



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

1361 Alps Road
Wayne, NJ 07470

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed 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 Steel 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. 10-0125.05 and consists of pages 1 through 50.

The submitted documentation was reviewed by Jorge L. Acebo.



NOA No.: 13-0409.06
Expiration Date: 11/06/14
Approval Date: 10/24/13
Page 1 of 50

ROOFING SYSTEM APPROVAL

Category:	Roofing
Sub-Category:	Modified Bitumen
Material:	SBS/APP
Deck Type:	Steel
Maximum Design Pressure	-120 psf.

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>
GAFGLAS [®] Ply 4	39.37" (1 meter) Wide	ASTM D2178	Type IV asphalt impregnated glass felt with asphalt coating.
Tri-Ply [®] Ply 4	39.37" (1 meter) Wide	ASTM D2178	Type IV asphalt impregnated glass felt with asphalt coating.
GAFGLAS [®] FlexPly [™] 6	39.37" (1 meter) Wide	ASTM D2178	Type VI asphalt impregnated glass felt with asphalt coating.
GAFGLAS [®] #75 Base Sheet	39.37" (1 meter) Wide	ASTM D4601	Type II asphalt impregnated and coated glass mat base sheet.
Tri-Ply [®] #75 Base Sheet	39.37" (1 meter) Wide	ASTM D4601	Type II asphalt impregnated and coated glass mat base sheet.
GAFGLAS [®] #80 Ultima [™] Base Sheet	39.37" (1 meter) Wide	ASTM D4601	Type II asphalt impregnated and coated, glass mat base sheet.
Weather Watch [®] XT	36" x 50' rolls 36" x 66.7' rolls	ASTM D1970,	Mat surfaced modified, fiberglass reinforced, bituminous sheet material for as use a leak barrier underlayment.
UnderRoof [™] 2	39 3/8" x 67.8' rolls	ASTM D1970	Self-adhering reinforced membrane of SBS modified asphalt with polyester surfacing.
UnderRoof [™] HT	39 3/8" x 61.0' rolls	ASTM D1970	Self-adhering reinforced membrane of SBS modified asphalt reinforced with fiberglass strands.
GAFGLAS [®] Stratavent [®] Eliminator [™] Perforated Venting Base Sheet	39.37" (1 meter) Wide	ASTM D4897	Fiberglass base sheet coated on both sides with asphalt and factory perforated. Surfaced on the bottom side with mineral granules embedded in asphaltic coating.
GAFGLAS [®] Stratavent [®] Eliminator [™] Nailable Venting Base Sheet	39.37" (1 meter) Wide	ASTM D4897	A nailable, fiberglass base sheet coated on both sides with asphalt. Surfaced on the bottom side with mineral granules embedded in asphaltic coating.
Matrix [™] 102 SBS Membrane Adhesive	5 gallons	ASTM D3019	Fiber reinforced rubberized cold-applied adhesive for modified bitumen roof systems.
Topcoat [®] Elastomeric Roofing Membrane	1, 5 or 55 gallons	ASTM D6083	An acrylic, water based elastomeric membrane system designed to protect various types of roofing surfaces.
Topcoat [®] MB Plus	5 or 55 gallons	Proprietary	Water based, low VOC primer used to block asphalt bleed-through.



<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
Topcoat [®] Surface Seal SB	5 gallons	ASTM D6083	Solvent based sprayable thermoplastic rubber sealant used to protect and restore aged roof surfaces and to increase a roof's reflectivity.
Ruberoid [®] SBS Heat-Weld [™] 25	39.37" (1 meter) Wide	ASTM D6163	SBS modified asphalt base sheet reinforce with a glass fiber mat and smooth surfaced.
Ruberoid [®] SBS Heat-Weld [™] Smooth	39.37" (1 meter) Wide	ASTM D6164	Non-woven polyester mat coated with polymer-modified asphalt and smooth surfaced.
Ruberoid [®] SBS Heat-Weld [™] Granule	39.37" (1 meter) Wide	ASTM D6164	Non-woven polyester mat coated with polymer-modified asphalt and surfaced with mineral granules.
Ruberoid [®] SBS Heat-Weld [™] 170 FR	39.37" (1 meter) Wide	ASTM D6164	Non-woven polyester mat coated with fire retardant polymer-modified asphalt and surfaced with mineral granules.
Ruberoid [®] SBS Heat-Weld [™] Plus	39.37" (1 meter) Wide	ASTM D6164	Non-woven polyester mat coated with polymer-modified asphalt and surfaced with mineral granules.
Ruberoid [®] SBS Heat-Weld [™] Plus FR	39.37" (1 meter) Wide	ASTM D6164	Non-woven polyester mat coated with fire retardant polymer-modified asphalt surfaced with mineral granules.
Ruberoid [®] EnergyCap [™] SBS Heat-Weld [™] Plus FR	39.37" (1 meter) Wide	ASTM D6164	Non-woven polyester mat coated with fire retardant polymer-modified asphalt and surfaced with mineral granules with factory applied EnergyCote [™] .
Ruberoid [®] Torch Smooth	39.37" (1 meter) Wide	ASTM D6222	Non-woven polyester mat coated with APP modified asphalt and smooth surfaced.
Tri-Ply [®] TP-4	39.37" (1 meter) Wide	ASTM D6222	Non-woven polyester mat coated with APP modified asphalt and smooth surfaced.
Ruberoid [®] Torch Granule	39.37" (1 meter) Wide	ASTM D6222	Non-woven polyester mat coated with APP modified asphalt and surfaced with mineral granules
Ruberoid [®] Torch 180	39.37" (1 meter) Wide	ASTM D6222	Non-woven polyester mat coated with APP modified asphalt and surfaced with mineral granules
RoofMatch [™] APP Modified Granular	39.37" (1 meter) Wide	ASTM D6222	Non-woven polyester mat coated with polymer modified asphalt and surfaced with colored mineral granules.
Tri-Ply [®] TP-4G	39.37" (1 meter) Wide	ASTM D6222	Non-woven polyester mat coated with APP modified asphalt and surfaced with mineral granules.
Ruberoid [®] Torch FR	39.37" (1 meter) Wide	ASTM D6222	Non-woven polyester mat coated with fire retardant asphalt modified bitumen membrane, granule surface.



<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
Ruberoid® EnergyCap™ Torch Plus FR	39.37" (1 meter) Wide	ASTM D6222	APP modified cap membrane with a torch grade bottom surface and a mineral granular top surface coated with factory applied EnergyCote™.
Ruberoid® EnergyCap™ Torch Granule FR	39.37" (1 meter) Wide	ASTM D6222	APP modified cap membrane with a torch grade bottom surface and a mineral granular top surface coated with factory applied EnergyCote™.
Ruberoid® 20	39.37" (1 meter) Wide	ASTM D6163	SBS modified asphalt base sheet reinforce with a glass fiber mat.
Ruberoid® 30	39.37" (1 meter) Wide	ASTM D6163	Non-woven fiberglass mat coated with polymer-modified asphalt and surfaced with mineral granules.
Ruberoid® 30 FR	39.37" (1 meter) Wide	ASTM D6163	Non-woven fiberglass mat coated with fire retardant, polymer-modified asphalt and surfaced with mineral granules.
Ruberoid® Mop Granule	39.37" (1 meter) Wide	ASTM D6164	Non-woven polyester mat coated with polymer-modified asphalt and surfaced with mineral granules.
Tri-Ply® SBS Modified Bitumen Membrane	39.37" (1 meter) Wide	ASTM D6164	Non-woven polyester mat coated with polymer-modified asphalt and surfaced with mineral granules.
RoofMatch™ SBS Modified Granular	39.37" (1 meter) Wide	ASTM D6164	Non-woven polyester mat coated with polymer-modified asphalt and surfaced with mineral granules.
Intec Flex PRF	39.37" (1 meter) Wide	ASTM D6164	Non-woven polyester mat coated with polymer modified asphalt and surfaced with mineral granules.
Ruberoid® Mop Smooth	39.37" (1 meter) Wide	ASTM D6164	Non-woven polyester mat coated with polymer-modified asphalt and smooth surfaced.
Ruberoid® Mop Smooth 1.5	39.37" (1 meter) Wide	ASTM D6164	Non-woven polyester mat coated with polymer-modified asphalt and smooth surfaced.
Ruberoid® Mop Plus Smooth	39.37" (1 meter) Wide	ASTM D6164	Non-woven polyester mat coated with polymer-modified asphalt and smooth surfaced.
Ruberoid® Mop Plus	39.37" (1 meter) Wide	ASTM D6164	Non-woven polyester mat coated with polymer modified asphalt and surfaced with mineral granules.
Ruberoid® Mop FR	39.37" (1 meter) Wide	ASTM D6164	Non-woven polyester mat coated with fire retardant polymer-modified asphalt and surfaced with mineral granules.
Ruberoid® EnergyCap™ Mop FR	39.37" (1 meter) Wide	ASTM D6164	Non-woven polyester mat coated with fire retardant, polymer-modified asphalt and surfaced with mineral granules with factory applied EnergyCote™.

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
Ruberoid® Mop 170 FR	39.37" (1 meter) Wide	ASTM D6164	Non-woven polyester mat coated with fire retardant polymer-modified asphalt and surfaced with mineral granules.
Ruberoid® Dual Smooth	39.37" (1 meter) Wide	ASTM D6162	Fiberglass/polyester/composite mat that is coated with an SBS polymer-modified asphalt and is smooth-surfaced for use only as a base/ply sheet.
Ruberoid® Dual FR	39.37" (1 meter) Wide	ASTM D6162	Non-woven polyester and fiberglass mat coated with fire retardant, polymer-modified asphalt and surfaced with mineral granules.
Ruberoid® EnergyCap™ 30 FR SBS Membrane	39.37" (1 meter) Wide	ASTM D6163	Non-woven fiberglass mat coated with fire retardant, polymer modified asphalt and surfaced with mineral granules with factory applied EnergyCote™.
GAFGLAS® Mineral Surfaced Cap Sheet	39.37" (1 meter) Wide	ASTM D3909	Asphalt coated, glass fiber mat cap sheet surfaced with mineral granules.
Tri-Ply® Mineral Surfaced Cap Sheet	39.37" (1 meter) wide	ASTM D3909	Asphalt coated, glass fiber mat cap sheet surfaced with mineral granules.
GAFGLAS® EnergyCap™ BUR Mineral Surfaced Cap Sheet	39.37" (1 meter) Wide	ASTM D3909	Asphalt coated, glass fiber mat cap sheet surfaced with mineral granules factory applied EnergyCote™.

APPROVED INSULATIONS:

TABLE 2

<u>Product Name</u>	<u>Product Description</u>	<u>Manufacturer (With Current NOA)</u>
EnergyGuard™ Polyiso Insulation	Polyisocyanurate foam insulation	GAF
EnergyGuard™ RA Polyiso Insulation	Polyisocyanurate foam insulation	GAF
EnergyGuard™ RH Polyiso Insulation	Polyisocyanurate foam insulation	GAF
EnergyGuard™ RN Polyiso Insulation	Polyisocyanurate foam insulation	GAF
EnergyGuard™ RA Composite	Polyisocyanurate foam insulation with high density fiberboard or Permalite perlite insulation.	GAF
EnergyGuard™ Perlite Roof Insulation	Perlite insulation board.	GAF
EnergyGuard™ Perlite Recover Board	Perlite recover board	GAF
DensDeck® Roof Board	Gypsum board	Georgia-Pacific Gypsum LLC
DensDeck® Prime® Roof Board	Gypsum board	Georgia-Pacific Gypsum LLC
DensDeck® DuraGuard® Roof Board	Gypsum board	Georgia-Pacific Gypsum LLC
Securock® Gypsum-Fiber Roof Board	Gypsum board	United States Gypsum Corp.



APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	Drill-Tec™ #12 Fastener	Carbon steel fastener used in steel or wood decks.	various	GAF .
2.	Drill-Tec™ #14 Fastener	Carbon steel fastener used in steel, wood or concrete decks.	various	GAF
3.	Drill-Tec™ ASAP S3	Drill-Tec™ #12 fastener with Drill-Tec™ 3" Standard Steel Plate.	various	GAF
4.	Drill-Tec™ AccuTrac® Flat Plate	AZ-SS aluminized steel plate for use with Drill-Tec™ #12 Fastener, Drill-Tec™ #14 Fastener and Drill-Tec™ #15 Fastener.	3" and 3 ½"	GAF
5.	Drill-Tec™ AccuTrac® Recessed Plate	Galvalume Steel plate for use with Drill-Tec™ fasteners.	3" and 3 ½"	GAF
6.	Drill-Tec™ 3" Steel Plates	Round galvalume steel stress plate for use with Drill-Tec™ fasteners.	3" and 3 ½"	GAF
7.	Drill-Tec™ 3" Standard Steel Plate	Round galvalume plated steel stress plate with reinforced ribs for use with Drill-Tec™ fasteners.	2" -2- ³ / ₈ "	GAF

EVIDENCE SUBMITTED:

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Description</u>	<u>Date</u>
Factory Mutual Research Corp.	1B9A8.AM	Class 4470	09/04/97
	3D4Q2.AM	Class 4470	04/30/97
	3001276	Class 4470	01/28/99
	3007500	Class 4470	06/15/00
	3011140	Class 4470	08/14/01
	3013788	Class 4470	01/10/03
	3014547	Class 4470	05/22/03
	3017250	Class 4470	04/05/04
	3033719	Class 4470	12/24/08
	3032811	Class 4470	12/11/08
	3035864	Class 4470	06/03/09
	3023458	Class 4450	07/18/06
	3031350	Class 4470	09/27/07
	3036614	Class 4470	06/09/09
	3041005	Class 4470	05/31/11



EVIDENCE SUBMITTED: (CONTINUED)

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Description</u>	<u>Date</u>
Factory Mutual Research Corp.	3044862	Class 4470	05/11/12
	3046388	Class 4470	09/24/12
	3011140	Class 4470	08/14/01
	3043900	Class 4470	08/16/12
	3042887	Class 4470	11/14/11
	3001276	Class 4470	01/28/99
	3014547	Class 4470	05/22/03
	3036980	Class 4470	08/14/09
	Underwriters Laboratories, Inc.	R1306	UL 790
IRT	04-0041	TAS-114	01/26/04
Trinity Engineering	4483.04 97-1	TAS-114	06/06/97
Trinity ERD	G6850.08.07-1	ASTM D3909	08/13/07
	G6850.08.08	ASTM D6164	08/29/08
	G6850.08.08	ASTM D6163	08/01/08
	G6850.10.08	ASTM D6222	10/06/08
	G6850.11.08	ASTM D6222	11/05/08
	G31360.03.10	ASTM D6164	03/31/2010
	G34140.04.11-4	ASTM D4601	04/25/11
	G34140.04.11-5	ASTM D4897	04/25/11
	G30250.02.10-3-R1	ASTM D3909	02/15/10
	G40620.07-12-2	ASTM D6222	07/17/12
	G30250.02.10-2	ASTM D6222	02/11/10
	G34140.04.11-2	ASTM D6163	04/25/11
	G33470.01.11	ASTM D6164	01/13/11
	G3250.06.11	ASTM D1967	06/28/11
	Momentum Technologies, Inc.	AX04C9A	ASTM D6162
EX14A3A		ASTM D6083	02/26/04
PRI Asphalt Technologies, Inc.	GAF-328-02-01	ASTM D1970	03/03/11
	GAF-344-02-01	ASTM D1970	04/23/12
	GAF-275-02-01	ASTM D1970	11/11/11
	GAF-084-02-01	ASTM D6083	05/07/06
	GAF-314-02-01	ASTM D2178	08/23/11
	GAF-315-02-01	ASTM D2178	08/23/11
	GAF-238-02-01	ASTM D1970	03/3/10
	GAF-209-211-02-01	ASTM D6083	05/5/09
Momentum Technologies, Inc.	GAF-369-02-01	ASTM C1289	10/23/12
	AX04C9A	ASTM D6162	06/05/09
	EX14A3A	ASTM D6083	02/26/04



APPROVED ASSEMBLIES

Membrane Type: APP/SBS Heat-Weld

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel Type B Grade E steel decking attached to steel supports spaced 6 ft. o.c. with Buildex Traxx/4 or 5 fasteners spaced 6" o.c. (at the bottom flute), and with side laps attached with Buildex Traxx/1 fasteners spaced at max. of 30" o.c.

System Type B(1): One or more layers of insulation is mechanically attached, perforated base sheet loose laid over the insulation.

Thermal Barrier: Minimum 1/4" DensDeck® Roof Board, DensDeck® Prime® Roof Board, (Optional) DensDeck® DuraGuard® Roof Board; 1/2" Securock® Gypsum-Fiber Roof Board or 3/4" EnergyGuard™ Perlite Roof Insulation loose laid on steel deck.

All General and System limitations apply.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
EnergyGuard™ Polyiso Insulation, EnergyGuard™ RA Polyiso Insulation, EnergyGuard™ RH Polyiso Insulation Minimum 2" thick	2, 6	1:1.5 ft ²

Note: All layers of insulation and optional thermal barrier (when present) shall be mechanically attached using the fastener density listed above. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

- Base Sheet: One ply of GAFGLAS® Stratavent® Eliminator™ Perforated Venting Base Sheet loose laid dry with 2" side laps.
- Ply Sheet: One or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS #80 Ultima™ Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth or Ruberoid® Dual Smooth 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® Torch Smooth, Tri-Ply® TP-4, Ruberoid® Torch Granule, Ruberoid® Torch 180, RoofMatch™ APP Granule, Tri-Ply® TP-4G, Ruberoid® Torch FR, Ruberoid® EnergyCap™ Torch Plus FR or Ruberoid® EnergyCap™ Torch Granule FR torch applied in accordance with manufacturer's instructions.
Or
One or more plies of Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR, Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR or Ruberoid® Dual FR torch applied or applied with an approved hot air welder in accordance with manufacturer's instructions.



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[®] Mineral Surfaced Cap Sheet or GAFGLAS[®] EnergyCap[™] BUR 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. Topcoat[®] Elastomeric Roofing Membrane, Topcoat[®] MB Plus (to be used as a primer with Topcoat[®] Elastomeric Roofing Membrane) or Topcoat[®] Surface Seal SB applied at 1 to 1.5 gal./sq.

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



Membrane Type: APP/SBS

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel Type B Grade E steel decking attached to steel supports spaced 6 ft. o.c. with Buildex Traxx/4 or 5 fasteners spaced 6" o.c. (at the bottom flute), and with side laps attached with Buildex Traxx/1 fasteners spaced at max. of 30" o.c.

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

Thermal Barrier: Minimum 1/4" DensDeck® Roof Board, DensDeck® Prime® Roof Board, (Optional) DensDeck® DuraGuard® Roof Board; 1/2" Securock® Gypsum-Fiber Roof Board or 3/4" EnergyGuard™ Perlite Roof Insulation loose laid on steel deck.

All General and System limitations apply.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
EnergyGuard™ Polyiso Insulation, EnergyGuard™ RA Polyiso Insulation, EnergyGuard™ RH Polyiso Insulation Minimum 2" thick	1, 2, & 6	1:1.45 ft ²

Note: Base layers of insulation and optional thermal barrier (when present) shall be mechanically attached using the fastener density listed. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
EnergyGuard™ Perlite Roof Insulation, EnergyGuard™ Perlite Recover Board, Securock® Gypsum-Fiber Roof Board, DensDeck® DuraGuard® Roof Board, DensDeck® Prime® Roof Board Minimum 1" thick	N/A	N/A

Note: 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® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Dual Smooth 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.

Ply Sheet: One or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® #80 Ultima™ Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Dual Smooth 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® Torch Smooth, Tri-Ply® TP-4, Ruberoid® Torch Granule, Ruberoid® Torch 180, RoofMatch™ APP Granule, Tri-Ply® TP-4G, Ruberoid® Torch FR, Ruberoid® EnergyCap™ Torch Plus FR or Ruberoid® EnergyCap™ Torch Granule FR torch applied in accordance with manufacturer's instructions.

OR

Ruberoid® 20, Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop Granule, Tri-Ply® SBS Modified Bitumen Membrane, RoofMatch™ SBS Modified Granular, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus, Ruberoid® Mop FR, Ruberoid® EnergyCap™ Mop FR, Ruberoid® Mop 170 FR, Ruberoid® Dual FR or Ruberoid® EnergyCap™ 30 FR SBS Membrane 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.

OR

One or more plies of Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR torch applied in accordance with manufacturer's instructions.

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® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR 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. Topcoat® Elastomeric Roofing Membrane, Topcoat® MB Plus (to be used as a primer with Topcoat® Elastomeric Roofing Membrane) or Topcoat® Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design

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

Membrane Type: APP/SBS Heat-Weld

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel Type B Grade 80 steel decking secured to minimum 1/4" steel supports spaced 6 ft. o.c. with Buildex Traxx/4 or 5 fasteners spaced 6" o.c. (at the bottom flute), and with side laps attached with Buildex Traxx/1 fasteners spaced at max. of 24" o.c.

System Type B(3): Base layer of insulation mechanically fastened, membrane adhered with approved asphalt.

All General and System limitations apply.

Thermal Barrier: Minimum 1/4" DensDeck® Roof Board, DensDeck® Prime® Roof Board, (Optional) DensDeck® DuraGuard® Roof Board; 1/2" Securock® Gypsum-Fiber Roof Board or 3/4" EnergyGuard™ Perlite Roof Insulation loose laid on steel deck.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ Polyiso Insulation, EnergyGuard™ RA Polyiso Insulation, EnergyGuard™ RH Polyiso Insulation, EnergyGuard™ RN Polyiso Insulation Minimum 2" thick	1, 2 & 6	1:1.45 ft²

Note: Base layers of insulation and optional thermal barrier (when present) shall be mechanically attached using the fastener density listed. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

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

Ply Sheet: One or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® #80 Ultima™ Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Dual Smooth 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: Maximum two plies of Ruberoid® Torch Smooth, Tri-Ply® TP-4, Ruberoid® Torch Granule, Ruberoid® Torch 180, RoofMatch™ APP Modified Granular, Tri-Ply® TP-4G, Ruberoid® Torch FR, Ruberoid® EnergyCap™ Torch Plus FR or Ruberoid® EnergyCap™ Torch Granule FR torch applied in accordance with manufacturer's instructions.

Or

Maximum two plies of Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld Plus FR applied with an approved hot air welder in accordance with manufacturer's instructions.

Or

GAFGLAS® Mineral Surfaced Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR 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. in a minimum 3 ply system in accordance with manufacturer's instructions.



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[®] Mineral Surfaced Cap Sheet or GAFGLAS[®] EnergyCap[™] BUR 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. Topcoat[®] Elastomeric Roofing Membrane, Topcoat[®] MB Plus (to be used as a primer with Topcoat[®] Elastomeric Roofing Membrane) or Topcoat[®] Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design

Pressure: -67.5 psf. (See General Limitation #7.)

- Membrane Type:** SBS
- Deck Type 2I:** Steel, Insulated
- Deck Description:** 18-22 ga. steel Type B Grade 80 steel decking secured to minimum 1/4" steel supports spaced 6 ft. o.c. with Buildex Traxx/4 or 5 fasteners spaced 6" o.c. (at the bottom flute), and with side laps attached with Buildex Traxx/1 fasteners spaced at max. of 24" o.c.
- System Type B(4):** Base layer of insulation mechanically fastened, top layer adhered with approved asphalt.
- Thermal Barrier:** Minimum 1/4" DensDeck® Roof Board, DensDeck® Prime® Roof Board, (Optional) DensDeck® DuraGuard® Roof Board; 1/2" Securock® Gypsum-Fiber Roof Board or 3/4" EnergyGuard™ Perlite Roof Insulation loose laid on steel deck.

All General and System limitations apply.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
EnergyGuard™ Polyiso Insulation, EnergyGuard™ RH Polyiso Insulation Minimum 1.5" thick	1, 2, 3, 6, 7	1:1.3 ft ²

Note: Base layers of insulation and optional thermal barrier (when present) shall be mechanically attached using the fastener density listed. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
EnergyGuard™ Perlite Roof Insulation, Securock® Gypsum-Fiber Roof Board, EnergyGuard™ Perlite Recover Board, DensDeck® DuraGuard® Roof Board, DensDeck® Prime® Roof Board Minimum 1/2" thick	N/A	N/A

Note: 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® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth or Ruberoid® Dual Smooth 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.

Ply Sheet: (Optional) (Required when GAFGLAS® Mineral Surfaced Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR Mineral Surfaced Cap Sheet is used.) One or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® #80 Ultima™ Base Sheet, Ruberoid® 20 Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth or Ruberoid® Dual Smooth 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® 20, Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop Granule, Tri-Ply® SBS Modified Bitumen Membrane, RoofMatch™ SBS Modified Granular, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus, Ruberoid® Mop FR, Ruberoid® EnergyCap™ Mop FR, Ruberoid® Mop 170 FR, Ruberoid® Dual FR or Ruberoid® EnergyCap™ 30 FR SBS Membrane 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.

Or

GAFGLAS® Mineral Surfaced Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR 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. in a minimum 3 ply system in accordance with manufacturer's instructions.

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® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR 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. Topcoat® Elastomeric Roofing Membrane, Topcoat® MB Plus (to be used as a primer with Topcoat® Elastomeric Roofing Membrane) or Topcoat® Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design

Pressure: -90 psf. (See General Limitation #7)



Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: 22 ga. steel, 33 ksi

System Type B(5): Base layer of insulation mechanically fastened, top layer adhered with approved asphalt.

Thermal Barrier: Minimum 1/4" DensDeck® Roof Board, DensDeck® Prime® Roof Board, (Optional) DensDeck® DuraGuard® Roof Board; 1/2" Securock® Gypsum-Fiber Roof Board or 3/4" EnergyGuard™ Perlite Roof Insulation loose laid on steel deck.

All General and System limitations apply.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ Polyiso Insulation, EnergyGuard™ RH Polyiso Insulation Minimum 1.5" thick	1, 2, 3, 4, 5, 6, 7	1:4.0 ft²

Note: Base layers of insulation and optional thermal barrier (when present) shall be mechanically attached using the fastener density listed. 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	N/A	N/A

Note: 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® Stratavent® Eliminator™ Perforated Venting Base Sheet loose laid dry with 2" side laps.

Ply Sheet: (Required when GAFGLAS® Mineral Surfaced Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR Mineral Surfaced Cap Sheet is used.) One or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® #80 Ultima™ Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth or Ruberoid® Dual Smooth 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® 30, Ruberoid® 30 FR, Ruberoid® Mop Granule, Tri-Ply® SBS Modified Bitumen Membrane, RoofMatch™ SBS Modified Granular, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus, Ruberoid® Mop FR, Ruberoid® EnergyCap™ Mop FR, Ruberoid® Mop 170 FR, Ruberoid® Dual FR or Ruberoid® EnergyCap™ 30 FR SBS Membrane adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. applied in accordance with manufacturer's instructions.

Or

GAFGLAS® Mineral Surfaced Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR 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. in a minimum 3 ply system in accordance with manufacturer's instructions.

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® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR 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. Topcoat® Elastomeric Roofing Membrane, Topcoat® MB Plus (to be used as a primer with Topcoat® Elastomeric Roofing Membrane) or Topcoat® Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design

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

- Membrane Type:** SBS
- Deck Type 2I:** Steel, Insulated
- Deck Description:** 22 ga. steel, 33 ksi
- System Type B(6):** Base layer of insulation mechanically fastened, membrane is adhered.
- Thermal Barrier:** Minimum 1/4" DensDeck® Roof Board, DensDeck® Prime® Roof Board, (Optional) DensDeck® DuraGuard® Roof Board; 1/2" Securock® Gypsum-Fiber Roof Board or 3/4" EnergyGuard™ Perlite Roof Insulation loose laid on steel deck.

All General and System limitations apply.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ Polyiso Insulation, EnergyGuard™ RH Polyiso Insulation Minimum 1.5" thick	1, 2, 3, 4, 5, 6, 7	1:2.0 ft²

Note: Base layers of insulation and optional thermal barrier (when present) shall be mechanically attached using the fastener density listed. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

- Base Sheet:** One ply of GAFGLAS® Stratavent® Eliminator™ Perforated Venting Base Sheet loose laid dry with 2" side laps.
- Ply Sheet:** One ply of Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth or Ruberoid® Dual Smooth adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. applied in accordance with manufacturer's instructions.
OR
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. applied in accordance with manufacturer's instructions.
- Membrane:** One or more plies of Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop Granule, Tri-Ply® SBS Modified Bitumen Membrane, RoofMatch™ SBS Modified Granular, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus, Ruberoid® Mop FR, Ruberoid® EnergyCap™ Mop FR, Ruberoid® Mop 170 FR, Ruberoid® Dual FR or Ruberoid® EnergyCap™ 30 FR SBS Membrane adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. applied in accordance with manufacturer's instructions.
Or
GAFGLAS® Mineral Surfaced Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR 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. in a minimum 3 ply system in accordance with manufacturer's instructions.



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[®] Mineral Surfaced Cap Sheet or GAFGLAS[®] EnergyCap[™] BUR 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. Topcoat[®] Elastomeric Roofing Membrane, Topcoat[®] MB Plus (to be used as a primer with Topcoat[®] Elastomeric Roofing Membrane) or Topcoat[®] Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design

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



- Membrane Type:** SBS/APP
- Deck Type 2I:** Steel, Insulated
- Deck Description:** 22 ga. steel, 33 ksi
- System Type B(7):** Base layer of insulation mechanically fastened, top layer adhered with approved asphalt.
- Thermal Barrier:** 0.5” DensDeck® DuraGuard® Roof Board or Securock® Gypsum-Fiber Roof Board secured to the deck with Drill-Tec™ #12 or Drill-Tec™ #14 Fasteners and Drill-Tec™ 3” Standard Steel Plates or Drill-Tec™ AccuTrac® Flat Plates or ASAP 3S applied within a contributory area of 2.7 ft² per fastener (6 fasteners per 48 x 48 in. board.)
- Vapor Retarder:** UnderRoof™ 2 or UnderRoof™ HT is self-adhered to the thermal barrier and rolled with a weighted roller.

All General and System limitations apply.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ Polyiso Insulation, EnergyGuard™ Tapered Polyiso Insulation, EnergyGuard™ RA Polyiso Insulation, EnergyGuard™ RA Tapered Polyiso Insulation, EnergyGuard™ RH Polyiso Insulation, EnergyGuard™ RH Tapered Polyiso Insulation, EnergyGuard™ RN Polyiso Insulation, EnergyGuard™ RN Tapered Polyiso Insulation Minimum 1.5” thick	N/A	N/A

Note: Insulation is adhered to the vapor barrier with OlyBond 500® Adhesive Fastener or Olybond 500® Green applied in 0.75 – 1.0 in wide ribbons spaced 12 in. o.c.

Top Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
DensDeck® Prime® Roof Board, DensDeck® DuraGuard® Roof Board, Securock® Gypsum-Fiber Roof Board Minimum 0.25” thick	N/A	N/A

Note: Optional top insulation is adhered to the insulation with Olybond 500® Adhesive Fastener or Olybond 500® Green applied in 0.75 – 1.0 in wide ribbons spaced 12 in. o.c.

Base Sheet: Apply one layer of Weather Watch® XT self-adhered with minimum 3” wide laps and rolled with a weighted roller.

Membrane: One or more plies of Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR with minimum 3” wide laps and torch adhered in accordance with manufacturer's instructions.

Or

Ruberoid® Torch Smooth, Tri-Ply® TP-4, Ruberoid® Torch Granule, Ruberoid® Torch 180, RoofMatch™ APP Modified Granular, Tri-Ply® TP-4G, Ruberoid® Torch FR, Ruberoid® EnergyCap™ Torch Plus FR or Ruberoid® EnergyCap™ Torch Granule FR with minimum 3” wide laps and torch adhered in accordance with manufacturer's instructions.



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[®] Mineral Surfaced Cap Sheet or GAFGLAS[®] EnergyCap[™] BUR 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. Topcoat[®] Elastomeric Roofing Membrane, Topcoat[®] MB Plus (to be used as a primer with Topcoat[®] Elastomeric Roofing Membrane) or Topcoat[®] Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design

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



Membrane Type: SBS/SBS Heat-Weld

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel Type B Grade 33 steel decking attached to steel supports spaced 6 ft. o.c. with Buildex Traxx/4 or 5 fasteners spaced 6" o.c. (at the bottom flute), and with side laps attached with Buildex Traxx/1 fasteners spaced at max. of 24" o.c.

System Type C(1): Base sheet loose laid dry ; both layers of insulation simultaneously fastened.

All General and System limitations apply.

Thermal Barrier: Minimum 1/4" DensDeck® Roof Board, DensDeck® Prime® Roof Board, (Optional) DensDeck® DuraGuard® Roof Board; 1/2" Securock® Gypsum-Fiber Roof Board or 3/4" EnergyGuard™ Perlite Roof Insulation loose laid on steel deck.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ Polyiso Insulation, EnergyGuard™ RA Polyiso Insulation, EnergyGuard™ RH Polyiso Insulation Minimum 1.5" thick	N/A	N/A

Note: Both layers shall be simultaneously attached; see top layer below for fasteners and density.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
DensDeck® Roof Board Minimum 0.25" thick	1& 7	1:1 ft ²

Note: All layers of insulation and optional thermal barrier (when present) shall be mechanically attached using the fastener density listed above. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

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

Ply Sheet: (Required when Ruberoid® SBS Heat-Weld™ Membranes, GAFGLAS® Mineral Surfaced Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR Mineral Surfaced Cap Sheet are used.) One or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® #80 Ultima™ Base Sheet, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Dual Smooth or Ruberoid® 20 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. in accordance with manufacturer's instructions.



Membrane: One or more plies of Ruberoid® 20, Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop Granule, Tri-Ply® SBS Modified Bitumen Membrane, RoofMatch™ SBS Modified Granular, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus, Ruberoid® Mop FR, Ruberoid® EnergyCap™ Mop FR, Ruberoid® Mop 170 FR, Ruberoid® Dual FR or Ruberoid® EnergyCap™ 30 FR SBS Membrane 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.

Or

One or more plies of Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR torch applied or applied with an approved hot air welder in accordance with manufacturer's instructions.

Or

One or more plies of Ruberoid® Torch Smooth, Tri-Ply® TP-4, Ruberoid® Torch Granule, Ruberoid® Torch 180, RoofMatch™ APP Modified Granular, Tri-Ply® TP-4G, Ruberoid® Torch FR, Ruberoid® EnergyCap™ Torch Plus FR or Ruberoid® EnergyCap™ Torch Granule FR torch applied in accordance with manufacturer's instructions.

Or

GAFGLAS® Mineral Surfaced Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet, GAFGLAS® EnergyCap™ BUR 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. in a minimum 3 ply system in accordance with manufacturer's instructions.

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® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR 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. Topcoat® Elastomeric Roofing Membrane, Topcoat® MB Plus (to be used as a primer with Topcoat® Elastomeric Roofing Membrane) or Topcoat® Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design

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



- Membrane Type:** SBS/SBS Heat-Weld
- Deck Type 2I:** Steel, Insulated
- Deck Description:** Minimum 22 gauge steel non-vented B-deck attached to 5' o.c. bar joist with puddle welds and washers at 6" o.c. and side laps with tech screws at 12" o.c.
- System Type C(2):** Base sheet loose laid; insulation mechanically fastened.
- Thermal Barrier:** (Optional) Minimum 1/4" DensDeck® Roof Board, DensDeck® Prime® Roof Board, DensDeck® DuraGuard® Roof Board; 1/2" Securock® Gypsum-Fiber Roof Board or 3/4" EnergyGuard™ Perlite Roof Insulation loose laid on steel deck.

All General and System limitations apply.

One or more layers of the following:

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
EnergyGuard™ Polyiso Insulation, EnergyGuard™ RH Polyiso Insulation Minimum 1.5" thick	1 & 6	1:1.45 ft ²

Note: All layers of insulation and optional thermal barrier (when present) shall be mechanically attached using the fastener density listed above. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

- Base Sheet:** GAFGLAS® Stratavent® Eliminator™ Perforated Venting Base Sheet loose laid dry with 2 in. side laps.
- Ply Sheet:** One or more plies Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth or Ruberoid® Dual Smooth 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® 20, Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop Granule, Tri-Ply® SBS Modified Bitumen Membrane, RoofMatch™ SBS Modified Granular, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus, Ruberoid® Mop FR, Ruberoid® EnergyCap™ Mop FR, Ruberoid® Mop 170 FR, Ruberoid® Dual FR or Ruberoid® EnergyCap™ 30 FR SBS Membrane 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.
 Or
 One or more plies of Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR applied in accordance with manufacturer's instructions.
 Or
 GAFGLAS® Mineral Surfaced Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR 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. in a minimum 3 ply system in accordance with manufacturer's instructions.



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[®] Mineral Surfaced Cap Sheet or GAFGLAS[®] EnergyCap[™] BUR 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. Topcoat[®] Elastomeric Roofing Membrane, Topcoat[®] MB Plus (to be used as a primer with Topcoat[®] Elastomeric Roofing Membrane) or Topcoat[®] Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design

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

Membrane Type: SBS/SBS Heat-Weld

Deck Type 2I: Steel, Insulated

Deck Description: Minimum 22 gauge steel secured to minimum 1/4" (6 mm) thick steel structural supports 6 ft. (1.8m) o.c. with ITW Buildex TRAXX/5 fasteners 6 in. (1.52) o.c. along the center of the supports. Deck side laps are secured 24 in. (610 mm) o.c. with ITW Buildex TRAXX/1 fasteners.

System Type C(3): All insulation simultaneously fastened. Base sheet adhered to insulation.

Thermal Barrier: Minimum 1/4" DensDeck® Roof Board, DensDeck® Prime® Roof Board, DensDeck® (Optional) DuraGuard® Roof Board; 1/2" Securock® Gypsum-Fiber Roof Board or 3/4" EnergyGuard™ Perlite Roof Insulation loose laid on steel deck.

All General and System limitations apply.

One or more layers of the following:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ Polyiso Insulation, EnergyGuard™ RA Polyiso Insulation, EnergyGuard™ RH Polyiso Insulation Minimum 2" thick	N/A	N/A

Note: Both layers shall be simultaneously attached; see top layer below for fasteners and density.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Securock® Gypsum-Fiber Roof Board Minimum 0.5" thick	1, 2, 6, 7	1.78 ft ²

Note: All layers of insulation and optional thermal barrier (when present) shall be mechanically attached using the fastener density listed above. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base 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. and broomed in.
Or
One ply of GAFGLAS® Stratavent® Eliminator™ Perforated Venting Base Sheet loose laid dry with 2" side laps.

Ply Sheet: One or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® #80 Ultima™ Base Sheet, Ruberoid 20, Ruberoid Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Smooth Plus, or Ruberoid® Dual Smooth 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® 20, Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop Granule, Tri-Ply® SBS Modified Bitumen Membrane, RoofMatch™ SBS Modified Granular, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus, Ruberoid® Mop FR, Ruberoid® EnergyCap™ Mop FR, Ruberoid® Mop 170 FR, Ruberoid® Dual FR or Ruberoid® EnergyCap™ 30 FR SBS Membrane 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.

Or

One or more plies of Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld Plus FR torch applied in accordance with manufacturer's instructions.

Or

GAFGLAS® Mineral Surfaced Cap Sheet, Tri-Ply® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR 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. in a minimum 3 ply system in accordance with manufacturer's instructions.

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® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR 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. Topcoat® Elastomeric Roofing Membrane, Topcoat® MB Plus (to be used as a primer with Topcoat® Elastomeric Roofing Membrane) or Topcoat® Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design

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



Membrane Type: APP/SBS Heat-Weld

Deck Type 2I: Steel, Insulated

Deck Description: 22 ga. steel deck secured to 0.25 in. thick structural supports spaced 6' o.c. using two ICH Traxx/5 fasteners and 0.75 in. washers spaced 6 in. o.c. along each support. The deck side laps were fastened with ICH Traxx/1 fasteners spaced at 12 in. o.c. along each side lap.

System Type C(4): Base insulation loose laid; top layer of insulation is mechanically fastened.

Thermal Barrier: Minimum 1/4" DensDeck® Roof Board, DensDeck® Prime® Roof Board, DensDeck® (Optional) DuraGuard® Roof Board; 1/2" Securock® Gypsum-Fiber Roof Board or 3/4" EnergyGuard™ Perlite Roof Insulation loose laid on steel deck.

All General and System limitations apply.

One or more layers of each of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ Polyiso Insulation, EnergyGuard™ RA Polyiso Insulation, , EnergyGuard™ RH Polyiso Insulation, EnergyGuard™ RN Polyiso Insulation Minimum 1.5" thick	N/A	N/A

Note: Both layers shall be simultaneously attached; see top layer below for fasteners and density.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Securock® Gypsum-Fiber Roof Board Minimum 0.5" thick	1 & 6	1:1 ft²

Note: All layers of insulation and optional thermal barrier (when present) shall be mechanically attached using the fastener density listed above. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One or more plies of Ruberoid® SBS Heat-Weld™ 25 or Ruberoid® SBS Heat-Weld™ Smooth torch adhered with 3 in. wide side laps in accordance with manufacturer's instructions.

Membrane: Ruberoid® Torch Smooth, Tri-Ply® TP-4, Ruberoid® Torch Granule, Ruberoid® Torch 180, RoofMatch™ APP Modified Granular, Tri-Ply® TP-4G, Ruberoid® Torch FR, Ruberoid® EnergyCap™ Torch Plus FR or Ruberoid® EnergyCap™ Torch Granule FR torch adhered with 3 in. wide side laps in accordance with manufacturer's instructions.



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[®] Mineral Surfaced Cap Sheet or GAFGLAS[®] EnergyCap[™] BUR 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. Topcoat[®] Elastomeric Roofing Membrane, Topcoat[®] MB Plus (to be used as a primer with Topcoat[®] Elastomeric Roofing Membrane) or Topcoat[®] Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design

Pressure: -120 (See General Limitation # 7)

- Membrane Type:** SBS/APP
- Deck Type 2I:** Steel, Insulated
- Deck Description:** 22 ga. steel, 33 ksi, FM approved deck.
- System Type C(5):** All layers of insulation are mechanically attached to the roof deck. Membrane is adhered.
- Thermal Barrier:** 0.5” DensDeck® DuraGuard® Roof Board, DensDeck® Prime® Roof Board or Securock® Gypsum-Fiber Roof Board or Securock® Glass-Mat Roof Board, loose laid.
- Vapor Retarder:** Weather Watch® XT, UnderRoof™ 2 or UnderRoof™ HT is self-adhered to the thermal barrier and rolled with a weighted roller.

All General and System limitations apply.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
EnergyGuard™ Polyiso Insulation, EnergyGuard™ RH Polyiso Insulation, EnergyGuard™ RN Polyiso Insulation Minimum 1.5” thick	1,2,4,5,6,7,8	1:2.0 ft ²
EnergyGuard™ Polyiso Insulation, EnergyGuard™ RH Polyiso Insulation, EnergyGuard™ RN Polyiso Insulation Minimum 2” thick	1, 2, 4, 5, 6, 7, 8	1:4.0 ft ²

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

- Base Sheet:** One layer of Weather Watch® XT self-adhered with minimum 3” wide laps and roll with a weighted roller.
- Membrane:** One or more plies of Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR, Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR with minimum 3” wide laps and torch adhered in accordance with manufacturer's instructions.
Or
Ruberoid® Torch Smooth, Tri-Ply® TP-4, Ruberoid® Torch Granule, Ruberoid® Torch 180, RoofMatch™ APP Modified Granular, Tri-Ply® TP-4G, Ruberoid® Torch FR, Ruberoid® EnergyCap™ Torch Plus FR or Ruberoid® EnergyCap™ Torch Granule FR with minimum 3” wide laps and torch adhered in accordance with manufacturer's instructions.



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[®] Mineral Surfaced Cap Sheet or GAFGLAS[®] EnergyCap[™] BUR 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. Topcoat[®] Elastomeric Roofing Membrane, Topcoat[®] MB Plus (to be used as a primer with Topcoat[®] Elastomeric Roofing Membrane) or Topcoat[®] Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design

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



- Membrane Type:** SBS/APP
- Deck Type 2I:** Steel, Insulated
- Deck Description:** Min. 22 gauge, type B, wide rib steel deck, Grade 33 secured to minimum 0.25 in. thick steel structural supports spaced at maximum 72 in. o.c. with ICHTraxx/5, ICH Traxx/4, Teks 4 or Teks 5 fasteners, The deck is fastened to the structural steel supports with fasteners applied 6 in. o.c. The deck side laps are fastened 24 in. o.c. with ICH Traxx/1 or Stitch Teks 1 fasteners.
- System Type C(6):** All layers of insulation are mechanically attached to the roof deck. Membrane is adhered.
- Thermal Barrier:** 0.5" DensDeck® DuraGuard® Roof Board, DensDeck® Prime® Roof Board, Securock® Gypsum-Fiber Roof Board or Securock® Glass-Mat Roof Board, loose laid.
- Vapor Retarder:** Weather Watch® XT, UnderRoof™ 2 or UnderRoof™ HT is self-adhered to the thermal barrier and rolled with a weighted roller.

All General and System limitations apply.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
EnergyGuard™ Polyiso Insulation, EnergyGuard™ RA Polyiso Insulation, EnergyGuard™ RN Polyiso Insulation Minimum 2" thick	1,2,4,5,6,7,8	1:2.0 ft ²

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

- Base Sheet:** Self adhere one layer of Weather Watch® XT with minimum 3" wide laps and roll with a weighted roller.
- Membrane:** One or more plies of Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR with minimum 3" wide laps and torch adhered applied in accordance with manufacturer's instructions.
- Or
- Ruberoid® Torch Smooth, Tri-Ply® TP-4, Ruberoid® Torch Granule, Ruberoid® Torch 180, RoofMatch™ APP Modified Granular, Tri-Ply® TP-4G, Ruberoid® Torch FR, Ruberoid® EnergyCap™ Torch Plus FR or Ruberoid® EnergyCap™ Torch Granule FR with minimum 3" wide laps and torch adhered in accordance with manufacturer's instructions.



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[®] Mineral Surfaced Cap Sheet or GAFGLAS[®] EnergyCap[™] BUR 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. Topcoat[®] Elastomeric Roofing Membrane, Topcoat[®] MB Plus (to be used as a primer with Topcoat[®] Elastomeric Roofing Membrane) or Topcoat[®] Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design

Pressure: -52.5 psf. (See General Limitation # 7)



- Membrane Type:** SBS/APP
- Deck Type 2I:** Steel, Insulated
- Deck Description:** Min. 22 gauge, type B, wide rib steel deck, Grade 33 secured to minimum 0.25 in. thick steel structural supports spaced at maximum 72 in. o.c. with ICH Traxx/5, ICH Traxx/4, Teks 4 or Teks 5 fasteners, The deck is fastened to the structural steel supports with fasteners applied 6 in. o.c. The deck side laps are fastened 24 in. o.c. with ICH Traxx/1 or Stitch Teks 1 fasteners.
- System Type C(7):** All layers of insulation are mechanically attached to the roof deck. Membrane is adhered.
- Thermal Barrier:** 0.5” DensDeck® DuraGuard® Roof Board, DensDeck® Prime® Roof Board, Securock® Gypsum-Fiber Roof Board or Securock® Glass-Mat Roof Board, loose laid.
- Vapor Retarder:** Weather Watch® XT, UnderRoof™ 2 or UnderRoof™ HT is self-adhered to the thermal barrier and rolled with a weighted roller.

All General and System limitations apply.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ Polyiso Insulation, EnergyGuard™ RA Polyiso Insulation, EnergyGuard™ RH Polyiso Insulation, EnergyGuard™ RN Polyiso Insulation Minimum 2” thick to Maximum 12” thickness.	1,2,4,5,6,7,8	1:1.45 ft²
EnergyGuard™ Polyiso Insulation, EnergyGuard™ RA Polyiso Insulation, EnergyGuard™ RH Polyiso Insulation, EnergyGuard™ RN Polyiso Insulation Minimum 1.5” thick	1, 2, 4, 5, 6, 7, 8	1:1.33 ft²

Note: All layers of insulation shall be mechanically attached simultaneously using the fastener density listed above. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: Self adhere one layer of Weather Watch® XT with minimum 3” wide laps and roll with a weighted roller.

Membrane: One or more plies of Ruberoid® SBS Heat-Weld™ 25, Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR, Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR with minimum 3” wide laps and torch adhered applied in accordance with manufacturer's instructions.

Or

Ruberoid® Torch Smooth, Tri-Ply® TP-4, Ruberoid® Torch Granule, Ruberoid® Torch 180, RoofMatch™ APP Modified Granular, Tri-Ply® TP-4G, Ruberoid® Torch FR, Ruberoid® EnergyCap™ Torch Plus FR or Ruberoid® EnergyCap™ Torch Granule FR with minimum 3” wide laps and torch adhered in accordance with manufacturer's instructions.



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[®] Mineral Surfaced Cap Sheet or GAFGLAS[®] EnergyCap[™] BUR 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. Topcoat[®] Elastomeric Roofing Membrane, Topcoat[®] MB Plus (to be used as a primer with Topcoat[®] Elastomeric Roofing Membrane) or Topcoat[®] Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design

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



- Membrane Type:** APP/SBS
- Deck Type 2I:** Steel, Insulated
- Deck Description:** Min. 22 gauge, type B, wide rib steel deck, Grade 33 secured to minimum 0.25 in. thick steel structural supports spaced at maximum 72 in. o.c. with ICH Traxx/5, ICH Traxx/4, Teks 4 or Teks 5 fasteners. The deck is fastened to the structural steel supports with fasteners applied 6 in. o.c. The deck side laps are fastened 24 in. o.c. with ICH Traxx/1 or Stitch Teks 1 fasteners.
- System Type C(8):** All layers of insulation are mechanically attached to the roof deck. Membrane is adhered.
- Thermal Barrier:** 0.5 DensDeck® DuraGuard® Roof Board, DensDeck® Prime® Roof Board, Securock® Gypsum-Fiber Roof Board or Securock® Glass-Mat Roof Board, loose laid.
- Vapor Retarder:** Weather Watch® XT, UnderRoof™ 2 or UnderRoof™ HT is self-adhered to the thermal barrier and rolled with a weighted roller.

All General and System limitations apply.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ Polyiso Insulation, EnergyGuard™ RA Polyiso Insulation, EnergyGuard™ RH Polyiso Insulation, EnergyGuard™ RN Polyiso Insulation Minimum 1.5” thick to Maximum 12” thickness.	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Securock® Gypsum-Fiber Roof Board Minimum 0.25” thick	1, 2, 4, 6, 8	1:1.6 ft²

Note: All layers of insulation shall be mechanically attached simultaneously using the fastener density listed above. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

- Base Sheet:** Apply one layer of Weather Watch® XT self-adhered with minimum 3” wide laps and rolled with a weighted roller.
- Membrane:** One or more plies of Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR with minimum 3” wide laps and torch adhered in accordance with manufacturer's instructions.
- Or
- Ruberoid® Torch Smooth, Tri-Ply® TP-4, Ruberoid® Torch Granule, Ruberoid® Torch 180, RoofMatch™ APP Modified Granular, Tri-Ply® TP-4G, Ruberoid® Torch FR, Ruberoid® EnergyCap™ Torch Plus FR or Ruberoid® EnergyCap™ Torch Granule FR with minimum 3” wide laps and torch adhered in accordance with manufacturer's instructions.



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[®] Mineral Surfaced Cap Sheet or GAFGLAS[®] EnergyCap[™] BUR 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. Topcoat[®] Elastomeric Roofing Membrane, Topcoat[®] MB Plus (to be used as a primer with Topcoat[®] Elastomeric Roofing Membrane) or Topcoat[®] Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design

Pressure: -52.5 psf. (See General Limitation # 9)



Membrane Type: APP/SBS Heat-Weld

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

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

Thermal Barrier: Minimum 1/4" DensDeck® Roof Board, DensDeck® Prime® Roof Board, DensDeck® (Optional) DuraGuard® Roof Board; 1/2" Securock® Gypsum-Fiber Roof Board or 3/4" EnergyGuard™ Perlite Roof Insulation loose laid on steel deck.

All General and System limitations 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, EnergyGuard™ RH Polyiso Insulation, EnergyGuard™ RN Polyiso Insulation, EnergyGuard™ RA Composite Polyiso Insulation Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ Perlite Roof Insulation Minimum 0.75" thick	N/A	N/A
Securock® Gypsum-Fiber Roof Board Minimum 0.5" thick	N/A	N/A

Note: Insulation shall have preliminary attachment, prior to the installation of the base sheet, at a minimum 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. All layers of insulation and optional thermal barrier (when present) shall be mechanically attached using the fastener density listed below. See base sheet below for fasteners and density.

Base Sheet:	GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Eliminator™ Nailable Venting Base Sheet, Ruberoid® SBS Heat-Weld™ 25, Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth or Ruberoid® Dual Smooth base sheet applied over the loose laid insulation with 2" side laps fastened as specified below:
Fastening #1	Drill Tec™ #12 Fastener or Drill-Tec™ #14 Fastener and Drill-Tec™ 3" Steel Plate or Drill-Tec™ AccuTrac® Flat Plates are installed through the base sheet and insulation in 4 rows 12" on center. One row is in the 2" side lap. The other two rows are equally spaced approximately 12" o.c. in the field of the sheet. (Maximum Design Pressure –45 psf; See General Limitation #9)
Fastening #2	Drill Tec™ #12 Fastener or Drill-Tec™ #14 Fastener and Drill-Tec™ 3" Steel Plate or Drill-Tec™ AccuTrac® Flat Plates in 4 rows 12" on center. One row is in the 2" side lap. The other rows are equally spaced approximately 9 o.c. in the field of the sheet. (Maximum Design Pressure –60 psf; See General Limitation #7)
Ply Sheet: (Optional)	One or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6 or GAFGLAS® #80 Ultima™ Base Sheet 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® Torch Smooth, Tri-Ply® TP-4, Ruberoid® Torch Granule, , Ruberoid® Torch 180, RoofMatch™ APP Modified Granular, Tri-Ply® TP-4G, Ruberoid® Torch FR, Ruberoid® EnergyCap™ Torch Plus FR or torch applied in accordance with manufacturer's instructions.

Or

One or more plies of Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR torch applied or applied with an approved hot air welder in accordance with manufacturer's instructions.

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® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR 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. Topcoat® Elastomeric Roofing Membrane, Topcoat® MB Plus (to be used as a primer with Topcoat® Elastomeric Roofing Membrane) or Topcoat® Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design

Pressure: See Fastening Options Above

Membrane Type: SBS/SBS Cold Applied

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type D(2): Insulation and Base sheet simultaneously attached

Thermal Barrier: Minimum 1/4" DensDeck® Roof Board, DensDeck® Prime® Roof Board, DensDeck® (Optional) DuraGuard® Roof Board; 1/2" Securock® Gypsum-Fiber Roof Board or 3/4" EnergyGuard™ Perlite Roof Insulation loose laid on steel deck.

All General and System limitations 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, EnergyGuard™ RH Polyiso Insulation, EnergyGuard™ RN Polyiso Insulation, EnergyGuard™ RA Composite Polyiso Insulation Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ Perlite Roof Insulation Minimum 0.75" thick	N/A	N/A
Securock® Gypsum-Fiber Roof Board Minimum 0.5" thick	N/A	N/A

Note: Insulation shall have preliminary attachment, prior to the installation of the base sheet, at a minimum 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. All layers of insulation and optional thermal barrier (when present) shall be mechanically attached using the fastener density listed below.

Base Sheet: GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Eliminator™ Nailable Venting Base Sheet, Ruberoid® SBS Heat-Weld™ 25, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth or Ruberoid® Dual Smooth base sheet applied over the loose laid insulation with 2" side laps fastened as specified below:

Fastening #1 Drill-Tec™ #12 Fastener or Drill-Tec™ #14 Fastener and Drill-Tec™ 3" Steel Plate or Drill-Tec™ AccuTrac® Flat Plates are installed through the base sheet and insulation in 3 rows 12" on center. One row is in the 2" side lap. The other two rows are equally spaced approximately 12" o.c. in the field of the sheet.
(Maximum Design Pressure –45 psf; See General Limitation #9)

Fastening #2 Drill-Tec™ #12 Fastener or Drill-Tec™ #14 Fastener and Drill-Tec™ 3" Steel Plate or Drill-Tec™ AccuTrac® Flat Plates in 4 rows 12" on center. One row is in the 2" side lap. The other rows are equally spaced approximately 9" o.c. in the field of the sheet.
(Maximum Design Pressure –60 psf; See General Limitation #7)

Ply Sheet: One or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6 or (Optional) GAFGLAS® #80 Ultima™ Base Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. applied with accordance to manufacturer's instructions.



Membrane: One or more plies of Ruberoid® 20, Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop Granule, Tri-Ply® SBS Modified Bitumen Membrane, RoofMatch™ SBS Modified Granular, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus, Ruberoid® Mop FR, Ruberoid® EnergyCap™ Mop FR, Ruberoid® Mop 170 FR, Ruberoid® Dual FR or Ruberoid® EnergyCap™ 30 FR SBS Membrane 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.

Or

One or more plies of Ruberoid® 20, Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop Granule, Tri-Ply® SBS Modified Bitumen Membrane, RoofMatch™ SBS Modified Granular, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus, Ruberoid® Mop FR, Ruberoid® EnergyCap™ Mop FR, Ruberoid® Mop 170 FR, Ruberoid® Dual FR or Ruberoid® EnergyCap™ 30 FR SBS Membrane adhered with Matrix 102 SBS Membrane Adhesive at an application rate of 1-2 gal./sq. in accordance with manufacturer's instructions.

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® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR 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. Topcoat® Elastomeric Roofing Membrane, Topcoat® MB Plus (to be used as a primer with Topcoat® Elastomeric Roofing Membrane) or Topcoat® Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design

Pressure: See Fastening Option Above



Membrane Type: SBS Cold Applied

Deck Type 2I: Steel, Insulated

Deck Description: 18, 20, 22 ga. type B, wide rib, 1.5 in. deep new steel deck secured to minimum 0.25 in. thick structural supports spaced 6' o.c. at maximum with Tek 4, Tek 5, ICH Traxx/4 or ICH Traxx/5 fasteners spaced maximum 6 in. o.c. along each support. Deck side laps are fastened with Stitch Tek 1 or ICH Traxx/1 fasteners spaced 24 in. o.c. at maximum.

System Type D(3): Insulation is loose laid; base sheet is mechanically fastened through insulation to the roof deck.

Thermal Barrier: Minimum 1/4" DensDeck® Roof Board, DensDeck® Prime® Roof Board, (Optional) DensDeck® DuraGuard® Roof Board; 1/2" Securock® Gypsum-Fiber Roof Board or 3/4" EnergyGuard™ Perlite Roof Insulation loose laid on steel deck.

All General and System Limitations shall apply.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ Polyiso Insulation, EnergyGuard™ RH Polyiso Insulation, EnergyGuard™ RN Polyiso Insulation Minimum 1.5" thick	N/A	N/A

Note: Insulation shall have preliminary attachment, prior to the installation of the base sheet, at a minimum 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. All layers of insulation and optional thermal barrier (when present) shall be simultaneously fastened. See base sheet below for fasteners and density.

Base Sheet: GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Eliminator™ Nailable Venting Base Sheet, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth or Ruberoid® Dual Smooth mechanically attached through the insulation to the steel deck with Drill-Tec™ #12 Fasteners or Drill-Tec™ #14 Fasteners and Drill-Tec™ AccuTrac® Flat Plates, AccuTrac® Recessed Plates, Drill-Tec™ 3" Standard Steel Plates, or Drill-Tec™ 3" Steel Plates spaced 6 in. o.c. within the minimum 3.5 in. wide side laps and 12 in. o.c. in the field of the sheet in three staggered rows. Base sheet side laps and fastener rows are perpendicular to the direction of the steel deck ribbing.

Ply Sheet : One or more plies of Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth or Ruberoid® Dual Smooth adhered to the base sheet with minimum 4.0 in. wide laps with Matrix™ 102 SBS Membrane Adhesive applied at total rate of 2.0 gal./sq. The base ply/adhesive/base sheet combination is permitted to cure overnight.



Membrane: One or more plies of Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop Granule, Tri-Ply® SBS Modified Bitumen Membrane, RoofMatch™ SBS Modified Granular, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus, Ruberoid® Mop FR, Ruberoid® EnergyCap™ Mop FR, Ruberoid® Mop 170 FR, Ruberoid® Dual FR, Ruberoid® EnergyCap™ SBS 30 FR SBS Membrane adhered to the base ply with Matrix 102 SBS Membrane adhesive applied at a total rate of 2.0 gal./sq. The side laps are minimum 3.75 in. wide and sealed with minimum 3.75 in. wide heat welds positioned on the outer edge of the laps. The end laps are minimum 6.0 in wide and sealed with Matrix 102 SBS Membrane Adhesive applied at a total rate of 2.0 gal./sq. applied in accordance with manufacturer's instructions

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® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR 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. Topcoat® Elastomeric Roofing Membrane, Topcoat® MB Plus (to be used as a primer with Topcoat® Elastomeric Roofing Membrane) or Topcoat® Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design

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

Membrane Type: SBS Heat-Weld

Deck Type 2I: Steel

Deck Description: Minimum 22 ga. type B, wide rib steel deck, grade 33 secured to 0.25 in. (6.4 mm) thick structural supports spaced at 6' o.c. using Traxx/5 screws spaced at 6 in o.c. and with side laps secured with Traxx/1 screws spaced at 24 in. o.c.

System Type D(4): Insulation is loose laid; preliminary attachment to deck.

Thermal Barrier: Minimum 1/4" DensDeck® Roof Board, DensDeck® Prime® Roof Board, DensDeck® (Optional) DuraGuard® Roof Board; 1/2" Securock® Gypsum-Fiber Roof Board or 3/4" EnergyGuard™ Perlite Roof Insulation loose laid on steel deck.

All General and System limitations apply.

One or more layers of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
EnergyGuard™ Polyiso Insulation , EnergyGuard™ RA Polyiso Insulation, EnergyGuard™ RH Polyiso Insulation, EnergyGuard™ RN Polyiso Insulation Minimum 1.5" thick	N/A	N/A

Note: Insulation shall have preliminary attachment, prior to the installation of the base sheet, at a minimum 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. All layers of insulation, optional thermal barrier (when present) and base sheet shall be simultaneously fastened. See base sheet below for fasteners and density.

Base Ply: One of the following Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth or Ruberoid® Dual Smooth fastened to the deck with Drill-Tec™ #12 Fasteners, Drill-Tec™ AccuTrac® Flat Plates, AccuTrac® Recessed Plates or Drill-Tec™ 3" Standard Steel Plates spaced 6.0 in o.c. through the minimum 3.25 in wide side laps.

Membrane: One or more plies of Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR torched adhered or applied with an approved hot air welder with minimum 3 in wide laps. in accordance with manufacturer's instructions.

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® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR 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. Topcoat® Elastomeric Roofing Membrane, Topcoat® MB Plus (to be used as a primer with Topcoat® Elastomeric Roofing Membrane) or Topcoat® Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design Pressure: -112.5 (See General Limitation # 7)



Membrane Type: SBS Heat-Weld

Deck Type 2I: Steel, Insulated

Deck Description: Minimum 22 ga. type B, wide rib steel deck, grade 33 was secured to 0.25 in. (6.4 mm) thick structural supports spaced at 6' o.c. using Traxx/5 screws spaced at 6 in o.c. and with side laps secured with Traxx/1 screws spaced at 24 in. o.c.

System Type D(5): Insulation is loose laid; preliminary attachment to deck.

Thermal Barrier: Minimum 1/4" DensDeck® Roof Board, DensDeck® Prime® Roof Board, DensDeck® (Optional) DuraGuard® Roof Board; 1/2" Securock® Gypsum-Fiber Roof Board or 3/4" EnergyGuard™ Perlite Roof Insulation loose laid on steel deck.

All General and System limitations apply.

One or more layers of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ Polyiso Insulation, EnergyGuard™ RA Polyiso Insulation, EnergyGuard™ RH Polyiso Insulation, EnergyGuard™ RN Polyiso Insulation Minimum 1.5" thick	N/A	N/A

Note: Insulation shall have preliminary attachment, prior to the installation of the base sheet, at a minimum 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. All layers of insulation, optional thermal barrier (when present) and base sheet shall be simultaneously fastened. See base sheet below for fasteners and density.

Base Ply: One ply of the following Ruberoid® Mop Smooth, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Dual Smooth fastened to the deck with Drill-Tec™ AccuTrac® Flat Plates and Drill-Tec™ 3" Standard Steel Plates with Drill-Tec™ #12 Fasteners spaced 12 in. o.c. through the minimum 3.5 in. wide side laps.

Membrane: One or more plies of Ruberoid® SBS Heat-Weld™ Smooth, Ruberoid® SBS Heat-Weld™ Granule, Ruberoid® SBS Heat-Weld™ 170 FR, Ruberoid® SBS Heat-Weld™ Plus, Ruberoid® SBS Heat-Weld™ Plus FR or Ruberoid® EnergyCap™ SBS Heat-Weld™ Plus FR torched adhered or applied with an approved hot air welder with minimum 3 in wide laps in accordance with manufacturer's instructions.

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® Mineral Surfaced Cap Sheet or GAFGLAS® EnergyCap™ BUR 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. Topcoat® Elastomeric Roofing Membrane, Topcoat® MB Plus (to be used as a primer with Topcoat® Elastomeric Roofing Membrane) or Topcoat® Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design

Pressure: -52.5 (See General Limitation # 7)



Membrane Type: SBS Heat-Weld

Deck Type 2I: Steel, Insulated

Deck Description: Minimum 22 ga. type B, wide rib steel deck, grade 33 secured to 0.25 in. (6.4 mm) thick structural supports spaced at 6' o.c. using Traxx/5 screws spaced at 6 in. o.c. and with side laps secured with Traxx/1 screws spaced at 24 in. o.c.

System Type D(6): Insulation is loose laid; preliminary attachment to deck.

Thermal Barrier: Minimum 1/4" DensDeck® Roof Board, DensDeck® Prime® Roof Board, DensDeck® (Optional) DuraGuard® Roof Board; 1/2" Securock® Gypsum-Fiber Roof Board or 3/4" EnergyGuard™ Perlite Roof Insulation loose laid on steel deck.

All General and System limitations apply.

One or more layers of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ Polyiso Insulation, EnergyGuard™ RH Polyiso Insulation Minimum 1.5" thick	N/A	N/A

Note: Insulation shall have preliminary attachment, prior to the installation of the base sheet, at a minimum 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. All layers of insulation, optional thermal barrier (when present) and base sheet shall be simultaneously fastened. See base sheet below for fasteners and density.

Base Ply: One ply of Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth or Ruberoid® Dual Smooth fastened to the deck with Drill-Tec™ #12 Fasteners and Drill-Tec™ 3" Standard Steel Plates spaced 18 in o.c. through the minimum 3.25 in. wide side laps and in two staggered rows in the field of the sheet.

Ply Sheet: Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth or Ruberoid® Dual Smooth adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. applied in accordance with manufacturer's instructions.

Membrane: One or more plies of Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop Granule, Tri-Ply® SBS Modified Bitumen Membrane, RoofMatch™ SBS Modified Granular, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus, Ruberoid® Mop FR, Ruberoid® EnergyCap™ Mop FR, Ruberoid® Mop 170 FR, Ruberoid® Dual FR or Ruberoid® EnergyCap™ 30 FR SBS Membrane adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-25 lbs./sq. applied in accordance with manufacturer's instructions.



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[®] Mineral Surfaced Cap Sheet or GAFGLAS[®] EnergyCap[™] BUR 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. Topcoat[®] Elastomeric Roofing Membrane, Topcoat[®] MB Plus (to be used as a primer with Topcoat[®] Elastomeric Roofing Membrane) or Topcoat[®] Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design

Pressure: -82.5 (See General Limitation # 7)

Membrane Type: SBS Heat-Weld

Deck Type 2I: Steel, Insulated

Deck Description: Minimum 22 ga. type B, wide rib steel deck, grade 33 secured to 0.25 in. (6.4 mm) thick structural supports spaced at 6' o.c. using Traxx/5 screws spaced at 6 in. o.c. and with side laps secured with Traxx/1 screws spaced at 24 in. o.c.

System Type D(7): Insulation is loose laid; preliminary attachment to deck.

Thermal Barrier: Minimum 1/4" DensDeck® Roof Board, DensDeck® Prime® Roof Board, DensDeck® (Optional) DuraGuard® Roof Board; 1/2" Securock® Gypsum-Fiber Roof Board or 3/4" EnergyGuard™ Perlite Roof Insulation loose laid on steel deck.

All General and System limitations apply.

One or more layers of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ Polyiso Insulation, EnergyGuard™ RA Polyiso Insulation, EnergyGuard™ RH Polyiso Insulation, EnergyGuard™ RN Polyiso Insulation Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
EnergyGuard™ Perlite Roof Insulation Minimum 0.75" thick	N/A	N/A

Note: Insulation shall have preliminary attachment, prior to the installation of the base sheet, at a minimum 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. All layers of insulation, optional thermal barrier (when present) and base sheet shall be simultaneously fastened. See base sheet below for fasteners and density.

Base Sheet: GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet or GAFGLAS® Stratavent® Eliminator™ Nailable Venting Base Sheet applied over the loose laid insulation with 2" side laps fastened with Drill-Tec™ #12 Fastener or Drill-Tec™ #14 Fastener and Drill-Tec™ 3" Steel installed through the base sheet and insulation maximum 18" o.c. through the minimum 2 in. wide side laps and in 3 rows staggered in the field on the sheet at max. 18 in. o.c.

Ply Sheet: One or more plies of Ruberoid® 20, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth or Ruberoid® Dual Smooth adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. applied in accordance with manufacturer's instructions.

Membrane: One or more plies of Ruberoid® 30, Ruberoid® 30 FR, Ruberoid® Mop Granule, Tri-Ply® SBS Modified Bitumen Membrane, RoofMatch™ SBS Modified Granular, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus, Ruberoid® Mop FR, Ruberoid® EnergyCap™ Mop FR, Ruberoid® Mop 170 FR, Ruberoid® Dual FR or Ruberoid® EnergyCap™ 30 FR SBS Membrane adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. applied in accordance with manufacturer's instructions.



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[®] Mineral Surfaced Cap Sheet or GAFGLAS[®] EnergyCap[™] BUR 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. Topcoat[®] Elastomeric Roofing Membrane, Topcoat[®] MB Plus (to be used as a primer with Topcoat[®] Elastomeric Roofing Membrane) or Topcoat[®] Surface Seal SB applied at 1 to 1.5 gal./sq.

Maximum Design

Pressure: -45 (See General Limitation # 9)

STEEL DECK SYSTEM LIMITATIONS:

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

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 with Roofing Application Standard RAS 111 and applicable wind load requirements.
9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). **(When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)**
10. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 9N-3 of the Florida Administrative Code.

END OF THIS ACCEPTANCE



NOA No.: 13-0409.06
Expiration Date: 11/06/14
Approval Date: 10/24/13
Page 50 of 50