

Ruberoid[®] Modified Bitumen Roof Systems for Concrete Decks

Miami-Dade County Notice of Acceptance (NOA)

Updated: 2/09



*Quality You Can Trust...From
North America's Largest Roofing Manufacturer!™*

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**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 Concrete Decks.

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

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

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

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

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

This NOA revises NOA No. 08-0108.06 and consists of pages 1 through 36.
The submitted documentation was reviewed by Jorge L. Acebo.



**NOA No.: 08-1028.02
Expiration Date: 11/06/13
Approval Date: 02/25/09
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ROOFING SYSTEM APPROVAL

Category: Roofing
Sub-Category: SBS/APP, Modified Bitumen
Deck Type: Concrete
Maximum Design Pressure -495 psf

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
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. & 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 Fibered 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-4586 ASTM D-3409	Refined asphalt blended with a mineral stabilizer and fibers. Permits adhesion to wet and dry surfaces.
Leak Buster™ Matrix™ 304 Non Fibered Aluminum Roof Coating	5 gallons	ASTM D2824, Type I	Non-fibered aluminum pigmented, asphalt roof coating.
GAFGLAS® #75 Base Sheet	39.37" (1 meter) Wide	ASTM D 4601 Type II	Asphalt impregnated and coated glass mat base sheet.
GAFGLAS® #80 ULTIMA™ Base Sheet	39.37" (1 meter) Wide	ASTM D4601 Type II	Asphalt impregnated and coated, fiberglass base sheet.
GAFGLAS® FlexPly™ 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.



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<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
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® STRATAVENT® Eliminator™ Perforated	39.37" (1 meter) Wide	ASTM D 3672 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® Flashing	various		Asphalt coated glass fiber mat flashing sheet available in three sizes.
GAFGLAS® STRATAVENT® Eliminator™ Perforated Nailable	39.37" (1 meter) Wide	ASTM D 3672 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® EnergyCap SBS Heat Weld Plus FR	1 meter (39.37") wide	ASTM D-6163	A fiberglass mat reinforced, SBS modified bitumen cap membrane.
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 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™ 25	1 meter (39.37") wide	ASTM D-6164	Non-Woven Polyester mat coated with polymer modified asphalt and smooth surfaced.
RUBEROID® EnergyCap SBS 30 FR	1 meter (39.37") wide	ASTM D-6163	A fiberglass mat reinforced, SBS modified bitumen cap membrane.
RUBEROID® MOP Smooth	39.37" (1 meter) Wide	ASTM D5147 ASTM D6298	Non-woven polyester mat coated with polymer modified asphalt. Does not have a factory applied surfacing.
ULTRACLAD® SBS Foil-Faced Membrane	1 sq. roll 101 lb.	ASTM D6298	Woven fiberglass mat coated with polymer modified asphalt and surfaced with aluminum, copper or stainless steel foil.
RUBEROID® Modified Asphalt Lite	60 lb. kegs	ASTM D312	SEBS modified asphalt
RUBEROID® Modified Asphalt Plus	60 lb. kegs	ASTM D6152	SEBS modified asphalt



<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
RUBEROID® Modified Base Sheet	39.37" (1 meter) Wide	ASTM D4601 Type II, Type G2 BUR	Premium glass fiber reinforced SBS-modified base sheet.
RUBEROID® Mop 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® Torch Smooth	39.37" (1 meter) Wide	ASTM D 6222 ASTM D 5147	Heavy duty, polyester reinforced, asphalt modified bitumen membrane.
RUBEROID® Torch Plus (Granule)	39.37" (1 meter) Wide	ASTM D 6222 ASTM D 5147	Heavy duty, polyester reinforced, asphalt modified bitumen membrane.
RUBEROID® Torch Granule	39.37" (1 meter) Wide	ASTM D 6222 ASTM D 5147	Asphalt impregnated, coated felt, surfaced with mineral granules.
RUBEROID® Torch FR	39.37" (1 meter) Wide	ASTM D 6222 ASTM D 5147	Non-woven polyester mat coated with fire retardant polymer modified asphalt surfaced with mineral granules.
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 FR	39.37" (1 meter) Wide	ASTM D 6164 ASTM D 5147	Non-woven polyester mat coated with fire-retardant, polymer modified asphalt surfaced with mineral granules.
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 6163 ASTM D 5147	Non woven fiberglass mat coated with fire retardant, polymer modified asphalt and surfaced with mineral granules. □
RUBEROID® Mop 170 FR	39.37" (1 meter) Wide	ASTM D 6164 ASTM D 5147	Non-woven polyester mat coated with fire retardant polymer modified asphalt surfaced with mineral granules.
RUBEROID® SBS Dual FR	39.37" (1 meter) Wide	ASTM D 6164 ASTM D 5147	Non-woven polyester and fiberglass mat coated with fire retardant, polymer-modified asphalt and surfaced with mineral granules.
Roof Match™ APP Granular	107 sq. ft. (9.9 m2)	ASTM D 6222 ASTM D 5147	Non-woven polyester mat coated with polymer modified asphalt and surfaced with colored mineral granules.
Roof Match™ SBS Granular	107 sq. ft. (9.9 m2)	ASTM D 6222 ASTM D 5147	Non-woven polyester mat coated with polymer modified asphalt and surfaced with colored mineral granules.
TopCoat® Surface Seal SB	5 gallons		Surface coating for smooth surfaced and mineral surfaced roofs.
Leak Buster™ Matrix™ 715 MB Coating	5 gallons		Surface coating for smooth surfaced and mineral surfaced roofs.



<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
TOPCOAT® MB Plus	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™	5 gallons		Surface coating for smooth surfaced and mineral surfaced roofs.
Leak Buster™ Matrix™ 201 SBS Flashing Cement	5 gallons	ASTM D3019	Cold Applied Modified SEBS Asphalt Adhesive – Flashing Grade.
Leak Buster™ Matrix™ 102 SBS 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
Leak Buster™ Matrix™ 103 Gold Process Adhesive Vent Stacks (metal and plastic)	5 gallons	ASTM D3019 TAS 100(A) ASTM D 1929 ASTM D 635 Proprietary	Cold Applied Asphalt Adhesive. One way valve vent used to relieve built-up pressure within the roof system. GAF Vent Stacks are available in metal or plastic.
EnergyCote® Roof Coating			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	Polyisocyanurate/wood fiberboard or perlite composite	GAF Materials Corp
EnergyGuard™ Fiberboard	Fiberboard insulation	GAF Materials Corp
EnergyGuard™ PolyIso	Polyisocyanurate foam insulation	GAF Materials Corp.
EnergyGuard™ Perlite	Perlite insulation board.	GAF Materials Corp.
EnergyGuard™ Recover Board	Perlite recover board	GAF Materials Corp.
EnergyGuard™ High Density Fiberboard	High density wood fiberboard insulation.	GAF Materials Corp.
EnergyGuard™ Ultra PolyIso	Polyisocyanurate foam insulation	GAF Materials Corp.
DensDeck®	High Density Fire Resistant Insulation Boards	Georgia Pacific
DensDeck Prime®	High Density Fire Resistant Insulation Boards	Georgia Pacific
DensDeck DuraGuard™	High Density Fire Resistant Insulation Boards	Georgia Pacific
SECUROCK®	High Density Fire Resistant Insulation Boards	USG
Structodek®	Wood fiber insulation board	Knight Celotex

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 Play 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™ Galvalume Plates	Round galvalume stress plates.	3" and 3 ½"	GAF Materials Corp.
5.	Drill-Tec™ Polypropylene Plates	Round polypropylene stress plates.	3" and 3 ½"	GAF Materials Corp.
6.	Drill-Tec™ AccuTrac Plate Steel Plates	Square galvalume stress plates.	3 x 3	GAF Materials Corp



EVIDENCE SUBMITTED:

<u>Test Agency/Identifier</u>	<u>Name</u>	<u>Report</u>	<u>Date</u>
Factory Mutual Research Corp.	Current Insulation	FMRC 1996	01.01.96
	Attachment Requirements		
	FMRC 4470 - TAS 114	J.I. 0D0A8.AM	07.09.97
	FMRC 4470 - TAS 114	J.I. 2B8A4.AM	07.02.97
	FMRC 4470 - TAS 114	J.I. 3005640	11.09.00
	FMRC 4470 - TAS 114	J.I. 3006845	10.17.00
	FMRC 4470 - TAS 114	J.I. 3005175	05.23.00
	FMRC 4470 - TAS 114	J.I. 3005177	05.19.00
	FMRC 4470 - TAS 114	J.I. 3007500	06.15.00
	FMRC 4470 - TAS 114	J.I. 3008178	12.27.00
	FMRC 4470	J.I. 3010215	03.01.01
	FMRC 4470	J.I. 3009788	03.28.01
	FMRC 4470	3017250	04.05.04
Independent Roof Testing & Consulting of South Florida	TAS 114-J	No.00001	03.30.00
		No.00002	
Exterior Research & Design, LLC	TAS 114	#4483.04.97-1	06-06-97
	TAS 114	#01881.09.03-2	03.24.08
		#01881.11.03-2-RI	08.21.07
Trinity ERD	ASTM D6163 ASTM D6164	#G6850.08.08	08.29.08
Underwriters Laboratories, Inc.	UL 790 -TAS 114	R1306, 00NK07638	07.17.00



APPROVED ASSEMBLIES:

- Membrane Type:** SBS
- Deck Type 3:** Concrete Decks, Insulated
- Deck Description:** 2500 psi structural concrete or concrete plank
- System Type A(1):** Insulation adhered with approved adhesive and membranes adhered to insulation.

All General and System Limitations shall apply.

One or more layers of any of the following insulations.

Base Layer Insulation	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ PolyIso, EnergyGuard™ UltraShield Minimum. 1.5” thick	N/A	N/A

Note: Base layer shall be adhered with OlyBond™ at 1 gal/sq full coverage or OlyBond 500™ in 3/4" to 1" wide ribbons spaced 12" o.c. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Layer Insulation	Insulation Fasteners (Table 3)	Fastener Density/ft²
Dens-Deck® Prime Minimum. 1/4” thick	N/A	N/A

Note: Apply top layer of insulation with OlyBond™ at 1 gal/sq full coverage or OlyBond 500™ in 3/4" to 1" wide 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.

- Anchor Sheet:** Two plies of GAFGLAS® #75 or a single ply of RUBEROID® 20, RUBEROID® Mop (Optional) Smooth RUBEROID® Heat-Weld™, RUBEROID® Heat-Weld™ Smooth, GAFGLAS® ULTIMA™ 80 two applied in hot asphalt full mop at 25 lbs/sq.
- Base Sheet:** One or more plies of RUBEROID® SBS, Heat-Weld™ Smooth, RUBEROID® SBS or Heat-Weld™ 25 torch applied.
- Ply Sheet:** One or more plies of RUBEROID® SBS, Heat-Weld™ Smooth, RUBEROID® SBS or (optional) Heat-Weld 25 torch applied.
- Membrane:** One or more plies RUBEROID® SBS Heat-Weld™ PLUS, RUBEROID® SBS Heat-Weld™ PLUS FR, RUBEROID® SBS Heat-Weld™ 170 FR, RUBEROID® EnergyCap SBS Heat Weld Plus FR, RUBEROID® SBS Heat-Weld™, RUBEROID® SBS Heat-Weld™ Smooth and RUBEROID® SBS Heat-Weld™ 25 torch applied.



Surfacing:

Optional, Required if RUBEROID® Heat-Weld™ Mop Smooth or RUBEROID® Heat-Weld™ 25 is top membrane.

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® EnergyCap™ 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 PLUS, 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:

-300 psf (See General Limitation #9)



Membrane Type: SBS
Deck Type 3: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type A(2): Insulation adhered with approved adhesive and membranes adhered to insulation.

All General and System Limitations shall apply.

One or more layers of any of the following insulations.

Base Layer Insulation	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ PolyIso, EnergyGuard™ UltraShield Minimum. 1.5" thick	N/A	N/A

Note: Base layer shall be adhered with OlyBond™ at 1 gal/sq full coverage or OlyBond 500™ in 3/4" to 1" wide ribbons spaced 12" o.c. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Layer Insulation	Insulation Fasteners (Table 3)	Fastener Density/ft²
Dens-Deck® Prime Minimum. 1/4" thick	N/A	N/A

Note: Apply top layer of insulation with OlyBond™ at 1 gal/sq full coverage or OlyBond 500™ in 3/4" to 1" wide 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.

(Optional) Anchor Sheet: Two plies of GAFGLAS® #75 or GAFGLAS® #80 ULTIMA™ applied in hot asphalt full mop at 25 lbs/sq.

(Optional) Base Sheet: GAFGLAS® #75 applied in Matrix System Pro SBS Adhesive 102 at 1.5 gal/sq.

Ply Sheet: One or more RUBEROID® 20 RUBEROID Mop smooth applied In Matrix System Pro SBS Adhesive 102 or 102 at 1.5 ga;/sq.

Membrane: One or more plies RUBEROID® 30, RUBEROID® 30 FR, RUBEROID® EnergyCap SBS 30 FR, RUBEROID® Mop Plus, RUBEROID® Mop 170 FR, RUBEROID® SBS Dual FR, RUBEROID® Mop Granule, Roof Match™ SBS Granular and RUBEROID® Mop Smooth applied in Matrix System Pro SBS Adhesive 102 at a rate of 1.5 gal/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® EnergyCap™ 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. 3Leak Buster™ Matrix™ 303 Premium Fibered Aluminum Roof Coating, at 1.5 gal./sq.
4. 4Leak Buster™ Matrix™ 715, Leak Buster™ Matrix™ 322, TOPCOAT® MB PLUS, TOPCOAT® Fireshield Elastomeric Roofing Membrane, applied at 1 to 1.5 gal./sq.
5. 5Leak 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:

-137.5 psf (See General Limitation #9)



SYSTEMS A(3): ADHERED INSULATED SYSTEMS

The following assembly is approved to a maximum design pressure per Insulation Maximum Design Pressure Table A. No substitutions shall be made:

- Deck Type: Concrete, primed.
- Anchor Sheet: Install one or more plies of GAFGLAS® #75, GAFGLAS® #80 ULTIMA™, (Optional) GAFGLAS® PLY 4, GAFGLAS® FlexPly™, RUBEROID® Modified Base sheet RUBEROID® Mop Smooth or RUBEROID® 20 mopped directly to the substrate. Adhere with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
- Insulations: See Insulation Maximum Design Pressure Table A below. Design Pressure is dependent on Insulation assembly # used in this system.
- Base Sheet: Install one ply of GAFGLAS® #75, GAFGLAS® #80 ULTIMA™ GAFGLAS® PLY 4, GAFGLAS® FlexPly™ 6, RUBEROID® Modified Base Sheet or RUBEROID® 20, RUBEROID® MOP Smooth, directly to the insulated substrate. Adhere with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
- Ply Sheet: One, two or three plies of RUBEROID® 20, GAFGLAS® PLY 4 or GAFGLAS® (Optional) FlexPly™ 6 ply sheet 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 FR, RUBEROID® Torch 170FR, Roof Match™ APP Granular or RUBEROID® 20, RUBEROID® MOP Smooth, RUBEROID® MOP Granule, RUBEROID® MOP 170FR, RUBEROID® SBS Dual FR, RUBEROID® ULTRACLAD™, RUBEROID® 30 and RUBEROID® 30FR, RUBEROID® EnergyCap SBS 30 FR, RUBEROID® MOP PLUS and RUBEROID® MOP FR or RUBEROID® SBS Heat-Weld™ PLUS, RUBEROID® SBS Heat-Weld™ PLUS FR, RUBEROID® SBS Heat-Weld™ 170 FR, RUBEROID® EnergyCap SBS Heat Weld Plus FR, RUBEROID® SBS Heat-Weld™, RUBEROID® SBS Heat-Weld™ Smooth and RUBEROID® SBS Heat-Weld™ 25 applied according to manufacturer's application instructions.
- Surfacing: (Optional) 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 PLUS, 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



Insulation Maximum Design Pressure Table A

#	Insulation Assemblies
1.	Min. 1.5" EnergyGuard™ Composite RA, RN NP laid with the polyisocyanurate side down and bonded in a full mopping of an approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. Maximum Design Pressure –270 psf (See General Limitation #9)
2.	Base Layer: Min. 1" EnergyGuard™ RN. mopped in asphalt at the rate of 20-40 lbs./sq. Top Layer: Min. ½" EnergyGuard™ Perlite adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. Maximum Design Pressure –322.5 psf (See General Limitation #9)
3.	Base Layer: Min. 1" EnergyGuard™ RA mopped in asphalt at the rate of 20-40 lbs./sq. Top Layer: Min. ½" EnergyGuard™ High Density Wood Fiber Board (g) adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. Maximum Design Pressure –307.5 psf (See General Limitation #9)
4.	Base Layer: Min. 1" EnergyGuard™ RA mopped in asphalt at the rate of 20-40 lbs./sq. Top Layer: Min. ½" EnergyGuard™ Perlite adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. Maximum Design Pressure –165 psf (See General Limitation #9)
5.	Base Layer: Two Min. ¾" layers EnergyGuard™ Perlite adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. Top Layer: Min. ¼" Dens-Deck® mopped in asphalt at the rate of 20-40 lbs./sq.. Maximum Design Pressure –172.5 psf (See General Limitation #9)
6.	(Optional) Base Layer: Min. 1.5" EnergyGuard™ RA, EnergyGuard™ RN or 1/2" High Density Fiberboard secured to underlying substrate with Insta-Stik Roofing Adhesive. Top Layer: One or more layers of Min. 1" EnergyGuard™ RN, EnergyGuard™ RA, 1/2" High Density Fiberboard or Min. 1/4" Dens-Deck secured to underlying substrate with Insta-Stik Roofing Adhesive. Maximum Design Pressure –112.5 psf (See General Limitation #9)
7.	Base Layer: Min. 1" EnergyGuard™ RA mopped in asphalt at the rate of 20-40 lbs./sq.. Top Layer: Min. ½" EnergyGuard™ High Density Wood Fiber Board (c) adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. Maximum Design Pressure –237.5 psf (See General Limitation #9)
8.	(Optional) Base Layer: Min. 1.5" EnergyGuard™ RN, EnergyGuard™ RA or 1/2" High Density Fiberboard secured to underlying substrate with Insta-Stik Roofing Adhesive. Top Layer: One or more layers of Min. 1" EnergyGuard™ RN, EnergyGuard™ RA, 1/2" High Density Fiberboard, Structodek or Min. 1/4" Dens-Deck secured to underlying substrate with Insta-Stik Roofing Adhesive. Maximum Design Pressure –105 psf (See General Limitation #9)
9.	Min. 1.75" EnergyGuard™ Composite laid with the polyisocyanurate side down and bonded in a full mopping of an approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. Maximum Design Pressure –270 psf (See General Limitation #9)



10.	Min. ½" EnergyGuard™ High Density Fiberboard or other Approved high density wood fiberboard or min. 1" EnergyGuard™ Perlite adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. Maximum Design Pressure –140 psf (See General Limitation #9)
11.	Base Layer: Min. 2" EnergyGuard™ RN Top Layer: Min. ½" EnergyGuard™ Perlite adhered in a full mopping of approved asphalt applied within the EVT range at a rate of 20-40 lbs./sq. Maximum Design Pressure –322.5 psf (See General Limitation #9)
12.	Base Layer: Min. 1.5" EnergyGuard™ Composite Top Layer: Min. 1.5" EnergyGuard™ Composite adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. Maximum Design Pressure –270 psf (See General Limitation #9)
13.	Min. ¾" EnergyGuard™ Perlite adhered to the primed concrete deck in a full mopping of approved asphalt applied within the EVT range at a rate of 20-40 lbs./sq. Maximum Design Pressure –137 psf (See General Limitation #9)
14.	Base Layer: Min 1.5" EnergyGuard™ RA, EnergyGuard™ RN, EnergyGuard™ Composite adhered to the concrete deck in a full mopping of approved asphalt applied within the EVT range at a rate of 20-40 lbs./sq.. Top Layer: Min. ½" EnergyGuard™ Perlite adhered to the base insulation layer or primed concrete deck in a full mopping of approved asphalt applied within the EVT range at a rate of 20-40 lbs./sq. Maximum Design Pressure –126 psf (See General Limitation #9)
15.	Base Layer: Min. 1¼" EnergyGuard™ RA, EnergyGuard™ RN, EnergyGuard™ Composite adhered to the concrete deck in a full mopping of approved asphalt applied within the EVT range at a rate of 20-40 lbs./sq.. Top Layer: Min. ½" EnergyGuard™ fiberboard (c) or other approved wood fiberboard adhered to the base insulation layer or primed concrete deck in a full mopping of approved asphalt applied within the EVT range at a rate of 20-40 lbs./sq. Maximum Design Pressure –162 psf (See General Limitation #9)
16.	Base Layer: Min. 1¼" EnergyGuard™ RA, EnergyGuard™ RN adhered to the concrete deck in a full mopping of approved asphalt applied within the EVT range at a rate of 20-40 lbs./sq.. Top Layer: Min. ¾" EnergyGuard™ Perlite or other approved perlite insulation board adhered to the base insulation layer or primed concrete deck in a full mopping of approved asphalt applied within the EVT range at a rate of 20-40 lbs./sq.. Maximum Design Pressure –157 psf (See General Limitation #9)
17.	Min. ½" EnergyGuard™ Perlite adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. Maximum Design Pressure –90 psf (See General Limitation #9)
18.	Min. 1.5" EnergyGuard™ Composite Deck is primed with GAF Asphalt/Concrete primer at a nominal rate of 0.75 ga/sq. Deck is covered with a RUBEROID® roof cover assembly fully adhered with hot asphalt applied at a minimum rate of 25 lb/sq (1.2 kg/m ²) Maximum Design Pressure -360 psf (See General Limitation #9)



SYSTEMS A(4): ADHERED INSULATED SYSTEMS

The following assembly is approved to a maximum design pressure per Insulation Maximum Design Pressure Table B. No substitutions shall be made:

Deck Type: Concrete, primed.

Anchor Sheet: Install one or more plies of GAFGLAS® #75, GAFGLAS® #80 ULTIMA™, (Optional) GAFGLAS® PLY 4, GAFGLAS® FlexPly™, RUBEROID® Modified Base sheet RUBEROID® Mop Smooth or RUBEROID® 20 mopped directly to primed deck. Adhere with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Insulations: See Insulation Maximum Design Pressure Table B below. Design Pressure is dependent on Insulation assembly # used in this system.

Base Sheet: Install one ply of GAFGLAS® STRATAVENT® Eliminator™ Perforated, loose laid dry

Ply Sheet: (Optional, required if membrane is APP/SBS Heat-Weld™) One or more plies of RUBEROID® 20, GAFGLAS® PLY 4 or GAFGLAS® FlexPly™ 6 ply sheet 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 FR, RUBEROID® Torch 170FR, Roof Match™ APP Granular or RUBEROID® 20, RUBEROID® MOP Smooth, RUBEROID® MOP Granule, Roof Match™ SBS Granular, RUBEROID® MOP 170FR, RUBEROID® SBS Dual FR, RUBEROID® ULTRACLAD™, RUBEROID® 30 and RUBEROID® 30FR, RUBEROID® EnergyCap SBS 30 FR, RUBEROID® MOP PLUS and RUBEROID® MOP FR or RUBEROID® SBS Heat-Weld™ PLUS, RUBEROID® SBS Heat-Weld™ PLUS FR, RUBEROID® SBS Heat-Weld™ 170 FR, RUBEROID® EnergyCap SBS Heat Weld Plus FR, RUBEROID® SBS Heat-Weld™, RUBEROID® SBS Heat-Weld™ Smooth and RUBEROID® SBS Heat-Weld™ 25 applied according to manufacturer's application instructions.

Surfacing: (Optional) 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 PLUS, 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

Insulation Maximum Design Pressure Table B	
#	Insulation Assemblies
1.	<p>Min. 1" EnergyGuard™ RN, EnergyGuard™ RA mopped in asphalt at the rate of 20-40 lbs./sq. Maximum Design Pressure –150 psf (See General Limitation #9)</p>
2.	<p><i>(Optional) Base Layer:</i> Min. 1" EnergyGuard™ RN, EnergyGuard™ RA mopped in asphalt at the rate of 20-40 lbs./sq. <i>Top Layer:</i> Min. ¼" Dens-Deck mopped in asphalt at the rate of 20-40 lbs./sq.. Maximum Design Pressure –240 psf (See General Limitation #9)</p>
3.	<p><i>(Optional) Base Layer:</i> Min. 1" EnergyGuard™ RN, EnergyGuard™ RA, EnergyGuard™ Composite, EnergyGuard™ Composite, mopped in asphalt at the rate of 20-40 lbs./sq. <i>Top Layer:</i> Min. ¾" EnergyGuard™ perlite or other approved perlite insulation board or Min. ½" EnergyGuard™ High Density Fiberboard (c) or other approved High Density wood fiberboard or Min. 1" EnergyGuard™ Fiberboard (c) or other approved wood fiberboard adhered to the base insulation layer or primed concrete deck in a full mopping of approved asphalt applied within the EVT range at a rate of 20-40 lbs./sq. Maximum Design Pressure –90 psf (See General Limitation #9)</p>
4.	<p><i>(Optional) Base Layer:</i> Min. 1" EnergyGuard™ RN, EnergyGuard™ RA, EnergyGuard™ Composite mopped in asphalt at the rate of 20-40 lbs./sq. <i>Top Layer:</i> Min. ¾" EnergyGuard™ perlite or other approved perlite insulation board Min. ½" EnergyGuard™ High Density Fiberboard (c) or other approved High Density wood fiberboard EnergyGuard™ Fiberboard (c) or other approved wood fiberboard adhered to the base insulation layer or primed concrete deck in a full mopping of approved asphalt applied within the EVT range at a rate of 20-40 lbs./sq.. Maximum Design Pressure –90 psf (See General Limitation #9)</p>



- Membrane Type:** SBS
- Deck Type 3:** Concrete Decks, Insulated
- Deck Description:** 2500 psi structural concrete or concrete plank
- System Type B:** Base sheet adhered with approved asphalt; base insulation layer mechanically fastened, optional top layer adhered with approved asphalt.

All General and System Limitations shall apply.

One or more layers of any of the following insulations.

Insulation for Base Layer (Table 2) (When applicable: Steel plate only =S, plastic plate only =P)	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ PolyIso, EnergyGuard™ Composite, EnergyGuard™ RA, RN Minimum. 2” thick	1S or 6	1:1.45

Note: Base layer shall be mechanically attached with fasteners and density described. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details). GAF requires either a ply of GAFGLAS STRATAVENT® Eliminator™ Perforated laid dry or a layer of EnergyGuard® PERLITE or wood fiber overlay board on all polyisocyanurate applications.

Insulation for Top Layer (Table 2)	Insulation Fasteners (Table 3)	Fastener Density/ft²
Any of the insulations listed for Base Layer, above.	N/A	N/A

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

- Base Sheet:** Install one ply of GAFGLAS® #75, GAFGLAS® #80 ULTIMA™, GAFGLAS® PLY 4, GAFGLAS® FlexPly™ 6, GAFGLAS® STRATAVENT® Eliminator™ Perforated laid dry, RUBEROID® Modified Base Sheet or RUBEROID® 20 directly to the insulated substrate. Adhere with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
- Ply Sheet:**
(Optional) One or more plies of GAFGLAS® Ply 4, GAFGLAS FlexPly™ 6 ply sheets or GAFGLAS® #80 ULTIMA™ Base Sheet. Adhere with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
- Membrane:** One or more plies ply of RUBEROID® MOP Smooth, RUBEROID® Mop Granule, RUBEROID® Mop 170 FR, RUBEROID® SBS Dual FR, RUBEROID® Mop Plus Granule, RUBEROID® Mop FR, RUBEROID® UltraClad, RUBEROID® 20, RUBEROID® 30, RUBEROID® 30 FR Roof Match™ SBS Granular or RUBEROID® EnergyCap SBS 30 FR. Adhere with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.



Surfacing:

(Optional, required over RUBERROID® 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 PLUS, 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: APP & SBS Heat-Weld
Deck Type 3: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type C(1): All layers of insulations are mechanically attached to roof deck. Membrane is subsequently fully or partially adhered to insulation.

All General and System Limitations shall apply.

Insulation for Base Layer (Table 2)	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ PolyIso, EnergyGuard™ Composite, EnergyGuard™ RA, RN Minimum 1.5" thick	N/A	N/A

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining e same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Insulation for Top Layer (Table 2) (When applicable: Steel plate only =S, plastic plate only =P)	Insulation Fasteners (Table 3)	Fastener Density/ft²
Dens Deck Minimum ¼" thick	1S, 6	1:1

Base Sheet: Install one ply of GAFGLAS® STRATAVENT® Eliminator™ Perforated loose laid dry.

Ply Sheet: One or more plies of GAFGLAS® Ply 4, GAFGLAS® FlexPly™ 6 ply sheets or GAFGLAS® #80 ULTIMA™ Base Sheet. Adhere with any approved mopping 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 FR or Roof Match™ APP Granular. Torch applied according to manufacturer's application instructions.

Or

One or more plies of RUBEROID® SBS Heat-Weld™ Smooth, RUBEROID® SBS Heat-Weld 25, RUBEROID® SBS Heat-Weld™ 170 FR, RUBEROID® EnergyCap SBS Heat Weld Plus FR, RUBEROID® SBS Heat-Weld PLUS, or RUBEROID® SBS Heat-Weld™ PLUS FR heat welded.



Surfacing:

(Optional, required over 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 PLUS, 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)



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Membrane Type: SBS
Deck Type 3: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type C(2): All layers of insulations are mechanically attached roof deck. Membrane is subsequently fully or partially adhered to insulation.

All General and System Limitations shall apply.

Insulation for Base Layer (Table 2)	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ PolyIso, EnergyGuard™ Composite, EnergyGuard™ RA, RN Minimum 1.5" thick	N/A	N/A

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Insulation for Top Layer (Table 2) (When applicable: Steel plate only =S, plastic plate only =P) Dens Deck Minimum ¼" thick	Insulation Fasteners (Table 3)	Fastener Density/ft²
	1S, 6	1:1

Base Sheet: Install one ply of GAFGLAS® STRATAVENT® Eliminator™ Perforated loose laid dry.

**Ply Sheet:
(Optional)** One or more plies of RUBEROID® 20, GAFGLAS® Ply 4 or GAFGLAS® FlexPly™ 6 ply sheets or GAFGLAS® #80 ULTIMA™ Base Sheets. Adhere with any approved mopping 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® 20, RUBEROID® Mop Granule, RUBEROID® Mop 170 FR, RUBEROID® SBS Dual FR, RUBEROID® Mop Plus Granule, RUBEROID® Mop FR, Roof Match™ SBS Granular, RUBEROID® UltraClad™, RUBEROID® 30 FR or RUBEROID® EnergyCap SBS 30 FR. Adhere with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.



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 PLUS, 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:** APP & SBS Heat-Weld
- Deck Type 3:** Concrete Decks, Insulated
- Deck Description:** 2500 psi structural concrete or concrete plank
- System Type D(1):** All insulations are loose laid with preliminary attachment to roof deck. Base sheet is subsequently mechanically fastened through insulation to the roof deck.

All General and System Limitations shall apply.

Insulation Layer (Table 2)	Insulation Fasteners (Table 3)	Fastener Density/ft ²
EnergyGuard™ PolyIso, EnergyGuard™ Composite, EnergyGuard™ RA, RN Minimum 1.3" thick	N/A	N/A
EnergyGuard™ High Density Fiberboard Minimum 1" thick	N/A	N/A

Note: All layers of insulation and base sheet shall be simultaneously attached. See base sheet below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. All insulation shall be adhered to the deck in two ¾" beads of Insta-Stik adhesive space at 12" o.c.

- Base Sheet:** Install one ply of GAFGLAS® #75, GAFGLAS® #80 ULTIMA™, GAFGLAS® PLY 4, GAFGLAS FlexPly™ 6, GAFGLAS® STRATAVENT® Eliminator™ Nailable, RUBEROID® Modified Base Sheet or RUBEROID® 20. Fastened to the deck through the insulation with Drill-Tec™ #14 Screws and 3" Drill-Tec™ steel plate or Drill-Tec™ AccuTrac Plates in a 2" side laps 12" on center. Three rows are equally spaced approximately 9" o.c. in the field of the sheet spaced 12 o.c. along the length of the sheet.
- Ply Sheet:** (Optional, required if used with RUBEROID® 20 or perforated STRATAVENT®) One or more plies of GAFGLAS® Ply 4, GAFGLAS® FlexPly™ 6 ply sheets or GAFGLAS® #80 ULTIMA™ Base Sheet. Adhere with any approved mopping 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 FR or Roof Match™ APP Granular. Torch applied according to manufacturer's application instructions.
- Or
- One or more plies of RUBEROID® SBS Heat-Weld™ Smooth, RUBEROID® SBS Heat-Weld™ 25, RUBEROID® SBS Heat-Weld™ 170 FR, RUBEROID® EnergyCap SBS Heat Weld Plus FR, RUBEROID® SBS Heat-Weld™ PLUS, or RUBEROID® SBS Heat-Weld™ PLUS FR heat welded.



Surfacing:

(Optional, required over 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 PLUS, 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
Deck Type 3: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type D(2): All insulations are loose laid with preliminary attachment to roof deck. Base sheet is subsequently mechanically fastened through insulation to the roof deck.

All General and System Limitations shall apply.

Insulation Layer (Table 2)	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ PolyIso, EnergyGuard™ Composite, EnergyGuard™ RA, RN Minimum 1.3" thick	N/A	N/A
EnergyGuard™ High Density Fiberboard Minimum 1" thick	N/A	N/A

Note: All layers of insulation and base sheet shall be simultaneously attached. See base sheet below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. All insulation shall be adhered to the deck in two ¾" beads of Insta-Stik adhesive space at 12" o.c.

Base Sheet: Install one ply of GAFGLAS® #75, GAFGLAS® #80 ULTIMA™, GAFGLAS® PLY 4, GAFGLAS® FlexPly™ 6, GAFGLAS® STRATAVENT® Eliminator™ Nailable, RUBEROID® Modified Base Sheet or RUBEROID® 20. Fastened to the deck through the insulation with Drill-Tec™ #14 Screws and 3" Drill-Tec™ steel plate or Drill-Tec™ AccuTrac Plates in a 2" side laps 12" on center. Three rows are equally spaced approximately 9" o.c. in the field of the sheet spaced 12 o.c. along the length of the sheet.

Ply Sheet: (Optional) One or more plies of GAFGLAS® Ply 4, GAFGLAS® FlexPly™ 6 ply sheets or GAFGLAS® #80 ULTIMA™ Base Sheets. Adhere with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: One or more plies ply of RUBEROID® MOP Smooth, RUBEROID® 20, RUBEROID® Mop Granule, RUBEROID® Mop 170 FR, RUBEROID® SBS Dual FR, RUBEROID® Mop Plus Granule, RUBEROID® Mop FR, Roof Match™ SBS Granular RUBEROID® UltraClad™, RUBEROID® 30, RUBEROID® 30 FR or RUBEROID® EnergyCap SBS 30 FR,. Adhere with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.



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 PLUS, 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: APP & SBS Heat-Weld
Deck Type 3: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type D(3): All insulations are loose laid with preliminary attachment to roof deck. Base sheet is subsequently mechanically fastened through insulation to the roof deck.

All General and System Limitations shall apply.

Insulation Layer (Table 2)	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ PolyIso, EnergyGuard™ Composite, EnergyGuard™ RA, RN Minimum 1.3" thick	N/A	N/A
EnergyGuard™ High Density Fiberboard Minimum 1" thick	N/A	N/A

Note: All layers of insulation and base sheet shall be simultaneously attached. See base sheet below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. All insulation shall be adhered to the deck in two 3/4" beads of Insta-Stik adhesive space at 12" o.c.

Base Sheet: Install one ply of SBS Heat-Weld™ Smooth. Fastened to the deck through the insulation with Drill-Tec™ #14 Screws and EverGuard™ 2" Barbed Plates in a 4" side laps 6" on center. Lap is torch sealed according to manufacture's instructions.

Ply Sheet: (Optional) One or more plies of RUBEROID® Heat-Weld™ Smooth. Adhere with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: One or more plies of RUBEROID® SBS Heat-Weld™ Smooth, RUBEROID® SBS Heat-Weld™ 25, RUBEROID® SBS Heat-Weld™ 170 FR, RUBEROID® EnergyCap SBS Heat Weld Plus FR, RUBEROID® SBS Heat-Weld™ PLUS, or RUBEROID® SBS Heat-Weld™ PLUS FR heat welded. Applied according to manufacturer's application instructions.



Surfacing:

(Optional, required over 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 PLUS, 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: APP
Deck Type 3I: Concrete Decks, Non-Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type F(1): Base sheet adhered with approved asphalt.

All General and System Limitations shall apply.

Base Sheet: Install one ply of GAFGLAS® #75, GAFGLAS® #80 ULTIMA™, GAFGLAS® PLY 4, GAFGLAS® FlexPly™ 6, RUBEROID® Modified Base Sheet or RUBEROID® 20 directly to primed deck. Adhere with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Ply Sheet: (Optional, required if used with RUBEROID® 20) One or more plies of GAFGLAS® Ply 4, GAFGLAS® FlexPly™ 6 ply sheets or GAFGLAS® #80 ULTIMA™ Base Sheet. Adhere with any approved mopping 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 FR or Roof Match™ APP Granular. Torch applied according to manufacturer's application instructions.

Surfacing: (Optional) 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 PLUS, 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: -236 psf (See General Limitation #9)



Membrane Type: APP
Deck Type 3I: Concrete Decks, Non-Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type F(2): Base sheet adhered with approved asphalt.

All General and System Limitations shall apply.

Base Sheet: Install one ply of GAFGLAS® #75, GAFGLAS® #80 ULTIMA™, GAFGLAS® PLY 4, GAFGLAS® FlexPly™ 6, RUBEROID® Modified Base Sheet or RUBEROID® 20 directly to primed deck. Adhere with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Ply Sheet: (Optional, required if used with RUBEROID® 20) One or more plies of GAFGLAS® Ply 4 or GAFGLAS® FlexPly™ 6 ply sheets. Adhere with any approved mopping 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 FR or Roof Match™ APP Granular. Torch applied according to manufacturer's application instructions.

Surfacing: (Optional) 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 PLUS, 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: -457.5 psf (See General Limitation #9)



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Membrane Type: SBS
Deck Type 3I: Concrete Decks, Non-Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type F(3): Base sheet adhered with approved asphalt.

All General and System Limitations shall apply.

Base Sheet: Install one ply of GAFGLAS® #75, GAFGLAS® #80 ULTIMA™, Base Sheet GAFGLAS® PLY 4, GAFGLAS® FlexPly 6, RUBEROID® Modified Base Sheet or RUBEROID® 20 directly to primed deck. Adhere with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

**Ply Sheet:
(Optional)** One or more plies of GAFGLAS® Ply 4, GAFGLAS® FlexPly 6 ply sheets or GAFGLAS® #80 ULTIMA™, Base Sheet. Adhere with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: One or more plies ply of RUBEROID® 20, RUBEROID® MOP Smooth, RUBEROID® Mop Granule, RUBEROID® Mop 170 FR, RUBEROID® SBS Dual FR, RUBEROID® Mop Plus Granule, RUBEROID® Mop FR, Roof Match™ SBS Granular, RUBEROID® ULTRACLAD™, RUBEROID® 30, RUBEROID® 30 FR or RUBEROID® EnergyCap SBS 30 FR. Adhere with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: (Optional, required over 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 PLUS, 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:** -457.5 psf (See General Limitation #9)



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Membrane Type: SBS
Deck Type 3: Concrete Decks, Non-Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type F(4): Base sheet adhered with approved asphalt.

All General and System Limitations shall apply.

Base Sheet: Install one ply of GAFGLAS® #75, GAFGLAS® #80 ULTIMA™ Base Sheet, GAFGLAS® PLY 4, GAFGLAS® FlexPly™ 6, RUBEROID® Modified Base Sheet, RUBEROID® MOP Smooth or RUBEROID® 20 directly to primed deck. Adhered with Matrix™ 102 Select SBS Adhesive (RUBEROID® Modified Bitumen Adhesive) at an application rate of 1-2 gal./sq.

Membrane: One or more plies ply of RUBEROID® MOP Smooth, RUBEROID® Mop Granule, RUBEROID® Mop 170 FR, RUBEROID® SBS Dual FR, RUBEROID® Mop Plus Granule, RUBEROID® Mop FR, Roof Match™ SBS Granular, RUBEROID® 30, RUBEROID® 30 FR or RUBEROID® EnergyCap SBS 30 FR. Adhered with Matrix™ 102 Select SBS Adhesive (RUBEROID® Modified Bitumen Adhesive) at an application rate of 1-2 gal./sq.

Surfacing: (Optional, required over 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 PLUS, 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: -307.5 psf (See General Limitation #9)



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Membrane Type: SBS
Deck Type 3: Concrete Decks, Non-Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type F(5): Membrane fully adhered with approved asphalt.

All General and System Limitations shall apply.

Base Sheet: GAFGLAS® STRATAVENT® Eliminator™ Perforated, loose laid dry over primed concrete deck.

Ply Sheet: One or more plies of RUBEROID® 20, GAFGLAS® #80 ULTIMA™, GAFGLAS® (Optional) PLY 4 or GAFGLAS® FlexPly™ 6 ply sheet. 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® 20, RUBEROID® MOP Smooth, RUBEROID® Mop 170 FR, RUBEROID® SBS Dual FR, RUBEROID® Mop Granule, RUBEROID® Mop Plus Granule, Roof Match™ SBS Granular, RUBEROID® 30, RUBEROID® 30 FR, RUBEROID® EnergyCap SBS 30 FR, RUBEROID® Mop FR or RUBEROID® UltraClad™ SBS. 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 over RUBEROID® 20 and 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 PLUS, 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: -195 psf (See General Limitation #9)



Membrane Type: APP/SBS Heat Weld
Membrane Type: APP & SBS Heat-Weld
Deck Type 3: Concrete Decks, Non-Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type F(6): Membrane fully adhered with approved asphalt.

All General and System Limitations shall apply.

Base Sheet: GAFGLAS® STRATAVENT® Eliminator™ Perforated, loose laid dry over primed concrete deck.

Ply Sheet: One or more plies of GAFGLAS® #80 ULTIMA™ Base Sheets or GAFGLAS® #75 Base Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. 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 or RUBEROID® Torch FR, RUBEROID® Torch 170 FR or Roof Match™ APP Granular 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® EnergyCap SBS Heat Weld Plus FR, RUBEROID® SBS Heat-Weld™ Plus FR, RUBEROID® UltraClad™. Applied according to Manufacturer's application instruction.

Surfacing: (Optional, required over 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 PLUS, 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: -195 psf (See General Limitation #9)



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Membrane Type: APP & SBS Heat-Weld
Deck Type 3: Concrete Decks, Non-Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type F(7): Base sheet adhered with approved asphalt.

All General and System Limitations shall apply.

Base Sheet: One ply of RUBEROID® SBS Heat Weld™ Smooth torched adhered to primed concrete deck.

**Ply Sheet:
(Optional)** One or more plies of RUBEROID® SBS Heat-Weld™ Smooth or RUBEROID® SBS Heat Weld™ 25 torch adhered. 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 ply of RUBEROID® SBS Heat-Weld™ Plus, RUBEROID® SBS Heat-Weld™ Plus FR, RUBEROID® SBS Heat-Weld™ 170 FR, RUBEROID® EnergyCap SBS Heat Weld Plus FR, RUBEROID® SBS Heat-Weld™, RUBEROID® SBS Heat-Weld™ Smooth, or RUBEROID® SBS Heat-Weld™ 25. Applied according to Manufacturer's application instruction.

Surfacing: (Optional, required over 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 PLUS, 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 1to 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:** -495 psf (See General Limitation #9)



CONCRETE DECK SYSTEM LIMITATIONS:

1. If mechanical attachment to the structural deck through the lightweight insulating concrete is proposed, a field withdrawal resistance testing shall be performed to determine equivalent or enhanced fastener patterns and density. All testing and fastening design shall be in compliance with Testing Application Standard TAS 105 and Roofing Application Standard RAS 117, calculations shall be signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant.

GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance, refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each side lap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq.
Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.
5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
7. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased for both insulation and base sheet as calculated in compliance with Roofing Application Standard RAS 117 and/or RAS 137. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant **(When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)**
8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform to Roofing Application Standard RAS 111 and applicable wind load requirements.
9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). **(When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)**
10. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 9B-72 of the Florida Administrative Code.

END OF THIS ACCEPTANCE



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