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 Modified Bitumen Roof System over Cementitious Wood Fiber Deck.**

**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 #01-0712.15 and consists of pages 1 through 24.
The submitted documentation was reviewed by Frank Zuloaga, RRC

PRODUCT CONTROL ACCEPTED

## ROOFING SYSTEM APPROVAL

| | |
|---|---|
| **Category:** | Roofing |
| **Sub-Category:** | SBS/APP, Modified Bitumen |
| **Deck Type:** | Cemetitious Wood Fiber |
| **Maximum Design Pressure** | -82.5 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 | 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 203) | 1, 5 gallons | ASTM D 3019<br>ASTM D 3409 | Refined asphalt blended with a mineral stabilizer and fibers. Permits adhesion to wet and dry surfaces. |
| 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 |
| RUBEROID® Modified Bitumen Flashing Cement | 5 gallons | ASTM D 4586 | Fiber reinforced, polymer modified Flashing cement |
| Jetblack Premium Flashing Cement | 5 gallons | ASTM D 4586 | Asphalt flashing Cement |
| 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 Flex Ply™ 6 | 39.37" (1 meter) wide | ASTM D 2178 | Type VI asphalt impregnated glass felt with asphalt coating. |
| GAFGLAS Ply 4® | 39.37" (1 meter) wide | ASTM D 2178 | Type IV asphalt impregnated glass felt with asphalt coating. |
| GAFGLAS® Mineral Surfaced Cap Sheet | 39.37" (1 meter) wide | ASTM D 3909 | Asphalt coated, glass fiber mat cap sheet surfaced with mineral granules. |
| GAFGLAS® STRATAVENT® Eliminator™ Perforated | 39.37" (1 meter) wide | ASTM D 4897 D 3672 | Fiberglass base sheet impregnated and 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 D 4897 D 3672 | Fiberglass base sheet impregnated and 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 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® 20 | 39.37" (1 meter) wide | ASTM D 6163 ASTM D 5147 | SBS modified asphalt base sheet and interply sheet reinforce with a glass fiber mat. |

| Product | Dimensions | Test Specification | Product Description |
|---|---|---|---|
| Ruberoid® Mop Granule | 39.37" (1 meter) wide | ASTM D 6222<br>ASTM D 5147 | Non-woven polyester mat coated with polymer modified asphalt and surfaced with mineral granules. |
| Ruberoid® Mop Plus (Granule) | 39.37" (1 meter) wide | ASTM D 6222<br>ASTM D 5147 | Non-woven polyester mat coated with polymer modified asphalt and surfaced with mineral granules. |
| RUBEROID MOP Smooth | 39.37" (1 meter) wide | ASTM D 6164<br>ASTM D 5147 | Non-woven polyester mat coated with polymer modified asphalt and smooth surfaced. |
| RUBEROID® MOP 170FR | 39.37" (1 meter) wide | ASTM D 6164<br>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<br>ASTM D 5147 | Non-Woven polyester mat coated with fire retardant polymer modified asphalt and surfaced with mineral granules. |
| RUBEROID® TORCH Smooth | 39.37" (1 meter) wide | ASTM D 5147 | Heavy duty, polyester reinforced, asphalt modified bitumen membrane, smooth surface. |
| RUBEROID® TORCH Granule | 39.37" (1 meter) wide | ASTM D 5147 | Asphalt impregnated, coated felt, surfaced with mineral granule. |
| RUBEROID® TORCH PLUS (Granule) | 39.37" (1 meter) wide | ASTM D 6222<br>ASTM D 5147 | Heavy duty, polyester reinforced, asphalt modified bitumen membrane, granule surface |
| RUBEROID® TORCH FR | 39.37" (1 meter) wide | ASTM D 6222<br>ASTM D 5147 | Non-woven polyester mat coated with fire retardant polymer modified asphalt surfaced with mineral granules. |
| RUBEROID 170FR TORCH | 39.37" (1 meter) Wide | ASTM D 6222<br>ASTM D 5147 | Heavy duty, polyester reinforced, coated with fire retardant asphalt modified bitumen membrane, granule surface. |
| RUBEROID® 30 | 39.37" (1 meter) wide | ASTM D 6163<br>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<br>ASTM D 5147 | Non woven fiberglass mat coated with fire retardant polymer modified asphalt and surfaced with mineral granules. |
| RUBEROID ULTRACLAD® SBS | 39.37" (1 meter) wide | ASTM D 6298<br>ASTM D 5147 | Woven fiberglass mat coated with Polymer modified asphalt and surfaced with aluminum, copper or stainless steel foil. |
| RUBEROID® Dual FR | 39.37" (1 meter) Wide | ASTM D 6164<br>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)<br>ASTM D 1929<br>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. |

| Product | Dimensions | Test Specification | Product Description |
|---|---|---|---|
| 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. |
| 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) |
|---|---|---|
| BMCA EnergyGuard, GAFTEMP Isotherm R, RA, RN & Composite, EnergyGuard RA | Polyisocyanurate foam insulation | GAF Materials Corp. |
| GAFTEMP® Composite, Composite A & N | Polyisocyanurate foam insulation with high density fiberboard or Permalite perlite insulation. | GAF Materials Corp. |
| (BMCA EnergyGuard ) GAFTEMP® Fiberboard | Fiberboard insulation. | GAF Materials Corp. |
| (BMCA EnergyGuard) GAFTEMP® Permalite | Perlite insulation board. | GAF Materials Corp. |
| GAFTEMP GAFCANT™ (BMCA Cant Strip) | Cut perlite board | GAF Materials Corp. |
| GAFTEMP Permalite Recover Board | Perlite recover board | GAF Materials Corp. |
| GAFTEMP GAFEDGE™ Tapered Edge Strip (BMCA Tapered Edge Strip) | Tapered perlite board | GAF Materials Corp. |
| (BMCA EnergyGuard) GAFTEMP® High Density Fiberboard | High density wood fiberboard insulation. | GAF Materials Corp. |
| BMCA Dens Deck | Water resistant gypsum board | BMCA |
| BMCA EnergyGuard, EnergyGuard RA | Polyisocynurate foam insulation | BMCA |
| BMCA Composite EnergyGuard, RA, RN | Polyisocynurate/wood fiberboard composite | BMCA |
| PYROX | Polyisocyanurate foam insulation | Apache Products Co. |
| White Line | Polyisocyanurate foam insulation | Apache Products Co. |
| ACFoam I, II & Composite | Polyisocyanurate foam insulation | Atlas Energy Products |
| ISO 95+ | Polyisocyanurate foam insulation | Firestone Building Products, Inc. |
| ISO 95+ Composite | Polyisocyanurate/perlite ridged insulation | Firestone Building Products, Inc. |
| Wood Fiber | Wood fiber insulation board | Generic |
| High Density Wood Fiberboard | Wood fiber insulation board | Generic |
| Perlite Insulation | Perlite insulation board | Generic |
| EPS | Extruded polystyrene 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, UltraGard Gold | Polyisocyanurate foam insulation | Johns Manville |
| FiberGlas Roof Insulation | Glass fiber/Mineral fiber insulation | Johns Manville |
| ISORoc | Polyisocyanurate foam / rockwool composite insulation | Johns Manville |
| Structodeck | Wood fiber insulation board | Masonite. |
| Multi-Max & FA | Polyisocyanurate roof insulation | RMax, Inc. |

## APPROVED INSULATIONS:

TABLE 2

| Product Name | Product Description | Manufacturer (With Current NOA) |
|---|---|---|
| Paroc Base Board<br>Paroc Cap Board | Rockwool insulation | Partek, Inc. |

## APPROVED FASTENERS:

TABLE 3

| Fastener Number | Product Name | Product Description | Dimensions | Manufacturer (With Current NOA) |
|---|---|---|---|---|
| 1. | Drill-Tec II NTB | Glass reinforced Nylon insulation fastener for gypsum & CWF decks with barbs. | | BMCA |
| 2. | Drill-Tec NTB Plate | Galvalume stress plate | 3" round | BMCA |
| 3. | Drill-Tec CR 1.2 Base Sheet Fastener | Base sheet fastening only | | BMCA |
| 4. | NTB Magnum | Glass reinforced Nylon insulation fastener for gypsum & CWF decks with barbs. | | Olympic Mfg. Group, Inc. |
| 5. | NTB Plate | Galvalume AZ55 plate for use with N.T.B. fasteners | 3" round | Olympic Mfg. Group, Inc. |
| 6. | Olympic CR 1.2 Base Sheet Fastener | Base sheet fastening only | | Olympic Mfg. Group, Inc. |
| 7. | Twin Loc-Nail | Base sheet fastener with intergrated Plate. | 1.8" long w/ 2.7" dia. plate | ES Products, Inc. |
| 8. | Powerlite | Insulation fastener for CWF and Gypsum decks. | | Powers Fasteners, Inc. |
| 9. | Powerlite Plates | 3" round galvalume AZ55 steel plate | 3" round | Powers Fasteners, Inc. |
| 10. | Powerlite Lap Plates | 2" round galvalume AZ55 steel plate | 2" round | Powers Fasteners, Inc. |

## EVIDENCE SUBMITTED:

| Test Agency | Test Identifier | Description | Date |
|---|---|---|---|
| Factory Mutual Research Corp. | FMRC 1996 | Current Insulation Attachment Requirements | 01.01.96 |
| Factory Mutual Research Corp. | J.I. 2B8A4.AM | Wind Uplift | 07.02.97 |
| | J.I. 3B9Q1.AM | FMRC 44704 | 01.08.98 |
| | J.I. 0D0A8.AM | | 07.09.99 |
| Factory Mutual Research Corp. | J.I. 0Y9Q5.AM | FMRC 4470 - PA 114 | 04.01.98 |
| Underwriters Laboratories, Inc. | R1306, 00NK07638 | UL 790 - PA 114 | 07.17.00 |
| IRT-ARCON, Inc. | 02-026 | TAS 114 | 07.26.02, |

## APPROVED ASSEMBLIES

**Membrane Type:** APP/SBS Heat Weld

**Deck Type:** Cementitious Wood Fiber, Insulated

**Deck Description:** Cementitious wood fiber

**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, ISORoc, AC-Foam II, ENRGY 2, Iso 95 +, Isotherm-R, Isotherm RA, Isotherm RN ENRGY 2 Plus, Isotherm RA, Isotherm RN, GAFTEMP® Composite, Composite A, Composite N BMCA EnergyGuard Iso, Wood Fiber, GAFTEMP® Fiberboard, BMCA EnergyGuard Fiberboard, BMCA EnergyGuard, BMCA EnergyGuard RA, RN, BMCA EnergyGuard Composite, Composite A, Composite N** | | |
| **Minimum 1" thick** | **N/A** | **N/A** |
| **BMCA EnergyGuard High Density Fiberboard, GAFTEMP® Fiberboard, High Density Fiberboard** | | |
| **Minimum ½" thick** | **N/A** | **N/A** |
| **Paroc, Perlite, GAFTEMP® Permalite, BMCA EnergyGuard Permalite** | | |
| **Minimum ¾" thick** | **N/A** | **N/A** |
| **Fiberglas** | | |
| **Minimum $^{15}/_{16}$" thick** | **N/A** | **N/A** |

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

Anchor Sheet: Install one ply of GAFGLAS® #75, GAFGLAS #80 Ultima™ Base Sheet, GAFGLAS® STRATAVENT® Eliminator Nailable or RUBEROID® 20 base sheet mechanically fastened with any approved cementitious wood fiber fastener listed herein. Fastened at 6" o.c. at the 4" side lap and in two 12" o.c. staggered rows in the field.

| | |
|---|---|
| Base Sheet: | One or more plies of GAFGLAS® Ply 4, GAFGLAS® #75, GAFGLAS #80 Ultima Base Sheet, GAFGLAS Flex Ply™ 6, GAFGLAS STRATAVENT® Eliminator Perforated (laid dry), or RUBEROID® Modified Base Sheet. Adhere with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or adhered in a strip or spot mopping. (See General Limitation #4) |
| Ply Sheet: | (Optional, required over STRATAVENT® Eliminator Perforated or RUBEROID ® MOP 20 ) One or more plies of GAFGLAS® Ply 4 or GAFGLAS Flex Ply™ 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.<br>Or,<br>One or more plies of 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 Granule, Ruberoid UltraClad™ SBS applied according to manufacturer's application instructions. |
| Surfacing: | (Optional, required Heat-Weld Smooth or Heat-Weld 25) Install one of the following:<br>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.<br>2. GAF Premium Fibered Aluminum Roof Coating, at 1.5 gal./sq. or GAF WeatherCoat® Emulsion at 3 gal./sq. (Torch Smooth applications only)<br>3. GAF Weathercote® MB+ (Matrix 715 MB Coating), Applied at 1 to 1.5 gal./sq.<br>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 #9) |

**Membrane Type:** SBS

**Deck Type:** Cementitious Wood Fiber, Insulated

**Deck Description:** Cementitious wood fiber

**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, ISORoc, AC-Foam II, ENRGY 2, Iso 95 +, Isotherm-R, Isotherm RA, Isotherm RN ENRGY 2 Plus, Isotherm RA, Isotherm RN, GAFTEMP® Composite, Composite A, Composite N BMCA EnergyGuard Iso, Wood Fiber, GAFTEMP® Fiberboard, BMCA EnergyGuard Fiberboard, BMCA EnergyGuard, BMCA EnergyGuard RA, RN, BMCA EnergyGuard Composite, Composite A, Composite N** | | |
| **Minimum 1" thick** | **N/A** | **N/A** |
| **BMCA EnergyGuard High Density Fiberboard, GAFTEMP® Fiberboard, High Density Fiberboard** | | |
| **Minimum ½" thick** | **N/A** | **N/A** |
| **Paroc, Perlite, GAFTEMP® Permalite, BMCA EnergyGuard Permalite** | | |
| **Minimum ¾" thick** | **N/A** | **N/A** |
| **Fiberglas** | | |
| **Minimum $^{15}/_{16}$" thick** | **N/A** | **N/A** |

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

Anchor Sheet: Install one ply of GAFGLAS® #75, GAFGLAS #80 Ultima™ Base Sheet, GAFGLAS® STRATAVENT® Eliminator Nailable or RUBEROID® 20 base sheet mechanically fastened with any approved cementitious wood fiber fastener listed herein. Fastened at 6" o.c. at the 4" side lap and in two 12" o.c. staggered rows in the field.

Base Sheet: One or more plies of GAFGLAS® Ply 4, GAFGLAS® #75, GAFGLAS #80 Ultima Base Sheet, GAFGLAS Flex Ply™ 6, GAFGLAS STRATAVENT® Eliminator Perforated (laid dry), RUBEROID® Modified Base Sheet or Ruberoid® 20 adhere with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or adhered in a strip or spot mopping. (See General Limitation #4)

| | |
|---|---|
| Ply Sheet: | (Optional) One or more plies of GAFGLAS® Ply 4, GAFGLAS Flex Ply™ 6, GAFGLAS #80 Ultima, RUBEROID® MOP Smooth or Ruberoid® 20 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. |
| Membrane: | One or more plies of RUBEROID MOP Smooth, Ruberoid® Mop 170 FR, Ruberoid® Mop Granule, Ruberoid® Mop Plus Granule, Ruberoid® 20, Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop FR, RUBEROID Dual FR or RUBEROID UltraClad™ SBS in adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.<br>Or,<br>One or more plies of RUBEROID MOP Smooth, RUBEROID® Mop Granule, RUBEROID® Mop 170 FR, RUBEROID® Mop Plus Granule, RUBEROID® 30, RUBEROID® 30 FR, RUBEROID® Mop FR or RUBEROID Dual FR in Matrix 102 Select SBS Adhesive (RUBEROID Modified Bitumen Adhesive) at an application rate of 1-2 gal./sq. |
| Surfacing: | (Optional, required if RUBEROID MOP Smooth or RUBEROID 20 is top membrane) Install one of the following:<br>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.<br>2. GAFGLAS Mineral Surfaced Cap Sheet in an approved asphalt at an application rate of 25 lb./sq. + 15%.<br>3. GAF Weathercote® MB+ (Matrix 715 MB Coating), Applied at 1 to 1.5 gal./sq.<br>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 #9) |

**Membrane Type:** APP/SBS Heat Weld

**Deck Type:** Cementitious Wood Fiber, Insulated

**Deck Description:** Cementitious wood fiber

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

**All General and System Limitations shall apply.**

| Base Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft$^2$ |
|---|---|---|
| **ACFoam-I, AC-Foam II, ENRGY 2, Isotherm-R, Isotherm RA, Isotherm RN, BMCA EnergyGuard, BMCA EnergyGuard RA, RN** | | |
| **Minimum 1.3" thick** | **8** | **1:3 ft$^2$** |
| **ENRGY 2 Plus, GAFTEMP® Composite, Composite A, Composite N, BMCA EnergyGuard Composite, Composite A, Composite N** | | |
| **Minimum 1.5" thick** | **8** | **1:4 ft$^2$** |
| **ISORoc** | | |
| **Minimum 1.5" thick** | **8** | **1:2.67 ft$^2$** |
| **Perlite, GAFTEMP® Permalite, BMCA EnergyGuard Permalite** | | |
| **Minimum ¾" thick** | **8** | **1:2.67 ft$^2$** |
| **Fiberglas** | | |
| **Minimum $^{15}/_{16}$" thick** | **8** | **1:2.67 ft$^2$** |
| **BMCA EnergyGuard High Density Fiberboard, GAFTEMP® Fiberboard, High Density Fiberboard** | | |
| **Minimum 1" thick** | **8** | **1:4 ft$^2$** |

**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).**

| Base Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft$^2$ |
|---|---|---|
| **Any of the insulations listed for Base Layer, above.** | | |
| **Paroc** | | |
| **Minimum ¾" thick** | **N/A** | **N/A** |

**Note: Optional top layer of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft$^2$. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down. GAF requires either a ply of GAFGLAS STRATAVENT® Eliminator Perforated (laid dry) or a layer of a BMCA EnergyGuard PERMALITE® or wood fiber overlay board on all isocyanurate applications.**

| | |
|---|---|
| Base Sheet: | One or more plies of GAFGLAS® Ply 4, GAFGLAS® #75, GAFGLAS #80 Ultima Base Sheet, GAFGLAS Flex Ply™ 6, GAFGLAS STRATAVENT® Eliminator Perforated (laid dry), RUBEROID® Modified Base Sheet, RUBEROID Mop Smooth or Ruberoid® 20 directly to the insulated substrate. Adhere with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or adhered in a strip or spot mopping. (See General Limitation #4) |
| Ply Sheet: | (Optional, required over STRATAVENT® Eliminator Perforated or RUBEROID ® MOP 20 ) One or more plies of GAFGLAS® Ply 4 or GAFGLAS Flex Ply™ 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.<br>Or,<br>One or more plies of 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 Granule, Ruberoid UltraClad™ SBS applied according to manufacturer's application instructions. |
| Surfacing: | (Optional, required Heat-Weld Smooth or Heat-Weld 25) Install one of the following:<br>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.<br>2. GAF Premium Fibered Aluminum Roof Coating, at 1.5 gal./sq. or GAF WeatherCoat® Emulsion at 3 gal./sq. (Torch Smooth applications only)<br>3. GAF Weathercote® MB+ (Matrix 715 MB Coating), Applied at 1 to 1.5 gal./sq.<br>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 #9) |

**Membrane Type:** SBS

**Deck Type:** Cementitious Wood Fiber, Insulated

**Deck Description:** Cementitious wood fiber

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

**All General and System Limitations shall apply.**

| Base Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft$^2$ |
|---|---|---|
| **ACFoam-I, AC-Foam II, ENRGY 2, Isotherm-R, Isotherm RA, Isotherm RN, BMCA EnergyGuard, BMCA EnergyGuard RA, RN** | | |
| **Minimum 1.3" thick** | **8** | **1:3 ft$^2$** |
| **ENRGY 2 Plus, GAFTEMP® Composite, Composite A, Composite N, BMCA EnergyGuard Composite, Composite A, Composite N** | | |
| **Minimum 1.5" thick** | **8** | **1:4 ft$^2$** |
| **ISORoc** | | |
| **Minimum 1.5" thick** | **8** | **1:2.67 ft$^2$** |
| **Perlite, GAFTEMP® Permalite, BMCA EnergyGuard Permalite** | | |
| **Minimum ¾" thick** | **8** | **1:2.67 ft$^2$** |
| **Fiberglas** | | |
| **Minimum $^{15}/_{16}$" thick** | **8** | **1:2.67 ft$^2$** |
| **BMCA EnergyGuard High Density Fiberboard, GAFTEMP® Fiberboard, High Density Fiberboard** | | |
| **Minimum 1" thick** | **8** | **1:4 ft$^2$** |

**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).**

| Base Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft$^2$ |
|---|---|---|
| **Any of the insulations listed for Base Layer, above.** | | |
| **Paroc** | | |
| **Minimum ¾" thick** | **N/A** | **N/A** |

**Note: Optional top layer of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft$^2$. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down. GAF requires either a ply of GAFGLAS STRATAVENT® Eliminator Perforated (laid dry) or a layer of a BMCA EnergyGuard PERMALITE® or wood fiber overlay board on all isocyanurate applications.**

| | |
|---|---|
| Base Sheet: | One or more plies of GAFGLAS® Ply 4, GAFGLAS® #75, GAFGLAS #80 Ultima Base Sheet, GAFGLAS Flex Ply™ 6, GAFGLAS STRATAVENT® Eliminator Perforated (laid dry), RUBEROID® Modified Base Sheet or Ruberoid® 20 adhere with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or adhered in a strip or spot mopping. (See General Limitation #4) |
| Ply Sheet: | (Optional) One or more plies of GAFGLAS® Ply 4, GAFGLAS Flex Ply™ 6, GAFGLAS #80 Ultima, RUBEROID® MOP Smooth or Ruberoid® 20 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. |
| Membrane: | One or more plies of RUBEROID MOP Smooth, Ruberoid® Mop 170 FR, Ruberoid® Mop Granule, Ruberoid® Mop Plus Granule, Ruberoid® 20, Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop FR, RUBEROID Dual FR or RUBEROID UltraClad™ SBS in adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.<br>Or,<br>One or more plies of RUBEROID MOP Smooth, RUBEROID® Mop Granule, RUBEROID® Mop 170 FR, RUBEROID® Mop Plus Granule, RUBEROID® 30, RUBEROID® 30 FR, RUBEROID® Mop FR or RUBEROID Dual FR in Matrix 102 Select SBS Adhesive (RUBEROID Modified Bitumen Adhesive) at an application rate of 1-2 gal./sq. |
| Surfacing: | (Optional, required if RUBEROID MOP Smooth or RUBEROID 20 is top membrane) Install one of the following:<br>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.<br>2. GAFGLAS Mineral Surfaced Cap Sheet in an approved asphalt at an application rate of 25 lb./sq. + 15%.<br>3. GAF Weathercote® MB+ (Matrix 715 MB Coating), Applied at 1 to 1.5 gal./sq.<br>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 #9) |

**Membrane Type:** APP/SBS Heat Weld

**Deck Type :** Cementitious Wood Fiber, Insulated

**Deck Description:** Cementitious wood fiber

**System Type C:** One or more layers of insulation simultaneously attached.

**All General and System Limitations shall apply.**

| Base Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft$^2$ |
|---|---|---|
| **ACFoam-I** | | |
| **Minimum 1.3" thick** | **N/A** | **N/A** |
| **ENRGY 2, Iso 95 +, GAFTEMP Isotherm R, GAFTEMP Isotherm RA, GAFTEMP Isotherm RN, BMCA EnergyGuard Iso** | | |
| **Minimum 1.4" thick** | **N/A** | **N/A** |
| **AC-Foam II, ENRGY 2 Plus, GAFTEMP Composite, Composite A, Composite N, BMCA EnergyGuard Composite, ISORoc** | | |
| **Minimum 1.5" thick** | **N/A** | **N/A** |
| **Perlite, GAFTEMP® Permalite, BMCA EnergyGuard Permalite** | | |
| **Minimum ¾" thick** | **N/A** | **N/A** |
| **Wood Fiber, GAFTEMP® Fiberboard, BMCA EnergyGuard Fiberboard** | | |
| **Minimum ¾" 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 the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.**

| Top Insulation Layer | Insulation Fasteners (Table 3) | Fastener Density/ft$^2$ |
|---|---|---|
| **ACFoam-I, AC-Foam II, ENRGY 2, GAFTEMP Isotherm R, GAFTEMP Isotherm RA, GAFTEMP Isotherm RN, BMCA EnergyGuard Iso** | | |
| **Minimum 1.3" thick** | **8** | **1:3 ft$^2$** |
| **ENRGY 2 Plus, GAFTEMP® Composite, GAFTEMP Composite A, GAFTEMP Composite N, BMCA EnergyGuard Composite** | | |
| **Minimum 1.5" thick** | **8** | **1:4 ft$^2$** |
| **ISORoc** | | |
| **Minimum 1.5" thick** | **8** | **1:2.67 ft$^2$** |
| **Perlite, GAFTEMP® PERMALITE, BMCA EnergyGuard PERMALITE** | | |
| **Minimum ¾" thick** | **8** | **1:2 ft$^2$** |
| **Fiberglas** | | |

| | | |
|---|---|---|
| **Minimum $^{15}/_{16}$" thick** | **8** | **1:2.67 ft²** |
| **Wood Fiber, GAFTEMP® Fiberboard, BMCA EnergyGuard Fiberboard** | | |
| **Minimum 1" thick** | **8** | **1:4 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 or more plies of GAFGLAS® Ply 4, GAFGLAS® #75, GAFGLAS #80 Ultima Base Sheet, GAFGLAS Flex Ply™ 6, GAFGLAS STRATAVENT® Eliminator Perforated (laid dry), RUBEROID® Modified Base Sheet, RUBEROID Mop Smooth or Ruberoid® 20 directly to the insulated substrate. Adhere with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or adhered in a strip or spot mopping. (See General Limitation #4)

Ply Sheet: (Optional, required over STRATAVENT® Eliminator Perforated or RUBEROID ® MOP 20 ) One or more plies of GAFGLAS® Ply 4 or GAFGLAS Flex Ply™ 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.
Or,
One or more plies of 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 Granule, Ruberoid UltraClad™ SBS applied according to manufacturer's application instructions.

Surfacing: (Optional, required Heat-Weld Smooth or Heat-Weld 25) Install one of the following:

1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq.
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 #9)

**Membrane Type:** SBS

**Deck Type :** Cementitious Wood Fiber, Insulated

**Deck Description:** Cementitious wood fiber

**System Type C:** One or more layers of insulation simultaneously attached.

**All General and System Limitations shall apply.**

| **Base Insulation Layer** | **Insulation Fasteners (Table 3)** | **Fastener Density/ft²** |
|---|---|---|
| **ACFoam-I**<br>**Minimum 1.3" thick** | **N/A** | **N/A** |
| **ENRGY 2, Iso 95 +, GAFTEMP Isotherm R, GAFTEMP Isotherm RA, GAFTEMP Isotherm RN, BMCA EnergyGuard Iso**<br>**Minimum 1.4" thick** | **N/A** | **N/A** |
| **AC-Foam II, ENRGY 2 Plus, GAFTEMP Composite, Composite A, Composite N, BMCA EnergyGuard Composite, ISORoc**<br>**Minimum 1.5" thick** | **N/A** | **N/A** |
| **Perlite, GAFTEMP® Permalite, BMCA EnergyGuard Permalite**<br>**Minimum ¾" thick** | **N/A** | **N/A** |
| **Wood Fiber, GAFTEMP® Fiberboard, BMCA EnergyGuard Fiberboard**<br>**Minimum 1" thick** | **N/A** | **N/A** |
| **Fiberglas**<br>**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 the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.**

| **Top Insulation Layer** | **Insulation Fasteners (Table 3)** | **Fastener Density/ft²** |
|---|---|---|
| **ACFoam-I, AC-Foam II, ENRGY 2, GAFTEMP Isotherm R, GAFTEMP Isotherm RA, GAFTEMP Isotherm RN, BMCA EnergyGuard Iso**<br>**Minimum 1.3" thick** | **8** | **1:3 ft²** |
| **ENRGY 2 Plus, GAFTEMP® Composite, GAFTEMP Composite A, GAFTEMP Composite N, BMCA EnergyGuard Composite**<br>**Minimum 1.5" thick** | **8** | **1:4 ft²** |
| **ISORoc**<br>**Minimum 1.5" thick** | **8** | **1:2.67 ft²** |
| **Perlite, GAFTEMP® PERMALITE, BMCA EnergyGuard PERMALITE**<br>**Minimum ¾" thick** | **8** | **1:2 ft²** |
| **Fiberglas** | | |

| | | |
|---|---|---|
| **Minimum $^{15}/_{16}$" thick** | **8** | **1:2.67 ft²** |
| **Wood Fiber, GAFTEMP® Fiberboard, BMCA EnergyGuard Fiberboard** | | |
| **Minimum 1" thick** | **8** | **1:4 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 or more plies of GAFGLAS® Ply 4, GAFGLAS® #75, GAFGLAS #80 Ultima Base Sheet, GAFGLAS Flex Ply™ 6, GAFGLAS STRATAVENT® Eliminator Perforated (laid dry), RUBEROID® Modified Base Sheet, RUBEROID Mop Smooth or Ruberoid® 20 adhere with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or adhered in a strip or spot mopping. (See General Limitation #4)

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

Membrane: One or more plies of RUBEROID MOP Smooth, Ruberoid® Mop 170 FR, Ruberoid® Mop Granule, Ruberoid® Mop Plus Granule, Ruberoid® 20, Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop FR, RUBEROID Dual FR or RUBEROID UltraClad™ SBS in adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Or,
One or more plies of RUBEROID MOP Smooth, RUBEROID® Mop Granule, RUBEROID® Mop 170 FR, RUBEROID® Mop Plus Granule, RUBEROID® 30, RUBEROID® 30 FR, RUBEROID® Mop FR or RUBEROID Dual FR in Matrix 102 Select SBS Adhesive (RUBEROID Modified Bitumen Adhesive) at an application rate of 1-2 gal./sq.

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

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

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

**Membrane Type:** APP/SBS Heat Weld

**Deck Type 5:** Cementitious Wood Fiber, Non-Insulated

**Deck Description:** Cementitious wood fiber

**System Type E:** Anchor sheet mechanically fastened

**All General and System Limitations shall apply.**

Anchor Sheet: Install one ply of GAFGLAS® #75, GAFGLAS #80 Ultima™ Base Sheet, GAFGLAS® STRATAVENT® Eliminator Nailable, RUBEROID Modified Base Sheet or RUBEROID® 20 base sheet mechanically fastened with any approved cementitious wood fiber fastener listed herein. Fastened at 6" o.c. at the 4" side lap and in two 12" o.c. staggered rows in the field.

Ply Sheet: (Optional, required over RUBEROID ® MOP 20 ) One or more plies of GAFGLAS® Ply 4 or GAFGLAS Flex Ply™ 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.
Or,
One or more plies of 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 Granule, Ruberoid UltraClad™ SBS applied according to manufacturer's application instructions.

Surfacing: (Optional, required Heat-Weld Smooth or Heat-Weld 25) Install one of the following:

1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq.
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 #9)

**Membrane:** SBS

**Deck Type 5:** Cementitious Wood Fiber, Non-Insulated

**Deck Description:** Cementitious wood fiber

**System Type E:** Anchor sheet mechanically fastened

**All General and System Limitations shall apply.**

Anchor Sheet: Install one ply of GAFGLAS® #75, GAFGLAS #80 Ultima™ Base Sheet, GAFGLAS® STRATAVENT® Eliminator Nailable, RUBEROID® MOP Smooth, RUBEROID® SBS Heat-Weld or RUBEROID® 20 base sheet mechanically fastened with any approved cementitious wood fiber fastener listed herein. Fastened at 6" o.c. at the 4" side lap and in two 12" o.c. staggered rows in the field.

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

Membrane: One or more plies of RUBEROID MOP Smooth, Ruberoid® Mop 170 FR, Ruberoid® Mop Granule, Ruberoid® Mop Plus Granule, Ruberoid® 20, Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop FR, RUBEROID Dual FR or RUBEROID UltraClad™ SBS in adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Or,
One or more plies of RUBEROID MOP Smooth, RUBEROID® Mop Granule, RUBEROID® Mop 170 FR, RUBEROID® Mop Plus Granule, RUBEROID® 30, RUBEROID® 30 FR, RUBEROID® Mop FR or RUBEROID Dual FR in Matrix 102 Select SBS Adhesive (RUBEROID Modified Bitumen Adhesive) at an application rate of 1-2 gal./sq.

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

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

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

**Membrane Type:** APP/SBS Heat Weld

**Deck Type 5:** Cementitious Wood Fiber, Non-Insulated

**Deck Description:** Cementitious wood fiber

**System Type E(2):** Anchor sheet mechanically fastened

**All General and System Limitations shall apply.**

Anchor Sheet: Install one ply of GAFGLAS® #75, GAFGLAS #80 Ultima™ Base Sheet, GAFGLAS Flex Ply™ 6, GAFGLAS® STRATAVENT® Eliminator Nailable, RUBEROID MOP Smooth, RUBEROID® 20, RUBEROID Modified Base Sheet, RUBEROID SBS Heat-Weld™ Smooth or RUBEROID SBS Heat-Weld 25 base sheet mechanically fastened with 1.8" Twin Loc-Nail Fasteners fastened at 9" o.c. at the 3" side lap and in two 12" o.c. staggered rows in the field.

Ply Sheet: (Optional, required over RUBEROID ® MOP 20 ) One or more plies of GAFGLAS® Ply 4 or GAFGLAS Flex Ply™ 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.
Or,
One or more plies of 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 Granule, Ruberoid UltraClad™ SBS applied according to manufacturer's application instructions.

Surfacing: (Optional, required Heat-Weld Smooth or Heat-Weld 25) Install one of the following:

1. Gravel or slag applied at 400 lb./sq. and 300 lb./sq. respectively in a flood coat of approved asphalt at 60 lb./sq.
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: -82.5 psf (See General Limitation #7)

**Membrane:** SBS

**Deck Type 5:** Cementitious Wood Fiber, Non-Insulated

**Deck Description:** Cementitious wood fiber

**System Type E(2):** Anchor sheet mechanically fastened

**All General and System Limitations shall apply.**

Anchor Sheet: Install one ply of GAFGLAS® #75, GAFGLAS #80 Ultima™ Base Sheet, GAFGLAS Flex Ply™ 6, GAFGLAS® STRATAVENT® Eliminator Nailable, RUBEROID MOP Smooth, RUBEROID® 20, RUBEROID Modified Base Sheet, RUBEROID SBS Heat-Weld™ Smooth or RUBEROID SBS Heat-Weld 25 base sheet mechanically fastened with 1.8" Twin Loc-Nail Fasteners fastened at 9" o.c. at the 3" side lap and in two 12" o.c. staggered rows in the field.

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

Membrane: One or more plies of RUBEROID MOP Smooth, Ruberoid® Mop 170 FR, Ruberoid® Mop Granule, Ruberoid® Mop Plus Granule, Ruberoid® 20, Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop FR, RUBEROID Dual FR or RUBEROID UltraClad™ SBS in adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Or,
One or more plies of RUBEROID MOP Smooth, RUBEROID® Mop Granule, RUBEROID® Mop 170 FR, RUBEROID® Mop Plus Granule, RUBEROID® 30, RUBEROID® 30 FR, RUBEROID® Mop FR or RUBEROID Dual FR in Matrix 102 Select SBS Adhesive (RUBEROID Modified Bitumen Adhesive) at an application rate of 1-2 gal./sq.

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

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

Maximum Design Pressure: -82.5 psf (See General Limitation #7)

## 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**