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, including the High Velocity Hurricane Zone.

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 revises NOA #03-0430.12 and consists of pages 1 through 41.
The submitted documentation was reviewed by Frank Zuloaga, RRC.

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
GAF Asphalt Concrete Primer (Matrix™ 307 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.
GAF WeatherCoat® Emulsion (Matrix™ Fibered 305 Emulsion)	5 gallons	ASTM 1227	Surface coating for smooth surfaced roofs.
GAF Premium Fibered Aluminum Roof Coating (Matrix™ System Pro Aluminum Roof Coating Fibered 301)	1, 5 gallons	ASTM D 2824	Fibered aluminum coating.
GAF Jetblack All Weather Plastic Cement (Matrix™ Standard Wet/Dry Roof Cement 204)	1, 5 gallons	ASTM D 3019 ASTM D 3409	Refined asphalt blended with a mineral stabilizer and fibers. Permits adhesion to wet and dry surfaces.
GAFGLAS #75®	39.37" (1 meter) Wide	ASTM D 4601	Asphalt impregnated and coated glass mat base sheet.
GAFGLAS #80 Ultima™ Base Sheet	39.37" (1 meter) Wide	ASTM D4601	Asphalt impregnated and coated, fiberglass base sheet
GAFGLAS Flex Ply™ 6	39.37" (1 meter) Wide	ASTM D 2178	Type VI asphalt impregnated glass felt with asphalt coating.
GAFGLAS Ply 4®	39.37" (1 meter) Wide	ASTM D 2178	Type IV asphalt impregnated glass felt with asphalt coating.
GAFGLAS®Mineral Surfaced Cap Sheet	39.37" (1 meter) Wide	ASTM D 3909	Asphalt coated, glass fiber mat cap sheet surfaced with mineral granules.

Product	Dimensions	Test Specification	Product Description
GAFGLAS® STRATAVENT® Eliminator Perforated	39.37" (1 meter) Wide	ASTM D3672 ASTM D 4897	Fiberglass base sheet coated on both sides with asphalt. Surfaced on the bottom side with mineral granules embedded in asphaltic coating with factory perforations.
GAFGLAS® 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.
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.

Product	Dimensions	Test Specification	Product Description
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)		PA 100(A) ASTM D 1929 ASTM D 635	One-way valve vent used to relieve built-up pressure within the roof system. GAF Vent Stacks are available in metal or plastic.
GAF Aluminum Emulsion	5 gallons	None	Mineral colloidal bituminous emulsion with reflective aluminum flakes
GAF Aluminum Roof Paint (Matrix™ System Pro Aluminum Roof Coating Fibered 302)	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.
GAF WeatherCote® MB+(Matrix 715 MB Coating)	5 gallons		Surface coating for smooth surfaced and mineral surfaced roofs.
TopCoat MB+(Matrix 715 MB Coating)	5 gallons		Surface coating for smooth surfaced and mineral surfaced roofs.
WeatherCote™ (Matrix 531 WeatherCote® Elastomeric Flashing Grade)	5 gallons		Surface coating for smooth surfaced and mineral surfaced roofs.
Matrix Low VOC	5 gallons		Surface coating for smooth surfaced and mineral surfaced roofs.
Matrix 101 System Pro SBS Adhesive	5 gallons	ASTM D3019	Cold Applied Modified SEBS Asphalt Adhesive
(Ruberoid®MB) Matrix 201 System Pro SBS Flashing	5 gallons	ASTM D3019	Cold Applied Modified SEBS Asphalt Adhesive – Flashing Grade.
(Ruberoid®MB) Matrix 102 Select SBS Adhesive	5 gallons	ASTM D3019	Cold Applied Modified SEBS Asphalt Adhesive.
(Ruberoid®MB) Matrix 202 Select SBS Flashing	5 gallons	ASTM D4586	Cold Applied Modified SEBS Asphalt Adhesive – Flashing Grade.
Matrix 203 Standard Plastic Cement	5 gallons	ASTM D4586	Standard Plastic Asphalt Roofing Cement
Matrix 204 Standard Wet/Dry Cement	Various	Proprietary	Asphalt based roof cement.
Matrix 205 System Pro SBS Sure Grip Flashing Cement	Various	ASTM D 3409 ASTM D 4586 Type I	SBS modified roof cement.
Matrix 213 Gun Grade Plastic Cement	5 gallons	ASTM D4586	Standard Plastic Asphalt Roofing Cement Caulk Grade.
Matrix 103 Cold Adhesive	5 gallons	ASTM D3019	Cold Applied Asphalt Adhesive.
Matrix 301 System Pro Fibered Aluminum Roof Coating	5 gallons	ASTM D 2824 Type III	Fibered aluminum roof coating.
Matrix 303 Select Fibered Aluminum	5 gallons	ASTM D 2824	Fibered aluminum coating.
Matrix 304 Select Non-Fibered	5 gallons	ASTM D2824, Type I	Non-fibered. Aluminum pigmented, asphalt roof coating.
Matrix 305 Select Asphalt Emulsion (GAF WeatherCoat Emulsion)	Various	ASTM D 1227 Type II Class I	Asphalt based clay emulsion roof coating.
Matrix 322 White Elastomeric Roof Coating	Various	ASTM D 2824 Type I	Styrene, acrylic based roof coating.

Product	Dimensions	Test Specification	Product Description
RUBEROID® Modified Bitumen Adhesive	5 gallons	ASTM D 3019 Type III	Fiber reinforced, rubberized Adhesive

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
GAFTEMP Isotherm R, RA, RN & Composite, EnergyGuard Polyiso, EnergyGuard RA, RN	Polyisocyanurate foam insulation	GAF Materials Corp.
GAFTEMP® Composite, Composite A & N, EnergyGuard Composite RA, RN	Polyisocyanurate foam insulation with high density fiberboard or Permalite perlite insulation.	GAF Materials Corp.
(BMCA)GAFTEMP® Fiberboard EnergyGuard Fiberboard	Fiberboard insulation.	GAF Materials Corp.
EnergyGuard™ Perlite	Perlite insulation board.	GAF Materials Corp.
GAFTEMP GAFCANT™	Cut perlite board	GAF Materials Corp.
EnergyGuard™ Perlite Recover Board	Perlite recover board	GAF Materials Corp.
EnergyGuard™ Tapered Edge Strip	Tapered perlite board	GAF Materials Corp.
(BMCA) GAFTEMP® High Density Fiberboard, EnergyGuard High Density Fiberboard	High density wood fiberboard insulation.	GAF Materials Corp.
BMCA EnergyGuard, RA	Polyisocynurate foam insulation	BMCA
BMCA Composite EnergyGuard, RA	Polyisocynurate/wood fiberboard composite	BMCA
ACFoam I, II & Composite	Polyisocyanurate foam insulation	Atlas Energy Products
ISO 95+	Polyisocyanurate foam insulation	Firestone Building Products, Inc.
ISO 95+ Composite	Polyisocyanurate/perlite ridged insulation	Firestone Building Products, Inc.
EPS	Extruded polystyrene insulation	Generic
Wood Fiber	Wood fiber insulation board	Generic
High Density Wood Fiberboard	Wood fiber insulation board	Generic
Pelite/Urethane Composite	Perlite / urethane composite board insulation	Generic
Perlite Insulation	Perlite insulation board	generic

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
Type X Gypsum	Fire resistant rated gypsum.	generic
Dens Deck	Water resistant gypsum board	G-P Gypsum Corp.
E'NRG'Y-2 & E'NRG'Y-2 PLUS	Polyisocyanurate foam insulation	Johns Manville
FiberGlass Roof Insulation	Glass fiber/Mineral fiber insulation	Johns Manville
ISORoc	Polyisocyanurate foam / rockwool composite insulation	Johns Manville
Structodek	Wood fiber insulation board	Masonite.
Multi-Max & FA	Polyisocyanurate roof insulation	RMax, Inc.
Paroc Base Board Paroc Cap Board	Rockwool insulation	Partek, Inc.

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	GAFTITE® (Drill-Tec®) #12 Standard & #14 Heavy Duty Roofing Fastener	Insulation fastener for steel, wood & concrete decks.		GAF Materials Corp.
2.	GAFTITE® (Drill-Tec®) ASAP	Pre-assembled GAFTITE Fasteners and metal and plastic plates.		GAF Materials Corp.
3.	GAFTITE® (Drill-Tec®) Base Sheet Fastener and Plate	Base sheet fastening assembly.		GAF Materials Corp.
4.	Galvalume Plates (Drill-Tec® Metal)	Round galvalume stress plates.	3" and 3 ½"	GAF Materials Corp.
5.	Polypropylene Plates (Drill-Tec® Plastic)	Round polypropylene stress plates.	3" and 3 ½"	GAF Materials Corp.
6.	Dekfast Fasteners #12, #14 & #15	Insulation fastener for wood, steel and concrete decks		Construction Fasteners Inc
7.	Dekfast Hex Plate	Galvalume hex stress plate.	2 7/8" x 3 ¼"	Construction Fasteners Inc.
8.	Dekfast Lock Plate	Polypropylene locking plate.	3" x 3 ¼"	Construction Fasteners Inc.
9.	#12 Roofgrip Fasteners	Insulation fastener for wood and steel.		ITW Buildex Corp.
10.	Hextra Plus	Pre-assembled Insulation fastener and 3" metal plate		ITW Buildex Corp.

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
11.	Metal Plate	Galvalume stress plate.	3" round 3" square	ITW Buildex Corp.
12.	Olympic Fastener #12 & #14	Insulation fastener		Olympic Manufacturing Group, Inc.
13.	Olympic Fastener ASAP	Pre-assembled Insulation fastener and plate		Olympic Manufacturing Group, Inc.
14.	Olympic Polypropylene	Polypropylene plastic plate	3.25" round	Olympic Manufacturing Group, Inc.
15.	Olympic G2	3.5" round galvalume AZ55 steel plate	3.5" round	Olympic Manufacturing Group, Inc.
16.	Olympic Standard	3" round galvalume AZ50 steel plate	3" round	Olympic Manufacturing Group, Inc.
17.	Rawl #12 & #14	Insulation fastener		Powers Fasteners, Inc.
18.	Rawl Plate	Galvalume AZ55 steel plate	3" round	Powers Fasteners, Inc.

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
Trinity Engineering	Wind Uplift PA 114	4483.04 97-1	06.06.97

APPROVED ASSEMBLIES

Membrane Type: APP/SBS Heat Weld

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type B(1): Base layer of insulation mechanically fastened, optional top layer adhered with approved asphalt.

All General and System limitations apply.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ACFoam I, GAFTEMP® Isotherm R **Minimum 1.3" thick**	**1, 2, 6, 9, 12 or 13**	**1:3 ft²**
AC-Foam II, GAFTEMP Isotherm RA, EnergyGuard RA **Minimum 1.3" thick**	**1, 2, 6, 9, 10, 12, 13 or 17**	**1:4 ft²**
ENRGY 2, GAFTEMP Isotherm RN, EnergyGuard RN **Minimum 1.4" thick**	**1, 2, 6, 9, 10, 12, 13 or 17**	**1:3 ft²**
ISO 95 +, EnergyGuard PolyIso **Minimum 1.4" thick**	**1, 2, 6, 9, 10, 12 or 13**	**1:4 ft²**
ISORoc **Minimum 1.5" thick**	**1, 2, 6, 9, 10, 12, 13 or 17**	**1:2.67 ft²**
ENRGY 2 Plus, GAFTEMP Composite N, EnergyGuard Composite N **Minimum 1.5" thick**	**1, 2, 6, 9, 10, 12, 13 or 17**	**1:3 ft²**
Fiberglas **Minimum $^{15}/_{16}$" thick**	**1, 2, 6, 9, 10, 12 or 13**	**1:2.67 ft²**
High Density Wood Fiber, GAFTEMP® High Density Fiberboard, EnergyGuard High Density Fiberboard **Minimum 1" thick**	**1, 2, 6, 9, 10, 12 or 13**	**1:4 ft²**
Perlite, EnergyGuard Perlite® **Minimum ¾' thick**	**1, 2, 6, 12 or 13**	**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
Any of the insulations listed for Base Layer, above.		
Paroc		

Minimum ¾" thick	**N/A**	**N/A**
BMCA EnergyGuard Recover Board Minimum ½" thick	**N/A**	**N/A**

Note: Optional top layer of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft^2. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Base Sheet: Install one ply of GAFGLAS® #75, GAFGLAS #80 Ultima™ Base Sheet, GAFGLAS® PLY 4, GAFGLAS®FlexPly™ 6, GAFGLAS STRATAVENT® Eliminator Perforated, RUBEROID Modified Base Sheet, RUBEROID Mop Smooth or RUBEROID® 20 directly to the insulated substrate in full mopping of approved asphalt applied at a rate of 20-35 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 or GAFGLAS #80 Ultimate 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 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 over Ruberoid SBS Heat Weld 25, Ruberoid SBS Heat Weld Smooth or Ruberoid Torch 1) Install one of the following:

1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq. or applied in a flood coat of Matrix 103 Cold Adhesive applied at a rate of 3 gal./sq.
2. Matrix™ 305 Select Asphalt Emulsion or GAF WeatherCoat® Emulsion at a rate of 3 gal./sq. (Torch Smooth applications only)
3. GAFGLAS Mineral Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
4. Matrix 715 MB Coating (GAF Weathercote MB+) or Matrix 602 SB Coating (Top Coat Surface Seal SB) applied at rate of 1-1.5 gal/sq.

Maximum Design Pressure: -45 psf (See General Limitation #9.)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type B(1): Base layer of insulation mechanically fastened, optional top layer adhered with approved asphalt.

All General and System limitations apply.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ACFoam I, GAFTEMP® Isotherm R, Wood Fiber, GAFTEMP® Fiberboard, EnergyGuard Fiberboard		
Minimum 1.3" thick	**1, 2, 6, 9, 10, 12 or 13**	**1:3 ft²**
AC-Foam II, GAFTEMP Isotherm RA, EnergyGuard RA		
Minimum 1.3" thick	**1, 2, 6, 9, 10, 12, 13 or 17**	**1:4 ft²**
ENRGY 2, GAFTEMP Isotherm RN, EnergyGuard RN		
Minimum 1.4" thick	**1, 2, 6, 9, 10, 12, 13 or 17**	**1:3 ft²**
ISO 95 +, EnergyGuard PolyIso		
Minimum 1.4" thick	**1, 6, 9, 10 or 12**	**1:4 ft²**
ISORoc		
Minimum 1.5" thick	**1, 2, 6, 9, 10, 12, 13 or 17**	**1:2.67 ft²**
ENRGY 2 Plus, GAFTEMP Composite N, EnergyGuard Composite RN		
Minimum 1.5" thick	**1, 2, 6, 9, 10, 12, 13 or 17**	**1:3 ft²**
Fiberglas		
Minimum $^{15}/_{16}$" thick	**1, 2, 6, 9, 10, 12 or 13**	**1:2.67 ft²**
High Density Wood Fiber, EnergyGuard High Density Fiberboard		
Minimum 1" thick	**1, 2, 6, 9, 10, 12 or 13**	**1:4 ft²**
Perlite, GAFTEMP® Permalite®, EnergyGuard Perlite		
Minimum ¾' thick	**1, 2, 6, 12 or 13**	**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
Any of the insulations listed for Base Layer, above.		
Paroc		
Minimum ¾" thick	**N/A**	**N/A**

GAFTEMP® Recover Board, GAFTEMP Fiberboard or GAFTEMP High Density Fiberboard, EnergyGuard Perlite, EnergyGuard Recover, EnergyGuard Fiberboard, EnergyGuard High Density Fiberboard
Minimum ½" thick **N/A** **N/A**

Note: Optional top layer of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft^2. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Base Sheet: Install one ply of GAFGLAS® #75, GAFGLAS #80 Ultima™ Base Sheet, GAFGLAS® PLY 4, GAFGLAS®FlexPly™6, GAFGLAS STRATAVENT® Eliminator Perforated, RUBEROID Modified Base Sheet, RUBEROID Mop Smooth or RUBEROID® 20 directly to the insulated substrate in full mopping of approved asphalt applied at a rate of 20-35 lbs./sq.

Ply Sheet: (Optional) One or more plies of GAFGLAS® PLY 4®, GAFGLAS® Flex Ply™ 6 ply sheet, Ruberoid 20 or GAFGLAs #80 Ultimate 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 ply of RUBEROID MOP Smooth, Ruberoid® Mop Granule, Ruberoid® Mop 170 FR, Ruberoid® Mop Plus Granule, Ruberoid® Mop FR, Ruberoid® 30, Ruberoid® 30 FR, Ruberoid 20, 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) Install one of the following:

1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq. or applied in a flood coat of Matrix 103 Cold Adhesive applied at a rate of 3 gal./sq.
2. GAFGLAS Mineral Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3. GAF Premium Fibered Aluminum Roof Coating, Matrix™ 301 System Pro Fibered Aluminum Roof Coating at a rate of 1.5 gal./sq.
4. Matrix 715 MB Coating (GAF Weathercote MB+) or Matrix 602 SB Coating (Top Coat Surface Seal SB) applied at rate of 1-1.5 gal/sq.

Maximum Design Pressure: -45 psf (See General Limitation #9.)

Membrane Type: APP/SBS/SBS Heat Weld

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type B(2): 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**
ACFoam-II, GAFTEMP Isotherm RA, GAFTEMP® Isotherm R, 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 Ultimate 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) Install one of the following:

1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq. or applied in a flood coat of Matrix 103 Cold Adhesive applied at a rate of 3 gal./sq.
2. GAFGLAS Mineral Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3. GAF Premium Fibered Aluminum Roof Coating, Matrix™ 301 System Pro Fibered Aluminum Roof Coating at a rate of 1.5 gal./sq.
4. Matrix 715 MB Coating (GAF Weathercote MB+) or Matrix 602 SB Coating (Top Coat Surface Seal SB) applied at rate of 1-1.5 gal/sq.

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(3): 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**
ENRGY 2, ENRGY 2 Plus, AC Foam I, II, ISO 95+, GAFTEMP Isotherm R, 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, RUBEROID20, 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 over RUBEROID 20, RUBEROID Mop Smooth and RUBEROID SBS Heat Weld 25) Install one of the following: 1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq. or applied in a flood coat of Matrix 103 Cold Adhesive applied at a rate of 3 gal./sq. 2. GAF Premium Fibered Aluminum Roof Coating, Matrix 301 System pro Fibered Aluminum roof Coating at a rate of 1.5 gal./sq. or GAF WeatherCoat® Emulsion, Matrix 305 select Fibered Aluminum Roof Coating at a rate of 3 gal./sq. (Torch Smooth applications only) 3. One ply of GAFGLAS® Mineral Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. 4. Matrix 715 MB Coating (GAF Weathercote MB+) or Matrix 602 SB Coating (Top Coat Surface Seal SB) applied at rate of 1-1.5 gal/sq.
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(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**
ENRGY 2, ENRGY 2 Plus, AC Foam I, II, Apache Pyrox, ISO 95+, GAFTEMP Isotherm R, 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, BMCA 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 Ultimate 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 over RUBEROID 20, RUBEROID Mop Smooth and RUBEROID SBS Heat Weld 25) Install one of the following:

1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq. or applied in a flood coat of Matrix 103 Cold Adhesive applied at a rate of 3 gal./sq.
2. GAF Premium Fibered Aluminum Roof Coating, Matrix 301 System pro Fibered Aluminum roof Coating at a rate of 1.5 gal./sq. or GAF WeatherCoat® Emulsion, Matrix 305 select Fibered Aluminum Roof Coating at a rate of 3 gal./sq. (Torch Smooth applications only)
3. One ply of GAFGLAS® Mineral Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
4. Matrix 715 MB Coating (GAF Weathercote MB+) or Matrix 602 SB Coating (Top Coat Surface Seal SB) applied at rate of 1-1.5 gal/sq.

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(5): 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**
AC Foam II, EnergyGuard RA, GAFTEMP Isotherm RA, Pyrox, , GAFTEMP Isotherm R 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 Ultimate 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 over RUBEROID 20, RUBEROID Mop Smooth and RUBEROID SBS Heat Weld 25) Install one of the following: 1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq. or applied in a flood coat of Matrix 103 Cold Adhesive applied at a rate of 3 gal./sq. 2. GAF Premium Fibered Aluminum Roof Coating, Matrix 301 System pro Fibered Aluminum roof Coating at a rate of 1.5 gal./sq. or GAF WeatherCoat® Emulsion, Matrix 305 select Fibered Aluminum Roof Coating at a rate of 3 gal./sq. (Torch Smooth applications only) 3. One ply of GAFGLAS® Mineral Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. 4. Matrix 715 MB Coating (GAF Weathercote MB+) or Matrix 602 SB Coating (Top Coat Surface Seal SB) applied at rate of 1-1.5 gal/sq.
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(6): 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, GAFTEMP Isotherm 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 over Ruberoid SBS Heat Weld 25, Ruberoid SBS Heat Weld Smooth or Ruberoid Torch 1) Install one of the following:

1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq. or applied in a flood coat of Matrix 103 Cold Adhesive applied at a rate of 3 gal./sq.
2. Matrix™ 305 Select Asphalt Emulsion or GAF WeatherCoat® Emulsion at a rate of 3 gal./sq. (Torch Smooth applications only)
3. GAFGLAS Mineral Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
4. Matrix 715 MB Coating (GAF Weathercote MB+) or Matrix 602 SB Coating (Top Coat Surface Seal SB) applied at rate of 1-1.5 gal/sq.

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(7): 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) or 2 (#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 Ultimate 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 over RUBEROID 20, RUBEROID Mop Smooth and RUBEROID SBS Heat Weld 25) Install one of the following:

1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq. or applied in a flood coat of Matrix 103 Cold Adhesive applied at a rate of 3 gal./sq.
2. One ply of GAFGLAS® Mineral Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3. Matrix 715 MB Coating (GAF Weathercote MB+) or Matrix 602 SB Coating (Top Coat Surface Seal SB) applied at rate of 1-1.5 gal/sq.

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

Membrane Type: APP/SBS Heat Weld

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type C: Optional 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/ft^2
ACFoam-I, GAFTEMP® Isotherm-R, GAFTEMP Isotherm RA, GAFTEMP Isotherm RN, AC-Foam II, EnergyGuard RA, EnergyGuard RN		
Minimum 1.3" thick	**N/A**	**N/A**
ENRGY 2, ISO 95 +, EnergyGuard PolyIso		
Minimum 1.4" thick	**N/A**	**N/A**
ISORoc, ENRGY 2 Plus, GAFTEMP Composite A, GAFTEMP Composite N, EnergyGuard Composite RA, EnergyGuard Composite RN		
Minimum 1.5" thick	**N/A**	**N/A**
Fiberglas		
Minimum $^{15}/_{16}$" thick	**N/A**	**N/A**
Wood Fiber, EnergyGuard Fiberboard		
Minimum 1" thick	**N/A**	**N/A**
Perlite, EnergyGuard Perlite, High Density Wood Fiber, EnergyGuard High Density Fiberboard		
Minimum ¾' 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/ft^2
ACFoam-I, GAFTEMP® Isotherm R, Wood Fiber, GAFTEMP® Fiberboard, EnergyGuard Fiberboard		
Minimum 1.3" thick	**1, 2, 6, 9, 10, 12 or 13**	**1:3 ft²**
AC-Foam II, GAFGLAS Isotherm RA, EnergyGuard RA		
Minimum 1.3" thick	**1, 2, 6, 9, 10, 12, 13 or 17**	**1:4 ft²**
Apache Pyrox		
Minimum 1.3" thick	**1, 2, 6, 9, 10, 12, 13 or 17**	**1:2.67 ft²**
ENRGY 2, GAFTEMP Isotherm RN, EnergyGuard RN		
Minimum 1.4" thick	**1, 2, 6, 9, 10, 12 or 13**	**1:3 ft²**
ISORoc		
Minimum 1.5" thick	**1, 2, 6, 9, 10, 12, 13 or 17**	**1:2.67 ft²**
ENRGY 2 Plus, GAFTEMP Composite N, EnergyGuard Composite RN		
Minimum 1.5" thick	**1, 2, 6, 9, 10, 12, 13 or 17**	**1:3 ft²**

ISO 95 +, EnergyGuard PolyIso **Minimum 1.4" thick**	**1, 6, 9, 10 or 12**	**1:4 ft²**
Perlite, EnergyGuard Perlite **Minimum ¾" thick**	**1,2, 6 or 12**	**1:2 ft²**
Fiberglas **Minimum $^{15}/_{16}$" thick**	**1, 2, 6, 9, 10, 12 or 13**	**1:2.67 ft²**
High Density Wood Fiber, EnergyGuard High Density Fiberboard **Minimum ¾" thick**	**6, 9, 10, 12 or 13**	**1:4 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:	Install one ply of GAFGLAS® #75, GAFGLAS #80 Ultima Base Sheet, GAFGLAS® PLY 4®, GAFGLAS® FlexPly 6, GAFGLAS® STRATAVENT® Eliminator Perforated (laid dry), RUBEROID Modified Base Sheet, RUBEROID® 20 or RUBEROID Mop Smooth directly over the top layer of insulation. 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, RUBEROID Mop Smooth or STRATAVENT® Perforated) one or more plies of GAFGLAS® PLY 4®, GAFGLAS® FlexPly™ 6 or GAFGLAS #80 Ultimate 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 over Ruberoid SBS Heat Weld 25, Ruberoid SBS Heat Weld Smooth or Ruberoid Torch 1) Install one of the following:

1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq. or applied in a flood coat of Matrix 103 Cold Adhesive applied at a rate of 3 gal./sq.
2. Matrix™ 301 System Pro Fibered Aluminum Roof Coating or GAF Premium Fibered Aluminum Roof Coating at a rate of 1.5 gal./sq. or Matrix™ 305 Select Asphalt Emulsion or GAF WeatherCoat® Emulsion at a rate of 3 gal./sq. (Torch Smooth applications only)
3. GAFGLAS Mineral Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
4. Matrix 715 MB Coating (GAF Weathercote MB+) or Matrix 602 SB Coating (Top Coat Surface Seal SB) applied at rate of 1-1.5 gal/sq.

Maximum Design Pressure: -45 psf (See General Limitation #9.)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type C: Optional 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/ft^2
ACFoam-I, GAFTEMP® Isotherm-R, GAFTEMP Isotherm RA, GAFTEMP Isotherm RN, Apache Pyrox, AC-Foam II, EnergyGuard RA, EnergyGuard RN Minimum 1.3" thick	**N/A**	**N/A**
ENRGY 2, ISO 95 +, EnergyGuard PolyIso Minimum 1.4" thick	**N/A**	**N/A**
ISORoc, ENRGY 2 Plus, GAFTEMP Composite A, GAFTEMP Composite N, EnergyGuard Composite RA, EnergyGuard Composite RN Minimum 1.5" thick	**N/A**	**N/A**
Fiberglas Minimum $^{15}/_{16}$" thick	**N/A**	**N/A**
Wood Fiber, EnergyGuard Fiberboard Minimum 1" thick	**N/A**	**N/A**
Perlite, EnergyGuard Perlite, High Density Wood Fiber, EnergyGuard High Density Fiberboard Minimum ¾' 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/ft^2
ACFoam-I, GAFTEMP® Isotherm R, Wood Fiber, GAFTEMP® Fiberboard, EnergyGuard Fiberboard Minimum 1.3" thick	**1, 2, 6, 9, 10, 12 or 13**	**1:3 ft^2**
AC-Foam II, GAFGLAS Isotherm RA, EnergyGuard RA Minimum 1.3" thick	**1, 2, 6, 9, 10, 12, 13 or 17**	**1:4 ft^2**
ENRGY 2, GAFTEMP Isotherm RN, EnergyGuard RN Minimum 1.4" thick	**1, 2, 6, 9, 10, 12, 13 or 17**	**1:3 ft^2**
ISORoc Minimum 1.5" thick	**1, 2, 6, 9, 10, 12, 13 or 17**	**1:2.67 ft^2**
ENRGY 2 Plus, GAFTEMP Composite N Minimum 1.5" thick	**1, 2, 6, 9, 10, 12, 13 or 17**	**1:3 ft^2**

ISO 95 + **Minimum 1.4" thick**	**1, 6, 9, 10or 12**	**1:4 ft²**
Perlite, EnergyGuard Perlite **Minimum ¾" thick**	**1, 2, 6 or 12**	**1:2 ft²**
Fiberglas **Minimum $^{15}/_{16}$" thick**	**1, 2, 6, 9, 10, 12 or 13**	**1:2.67 ft²**
High Density Wood Fiber, EnergyGuard High Density Fiberboard **Minimum ¾" thick**	**6, 9, 10, 12 or 13**	**1:4 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: Install one ply of GAFGLAS® #75, GAFGLAS #80 Ultima Flex Ply™ Base Sheet, GAFGLAS® PLY 4®, GAFGLAS® STRATAVENT® Eliminator Perforated, RUBEROID Modified Base Sheet or RUBEROID® 20 directly over the top layer of insulation. 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 or perforated STRATAVENT®) one or more plies of GAFGLAS® PLY 4®, GAFGLAS Flex Ply™ ply sheet, GAFGLAS #80 Ultimate Base sheet 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.

Membrane: One or more plies ply of RUBEROID MOP Smooth, Ruberoid® Mop Granule, Ruberoid® Mop 170 FR, Ruberoid® Mop Plus Granule, Ruberoid® Mop FR, Ruberoid® 30, Ruberoid® 30 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) Install one of the following:

1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq. or applied in a flood coat of Matrix 103 Cold Adhesive applied at a rate of 3 gal./sq.
2. GAFGLAS Mineral Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3. Matrix 715 MB Coating (GAF Weathercote MB+) or Matrix 602 SB Coating (Top Coat Surface Seal SB) applied at rate of 1-1.5 gal/sq.

Maximum Design Pressure: -45 psf (See General Limitation #9.)

Membrane Type: APP/SBS/SBS Heat Weld

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type C: 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**
ENRGY 2, ENRGY 2 Plus, AC Foam I, II, Apache Pyrox, Hy-Therm AP, ISO 95+, GAFTEMP Isotherm R, 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**
Dens Deck, BMCA Dens Deck 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 over Ruberoid SBS Heat Weld 25, Ruberoid SBS Heat Weld Smooth or Ruberoid Torch 1) Install one of the following: 1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq. or applied in a flood coat of Matrix 103 Cold Adhesive applied at a rate of 3 gal./sq. 2. Matrix™ 305 Select Asphalt Emulsion or GAF WeatherCoat® Emulsion at a rate of 3 gal./sq. (Torch Smooth applications only) 3. GAFGLAS Mineral Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. 4. Matrix 715 MB Coating (GAF Weathercote MB+) or Matrix 602 SB Coating (Top Coat Surface Seal SB) applied at rate of 1-1.5 gal/sq.
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(4): 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**
AC Foam II, 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, BMCA Dens Deck Minimum ¼" thick	**1, 2, 6, 12 or 13**	**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 over Ruberoid 20, Ruberoid Mop Smooth, Heat Weld 25 or Heat Weld Smooth) Install one of the following:

1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq. or applied in a flood coat of Matrix 103 Cold Adhesive applied at a rate of 3 gal./sq.
2. GAFGLAS Mineral Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3. Matrix 715 MB Coating (GAF Weathercote MB+) or Matrix 602 SB Coating (Top Coat Surface Seal SB) applied at rate of 1-1.5 gal/sq.

Maximum Design Pressure: -82.5 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**
ACFoam-I, E'NRG'Y 2, ENRGY 2 Plus, GAFTEMP Isotherm RA, GAFTEMP Isotherm RN, GAFTEMP Composite, GAFTEMP Composite A, GAFTEMP Composite N, 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, RUBEROIDSBS Heat Weld 25 or RUBEROID® 20 base sheet applied over the loose laid insulation with 2" side laps

Fastening #1: Drill Tec (GAFTITE) #12 or #14 Screws and 3" 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 (GAFTITE) #12 or #14 Screws and 3" 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 Ultimate 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) Install one of the following: 1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq. or applied in a flood coat of Matrix 103 Cold Adhesive applied at a rate of 3 gal./sq. 2. GAF Premium Fibered Aluminum Roof Coating, Matrix 301 System pro Fibered Aluminum roof Coating at a rate of 1.5 gal./sq. or GAF WeatherCoat® Emulsion, Matrix 305 select Fibered Aluminum Roof Coating at a rate of 3 gal./sq. (Torch Smooth applications only) 3. One ply of GAFGLAS® Mineral Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. 4. Matrix 715 MB Coating (GAF Weathercote MB+) or Matrix 602 SB Coating (Top Coat Surface Seal SB) applied at rate of 1-1.5 gal/sq.
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/ft²**
ACFoam-I, ENRGY 2, ENRGY 2 Plus, GAFTEMP Isotherm RA, GAFTEMP Isotherm RN, GAFTEMP Composite, GAFTEMP Composite A, GAFTEMP Composite N, 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, RUBEROIDSBS Heat Weld 25 or RUBEROID® 20 base sheet applied over the loose laid insulation with 2" side laps

Fastening #1: Drill Tec (GAFTITE) #12 or #14 Screws and 3" 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 (GAFTITE) #12 or #14 Screws and 3" 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 Ultimate 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 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq. or applied in a flood coat of Matrix 103 Cold Adhesive applied at a rate of 3 gal./sq. 2. GAFGLAS Mineral Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. 3. Matrix 715 MB Coating (GAF Weathercote MB+) or Matrix 602 SB Coating (Top Coat Surface Seal SB) applied at rate of 1-1.5 gal/sq.
Maximum Design Pressure:	See Fastening Option Above

Membrane Type: SBS Heat Weld

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type D(3): 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**
ACFoam II, EnergyGuard RA PolyIso, GAFTEMP Isotherm RA Minimum 1.5" thick	**N/A**	**N/A**
EnergyGuard High Density Fiberboard Minimum ½" thick	**N/A**	**N/A**
EnergyGuard Perlite Minimum ¾" 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: One layer of Ruberoid SBS Heat Weld Smooth, Ruberoid SBS Heat Weld 25, Ruberoid Mop Smooth or Ruberoid 20 base sheet fastened through the insulation to the deck with 4" side laps with Drill Tec (GAFTITE) #14 Screws and 2" Plates in at a maximum spacing of 12" o.c. The lap is heat welded.

Ply Sheet: (Optional) One or more plies GAFGLAS® PLY 4®, GAFGLAS® FlexPly™ 6 or GAFGLAS #80 Ultimate Base sheet 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 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 over Ruberoid SBS Heat Weld 25, Ruberoid SBS Heat Weld Smooth Install one of the following:

1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq. or applied in a flood coat of Matrix 103 Cold Adhesive applied at a rate of 3 gal./sq.
2. Matrix™ 301 System Pro Fibered Aluminum Roof Coating or GAF Premium Fibered Aluminum Roof Coating at a rate of 1.5 gal./sq. or Matrix™ 305 Select Asphalt Emulsion or GAF WeatherCoat® Emulsion at a rate of 3 gal./sq. (Torch Smooth applications only)
3. GAFGLAS Mineral Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
4. Matrix 715 MB Coating (GAF Weathercote MB+) or Matrix 602 SB Coating (Top Coat Surface Seal SB) applied at rate of 1-1.5 gal/sq.

Maximum Design Pressure: -45 psf (See General Limitation #9.)

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 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. **(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