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 High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: GAF Ruberoid® Modified Bitumen Roof System for Wood 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 consists of pages 1 through 33.
The submitted documentation was reviewed by Frank Zuloaga, RRC.

PRODUCT CONTROL ACCEPTED

ROOFING SYSTEM APPROVAL

Category:	Roofing
Sub-Category:	SBS/APP, Modified Bitumen
Deck Type:	Wood
Maximum Design Pressure	-75 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.
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.

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

Product	Dimensions	Test Specification	Product Description
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
RUBEROID MOD Asphalt, Asphalt L & Asphalt P	60 lb. kegs		SEBS modified asphalt
Shingle-Mate™ Underlayment	4 sq. roll 30 lbs.		Fiberglass reinforced shingle underlayment
Tile-Mate Modified Base Sheet	1.5 sq. roll	ASTM D 5147	SBS modified asphalt base sheet and interply sheet reinforce with a glass fiber mat tile underlayment.

Product	Dimensions	Test Specification	Product Description
Tile-Mate Modified Cap	1 sq. roll 103 lbs.	ASTM D 5147	Non-woven polyester mat coated with polymer modified asphalt and surfaced with mineral granules tile underlayment.
Tile-Mate Modified Cap Plus	1 sq. roll 102 lbs.	ASTM D 5147	Non-woven polyester mat coated with polymer modified asphalt and surfaced with mineral granules tile underlayment.
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 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 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.
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 RA	Polyisocyanurate foam insulation	GAF Materials Corp.
GAFTEMP® Composite A & N	Polyisocyanurate foam insulation with high density fiberboard or Permalite perlite insulation.	GAF Materials Corp.
(BMCA)GAFTEMP® Fiberboard	Fiberboard insulation.	GAF Materials Corp.
GAFTEMP® Permalite	Perlite insulation board.	GAF Materials Corp.
GAFTEMP GAFCANT™	Cut perlite board	GAF Materials Corp.
GAFTEMP Permalite Recover Board	Perlite recover board	GAF Materials Corp.
GAFTEMP GAFEDGE™ Tapered Edge Strip	Tapered perlite board	GAF Materials Corp.
(BMCA) GAFTEMP® 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
PYROX	Polyisocyanurate foam insulation	Apache Products Co.
White Line	Polyisocyanurate foam insulation	Apache Products Co.
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
Dens Deck	Water resistant gypsum board	G-P Gypsum Corp.
E'NRG'Y-2 & E'NRG'Y-2 PLUS, UltraGard Gold	Polyisocyanurate foam insulation	Johns Manville

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
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.	Metal Plate	Galvalume stress plate.	3" round 3" square	ITW Buildex Corp.
11.	Gearlok Plastic Plate	Polypropylene round plate	3.2"	ITW Buildex Corp.
12.	Glasfast Fastener	Insulation fastener assembly with recessed plastic plate		Johns Manville

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
13.	Olympic Fastener #12 & #14	Insulation fastener		Olympic Manufacturing Group, Inc.
14.	Olympic Fastener ASAP	Pre-assembled Insulation fastener and plate		Olympic Manufacturing Group, Inc.
15.	Olympic Polypropylene	Polypropylene plastic plate	3.25" round	Olympic Manufacturing Group, Inc.
16.	Olympic G-2	3.5" round galvalume AZ55 steel plate	3.5" round	Olympic Manufacturing Group, Inc.
17.	Olympic Standard	3" round galvalume AZ50 steel plate	3" round	Olympic Manufacturing Group, Inc.
18.	Insul-Fixx Fastener	Insulation fastener for steel and wood decks		SFS/Stadler
19.	Insul-Fixx S Plate	3" round galvalume AZ50 steel plate	3" round	SFS/Stadler
20.	Insul-Fixx P Plate	3" round polyethylene stress plate	3" round	SFS/Stadler
21.	Tru-Fast	Insulation fastener for steel and wood decks		The Tru-Fast Corp.
22.	Tru-Fast Plates	3" round galvalume AZ55 steel plate	3" round	The Tru-Fast Corp.
23.	Tru-Fast Plates	Polyethylene plastic plate	3" round	The Tru-Fast Corp.

EVIDENCE SUBMITTED:

Test Agency	Test Identifier	Description	Date
Factory Mutual Research Corporation	Current Insulation Attachment Requirements	FMRC 1996	01.01.96
Factory Mutual Research Corp.	Wind Uplift, FMRC 4470 - PA 114	J.I. 1B9A8.AM J.I. 3D4Q2.AM	09.04.97 04.30.97
Trinity Engineering	Wind Uplift PA 114	4483.04 97-1	06.06.97
Dynatech Engineering Corporation	Wind Uplift PA 114	#3600.02.95-1 #4482.02.95-1	02.02.95
PRI Asphalt Technologies, Inc.	GAF-020-02-01	ASTM D 4977	02.01.02
IRT of S. Fl.	02-005	TAS 114	01.18.02
IRT of S. Fl.	02-014	TAS 114	03.22.02

APPROVED ASSEMBLIES

Membrane Type: SBS
Deck Type 1I: Wood, Insulated, New Construction or Reroof
Deck Description: $^{19}/_{32}$" or greater plywood or wood plank
System Type A (1): Anchor sheet mechanically fastened, all layers of insulation adhered with approved asphalt.

All General and System Limitations shall apply.

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
ACFoam-I, E'NRG'Y 2, GAFTEMP® Isotherm R, E'NRG'Y 2 Plus, GAFTEMP Isotherm RA, GAFTEMP Isotherm RN, GAFTEMP Composite, GAFTEMP Composite A, GAFTEMP Composite N, ISORoc, BMCA EnergyGuard, BMCA EnergyGuard Composite, EnergyGard ISO, EnergyGuard RA Composite, EnergyGuard RA		
Minimum 1" thick	N/A	N/A
Wood Fiber, GAFTEMP® Fiberboard, BCMA High Density Wood Fiber, GAFTEMP® High Density Wood Fiber, GAFTEMP Recover Board		
Minimum ½" thick	N/A	N/A
Paroc, Perlite, GAFTEMP® Permalite		
Minimum ¾" thick	N/A	N/A
Fiberglas		
Minimum $^{15}/_{16}$" thick	N/A	N/A

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft^2. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down. GAF requires either a ply of GAFGLAS STRATAVENT® Eliminator Perforated laid dry or a layer of GAFTEMP® PERMALITE or wood fiber overlay board on all isocyanurate applications.

Anchor sheet: GAFGLAS #80 Ultima™ Base Sheet, STRATAVENT® Eliminator Perforated Nailable, RUBEROID Modified Base Sheet, RUBEROID® 20, RUBEROID SBS Heat-Weld™ Smooth or RUBEROID SBS Heat-Weld 25 base sheet mechanically fastened to deck as described below;

Fastening Options: GAFGLAS® Ply 4®, GAFGLAS Flex Ply™ 6, GAFGLAS #75 Base Sheet or any of above Anchor sheets attached to deck with approved annular ring shank nails and tin caps at a fastener spacing of 9" o.c. at the lap staggered and in two rows 12" o.c. in the field.
(Maximum Design Pressure –45 psf, See General Limitation #7)

GAFGLAS® Ply 4®, GAFGLAS Flex Ply™ 6, GAFGLAS #75 Base Sheet or any of above Anchor sheets attached to deck with Drill-Tec (GAFTITE) #12 or #14 Screws and 3" Plates, 12" o.c. in 3 rows. One row is in the 2" side lap. The other rows are equally spaced approximately 12" o.c. in the field of the sheet.
(Maximum Design Pressure –45 psf, See General Limitation #7)
GAFGLAS Flex Ply™ 6, GAFGLAS #75 Base Sheet or any of above Anchor sheets attached to deck with approved annular ring shank nails and tin caps at a fastener spacing of 9" o.c. at the 4" lap staggered and in two rows 9" o.c. in the field. ***(Maximum Design Pressure –52.5 psf, See General Limitation #7)***
GAFGLAS #75 Base Sheet or any of above Anchor sheets attached to deck with Drill-Tec (GAFTITE) #12 or #14 Screws and 3" Plates, 12" o.c. in 4 rows. 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)
Any of above Anchor sheets attached to deck approved annular ring shank nails and 3" inverted Drill-Tec (GAFTITE) insulation plates at a fastener spacing of 9" o.c. at the 4" lap staggered in two rows 9" in the field.
(Maximum Design Pressure –60 psf, See General Limitation #7)
GAFGLAS #75 Base Sheet or any of above Anchor sheets attached to deck with Drill-Tec (GAFTITE) #12 or #14 Screws and 3" Plates, 8" o.c. in 4 rows. 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 –75 psf, See General Limitation #7)

Base Sheet: (Optional) Install one ply of GAFGLAS® #75, GAFGLAS #80 ULTIMA™ Base Sheet, GAFGLAS® PLY 4®, GAFGLAS Flex Ply™ 6, GAFGLAS STRATAVENT® Eliminator Perforated (laid dry), RUBEROID Modified Base Sheet, RUBEROID MOP Smooth, RUBEROID® 20, RUBEROID SBS Heat-Weld™ Smooth or RUBEROID SBS Heat-Weld 25 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 (see General Limitation #4).

Ply Sheet: (Optional) One or more plies GAFGLAS PLY 4®, GAFGLAS Flex Ply 6 sheet, GAFGLAS #80, RUBEROID MOP Smooth, 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, Ruberoid® Mop 170 FR, Ruberoid® Mop Granule, RUBEROID MOP PLUS, RUBEROID MOP FR, RUBEROID ULTRACLAD®, or RUBEROID Dual FR fully adhered in an approved asphalt at an application rate of 25 lb./sq. ± 15%.

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.
2. GAFGLAS Mineral Surfaced Cap Sheet in an approved asphalt at an application rate of 25 lb./sq. ± 15%.

3. GAF Weathercote® MB+(Matrix 715 MB Coating), Applied at 1 to 1.5 gal./sq.
4. Top Coat® Surface Seal SB(Matrix 602 SB Coating), Applied at 1 to 1.5 gal./sq.

Maximum Design Pressure: See Fastening above.

Membrane Type:	APP/SBS Heat Weld
Deck Type 1I:	Wood, Insulated, New Construction or Reroof
Deck Description:	$^{19}/_{32}$" or greater plywood or wood plank
System Type A (1):	Anchor sheet mechanically fastened, all layers of insulation adhered with approved asphalt.

All General and System Limitations shall apply.

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
ACFoam-I, E'NRG'Y 2, GAFTEMP® Isotherm R, E'NRG'Y 2 Plus, GAFTEMP Isotherm RA, GAFTEMP Isotherm RN, GAFTEMP Composite, GAFTEMP Composite A, GAFTEMP Composite N, ISORoc, GAFTEMP® Tapered, BMCA EnergyGuard, BMCA EnergyGuard Composite, EnergyGuard RA, EnergyGuard RA Composite		
Minimum 1" thick	N/A	N/A
Wood Fiber, GAFTEMP® Fiberboard, High Density Wood Fiber, GAFTEMP® High Density Wood Fiber, GAFTEMP RecoverBoard		
Minimum ½" thick	N/A	N/A
Paroc, Perlite, GAFTEMP® Permalite		
Minimum ¾" thick	N/A	N/A
Fiberglas		
Minimum $^{15}/_{16}$" thick	N/A	N/A

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft^2. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down. GAF requires either a ply of GAFGLAS STRATAVENT® Eliminator perforated laid dry or a layer of GAFTEMP® PERMALITE or wood fiber overlay board on all isocyanurate applications.

Anchor sheet:	GAFGLAS #80 Ultima™ Base Sheet, STRATAVENT® Eliminator Perforated Nailable, RUBEROID Modified Base Sheet, RUBEROID® 20, RUBEROID SBS Heat-Weld™ Smooth or RUBEROID SBS Heat-Weld 25 base sheet mechanically fastened to deck as described below;
Fastening Options:	GAFGLAS® Ply 4®, GAFGLAS Flex Ply™ 6, GAFGLAS #75 Base Sheet or any of above Anchor sheets attached to deck with approved annular ring shank nails and tin caps at a fastener spacing of 9" o.c. at the lap staggered and in two rows 12" o.c. in the field. ***(Maximum Design Pressure –45 psf, See General Limitation #7)*** GAFGLAS® Ply 4®, GAFGLAS Flex Ply™ 6, GAFGLAS #75 Base Sheet or any of above Anchor sheets attached to deck with Drill-Tec (GAFTITE) #12 or #14 Screws and 3" Plates, 12" o.c. in 3 rows. One row is in the 2" side lap. The other rows are equally spaced approximately 12" o.c. in the field of the sheet. ***(Maximum Design Pressure –45 psf, See General Limitation #7)***

GAFGLAS Flex Ply™ 6, GAFGLAS #75 Base Sheet or any of above Anchor sheets attached to deck with approved annular ring shank nails and tin caps at a fastener spacing of 9" o.c. at the 4" lap staggered and in two rows 9" o.c. in the field. ***(Maximum Design Pressure –52.5 psf, See General Limitation #7)***

GAFGLAS #75 Base Sheet or any of above Anchor sheets attached to deck with Drill-Tec (GAFTITE) #12 or #14 Screws and 3" Plates, 12" o.c. in 4 rows. 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)

Any of above Anchor sheets attached to deck approved annular ring shank nails and 3" inverted Drill-Tec (GAFTITE) insulation plates at a fastener spacing of 9" o.c. at the 4" lap staggered in two rows 9" in the field.

(Maximum Design Pressure –60 psf, See General Limitation #7)

GAFGLAS #75 Base Sheet or any of above Anchor sheets attached to deck with Drill-Tec (GAFTITE) #12 or #14 Screws and 3" Plates, 8" o.c. in 4 rows. 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 –75 psf, See General Limitation #7)

Base Sheet: Install one ply of GAFGLAS® #75, GAFGLAS #80 ULTIMA™ Base Sheet, GAFGLAS® PLY 4®, GAFGLAS Flex Ply™ 6, GAFGLAS STRATAVENT® Eliminator Perforated (laid dry), RUBEROID Modified Base Sheet, RUBEROID MOP Smooth, RUBEROID® 20, RUBEROID SBS Heat-Weld™ Smooth or RUBEROID SBS Heat-Weld 25 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 **(see General Limitation #4).**

Ply Sheet: (Optional except over RUBEROID Modified Base Sheet, RUBEROID MOP Smooth, RUBEROID® 20, RUBEROID SBS Heat-Weld™ Smooth or RUBEROID SBS Heat-Weld) One or more plies GAFGLAS PLY 4®, GAFGLAS® PLY 6® Ply or GAFGLAS Flex Ply 6 sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or Ruberoid Torch Smooth torch applied according to manufacturer's application instructions.

Membrane: One ply of Ruberoid® Torch Smooth, Ruberoid® Torch Granule, Ruberoid® Torch Plus Granule or Ruberoid® Torch FR torch applied according to manufacturer's application instructions.

Or

One or more plies of RUBEROID® SBS Heat-Weld™ PLUS, RUBEROID® SBS Heat-Weld™ PLUS FR, RUBEROID® SBS Heat-Weld™ 170 FR, RUBEROID® SBS Heat-Weld™, RUBEROID® SBS Heat-Weld™ Smooth, RUBEROID® UltraClad™ SBS and RUBEROID® SBS Heat-Weld™ 25 applied according to manufacturer's application instructions.

Surfacing: (Optional) Install one of the following:

1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq.

2. GAF Premium Fibered Aluminum Roof Coating, at 1.5 gal. /sq. or GAF WeatherCoat® Emulsion at 3 gal./sq. (Torch Smooth applications only)
3. GAF Weathercote® MB+(Matrix 715 MB Coating), Applied at 1 to 1.5 gal./sq.
4. Top Coat® Surface Seal SB(Matrix 602 SB Coating), Applied at 1 to 1.5 gal./sq.

Maximum Design Pressure: **See Fastening Above**

Membrane Type: SBS

Deck Type 1I: Wood, Insulated, New Construction, or Reroof

Deck Description: $^{19}/_{32}$" or greater plywood or wood plank

System Type B: Optional base sheet laid dry; base layer of insulation mechanically fastened, optional top layer adhered with approved asphalt.

All General and System Limitations shall apply.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
ACFoam-I, EnergyGuard RA Minimum 1.3" thick	1, 2, 6, 9, 13 or 14	1:3 ft^2
E'NRG'Y 2, GAFTEMP Isotherm RN Minimum 1.4" thick	1, 2, 6, 9, 13, 14 or 21	1:3 ft^2
GAFTEMP® Isotherm R, BMCA EnergyGuard Minimum 1.3" thick	1, 2, 6, 9, 13, 14 or 21	1:3 ft^2
E'NRG'Y 2 Plus, GAFTEMP Composite N, BMCA CompositeEnergyGuard **Minimum 1.5" thick**	6, 9, 18 or 21	**1:3 ft^2**
Perlite, GAFTEMP® PERMALITE Minimum ¾" thick	1, 6, 9, 13or 21	1:2 ft^2
Fiberglas Minimum $^{15}/_{16}$" thick	1, 2, 6, 9, 12, 13, 14, 18 or 21	1:2.67 ft^2
Wood Fiber, GAFTEMP® Fiberboard, GAFTEMP High Density Fiberboard Minimum 1" thick	1, 2, 6, 13, 14 or 21	1:2 ft^2

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. Insulation fasteners shall be tested for withdrawal resistance in compliance with Protocol TAS 105 to confirm compliance with the wind load requirements. 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 GAFTEMP® PERMALITE or wood fiber overlay board on all isocyanurate applications.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Any of the insulation listed for Base Layer, above.		
High Density Wood Fiber, GAFTEMP® High Density Wood Fiber, GAFTEMP RecoverBoard Minimum ½" thick	N/A	N/A
Paroc Minimum ¾" 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: (Optional) Install one ply of GAFGLAS® #75, GAFGLAS #80 ULTIMA™ Base Sheet, GAFGLAS® PLY 4®, GAFGLAS® PLY 6®, GAFGLAS Flex Ply™ 6, GAFGLAS STRATAVENT® Eliminator Perforated (laid dry), RUBEROID Modified Base Sheet, RUBEROID MOP Smooth 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; **(see General Limitation #4).**

Ply Sheet: (Optional) One or more plies GAFGLAS PLY 4®, GAFGLAS Flex Ply 6 sheet or GAFGLAS #80 Ultima 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, Ruberoid® Mop 170 FR, Ruberoid® Mop Granule, RUBEROID MOP PLUS, RUBEROID MOP FR, RUBEROID Dual FR or RUBEROID ULTRACLAD®, fully adhered in an approved asphalt at an application rate of 25 lb./sq. ± 15%.

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.
2. GAFGLAS Mineral Surfaced Cap Sheet in an approved asphalt at an application rate of 25 lb./sq. ± 15%.
3. GAF Weathercote® MB+(Matrix 715 MB Coating), Applied at 1 to 1.5 gal./sq.
4. Top Coat® Surface Seal SB(Matrix 602 SB Coating), Applied at 1 to 1.5 gal./sq.

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

Membrane Type: APP/SBS Heat Weld

Deck Type 1I: Wood, Insulated, New Construction, or Reroof

Deck Description: $^{19}/_{32}$" or greater plywood or wood plank

System Type B: Optional base sheet laid dry; base layer of insulation mechanically fastened, optional top layer adhered with approved asphalt.

All General and System Limitations shall apply.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
ACFoam-I, EnergyGuard RA Minimum 1.3" thick	1, 2, 6, 9, 13 or 14	1:3 ft^2
E'NRG'Y 2, GAFTEMP Isotherm RN Minimum 1.4" thick	1, 2, 6, 9, 13, 14 or 21	1:3 ft^2
GAFTEMP® Isotherm R, BMCA EnergyGuard Minimum 1.3" thick	1, 2, 6, 9, 13, 14, 18 or 21	1:3 ft^2
E'NRG'Y 2 Plus, GAFTEMP Composite N, BMCA Composite EnergyGuard, EnergyGuard RA Composite Minimum 1.5" thick	6, 9, 18 or 21	1:3 ft^2
Perlite, GAFTEMP® PERMALITE Minimum ¾" thick	1, 6, 9, 13 or 21	1:2 ft^2
Fiberglas Minimum $^{15}/_{16}$" thick	1, 2, 6, 9, 12, 13, 14, 18 or 21	1:2.67 ft^2
Wood Fiber, GAFTEMP® Fiberboard, GAFTEMP High Density Fiberboard Minimum 1" thick	1, 2, 6, 13, 14 or 21	1:2 ft^2

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. Insulation fasteners shall be tested for withdrawal resistance in compliance with Protocol TAS 105 to confirm compliance with the wind load requirements. 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 GAFTEMP® PERMALITE or wood fiber overlay board on all isocyanurate applications.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Any of the insulation listed for Base Layer, above.		
High Density Wood Fiber, GAFTEMP® High Density Wood Fiber, GAFTEMP Recover Board Minimum ½" thick	N/A	N/A

Paroc Minimum ¾" 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 Flex Ply™ 6, GAFGLAS STRATAVENT® Eliminator Perforated (laid dry), RUBEROID Modified Base Sheet, RUBEROID MOP Smooth, RUBEROID® 20, RUBEROID SBS Heat-Weld™ Smooth or RUBEROID SBS Heat-Weld 25 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; **(see General Limitation #4).**

Ply Sheet: (Optional, required when using RUBEROID 20) One or more plies GAFGLAS PLY 4®, GAFGLAS Flex Ply 6 sheet or GAFGLAS #80 ULTIMA adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

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

Surfacing: (Optional) Install one of the following:

1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq.
2. GAF Premium Fibered Aluminum Roof Coating, at 1.5 gal. /sq. or GAF WeatherCoat® Emulsion at 3 gal./sq. (Torch Smooth applications only)
3. GAF Weathercote® MB+(Matrix 715 MB Coating), Applied at 1 to 1.5 gal./sq.
4. Top Coat® Surface Seal SB(Matrix 602 SB Coating), Applied at 1 to 1.5 gal./sq.

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

Membrane Type: SBS

Deck Type 1I: Wood, Insulated, New Construction, or Reroof

Deck Description: $^{19}/_{32}$" or greater plywood or wood plank

System Type C: One or more layers of insulation simultaneously attached; Base layer optional.

All General and System Limitations shall apply.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
ACFoam-I, GAFTEMP® Isotherm R, GAFTEMP Isotherm RA, GAFTEMP, Isotherm RN, BMCA EnergyGuard, EnergyGuard RA		
Minimum 1.3" thick	N/A	N/A
E'NRG'Y 2,		
Minimum 1.4" thick	N/A	N/A
ISORoc, E'NRG'Y 2 Plus, GAFTEMP Composite A, GAFTEMP Composite N, GAFTEMP Composite, BMCA EnergyGuard Composite, EnergyGuard RA Composite		
Minimum 1.5" thick	N/A	N/A
Perlite, GAFTEMP® PERMALITE®		
Minimum ¾" thick	N/A	N/A
Fiberglas		
Minimum $^{15}/_{16}$" thick	N/A	N/A
Wood Fiber, GAFTEMP® Fiberboard		
Minimum 1" thick	N/A	N/A

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

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
ACFoam-I, EnergyGuard RA		
Minimum 1.3" thick	1, 2, 6, 9, 13 or 14	1:3 ft^2
E'NRG'Y 2, GAFTEMP Isotherm RN		
Minimum 1.4" thick	1, 2, 6, 12, 13 or 21	1:3 ft^2
GAFTEMP® Isotherm R, GAFTEMP Isotherm RA, BMCA EnergyGuard		
Minimum 1.3" thick	1, 2, 6, 9, 13, 14, 18 or 21	1:3 ft^2
E'NRG'Y 2 Plus, GAFTEMP Composite N, GAFTEMP Composite, GAFTEMP Composite A, BMCA EnergyGuard Composite, EnergyGuard RA Composite		
Minimum 1.5" thick	6, 9, 18 or 21	1:3 ft^2
Perlite, GAFTEMP® PERMALITE		
Minimum ¾" thick	1, 6, 9, 13 or 21	1:2 ft^2

Fiberglas		
Minimum $^{15}/_{16}$" thick	1, 2, 6, 9, 12, 13, 14, 18 or 21	1:2.67 ft²
Wood Fiber, GAFTEMP® Fiberboard, GAFTEMP High Density Fiberboard		
Minimum 1" thick	1, 2, 6, 13, 14 or 21	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 GAFTEMP® PERMALITE 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® PLY 6®, GAFGLAS FlexPly™ 6®, GAFGLAS® STRATAVENT® Perforated (laid dry), RUBEROID Modified Base Sheet, RUBEROID MOP Smooth 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. If base sheet is applied directly to polyisocyanurate insulation only a spot or strip mopped application as detailed in this approval the use of an overlay board is approved; **(see General Limitation #4).**

Ply Sheet: (Optional) One or more plies GAFGLAS PLY 4®, GAFGLAS Flex Ply 6 sheet or GAFGLAS #80 Ultima 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, Ruberoid® Mop 170 FR, Ruberoid® Mop Granule, RUBEROID MOP PLUS, RUBEROID MOP FR, RUBEROID Dual FR or RUBEROID ULTRACLAD®, fully adhered in an approved asphalt at an application 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 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq.
2. GAFGLAS Mineral Surfaced Cap Sheet in an approved asphalt at an application rate of 25 lb./sq. ± 15%.
3. GAF Weathercote® MB+(Matrix 715 MB Coating), Applied at 1 to 1.5 gal./sq.
4. Top Coat® Surface Seal SB(Matrix 602 SB Coating), Applied at 1 to 1.5 gal./sq.

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

Membrane Type: APP/SBS Heat Weld

Deck Type 1I: Wood, Insulated, New Construction, or Reroof

Deck Description: $^{19}/_{32}$" or greater plywood or wood plank

System Type C: One or more layers of insulation simultaneously attached; Base layer optional.

All General and System Limitations shall apply.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
ACFoam-I, GAFTEMP® Isotherm R, GAFTEMP Isotherm RA, GAFTEMP, Isotherm RN, BMCA EnergyGuard, EnergyGuard RA		
Minimum 1.3" thick	N/A	N/A
E'NRG'Y 2,		
Minimum 1.4" thick	N/A	N/A
ISORoc, E'NRG'Y 2 Plus, GAFTEMP Composite A, GAFTEMP Composite N, GAFTEMP Composite, Multi-Max, BMCA EnergyGuard Composite, EnergyGuard RA Composite		
Minimum 1.5" thick	N/A	N/A
Perlite, GAFTEMP® PERMALITE®, GAFTEMP Recover		
Minimum ¾" thick	N/A	N/A
Fiberglas		
Minimum $^{15}/_{16}$" thick	N/A	N/A
Wood Fiber, GAFTEMP® Fiberboard		
Minimum 1" thick	N/A	N/A

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

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
ACFoam-I, EnergyGuard RA		
Minimum 1.3" thick	1, 2, 6, 9, 13, 14 or 21	1:3 ft^2
E'NRG'Y 2, GAFTEMP Isotherm RN		
Minimum 1.4" thick	1, 2, 6, 9, 13, 14 or 21	1:3 ft^2
GAFTEMP® Isotherm R, GAFTEMP® Isotherm R, BMCA EnergyGuard		
Minimum 1.3" thick	1, 2, 6, 9, 13, 14, 18 or 21	1:3 ft^2
E'NRG'Y 2 Plus, GAFTEMP Composite N, BMCA EnergyGuard Composite, EnergyGuard RA Composite		
Minimum 1.5" thick	6, 9, 18 or 21	1:3 ft^2
Perlite, GAFTEMP® PERMALITE		
Minimum ¾" thick	1, 6, 9, 13 or 21	1:2 ft^2

Fiberglas		
Minimum $^{15}/_{16}$" thick	1, 2, 6, 9, 12, 13, 14, 18 or 21	1:2.67 ft²
Wood Fiber, GAFTEMP® Fiberboard, GAFTEMP High Density Fiberboard		
Minimum 1" thick	1, 2, 13, 14 or 21	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 GAFTEMP® PERMALITE 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 MOP Smooth 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. If base sheet is applied directly to polyisocyanurate insulation only a spot or strip mopped application as detailed in this approval the use of an overlay board is approved; **(see General Limitation #4).**

Ply Sheet: (Optional, required when using RUBEROID 20) One or more plies GAFGLAS PLY 4®, GAFGLAS Flex Ply 6 sheet or GAFGLAS #80 ULTIMA adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: One ply of Ruberoid® Torch Smooth, Ruberoid® Torch Granule, Ruberoid® Torch Plus Granule or Ruberoid® Torch FR torch applied according to manufacturer's application instructions.

Or

One or more plies of RUBEROID® SBS Heat-Weld™ PLUS, RUBEROID® SBS Heat-Weld™ PLUS FR, RUBEROID® SBS Heat-Weld™ 170 FR, RUBEROID® SBS Heat-Weld™, RUBEROID® SBS Heat-Weld™ Smooth, RUBEROID® UltraClad™ SBS and RUBEROID® SBS Heat-Weld™ 25 applied according to manufacturer's application instructions.

Surfacing: (Optional) Install one of the following:

1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq.
2. GAF Premium Fibered Aluminum Roof Coating, at 1.5 gal. /sq. or GAF WeatherCoat® Emulsion at 3 gal./sq. (Torch Smooth applications only)
3. GAF Weathercote® MB+(Matrix 715 MB Coating), Applied at 1 to 1.5 gal./sq.
4. Top Coat® Surface Seal SB(Matrix 602 SB Coating), Applied at 1 to 1.5 gal./sq.

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

Membrane Type: SBS

Deck Type 1I: Wood, Insulated, New Construction, or Reroof

Deck Description: $^{19}/_{32}$" or greater plywood or wood plank

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

All General and System Limitations shall apply.

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2

ACFoam-I, E'NRG'Y 2, GAFTEMP® Isotherm R, E'NRG'Y 2 Plus, GAFTEMP Isotherm RA, GAFTEMP Isotherm RN, BMCA EnergyGuard, EnergyGuard RA, EnergyGuard RA Composite BMCA EnergyGuard Composite, GAFTEMP Composite, GAFTEMP Composite A, GAFTEMP Composite N loosely laid with firmly butted joints. Minimum thickness, 1.3". GAFTEMP High Density Fiberboard, GAFTEMP Fiberboard, minimum thickness 1".

Base Sheet: Install one ply of GAFGLAS® #75, GAFGLAS #80 Ultima™ Base Sheet, GAFGLAS® STRATAVENT® Eliminator Perforated or RUBEROID® 20 base sheet applied over the loose laid insulation with 2" side laps mechanically fastened to deck as described below;

Fastening Options: GAFTITE #12 or #14 Screws and 3" Plates are installed through the base sheet and insulation in 3 rows 12" o.c. One row is in the 2" side lap. The other rows are equally spaced approximately 12" o.c. in the field of the sheet. ***(Maximum Design Pressure –45 psf, See General Limitation #7)***

GAFTITE #12 or #14 Screws and 3" Plates in 4 rows 12" o.c. 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)***
GAFTITE #12 or #14 Screws and 3" Plates are installed through the base sheet and insulation in 4 rows 8" o.c. One row is in the 2" side lap. The other 3 rows are equally spaced approximately 9" o.c. in the field of the sheet. ***(Maximum Design Pressure –75 psf, See General Limitation #7)***

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

Membrane: 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 or Ruberoid® Mop 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 or RUBEROID® Mop FR or RUBEROID UltraClad™ SBS in RUBEROID Modified Bitumen 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.
2. GAFGLAS Mineral Surfaced Cap Sheet in an approved asphalt at an application rate of 25 lb./sq. ± 15%.
3. GAF Weathercote® MB+(Matrix 715 MB Coating), Applied at 1 to 1.5 gal./sq.
4. Top Coat® Surface Seal SB(Matrix 602 SB Coating), Applied at 1 to 1.5 gal./sq..

Maximum Design Pressure: See Fastening above

Membrane Type: APP/SBS Heat Weld

Deck Type 1I: Wood, Insulated, New Construction or Reroof

Deck Description: $^{19}/_{32}$" or greater plywood or wood plank

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

All General and System Limitations shall apply.

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
ACFoam-I, E'NRG'Y 2, GAFTEMP® Isotherm R, E'NRG'Y 2 Plus, GAFTEMP Isotherm RA, EnergyGuard, EnergyGuard RA GAFTEMP Isotherm RN, GAFTEMP Composite, GAFTEMP Composite A, GAFTEMP Composite N loosely laid with firmly butted joints. Minimum thickness, 1.3". GAFTEMP High Density Fiberboard, GAFTEMP Fiberboard, minimum thickness 1".		

Base Sheet: Install one ply of GAFGLAS® #75, GAFGLAS #80 Ultima™ Base Sheet, GAFGLAS® STRATAVENT® Eliminator Perforated or RUBEROID® 20 base sheet applied over the loose laid insulation with 2" side laps mechanically fastened to deck as described below;

Fastening Options: GAFTITE #12 or #14 Screws and 3" Plates are installed through the base sheet and insulation in 3 rows 12" o.c. One row is in the 2" side lap. The other rows are equally spaced approximately 12" o.c. in the field of the sheet. ***(Maximum Design Pressure –45 psf, See General Limitation #7)***

GAFTITE #12 or #14 Screws and 3" Plates in 4 rows 12" o.c. 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)***

GAFTITE #12 or #14 Screws and 3" Plates are installed through the base sheet and insulation in 4 rows 8" o.c. One row is in the 2" side lap. The other 3 rows are equally spaced approximately 9" o.c. in the field of the sheet. ***(Maximum Design Pressure –75 psf, See General Limitation #7)***

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

Membrane: One ply of Ruberoid® Torch Smooth, Ruberoid® Torch Granule, Ruberoid® Torch Plus Granule or Ruberoid® Torch FR torch applied according to manufacturer's application instructions.

Or

One or more plies of RUBEROID® SBS Heat-Weld™ PLUS, RUBEROID® SBS Heat-Weld™ PLUS FR, RUBEROID® SBS Heat-Weld™ 170 FR, RUBEROID® SBS Heat-Weld™, RUBEROID® SBS Heat-Weld™ Smooth, RUBEROID® UltraClad™ SBS and RUBEROID® SBS Heat-Weld™ 25 applied according to manufacturer's application instructions.

Surfacing: (Optional) Install one of the following:

1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq.
2. GAF Premium Fibered Aluminum Roof Coating, at 1.5 gal. /sq. or GAF WeatherCoat® Emulsion at 3 gal./sq. (Torch Smooth applications only)
3. GAF Weathercote® MB+(Matrix 715 MB Coating), Applied at 1 to 1.5 gal./sq.
4. Top Coat® Surface Seal SB(Matrix 602 SB Coating), Applied at 1 to 1.5 gal./sq.

Maximum Design Pressure: See Fastening Above

Membrane Type: SBS/SBS Cold Applied

Deck Type 1: Wood, Non-insulated New Construction or Reroof

Deck Description: $^{19}/_{32}$" or greater plywood or wood plank decks

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

All General and System Limitations shall apply.

Base sheet: GAFGLAS #80 Ultima™ Base Sheet, STRATAVENT® Eliminator Perforated Nailable, RUBEROID Modified Base Sheet, RUBEROID® 20, RUBEROID SBS Heat-Weld™ Smooth or RUBEROID SBS Heat-Weld 25 base sheet mechanically fastened to deck as described below;

Fastening Options: GAFGLAS® Ply 4®, GAFGLAS Flex Ply™ 6, GAFGLAS #75 Base Sheet or any of above Base sheets attached to deck with approved annular ring shank nails and tin caps at a fastener spacing of 9" o.c. at the lap staggered and in two rows 12" o.c. in the field.
(Maximum Design Pressure –45 psf, See General Limitation #7)
GAFGLAS® Ply 4®, GAFGLAS Flex Ply™ 6, GAFGLAS #75 Base Sheet or any of above Base sheets attached to deck with Drill-Tec (GAFTITE) #12 or #14 Screws and 3" Plates, 12" o.c. in 3 rows. One row is in the 2" side lap. The other rows are equally spaced approximately 12" o.c. in the field of the sheet.
(Maximum Design Pressure –45 psf, See General Limitation #7)
GAFGLAS Flex Ply™ 6, GAFGLAS #75 Base Sheet or any of above Base sheets attached to deck with approved annular ring shank nails and tin caps at a fastener spacing of 9" o.c. at the 4" lap staggered and in two rows 9" o.c. in the field.
(Maximum Design Pressure –52.5 psf, See General Limitation #7)
GAFGLAS #75 Base Sheet or any of above Base sheets attached to deck with Drill-Tec (GAFTITE) #12 or #14 Screws and 3" Plates, 12" o.c. in 4 rows. 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)***
Any of above Base sheets attached to deck approved annular ring shank nails and 3" inverted Drill-Tec (GAFTITE) insulation plates at a fastener spacing of 9" o.c. at the 4" lap staggered in two rows 9" in the field. ***(Maximum Design Pressure – 60 psf, See General Limitation #7)***
GAFGLAS #75 Base Sheet or any of above Base sheets attached to deck with Drill-Tec (GAFTITE) #12 or #14 Screws and 3" Plates, 8" o.c. in 4 rows. 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 –75 psf, See General Limitation #7)***

Ply Sheet: (Optional) One or more plies GAFGLAS PLY 4®, GAFGLAS Flex Ply 6, GAFGLAS #80, RUBEROID MOP Smooth or RUBEROID 20 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 or Ruberoid® Mop 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 or RUBEROID® Mop FR or RUBEROID UltraClad™ SBS in RUBEROID Modified Bitumen 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.
2. GAFGLAS Mineral Surfaced Cap Sheet in an approved asphalt at an application rate of 25 lb./sq. ± 15%.
3. GAF Weathercote® MB+(Matrix 715 MB Coating), Applied at 1 to 1.5 gal./sq.
4. Top Coat® Surface Seal SB(Matrix 602 SB Coating), Applied at 1 to 1.5 gal./sq.

Maximum Design Pressure: See Fastening above

Membrane Type: APP/SBS Heat Weld

Deck Type 1: Wood, Non-insulated New Construction or Reroof

Deck Description: $^{19}/_{32}$" or greater plywood or wood plank decks

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

All General and System Limitations shall apply.

Base sheet: GAFGLAS #80 Ultima™ Base Sheet, STRATAVENT® Eliminator Perforated Nailable, RUBEROID Modified Base Sheet, RUBEROID MOP Smooth, RUBEROID® 20, RUBEROID SBS Heat-Weld™ Smooth or RUBEROID SBS Heat-Weld 25 base sheet mechanically fastened to deck as described below;

Fastening Options: GAFGLAS® Ply 4®, GAFGLAS Flex Ply™ 6, GAFGLAS #75 Base Sheet or any of above Base sheets attached to deck with approved annular ring shank nails and tin caps at a fastener spacing of 9" o.c. at the lap staggered and in two rows 12" o.c. in the field.

(Maximum Design Pressure –45 psf, See General Limitation #7)

GAFGLAS® Ply 4®, GAFGLAS Flex Ply™ 6, GAFGLAS #75 Base Sheet or any of above Base sheets attached to deck with Drill-Tec (GAFTITE) #12 or #14 Screws and 3" Plates, 12" o.c. in 3 rows. One row is in the 2" side lap. The other rows are equally spaced approximately 12" o.c. in the field of the sheet.

(Maximum Design Pressure –45 psf, See General Limitation #7)

GAFGLAS Flex Ply™ 6, GAFGLAS #75 Base Sheet or any of above Base sheets attached to deck with approved annular ring shank nails and tin caps at a fastener spacing of 9" o.c. at the 4" lap staggered and in two rows 9" o.c. in the field.

(Maximum Design Pressure –52.5 psf, See General Limitation #7)

GAFGLAS #75 Base Sheet or any of above Base sheets attached to deck with Drill-Tec (GAFTITE) #12 or #14 Screws and 3" Plates, 12" o.c. in 4 rows. 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)

Any of above Base sheets attached to deck approved annular ring shank nails and 3" inverted Drill-Tec (GAFTITE) insulation plates at a fastener spacing of 9" o.c. at the 4" lap staggered in two rows 9" in the field.

(Maximum Design Pressure –60 psf, See General Limitation #7)

GAFGLAS #75 Base Sheet or any of above Base sheets attached to deck with Drill-Tec (GAFTITE) #12 or #14 Screws and 3" Plates, 8" o.c. in 4 rows. 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 –75 psf, See General Limitation #7)

Ply Sheet: (Optional except over RUBEROID Modified Base Sheet, RUBEROID MOP Smooth, RUBEROID® 20, RUBEROID SBS Heat-Weld™ Smooth or RUBEROID SBS Heat-Weld) One or more plies GAFGLAS PLY 4®, GAFGLAS® PLY 6® Ply or GAFGLAS Flex Ply 6 sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or Ruberoid Torch Smooth torch applied according to manufacturer's application instructions.

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

Surfacing: (Optional) Install one of the following:

1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq.
2. GAF Premium Fibered Aluminum Roof Coating, at 1.5 gal. /sq. or GAF WeatherCoat® Emulsion at 3 gal./sq. (Torch Smooth applications only)
3. GAF Weathercote® MB+(Matrix 715 MB Coating), Applied at 1 to 1.5 gal./sq.
4. Top Coat® Surface Seal SB(Matrix 602 SB Coating), Applied at 1 to 1.5 gal./sq.

Maximum Design Pressure: See Fastening Above

Membrane Type: SBS

Deck Type 1: Wood, Non-insulated

Deck Description: $^{19}/_{32}$" or greater plywood or wood plank

System Type E-2: RUBEROID® Tile Underlayment, Base Sheet mechanically attached.

All General and System Limitations shall apply.

Anchor sheet: GAFGLAS® #80 Ultima™ Base Sheet, RUBEROID® 20 base sheet or Tile-Mate Modified Base Sheet applied with a minimum 2" side lap and a minimum 6"end lap. Base sheet may be applied at a right angle (90°) to the slope of the deck with approved annular ring shank nails and tin caps at a fastener spacing of 6" o.c. at the 2" side lap, and two 12" o.c. staggered rows along the center of the sheet.

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

Membrane: One ply RUBEROID® MOP, RUBEROID® MOP PLUS, RUBEROID® SBS Heat-Weld™ Granule, RUBEROID® SBS Heat-Weld™ PLUS, Tile-Mate Modified Cap or Tile-Mate Modified Cap Plus, membrane may be applied at a right angle (90°) to the slope of the deck* adhered in a full mopping of Type IV asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. Membrane shall be backnailed to deck with approved annular ring shank nails and tin caps in accordance to applicable Building Code. No nails or tin caps shall be exposed

* Membrane may also be installed parallel to the slope of the roof (i.e. strapping). If membrane is strapped, then anchor sheet and ply sheet must also be strapped.

Maximum Design Pressure: Refer to tile manufacturer's NOA.

Maximum Slope: Must Comply with Roofing Application Standard RAS 118, RAS 119, RAS 120 and applicable Building Code.

Membrane Type: SBS Cold Applied for mechanically fastened tile systems only.

Deck Type 1: Wood, Non-insulated

Deck Description: $^{19}/_{32}$" or greater plywood or wood plank

System Type E-3: RUBEROID® Tile Underlayment, Base Sheet mechanically attached.

All General and System Limitations shall apply.

Anchor sheet: GAFGLAS® GAFGLAS #80 Ultima™ Base Sheet, RUBEROID® 20 base sheet or Tile-Mate Modified Base Sheet applied with a minimum 2" side lap and a minimum 6"end lap. Base sheet may be applied at a right angle (90°) to the slope of the deck with approved annular ring shank nails and tin caps at a fastener spacing of 6" o.c. at the 2" side lap, and two 12" o.c. staggered rows along the center of the sheet.

Membrane: One ply RUBEROID® MOP, RUBEROID® MOP PLUS, Tile-Mate Modified Cap or Tile-Mate Modified Cap Plus, membrane may be applied at a right angle (90°) to the slope of the deck* adhered with Ruberoid Adhesive or Matrix Select 102 at a rate of 1-2 gal/sq. Membrane shall be backnailed to deck with approved annular ring shank nails and tin caps at a maximum fastener spacing of 6" o.c. No nails or tin caps shall be exposed. **Allow 72 hour cure prior to loading and installing tiles.**

* Membrane may also be installed parallel to the slope of the roof (i.e. strapping). If membrane is strapped, then anchor sheet and ply sheet must also be strapped.

Maximum Design Pressure: Refer to tile manufacturer's NOA.

Maximum Slope: Must Comply with Roofing Application Standard RAS 118, RAS 119, RAS 120 and applicable Building Code.

WOOD DECK SYSTEM LIMITATIONS:

1 A slip sheet is required with Ply 4 and Flex Ply ™ 6 when used as a mechanically fastened base or anchor sheet.
2. Minimum ¼" Dens Deck or ½ Type X gypsum board is acceptable to be installed directly over the wood deck.

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.)**

END OF THIS ACCEPTANCE