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

BUILDING CODE COMPLIANCE OFFICE (BCCO)
PRODUCT CONTROL DIVISION

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 BCCO (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. BCCO reserves the right to revoke this acceptance, if it is determined by BCCO 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 Recover Decks.

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

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

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

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

This NOA renews NOA #00-0331.14 and consists of pages 1 through 31.
The submitted documentation was reviewed by Frank Zuloaga, RRC.

ROOFING SYSTEM APPROVAL

Category:	Roofing
Sub-Category:	SBS/APP, Modified Bitumen
Deck Type:	Recover Deck
Maximum Design Pressure	-60 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. & 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 Jetblak 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.
GAF Aluminum Emulsion	5 gallons		Mineral colloidial 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, Tpyes I, II, III and IV1	Interply mopping and surfacing asphalt
GAFGLAS® #75	39.37" (1 meter) Wide	ASTM D 4601	Asphalt impregnated and coated glass mat base sheet.

Product	Dimensions	Test Specification	Product Description
GAFGLAS #80 Ultima™ Base Sheet	39.37" (1 meter) Wide	ASTM D4601	Asphalt impregnated and coated, fiberglass base sheet.
GAFGLAS FlexPly™ 6	39.37" (1 meter) Wide	ASTM D 2178	Type VI asphalt impregnated glass felt with asphalt coating.
GAFGLAS Ply 4®	39.37" (1 meter) Wide	ASTM D 2178	Type IV asphalt impregnated glass felt with asphalt coating.
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.
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® 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 Smooth	39.37" (1 meter) Wide	ASTM D5147 ASTM D6298	Non-woven polyester mat coated with polymer modified asphalt. Does not have a factory applied surfacing.
RUBEROID ULTRACLAD® SBS	1 sq. roll 101 lb.	ASTM D5147	Woven fiberglass mat coated with polymer modified asphalt and surfaced with aluminum, copper or stainless steel foil.

Product	Dimensions	Test Specification	Product Description
RUBEROID MOD Asphalt, Asphalt L & Asphalt P	60 lb. kegs		SEBS modified asphalt
RUBEROID® Modified Base Sheet	39.37" (1 meter) Wide	ASTM D4601 Type II, Type G2 BUR	Premium glass fiber reinforced SBS-modified base sheet.
Ruberoid® Mop Granule	39.37" (1 meter) Wide	ASTM D 6222 ASTM D 5147	Non-woven polyester mat coated with polymer modified asphalt and surfaced with mineral granules.
Ruberoid® Torch Smooth	39.37" (1 meter) Wide	ASTM D 5147	Heavy duty, polyester reinforced, asphalt modified bitumen membrane.
Ruberoid® Torch Plus (Granule)	39.37" (1 meter) Wide	ASTM D 6222 ASTM D 5147	Heavy duty, polyester reinforced, asphalt modified bitumen membrane.
Ruberoid® Torch Granule	39.37" (1 meter) Wide	ASTM D 6222 ASTM D 5147	Asphalt impregnated, coated felt, surfaced with mineral granules.
Ruberoid® Torch FR	39.37" (1 meter) Wide	ASTM D 6222 ASTM D 5147	Non-woven polyester mat coated with fire retardant polymer modified asphalt surfaced with mineral granules.
Ruberoid® Mop Plus (Granule)	39.37" (1 meter) Wide	ASTM D 6164 ASTM D 5147	Non-woven polyester mat coated with polymer modified asphalt and surfaced with mineral granules.
Ruberoid® Mop FR	39.37" (1 meter) Wide	ASTM D 6164 ASTM D 5147	Non-woven polyester mat coated with fire-retardant, polymer modified asphalt surfaced with mineral granules.
Ruberoid® 20	39.37" (1 meter) Wide	ASTM D 6163 ASTM D 5147	SBS modified asphalt base sheet reinforce with a glass fiber mat.
Ruberoid® 30	39.37" (1 meter) Wide	ASTM D 6163 ASTM D 5147	Non woven fiberglass mat coated with polymer modified asphalt and surfaced with mineral granules.
Ruberoid® 30 FR	39.37" (1 meter) Wide	ASTM D 6163 ASTM D 5147	Non woven fiberglass mat coated with fire retardant, polymer modified asphalt and surfaced with mineral granules.1
Ruberoid® Mop 170 FR	39.37" (1 meter) Wide	ASTM D 6164 ASTM D 5147	Non-woven polyester mat coated with fire retardant polymer modified asphalt surfaced with mineral granules.
TopCoat® Surface Seal SB (Matrix)	5 gallons		Surface coating for smooth surfaced and mineral surfaced roofs.
GAF WeatherCote® MB+(Matrix)	5 gallons		Surface coating for smooth surfaced and mineral surfaced roofs.
TopCoat MB+	5 gallons		Surface coating for smooth surfaced and mineral surfaced roofs.
Matrix™ WeatherCote™	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.

Product	Dimensions	Test Specification	Product Description
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.
Vent Stacks (metal and plastic)		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.

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
GAFTEMP Isotherm RA, RN & Composite	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.
EnergyGuard Perlite	Perlite insulation board.	GAF Materials Corp.
EnergyGuard Recover Board	Perlite recover board	GAF Materials Corp.
EnergyGuard High Density Fiberboard	High density wood fiberboard insulation.	GAF Materials Corp.
PYROX	Polyisocyanurate foam insulation	Apache Products Co.
White Line	Polyisocyanurate foam insulation	Apache Products Co.

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
ACFoam I, & II	Polyisocyanurate foam insulation	Atlas Energy Products
ACFoam Composite	Polyisocyanurate/perlite composite insulation	Atlas Energy Products
ISO 95+, GL, GW	Polyisocyanurate foam insulation	Firestone Building Products, Inc.
ISO 95+ Composite	Polyisocyanurate / perlite ridged insulation	Firestone Building Products, Inc.
Wood Fiber	Wood fiber insulation board	generic
High Density Wood Fiberboard	Wood fiber insulation board	generic
Perlite Insulation	Perlite insulation board	generic
Pelite/Urethane Composite	Perlite / urethane composite board insulation	generic
Type X Gypsum	Fire resistant rated gypsum	generic
Dens Deck	Water resistant gypsum board	G-P Gypsum Corp.
ENRGY 2 & ENRGY 2 PLUS, PSI-25, UltraGard Gold	Polyisocyanurate foam insulation	Johns Manville
ENRGY 2 & ENRGY 2 PLUS, PSI-25, UltraGard Gold	Polyisocyanurate foam/fescoboard composite 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.
Fiberglas	Fiber glass roof insulation	Owens-Corning Fiberglas Corp.
Paroc Base Board, Paroc Cap Board	Rockwool insulation.	Partek, Inc.
Multi-Max, FA	Polyisocyanurate roof insulation	RMax, Inc.
Thermaroof Composite	Polyisocyanurate foam/perlite composite insulation.	RMax, Inc.

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	GAFTITE® (Drill-Tec®) #12, #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.	GAFTITE® (Drill-Tec®) Lite Deck Fastener	Insulation fastener for CWF and Gypsum decks.		GAF Materials Corp.
5.	Galvalume Plates (Drill-Tec® Metal)	Round galvalume stress plates.	3" and 3 ½"	GAF Materials Corp.
6.	Polypropylene Plates (Drill-Tec® Plastic)	Round polypropylene stress plates.	3" and 3 ½"	GAF Materials Corp.
7.	Dekfast Fasteners #12, #14 & #15	Insulation fastener for wood, steel and concrete decks		Construction Fasteners Inc.
8.	Dekfast Hex Plate	Galvalume hex stress plate.	2 7/8" x 3 1/4"	Construction Fasteners Inc.
9.	Dekfast Lock Plate	Polypropylene locking plate.	3" x 3 1/4"	Construction Fasteners Inc.
10.	FM-30, FM-45, FM-60, FM-90 Fasteners	Base ply fastening systems for lightweight concrete decks		ES Products, Inc.
11.	Nail-Tite Type 'A', Type 'R'	Galvanized steel base ply fastener for lightweight concrete decks.		ES Products, Inc.
12.	#12, #14 Roofgrip Fasteners	Insulation fastener for wood and steel.		ITW Buildex Corp.
13.	Hextra Plus	Pre-assembled Insulation fastener and 3" metal plate		ITW Buildex Corp.
14.	Metal Plate	Galvalume stress plate.	3" round 3" square	ITW Buildex Corp.
15.	Gearlok Plastic Plate	Polypropylene round plate	3.2"	ITW Buildex Corp.
16.	Olympic Fastener #12, #14 & #15	Insulation fastener		Olympic Mfg Group

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
17.	Fluted Nail (Con-Tite)	Insulation fastener		Olympic Mfg Group
18.	Olympic CR Base Ply Fasteners	Base ply fastening assembly		Olympic Mfg Group
19.	Lite-Deck Fastener	Insulation fastener for CWF and Gypsum decks.		Olympic Mfg Group
20.	Lite-Deck Metal	Round galvalume stress plates.	3"	Olympic Mfg Group
21.	NTB Magnum	Glass reinforced Nylon insulation fastener for gypsum & CWF decks with barbs.		Olympic Mfg Group
22.	NTB Plate	Galvalume stress plate	3" round	Olympic Mfg Group
23.	Olympic Fastener ASAP	Pre-assembled Insulation fastener and plate		Olympic Mfg Group
24.	Olympic Polypropylene	Polypropylene plastic plate	3.25" round	Olympic Mfg Group
25.	Olympic G-2	Galvalume AZ55 steel plate	3.5" round	Olympic Mfg Group
26.	Olympic Standard	Galvalume AZ50 steel plate	3" round	Olympic Mfg Group
27.	Rawl Fasteners #12 & #14	Insulation fastener for use in steel, wood or concrete.		Powers Fasteners, Inc.
28.	Rawl Drive/Spike	Insulation fastener for concrete decks		Powers Fasteners, Inc.
29.	Rawl Plate	Galvalume AZ55 steel plate	3" round	Powers Fasteners, Inc.
30.	Powerlite	Insulation fastener for CWF and Gypsum decks.		Powers Fasteners, Inc.
31.	Powerlite Plates	3" round galvalume AZ55 steel plate	3" round	Powers Fasteners, Inc.
32.	Powerlite Lap Plates	2" round galvalume AZ55 steel plate	2" round	Powers Fasteners, Inc.

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
33.	Insul-Fixx Fastener & HD Insul-Fixx Fastener	Insulation fastener for wood, steel and concrete decks		SFS/Stadler
34.	Insul-Fixx S Plate	3" round galvalume AZ50 steel plate	3" round	SFS/Stadler
35.	Insul-Fixx P Plate	3" round polyethylene stress plate	3" round	SFS/Stadler
36.	Tru-Fast Fasteners	Insulation fastener for concrete decks		Tru-Fast
37.	Tru-Fast MP-3	Galvalume AZ50 steel plate	3.23" round	Tru-Fast
38.	Tru-Fast Plastic Plate	Polyethylene plastic plate.	3.04" round	Tru-Fast
39.	Tru-Fast Plates	Polyethylene plastic plate	3" round	Tru-Fast

APPROVED ASSEMBLIES:

Membrane Type: APP

Deck Type 7I: Recover

Deck Description: Concrete/lightweight concrete/cementitious wood fiber/poured gypsum/wood/steel

System Type A: 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 **Minimum 1.2" thick**	**N/A**	**N/A**
GAFTEMP® Isotherm R, Pyrox, White Line, UltraGard Gold, Isotherm RA, Isotherm RN **Minimum 1.3" thick**	**N/A**	**N/A**
ENRGY 2, PSI-25, ISO-95, Composite Plus, GL, GW **Minimum 1.4" thick**	**N/A**	**N/A**
ACFoam Composite, Barrier Board Plus, ENRGY 2 Plus, GAFTEMP® Composite, GAFTEMP Composite A, GAFTEMP Composite N **Minimum 1.5" thick**	**N/A**	**N/A**
ACFoam-II **Minimum 1.75" thick**	**N/A**	**N/A**
EnergyGuard Perlite, Type X Gypsum, High Density Wood Fiber, EnergyGuard High Density Wood Fiber **Minimum ½" 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 EnergyGuard Perlite or wood fiber overlay board on all isocyanurate applications.

Anchor Sheet:	One ply of GAFGLAS® #75, GAFGLAS #80 Ultima™ Base Sheet, Ruberoid 20 or GAFGLAS® Stratavent® Eliminator Nailable mechanically fastened as described below:
Fastening:	Approved fasteners at a 4" side lap 12" o.c. and two rows staggered in the center of the sheet 24" o.c.
Base Sheet:	One ply of GAFGLAS® #75 or GAFGLAS #80 Ultima Base Sheet adhered to the insulation in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Ply Sheet:	(Optional) One or more plies of GAFGLAS® Ply 4 or GAFGLAS FlexPly™ 6, adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Membrane:	One or more plies of Ruberoid® Torch Smooth, Ruberoid® Torch Granule, Ruberoid® Torch Plus Granule or Ruberoid® Torch FR torch 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. Matrix™ System Pro Aluminum Roof Coating Fibered 301 or GAF Premium Fibered Aluminum Roof Coating applied at a rate of 1-2 gal/sq. or Matrix™ 305 Fibered Emulsion at 3 gal/sq. (for Torch Smooth applications only)
Maximum Design Pressure:	-45 psf (See General Limitation #9.)

Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Concrete/lightweight concrete/cementitious wood fiber/poured gypsum/wood/steel

System Type A: 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**
GAFTEMP® Isotherm R, Pyrox, White Line, UltraGard Gold, Isotherm RA, Isotherm RN Minimum 1.3" thick	**N/A**	**N/A**
ENRGY 2, PSI-25, ISO-95, Composite Plus, GL, GW Minimum 1.4" thick	**N/A**	**N/A**
ACFoam Composite, Barrier Board Plus, ENRGY 2 Plus, GAFTEMP® Composite, GAFTEMP Composite A, GAFTEMP Composite N Minimum 1.5" thick	**N/A**	**N/A**
ACFoam-II Minimum 1.75" thick	**N/A**	**N/A**
EnergyGuard Perlite, Type X Gypsum, High Density Wood Fiber, EnergyGuard High Density Wood Fiber Minimum ½" 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 EnergyGuard Perlite or wood fiber overlay board on all isocyanurate applications.

Anchor Sheet: One ply of GAFGLAS® #75, GAFGLAS #80 Ultima™ Base Sheet, Ruberoid 20 or GAFGLAS® Stratavent® Eliminator Nailable mechanically fastened as described below:

Fastening: Approved fasteners at a 4" side lap 12" o.c. and two rows staggered in the center of the sheet 24" o.c.

Base Sheet: One ply of GAFGLAS® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® #75 or Ruberoid® 20 adhered to the insulation in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Ply Sheet:	(Optional) One or more plies of GAFGLAS® Ply 4, GAFGLAS® FlexPly™ 6 or a single ply of 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 of Ruberoid® Mop Granule, Ruberoid® Mop Plus Granule, Ruberoid®30 or Ruberoid® 30 FR Ruberoid Mop 120 FR or Ruberoid® Mop FR 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. 2. Matrix™ System Pro Aluminum Roof Coating Fibered 301 or GAF Premium Fibered Aluminum Roof Coating applied at a rate of 1-2 gal/sq. Matrix™ 305 Fibered Emulsion at 3 gal./sq. (for Mop Smooth applications only).
Maximum Design Pressure:	-45 psf (See General Limitation #9.)

Membrane Type: APP

Deck Type 7I: Recover

Deck Description: Concrete/lightweight concrete/cementitious wood fiber/poured gypsum/wood/steel

System Type B: Base layers 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/ft²**
ACFoam-I		
Minimum 1.2" thick	**Approved Fastener for Deck type**	**1:2 ft²**
GAFTEMP® Isotherm R, Isotherm RA, Isotherm RN, Pyrox, White Line, UltraGard Gold		
Minimum 1.3" thick	**Approved Fastener for Deck type**	**1:2 ft²**
ENRGY 2, PSI-25		
Minimum 1.4" thick	**Approved Fastener for Deck type**	**1:2 ft²**
Minimum 2" thick	**Approved Fastener for Deck type**	**1:4 ft²**
ISO-95, Composite, Plus, GL, GW		
Minimum 1.4" thick	**Approved Fastener for Deck type**	**1:2 ft²**
ACFoam Composite, Barrier Board Plus, ENRGY 2 Plus, GAFTEMP® Composite, GAFTEMP Composite A, GAFTEMP Composite N		
Minimum 1.5" thick	**Approved Fastener for Deck type**	**1:2 ft²**
ACFoam-II		
Minimum 1.75" thick	**Approved Fastener for Deck type**	**1:2 ft²**
EnergyGuard Perlite, Type X Gypsum, High Density Wood Fiber, EnergyGuard High Density Wood Fiber		
Minimum ½" thick	**Approved Fastener for Deck type**	**1:2 ft²**
Fiberglas		
Minimum $^{15}/_{16}$" thick	**Approved Fastener for Deck type**	**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. 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.

Top Insulation Layer (Optional)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
Any of the insulations listed for Base Layer		
EnergyGuard High Density Fiberboard, EnergyGuard Perlite 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:	One ply of GAFGLAS® #75, GAFGLAS® Stratavent® Eliminator Perforated GAFGLAS #80 Ultima™ Base Sheet or Ruberoid® 20 adhered to the insulation 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 Stratavent Perforated or Ruberoid 20 is used as a base sheet) One or more plies of GAFGLAS® Ply 4 or GAFGLAS FlexPly™ 6 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Note:	**Where Ruberoid® 20 is applied as a base sheet, it shall be covered with one ply GAFGLAS® Ply 4 or FlexPly 6® before torch application of membrane.**
Membrane:	One or more plies of Ruberoid® Torch Smooth, Ruberoid® Torch Granule, Ruberoid® Torch Plus Granule or Ruberoid® Torch FR torch 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. Matrix™ System Pro Aluminum Roof Coating Fibered 301 or GAF Premium Fibered Aluminum Roof Coating applied at a rate of 1-2 gal/sq. or Matrix™ 305 Fibered Emulsion at 3 gal/sq. (for Torch Smooth applications only)
Maximum Design Pressure:	-45 psf (See General Limitation #9.)

Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Concrete/lightweight concrete/cementitious wood fiber/poured gypsum/wood/steel

System Type B: Base layers 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/ft²**
ACFoam-I **Minimum 1.2" thick**	**Approved Fastener for Deck type**	**1:2 ft²**
GAFTEMP® Isotherm R, Isotherm RA, Isotherm RN, Pyrox, White Line, UltraGard Gold **Minimum 1.3" thick**	**Approved Fastener for Deck type**	**1:2 ft²**
ENRGY 2, PSI-25, GAFTEMP Isotherm RN **Minimum 1.4" thick** **Minimum 2" thick**	**Approved Fastener for Deck type** **Approved Fastener for Deck type**	**1:2 ft²** **1:4 ft²**
ISO-95, Composite, Plus, GL, GW **Minimum 1.4" thick**	**Approved Fastener for Deck type**	**1:2 ft²**
ACFoam Composite, Barrier Board Plus, ENRGY 2 Plus, GAFTEMP® Composite **Minimum 1.5" thick**	**Approved Fastener for Deck type**	**1:2 ft²**
ACFoam-II, GAFTEMP® Isotherm RA **Minimum 1.75" thick**	**Approved Fastener for Deck type**	**1:2 ft²**
EnergyGuard Perlite, Type X Gypsum, High Density Wood Fiber, EnergyGuard High Density Wood Fiber **Minimum ½" thick**	**Approved Fastener for Deck type**	**1:2 ft²**
Fiberglas **Minimum $^{15}/_{16}$" thick**	**Approved Fastener for Deck type**	**1:2.67 ft²**

Note: Base layer shall be mechanically attached with fasteners and density described above. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
Any of the insulations listed for Base Layer, above.		
ACFoam Composite **Minimum 1.5" thick**	**N/A**	**N/A**
EnergyGuard Perlite, Perlite, High Density Wood Fiber, EnergyGuard High Density Wood Fiber **Minimum ½" thick**	**N/A**	**N/A**

Note: Apply top layer of insulation 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 EnergyGuard Perlite or wood fiber overlay board on all isocyanurate applications.

Base Sheet:	One ply of GAFGLAS® Stratavent® (Vent Ply) Perforated, GAFGLAS® #75 GAFGLAS #80 ULTIMA™ Base Sheet or Ruberoid® 20 adhered to the insulation in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Ply Sheet:	(Optional) One or more plies of GAFGLAS® Ply 4, GAFGLAS® FlexPly™ 6 or a single ply of 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 of Ruberoid® Mop 170 FR, Ruberoid® Mop Granule, Ruberoid® Mop Plus Granule, Ruberoid® 30, Ruberoid® 30 FR or Ruberoid® Mop 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. 2. Matrix™ System Pro Aluminum Roof Coating Fibered 301 or GAF Premium Fibered Aluminum Roof Coating applied at a rate of 1-2 gal/sq. Matrix™ 305 Fibered Emulsion at 3 gal./sq. (for Mop Smooth applications only).
Maximum Design Pressure:	-45 psf (See General Limitation #9.)

Membrane Type APP & SBS

Deck Type 7I: Recover

Deck Description: Concrete/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 shall apply.

One or more layers of any of the following insulations.

Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
ACFoam-II, GAFTEMP Isotherm RA, Pyrox, GAFTEMP® Isotherm R 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. Insulation fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements. 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, two or three plies of GAFGLAS® Ply 4 or GAFGLAS® Ply 6® or GAFGLAS FlexPly™6 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: One or more plies of RUBEROID® Torch Smooth, RUBEROID Torch Granule, RUBEROID Torch Plus Granule or RUBEROID Torch FR, RUBEROID MOP (Smooth and Granual), RUBEROID MOP 170FR, RUBEROID MOP PLUS and RUBEROID MOP FR 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. Matrix™ System Pro Aluminum Roof Coating Fibered 301 or GAF Premium Fibered Aluminum Roof Coating applied at a rate of 1-2 gal/sq. or Matrix™ 305 Fibered Emulsion at 3 gal/sq. (for Torch Smooth applications only)

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

Membrane Type: APP

Deck Type 7I: Recover

Deck Description: Concrete/lightweight concrete/cementitious wood fiber/wood/steel

System Type C: All layers of insulation simultaneously attached.

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
AC Foam-I **Minimum 1.2" thick**	**N/A**	**N/A**
GAFTEMP® Isotherm R, Pyrox, White Line, UltraGard Gold **Minimum 1.3" thick**	**N/A**	**N/A**
ENRGY 2, PSI-25, ISO-95, Composite Plus, GL, GW, Isotherm RN **Minimum 1.4" thick**	**N/A**	**N/A**
AC Foam Composite, GAFTEMP Composite A, ENRGY 2 Plus, GAFTEMP Composite N **Minimum 1.5" thick**	**N/A**	**N/A**
AC Foam-II, GAFTEMP Composite RA **Minimum 1.75" thick**	**N/A**	**N/A**
EnergyGuard High Density Fiberboard, EnergyGuard Perlite Recover Board **Minimum ½" thick**	**N/A**	**N/A**
EnergyGuard High Density Fiberboard, EnergyGuard Perlite Recover Board, Type X Gypsum **Minimum ½" thick**	**N/A**	**N/A**
Fiberglas **Minimum $^{15}/_{16}$" thick**	**N/A**	**N/A**

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

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
ACFoam-I **Minimum 1.2" thick**	**Approved Fastener for Deck type**	1:2 ft^2
GAFTEMP® Isotherm R, UltraGard Gold **Minimum 1.3" thick**	**Approved Fastener for Deck type**	1:2 ft^2
ENRGY 2, PSI-25, GAFTEMP Isotherm RN **Minimum 1.4" thick** **Minimum 2" thick**	**Approved Fastener for Deck type** **Approved Fastener for Deck type**	1:2 ft^2 1:4 ft^2

ISO-95, Composite, Plus, GL, GW

Minimum 1.4" thick	**Approved Fastener for Deck type**	1:2 ft²

ACFoam Composite, Barrier Board Plus, ENRGY 2 Plus, GAFTEMP® Composite, GAFTEMP Composite A, GAFTEMP Composite N

Minimum 1.5" thick	**Approved Fastener for Deck type**	**1:2 ft²**

AC Foam-II, GAFTEMP Isotherm RA

Minimum 1.75" thick	**Approved Fastener for Deck type**	1:2 ft²

EnergyGuard Perlite, Type X Gypsum, High Density Wood Fiber, EnergyGuard High Density Wood Fiber

Minimum ½" thick	**Approved Fastener for Deck type**	**1:2 ft²**

Fiberglas

Minimum $^{15}/_{16}$" thick	**Approved Fastener for Deck type**	**1:2 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. Insulation fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard 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 EnergyGuard Perlite or wood fiber overlay board on all isocyanurate applications.

Base Sheet: One ply of GAFGLAS® Ply 4, GAFGLAS® Ply 6®, GAFGLAS FlexPly™6 GAFGLAS® #75, GAFGLAS STRATAVENT Perforated (loose laid) or Ruberoid® 20 adhered to the insulation in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Note: **Where Ruberoid® 20 is applied as a base sheet, it shall be covered with one ply GAFGLAS® Ply 4 or FlexPly™ Ply 6® before torch application of membrane.**

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

Membrane: One or more plies of Ruberoid® Torch Smooth, Ruberoid® Torch Granule, Ruberoid® Torch Plus Granule or Ruberoid® Torch FR torch 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. Matrix™ System Pro Aluminum Roof Coating Fibered 301 or GAF Premium Fibered Aluminum Roof Coating applied at a rate of 1-2 gal/sq. or Matrix™ 305 Fibered Emulsion at 3 gal/sq. (for Torch Smooth applications only)

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

Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Concrete/lightweight concrete/cementitious wood fiber/wood/steel

System Type C: All layers of insulation simultaneously attached.

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/ft²**
AC Foam-I **Minimum 1.2" thick**	**N/A**	**N/A**
GAFTEMP® Isotherm R, Pyrox, White Line, UltraGard Gold **Minimum 1.3" thick**	**N/A**	**N/A**
ISO-95, Composite Plus, GL, GW, Isotherm RN **Minimum 1.4" thick**	**N/A**	**N/A**
AC Foam Composite, GAFTEMP Composite A, Barrier Board Plus, ENRGY 2 Plus, GAFTEMP Composite N **Minimum 1.5" thick**	**N/A**	**N/A**
AC Foam-II, GAFTEMP Composite RA **Minimum 1.75" thick**	**N/A**	**N/A**
EnergyGuard High Density Fiberboard, EnergyGuard Perlite Recover Board, Type X Gypsum **Minimum ½" thick**	**N/A**	**N/A**
Fiberglas **Minimum $^{15}/_{16}$" thick**	**N/A**	**N/A**

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

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
EnergyGuard Wood Fiber **Minimum 1" thick**	**Approved Fastener for Deck type**	**1:2 ft²**
EnergyGuard Perlite, High Density Wood Fiber, EnergyGuard High Density Wood Fiber **Minimum ½" thick**	**Approved Fastener for Deck type**	**1:2.67 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. Insulation fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard 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 EnergyGuard Perlite or wood fiber overlay board on all isocyanurate applications.

Base Sheet:	One ply of GAFGLAS® Ply 4, GAFGLAS® FlexPly 6®, GAFGLAS® #75, GAFGLAS #80 ULTIMA™ Base Sheet GAFGLAS® Stratavent® Nailable, Ruberoid® 20 adhered to the insulation in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Ply Sheet:	(Optional) One or more plies of GAFGLAS® Ply 4, GAFGLAS FlexPly™ 6 or a single ply of Ruberoid® 20 fully 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® Mop 170 FR, Ruberoid® Mop Granule, Ruberoid® Mop Plus Granule or Ruberoid® Mop FR 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. 2. Matrix™ System Pro Aluminum Roof Coating Fibered 301 or GAF Premium Fibered Aluminum Roof Coating applied at a rate of 1-2 gal/sq. Matrix™ 305 Fibered Emulsion at 3 gal./sq. (for Mop Smooth applications only).
Maximum Design Pressure:	-45 psf (See General Limitation #9.)

Membrane Type: APP

Deck Type 7I: Recover

Deck Description: Concrete/lightweight concrete/cementitious wood fiber/wood/steel

System Type D: All layers of 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 **Minimum 1.2" thick**	**N/A**	**N/A**
GAFTEMP® Isotherm R, Pyrox, White Line, UltraGard Gold **Minimum 1.3" thick**	**N/A**	**N/A**
ENRGY 2, PSI-25, ISO-95, Composite Plus, GL, GW **Minimum 1.4" thick**	**N/A**	**N/A**
ACFoam Composite, ENRGY 2 Plus, GAFTEMP® Composite, GAFTEMP Composite A, GAFTEMP Composite N **Minimum 1.5" thick**	**N/A**	**N/A**
ACFoam-II, Isotherm RA **Minimum 1.75" thick**	**N/A**	**N/A**
EnergyGuard Wood Fiber **Minimum 1" thick**	**N/A**	**N/A**
EnergyGuard Perlite, Type X Gypsum, High Density Wood Fiber, EnergyGuard High Density Wood Fiber **Minimum ½" thick**	**N/A**	**N/A**
Fiberglas **Minimum $^{15}/_{16}$" thick**	**N/A**	**N/A**

Note: All layers of insulation and base sheet shall be simultaneously attached. See base sheet below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. At an 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. 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® Stratavent® Eliminator Nailable mechanically fastened as described below:

Fastening: Fasten base sheet at a 4" side lap 18" o.c. and two rows staggered in the center of the sheet 24" o.c.

Ply Sheet:	(Optional) One or more plies of GAFGLAS® Ply 4 or GAFGLAS FlexPly™6 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Membrane:	One or more plies of Ruberoid® Torch Smooth, Ruberoid® Torch Granule, Ruberoid® Torch Plus Granule or Ruberoid® Torch FR torch 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. Matrix™ System Pro Aluminum Roof Coating Fibered 301 or GAF Premium Fibered Aluminum Roof Coating applied at a rate of 1-2 gal/sq. or Matrix™ 305 Fibered Emulsion at 3 gal/sq. (for Torch Smooth applications only)
Maximum Design Pressure:	-45 psf (See General Limitation #9.)

Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Concrete/lightweight concrete/cementitious wood fiber/wood/steel

System Type D: All layers of insulation and base sheet simultaneously attached.

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 **Minimum 1.2" thick**	**N/A**	**N/A**
GAFTEMP® Isotherm R, Pyrox, White Line, UltraGard Gold **Minimum 1.3" thick**	**N/A**	**N/A**
ENRGY 2, PSI-25, GAFTEMP Isotherm RN **Minimum 1.4" thick**	**N/A**	**N/A**
ISO-95, Composite, Plus, GL, GW **Minimum 1.4" thick**	**N/A**	**N/A**
ACFoam Composite, ENRGY 2 Plus, GAFTEMP® Composite, GAFTEMP® Composite A, GAFTEMP® Composite N, EnergyGuard Perlite **Minimum 1.5" thick**	**N/A**	**N/A**
ACFoam-II, GAFTEMP® Isotherm RA **Minimum 1.75" thick**	**N/A**	**N/A**
Fiberglas **Minimum $^{15}/_{16}$" thick**	**N/A**	**N/A**
Type X Gypsum **Minimum ½" thick**	**N/A**	**N/A**

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
EnergyGuard Perlite, High Density Wood Fiber, EnergyGuard High Density Wood Fiber **Minimum ½" thick**	**N/A**	**N/A**

Note: All layers of insulation and base sheet shall be simultaneously attached. See base sheet below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. At an 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. 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® Stratavent® Eliminator Nailable or GAFGLAS #80 ULTIMA™ Base Sheet mechanically fastened as described below:
Fastening:	Fasten base sheet with approved fasteners at a 4" side lap 18" o.c. and two rows staggered in the center of the sheet 24" o.c.
Ply Sheet:	(Optional) One or more plies of GAFGLAS® Ply 4, GAFGLAS® FlexPly™ 6 or a single ply of 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 of Ruberoid® Mop Granule, Ruberoid® Mop 170 FR, Ruberoid® Mop Plus Granule, Ruberoid® 30, Ruberoid® 30 FR or Ruberoid® Mop 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. 2. Matrix™ System Pro Aluminum Roof Coating Fibered 301 or GAF Premium Fibered Aluminum Roof Coating applied at a rate of 1-2 gal/sq. Matrix™ 305 Fibered Emulsion at 3 gal./sq. (for Mop Smooth applications only).
Maximum Design Pressure:	-45 psf (See General Limitation #9.)

Membrane Type: APP

Deck Type 7: Recover

Deck Description: Concrete/lightweight concrete/cementitious wood fiber/wood/steel

System Type E: Base sheet mechanically fastened.

All General and System Limitations shall apply.

Base Sheet: One ply of GAFGLAS® #75 GAFGLAS #80 ULTIMA™ Base Sheet or GAFGLAS® Stratavent® Eliminator Nailable mechanically fastened as described below:

Fastening: Fasten base sheet at a 4" side lap 18" o.c. and two rows staggered in the center of the sheet 24" o.c.

Ply Sheet: (Optional) One or more plies of GAFGLAS® PLY 4® or GAFGLAS FlexPly 6 ply sheets 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.

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. Matrix™ System Pro Aluminum Roof Coating Fibered 301 or GAF Premium Fibered Aluminum Roof Coating applied at a rate of 1-2 gal/sq. or Matrix™ 305 Fibered Emulsion at 3 gal/sq. (for Torch Smooth applications only)

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

Membrane Type: SBS

Deck Type 7: Recover

Deck Description: Concrete/lightweight concrete/cementitious wood fiber/wood/steel

System Type E: Base sheet adhered with approved asphalt.

All General and System Limitations shall apply.

Base Sheet: One ply of GAFGLAS® Ply 4, GAFGLAS® Ply 6®, GAFGLAS® #75, GAFGLAS® Stratavent® Eliminator Perforated 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) One or more plies of GAFGLAS® Ply 4, GAFGLAS FlexPly™ 6 or a single ply of 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 of Ruberoid® Mop Granule, Ruberoid® Mop 170 FR Ruberoid® Mop Plus Granule or Ruberoid® Mop 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.
2. Matrix™ System Pro Aluminum Roof Coating Fibered 301 or GAF Premium Fibered Aluminum Roof Coating applied at a rate of 1-2 gal/sq. Matrix™ 305 Fibered Emulsion at 3 gal./sq. (for Mop Smooth applications only).

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

Membrane Type: APP

Deck Type 7: Recover

Deck Description: Concrete/lightweight concrete/cementitious wood fiber/wood/steel

System Type F: Base sheet adhered with approved asphalt.

All General and System Limitations shall apply.

Base Sheet: One ply of GAFGLAS® #75 or GAFGLAS #80 ULTIMA™ Base Sheet adhered to a properly prepared existing roof substrate in a spot or strip or spot mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Ply Sheet: (Optional) One or more plies of GAFGLAS® PLY 4® or GAFGLAS FlexPly 6 ply sheets 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.

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. Matrix™ System Pro Aluminum Roof Coating Fibered 301 or GAF Premium Fibered Aluminum Roof Coating applied at a rate of 1-2 gal/sq. or Matrix™ 305 Fibered Emulsion at 3 gal/sq. (for Torch Smooth applications only)

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

Membrane Type: SBS

Deck Type 7: Recover

Deck Description: Concrete/lightweight concrete/cementitious wood fiber/wood/steel

System Type F: Base sheet adhered with approved asphalt.

All General and System Limitations shall apply.

Base Sheet: One ply of GAFGLAS® Stratavent® Perforated loose laid.

Ply Sheet: One or more plies of GAFGLAS® PLY 4® or GAFGLAS FlexPly 6 ply sheets 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® Mop Granule, Ruberoid® Mop 170 FR, Ruberoid® Mop Plus Granule, Ruberoid® 30, Ruberoid® 30 FR or Ruberoid® Mop 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.
2. Matrix™ System Pro Aluminum Roof Coating Fibered 301 or GAF Premium Fibered Aluminum Roof Coating applied at a rate of 1-2 gal/sq. Matrix™ 305 Fibered Emulsion at 3 gal./sq. (for Mop Smooth applications only).

Maximum Design Pressure: -60 psf (See General Limitation #9.)

RECOVER SYSTEM LIMITATIONS:

1 All System Limitations and General Limitations shall apply. See specific deck type Notice of Acceptance for deck type System Limitations.

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