



DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

NOTICE OF ACCEPTANCE (NOA)

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION

11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
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www.miamidade.gov/economy

GAF
1 Campus Drive
Parsippany, NJ 07054

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section 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 Section (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. RER reserves the right to revoke this acceptance if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein and has been designed to comply with the Florida Building Code including the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: GAF Ruberoid® Modified Bitumen Roof System for Recover 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 and revises NOA No. 24-0808.03 and consists of pages 1 through 59.

The submitted documentation was reviewed by Jorge L. Acebo.

11/07/24



NOA No.: 24-1008.06
Expiration Date: 11/06/25
Approval Date: 11/07/24
Page 1 of 59

ROOFING SYSTEM APPROVAL

Category:	Roofing
Sub-Category:	Modified Bitumen
Material:	APP/SBS
Deck Type:	Recover
Maximum Design Pressure:	See Specific Deck Type

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
GAFLAS® #75 Base Sheet	39.37" (1 meter) Wide	ASTM D4601	Smooth asphaltic base or base/ply sheet reinforced with fiberglass mat.
Tri-Ply® #75 Base Sheet	39.37" (1 meter) Wide	ASTM D4601	Smooth asphaltic base or base/ply sheet reinforced with a fiberglass mat.
GAFLAS® #80 Ultima™ Base Sheet	39.37" (1 meter) Wide	ASTM D4601	Smooth asphaltic base or base/ply sheet reinforced with fiberglass mat.
GAFLAS® FlexPly™ 6	39.37" (1 meter) Wide	ASTM D2178	Smooth surfaced asphaltic ply sheet reinforced with fiberglass mat.
GAFLAS® Ply 4	39.37" (1 meter) Wide	ASTM D2178	Smooth surfaced asphaltic ply sheet reinforced with fiberglass mat.
Tri-Ply® Ply 4	39.37" (1 meter) Wide	ASTM D2178	Smooth surfaced asphaltic ply sheet reinforced with a fiberglass mat.
GAFLAS® Stratavent® Perforated Venting Base Sheet	39.37" (1 meter) Wide	ASTM D4897	Smooth surfaced asphaltic perforated venting base sheet reinforced with fiberglass mat.
GAFLAS® Stratavent® Nailable Venting Base Sheet	39.37" (1 meter) Wide	ASTM D4897	Smooth surfaced asphaltic nailable venting base sheet reinforced with fiberglass mat. Bottom side surfaced with granules.
Ruberoid Mop Smooth	39.37" (1 meter) Wide	ASTM D6164	Smooth surfaced mop applied SBS base or ply sheet reinforced with a polyester mat.
Ruberoid® Mop Smooth 1.5	39.37" (1 meter) Wide	ASTM D6164	Smooth surfaced mop applied SBS base sheet reinforced with a polyester mat.
Ruberoid® Mop Plus Smooth	39.37" (1 meter) Wide	ASTM D6164	Smooth surfaced mop applied SBS base or ply sheet reinforced with a polyester mat.
Ruberoid® Mop Granule	39.37" (1 meter) Wide	ASTM D6164	Granule surfaced mop applied SBS cap sheet reinforced with a polyester mat.
Tri-Ply® SBS Granule	39.37" (1 meter) Wide	ASTM D6164	Granule surfaced mop applied SBS cap sheet reinforced with a polyester mat.
Intec Flex PRF	39.37" (1 meter) Wide	ASTM D6164	Granule surfaced mop applied SBS cap sheet reinforced with a polyester mat.
Ruberoid® Torch Smooth	39.37" (1 meter) Wide	ASTM D6222	Smooth surfaced torch applied APP base or ply sheet reinforced with a polyester mat.

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
Tri-Ply® APP Smooth	39.37" (1 meter) Wide	ASTM D6222	Smooth surfaced torch applied APP cap, base or ply sheet reinforced with a polyester mat.
Ruberoid® Torch Granule	39.37" (1 meter) Wide	ASTM D6222	Granule surfaced torch applied APP cap sheet reinforced with a polyester mat.
Tri-Ply® APP Granule	39.37" (1 meter) Wide	ASTM D6222	Granule surfaced torch applied APP cap sheet reinforced with a polyester mat.
Ruberoid® Torch Plus Granule FR	39.37" (1 meter) Wide	ASTM D6222	Fire retardant granule surfaced torch applied APP cap sheet reinforced with a polyester mat.
Ruberoid® Mop Plus Granule	39.37" (1 meter) Wide	ASTM D6164	Granule surfaced mop applied SBS cap sheet reinforced with a polyester mat.
Ruberoid® Mop Plus Granule FR	39.37" (1 meter) Wide	ASTM D6164	Fire retardant granule surfaced mop applied SBS cap sheet reinforced with a polyester mat.
Ruberoid® EnergyCap™ Mop Plus Granule FR	39.37" (1 meter) Wide	ASTM D6164	Fire retardant granule surfaced mop applied SBS cap sheet reinforced with a polyester mat. Cap sheet is factory coated with TOPCOAT® EnergyCote™ Elastomeric Coating.
Ruberoid® 20 Smooth	39.37" (1 meter) Wide	ASTM D6163	SBS polymer-modified asphalt base or ply sheet reinforced with a fiberglass mat.
Ruberoid® 30 Granule	39.37" (1 meter) Wide	ASTM D6163	Granule surfaced mop applied SBS cap sheet reinforced with a fiberglass mat.
Ruberoid® 30 Granule FR	39.37" (1 meter) Wide	ASTM D6163	Fire retardant granule surfaced mop applied SBS cap sheet reinforced with fiberglass mat.
Ruberoid® 30 Plus Granule FR	39.37" (1 meter) Wide	ASTM D6163	Fire retardant granule surfaced mop applied SBS cap sheet reinforced with fiberglass mat.
Ruberoid® EnergyCap™ 30 Granule FR	39.37" (1 meter) Wide	ASTM D6163	Fire retardant granule surfaced mop applied SBS cap sheet reinforced with a fiberglass mat. Cap sheet is factory coated with TOPCOAT® EnergyCote™ Elastomeric Coating.
Ruberoid® Mop Granule FR	39.37" (1 meter) Wide	ASTM D6164	Fire retardant granule surfaced mop applied SBS cap sheet reinforced with a polyester mat.
GAFLAS® Mineral-Surfaced Cap Sheet	39.37" (1 meter) Wide	ASTM D3909	Granule surfaced asphaltic cap sheet reinforced with fiberglass mat.
Tri-Ply® BUR Granule Cap Sheet	39.37" (1 meter) wide	ASTM D3909	Granule surfaced asphaltic cap sheet reinforced with a fiberglass mat.
GAFLAS® EnergyCap™ Mineral-Surfaced Cap Sheet	39.37" (1 meter) Wide	ASTM D3909	Granule surfaced asphaltic cap sheet reinforced with fiberglass mat. Cap sheet is factory coated with TOPCOAT® EnergyCote™ Elastomeric Coating.

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
VersaShield® Fire-Resistant Roof Deck Protection	12" x 100' rolls	ASTM D226	Non-asphaltic fiberglass-based underlayment and /or fire barrier.
VersaShield® Solo™ Fire-Resistant Slip Sheet	42" roll wide, 100 ft.	ASTM D146, D828, D4869, D6757	Non-asphaltic, fire resistant fiberglass underlayment
Matrix™ 102 SBS Membrane Adhesive	3, 5 or 55 gallons	ASTM D3019	Fiber reinforced rubberized cold-applied adhesive for modified bitumen roof systems.

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
EnergyGuard™ Polyiso Insulation	Polyisocyanurate foam insulation	GAF
EnergyGuard™ Tapered Polyiso Insulation	Polyisocyanurate foam insulation	GAF
EnergyGuard™ Ultra Polyiso Insulation	Glass-faced polyisocyanurate foam insulation	GAF
EnergyGuard™ RA Polyiso Insulation	Polyisocyanurate foam insulation	GAF
EnergyGuard™ RA Tapered Polyiso Insulation	Polyisocyanurate foam insulation with high density fiberboard or perlite	GAF
Structodek® High Density Fiberboard Roof Insulation	High density wood fiber	Blue Ridge Fiberboard, Inc.
SECUROCK® Gypsum-Fiber Roof Board	Gypsum board	USG Corp.
DensDeck® Roof Board	Gypsum board.	Georgia-Pacific Gypsum LLC
DensDeck® Prime Roof Board	Gypsum board.	Georgia-Pacific Gypsum LLC

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	Drill-Tec™ #12 Fastener	Phillips head, modified buttress thread, pinch point, carbon steel fastener for use in steel or wood decks. With CR-10 coating. Available with a pinch point or drill point.	#12 x 8" max. length, #3 Phillips head.	GAF
2.	Drill-Tec™ #14 Fastener	Truss head, self-drilling, pinch point, high thread fastener for use in steel, wood or concrete decks.	#14 x 16" max. length, #3 Phillips head.	GAF
3.	Drill-Tec™ XHD Fastener	Truss head, self-drilling, pinch point, high thread fastener for use in wood or steel decks.	#15 x 16" max. length, #3 Phillips head.	GAF
4.	Drill-Tec™ ASAP 3S	Drill-Tec™ #12 Fastener with Drill-Tec™ 3" Standard Steel Plate.	#12 x 8" max. length, #3 Phillips head. with 3" Round plate	GAF
5.	Drill-Tec™ Base Sheet Fastener (1.2 in.)	G-90 galvanized fastener with plate for base sheet attachment to gypsum decks and lightweight insulating concrete decks less than 2" thick. Coated with CR-10 fluorocarbon coating.	1.125" head x 1.2" length 2.75" Galvalume® steel stress plate.	GAF
6.	Drill-Tec™ Base Sheet Fastener (1.7 in.)	G-90 galvanized fastener with plate for base sheet attachment to gypsum decks and lightweight insulating concrete decks less than 2" thick. Coated with CR-10 fluorocarbon coating.	1.125" head x 1.75" length. 2.75" Galvalume steel stress plate.	GAF
7.	Drill-Tec™ Base Sheet Fastener E (1.2 in.)	G-90 galvanized fastener with plate for base sheet attachment to gypsum decks and on lightweight insulating concrete decks less than 2" thick. Coated with CR-10 fluorocarbon coating.	1.125" head x 1.2" length. 2.75" Galvalume steel stress plate.	GAF

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
8.	Drill-Tec™ Base Sheet Fastener E (1.7 in.)	G-90 galvanized fastener with plate for base sheet attachment to gypsum decks and on lightweight insulating concrete decks less than 2" thick. Coated with CR-10 fluorocarbon coating.	1.125" head x 1.75" Length. 2.75" Galvalume steel stress plate.	GAF
9.	Drill-Tec™ LD Fastener	Carbon steel fastener for insulation attachment in gypsum and cementitious wood fiber decks. CR-10 coated.	0.240" to 0.375" x 12" max. length; #3 Phillips flat head.	GAF
10.	Drill-Tec™ 3" Steel Plate	Round Galvalume® steel stress plate with reinforcing ribs and recessed for use with Drill-Tec™ fasteners.	3" Round	GAF
11.	Drill-Tec™ 3" Standard Steel Plate	Galvalume® coated steel stress plate for use with approved Drill-Tec™ fasteners.	3" Round	GAF
12.	Drill-Tec™ AccuTrac® Flat Plate	A2-SS aluminized steel plate for use with Drill-Tec™ fasteners.	3" square; .017" thick	GAF
13.	Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat)	Round Galvalume® plated steel stress plate with reinforcing ribs for use with Drill-Tec™ fasteners.	3" Round	GAF

EVIDENCE SUBMITTED:

<u>Test Agency/Identifier</u>	<u>Name</u>	<u>Report</u>	<u>Date</u>
FM Approvals	FM 4470	0D0A8.AM	07/09/97
	FM 4470	1B9A8.AM	09/04/97
	FM 4470	2B8A4.AM	07/02/97
	FM 4470	3D4Q2.AM	04/30/97
	FM 4470	3005640	11/09/00
	FM 4470	3006845	10/17/00
	FM 4470	3005175	05/23/00
	FM 4470	3005177	05/19/00
	FM 4470	3007500	06/15/00
	FM 4470	3008178	12/27/00
	FM 4470	3017250	05/05/04
	FM 4470	3029832	05/11/07
	FM 4470	3036980	08/14/09
	FM 4470	3040738	11/16/10
	FM 4470	3042887	11/14/11
	FM 4470	3043633	01/20/12
	FM 4470	797-03221-267	09/24/07
	FM 4470	797-10228-267	01/15/15
	FM 4470	FM Letter	09/15/15
	FM 4470	FM Letter	12/06/11
Exterior Research & Design, LLC	TAS 114	4483.04.97-1	06/06/97
	TAS 114	4674.11.01-1	11/21/01
Trinity ERD	ASTM D4601	G34140.04.11-4-R2	06/04/15
	ASTM D4879	G34140.04.11-5-R3	06/04/15
	TAS 114	G36780.07.11-R1	07/18/11
	ASTM D6164	G40630.01.14-2B-R1	01/16/15
	ASTM D6222	G43190.03.14-1	03/06/15
	ASTM D6222	G43190.03.14-2	03/06/15
	ASTM D6163	G46160.02.15	02/12/15
	ASTM D6163	G46160.02.15-2D-1	02/09/16
	ASTM D6163	G46160.03.15	03/11/15
	ASTM D6164	G46160.12.14-3E	12/29/14
	ASTM D6163	SC10680.05.16	5/10/16
	ASTM D6164	SC13105.03.17-R1	3/23/17
NEMO ETC, LLC	ASTM D6163	4Q-GAF-19-SSMBB-02.A	04/08/19
	ASTM D6164	4Q-GAF-22-SSMBB-01.A	04/22/23
	ASTM D2178	4S-GAF-18-001.01.19-1	01/02/29
	ASTM D2178	4S-GAF-18-001.01.19-1	01/02/29
	ASTM D2178	4S-GAF-18-001.01.19-1	01/02/19
	ASTM D6222	4S-GAF-18-001.03.19.A-R1	03/13/19
	ASTM D6222	4S-GAF-18-001.03.19.A-R1	03/13/19
	ASTM D6222	4S-GAF-18-001.03.19.A-R1	03/13/19
	ASTM D6222	4S-GAF-18-001.03.19.A-R1	03/13/19
	ASTM D6163	4S-GAF-18-001.11.18	11/06/18

EVIDENCE SUBMITTED: (CONTINUED)

<u>Test Agency/Identifier</u>	<u>Name</u>	<u>Report</u>	<u>Date</u>
UL LLC	UL 790	R10689	06/21/24
	UL 790	R1306	08/12/24
PRI Construction Materials Technologies, LLC.	TAS 139	GAF-122-02-01	05/07/06
	TAS-114-J	GAF-436-02-05	03/05/14
	TAS 114-J	GAF-436-02-05	03/05/14
	TAS 117	GAF-559-02-01	10/16/14
	ASTM D1876	GAF-559-02-04	03/04/15
	ASTM D1876	GAF-559-02-05	03/04/15
	TAS 114	GAF-559-02-06	10/16/14
	TAS 114	GAF-559-02-12	10/16/14
	TAS 114	GAF-559-02-13	10/16/14
	TAS 114	GAF-559-02-14	10/16/14
	TAS 114	GAF-559-02-15	10/16/14
	TAS 114	GAF-559-02-18	10/16/14
	TAS 114	GAF-559-02-19	04/16/15
	ASTM D6164	PRI 376T0140	08/18/21
	ASTM D6163	PRI 376T0141	01/26/22
	ASTM D6222	PRI 376T0143	08/23/21
	ASTM D6222	PRI 376T0143	08/23/21
	ASTM D6222	PRI 376T0144	08/26/21
	ASTM D6222	PRI 376T0144	08/26/21
	ASTM D6164	PRI 376T0221	01/17/22
	ASTM D4897	PRI 376T0227	12/20/21
	ASTM D4897	PRI 376T0228	12/20/21
	ASTM D4601	PRI 376T0229	12/20/21
	ASTM D4601	PRI 376T0229	12/20/21
	ASTM D6222	PRI 376T0230	03/24/22
	ASTM D4601	PRI 376T0240	12/21/21
	ASTM D3909	PRI 376T0272	02/03/22
	ASTM D6222	PRI 376T0273	05/04/22
	ASTM D6222	PRI 376T0274	05/04/22
	ASTM D2178	PRI 376T0275	01/31/22
	ASTM D6164	PRI 376T0483	07/12/24
	ASTM D6164	PRI 376T0486	04/12/24
	ASTM D6163	PRI 824T0047	06/30/22
	ASTM D6164	PRI 824T0051	06/09/22
Atlantic & Caribbean Roof Consulting, LLC	TAS 114-D	11-048-R1	08/10/11
	TAS-114-J	15-028	12/01/15

DECK STRESS ANALYSIS CALCULATIONS/REPORTS

<u>Engineer/Agency</u>	<u>Identifier</u>	<u>Assemblies:</u>	<u>Date</u>
Duc T. Nguyen, P.E.	GAF-436-02-05 Addendum Letter	C(3)	10/05/15

APPROVED ASSEMBLIES:

Membrane Type:	APP
Deck Type 7I:	Recover, Insulated
Deck Description:	Concrete/Lightweight Concrete/Cementitious Wood Fiber/Poured Gypsum/Wood/Steel
System Type A(1):	Anchor sheet mechanically fastened; all layers of insulation adhered with approved asphalt.

All General and System Limitations shall apply.

Anchor Sheet: One ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, Ruberoid® 20 Smooth or GAFGLAS® Stratavent® Nailable Venting Base Sheet mechanically fastened with approved fasteners at a 4" side lap 12" o.c. and three rows staggered in the center of the sheet 12" o.c.

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ RA Polyiso Insulation Minimum 1.3" thick	N/A	N/A
EnergyGuard™ Polyiso Insulation Minimum 1.4" thick	N/A	N/A
DensDeck® Roof Board Minimum ½" 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 ft². 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. GAF requires either a ply of GAFGLAS® Stratavent® Perforated Venting Base Sheet laid dry or wood fiber overlay board on all polyisocyanurate insulation applications.

Base Sheet: One ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet or GAFGLAS® #80 Ultima™ Base Sheet adhered to the insulation in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

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

Membrane: One or more plies of Ruberoid® Torch Smooth, Tri-Ply® APP Smooth, Ruberoid® Torch Granule, Tri-Play® APP Granule or Ruberoid® Torch Plus Granule FR torch applied according to manufacturer's application instructions.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions. All coatings must be listed within a current NOA.**

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.

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

Membrane Type: SBS

Deck Type 7I: Recover, Insulated

Deck Description: Concrete/Lightweight Concrete/Cementitious Wood Fiber/Poured Gypsum/Wood/Steel

System Type A(2): Anchor sheet mechanically fastened; all layers of insulation adhered with approved asphalt.

All General and System Limitations shall apply.

Anchor Sheet: One ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS #80 Ultima™ Base Sheet, Ruberoid® 20 Smooth or GAFGLAS® Stratavent® Nailable Venting Base Sheet mechanically fastened with approved fasteners at a 4" side lap 12" o.c. and two rows staggered in the center of the sheet 24" o.c.

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ RA Polyiso Insulation Minimum 1.3" thick	N/A	N/A
EnergyGuard™ Polyiso Insulation Minimum 1.4" thick	N/A	N/A
DensDeck® Roof Board Minimum ½" 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 ft². 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. GAF requires either a ply of GAFGLAS® Stratavent® Perforated Venting Base Sheet laid dry or wood fiber overlay board on all polyisocyanurate insulation applications.

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

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

Membrane: One ply of Ruberoid® Mop Granule, Tri-Ply® SBS Granule, Intec Flex PRF, Ruberoid® Mop Plus Granule, Ruberoid® 30 Granule or Ruberoid® 30 Granule FR, Ruberoid® 30 Plus Granule FR, Ruberoid Mop Granule FR or Ruberoid® Mop Plus Granule FR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions. All coatings must be listed within a current NOA.**

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.

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

Membrane Type: SBS

Deck Type 7I: Recover, Insulated

Deck Description: Minimum 15/32" thick plywood APA span-rated secured to lumber supports spaced maximum 24" o.c. using 8d ring shank nails. The nails are spaced 6" o.c. along panel end and intermediate supports. *The deck shall record a Minimum Characteristic Resistance Force (MCRF) as follows when tested with the fastener chosen for insulation attachment (Drill-Tec™ #14 Fastener) installed through to the deck in accordance with TAS 105.

Membrane Fastening	Fastener	Deck	MCRF
Fastening #1	Drill-Tec™ #14 Fastener	Plywood	137 lbf
Fastening #2	Drill-Tec™ #14 Fastener	Plywood	132 lbf
Fastening #3	Drill-Tec™ #14 Fastener	Plywood	73 lbf

System Type A(3): All insulation layers are adhered to a mechanically attached anchor sheet. Membrane is subsequently fully adhered to insulation.

All General and System Limitations shall apply.

Fire Barrier: VersaShield® Fire-Resistant Slip Sheet or VersaShield® Solo™ Fire-Resistant Slip Sheet.

Anchor sheet: GAFGlas® #75 Base Sheet, Tri-Ply® #75 Base Sheet, Ruberoid® 20 Smooth or GAFGlas® Stratavent® Nailable Venting Base Sheet is secured as described below.

Fastening Option #1: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 16 in. o.c. in the min. 4 in. wide anchor sheet side laps and 16 in. o.c. in the field of the sheet in two staggered rows.
(Maximum Design Pressure –52.5 psf, See General Limitation #7)

Fastening Option #2: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 12 in. o.c. in the min 4 in. wide anchor sheet side laps and 12 in. o.c. in the field of the sheet in two staggered rows.
(Maximum Design Pressure –67.5 psf, See General Limitation #7)

Fastening Option #3: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 8 in. o.c. in the min. 4 in. wide anchor sheet side laps and 8 in. o.c. in the field of the sheet in three staggered rows.
(Maximum Design Pressure –75 psf, See General Limitation #7)

One or more of any of the following.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
EnergyGuard™ Polyiso Insulation, EnergyGuard™ Tapered Polyiso Insulation, EnergyGuard™ Ultra Polyiso Insulation Minimum 1" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
Structodek® High Density Fiber Board Roof Insulation Minimum ½" thick	N/A	N/A
SECUROCK® Gypsum-Fiber Roof Board, DensDeck® Prime Minimum ¼" thick	N/A	N/A

Note: All insulation shall be adhered in a full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet:	Install one ply of GAFGLAS® #75 Base Sheet or Tri-Ply® #75 Base Sheet. Adhered with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. (See General Limitation #4).
Ply Sheet:	Ruberoid® 20 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® 30 Granule FR, Ruberoid® 30 Plus Granule FR, Ruberoid® Mop Granule, Tri-Ply® SBS Granule, Ruberoid® Mop Granule FR, Ruberoid® Mop Plus Granule FR, Ruberoid® EnergyCap™ Mop Plus Granule FR, Ruberoid® EnergyCap™ 30 Granule FR, GAFGLAS® Mineral-Surfaced Cap Sheet, Tri-Ply® BUR Granule Cap Sheet or GAFGLAS® EnergyCap™ Mineral-Surfaced Cap Sheet adhered with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Surfacing:	Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions. All coatings must be listed within a current NOA. <ol style="list-style-type: none"> Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq. Fiber Aluminum Roof Coating.

Maximum Design Pressure: See Fastening Above



Membrane Type: SBS

Deck Type 7I: Recover, Insulated

Deck Description: Minimum 15/32" thick plywood APA span-rated secured to lumber supports spaced maximum 24" o.c. using 8d ring shank nails. The nails are spaced 6" o.c. along panel end and intermediate supports. *The deck shall record a Minimum Characteristic Resistance Force (MCRF) as follows when tested with the fastener chosen for insulation attachment (Drill-Tec™ #14 Fastener) installed through to the deck in accordance with TAS 105.

Membrane Fastening	Fastener	Deck	MCRF
Fastening #1	Drill-Tec™ #14 Fastener	Plywood	137 lbf
Fastening #2	Drill-Tec™ #14 Fastener	Plywood	132 lbf
Fastening #3	Drill-Tec™ #14 Fastener	Plywood	73 lbf

System Type A(4): All insulation layers are adhered to a mechanically attached anchor sheet. The membrane is subsequently fully adhered to insulation.

All General and System Limitations shall apply.

Fire Barrier: VersaShield® Fire-Resistant Slip Sheet or VersaShield® Solo™ Fire-Resistant Slip Sheet.
(optional)

Anchor sheet: GAFLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, Ruberoid® 20 Smooth or GAFLAS® Stratavent® Nailable Venting Base Sheet is secured as described below.

Fastening Option #1: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 16 in. o.c. in the min. 4 in. wide anchor sheet side laps and 16 in. o.c. in the field of the sheet in two staggered rows.
(Maximum Design Pressure –52.5 psf, See General Limitation #7)

Fastening Option #2: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 12 in. o.c. in the min 4 in. wide anchor sheet side laps and 12 in. o.c. in the field of the sheet in two staggered rows.
(Maximum Design Pressure –67.5 psf, See General Limitation #7)

Fastening Option #3: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 8 in. o.c. in the min. 4 in. wide anchor sheet side laps and 8 in. o.c. in the field of the sheet in three staggered rows.
(Maximum Design Pressure –75 psf, See General Limitation #7)

One or more of the any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
EnergyGuard™ Polyiso Insulation, EnergyGuard™ Tapered Polyiso Insulation, EnergyGuard™ Ultra Polyiso Insulation Minimum 1" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
Structodek® High Density Fiber Board Minimum ½" thick	N/A	N/A
SECUROCK® Gypsum-Fiber Roof Board, DensDeck® Prime Minimum ¼" thick	N/A	N/A

Note: All insulation shall be adhered in a full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet:	Install one ply of GAFGLAS® #75 Base Sheet or Tri-Ply® #75 Base Sheet. Adhered with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. (See General Limitation #4).
Ply Sheet:	Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® 20 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® Mop Granule, Tri-Ply® SBS Granule, Ruberoid® Mop Granule FR, Ruberoid® Mop Plus Granule FR or Ruberoid® EnergyCap™ Mop Plus Granule FR adhered with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Surfacing:	Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions. All coatings must be listed within a current NOA.
1.	Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq.
2.	GAFGLAS® Mineral-Surfaced Cap Sheet, Tri-Ply® BUR Granule Cap Sheet or GAFGLAS® EnergyCap™ Mineral-Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3.	Fiber Aluminum Roof Coating.
Maximum Design Pressure:	See Fastening Above

Membrane Type: SBS

Deck Type 7I: Recover, Insulated

Deck Description: Minimum 15/32" thick plywood APA span-rated secured to lumber supports spaced maximum 24" o.c. using 8d ring shank nails. The nails are spaced 6" o.c. along panel end and intermediate supports. *The deck shall record a Minimum Characteristic Resistance Force (MCRF) as follows when tested with the fastener chosen for insulation attachment (Drill-Tec™ #14 Fastener) installed through to the deck in accordance with TAS 105.

Membrane Fastening	Fastener	Deck	MCRF
Fastening #1	Drill-Tec™ #14 Fastener	Plywood	137 lbf
Fastening #2	Drill-Tec™ #14 Fastener	Plywood	132 lbf
Fastening #3	Drill-Tec™ #14 Fastener	Plywood	73 lbf

System Type A(5): All insulation layers are adhered to a mechanically attached anchor sheet. Membrane is subsequently fully adhered to insulation.

All General and System Limitations shall apply.

Fire Barrier: VersaShield® Fire-Resistant Slip Sheet or VersaShield® Solo™ Fire-Resistant Slip Sheet.
(optional)

Anchor sheet: GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, Ruberoid® 20 Smooth or GAFGLAS® Stratavent® Nailable Venting Base Sheet is secured as described below.

Fastening Option #1: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 16 in. o.c. in the min. 4 in. wide anchor sheet side laps and 16 in. o.c. in the field of the sheet in two staggered rows.
(Maximum Design Pressure –52.5 psf, See General Limitation #7)

Fastening Option #2: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 12 in. o.c. in the min 4 in. wide anchor sheet side laps and 12 in. o.c. in the field of the sheet in two staggered rows.
(Maximum Design Pressure –67.5 psf, See General Limitation #7)

Fastening Option #3: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 8 in. o.c. in the min. 4 in. wide anchor sheet side laps and 8 in. o.c. in the field of the sheet in three staggered rows.
(Maximum Design Pressure –75 psf, See General Limitation #7)

One or more of any of the following insulations.

Base Layer Insulation	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ Polyiso Insulation, EnergyGuard™ Tapered Polyiso Insulation, EnergyGuard™ Ultra Polyiso Insulation Minimum 1" thick	N/A	N/A
Top Layer Insulation	Insulation Fasteners (Table 3)	Fastener Density/ft²
Structodek® High Density Fiber Board Minimum ½" thick	N/A	N/A
SECUROCK® Gypsum-Fiber Roof Board, DensDeck® Prime Minimum ¼" thick	N/A	N/A

Note: All insulation shall be adhered in a full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet:	Install one or more plies of Ruberoid® 20 Smooth adhered with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. (See General Limitation #4).
Membrane:	Ruberoid® 30 Granule FR, Ruberoid® 30 Plus Granule FR, Ruberoid® Mop Granule, Tri-Ply® SBS Granule, Ruberoid® Mop Granule FR, Ruberoid® Mop Plus Granule FR, Ruberoid® EnergyCap™ Mop Plus Granule FR, Ruberoid® EnergyCap™ 30 Granule FR GAFGLAS® Mineral-Surfaced Cap Sheet, Tri-Ply® BUR Granule Cap Sheet or GAFGLAS® EnergyCap™ Mineral-Surfaced Cap Sheet adhered with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Surfacing:	Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions. All coatings must be listed within a current NOA.
1.	Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq.
2.	Fiber Aluminum Roof Coating.
Maximum Design Pressure:	See Fastening Above

Membrane Type: SBS

Deck Type 7I: Recover, Insulated

Deck Description: Minimum 15/32" thick plywood APA span-rated secured to lumber supports spaced maximum 24" o.c. using 8d ring shank nails. The nails are spaced 6" o.c. along panel end and intermediate supports. *The deck shall record a Minimum Characteristic Resistance Force (MCRF) as follows when tested with the fastener chosen for insulation attachment (Drill-Tec™ #14 Fastener) installed through to the deck in accordance with TAS 105.

Membrane Fastening	Fastener	Deck	MCRF
Fastening #1	Drill-Tec™ #14 Fastener	Plywood	137 lbf
Fastening #2	Drill-Tec™ #14 Fastener	Plywood	132 lbf
Fastening #3	Drill-Tec™ #14 Fastener	Plywood	73 lbf

System Type A(6): All insulation layers are adhered to a mechanically attached anchor sheet. Membrane is subsequently fully adhered to insulation.

All General and System Limitations shall apply.

Fire Barrier: VersaShield® Fire-Resistant Slip Sheet or VersaShield® Solo™ Fire-Resistant Slip Sheet.
(optional)

Anchor sheet: GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, Ruberoid® 20 Smooth or GAFGLAS® Stratavent® Nailable Venting Base Sheet is secured as described below.

Fastening Option #1: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 16 in. o.c. in the min. 4 in. wide anchor sheet side laps and 16 in. o.c. in the field of the sheet in two staggered rows.
(Maximum Design Pressure –52.5 psf, See General Limitation #7)

Fastening Option #2: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 12 in. o.c. in the min 4 in. wide anchor sheet side laps and 12 in. o.c. in the field of the sheet in two staggered rows.
(Maximum Design Pressure –67.5 psf, See General Limitation #7)

Fastening Option #3: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 8 in. o.c. in the min. 4 in. wide anchor sheet side laps and 8 in. o.c. in the field of the sheet in three staggered rows.
(Maximum Design Pressure –75 psf, See General Limitation #7)

One or more of any of the following insulations.

Base Layer Insulation	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ Polyiso Insulation, EnergyGuard™ Tapered Polyiso Insulation, EnergyGuard™ Ultra Polyiso Insulation Minimum 1” thick	N/A	N/A
Top Layer Insulation	Insulation Fasteners (Table 3)	Fastener Density/ft²
Structodek® High Density Fiber Board Minimum ½” thick	N/A	N/A
SECUROCK® Gypsum-Fiber Roof Board, DensDeck® Prime Minimum ¼” thick	N/A	N/A

Note: All insulation shall be adhered in a full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet:	Install one or more plies of Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 adhered with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. (See General Limitation #4).
Membrane:	Ruberoid® Mop Granule, Tri-Ply® SBS Granule, Ruberoid® Mop Granule FR, Ruberoid® Mop Plus Granule FR or Ruberoid® EnergyCap™ Mop Plus Granule FR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Surfacing:	Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer’s application instructions. All coatings must be listed within a current NOA.
1.	Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq.
2.	GAFGLAS® Mineral-Surfaced Cap Sheet, Tri-Ply® BUR Granule Cap Sheet or GAFGLAS® EnergyCap™ Mineral-Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3.	Fiber Aluminum Roof Coating.
Maximum Design Pressure:	See Fastening Above

Membrane Type: SBS

Deck Type 7I: Recover, Insulated

Deck Description: Minimum 15/32" thick plywood APA span-rated secured to lumber supports spaced maximum 24" o.c. using 8d ring shank nails. The nails are spaced 6" o.c. along panel end and intermediate supports. *The deck shall record a Minimum Characteristic Resistance Force (MCRF) as follows when tested with the fastener chosen for insulation attachment (Drill-Tec™ #14 Fastener) installed through to the deck in accordance with TAS 105.

Membrane Fastening	Fastener	Deck	MCRF
Fastening #1	Drill-Tec™ #14 Fastener	Plywood	137 lbf
Fastening #2	Drill-Tec™ #14 Fastener	Plywood	132 lbf
Fastening #3	Drill-Tec™ #14 Fastener	Plywood	73 lbf

System Type A(7): All insulation layers are adhered to a mechanically attached anchor sheet. The membrane is subsequently fully adhered to insulation.

All General and System Limitations shall apply.

Fire Barrier: VersaShield® Fire-Resistant Slip Sheet or VersaShield® Solo™ Fire-Resistant Slip Sheet.
(optional)

Anchor sheet: GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, Ruberoid® 20 Smooth or GAFGLAS® Stratavent® Nailable Venting Base Sheet is secured as described below.

Fastening Option #1: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 16 in. o.c. in the min. 4 in. wide anchor sheet side laps and 16 in. o.c. in the field of the sheet in two staggered rows.
(Maximum Design Pressure –52.5 psf, See General Limitation #7)

Fastening Option #2: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 12 in. o.c. in the min 4 in. wide anchor sheet side laps and 12 in. o.c. in the field of the sheet in two staggered rows.
(Maximum Design Pressure –67.5 psf, See General Limitation #7)

Fastening Option #3: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 8 in. o.c. in the min. 4 in. wide anchor sheet side laps and 8 in. o.c. in the field of the sheet in three staggered rows.
(Maximum Design Pressure –75 psf, See General Limitation #7)

One or more of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
EnergyGuard™ Polyiso Insulation, EnergyGuard™ Tapered Polyiso Insulation, EnergyGuard™ Ultra Polyiso Insulation Minimum 1" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
Structodek® High Density Fiber Board Minimum ½" thick	N/A	N/A
SECUROCK® Gypsum-Fiber Roof Board, DensDeck® Prime Minimum ¼" thick	N/A	N/A

Note: All insulation shall be adhered in a full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet:	Install one ply of GAFGLAS® #75 Base Sheet or Tri-Ply® #75 Base Sheet. Adhered with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. (See General Limitation #4).
Membrane:	Ruberoid® 30 Granule FR, Ruberoid® 30 Plus Granule FR, Ruberoid® EnergyCap™ 30 Granule FR, Ruberoid® Mop Granule, Tri-Ply® SBS Granule, Ruberoid® Mop Granule FR, Ruberoid® Mop Plus Granule FR or Ruberoid® EnergyCap™ Mop Plus Granule FR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Surfacing:	<p>Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions. All coatings must be listed within a current NOA.</p> <ol style="list-style-type: none"> Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq. GAFGLAS® Mineral Surfaced Cap Sheet, Tri-Ply® BUR Granule Cap Sheet or GAFGLAS® EnergyCap™ Mineral-Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. Fiber Aluminum Roof Coating.
Maximum Design Pressure:	See Fastening Above

Membrane Type: SBS

Deck Type 7I: Recover, Insulated

Deck Description: Minimum 15/32" thick plywood APA span-rated secured to lumber supports spaced maximum 24" o.c. using 8d ring shank nails. The nails are spaced 6" o.c. along panel end and intermediate supports. *The deck shall record a Minimum Characteristic Resistance Force (MCRF) as follows when tested with the fastener chosen for insulation attachment (Drill-Tec™ #14 Fastener) installed through to the deck in accordance with TAS 105.

Membrane Fastening	Fastener	Deck	MCRF
Fastening #1	Drill-Tec™ #14 Fastener	Plywood	137 lbf
Fastening #2	Drill-Tec™ #14 Fastener	Plywood	132 lbf
Fastening #3	Drill-Tec™ #14 Fastener	Plywood	73 lbf

System Type A(8): All insulation layers are adhered to a mechanically attached anchor sheet. The membrane is subsequently fully adhered to insulation.

All General and System Limitations shall apply.

Fire Barrier: VersaShield® Fire-Resistant Slip Sheet or VersaShield® Solo™ Fire-Resistant Slip Sheet.
(optional)

Anchor sheet: GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, Ruberoid® 20 Smooth or GAFGLAS® Stratavent® Nailable Venting Base Sheet is secured as described below.

Fastening Option #1: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 16 in. o.c. in the min. 4 in. wide anchor sheet side laps and 16 in. o.c. in the field of the sheet in two staggered rows.
(Maximum Design Pressure –52.5 psf, See General Limitation #7)

Fastening Option #2: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 12 in. o.c. in the min 4 in. wide anchor sheet side laps and 12 in. o.c. in the field of the sheet in two staggered rows.
(Maximum Design Pressure –67.5 psf, See General Limitation #7)

Fastening Option #3: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 8 in. o.c. in the min. 4 in. wide anchor sheet side laps and 8 in. o.c. in the field of the sheet in three staggered rows.
(Maximum Design Pressure –75 psf, See General Limitation #7)

One or more of any of the following insulations.

Base Layer Insulation	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ Polyiso Insulation, EnergyGuard™ Tapered Polyiso Insulation, EnergyGuard™ Ultra Polyiso Insulation Minimum 1" thick	N/A	N/A
Top Layer Insulation	Insulation Fasteners (Table 3)	Fastener Density/ft²
Structodek® High Density Fiber Board Minimum ½" thick	N/A	N/A
SECUROCK® Gypsum-Fiber Roof Board, DensDeck® Prime Minimum ¼" thick	N/A	N/A

Note: All insulation shall be adhered in a full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet:	Two or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4 or GAFGLAS® FlexPly™ 6 adhered with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. (See General Limitation #4).
Membrane:	Ruberoid® 30 Granule FR, Ruberoid® 30 Plus Granule FR, Ruberoid® Mop Granule, Tri-Ply® SBS Granule, Ruberoid® Mop Granule FR, Ruberoid® Mop Plus Granule FR, Ruberoid® EnergyCap™ Mop Plus Granule FR, Ruberoid® EnergyCap™ 30 Granule FR, GAFGLAS® Mineral-Surfaced Cap Sheet, Tri-Ply® BUR Granule Cap Sheet or GAFGLAS® EnergyCap™ Mineral-Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Surfacing:	Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions. All coatings must be listed within a current NOA.
1.	Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq.
2.	Fiber Aluminum Roof Coating.
Maximum Design Pressure:	See Fastening Above

Membrane Type: SBS

Deck Type 7I: Recover, Insulated

Deck Description: Minimum 15/32" thick plywood APA span-rated secured to lumber supports spaced maximum 24" o.c. using 8d ring shank nails. The nails are spaced 6" o.c. along panel end and intermediate supports. *The deck shall record a Minimum Characteristic Resistance Force (MCRF) as follows when tested with the fastener chosen for insulation attachment (Drill-Tec™ #14 Fastener) installed through to the deck in accordance with TAS 105.

Membrane Fastening	Fastener	Deck	MCRF
Fastening #1	Drill-Tec™ #14 Fastener	Plywood	137 lbf
Fastening #2	Drill-Tec™ #14 Fastener	Plywood	132 lbf
Fastening #3	Drill-Tec™ #14 Fastener	Plywood	73 lbf

System Type A(9): All insulation layers are adhered to a mechanically attached anchor sheet. Membrane is subsequently fully adhered to insulation.

All General and System Limitations shall apply.

Fire Barrier: VersaShield® Fire-Resistant Slip Sheet or VersaShield® Solo™ Fire-Resistant Slip Sheet.
(optional)

Anchor sheet: GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, Ruberoid® 20 Smooth or GAFGLAS® Stratavent® Nailable Venting Base Sheet is secured as described below.

Fastening Option #1: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 16 in. o.c. in the min. 4 in. wide anchor sheet side laps and 16 in. o.c. in the field of the sheet in two staggered rows.
(Maximum Design Pressure –52.5 psf, See General Limitation #7)

Fastening Option #2: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 12 in. o.c. in the min 4 in. wide anchor sheet side laps and 12 in. o.c. in the field of the sheet in two staggered rows.
(Maximum Design Pressure –67.5 psf, See General Limitation #7)

Fastening Option #3: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 8 in. o.c. in the min. 4 in. wide anchor sheet side laps and 8 in. o.c. in the field of the sheet in three staggered rows.
(Maximum Design Pressure –75 psf, See General Limitation #7)

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
EnergyGuard™ Polyiso Insulation, EnergyGuard™ Tapered Polyiso Insulation, EnergyGuard™ Ultra Polyiso Insulation Minimum 1" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
Structodek® High Density Fiber Board Minimum ½" thick	N/A	N/A
SECUROCK® Gypsum-Fiber Roof Board, DensDeck® Prime Minimum ¼" thick	N/A	N/A

Note: All insulation shall be adhered in a full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet:	Install one ply of Ruberoid® 20 Smooth adhered with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. (See General Limitation #4).
Ply Sheet:	Ruberoid® Mop Smooth or Ruberoid® Mop Smooth 1.5 adhered with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Membrane:	Ruberoid® Mop Granule, Tri-Ply® SBS Granule, Ruberoid® Mop Granule FR, Ruberoid® Mop Plus Granule FR or Ruberoid® EnergyCap™ Mop Plus Granule FR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Surfacing:	Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions. All coatings must be listed within a current NOA.
1.	Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq.
2.	GAFLAS® Mineral-Surfaced Cap Sheet, Tri-Ply® BUR Granule Cap Sheet or GAFLAS® EnergyCap™ Mineral-Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3.	Fiber Aluminum Roof Coating.
Maximum Design Pressure:	See Fastening Above

Membrane Type: SBS

Deck Type 7I: Recover, Insulated

Deck Description: Minimum 15/32" thick plywood APA span-rated secured to lumber supports spaced maximum 24" o.c. using 8d ring shank nails. The nails are spaced 6" o.c. along panel end and intermediate supports. *The deck shall record a Minimum Characteristic Resistance Force (MCRF) as follows when tested with the fastener chosen for insulation attachment (Drill-Tec™ #14 Fastener) installed through to the deck in accordance with TAS 105.

Membrane Fastening	Fastener	Deck	MCRF
Fastening #1	Drill-Tec™ #14 Fastener	Plywood	137 lbf
Fastening #2	Drill-Tec™ #14 Fastener	Plywood	132 lbf
Fastening #3	Drill-Tec™ #14 Fastener	Plywood	81 lbf

System Type A(10): All insulation layers are adhered to a mechanically attached anchor sheet. Membrane is subsequently partially adhered to insulation.

All General and System Limitations shall apply.

Fire Barrier: VersaShield® Fire-Resistant Slip Sheet or VersaShield® Solo™ Fire-Resistant Slip Sheet.
(optional)

Anchor sheet: GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, Ruberoid® 20 Smooth or GAFGLAS® Stratavent® Nailable Venting Base Sheet is secured as described below.

Fastening Option #1: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 16 in. o.c. in the min. 4 in. wide anchor sheet side laps and 16 in. o.c. in the field of the sheet in two staggered rows.
(Maximum Design Pressure –52.5 psf, See General Limitation #7)

Fastening Option #2: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 12 in. o.c. in the min 4 in. wide anchor sheet side laps and 12 in. o.c. in the field of the sheet in two staggered rows.
(Maximum Design Pressure –67.5 psf, See General Limitation #7)

Fastening Option #3: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 8 in. o.c. in the min. 4 in. wide anchor sheet side laps and 8 in. o.c. in the field of the sheet in three staggered rows.
(Maximum Design Pressure –82.5 psf, See General Limitation #7)

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
EnergyGuard™ Polyiso Insulation, EnergyGuard™ Tapered Polyiso Insulation, EnergyGuard™ Ultra Polyiso Insulation Minimum 1” thick	N/A	N/A

Note: All insulation shall be adhered in a full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: GAFGLAS® Stratavent® Perforated Venting Base Sheet is loose laid over the insulation with 2 in. side laps

Membrane: Ruberoid® 30 Granule FR, Ruberoid® 30 Plus Granule FR, Ruberoid® EnergyCap™ 30 Granule FR, Ruberoid® Mop Granule, Ruberoid® Mop Granule FR, Ruberoid® Mop Plus Granule FR, Ruberoid® EnergyCap™ Mop Plus Granule FR or Tri-Ply® SBS Granule adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer’s application instructions. All coatings must be listed within a current NOA.**

1. Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq.
2. GAFGLAS® Mineral-Surfaced Cap Sheet, Tri-Ply® BUR Granule Cap Sheet or GAFGLAS® EnergyCap™ Mineral-Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3. Fiber Aluminum Roof Coating.

Maximum Design Pressure: See Fastening Above

Membrane Type: SBS

Deck Type 7I: Recover, Insulated

Deck Description: Minimum 15/32" thick plywood APA span-rated secured to lumber supports spaced maximum 24" o.c. using 8d ring shank nails. The nails are spaced 6" o.c. along panel end and intermediate supports.
 *The deck shall record a Minimum Characteristic Resistance Force (MCRF) as follows when tested with the fastener chosen for insulation attachment (Drill-Tec™ #14 Fastener) installed through to the deck in accordance with TAS 105.

Membrane Fastening	Fastener	Deck	MCRF
Fastening #1	Drill-Tec™ #14 Fastener	Plywood	137 lbf
Fastening #2	Drill-Tec™ #14 Fastener	Plywood	132 lbf
Fastening #3	Drill-Tec™ #14 Fastener	Plywood	81 lbf

System Type A(11): All insulation layers are adhered to a mechanically attached anchor sheet. The membrane is subsequently partially adhered to insulation.

All General and System Limitations shall apply.

Fire Barrier: (optional) VersaShield® Fire-Resistant Slip Sheet, or VersaShield® Solo™ Fire-Resistant Slip Sheet.

Anchor sheet: GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, Ruberoid® 20 Smooth or GAFGLAS® Stratavent® Nailable Venting Base Sheet is secured as described below.

Fastening Option #1: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 16 in. o.c. in the min. 4 in. wide anchor sheet side laps and 16 in. o.c. in the field of the sheet in two staggered rows.
(Maximum Design Pressure –52.5 psf, See General Limitation #7)

Fastening Option #2: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 12 in. o.c. in the min 4 in. wide anchor sheet side laps and 12 in. o.c. in the field of the sheet in two staggered rows.
(Maximum Design Pressure –67.5 psf, See General Limitation #7)

Fastening Option #3: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 8 in. o.c. in the min. 4 in. wide anchor sheet side laps and 8 in. o.c. in the field of the sheet in three staggered rows.
(Maximum Design Pressure –82.5 psf, See General Limitation #7)

One or more layers of any of the following insulations.

Base Layer Insulation	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ Polyiso Insulation, EnergyGuard™ Tapered Polyiso Insulation, EnergyGuard™ Ultra Polyiso Insulation Minimum 1” thick	N/A	N/A

Note: All insulation shall be adhered in a full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: GAFGLAS® Stratavent® Perforated Venting Base Sheet is loosely-laid over the insulation with 2 in. side laps

Ply Sheet: Two or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4 or GAFGLAS® FlexPly™ 6 adhered with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. (**See General Limitation #4**).

Membrane: Ruberoid® 30 Granule FR, Ruberoid® 30 Plus Granule FR, Ruberoid® Mop Granule, Tri-Ply® SBS Granule, Ruberoid® Mop Granule FR, Ruberoid® Mop Plus Granule FR, Ruberoid® EnergyCap™ Mop Plus Granule FR, Ruberoid® EnergyCap™ 30 Granule FR, GAFGLAS® Mineral-Surfaced Cap Sheet, Tri-Ply® BUR Granule Cap Sheet or GAFGLAS® EnergyCap™ Mineral-Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer’s application instructions. All coatings must be listed within a current NOA.**

1. Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq.
2. Fiber Aluminum Roof Coating.

Maximum Design Pressure: See Fastening Above

Membrane Type: SBS

Deck Type 7I: Recover, Insulated

Deck Description: Minimum 15/32" thick plywood APA span-rated secured to lumber supports spaced maximum 24" o.c. using 8d ring shank nails. The nails are spaced 6" o.c. along panel end and intermediate supports. *The deck shall record a Minimum Characteristic Resistance Force (MCRF) as follows when tested with the fastener chosen for insulation attachment (Drill-Tec™ #14 Fastener) installed through to the deck in accordance with TAS 105.

Membrane Fastening	Fastener	Deck	MCRF
Fastening #1	Drill-Tec™ #14 Fastener	Plywood	137 lbf
Fastening #2	Drill-Tec™ #14 Fastener	Plywood	132 lbf
Fastening #3	Drill-Tec™ #14 Fastener	Plywood	81 lbf

System Type A(12): All insulation layers are adhered to a mechanically attached anchor sheet. The membrane is subsequently partially adhered to insulation.

All General and System Limitations shall apply.

Fire Barrier: VersaShield® Fire-Resistant Slip Sheet or VersaShield® Solo™ Fire-Resistant Slip Sheet.
(optional)

Anchor sheet: GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, Ruberoid® 20 Smooth or GAFGLAS® Stratavent® Nailable Venting Base Sheet is secured as described below.

Fastening Option #1: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 16 in. o.c. in the min. 4 in. wide anchor sheet side laps and 16 in. o.c. in the field of the sheet in two staggered rows.
(Maximum Design Pressure –52.5 psf, See General Limitation #7)

Fastening Option #2: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 12 in. o.c. in the min 4 in. wide anchor sheet side laps and 12 in. o.c. in the field of the sheet in two staggered rows.
(Maximum Design Pressure –67.5 psf, See General Limitation #7)

Fastening Option #3: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 8 in. o.c. in the min. 4 in. wide anchor sheet side laps and 8 in. o.c. in the field of the sheet in three staggered rows.
(Maximum Design Pressure –82.5 psf, See General Limitation #7)

One or more layers of any of the following insulations.

Insulation for Base Layer

**Insulation Fasteners
(Table 3)**

**Fastener
Density/ft²**

EnergyGuard™ Polyiso Insulation, EnergyGuard™ Tapered Polyiso Insulation, EnergyGuard™ Ultra Polyiso Insulation, ,

Minimum 1" thick

N/A

N/A

Note: All insulation shall be adhered in a full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: GAFGLAS® Stratavent® Perforated Venting Base Sheet is loosely-laid over the insulation with 2 in. side laps

Ply Sheet: Install one or more plies of Ruberoid® 20 Smooth adhered with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. (See **General Limitation #4**).

Membrane: Ruberoid® 30 Granule FR, Ruberoid® 30 Plus Granule FR, Ruberoid® Mop Granule, Tri-Ply® SBS Granule, Ruberoid® Mop Granule FR, Ruberoid® Mop Plus Granule FR, Ruberoid® EnergyCap™ Mop Plus Granule FR, Ruberoid® EnergyCap™ 30 Granule FR, GAFGLAS® Mineral-Surfaced Cap Sheet, Tri-Ply® BUR Granule Cap Sheet or GAFGLAS® EnergyCap™ Mineral-Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions. All coatings must be listed within a current NOA.**

1. Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq.
2. Fiber Aluminum Roof Coating.

**Maximum Design
Pressure:**

See Fastening Above

Membrane Type: SBS

Deck Type 7I: Recover, Insulated

Deck Description: Minimum 15/32" thick plywood APA span-rated secured to lumber supports spaced maximum 24" o.c. using 8d ring shank nails. The nails are spaced 6" o.c. along panel end and intermediate supports. *The deck shall record a Minimum Characteristic Resistance Force (MCRF) as follows when tested with the fastener chosen for insulation attachment (Drill-Tec™ #14 Fastener) installed through to the deck in accordance with TAS 105.

Membrane Fastening	Fastener	Deck	MCRF
Fastening #1	Drill-Tec™ #14 Fastener	Plywood	137 lbf
Fastening #2	Drill-Tec™ #14 Fastener	Plywood	132 lbf
Fastening #3	Drill-Tec™ #14 Fastener	Plywood	81 lbf

System Type A(13): All insulation layers are adhered to a mechanically attached anchor sheet. Membrane is subsequently partially adhered to insulation.

All General and System Limitations shall apply.

Fire Barrier: VersaShield® Fire-Resistant Slip Sheet or VersaShield® Solo™ Fire-Resistant Slip Sheet.

Anchor sheet: GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, Ruberoid® 20 Smooth or GAFGLAS® Stratavent® Nailable Venting Base Sheet is secured as described below.

Fastening Option #1: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 16 in. o.c. in the min. 4 in. wide anchor sheet side laps and 16 in. o.c. in the field of the sheet in two staggered rows.
(Maximum Design Pressure –52.5 psf, See General Limitation #7)

Fastening Option #2: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 12 in. o.c. in the min 4 in. wide anchor sheet side laps and 12 in. o.c. in the field of the sheet in two staggered rows.
(Maximum Design Pressure –67.5 psf, See General Limitation #7)

Fastening Option #3: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 8 in. o.c. in the min. 4 in. wide anchor sheet side laps and 8 in. o.c. in the field of the sheet in three staggered rows.
(Maximum Design Pressure –82.5 psf, See General Limitation #7)

One or more layers of any of the following insulations.

Insulation for Base Layer

**Insulation Fasteners
(Table 3)**

**Fastener
Density/ft²**

**EnergyGuard™ Polyiso Insulation, EnergyGuard™ Tapered Polyiso Insulation,
EnergyGuard™ Ultra Polyiso Insulation**

Minimum 1" thick

N/A

N/A

Note: All insulation shall be adhered in a full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet:

GAFGLAS® Stratavent® Perforated Venting Base Sheet is loosely-laid over the insulation with 2 in. side laps

Ply Sheet:

Install one or more plies of Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 adhered with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. (See **General Limitation #4**).

Membrane:

Ruberoid® Mop Granule, Tri-Ply® SBS Granule, Ruberoid® Mop Granule FR, Ruberoid® Mop Plus Granule FR, Ruberoid® EnergyCap™ Mop Plus Granule FR, GAFGLAS® Mineral-Surfaced Cap Sheet, Tri-Ply® BUR Granule Cap Sheet or GAFGLAS® EnergyCap™ Mineral-Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing:

Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions. All coatings must be listed within a current NOA.

1. Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq.
2. Fiber Aluminum Roof Coating.

**Maximum Design
Pressure:**

See Fastening Above

Membrane Type: SBS

Deck Type 7I: Recover, Insulated

Deck Description: Minimum 15/32" thick plywood APA span-rated secured to lumber supports spaced maximum 24" o.c. using 8d ring shank nails. The nails are spaced 6" o.c. along panel end and intermediate supports. *The deck shall record a Minimum Characteristic Resistance Force (MCRF) as follows when tested with the fastener chosen for insulation attachment (Drill-Tec™ #14 Fastener) installed through to the deck in accordance with TAS 105.

Membrane Fastening	Fastener	Deck	MCRF
Fastening #1	Drill-Tec™ #14 Fastener	Plywood	137 lbf
Fastening #2	Drill-Tec™ #14 Fastener	Plywood	132 lbf
Fastening #3	Drill-Tec™ #14 Fastener	Plywood	81 lbf

System Type A(14): All insulation layers are adhered to a mechanically attached anchor sheet. The membrane is subsequently partially adhered to insulation.

All General and System Limitations shall apply.

Fire Barrier: VersaShield® Fire-Resistant Slip Sheet, VersaShield® Solo™ Fire-Resistant Slip Sheet.
(optional)

Anchor sheet: GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, Ruberoid® 20 Smooth or GAFGLAS® Stratavent® Nailable Venting Base Sheet is secured as described below.

Fastening Option #1: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 16 in. o.c. in the min. 4 in. wide anchor sheet side laps and 16 in. o.c. in the field of the sheet in two staggered rows.
(Maximum Design Pressure –52.5 psf, See General Limitation #7)

Fastening Option #2: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 12 in. o.c. in the min 4 in. wide anchor sheet side laps and 12 in. o.c. in the field of the sheet in two staggered rows.
(Maximum Design Pressure –67.5 psf, See General Limitation #7)

Fastening Option #3: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 8 in. o.c. in the min. 4 in. wide anchor sheet side laps and 8 in. o.c. in the field of the sheet in three staggered rows.
(Maximum Design Pressure –82.5 psf, See General Limitation #7)

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
EnergyGuard™ Polyiso Insulation, EnergyGuard™ Tapered Polyiso Insulation, EnergyGuard™ Ultra Polyiso Insulation, , Minimum 1” thick	N/A	N/A

Note: All insulation shall be adhered in a full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: GAFGLAS® Stratavent® Perforated Venting Base Sheet is loosely-laid over the insulation with 2 in. side laps

Interply Sheet: Install one ply of Ruberoid® 20 Smooth adhered with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. (See **General Limitation #4**).

Ply Sheet: Ruberoid® Mop Smooth or Ruberoid® Mop Smooth 1.5 adhered with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: Ruberoid® Mop Granule, Ruberoid® Mop Granule FR, Ruberoid® Mop Plus Granule FR, Ruberoid® EnergyCap™ Mop Plus Granule FR or Tri-Ply® SBS Granule adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer’s application instructions. All coatings must be listed within a current NOA.**

1. Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq.
2. GAFGLAS® Mineral-Surfaced Cap Sheet, Tri-Ply® BUR Granule Cap Sheet or GAFGLAS® EnergyCap™ Mineral-Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3. Fiber Aluminum Roof Coating.

Maximum Design Pressure: See Fastening Above

Membrane Type: APP

Deck Type 7I: Recover, Insulated

Deck Description: Concrete/Lightweight Concrete/Cementitious Wood Fiber/Poured Gypsum/Wood/Steel

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

All General and System Limitations shall apply.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ RA Polyiso Insulation Minimum 1.3" thick	Approved Fastener for Deck type	1:2 ft²
EnergyGuard™ Polyiso Insulation Minimum 1.5" thick	Approved Fastener for Deck type	1:2 ft²
EnergyGuard™ Polyiso Insulation Minimum 2.0" thick	Approved Fastener for Deck type	1:3.2 ft²
DensDeck® Roof Board Minimum ½" thick	Approved Fastener for Deck type	1:2 ft²

Note: Base layers of insulation shall be mechanically attached using the fastener density listed. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Insulation fasteners shall be tested for withdrawal resistance in compliance with Protocol TAS 105 to confirm compliance with the wind load requirements. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
Any of the insulations listed for Base Layer		

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 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One ply of GAFGLAS® #75, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet or Ruberoid® 20 Smooth adhered to the insulation in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. OR
GAFGLAS® Stratavent® Perforated Venting Base Sheet loose-laid dry (not for use with wood fiber board or perlite top layer insulation).

- Ply Sheet:** (Optional) One or more plies of GAFGLAS® Ply 4 or GAFGLAS FlexPly™ 6 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
- Note:** **Where Ruberoid® 20 Smooth or GAFGLAS® Stratavent® Perforated Venting Base Sheet is applied as a base sheet, it shall be covered with one ply of GAFGLAS® Ply 4, Tri-Ply® Ply 4 or FlexPly™ 6 before torch application of membrane.**
- Membrane:** One or more plies of Ruberoid® Torch Smooth, Tri-Ply® APP Smooth, Ruberoid® Torch Granule, Tri-Ply® APP Granule or Ruberoid® Torch Plus Granule FR torch applied according to manufacturer's application instructions.
- Surfacing:** **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions. All coatings must be listed within a current NOA.**
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.
- Maximum Design Pressure:** -45 psf. (See General Limitation #9.)

Membrane Type: SBS

Deck Type 7I: Recover, Insulated

Deck Description: Concrete/Lightweight Concrete/Cementitious Wood Fiber/Poured Gypsum/Wood/Steel

System Type B(2): Base layers of insulation mechanically fastened, optional top layer adhered with approved asphalt.

All General and System Limitations shall apply.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ RA Polyiso Insulation Minimum 1.3" thick	Approved Fastener for Deck type	1:2 ft²
EnergyGuard™ Polyiso Insulation Minimum 1.5" thick	Approved Fastener for Deck type	1:2 ft²
EnergyGuard™ Polyiso Insulation Minimum 2.0" thick	Approved Fastener for Deck type	1:3.2 ft²
DensDeck® Roof Board Minimum ½" thick	Approved Fastener for Deck type	1:2 ft²

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

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
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Any of the insulations listed for Base Layer, above.

Note: Apply top layer of insulation in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs./100 ft². 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. GAF requires either a ply of GAFGLAS® Stratavent® Perforated Venting Base Sheet laid dry or wood fiber overlay board on all polyisocyanurate insulation applications.

Base Sheet: One ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS #80 Ultima™ Base Sheet or Ruberoid® 20 Smooth adhered to the insulation in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
OR
GAFGLAS® Stratavent® Perforated Venting Base Sheet loose-laid dry (not for use with wood fiber board or perlite top layer insulation).

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

Membrane: One ply of Ruberoid® Mop Granule FR, Ruberoid® Mop Granule, Tri-Ply® SBS Granule, Intec Flex PRF, Ruberoid® Mop Plus Granule, Ruberoid® 30 Granule, Ruberoid® 30 Granule FR, Ruberoid® 30 Plus Granule FR Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions. All coatings must be listed within a current NOA.**

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.

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

Membrane Type: APP

Deck Type 7I: Recover, Insulated

Deck Description: Concrete/Lightweight Concrete/Cementitious Wood Fiber/Wood/Steel

System Type C(1): All layers of insulation simultaneously attached.

All General and System Limitations shall apply.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ RA Polyiso Insulation Minimum 1.3" thick	N/A	N/A
EnergyGuard™ Polyiso Insulation Minimum 1.4" thick	N/A	N/A
DensDeck® Roof Board Minimum ½" 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
EnergyGuard™ Polyiso Insulation Minimum 1.5" thick	Approved Fastener for Deck type	1:2 ft ²
EnergyGuard™ RA Polyiso Insulation Minimum 1.75" thick	Approved Fastener for Deck type	1:2 ft ²
EnergyGuard™ Polyiso Insulation Minimum 2.0" thick	Approved Fastener for Deck type	1:3.2 ft ²
DensDeck® Roof Board Minimum ½" thick	Approved Fastener for Deck type	1:2 ft ²

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Insulation fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements. Please refer to Roofing Application Standard RAS 117 for insulation attachment. GAF requires either a ply of GAFGLAS® Stratavent® Perforated Venting Base Sheet laid dry or wood fiber overlay board on all polyisocyanurate insulation applications.

- Base Sheet:** One ply of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS FlexPly™ 6 GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, or Ruberoid® 20 Smooth adhered to the insulation in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
OR
GAFGLAS® Stratavent® Perforated Venting Base Sheet loose-laid dry (not for use with wood fiber board or perlite top layer insulation).
- Note:** **Where Ruberoid® 20 Smooth or GAFGLAS® Stratavent® Perforated Venting Base Sheet is applied as a base sheet, it shall be covered with one ply of GAFGLAS® Ply 4, Tri-Ply® Ply 4 or GAFGLAS® FlexPly™ Ply 6 before torch application of membrane.**
- Ply Sheet:** (Optional) One or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4 or GAFGLAS® FlexPly™ 6 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
- Membrane:** One or more plies of Ruberoid® Torch Smooth, Tri-Ply® APP Smooth, Ruberoid® Torch Granule, Tri-Ply® APP Granule or Ruberoid® Torch Plus Granule FR torch applied according to manufacturer's application instructions.
- Surfacing:** **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions. All coatings must be listed within a current NOA.**
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.
- Maximum Design Pressure:** -45 psf. (See General Limitation #9.)

Membrane Type APP

Deck Type 7I: Recover, Insulated

Deck Description: Minimum 22 gauge, 33 ksi steel deck with supports spaced maximum 72" o.c.
OR
Structural Concrete (Minimum 2500 psi), recover

*The deck shall record a Minimum Characteristic Resistance Force (MCRF) of 175 lbf. when tested with the fastener chosen for insulation attachment Drill-Tec™ #14 Fasteners (steel or structural concrete deck) installed through to the deck in accordance with TAS 105.

This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submittted Table.

System Type C(2): One or more layers of insulation is mechanically attached, perforated base sheet loose laid over the insulation.

All General and System Limitations shall apply.

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
EnergyGuard™ Polyiso Insulation Minimum 2" thick	2, 10	1:1.45 ft ²

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Insulation fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One ply of GAFGLAS® Stratavent® Perforated Venting Base Sheet loose laid with 2" side laps.

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

Membrane: One or more plies of Ruberoid® Torch Smooth, Tri-Ply APP Smooth, Ruberoid® Torch Granule or Tri-Ply® APP Granule applied according to manufacturer's application instructions.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions. All coatings must be listed within a current NOA.**

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.

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

Membrane Type: APP

Deck Type 7I: Recover, Insulated

Deck Description: Concrete/Lightweight Concrete/Cementitious Wood Fiber/Wood/Steel

System Type D(1): All layers of insulation and base sheet simultaneously attached.

All General and System Limitations shall apply.

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ Polyiso Insulation Minimum 1.4" thick	N/A	N/A
EnergyGuard™ RA Polyiso Insulation Minimum 1.75" thick	N/A	N/A
DensDeck® Roof Board Minimum ½" thick	N/A	N/A

Note: All layers of insulation and base sheet shall be simultaneously attached. See base sheet below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. At an application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft. GAF requires either a ply of GAFGLAS® Stratavent® Perforated Venting Base Sheet laid dry or wood fiber overlay board on all polyisocyanurate insulation applications.

Base Sheet: One ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® Stratavent® Nailable Venting Base Sheet mechanically fastened with approved fasteners at a 4" side lap 12" o.c. and three rows staggered in the center of the sheet 12" o.c.

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

Membrane: One or more plies of Ruberoid® Torch Smooth, Tri-Ply® APP Smooth, Ruberoid® Torch Granule, Tri-Ply® APP Granule or Ruberoid® Torch Plus Granule FR torch applied according to manufacturer's application instructions.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions. All coatings must be listed within a current NOA.**

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.

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

Membrane Type: SBS

Deck Type 7I: Recover, Insulated

Deck Description: Concrete/Lightweight Concrete/Cementitious Wood Fiber/Wood/Steel

System Type D(2): All layers of insulation and base sheet simultaneously attached.

All General and System Limitations shall apply.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Energy Guard™ Polyiso Insulation Minimum 1.4" thick	N/A	N/A
EnergyGuard™ RA Polyiso Insulation Minimum 1.75" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
DensDeck® Roof Board Minimum ½" thick	N/A	N/A

Note: All layers of insulation and base sheet shall be simultaneously attached. See base sheet below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. At an application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft. GAF requires either a ply of GAFGLAS® Stratavent® Perforated Venting Base Sheet laid dry or a layer of or wood fiber overlay board on all polyisocyanurate insulation applications.

Base Sheet: One ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® Stratavent® Nailable Venting Base Sheet or GAFGLAS #80 Ultima™ Base Sheet mechanically fastened with approved fasteners at a 4" side lap 18" o.c. and two rows staggered in the center of the sheet 24" o.c.

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

Membrane: One ply of Ruberoid® Mop Granule, Tri-Ply® SBS Granule, Intec Flex PRF, Ruberoid® Mop Granule FR, Ruberoid® Mop Plus Granule, Ruberoid® 30 Granule, Ruberoid® 30 Granule FR, Ruberoid® 30 Plus Granule FR, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions. All coatings must be listed within a current NOA.**

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.

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

Membrane Type: APP

Deck Type 7: Recover, Non-Insulated

Deck Description: Concrete/Lightweight Concrete/Cementitious Wood Fiber/Wood/Steel

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

All General and System Limitations shall apply.

Base Sheet: One ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet or GAFGLAS® Stratavent® Nailable Venting Base Sheet mechanically fastened with approved fasteners at a 4" side lap 12" o.c. and three rows staggered in the center of the sheet 12" o.c.

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

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

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions. All coatings must be listed within a current NOA.**

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.

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

Membrane Type: SBS

Deck Type 7: Recover, Non-Insulated

Deck Description: Concrete/Lightweight Concrete/Cementitious Wood Fiber/Wood/Steel

System Type E(2): Base sheet adhered with approved asphalt.

All General and System Limitations shall apply.

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

OR

GAFGLAS® Stratavent® Perforated Venting Base Sheet loose-laid dry (not for use with wood fiber board or perlite top layer insulation).

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

Membrane: One ply of Ruberoid® Mop Granule, Tri-Ply SBS Granule, Intec Flex PRF, Ruberoid® Mop Granule FR, Ruberoid® Mop Plus Granule, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions. All coatings must be listed within a current NOA.**

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.

Maximum Design Pressure:

-45 psf. (See General Limitation #9.)

Membrane Type: SBS

Deck Type 7: Recover, Non-Insulated

Deck Description: Minimum 15/32" thick plywood APA span-rated secured to lumber supports spaced maximum 24" o.c. using 8d ring shank nails. The nails are spaced 6" o.c. along panel end and intermediate supports. *The deck shall record a Minimum Characteristic Resistance Force (MCRF) as follows when tested with the fastener chosen for insulation attachment (Drill-Tec™ #14 Fastener) installed through to the deck in accordance with TAS 105.

Membrane Fastening	Fastener	Deck	MCRF
Fastening #1	Drill-Tec™ #14 Fastener	Plywood	137 lbf
Fastening #2	Drill-Tec™ #14 Fastener	Plywood	120 lbf
Fastening #3	Drill-Tec™ #14 Fastener	Plywood	95 lbf

System Type E(3): Anchor sheet is mechanically attached to roof deck. (Non-insulated systems)

All General and System Limitations shall apply.

Fire Barrier: VersaShield® Fire-Resistant Slip Sheet or VersaShield® Solo™ Fire-Resistant Slip Sheet.
(optional)

Anchor sheet: GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, Ruberoid® 20 Smooth or GAFGLAS® Stratavent® Nailable Venting Base Sheet is secured as described below.

Fastening Option #1: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 16 in. o.c. in the min. 4 in. wide anchor sheet side laps and 16 in. o.c. in the field of the sheet in two staggered rows.
(Maximum Design Pressure –52.5 psf, See General Limitation #7)

Fastening Option #2: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 12 in. o.c. in the min 4 in. wide anchor sheet side laps and 12 in. o.c. in the field of the sheet in two staggered rows.
(Maximum Design Pressure –60 psf, See General Limitation #7)

Fastening Option #3: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 8 in. o.c. in the min. 4 in. wide anchor sheet side laps and 8 in. o.c. in the field of the sheet in three staggered rows.
(Maximum Design Pressure –97.5 psf, See General Limitation #7)

Membrane: Ruberoid® 30 Granule FR, Ruberoid® 30 Plus Granule FR, Tri-Ply® SBS Granule, Ruberoid® Mop Granule, Ruberoid® Mop Granule FR, Ruberoid® Mop Plus Granule FR, Ruberoid® EnergyCap™ Mop Plus Granule FR or Ruberoid® EnergyCap™ 30 Granule FR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions. All coatings must be listed within a current NOA.**

1. Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq.
2. GAFGLAS[®] Mineral-Surfaced Cap Sheet, Tri-Ply[®] BUR Granule Cap Sheet or GAFGLAS[®] EnergyCap[™] Mineral-Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3. Fiber Aluminum Roof Coating.

Maximum Design Pressure:

See Fastening Above

Membrane Type: SBS

Deck Type 7: Recover, Non-Insulated

Deck Description: Minimum 15/32" thick plywood APA span-rated secured to lumber supports spaced maximum 24" o.c. using 8d ring shank nails. The nails are spaced 6" o.c. along panel end and intermediate supports. *The deck shall record a Minimum Characteristic Resistance Force (MCRF) as follows when tested with the fastener chosen for insulation attachment (Drill-Tec™ #14 Fastener) installed through to the deck in accordance with TAS 105.

Membrane Fastening	Fastener	Deck	MCRF
Fastening #1	Drill-Tec™ #14 Fastener	Plywood	137 lbf
Fastening #2	Drill-Tec™ #14 Fastener	Plywood	120 lbf
Fastening #3	Drill-Tec™ #14 Fastener	Plywood	95 lbf

System Type E(4): Anchor sheet is mechanically attached to roof deck. (Non-insulated systems)

All General and System Limitations shall apply.

Fire Barrier: VersaShield® Fire-Resistant Slip Sheet or VersaShield® Solo™ Fire-Resistant Slip Sheet.

Anchor sheet: GAFLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, Ruberoid® 20 Smooth or GAFLAS® Stratavent® Nailable Venting Base Sheet is secured as described below.

Fastening Option #1: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 16 in. o.c. in the min. 4 in. wide anchor sheet side laps and 16 in. o.c. in the field of the sheet in two staggered rows.
(Maximum Design Pressure –52.5 psf, See General Limitation #7)

Fastening Option #2: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 12 in. o.c. in the min 4 in. wide anchor sheet side laps and 12 in. o.c. in the field of the sheet in two staggered rows.
(Maximum Design Pressure –60 psf, See General Limitation #7)

Fastening Option #3: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 8 in. o.c. in the min. 4 in. wide anchor sheet side laps and 8 in. o.c. in the field of the sheet in three staggered rows.
(Maximum Design Pressure –97.5 psf, See General Limitation #7)

Base Sheet: Two or more plies of GAFLAS® Ply 4, Tri-Ply® Ply 4 or GAFLAS® FlexPly™ 6 adhered with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
(See General Limitation #4).

Membrane:	Ruberoid® 30 Granule FR, Ruberoid® 30 Plus Granule FR, Ruberoid® Mop Granule, Tri-Ply® SBS Granule, Ruberoid® Mop Granule FR, Ruberoid® Mop Plus Granule FR, Ruberoid® EnergyCap™ Mop Plus Granule FR, Ruberoid® EnergyCap™ 30 Granule FR, GAFGLAS® Mineral-Surfaced Cap Sheet, Tri-Ply® BUR Granule Cap Sheet or GAFGLAS® EnergyCap™ Mineral-Surfaced Cap Sheet fully adhered in an approved asphalt at an application rate of 20-40 lbs./sq.
Surfacing:	<p>Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions. All coatings must be listed within a current NOA.</p> <ol style="list-style-type: none"> 1. Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq. 2. Fiber Aluminum Roof Coating.
Maximum Design Pressure:	See Fastening Above.

Membrane Type: SBS

Deck Type 7: Recover, Non-Insulated

Deck Description: Minimum 15/32" thick plywood APA span-rated secured to lumber supports spaced maximum 24" o.c. using 8d ring shank nails. The nails are spaced 6" o.c. along panel end and intermediate supports. *The deck shall record a Minimum Characteristic Resistance Force (MCRF) as follows when tested with the fastener chosen for insulation attachment (Drill-Tec™ #14 Fastener) installed through to the deck in accordance with TAS 105.

Membrane Fastening	Fastener	Deck	MCRF
Fastening #1	Drill-Tec™ #14 Fastener	Plywood	137 lbf
Fastening #2	Drill-Tec™ #14 Fastener	Plywood	120 lbf
Fastening #3	Drill-Tec™ #14 Fastener	Plywood	95 lbf

System Type E(5): Anchor sheet is mechanically attached to roof deck. (Non-insulated systems)

All General and System Limitations shall apply.

Fire Barrier: VersaShield® Fire-Resistant Slip Sheet or VersaShield® Solo™ Fire-Resistant Slip Sheet.

Anchor sheet: GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, Ruberoid® 20 Smooth or GAFGLAS® Stratavent® Nailable Venting Base Sheet is secured as described below.

Fastening Option #1: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 16 in. o.c. in the min. 4 in. wide anchor sheet side laps and 16 in. o.c. in the field of the sheet in two staggered rows.
(Maximum Design Pressure –52.5 psf, See General Limitation #7)

Fastening Option #2: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 12 in. o.c. in the min 4 in. wide anchor sheet side laps and 12 in. o.c. in the field of the sheet in two staggered rows.
(Maximum Design Pressure –60 psf, See General Limitation #7)

Fastening Option #3: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 8 in. o.c. in the min. 4 in. wide anchor sheet side laps and 8 in. o.c. in the field of the sheet in three staggered rows.
(Maximum Design Pressure –97.5 psf, See General Limitation #7)

Base Sheet: Install one or more plies of Ruberoid® 20 Smooth adhered with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. (See General Limitation #4).

- Membrane:** Ruberoid® 30 Granule FR, Ruberoid® 30 Plus Granule FR, Ruberoid® Mop Granule, Tri-Ply® SBS Granule, Ruberoid® Mop Granule FR, Ruberoid® Mop Plus Granule FR, Ruberoid® EnergyCap™ Mop Plus Granule FR or Ruberoid® EnergyCap™ 30 Granule FR fully adhered with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Or
GAFGLAS® Mineral-Surfaced Cap Sheet, Tri-Ply® BUR Granule Cap Sheet or GAFGLAS® EnergyCap™ Mineral-Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
- Surfacing:** **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions. All coatings must be listed within a current NOA.**
1. Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq.
 2. Fiber Aluminum Roof Coating.
- Maximum Design Pressure:** See Fastening Above

Membrane Type: SBS

Deck Type 7: Recover, Non-Insulated

Deck Description: Minimum 15/32" thick plywood APA span-rated secured to lumber supports spaced maximum 24" o.c. using 8d ring shank nails. The nails are spaced 6" o.c. along panel end and intermediate supports. *The deck shall record a Minimum Characteristic Resistance Force (MCRF) as follows when tested with the fastener chosen for insulation attachment (Drill-Tec™ #14 Fastener) installed through to the deck in accordance with TAS 105.

Membrane Fastening	Fastener	Deck	MCRF
Fastening #1	Drill-Tec™ #14 Fastener	Plywood	137 lbf
Fastening #2	Drill-Tec™ #14 Fastener	Plywood	120 lbf
Fastening #3	Drill-Tec™ #14 Fastener	Plywood	95 lbf

System Type E(6): Anchor sheet is mechanically attached to roof deck. (Non-insulated systems)

All General and System Limitations shall apply.

Fire Barrier: VersaShield® Fire-Resistant Slip Sheet or VersaShield® Solo™ Fire-Resistant Slip Sheet.

Anchor sheet: GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, Ruberoid® 20 Smooth or GAFGLAS® Stratavent® Nailable Venting Base Sheet is secured as described below.

Fastening Option #1: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 16 in. o.c. in the min. 4 in. wide anchor sheet side laps and 16 in. o.c. in the field of the sheet in two staggered rows.
(Maximum Design Pressure –52.5 psf, See General Limitation #7)

Fastening Option #2: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 12 in. o.c. in the min 4 in. wide anchor sheet side laps and 12 in. o.c. in the field of the sheet in two staggered rows.
(Maximum Design Pressure –60 psf, See General Limitation #7)

Fastening Option #3: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 8 in. o.c. in the min. 4 in. wide anchor sheet side laps and 8 in. o.c. in the field of the sheet in three staggered rows.
(Maximum Design Pressure –97.5 psf, See General Limitation #7)

Base Sheet: Install one or more plies of Ruberoid® Mop Smooth or Ruberoid® Mop Smooth 1.5 adhered with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. (See General Limitation #4).

Membrane: Ruberoid® Mop Granule, Tri-Ply® SBS Granule, Ruberoid® Mop Granule FR, Ruberoid® Mop Plus Granule FR or Ruberoid® EnergyCap™ Mop Plus Granule FR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions. All coatings must be listed within a current NOA.**

1. Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq.
2. GAFGLAS® Mineral-Surfaced Cap Sheet, Tri-Ply® BUR Granule Cap Sheet or GAFGLAS® EnergyCap™ Mineral-Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3. Fiber Aluminum Roof Coating.

Maximum Design Pressure: See Fastening Above

Membrane Type: SBS

Deck Type 7: Recover, Non-Insulated

Deck Description: Minimum 15/32" thick plywood APA span-rated secured to lumber supports spaced maximum 24" o.c. using 8d ring shank nails. The nails are spaced 6" o.c. along panel end and intermediate supports. *The deck shall record a Minimum Characteristic Resistance Force (MCRF) as follows when tested with the fastener chosen for insulation attachment (Drill-Tec™ #14 Fastener) installed through to the deck in accordance with TAS 105.

Membrane Fastening	Fastener	Deck	MCRF
Fastening #1	Drill-Tec™ #14 Fastener	Plywood	137 lbf
Fastening #2	Drill-Tec™ #14 Fastener	Plywood	120 lbf
Fastening #3	Drill-Tec™ #14 Fastener	Plywood	95 lbf

System Type E(7): Anchor sheet is mechanically attached to roof deck. (Non-insulated systems)

All General and System Limitations shall apply.

Fire Barrier: VersaShield® Fire-Resistant Slip Sheet or VersaShield® Solo™ Fire-Resistant Slip Sheet.
(optional)

Anchor sheet: GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, Ruberoid® 20 Smooth or GAFGLAS® Stratavent® Nailable Venting Base Sheet is secured as described below.

Fastening Option #1: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 16 in. o.c. in the min. 4 in. wide anchor sheet side laps and 16 in. o.c. in the field of the sheet in two staggered rows.
(Maximum Design Pressure –52.5 psf, See General Limitation #7)

Fastening Option #2: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 12 in. o.c. in the min 4 in. wide anchor sheet side laps and 12 in. o.c. in the field of the sheet in two staggered rows.
(Maximum Design Pressure –60 psf, See General Limitation #7)

Fastening Option #3: Drill-Tec™ #14 Fasteners and Drill-Tec™ 3 in. Standard Steel Plates, Drill-Tec™ AccuTrac® Flat Plates or Drill-Tec™ 3 in. Ribbed Galvalume Plate (Flat) are spaced 8 in. o.c. in the min. 4 in. wide anchor sheet side laps and 8 in. o.c. in the field of the sheet in three staggered rows.
(Maximum Design Pressure –97.5 psf, See General Limitation #7)

Base Sheet: Install one ply of Ruberoid® 20 Smooth adhered with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. (See **General Limitation #4**).

Ply Sheet:	Ruberoid® Mop Smooth or Ruberoid® Mop Smooth 1.5 adhered with any approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Membrane:	Ruberoid® Mop Granule, Tri-Ply® SBS Granule, Ruberoid® Mop Granule FR, Ruberoid® Mop Plus Granule FR or Ruberoid® EnergyCap™ Mop Plus Granule FR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Surfacing:	<p>Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions. All coatings must be listed within a current NOA.</p> <ol style="list-style-type: none"> 1. Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq. 2. GAFGLAS® Mineral-Surfaced Cap Sheet, Tri-Ply® BUR Granule Cap Sheet or GAFGLAS® EnergyCap™ Mineral-Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. 3. Fiber Aluminum Roof Coating.
Maximum Design Pressure:	See Fastening Above

Membrane Type: SBS Cold Applied

Deck Type 7: Recover, Non-insulated

Deck Description: Minimum 19/32" thick plywood secured to lumber supports spaced maximum 24" o.c. using #8 wood screws. The nails are spaced 6" o.c. along panel end and intermediate supports. *The deck shall record a Minimum Characteristic Resistance Force (MCRF) of 109 lbf when tested with the fastener chosen for insulation attachment (Drill-Tec™ #12 Fastener) installed through to the deck in accordance with TAS 105.

System Type E(8): Anchor sheet is mechanically attached to roof deck. (Non-insulated systems)

All General and System Limitations shall apply.

Fire Barrier: VersaShield® Fire-Resistant Roof Deck Protection or VersaShield® Solo™ Fire-Resistant Slip Sheet.

Base Sheet: Install one ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet or GAFGLAS® Stratavent® Nailable Venting Base Sheet attached to deck with Drill-Tec™ #12 Fasteners and Drill-Tec™ 3" Steel Plate spaced 8 in. o.c. in the min. 2.0 in. wide side laps and 8 in. o.c. in three equally spaced, staggered rows in the field of the sheet.

Base Ply: GAFGLAS® FlexPly™ 6 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. in accordance with manufacturer's instructions.

Membrane: One or more plies of Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth and Intec Flex PRF adhered in Matrix™ 102 SBS Membrane Adhesive at an application rate of 1.5 gal./sq.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to manufacturer's application instructions. All coatings must be listed within a current NOA.**

1. Gravel or slag applied at 400 lbs./sq. and 300 lbs./sq. respectively in a flood coat of approved asphalt at 60 lbs./sq.
2. GAFGLAS® Mineral-Surfaced Cap Sheet, Tri-Ply® BUR Granule Cap Sheet or GAFGLAS® EnergyCap™ Mineral-Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
3. Fiber Aluminum Roof Coating.

Maximum Design Pressure: -105 psf; (See General Limitation #7)

Membrane Type: APP

Deck Type 7: Recover, Non-Insulated

Deck Description: Concrete/Lightweight Concrete/Cementitious Wood Fiber/Wood/Steel

System Type F(1): Base sheet adhered with approved asphalt.

All General and System Limitations shall apply.

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

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

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

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions. All coatings must be listed within a current NOA.**

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

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

Membrane Type: SBS

Deck Type 7: Recover, Non-Insulated

Deck Description: Concrete/Lightweight Concrete/Cementitious Wood Fiber/Wood/Steel

System Type F(2): Base sheet adhered with approved asphalt.

All General and System Limitations shall apply.

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

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

Membrane: One ply of Ruberoid® Mop Granule, Tri-Ply® SBS Granule, Intec Flex PRF, Ruberoid® Mop Granule FR, Ruberoid® 30 Granule, Ruberoid® 30 Granule FR, Ruberoid® 30 Plus Granule FR or Ruberoid® Mop adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions. All coatings must be listed within a current NOA.**

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

Maximum Design

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

RECOVER SYSTEM LIMITATIONS:

1. All System Limitations and General Limitations shall apply. See specific deck type Notice of Acceptance for deck type System Limitations.
2. All assemblies listed herein shall be installed in compliance with the applicable sections of FBC 1521. Uplift performance of assemblies bonded to existing roofing system shall be verified per 1521.10. Uplift performance of assemblies mechanically attached through existing roofing system shall be verified per 1521.11.

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 side lap 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. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant **(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 to 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 61G20-3 of the Florida Administrative Code.

END OF THIS ACCEPTANCE