEROID® 30, RUBEROID® 30 FR, RUBEROID® Mop FR, RUBEROID® SBS Dual FR or ULTRACLAD® SBS adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or Matrix™ 102 SBS Membrane Adhesive at 1 to 2 gal./sq.

Or

RUBEROID® SBS Heat-Weld™ Smooth, RUBEROID® SBS Heat-Weld™ FR, RUBEROID® SBS Heat-Weld™ Plus FR, RUBEROID® SBS Heat-Weld™ 25, RUBEROID® SBS Heat-Weld™ Granule, RUBEROID® SBS Heat-Weld™ 170 FR, RUBEROID® SBS Heat-Weld™ Plus FR, or ULTRACLAD® SBS applied according to manufacturer's application instructions

Surfacing: (Optional, required if RUBEROID® Mop Smooth, RUBEROID® 20, RUBEROID® SBS Heat-Weld™ 25 or RUBEROID® SBS Heat-Weld™ Smooth is top membrane) Install one of the following:

1. Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq. or applied in a flood coat of Leak Buster™ Matrix™ 103 Cold Process Adhesive applied at a rate of 3 gal./sq.
2. GAFGLAS® Mineral Surfaced Cap Sheet, GAFGLAS® Energy Cap Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3. Leak Buster™ Matrix™ 303 Premium Fibered Aluminum Roof Coating, at 1.5 gal./sq.
4. Leak Buster™ Matrix™ 715 , Leak Buster™ Matrix™ 322, TOPCOAT® MB+, TOPCOAT® Fireshield Elastomeric Roofing Membrane, applied at 1 to 1.5 gal./sq.
5. Leak Buster™ Matrix™ 602 MB Xtra Elastomeric Roofing Membrane, EnergyCote™ roof coating applied at 1 to 1.5 gal./sq.
6. TOPCOAT® Surface Seal, TOPCOAT® Fireshield® SB Solvent based Elastomeric Roofing Membrane applied at 1 to 1.5 gal./sq.
7. Advance Green Technologies Photovoltaic Laminate solar energy collector auxiliary roof equipment installed in compliance with manufacturer's specifications and applicable Building Codes.

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

Membrane Type: SBS Heat-Weld

Deck Type 4: Lightweight Concrete, Non-insulated

Deck Description: Elastizel Lightweight Insulating Concrete with min. compressive strength of 250 psi, ¼" thick slurry of Elastizel Lightweight Insulating Concrete was poured over the deck. A layer of EPS Dyplast with a density of 1.0 lb was firmly pressed over the slurry. Elastizel lightweight insulating concrete was poured over the EPS Board to a thickness of 2" minimum.

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

Deck : Structural concrete 2500 psi or 22 gauge vented metal deck, 1.5" type "B" mechanically fastened to steel channel-framing joists. The Joists were spaced at 6' o.c. The metal deck was fastened with #5 Tek screws at 6" o.c. along the perimeter of the test frame, one fastener in each flute of the metal deck along the joist in the field of the test frame and at 6" o.c. along the side laps with #12-24 self drilling screws.

All General and System Limitations shall apply.

(Optional) Fireboard min ¼" DensDeck™ or ¼" Securock® loose laid.

Base Sheet: Install one ply of RUBEROID® Mop Smooth, RUBEROID® Mop Granule Inverted or RUBEROID®Heat-Weld™ Smooth mechanically fastened as described below.

Fasteners: Base Sheet fastened with Drill-Tec™ # 14 HD Fasteners and Drill-Tec™ 2" Double Barbed steel plates fastened through Elastizel Lightweight Insulating Concrete deck in to the steel or structural concrete deck at 6" o.c. in the 4" side laps, followed by heat welding the laps.

Ply Sheet: (Optional) RUBEROID® SBS Heat-Weld™ Smooth or RUBEROID® SBS Heat-Weld™ 25.

Membrane: RUBEROID® SBS Heat-Weld™ Smooth, RUBEROID® SBS Heat-Weld™ FR, RUBEROID® SBS Heat-Weld™ Plus FR, RUBEROID® SBS Heat-Weld™ 25, RUBEROID® SBS Heat-Weld™ Granule, RUBEROID® SBS Heat-Weld™ 170 FR, RUBEROID® SBS Heat-Weld™ Plus FR or ULTRACLAD® SBS applied according to manufacturer's application instructions.

Or

One or more plies of RUBEROID® Mop Smooth, RUBEROID® Mop 170 FR, RUBEROID® Mop Granule, RUBEROID® 20, RUBEROID® Mop Plus Granule, RUBEROID® 30 or RUBEROID® 30 FR, RUBEROID® Mop FR, RUBEROID® SBS Dual FR or ULTRACLAD® SBS adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or Matrix™ 102 SBS Membrane Adhesive at 1 to 2 gal./sq.

Surfacing: (Optional, required over RUBEROID® SBS Heat-Weld™ 25 or RUBEROID® SBS Heat-Weld™ Smooth) Install one of the following:

1. Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq. or applied in a flood coat of Leak Buster™ Matrix™ 103 Cold Process Adhesive applied at a rate of 3 gal./sq.
2. GAFGLAS® Mineral Surfaced Cap Sheet, GAFGLAS® Energy Cap Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3. Leak Buster™ Matrix™ 303 Premium Fibered Aluminum Roof Coating, at 1.5 gal./sq.
4. Leak Buster™ Matrix™ 715 , Leak Buster™ Matrix™ 322, TOPCOAT® MB+, TOPCOAT® Fireshield Elastomeric Roofing Membrane, applied at 1 to 1.5 gal./sq.
5. Leak Buster™ Matrix™ 602 MB Xtra Elastomeric Roofing Membrane, EnergyCote™ roof coating applied at 1 to 1.5 gal./sq.
6. TOPCOAT® Surface Seal, TOPCOAT® Fireshield® SB Solvent based Elastomeric Roofing Membrane applied at 1 to 1.5 gal./sq.
7. Advance Green Technologies Photovoltaic Laminate solar energy collector auxiliary roof equipment installed in compliance with manufacturer's specifications and applicable Building Codes.

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

Membrane Type: SBS Heat-Weld

Deck Type 4: Lightweight Concrete, Non-insulated

Deck Description: Celcore Lightweight Insulating Concrete with min. compressive strength of 300 psi 1/4" thick slurry of Celcore Lightweight Insulating Concrete was poured over the deck. A layer of EPS Dyplast with a density of 1.0 lb was firmly pressed over the slurry. Celcore Lightweight Insulating Concrete was poured over the EPS Board to a thickness of 2" minimum.

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

(Optional) Fireboard min ¼" DensDeck™ or ¼" Securock® loose laid.

Deck : **Min. 2500 psi Structural concrete or** 20 gauge vented metal deck, 1.5" type B, attached to steel channel-framing joists. The joists were spaced at 6'-6" o.c. The metal deck was fastened with 5/8" puddle welds at 6" o.c. along the perimeter of the test frame, one 5/8" weld in each flute of the metal deck along the joist in the field of the test frame and at 6" o.c. along the side laps with # 10 self drilling screws.

All General and System Limitations shall apply.

Base Sheet: Install one ply of RUBEROID® Mop Smooth, RUBEROID® Mop Granule Inverted or RUBEROID® Heat-Weld™ Smooth mechanically fastened as described below.

Fasteners: Base Sheet fastened with Drill-Tec™ # 14 HD Fasteners and 2" Drill-Tec™ Double Barbed steel plates fastened through Celcore Lightweight Insulating Concrete deck in to the structural concrete or steel deck at 6" o.c. in the 4" side laps, followed by heat welding the 4" laps.

Ply Sheet: (Optional) RUBEROID® SBS Heat-Weld™ Smooth or RUBEROID® SBS Heat-Weld™ 25.

Membrane: RUBEROID® SBS Heat-Weld™ Smooth, RUBEROID® SBS Heat-Weld™ FR, RUBEROID® SBS Heat-Weld™ Plus FR, RUBEROID® SBS Heat-Weld™ 25, RUBEROID® SBS Heat-Weld™ Granule, RUBEROID® SBS Heat-Weld™ 170 FR, RUBEROID® SBS Heat-Weld™ Plus FR or ULTRACLAD® SBS applied according to manufacturer's application instructions.
Or
One or more plies of RUBEROID® Mop Smooth, RUBEROID® Mop 170 FR, RUBEROID® Mop Granule, RUBEROID® 20, RUBEROID® Mop Plus Granule, RUBEROID® 30 or RUBEROID® 30 FR, RUBEROID® Mop FR, RUBEROID® SBS Dual FR or ULTRACLAD® SBS adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or Matrix™ 102 SBS Membrane Adhesive at 1 to 2 gal./sq.

Surfacing: (Optional, required over RUBEROID® SBS Heat-Weld™ 25 or RUBEROID® SBS Heat-Weld™ Smooth) Install one of the following:

1. Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq. or applied in a flood coat of Leak Buster™ Matrix™ 103 Cold Process Adhesive applied at a rate of 3 gal./sq.
2. GAFGLAS® Mineral Surfaced Cap Sheet, GAFGLAS® Energy Cap Mineral Surfaced Capsheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3. Leak Buster™ Matrix™ 303 Premium Fibered Aluminum Roof Coating, at 1.5 gal./sq.
4. Leak Buster™ Matrix™ 715 , Leak Buster™ Matrix™ 322, TOPCOAT® MB+, TOPCOAT® Fireshield Elastomeric Roofing Membrane, applied at 1 to 1.5 gal./sq.
5. Leak Buster™ Matrix™ 602 MB Xtra Elastomeric Roofing Membrane, EnergyCote™ roof coating applied at 1 to 1.5 gal./sq.
6. TOPCOAT® Surface Seal, TOPCOAT® Fireshield® SB Solvent based Elastomeric Roofing Membrane applied at 1 to 1.5 gal./sq.
7. Advance Green Technologies Photovoltaic Laminate solar energy collector auxiliary roof equipment installed in compliance with manufacturer's specifications and applicable Building Codes.

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

LIGHTWEIGHT INSULATING CONCRETE 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 Professional Engineer, Registered Architect, or Registered Roof Consultant.
2. For steel deck application where specific deck construction is not referenced: The deck shall be a minimum 22 gage attached with 5/8" puddle welds with weld washers at every flute with maximum deck spans of 5 ft. o.c.
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 side lap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq. **Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.**
5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
7. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased for both insulation and base sheet as calculated in compliance with Roofing Application Standard RAS 117. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant **(When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)**
8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform 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 9B-72 of the Florida Administrative Code.

END OF THIS ACCEPTANCE