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 Steel Decks.

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

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

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

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

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

This NOA renews and revises NOA No. 03-1003.01 and consists of pages 1 through 36.
The submitted documentation was reviewed by Jorge L. Acebo.

MIAMI-DADE COUNTY APPROVED

ROOFING SYSTEM APPROVAL

Category:	Roofing
Sub-Category:	SBS/APP, Modified Bitumen
Deck Type:	Steel
Maximum Design Pressure	-90 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	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 Fibered Aluminum Roof Coating	1, 5 gallons	ASTM D 2824	Fibered aluminum coating.
LeakBuster™ Matrix™ 322 Elastomeric Roof Coating	55 gallons		Elastomeric roof coating.
LeakBuster™ Matrix™ 306	55 gallons		Asphalt emulsion fibered.
LeakBuster™ Matrix™ 204 Wet/Dry Roof Cement	1, 5 gallons	ASTM D 3019 ASTM D 3409 ASTM D-4586 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	Type II Asphalt impregnated and coated glass mat base sheet.
GAFGLAS® # ULTIMA™ Base Sheet	39.37" (1 meter) Wide	ASTM D4601	Type II 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.

Product	Dimensions	Test Specification	Product Description
GAFGLAS® EnergyCap™ Mineral Surfaced Cap Sheet	39.37" (1 meter) Wide	ASTM D 3909	Asphalt coated, glass fiber mat cap sheet surfaced with mineral granules with factory applied layer of TOPCOAT® EnergyCote™.
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® Flashing	various		Asphalt coated glass fiber mat flashing sheet available in three sizes.
GAFGLAS® STRATAVENT® Eliminator™ Perforated 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® Modified Base Sheet	39.37" (1 meter) Wide	ASTM D4601, Type II, UL Type G2 BUR	Premium glass fiber reinforced SBS-modified base sheet
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 sq. roll 87 lbs.	ASTM D 6298 ASTM D 5147	Non-woven polyester mat coated with polymer-modified asphalt and smooth surfaced.
RUBEROID® MOP PLUS	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.

Product	Dimensions	Test Specification	Product Description
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.
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	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® 170FR TORCH	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.
RUBEROID® 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® 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.
Vent Stacks (metal and plastic)		TAS 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.
Leak Buster™ Matrix™ 302 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

Product	Dimensions	Test Specification	Product Description
RUBEROID® MOD Asphalt Asphalt L & Asphalt P	60 lb. kegs		SEBS modified asphalt
TOPCOAT® Surface Seal SB (Matrix 602 SB Coating)	5 gallons		Surface coating for smooth surfaced and mineral surfaced roofs.
LEAK BUSTER™ Matrix™ 715 MB Coating Label	5 gallons		Surface coating for smooth surfaced and mineral surfaced roofs.
EnergyCote™ Coating	2, 5 gallons	ASTM D-2196 ASTM D-1475 ASTM E-1644 ASTM C-1549 ASTM E-408	Highly reflective elastomeric coating
Leak Buster™ Matrix™ 715 MB Coating Label	5 gallons		Surface coating for smooth surfaced and mineral surfaced roofs.
VersaShield®	350 sq. ft roll	ASTM-D 226 4869 Type I, II	Non-Asphaltic Fiberglass-Based Underlayment
VersaShield® FB-1S	350 sq. ft roll	ASTM-D 226 4869 Type I, II	Non-Asphaltic Fiberglass-Based Underlayment
VersaShield® FB-2S	350 sq. ft roll	ASTM-D 226 4869 Type I, II	Non-Asphaltic Fiberglass-Based Underlayment
TOPCOAT® FireShield® MB	5, 55 gallons	ASTM D-412 ASTM D-21-96 ASTM D1475 ASTM E-1644	Elastomeric roofing membrane
Leak Buster™ Matrix™ 103 WeatherCote™ Elastomeric Flashing Grade	5 gallons		Surface coating for smooth surfaced and mineral surfaced roofs.
LeakBuster™ Matrix™ 201 Premium SBS Flashing	5 gallons	ASTM D3019	Cold Applied Modified SEBS Asphalt Adhesive – Flashing Grade.
Leak Buster™ Matrix™ 102 SBS Adhesive Label	5 gallons	ASTM D3019	Cold Applied Modified SEBS Asphalt Adhesive.
Leak Buster™ Matrix™ 202 SBS Flashing Cement Label	5 gallons	ASTM D4586	Cold Applied Modified SEBS Asphalt Adhesive – Flashing Grade.
Leak Buster™ Matrix™ 203 Plastic Roof Cement Label	5 gallons	ASTM D4586	Standard Plastic Asphalt Roofing Cement
Leak Buster™ Matrix™ 103 Gold Process Adhesive Label	5 gallons	ASTM D3019	Cold Applied Asphalt Adhesive.
LeakBuster™ Matrix™ 303 Premium Fibered Aluminum	5 gallons	ASTM D 2824	Fibered aluminum coating.

Product	Dimensions	Test Specification	Product Description
LeakBuster™ Matrix™ 304 Non-Fibered Aluminum Roof	5 gallons	ASTM D2824, Type I	Non-fibered. Aluminum pigmented, asphalt roof coating.

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
EnergyGuard™ Polyiso	Polyisocyanurate foam insulation	GAF Materials Corp.
EnergyGuard™ RA, RN	Polyisocyanurate foam insulation	GAF Materials Corp
EnergyGuard™ Composite Composite A & N, EnergyGuard™ Composite RA, RN	Polyisocyanurate foam insulation with high density fiberboard or Permalite perlite insulation.	GAF Materials Corp.
EnergyGuard™ Fiberboard	Fiberboard insulation.	GAF Materials Corp.
EnergyGuard™ Perlite	Perlite insulation board.	GAF Materials Corp.
EnergyGuard™ Perlite Recover Board	Perlite recover board	GAF Materials Corp.
EnergyGuard™ Tapered Edge Strip	Tapered perlite board	GAF Materials Corp.
EnergyGuard™ High Density Fiberboard	High density wood fiberboard insulation.	GAF Materials Corp.
EnergyGuard™, RA	Polyisocyanurate foam insulation	GAF Materials Corp.
Composite EnergyGuard™, RA	Polyisocyanurate/wood fiberboard composite	GAF Materials Corp.
EnergyGuard™ EPS Insulation	Extruded polystyrene insulation	Generic
Wood Fiber	Wood fiber insulation board	Generic
High Density Wood Fiberboard	Wood fiber insulation board	Generic
Perlite/Urethane Composite	Perlite / urethane composite board insulation	Generic
Perlite Insulation	Perlite insulation board	generic
Type X Gypsum	Fire resistant rated gypsum.	generic
Dens Deck®	High Density Water resistant, Fire Resistant gypsum board	G-P Gypsum Corp.
DensDeck® Prime	High Density Water resistant, Fire Resistant gypsum board	G-P Gypsum Corp
DensDeck® Dure Guard™	High Density Water resistant, Fire Resistant gypsum board	G-P Gypsum Corp
SECUROCK®	Fiber-reinforced insulation	G-P Gypsum Corp
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.		GAF Materials Corp.
3.	Drill-Tec™ CR Base Sheet Fastener and Plate	Base sheet fastening assembly.		GAF Materials Corp.
4.	Drill-Tec™ AccuTrac Plate Galvalume Plates	Square Galvalume stress plates.	3" and 3 ½"	GAF Materials Corp.
5.	Drill-Tec™ Plastic Polypropylene	Round polypropylene stress plates.	3" and 3 ½"	GAF Materials Corp.
6.	Drill-Tec™ Galvalume Plates	Round Galvalume stress plates.	3" and 3 ½"	GAF Materials Corp

EVIDENCE SUBMITTED:

Test Agency	Test Identifier	Description	Date
Factory Mutual Research Corp.	Current Insulation Attachment Requirements	FMRC 1996	01.01.96
Factory Mutual Research Corp.	FMRC 4470 - TAS 114	J.I. 1B9A8.AM	09.04.97
Factory Mutual Research Corp.	FMRC 4470 - TAS 114	J.I. 3D4Q2.AM	04.30.97
Factory Mutual Research Corp.	Class 4470	3001276	01.28.99
		3007500	06.15.00
		3011140	08.14.01
		3013788	01.10.03
		3014547	05.22.03
Factory Mutual Research Corp	Class 4470	3017250	04.05.04
Factory Mutual Research Corp	Class 4450	3023458	07.18.06
IRT	TAS-114	04-0041	01.26.04
Trinity Engineering	Wind Uplift PA 114	4483.04 97-1	06.06.97

APPROVED ASSEMBLIES

Membrane Type: APP/SBS/SBS Heat Weld

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type B(1): One or more layers of insulation is mechanically attached, perforated base sheet loose laid over the insulation.

All General and System limitations apply.

Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
EnergyGuard™ RA Minimum 2" thick	**1 (#14)**	**1:1.5 ft²**

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The 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.

Base Sheet: One ply of GAFGLAS® STRATAVENT® Eliminator™ Perforated loose laid with 2" side laps.

Ply Sheet: (Optional, required for torch applied RUBEROID® membranes) One or more plies of GAFGLAS®® Ply 4, GAFGLAS® FlexPly™ 6 ply sheet, RUBEROID® 20, RUBEROID® Mop Smooth 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.

Membrane: One or more plies of RUBEROID® Torch Smooth, RUBEROID® Torch Granule, RUBEROID® Torch Plus Granule, RUBEROID® Torch FR, RUBEROID® Torch 170FR, RUBEROID® Torch 1, RUBEROID® Mop 170FR, RUBEROID® MOP (Smooth and Granule), RUBEROID® 20, RUBEROID® 30, RUBEROID® 30 FR, RUBEROID® MOP PLUS or RUBEROID® MOP FR 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™ Granule, RUBEROID® SBS Heat-Weld™ 170 FR, RUBEROID® SBS Heat-Weld™ PLUS, RUBEROID® SBS Heat-Weld™ Plus FR, RUBEROID® SBS Dual FR or RUBEROID® 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 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: -60 psf (See General Limitation #7.)

Membrane Type: APP/SBS Heat Weld

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type B(2): Base layer of insulation mechanically fastened, top layer adhered with approved asphalt.

All General and System limitations apply.

Base Insulation Layer (Optional)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
EnergyGuard™ PolyIso, EnergyGuard™ RA, EnergyGuard™ RN Minimum 1.2" thick	**1 (#14)**	**1:4 ft²**

Note: Base layers of insulation shall be mechanically attached using the fastener density listed. The 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. 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 isocyanurate applications.

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
EnergyGuard™ Perlite, Perlite Minimum ¾" thick	**N/A**	**N/A**

Note: Top layer of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Base Sheet: One ply of GAFGLAS®#75, GAFGLAS® PLY 4, FlexPly™ 6 ply sheet, STRATAVENT®Eliminator™ Perforated (laid dry), GAFGLAS® #80 ULTIMA™ Base Sheet, RUBEROID® Modified Base Sheet , 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.

Ply Sheet: (Optional, required if used with RUBEROID® 20, RUBEROID® Mop Smooth or STRATAVENT® Eliminator™ Perforated) one or more plies of GAFGLAS® PLY 4, FlexPly™ 6 ply sheet, GAFGLAS® #80 ULTIMA™ 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: One or more plies of RUBEROID® Torch Smooth, RUBEROID® Torch Granule, RUBEROID® Torch Plus Granule or RUBEROID® Torch FR, RUBEROID® MOP (Smooth and Granual), RUBEROID® MOP 170FR, RUBEROID® MOP PLUS, RUBEROID® MOP FR, RUBEROID®20, RUBEROID® 30, 30FR, RUBEROID® UltraClad SBS, RUBEROID® SBS Dual FR, RUBEROID® SBS Heat Weld™ Smooth, RUBEROID® SBS Heat Weld™ 25, RUBEROID® SBS Heat Weld™ 170FR, RUBEROID® 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 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: -52 psf (See General Limitation #9.)

Membrane Type: APP/SBS Heat Weld

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type B(3): Base layer of insulation mechanically fastened, top layer adhered with approved asphalt.

All General and System limitations apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
EnergyGuard™ PolyIso, EnergyGuard™ RA, EnergyGuard™ RN Minimum 1.2" thick	**1 or 2**	**1:2 ft²**

Note: Base layers of insulation shall be mechanically attached using the fastener density listed. The 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. 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 isocyanurate applications.

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

Note: Top layer of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Base Sheet: One ply of GAFGLAS® #75, GAFGLAS® PLY 4, GAFGLAS® PLY 6, GAFGLAS® #80 Ultima™ Base Sheet, STRATAVENT® Eliminator™ Perforated, 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.

Ply Sheet: (Optional, required if used with RUBEROID® 20, RUBEROID® Mop Smooth or STRATAVENT® Perforated) one or more plies of GAFGLAS® PLY 4, GAFGLAS® FlexPly™ 6 ply 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.

Membrane: One or more plies of RUBEROID® Torch Smooth, RUBEROID® Torch Granule, RUBEROID® Torch Plus Granule or RUBEROID® Torch FR, , RUBEROID® Torch 170FR, RUBEROID® Torch 1, RUBEROID® MOP (Smooth and Granule), RUBEROID® MOP 170FR, RUBEROID® MOP PLUS and RUBEROID® MOP FR, RUBEROID® 20, RUBEROID® 30, RUBEROID® 30 FR, RUBEROID® UltraClad SBS, RUBEROID® SBS Dual FR, RUBEROID® SBS Heat-Weld™ Smooth, RUBEROID® SBS Heat-Weld™ 25, RUBEROID® SBS Heat-Weld™ Granule, RUBEROID® SBS Heat-Weld™ 170FR, RUBEROID® SBS Heat-Weld™ Plus or RUBEROID® SBS Heat-Weld™ FR 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 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: -60 psf (See General Limitation #9.)

Membrane Type: APP/SBS/SBS Heat Weld

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel Type B Grade E steel decking attached to steel supports spaced 6 ft. o.c. with Buildex Traxx/4 or 5 fasteners spaced 6" o.c. (at the bottom flute), and with side laps attached with Buildex Traxx/1 fasteners spaced at max. of 30" o.c.

System Type B(4): Base layer of insulation mechanically fastened, top layer adhered with approved asphalt.

All General and System limitations apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
EnergyGuard™ RA Minimum 2" thick	**1 or 2**	**1:1.45 ft²**

Note: Base layers of insulation shall be mechanically attached using the fastener density listed. The 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.

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
EnergyGuard™ Perlite, EnergyGuard™ Fiberboard Minimum 1" thick	**N/A**	**N/A**

Note: Top layer of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Base Sheet: One ply of GAFGLAS® #75, GAFGLAS® PLY 4, GAFGLAS® FlexPly™ 6, GAFGLAS® #80 Ultima™ Base Sheet 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.

Ply Sheet: (Optional, required over RUBEROID® 20) one or more plies of GAFGLAS® PLY 4, GAFGLAS® FlexPly™ 6 ply 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.

Membrane: One or more plies of RUBEROID® Torch Smooth, RUBEROID® Torch Granule, RUBEROID® Torch Plus Granule or RUBEROID® Torch FR, , RUBEROID® Torch 170FR, RUBEROID® Torch 1, RUBEROID® MOP (Smooth and Granule), RUBEROID® MOP 170FR, RUBEROID® MOP PLUS and RUBEROID® MOP FR, RUBEROID® 20, RUBEROID® 30, RUBEROID® 30 FR, RUBEROID® UltraClad SBS, RUBEROID® SBS Dual FR, RUBEROID® SBS Heat-Weld™ Smooth, RUBEROID® SBS Heat-Weld™ 25, RUBEROID® SBS Heat-Weld™ Granule, RUBEROID® SBS Heat-Weld™ 170FR, RUBEROID® SBS Heat-Weld™ Plus or RUBEROID® SBS Heat-Weld™ FR 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 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: -60 psf (See General Limitation #7.)

Membrane Type: APP/SBS/SBS Heat Weld

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel steel Type B Grade 80 steel decking attached to steel supports spaced 6 ft. o.c. with Buildex Traxx/4 or 5 fasteners spaced 6" o.c. (at the bottom flute), and with side laps attached with Buildex Traxx/1 fasteners spaced at max. of 24" o.c

System Type B(5): Base layer of insulation mechanically fastened, membrane adhered with approved asphalt.

All General and System limitations apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
EnergyGuard™ PolyIso, EnergyGuard™ RA, EnergyGuard™ RN, Minimum 2" thick	**1**	**1:1.45 ft²**

Note: Base layers of insulation shall be mechanically attached using the fastener density listed. The 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.

Base Sheet: One ply of GAFGLAS® STRATAVENT® Eliminator™ Perforated (laid dry), with 2" side laps.

Ply Sheet: (Optional, required if RUBEROID® Torch membranes or SBS Heat Weld™ membranes are used) One or more plies of GAFGLAS® PLY 4, GAFGLAS® FlexPly™ 6 ply 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.

Membrane: One or more plies of RUBEROID® Torch Smooth, RUBEROID® Torch Granule, RUBEROID® Torch Plus Granule, RUBEROID® Torch FR, RUBEROID® Torch 170FR, RUBEROID® Torch 1, RUBEROID® Mop 170FR, RUBEROID® MOP (Smooth and Granule), RUBEROID® 20, RUBEROID® 30, RUBEROID® 30 FR, RUBEROID® MOP PLUS, RUBEROID® MOP FR, RUBEROID® SBS Dual FR or RUBEROID® Ultraclad® SBS 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™ Granule, RUBEROID® SBS Heat-Weld™ 170 FR, RUBEROID® SBS Heat-Weld™ PLUS, RUBEROID® SBS Heat-Weld™ FR or RUBEROID® 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 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: -67.5 psf (See General Limitation #7.)

Membrane Type:	SBS/SBS Heat Weld
Deck Type 2I:	Steel, Insulated
Deck Description:	18-22 ga. steel Type B Grade 80 steel decking attached to steel supports spaced 6 ft. o.c. with Buildex Traxx/4 or 5 fasteners spaced 6" o.c. (at the bottom flute), and with side laps attached with Buildex Traxx/1 fasteners spaced at max. of 24" o.c.
System Type B(6):	Base layer of insulation mechanically fastened, top layer adhered with approved asphalt.

All General and System limitations apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
EnergyGuard™ PolyIso Minimum 1.5" thick	**1 (#14)**	**1:1.3 ft²**

Note: Base layers of insulation shall be mechanically attached using the fastener density listed. The 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.

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
EnergyGuard™ Perlite, EnergyGuard™ Fiberboard Minimum ½" thick	**N/A**	**N/A**

Note: Top layer of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Base Sheet:	One ply of GAFGLAS® #75, GAFGLAS® #80 Ultima™ Base Sheet 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.
Ply Sheet:	(Optional, required over RUBEROID® 20) one or more plies of GAFGLAS® PLY 4, GAFGLAS® FlexPly™ 6 ply sheet, GAFGLAS® #80 Ultima™ Base sheet 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:	One or more plies of RUBEROID® 20, RUBEROID® 30, RUBEROID® 30 FR, RUBEROID® MOP (Smooth and Granule), RUBEROID® MOP 170FR, RUBEROID® MOP PLUS, RUBEROID® MOP FR, RUBEROID® SBS Dual 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 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 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: -90 psf (See General Limitation #7.)

Membrane Type: APP/SBS/SBS Heat Weld

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type C(1): Base sheet adhered with approved asphalt; both layers of insulation simultaneously fastened.

All General and System limitations apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
EnergyGuard™ PolyIso, EnergyGuard™ RA, EnergyGuard™ RN Minimum 1.2" thick	**N/A**	**N/A**

Note: Both layers shall be simultaneously attached; see top layer below for fasteners and density.

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
DensDeck®		
Minimum ¼" thick	**1 or 2**	**1:2 ft²**

Note: 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. 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 isocyanurate applications.

Base Sheet: One ply of GAFGLAS® #75, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® PLY 4, GAFGLAS® FlexPly™ 6, STRATAVENT® Eliminator™ Perforated (laid dry), RUBEROID® 20 or RUBEROID® Mop Smooth adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Ply Sheet: (Optional, required over STRATAVENT® Perforated when Torch RUBEROID® and SBS Heat-Weld™ is used) One or more plies of GAFGLAS® PLY 4, GAFGLAS® FlexPly™ 6 ply 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.

Membrane: One or more plies of RUBEROID® Torch Smooth, RUBEROID® Torch Granule, RUBEROID® Torch Plus Granule, RUBEROID® Torch FR, RUBEROID® Torch 170FR, RUBEROID® Torch 1, RUBEROID® Mop 170FR, RUBEROID® MOP (Smooth and Granule), RUBEROID® 20, RUBEROID® 30, RUBEROID® 30 FR, RUBEROID® MOP PLUS, RUBEROID® MOP FR, RUBEROID® SBS Dual FR or RUBEROID® Ultraclad™ SBS 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™ Granule, RUBEROID® SBS Heat-Weld™ 170 FR, RUBEROID® SBS Heat-Weld™ PLUS, RUBEROID® SBS Heat-Weld™ FR or RUBEROID® 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 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: -60 psf (See General Limitation #9.)

Membrane Type: SBS/SBS Heat Weld

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel Type B Grade 33 steel decking attached to steel supports spaced 6 ft. o.c. with Buildex Traxx/4 or 5 fasteners spaced 6" o.c. (at the bottom flute), and with side laps attached with Buildex Traxx/1 fasteners spaced at max. of 24" o.c.

System Type C(2): Base sheet loose laid; both layers of insulation simultaneously fastened.

All General and System limitations apply.

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

Note: Both layers shall be simultaneously attached; see top layer below for fasteners and density.

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
Dens Deck Minimum ¼" thick	**1, 2 or 6**	**1:1 ft²**

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The 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.

Base Sheet: One ply of GAFGLAS® STRATAVENT® Eliminator™ Perforated (laid dry), with 2" side laps.

Ply Sheet: (Optional, required when RUBEROID® SBS Heat Weld™ membranes are used) One or more plies of GAFGLAS® PLY 4, GAFGLAS® FlexPly™ 6 ply sheet RUBEROID® Mop Smooth, RUBEROID® 20 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.

Membrane: One or more plies of RUBEROID® 20, RUBEROID® 30, RUBEROID® 30 FR, RUBEROID® MOP (Smooth and Granule), RUBEROID® MOP 170FR, RUBEROID® MOP PLUS, RUBEROID® MOP FR, RUBEROID® SBS Dual 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.
Or
One or more plies of RUBEROID® SBS Heat-Weld™ Smooth, RUBEROID® SBS Heat Weld™ 25, RUBEROID® SBS Heat Weld™ Granule, RUBEROID® SBS Heat-Weld™ 170 FR, RUBEROID® SBS Heat Weld™ PLUS or RUBEROID® SBS Heat Weld™ FR 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 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: -82.5 psf (See General Limitation #7.)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Minimum 22 gauge steel was secured to Min. ¼ in. (6.4 mm) thick structural steel supports, 6 ft (1.83m) o.c., with ITW Buildex TRAXX 5 fasteners spaced 6 in (1.52) o.c. along each support. Deck side laps were fastened with ITW Buildex TRAXX 1 fasteners spaced 24 in (610 mm)o.c.

System Type C(3): Base sheet loose laid; insulation simultaneously fastened.

All General and System limitations apply.

One or more layers of the following:

Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
EnergyGaurd™ Ultra PolyIso Minimum 2" thick	**1 & 6**	**1:1.45 ft²**

Note: Insulation layer shall have preliminary attachment, prior to the installation of the base sheet, at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base sheet below for fasteners and density.

Base Sheet: STRATAVENT® Eliminator™ Venting Base Sheet (Perforated) with 2 in (50mm) side laps was loose laid dry.

Ply Sheet: One or more plies GAFGLAS® PLY 4, GAFGLAS® FlexPly™ 6 or (Optional) GAFGLAS® #80 Ultima™ RUBEROID 20, RUBEROID Mop smooth. 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® 30, RUBEROID® 30 FR, RUBEROID® Mop Granule, RUBEROID® Mop 170 FR, RUBEROID® Mop FR, RUBEROID® Mop Plus, RUBEROID® Dual FR, RUBEROID® 20,RUBEROID® ULTRACLAD®, RUBEROID® Mop Smooth applied according to manufacturer's application instructions.

Or

One or more plies of RUBEROID® SBS Heat-Weld 25™, RUBEROID® SBS Heat-Weld™ Smooth, RUBEROID® SBS Heat-Weld™ (Granule), RUBEROID® SBS Heat-Weld™ 170 FR, RUBEROID® SBS Heat-Weld™ Plus, RUBEROID® SBS Heat-Weld™ Plus FR.

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

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Minimum 22 gauge steel was secured to Min. ¼ in. (6.4 mm) thick structural steel supports, 6 ft (1.83m) o.c., with ITW Buildex TRAXX 5 fasteners spaced 6 in (1.52) o.c. along each support. Deck side laps were fastened with ITW Buildex TRAXX 1 fasteners spaced 24 in (610 mm)o.c.

System Type C(4): Base sheet loose laid; insulation simultaneously fastened.

All General and System limitations apply.

One or more layers of the following:

Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
EnergyGaurd™ Ultra PolyIso Minimum 2" thick	**1 & 6**	**1:2 ft²**

Note: Insulation layer shall have preliminary attachment, prior to the installation of the base sheet, at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base sheet below for fasteners and density.

Base Sheet: STRATAVENT® Eliminator™ Venting Base Sheet (Perforated) with 2 in (50mm) side laps was loose laid dry.

Ply Sheet: One or more plies GAFGLAS® PLY 4, GAFGLAS® FlexPly™ 6 or (Optional) GAFGLAS® #80 Ultima™ RUBEROID 20, RUBEROID Mop smooth. 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® 30, RUBEROID® 30 FR, RUBEROID® Mop Granule, RUBEROID® Mop 170 FR, RUBEROID® Mop FR, RUBEROID® Mop Plus, RUBEROID® Dual FR, RUBEROID® 20,RUBEROID® ULTRACLAD®, RUBEROID® Mop Smooth applied according to manufacturer's application instructions.

Or

One or more plies of RUBEROID® SBS Heat-Weld 25™, RUBEROID® SBS Heat-Weld™ Smooth, RUBEROID® SBS Heat-Weld™ (Granule), RUBEROID® SBS Heat-Weld™ 170 FR, RUBEROID® SBS Heat-Weld™ Plus, RUBEROID® SBS Heat-Weld™ Plus FR.

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 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: -60 psf (See General Limitation #7.)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Minimum 22 gauge steel non-vented B-deck was attached to 5' o.c., bar joist with puddle welds and washers at 6"o.c., and tech screws at 12"o.c..

System Type C(5): All insulation simultaneously fastened.

All General and System limitations apply.

One or more layers of the following:

Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
EnergyGaurd™ Ultra PolyIso Minimum 1.5" thick	**1 & 6**	**1:1.45 ft²**

Note: Insulation layer shall have preliminary attachment, prior to the installation of the base sheet, at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base sheet below for fasteners and density.

Base Sheet: STRATAVENT® Eliminator™ Venting Base Sheet (Perforated) with 2 in (50mm) side laps was loose laid dry.

Ply Sheet: One or more plies GAFGLAS® PLY 4, GAFGLAS® FlexPly™ 6 or (Optional) GAFGLAS® #80 Ultima™ RUBEROID 20, RUBEROID Mop smooth. 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® 30, RUBEROID® 30 FR, RUBEROID® Mop Granule, RUBEROID® Mop 170 FR, RUBEROID® Mop FR, RUBEROID® Mop Plus, RUBEROID® Dual FR, RUBEROID® 20,RUBEROID® ULTRACLAD®, RUBEROID® Mop Smooth applied according to manufacturer's application instructions.

Or

One or more plies of RUBEROID® SBS Heat-Weld 25™, RUBEROID® SBS Heat-Weld™ Smooth, RUBEROID® SBS Heat-Weld™ (Granule), RUBEROID® SBS Heat-Weld™ 170 FR, RUBEROID® SBS Heat-Weld™ Plus, RUBEROID® SBS Heat-Weld™ Plus FR.

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 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: -60 psf (See General Limitation #7.)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: Minimum 22 gauge steel secured to minimum. ¼ in. (6 mm) thick steel structural supports, 6 ft (1.8m) o.c., with ITW Buildex TRAXX/5 fasteners 6 in. (1.52) o.c. along the center of the supports. Deck side laps are secured 24 in.(610 mm) o.c. with ITW Buildex TRAXX/1 fasteners..

System Type C(6): All insulation simultaneously fastened. Base sheet adhered to insulation.

All General and System limitations apply.

One or more layers of the following:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
EnergyGaurd™ Ultra PolyIso Minimum 2" thick	**N/A**	**N/A**

Note: Both layers shall be simultaneously attached; see top layer below for fasteners and density.

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
SECUROCK® Minimum ½" thick	**1,2,4,6**	**1.78 ft²**

Note: 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.

Base Sheet: One or more plies GAFGLAS® PLY 4, GAFGLAS® FlexPly™ 6.

Ply Sheet: One or more plies GAFGLAS® PLY 4, GAFGLAS® FlexPly™ 6 or GAFGLAS® #80 Ultima™ RUBEROID 20, RUBEROID Mop smooth. 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® 30, RUBEROID® 30 FR, RUBEROID® Mop Granule, RUBEROID® Mop 170 FR, RUBEROID® Mop FR, RUBEROID® Mop Plus, RUBEROID® Dual FR, RUBEROID® 20,RUBEROID® ULTRACLAD®, RUBEROID® Mop Smooth applied according to manufacturer's application instructions.
Or
One or more plies of RUBEROID® SBS Heat-Weld 25™, RUBEROID® SBS Heat-Weld™ Smooth, RUBEROID® SBS Heat-Weld™ (Granule), RUBEROID® SBS Heat-Weld™ 170 FR, RUBEROID® SBS Heat-Weld™ Plus, RUBEROID® SBS Heat-Weld™ Plus FR.

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 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: -60 psf (See General Limitation #7.)

Membrane Type: APP/SBS Heat Weld

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type D(1): Insulation and Base sheet simultaneously attached

All General and System limitations apply.

One or more layers of any of the following insulations.

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

Note: Top layer shall have preliminary attachment, prior to the installation of the base sheet, at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base sheet below for fasteners and density.

Base Sheet: GAFGLAS® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, STRATAVENT® Eliminator™ Nailable, RUBEROID® SBS Heat Weld™ 25 or RUBEROID® 20 base sheet applied over the loose laid insulation with 2" side laps

Fastening #1 Drill Tec™ #12 or #14 Screws and 3" Drill-Tec™ steel plate or Drill-Tec™ AccuTrac Plates are installed through the base sheet and insulation in 3 rows 12" on center. One row is in the 2" side lap. The other two rows are equally spaced approximately 12" o.c. in the field of the sheet.
(Maximum Design Pressure –45 psf; See General Limitation #7)
Or

Fastening #2 Drill Tec™ #12 or #14 Screws and 3" Drill-Tec™ steel plate or Drill-Tec™ AccuTrac Plates in 4 rows 12" on center. One row is in the 2" side lap. The other rows are equally spaced approximately 9" o.c. in the field of the sheet.
(Maximum Design Pressure –60 psf; See General Limitation #7)

Ply Sheet: (Optional) One or more plies GAFGLAS® PLY 4, GAFGLAS® FlexPly™ 6 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.

Membrane: One or more plies of RUBEROID® Torch Smooth, RUBEROID® Torch Granule, RUBEROID® Torch Plus Granule, RUBEROID® Torch FR, RUBEROID® Torch 170 or RUBEROID® Torch 1 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™ Granule, RUBEROID® SBS Heat-Weld™ 170 FR, RUBEROID® SBS Heat Weld™ PLUS, RUBEROID® SBS Heat Weld™ FR or RUBEROID® 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 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: **See Fastening Options Above**

Membrane Type: SBS/SBS Cold Applied

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type D(2): Insulation and Base sheet simultaneously attached

All General and System limitations apply.

One or more layers of any of the following insulations.

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

Note: Top layer shall have preliminary attachment, prior to the installation of the base sheet, at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base sheet below for fasteners and density.

Base Sheet: GAFGLAS® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, STRATAVENT® Eliminator™ Nailable, RUBEROID® SBS Heat Weld™ 25 or RUBEROID® 20 base sheet applied over the loose laid insulation with 2" side laps

Fastening #1 Drill Tec™ #12 or #14 Screws and 3" Drill-Tec™ steel plate or Drill-Tec™ AccuTrac Plates are installed through the base sheet and insulation in 3 rows 12" on center. One row is in the 2" side lap. The other two rows are equally spaced approximately 12" o.c. in the field of the sheet.
(Maximum Design Pressure –45 psf; See General Limitation #7)
Or

Fastening #2 Drill Tec™ #12 or #14 Screws and 3" Drill-Tec™ steel plate or Drill-Tec™ AccuTrac Plates in 4 rows 12" on center. One row is in the 2" side lap. The other rows are equally spaced approximately 9" o.c. in the field of the sheet.
(Maximum Design Pressure –60 psf; See General Limitation #7)

Ply Sheet: (Optional) One or more plies GAFGLAS® PLY 4, GAFGLAS® Flex Ply™ ply 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.

Membrane: One or more plies of RUBEROID® MOP Smooth, Ruberoid® Mop 170 FR, Ruberoid® Mop Granule, Ruberoid® Mop Plus Granule, Ruberoid® 20, Ruberoid® 30 or Ruberoid® 30 FR, Ruberoid® Mop FR, Ruberoid® SBS Dual FR or RUBEROID® 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,
One or more plies of RUBEROID® MOP Smooth, RUBEROID® Mop Granule, RUBEROID® Mop 170 FR, RUBEROID® Mop Plus Granule, Ruberoid® 20, RUBEROID® 30, RUBEROID® 30 FR, RUBEROID® Mop FR or RUBEROID® SBS Dual FR in Matrix 102 Select SBS (RUBEROID® MB Adhesive) Adhesive at an application rate of 1-2 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® 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 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: **See Fastening Option Above**

STEEL DECK SYSTEM LIMITATIONS:

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

GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance, refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each sidelap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq.
   Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.
5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida Registered 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