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 LWC Decks.

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

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

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

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

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

This NOA renews NOA #02-0605.04 and consists of pages 1 through 31.
The submitted documentation was reviewed by Frank Zuloaga, RRC.

PRODUCT CONTROL ACCEPTED

ROOFING ASSEMBLY APPROVAL

Category:	Roofing
Sub-Category:	APP/SBS Modified Bitumen
Deck Type:	Lightweight Insulating Concrete
Maximum Design Pressure	-112.5 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® Flashing	various		Asphalt coated glass fiber mat flashing sheet available in three sizes.

Product	Dimensions	Test Specification	Product Description
GAFGLAS® STRATAVENT® Eliminator Perforated	39.37" (1 meter) Wide	ASTM D3672 ASTM D 4897	Fiberglass base sheet coated on both sides with asphalt. Surfaced on the bottom side with mineral granules embedded in asphaltic coating with factory perforations.
GAFGLAS® STRATAVENT® Eliminator Perforated Nailable	39.37" (1 meter) Wide	ASTM D3672 ASTM D 4897	Fiberglass base sheet coated on both sides with asphalt. Surfaced on the bottom side with mineral granules embedded in asphaltic coating.
RUBEROID® SBS Heat-Weld™ Smooth	1 meter (39.37") wide	ASTM D-6164	Non-Woven Polyester mat coated with polymer-modified asphalt and smooth surfaced.
RUBEROID® SBS Heat-Weld™ Granule	1 meter (39.37") wide	ASTM D-6164	Non-Woven Polyester mat coated with polymer modified asphalt and surfaced with mineral granules.
RUBEROID® SBS Heat-Weld™ 170 FR	1 meter (39.37") wide	ASTM D-6164	Non-Woven Polyester mat coated with fire retardant polymer modified asphalt and surfaced with mineral granules.
RUBEROID® SBS Heat-Weld™ PLUS	1 meter (39.37") wide	ASTM D-6164	Non-Woven Polyester mat coated with polymer modified asphalt and surfaced with mineral granules.
RUBEROID® SBS Heat-Weld PLUS FR	1 meter (39.37") wide	ASTM D-6164	Non-Woven Polyester mat coated with fire retardant polymer modified asphalt and surfaced with mineral granules.
RUBEROID Modified Base Sheet	39.37" (1 meter) Wide	ASTM D4601, Type II, UL Type G2 BUR	Premium glass fiber reinforced SBS-modified base sheet
RUBEROID® SBS Heat-Weld™ 25	1 meter (39.37") wide	ASTM D-6164	Non-Woven Polyester mat coated with polymer-modified asphalt and smooth surfaced.
Ruberoid® Mop Granule	39.37" (1 meter) Wide	ASTM D 6222 ASTM D 5147	Non-woven polyester mat coated with polymer modified asphalt and surfaced with mineral granules.
RUBEROID MOP Smooth	1 meter (39.37") wide	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.

Product	Dimensions	Test Specification	Product Description
RUBEROID TORCH Smooth	39.37" (1 meter) Wide	ASTM D 6222 ASTM D 5147	Heavy duty, polyester reinforced, asphalt modified bitumen membrane, smooth surface.
RUBEROID TORCH Granule	39.37" (1 meter) Wide	ASTM D 6222 ASTM D 5147	Heavy duty, polyester reinforced, asphalt modified bitumen membrane, granule surface.
RUBEROID TORCH PLUS	39.37" (1 meter) Wide	ASTM D 6222 ASTM D 5147	Heavy duty, polyester reinforced, asphalt modified bitumen membrane, granule surface
RUBEROID TORCH FR	39.37" (1 meter) Wide	ASTM D 6222 ASTM D 5147	Heavy duty, polyester reinforced, coated with fire retardant asphalt modified bitumen membrane, granule surface.
RUBEROID 170FR TORCH	39.37" (1 meter) Wide	ASTM D 6222 ASTM D 5147	Heavy duty, polyester reinforced, coated with fire retardant asphalt modified bitumen membrane, granule surface.
Ruberoid® 20	39.37" (1 meter) Wide	ASTM D 6163 ASTM D 5147	SBS modified asphalt base sheet reinforce with a glass fiber mat.
Ruberoid® 30	39.37" (1 meter) Wide	ASTM D 6163 ASTM D 5147	Non woven fiberglass mat coated with polymer modified asphalt and surfaced with mineral granules.
Ruberoid® 30 FR	39.37" (1 meter) Wide	ASTM D 6298 ASTM D 5147	Non woven fiberglass mat coated with fire retardant, polymer modified asphalt and surfaced with mineral granules.1
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
TopCoat® Surface Seal SB (Matrix 602 SB Coating)	5 gallons		Surface coating for smooth surfaced and mineral surfaced roofs.

Product	Dimensions	Test Specification	Product Description
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 & EnergyGuard RA	Polyisocyanurate foam insulation	GAF Materials Corp.
GAFTEMP® Composite, Composite RA & RN	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.

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
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 or perlite composite	BMCA
PYROX	Polyisocyanurate foam insulation	Apache Products Co.
ACFoam I, II	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.
Wood Fiber	Wood fiber insulation board	generic
High Density Wood Fiberboard	Wood fiber insulation board	generic
Perlite Insulation	Perlite insulation board	generic
Dens Deck	Water resistant gypsum board	G-P Gypsum Corp.
E'NRG'Y-2, Plus, UltraGard Gold, PSI-25	Polyisocyanurate foam insulation	Johns Manville
FiberGlass Roof Insulation	Glass fiber/Mineral fiber insulation	Johns Manville
ISORoc	Polyisocyanurate foam / rockwool composite insulation	Johns Manville
Structodek	Wood fiber insulation board	Masonite.
Paroc Base Board Paroc Cap Board	Rockwool insulation	Partek, Inc.
Multi-Max, FA	Polyisocyanurate foam insulation	Rmax, Inc.

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)

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®) CR 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.	NTB Fasteners	Fastener for use in gypsum, tectum and lightweight insulating concrete decks.		GAF Materials Corp.
7.	FM-30, FM-60, FM-90 Fasteners and Twin-Loc	Base ply fastening systems for lightweight concrete decks.		ES Products, Inc.
8.	Olympic CR Base Sheet Fastener and Plate	Base sheet fastening assembly.		Olympic Manufacturing Group, Inc.

EVIDENCE SUBMITTED:

Test Agency/Identifier	Name	Report	Date
Factory Mutual Research Corp.	Current Insulation Attachment Requirements	FMRC 1996	01.01.96
Factory Mutual Research Corp.	FMRC 4470 - PA 114	J.I. 0D0A8.AM	07.09.97
Factory Mutual Research Corp.	FMRC 4470 - PA 114	J.I. 2B8A4.AM	07.02.97
Factory Mutual Research Corp.	FMRC 4470 - PA 114	J.I. 3005640	11.09.00
Factory Mutual Research Corp.	FMRC 4470 - PA 114	J.I. 3006845	10.17.00
Factory Mutual Research Corp.	FMRC 4470 - PA 114	J.I. 3005175	05.23.00
Factory Mutual Research Corp.	FMRC 4470 - PA 114	J.I. 3005177	05.19.00
Factory Mutual Research Corp.	FMRC 4470 - PA 114	J.I. 3007500	06.15.00
Factory Mutual Research Corp.	FMRC 4470 - PA 114	J.I. 3008178	12.27.00
Independent Roof Testing & Consulting of South Florida	PA 114, Appendix "J"	IRT Reference No.00001, No.00002	03.30.00
Exterior Research & Design, LLC	PA 114	#4483.04.97-1	06-06-97
Underwriters Laboratories, Inc.	Fire Resistance Classification UL 790 - PA 114	R1306, 00NK07638	07.17.00

Test Agency/Identifier	Name	Report	Date
Exterior Research & Design, LLC	4674.11.01-1	TAS 114	11.21.01

APPROVED ASSEMBLIES

Membrane Type: APP/SBS Heat Weld

Deck Type: Lightweight Concrete, Insulated, (See System Limitation)

Deck Description: Cellular or Aggregate Lightweight Concrete

System Type A(1): Anchor sheet mechanically fastened; one or more 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
Pyrox, White Line, UltraGard Gold, GAFTEMP® Isotherm R Minimum 1.3" thick	N/A	N/A
ISO-95, Composite Plus, GL, GW, ENRGY 2, PSI-25, EnergyGuard Minimum 1.4" thick	N/A	N/A
ACFoam Composite, Barrier Board Plus, ENRGY 2 Plus, GAFTEMP® Composite, GAFTEMP Composite A, GAFTEMP Composite N, EnergyGuard RA Composite, GAFTEMP Isotherm RA, Isotherm RN Minimum 1½" thick	N/A	N/A
ACFoam-II, EnergyGuard RA Minimum 1¾" thick	N/A	N/A
GAFTEMP® Permalite, Gypsum Board, GAFTEMP® High Density Fiberboard, GAFTEMP® Fiberboard 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 moppings of approved hot asphalt within the EVT range and at a rate of 20-40 lbs. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

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

Fasteners:	GAFTITE (Drill-Tec) assembled CTD base ply fasteners, FM-90 fasteners, FM-60 fasteners with FM-30 disks or Olympic CR Base Felt Fasteners at a fastener spacing of 9" o.c. at the 2" wide side laps and 9" o.c. in two equally spaced rows in the field of the base sheet. Or GAFTITE (Drill-Tec) assembled CTD base ply fasteners, FM-90 fasteners, FM-60 fasteners with FM-30 disks or Olympic CR Base Felt Fasteners at a fastener spacing of 12" o.c. at the 2" wide sidelaps and 12" o.c. in three equally spaced rows in the field of the base sheet.
Base Sheet:	One ply of Ruberoid 20, GAFGLAS ® Ply 4, GAFGLAS ® FlexPly™ 6, GAFGLAS ® Stratavent® Eliminator Perforated, GAFGLAS #80 Ultima™ Base Sheet, Ruberoid Modified Base Sheet or GAFGLAS ® #75 adhered to the insulation in a full mopping of an approved asphalt at an application rate of 25 lbs./sq. ± 15% see General Limitation #4.
Ply Sheet:	(Optional, required if used with Ruberoid 20 or perforated Stratavent®) one or more plies of GAFGLAS ® Ply 4 or GAFGLAS FlexPly ™ 6 in an approved asphalt at an application 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. Or, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ FR, Ruberoid® SBS Heat-Weld™ Plus FR, Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus FR, Ruberoid UltraClad™ SBS
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 Heat Weld

Deck Type: Lightweight Concrete, Insulated, (See System Limitation)

Deck Description: Cellular or Aggregate Lightweight Concrete

System Type A(1): Base Sheet mechanically fastened through one or more layers of 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/ft^2
ACFoam-I Minimum 1.2" thick	N/A	N/A
Pyrox, White Line, UltraGard Gold, GAFTEMP® Isotherm R Minimum 1.3" thick	N/A	N/A
ISO-95, Composite Plus, GL, GW, ENRGY 2, PSI-25, EnergyGuard Minimum 1.4" thick	N/A	N/A
ACFoam Composite, Barrier Board Plus, E'NRG'Y-1 Plus, ENRGY 2 Plus, GAFTEMP® Composite, GAFTEMP Composite A, GAFTEMP Composite N, EnergyGuard RA Composite, GAFTEMP Isotherm RA, Isotherm RN Minimum 1½" thick	N/A	N/A
ACFoam-II, EnergyGuard RA Minimum 1¾" thick	N/A	N/A
GAFTEMP® Permalite, Gypsum Board, GAFTEMP® High Density Fiberboard, GAFTEMP® Fiberboard Minimum ½" thick	N/A	N/A
Fiberglas Minimum $^{15}/_{16}$" thick	N/A	N/A

Separator Sheet: Required between the rigid insulation boards and the lightweight insulating concrete deck. Install one of the following products loose laid: GAFGLAS®#75, GAFGLAS®Ultima ™#80, GAFGLAS Stratavent® Eliminator™ Nailable, or 20 mil polyethylene sheet.

Base Sheet: Install one ply of Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ 25 mechanically fastened through insulation as described below.

Fasteners: GAFTITE #12 [Drill-Tec] fastener with 2" diameter EverGuard [Olympic] Barbed metal plate. Screws and Plates are placed through 4" wide bottom lap spaced at 12" o.c., lap is then torched sealed.

Ply Sheet: (Optional) One ply Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ 25

Membrane:	Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ FR, Ruberoid® SBS Heat-Weld™ Plus FR, Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus FR
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. 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: SBS

Deck Type: Lightweight Concrete, (See System Limitation)

Deck Description: Cellular or Aggregate Lightweight Concrete

System Type A(1): Anchor sheet mechanically fastened; one or more 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
Pyrox, White Line, UltraGard Gold, GAFTEMP® Isotherm R Minimum 1.3" thick	N/A	N/A
ISO-95, Composite Plus, GL, GW, ENRGY 2, PSI-25, EnergyGuard Minimum 1.4" thick	N/A	N/A
ACFoam Composite, Barrier Board Plus, ENRGY-1 Plus, ENRGY 2 Plus, GAFTEMP® Composite, GAFTEMP Composite A, GAFTEMP Composite N, EnergyGuard RA Composite, GAFTEMP Isotherm RA, Isotherm RN Minimum 1½" thick	N/A	N/A
ACFoam-II, EnergyGuard RA Minimum 1¾" thick	N/A	N/A
GAFTEMP® Permalite, Gypsum Board, GAFTEMP® High Density Fiberboard, GAFTEMP® Fiberboard 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 moppings of approved hot asphalt within the EVT range and at a rate of 20-40 lbs. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

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

Fasteners:	GAFTITE (Drill-Tec) assembled CTD base ply fasteners, FM-90 fasteners, FM-60 fasteners with FM-30 disks or Olympic CR Base Felt Fasteners at a fastener spacing of 9" o.c. at the 2" wide sidelaps and 9" o.c. in two equally spaced rows in the field of the base sheet. Or GAFTITE (Drill-Tec) assembled CTD base ply fasteners, FM-90 fasteners, FM-60 fasteners with FM-30 disks or Olympic CR Base Felt Fasteners at a fastener spacing of 12" o.c. at the 2" wide sidelaps and 12" o.c. in three equally spaced rows in the field of the base sheet.
Base Sheet:	One ply of GAFGLAS ® Ply 4, GAFGLAS FlexPly™ 6, GAFGLAS ® Stratavent® Eliminator™ Perforated, GAFGLAS #80 Ultima™ Base Sheet, Ruberoid Modified Base Sheet, Ruberoid 20 or GAFGLAS ® #75 adhered to the insulation in a full mopping of an approved asphalt at an application rate of 20-40 lbs./sq. see General Limitation #4.
Ply Sheet:	(Optional) one or more plies of Ruberoid 20, GAFGLAS ® Ply 4 or GAFGLAS FlexPly 6 in an approved asphalt at an application rate of 25 lb./sq. ± 15%.
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® (UltraClad can be Heat Welded), fully adhered in type III or IV of an approved asphalt at an application rate 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. 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: Lightweight Concrete, Insulated, (See System Limitation)

Deck Description: Cellular or Aggregate Lightweight Concrete

System Type A(2): Anchor sheet mechanically fastened; one or more 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® Composite, GAFTEMP Composite A, GAFTEMP Composite N, EnergyGuard RA Composite, GAFTEMP Isotherm RA, Isotherm RN, EnergyGuard Composite		
Minimum 1½" thick	N/A	N/A
GAFTEMP® Permalite, Gypsum Board, GAFTEMP® High Density Fiberboard, GAFTEMP® Fiberboard		
Minimum ½" thick	N/A	N/A

Note: All insulation shall be adhered to the anchor sheet in full moppings of approved hot asphalt within the EVT range and at a rate of 20-40 lbs. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

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

Fasteners: GAFTITE (Drill-Tec) assembled CTD base ply fasteners, FM-90 fasteners, FM-60 fasteners with FM-30 disks or Olympic CR Base Felt Fasteners at a fastener spacing of 7.5" o.c. at the 3" wide sidelaps and 7.5" o.c. in two equally spaced rows in the field of the base sheet.

Base Sheet: One ply of Ruberoid 20, GAFGLAS ® Ply 4, GAFGLAS FlexPly™ 6, GAFGLAS ® Stratavent®-Eliminator™ Perforated, GAFGLAS #80 Ultima™ Base Sheet, Ruberoid Modified Base Sheet or GAFGLAS ® #75 adhered to the insulation in a full mopping of an approved asphalt at an application rate of 20-40 lbs./sq. or adhered in a strip or spot mopping of an approved asphalt; see General Limitation #4.

Ply Sheet: (Optional, required if used with Ruberoid 20 or perforated Stratavent®-Eliminator™) one or more plies of GAFGLAS ® Ply 4 or GAFGLAS FlexPly ™ 6 in an approved asphalt at an application 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. Or, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ FR, Ruberoid® SBS Heat-Weld™ Plus FR, Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus FR, Ruberoid UltraClad™ SBS
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:	-75 psf (See General Limitation #7)

Membrane Type: SBS

Deck Type: Lightweight Concrete, Insulated, (See System Limitation)

Deck Description: Cellular or Aggregate Lightweight Concrete

System Type A(2): Anchor sheet mechanically fastened; one or more 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® Composite, GAFTEMP Composite A, GAFTEMP Composite N, EnergyGuard RA Composite, GAFTEMP Isotherm RA, Isotherm RN, EnergyGuard Composite		
Minimum 1½" thick	N/A	N/A
GAFTEMP® Permalite, Gypsum Board, GAFTEMP® High Density Fiberboard, GAFTEMP® Fiberboard		
Minimum ½" thick	N/A	N/A

Note: All insulation shall be adhered to the anchor sheet in full moppings of approved hot asphalt within the EVT range and at a rate of 20-40 lbs. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

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

Fasteners: GAFTITE (Drill-Tec) assembled CTD base ply fasteners, FM-90 fasteners, FM-60 fasteners with FM-30 disks or Olympic CR Base Felt Fasteners at a fastener spacing of 7.5" o.c. at the 3" wide sidelaps and 7.5" o.c. in two equally spaced rows in the field of the base sheet.

Base Sheet: One ply of Ruberoid 20, GAFGLAS ® Ply 4, GAFGLAS FlexPly 6, GAFGLAS ® Stratavent®-Eliminator™ Perforated, GAFGLAS #80 Ultima™ Base Sheet, Ruberoid Modified Base Sheet or GAFGLAS ® #75 adhered to the insulation in a full mopping of an approved asphalt at an application rate of 25 lbs./sq. ± 15%; see General Limitation #4.

Ply Sheet: (Optional) one or more plies of Ruberoid 20, GAFGLAS ® Ply 4 or GAFGLAS ® FlexPly™ 6 in an approved asphalt at an application rate of 25 lb./sq. ± 15%.

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®, fully adhered in type III or IV of an approved asphalt at an application rate 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: -75 psf (See General Limitation #7)

Membrane Type: APP/SBS Heat Weld

Deck Type: Lightweight Concrete, Non-insulated, (See System Limitations)

Deck Description: Cellular or aggregate lightweight concrete

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

All General and System Limitations shall apply.

Base Sheet: Install one ply of GAFGLAS® #75 Base Sheet, GAFGLAS #80 Ultima™ Base Sheet, GAFGLAS Stratavent® Eliminator™ Nailable or RUBEROID 20 mechanically fastened as described below.

Fastening Options: GAFTITE (Drill-Tec) assembled CTD base ply fasteners, FM-90 fasteners, FM-60 fasteners with FM-30 disks or Olympic CR Base Felt Fasteners at a fastener spacing of 9" o.c. at the 2" wide side laps and 9" o.c. in two equally spaced rows in the field of the base sheet.
(Maximum Design Pressure -45, See General Limitation #7)

GAFTITE (Drill-Tec) assembled CTD base ply fasteners, FM-90 fasteners, FM-60 fasteners with FM-30 disks or Olympic CR Base Felt Fasteners at a fastener spacing of 12" o.c. at the 2" wide sidelaps and 9" o.c. in three equally spaced rows in the field of the base sheet.
(Maximum Design Pressure -45, See General Limitation #7)

ES Products Twin Loc-Nail at a fastener spacing of 9" o.c. at the 4" wide sidelaps and 9" o.c. in two equally spaced rows in the field of the base sheet.
(Maximum Design Pressure -60, See General Limitation #7)

GAFTITE (Drill-Tec) assembled CTD base ply fasteners, FM-90 fasteners, FM-60 fasteners with FM-30 disks or Olympic CR Base Felt Fasteners at a fastener spacing of 7.5" o.c. at the 3" wide side laps and 7.5" o.c. in two equally spaced rows in the field of the base sheet.
(Maximum Design Pressure -75, See General Limitation #7)

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

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

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 Options Above

Membrane Type: SBS – Hot Asphalt Applied or Cold Applied Matrix Adhesive

Deck Type: Lightweight Concrete, Non-insulated (See System Limitation)

Deck Description: Cellular or aggregate lightweight concrete

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

All General and System Limitations shall apply.

Base Sheet: Install one ply of GAFGLAS® #75 Base Sheet, GAFGLAS #80 Ultima™ Base Sheet, GAFGLAS Stratavent® Eliminator™ Nailable or RUBEROID 20 mechanically fastened as described below.

Fastening Options: GAFTITE (Drill-Tec) assembled CTD base ply fasteners, FM-90 fasteners, FM-60 fasteners with FM-30 disks or Olympic CR Base Felt Fasteners at a fastener spacing of 9" o.c. at the 2" wide sidelaps and 9" o.c. in two equally spaced rows in the field of the base sheet.
(Maximum Design Pressure -45psf, See General Limitation #7)

GAFTITE (Drill-Tec) assembled CTD base ply fasteners, FM-90 fasteners, FM-60 fasteners with FM-30 disks or Olympic CR Base Felt Fasteners at a fastener spacing of 12" o.c. at the 2" wide sidelaps and 9" o.c. in three equally spaced rows in the field of the base sheet.
(Maximum Design Pressure -45psf, See General Limitation #7)

ES Products Twin Loc-Nail at a fastener spacing of 9" o.c. at the 4" wide sidelaps and 9" o.c. in two equally spaced rows in the field of the base sheet.
(Maximum Design Pressure -60, See General Limitation #7)

GAFTITE (Drill-Tec) assembled CTD base ply fasteners, FM-90 fasteners, FM-60 fasteners with FM-30 disks or Olympic CR Base Felt Fasteners at a fastener spacing of 7.5" o.c. at the 3" wide sidelaps and 7.5" o.c. in two equally spaced rows in the field of the base sheet.
(Maximum Design Pressure -75psf, See General Limitation #7)

Ply Sheet: (Optional) one or more plies of Ruberoid 20, GAFGLAS ® PLY 4®, GAFGLAS FlexPly 6 ply sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or Matrix 101 Pro SBS Adhesive or Matrix 102 Select SBS Adhesive at 1 to 2 gal./sq.

Membrane: One or more plies of Ruberoid MOP Smooth, Ruberoid® Mop 170 FR, Ruberoid® Mop Granule, Ruberoid 20, Ruberoid® Mop Plus Granule, Ruberoid® 30 or Ruberoid® 30 FR or Ruberoid® Mop FR or (Ruberoid UltraClad™ SBS adhered in hot asphalt only) adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with Matrix 101 Pro SBS Adhesive or Matrix 102 Select SBS Adhesive at 1 to 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 Options Above

Membrane Type: APP / SBS HEAT WELD

Deck Type: Lightweight Concrete, Non-insulated, (See System Limitation)

Deck Description: Mearlcrete Cellular Lightweight Insulating concrete

System Type E(2): Base sheet mechanically attached.

All General and System Limitations shall apply.

Base Sheet: Install one ply of GAFGLAS® #75 Base Sheet, GAFGLAS #80 Ultima™ Base Sheet, GAFGLAS Stratavent® Eliminator™ Nailable or RUBEROID 20 mechanically fastened as described below.

Fasteners: GAFTITE (Drill-Tec) assembled CTD base ply fasteners, FM-90 fasteners, FM-60 fasteners with FM-30 disks or Olympic CR Base Felt Fasteners at a fastener spacing of 7" o.c. at the 3" wide side laps and 7" o.c. in two equally spaced rows in the field of the base sheet.

Ply Sheet: (Optional, required when using Ruberoid 20) one or more plies of Ruberoid 20, GAFGLAS ® PLY 4® or GAFGLAS FlexPly™ 6 ply sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

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

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: -52.5 psf (See General Limitation #7)

Membrane Type: SBS – Hot Asphalt Applied or Cold Applied Matrix Adhesive

Deck Type: Lightweight Concrete, Non-insulated (See Systems Limitations)

Deck Description: Mearlcrete Cellular Lightweight Insulating Concrete

System Type E(2): Base sheet mechanically attached.

All General and System Limitations shall apply.

Base Sheet: Install one ply of GAFGLAS® #75 Base Sheet, GAFGLAS #80 Ultima™ Base Sheet, GAFGLAS Stratavent® Eliminator™ Nailable or RUBEROID 20 mechanically fastened as described below.

Fasteners: GAFTITE (Drill-Tec) assembled CTD base ply fasteners, FM-90 fasteners, FM-60 fasteners with FM-30 disks or Olympic CR Base Felt Fasteners at a fastener spacing of 9" o.c. at the 2" wide sidelaps and 9" o.c. in two equally spaced rows in the field of the base sheet.

Ply Sheet: (Optional) one or more plies of Ruberoid 20, GAFGLAS ® PLY 4®, GAFGLAS FlexPly 6 ply sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or Matrix 101 Pro SBS Adhesive or Matrix 102 Select SBS Adhesive at 1 to 2 gal./sq.

Membrane: One or more plies of Ruberoid MOP Smooth, Ruberoid® Mop 170 FR, Ruberoid® Mop Granule, Ruberoid 20, Ruberoid® Mop Plus Granule, Ruberoid® 30 or Ruberoid® 30 FR or Ruberoid® Mop FR or (Ruberoid UltraClad™ SBS adhered in hot asphalt only) adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with Matrix 101 Pro SBS Adhesive or Matrix 102 Select SBS Adhesive at 1 to 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: -52.5 psf (See General Limitation #7)

Membrane Type: SBS – Heat Weld

Deck Type : Elastizel Cellular lightweight concrete (See System Limitation)

Deck Description: Min. 22 ga. steel deck placed over 0.25 in. thick structural steel supports spaced max. 6 ft o.c. attached with 5/8" puddle welds and washers spaced max. 6 in. o.c. at every flute. Side laps secured with #10 TEK screws fastened at a max. of 18 in o.c.

System Type E(3): Base sheet mechanically attached.

All General and System Limitations shall apply.

Base Sheet: Install one ply of GAFGLAS® #75 Base Sheet, GAFGLAS #80 Ultima™ Base Sheet, GAFGLAS Stratavent® Eliminator™ Nailable or RUBEROID 20 mechanically fastened as described below.

Fasteners: GAFTITE (Drill-Tec) assembled CTD Base Ply fasteners, spaced one row 7" o.c. in the 3" wide side laps and 7" o.c. in two equally spaced rows in the field of the sheet.

Ply Sheet: (Optional) Ruberoid® SBS Heat-Weld™ Smooth or Ruberoid® SBS Heat-Weld™ 25 torched applied.
Or,
(Optional) one or more plies of Ruberoid 20, GAFGLAS ® PLY 4®, GAFGLAS ® PLY 6® or GAFGLAS FlexPly 6 ply sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: One or more plies of Ruberoid 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
Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ FR, Ruberoid® SBS Heat-Weld™ Plus FR, Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus FR

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. 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: -82.5 psf (See General Limitation #7)

Membrane Type: SBS – Heat Weld

Deck Type : Elastizel Cellular lightweight concrete (See System Limitation)

Deck Description: Min. 22 ga. steel deck placed over 0.25 in. thick structural steel supports spaced max. 5 ft o.c. attached with 5/8" puddle welds and washers spaced max. 6 in. o.c. at every flute. Side laps secured with #10 TEK screws fastened at a max. of 24 in o.c.

System Type E(2): Base sheet mechanically attached.

All General and System Limitations shall apply.

Base Sheet: Install one ply of Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® Mop Smooth, Ruberoid® Mop Granules (Inverted) with granular surfaced face down against the deck with 4" heat welded side lap, mechanically fastened as described below.

Fasteners: GAFTITE #12 [Drill-Tec #12] fastener with 3" steel plate, fastened 12"o.c. in the 4" heat welded side lap and screwed through the lightweight concrete into the structural deck. With two additional rows of fasteners spaced 12" o.c. in the field of the sheet.

Ply Sheet: (Optional) Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ 25 torched applied, or Ruberoid® Mop Smooth adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ FR, Ruberoid® SBS Heat-Weld™ Plus FR, Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid UltraClad™ SBS.
Or
One or more plies of Ruberoid MOP Smooth, Ruberoid® Mop 170 FR, Ruberoid® Mop Granule, Ruberoid® Mop Plus Granule, 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.

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. 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: -97.5 psf (See General Limitation #7)

Membrane Type: SBS

Deck Type : Elastizel (II Special Mix) min 350 psi. mix, with Zell-Crete fibers and Zell-Erator curing sealer.

Deck Description: Min. 22 ga. steel deck placed over 0.25 in. thick structural steel supports spaced max. 5 ft o.c. attached with 5/8" puddle welds and washers spaced max. 5 in. o.c. at every flute. Side laps shall be secured with #10 TEK screws fastened at a max. spacing of 15 in. o.c.

System Type E(2): Base sheet Spot attached.

All General and System Limitations shall apply.

Primed Deck: Deck is primed with ASTM D

Base Sheet: Install one ply of GAFGLAS Stratavent®-Eliminator™ Perforated laid Dry over deck.

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

Membrane: One or more plies of Ruberoid 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.

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: -112.5 psf (See General Limitation #9)

Membrane Type: SBS

Deck Type : Lightweight Concrete, Non-insulated

Deck Description: Celcore Lightweight Insulating Concrete

System Type E(2): Base sheet mechanically attached.

Deck : Min. 22 ga., Type B steel decking over ¼" thick steel supports spaced max. 6 ft o.c. attached 6" o.c. using min. 5/8" diameter puddle welds with washers or Traxx/5 fasteners. Deck side laps are atttached 24" o.c. using Traxx/1 fasteners. Steel deck is covered with a Celcore lightweight concrete pour consisting of a 1/8" slurry coat, min. 2" thick Holey Board and a min. 2" thick top coat.

All General and System Limitations shall apply.

Base Sheet: Install one ply of GAFGLAS® #75 Base Sheet, GAFGLAS #80 Ultima™ Base Sheet, GAFGLAS STRATAVENT® Eliminator Nailable or Ruberoid 20 mechanically fastened as described below.

Fasteners: Drill-Tec (GAFTITE) CR 1.2 Base Sheet Fasteners and plates fastened at a spacing of 7" o.c. at the 3" wide sidelaps and 7" o.c. in two equally spaced rows in the field of the base sheet.

Ply Sheet: (Optional) one or more plies of Ruberoid 20, GAFGLAS® PLY 4®, GAFGLAS® FlexPly 6 ply sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: One or more plies of Ruberoid MOP Smooth, Ruberoid® Mop 170 FR, Ruberoid® Mop Granule, Ruberoid 20, Ruberoid® Mop Plus Granule, Ruberoid® 30 or Ruberoid® 30 FR or Ruberoid® Mop FR or Ruberoid UltraClad™ SBS adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: (Optional, required 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: -60 psf (See General Limitation #7)

Membrane Type: SBS

Deck Type : Lightweight Concrete, Non-insulated

Deck Description: Celcore Lightweight Insulating Concrete

System Type E(3): Base sheet mechanically attached.

Deck : Structural Concrete deck. Deck is covered with a Celcore lightweight concrete pour consisting of a 1/8" slurry coat, min. 2" thick Holey Board and a min. 2" thick top coat.

All General and System Limitations shall apply.

Base Sheet: Install one ply of GAFGLAS® #75 Base Sheet, GAFGLAS #80 Ultima™ Base Sheet, GAFGLAS STRATAVENT® Eliminator Nailable or Ruberoid 20 mechanically fastened as described below.

Fasteners: Drill-Tec (GAFTITE) CR 1.2 Base Sheet Fasteners and plates fastened at a spacing of 7" o.c. at the 3" wide sidelaps and 7" o.c. in two equally spaced rows in the field of the base sheet.

Ply Sheet: (Optional) one or more plies of Ruberoid 20, GAFGLAS® PLY 4®, GAFGLAS® FlexPly 6 ply sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: One or more plies of Ruberoid MOP Smooth, Ruberoid® Mop 170 FR, Ruberoid® Mop Granule, Ruberoid 20, Ruberoid® Mop Plus Granule, Ruberoid® 30 or Ruberoid® 30 FR or Ruberoid® Mop FR or Ruberoid UltraClad™ SBS adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: (Optional, required if Ruberoid MOP Smooth or Ruberoid 20 is top membrane) Install one of the following:

5. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq.
6. GAFGLAS Mineral Surfaced Cap Sheet in an approved asphalt at an application rate of 25 lb./sq. + 15%.
7. GAF Weathercote® MB+ (Matrix 715 MB Coating), Applied at 1 to 1.5 gal./sq.
8. Top Coat® Surface Seal SB (Matrix 602 SB Coating), Applied at 1 to 1.5 gal./sq.

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

Membrane Type: SBS – Heat Weld

Deck Type : Lightweight Concrete, (See System Limitation)

Deck Description: Cellular or aggregate lightweight concrete

System Type E(4): Base sheet mechanically attached.

All General and System Limitations shall apply.

Base Sheet: Install one ply of GAFGLAS® #75 Base Sheet, GAFGLAS #80 Ultima™ Base Sheet, GAFGLAS Stratavent® Eliminator™ Nailable or RUBEROID 20 mechanically fastened as described below.

Fasteners: GAFTITE (Drill-Tec) assembled CTD base ply fasteners, FM-90 fasteners, FM-60 fasteners with FM-30 disks or Olympic CR Base Felt Fasteners at a fastener spacing of 9" o.c. at the 2" wide sidelaps and 9" o.c. in two equally spaced rows in the field of the base sheet.
(Maximum Design Pressure -45psf, See General Limitation #7)

GAFTITE (Drill-Tec) assembled CTD base ply fasteners, FM-90 fasteners, FM-60 fasteners with FM-30 disks or Olympic CR Base Felt Fasteners at a fastener spacing of 7" o.c. at the 3" wide side laps and 7" o.c. in two equally spaced rows in the field of the base sheet.
(Maximum Design Pressure -75psf, See General Limitation #7)

Ply Sheet: (Optional) Ruberoid® SBS Heat-Weld™ Smooth or Ruberoid® SBS Heat-Weld™ 25.

Membrane: Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ FR, Ruberoid® SBS Heat-Weld™ Plus FR, Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus FR

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. 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 Options Above

LIGHTWEIGHT INSULATING CONCRETE SYSTEM LIMITATIONS:

1. If mechanical attachment to the structural deck through the lightweight insulating concrete is proposed, a field withdrawal resistance testing shall be performed to determine fastener patterns and density. All testing and fastening design shall be in compliance with Testing Application Standard TAS 105 and Roofing Application Standard RAS 117, calculations shall be signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant.
2. For steel deck application where specific deck construction is not referenced: The deck shall be a minimum 22 gage attached with 5/8" puddle welds with weld washers at every flute with maximum deck spans of 5 ft. o.c.
3. For systems where specific lightweight insulating concrete is not referenced, the minimum design mix shall be a minimum of 250 psi.

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