



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

## NOTICE OF ACCEPTANCE (NOA)

MIAMI-DADE COUNTY  
PRODUCT CONTROL SECTION

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Miami, Florida 33175-2474  
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[www.miamidade.gov/economy](http://www.miamidade.gov/economy)

**GAF**  
**1 Campus Drive**  
**Parsippany, NJ 07054**

### SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

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

**DESCRIPTION:** GAF Ruberoid® Modified Bitumen Roof System for Lightweight Concrete Decks.

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

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

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

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

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

This NOA renews and revises NOA No. 24-1001.10 and consists of pages 1 through 30.

The submitted documentation was reviewed by Jorge L. Acebo.

11/26/25



NOA-No.: 25-0926.07  
Expiration Date: 11/06/30  
Approval Date: 11/26/25  
Page 1 of 30

## ROOFING SYSTEM APPROVAL

<b>Category:</b>	Roofing
<b>Sub-Category:</b>	Modified Bitumen
<b>Material:</b>	APP/SBS
<b>Deck Type:</b>	Lightweight Concrete
<b>Maximum Design Pressure:</b>	-82.5 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	Smooth surfaced asphaltic ply sheet reinforced with fiberglass mat.
Tri-Ply® Ply 4	39.37" (1 meter) Wide	ASTM D2178	Smooth surfaced asphaltic ply sheet reinforced with a fiberglass mat.
GAFGLAS® FlexPly™ 6	39.37" (1 meter) Wide	ASTM D2178	Smooth surfaced asphaltic ply sheet reinforced with fiberglass mat.
GAFGLAS® #75 Base Sheet	39.37" (1 meter) Wide	ASTM D4601	Smooth asphaltic base or base/ply sheet reinforced with fiberglass mat.
Tri-Ply® #75 Base Sheet	39.37" (1 meter) Wide	ASTM D4601	Smooth asphaltic base or base/ply sheet reinforced with a fiberglass mat.
GAFGLAS® #80 Ultima™ Base Sheet	39.37" (1 meter) Wide	ASTM D4601	Smooth asphaltic base or base/ply sheet reinforced with fiberglass mat.
GAFGLAS® Stratavent® Perforated Venting Base Sheet	39.37" (1 meter) Wide	ASTM D4897	Smooth surfaced asphaltic perforated venting base sheet reinforced with fiberglass mat.
GAFGLAS® Stratavent® Nailable Venting Base Sheet	39.37" (1 meter) Wide	ASTM D4897	Smooth surfaced asphaltic nailable venting base sheet reinforced with fiberglass mat. Bottom side surfaced with granules.
GAFGLAS® Mineral-Surfaced Cap Sheet	39.37" (1 meter) Wide	ASTM D3909	Granule surfaced asphaltic cap sheet reinforced with fiberglass mat.
Tri-Ply® BUR Granule Cap Sheet	39.37" (1 meter) Wide	ASTM D3909	Granule surfaced asphaltic cap sheet reinforced with a fiberglass mat.
GAFGLAS® EnergyCap™ Mineral-Surfaced Cap Sheet	39.37" (1 meter) Wide	ASTM D3909	Granule surfaced asphaltic cap sheet reinforced with fiberglass mat. Cap sheet is factory coated with EnergyCote™.
Ruberoid® HW 25 Smooth	39.37" (1 meter) Wide	ASTM D6163	Smooth surfaced torch applied SBS base or ply sheet reinforced with a fiberglass mat.
Ruberoid® HW Smooth	39.37" (1 meter) Wide	ASTM D6164	Smooth surfaced torch applied SBS base or ply sheet reinforced with a polyester mat.
Ruberoid® HW Granule	39.37" (1 meter) Wide	ASTM D6164	Granule surfaced torch applied SBS cap sheet reinforced with a polyester mat.

<b><u>Product</u></b>	<b><u>Dimensions</u></b>	<b><u>Test Specification</u></b>	<b><u>Product Description</u></b>
Ruberoid® HW Granule FR	39.37" (1 meter) Wide	ASTM D6164	Fire retardant granule surfaced heat-welded SBS cap sheet reinforced with a polyester mat.
Ruberoid® HW Plus Granule	39.37" (1 meter) Wide	ASTM D6164	Granule surfaced torch applied SBS cap sheet reinforced with a polyester mat.
Ruberoid® HW Plus Granule FR	39.37" (1 meter) Wide	ASTM D6164	Fire retardant granule surfaced torch applied SBS cap sheet reinforced with a polyester mat.
Ruberoid® EnergyCap™ HW Plus Granule FR	39.37" (1 meter) Wide	ASTM D6164	Fire retardant granule surfaced heat-welded SBS cap sheet reinforced with a polyester mat. Cap sheet is factory coated with EnergyCote™.
Ruberoid® Torch Smooth	39.37" (1 meter) Wide	ASTM D6222	Smooth surfaced torch applied APP base or ply sheet reinforced with a polyester mat.
Tri-Ply® APP Smooth	39.37" (1 meter) Wide	ASTM D6222	Smooth surfaced torch applied APP cap, base or ply sheet reinforced with a polyester mat.
Ruberoid® Torch Granule	39.37" (1 meter) Wide	ASTM D6222	Granule surfaced torch applied APP cap sheet reinforced with a polyester mat.
Tri-Ply® APP Granule	39.37" (1 meter) Wide	ASTM D6222	Granule surfaced torch applied APP cap sheet reinforced with a polyester mat.
Ruberoid® Torch Plus Granule FR	39.37" (1 meter) Wide	ASTM D6222	Fire retardant granule surfaced torch applied APP cap sheet reinforced with a polyester mat.
Ruberoid® EnergyCap™ Torch Granule FR	39.37" (1 meter) Wide	ASTM D6222	Fire retardant granule surfaced torch applied APP cap sheet reinforced with a polyester mat. Cap sheet is factory coated with EnergyCote™.
Ruberoid® 20 Smooth	39.37" (1 meter) Wide	ASTM D6163	SBS polymer-modified asphalt base or ply sheet reinforced with a fiberglass mat.
Ruberoid® 30 Granule	39.37" (1 meter) Wide	ASTM D6163	Granule surfaced mop applied SBS cap sheet reinforced with a fiberglass mat.
Ruberoid® 30 Granule FR	39.37" (1 meter) Wide	ASTM D6163	Fire retardant granule surfaced mop applied SBS cap sheet reinforced with fiberglass mat.
Ruberoid® 30 Plus Granule FR	39.37" (1 meter) Wide	ASTM D6163	Fire retardant granule surfaced mop applied SBS cap sheet reinforced with fiberglass mat.
Ruberoid® Mop Granule	39.37" (1 meter) Wide	ASTM D6164	Granule surfaced mop applied SBS cap sheet reinforced with a polyester mat.
Tri-Ply® SBS Granule	39.37" (1 meter) Wide	ASTM D6164	Granule surfaced mop applied SBS cap sheet reinforced with a polyester mat.
Intec Flex PRF	39.37" (1 meter) Wide	ASTM D6164	Granule surfaced mop applied SBS cap sheet reinforced with a polyester mat.
Ruberoid® Mop Smooth	39.37" (1 meter) Wide	ASTM D6164	Smooth surfaced mop applied SBS base or ply sheet reinforced with a polyester mat.

<b><u>Product</u></b>	<b><u>Dimensions</u></b>	<b><u>Test Specification</u></b>	<b><u>Product Description</u></b>
Ruberoid® Mop Smooth 1.5	39.37" (1 meter) Wide	ASTM D6164	Smooth surfaced mop applied SBS base or ply sheet reinforced with a polyester mat.
Ruberoid® Mop Plus Smooth	39.37" (1 meter) Wide	ASTM D6164	Smooth surfaced mop applied SBS base or ply sheet reinforced with a polyester mat.
Ruberoid® Mop Plus Granule	39.37" (1 meter) Wide	ASTM D6164	Granule surfaced mop applied SBS cap sheet reinforced with a polyester mat.
Ruberoid® Mop Plus Granule FR	39.37" (1 meter) Wide	ASTM D6164	Fire retardant granule surfaced mop applied SBS cap sheet reinforced with a polyester mat.
Ruberoid® EnergyCap™ Mop Plus Granule FR	39.37" (1 meter) Wide	ASTM D6164	Fire retardant granule surfaced mop applied SBS cap sheet reinforced with a polyester mat. Cap sheet is factory coated with EnergyCote™.
Ruberoid® Mop Granule FR	39.37" (1 meter) Wide	ASTM D6164	Fire retardant granule surfaced mop applied SBS cap sheet reinforced with a polyester mat.
Ruberoid® EnergyCap™ 30 Granule FR	39.37" (1 meter) Wide	ASTM D6163	Fire retardant granule surfaced mop applied SBS cap sheet reinforced with a fiberglass mat. Cap sheet is factory coated with EnergyCote™.
Matrix™ 102 SBS Membrane Adhesive	3, 5, and 55 gallons	ASTM D3019	Fiber reinforced rubberized cold-applied adhesive for modified bitumen roof systems.
Matrix™ 307 Premium Asphalt Primer	3, 5 or 55 gallons	ASTM D41	Asphalt concrete primer used to promote adhesion of all types of asphalt-based roofing materials.

## APPROVED INSULATIONS:

**TABLE 2**  
**Product Description**

<b>Product Name</b>	<b>Product Description</b>	<b>Manufacturer (With Current NOA)</b>
EnergyGuard™ Polyiso Insulation	Polyisocyanurate foam insulation	GAF
EnergyGuard™ RA Polyiso Insulation	Polyisocyanurate foam insulation	GAF
DensDeck® 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	Phillips head, modified buttress thread, pinch point, carbon steel fastener for use in steel or wood decks. With CR-10 coating. Available with a pinch point or drill point.	#12 x 8" max. length, #3 Phillips head.	GAF
2.	Drill-Tec™ #14 Fastener	Truss head, self-drilling, pinch point, high thread fastener for use in steel, wood or concrete decks.	#14 x 16" max. length, #3 Phillips head.	GAF
3.	Drill-Tec™ XHD Fastener	Truss head, self-drilling, pinch point, high thread fastener for use in wood or steel decks.	#15 x 16" max. length, #3 Phillips head.	GAF
4.	Drill-Tec™ Base Sheet Fastener (1.2 in.)	G-90 galvanized fastener with plate for base sheet attachment to gypsum decks and on lightweight insulating concrete decks. Coated with CR-10 fluorocarbon coating.	1.125" head x 1.2" length 2.75" Galvalume® steel stress plate.	GAF
5.	Drill-Tec™ Base Sheet Fastener (1.7 in.)	G-90 galvanized fastener with plate for base sheet attachment to gypsum decks and on lightweight insulating concrete decks. Coated with CR-10 fluorocarbon coating.	1.125" head x 1.75" length. 2.75" Galvalume steel stress plate.	GAF
6.	Drill-Tec™ Base Sheet Fastener E (1.2 in.)	Galvanized fastener with plate for base sheet attachment to gypsum decks and lightweight insulating concrete decks	1.125" head x 1.2" length. 2.75" Galvalume steel stress plate. and 2.7" head x 1.7" long	GAF
7.	Drill-Tec™ Base Sheet Fastener E (1.7 in.)	Galvanized fastener with plate for base sheet attachment to gypsum decks and lightweight insulating concrete decks	1.125" head x 1.2" length. 2.75" Galvalume steel stress plate. and 2.7" head x 1.7" long	GAF

## APPROVED FASTENERS:

Fastener Number	Product Name	TABLE 3 Product Description	Dimensions	Manufacturer (With Current NOA) GAF
8.	Drill-Tec™ Locking Impact Nail	Preassembled fastener/plate unit for base ply and insulation attachment to cementitious wood fiber, poured gypsum and lightweight insulating concrete decks.	Various	GAF
9.	Drill-Tec™ AccuTrac® Flat Plate	A2-SS aluminized steel plate for use with Drill-Tec™ fasteners.	3" square; .017" thick	GAF
10.	Drill-Tec™ AccuTrac® Recessed Plate	Galvalume® steel plate with recess for use with Drill-Tec™ fasteners.	3" square; .017" thick.	GAF
11.	Drill-Tec™ 3" Steel Plates	Round Galvalume® steel stress plate with reinforcing ribs and recessed for use with Drill-Tec™ fasteners.	3" Round	GAF
12.	Drill-Tec™ CD-10	Carbon steel expansion fastener for use in structural concrete decks. CR-10 coated.	0.214" min. dia. x 12" max. length; wafer head	GAF
13.	Drill-Tec™ 2 in. Barbed Plate	Round galvanized steel stress plates for use with Drill-Tec™ fasteners.	2" Round	GAF
14.	Drill-Tec™ 2 in. Double Barbed XHD Plate	Round galvanized steel stress plates for use with Drill-Tec™ fasteners.	2" Round	GAF

**EVIDENCE SUBMITTED:**

<u>Test Agency/Identifier</u>	<u>Name</u>	<u>Report</u>	<u>Date</u>
FM Approvals	FMRC 4470	0D0A8.AM	07/09/97
	FMRC 4470	2B8A4.AM	07/02/97
	FMRC 4470	3005640	11/09/00
	FMRC 4470	3006845	10/17/00
	FMRC 4470	3005175	05/23/00
	FMRC 4470	3005177	05/19/00
	FMRC 4470	3007500	06/15/00
	FMRC 4470	3008178	12/27/00
	FMRC 4470	1B9A8.AM	09/04/97
	FMRC 4470	3D4Q2.AM	04/30/97
	FMRC 4470	3017250	04/05/04
	FMRC 4470	3041005	05/31/11
	FMRC 4470	3042887	11/14/11
	FMRC 4470	3040738	11/16/10
	FMRC 4470	3014547	05/22/03
	FMRC 4470	3036980	08/14/09
	FMRC 4470	3029832	05/11/07
	FMRC 4470	3022508	07/20/05
	FMRC 4470	3047104	08/29/13
	FMRC 4470	797-09999-267	10/30/14
	FMRC 4470	797-10228-267	01/15/15
	FMRC 4470	RR203450	12/04/15
	FMRC 4470	FM Letter	04/11/13
	FMRC 4470	FM Letter	09/15/15
UL LLC	R10689	UL 790	09/24/25
	R1306	UL 790	10/17/25
Exterior Research & Design, LLC	TAS 114	4483.04.97-1	06/06/97
Trinity   ERD	ASTM D6163	G46160.02.15-2D-1	02/09/16
	TAS 114	SC8580.11.15-3	11/09/15
	ASTM D6163	SC10680.05.16	05/10/16
	ASTM D6164	SC13105.03.17-R1	03/23/17
	ASTM D1876	SC12880.09.16	09/28/16
	ASTM D1897	SC8580.01.16-6-R1	12/02/16
Atlantic & Caribbean Roof Consulting, LLC	TAS 114-J	06-044	11/16/06
	TAS 114-J	06-048	12/21/06
	TAS 114-J	06-049	12/22/06
	TAS 114-J	12-015	04/24/12
	TAS 114-J	15-028	12/01/15
	TAS 114-J	16-002	03/04/16
NEMO ETC, LLC	ASTM D6163	4Q-GAF-19-SSMBB-02.A	04/08/19
	ASTM D6164	4q-GAF-22-SSMBB-01.A	04/22/23
	ASTM D2178	4S-GAF-18-001.01.19-1	01/02/19
	ASTM D6222	4S-GAF-18-001.03.19.A-R1	03/13/19
	ASTM D6163	4S-GAF-18-001.11.18	11/06/18



**EVIDENCE SUBMITTED: (CONTINUED)**

<u>Test Agency/Identifier</u>	<u>Name</u>	<u>Report</u>	<u>Date</u>
PRI Construction Materials Technologies LLC.	TAS 139	GAF-671-02-01	06/30/16
	ASTM D1876	GAF-559-02-04	03/04/15
	ASTM D1876	GAF-559-02-04	03/04/15
	ASTM D1876	GAF-559-02-05	03/04/15
	ASTM D6164	PRI 376T0140	08/18/21
	ASTM D6163	PRI 376T0141	01/26/22
	ASTM D6222	PRI 376T0143	08/23/21
	ASTM D6222	PRI 376T0144	08/26/21
	ASTM D6164	PRI 376T0220	03/08/22
	ASTM D6164	PRI 376T0221	01/17/22
	ASTM D6222	PRI 376T0222	01/18/22
	ASTM D4897	PRI 376T0227	12/20/21
	ASTM D4897	PRI 376T0228	12/20/21
	ASTM D4601	PRI 376T0229	12/20/21
	ASTM D6222	PRI 376T0230	03/24/22
	ASTM D4601	PRI 376T0240	12/21/21
	ASTM D3909	PRI 376T0272	02/03/22
	ASTM D6222	PRI 376T0273	05/04/22
	ASTM D6222	PRI 376T0274	05/04/22
	ASTM D2178	PRI 376T0275	01/31/22
	ASTM D6163	PRI 376T0480	04/12/24
	ASTM D6164	PRI 376T0481	01/07/24
	ASTM D6164	PRI 376T0482	01/07/24
	ASTM D6164	PRI 376T0483	07/12/24
	ASTM D6164	PRI 376T0486	04/12/24
	ASTM D6163	PRI 824T0047	06/30/22
	ASTM D6164	PRI 824T0051	06/09/22

**DECK STRESS ANALYSIS CALCULATIONS/REPORTS**

<u>Engineer/Agency</u>	<u>Identifier</u>	<u>Assemblies:</u>	<u>Date</u>
FM Approval Deck Limitations	N/A	A(1), A(2), A(3), A(4), E(1), E(2), E(5)	01/01/13
Robert Nieminen, P.E.	Letter	E(3), E(4)	09/12/18
	Report	E(6)	11/09/15
Randall Fowler, P.E.	Letter	E(7), E(8)	02/12/16
	Letter	E(9), E(10)	03/15/16



## APPROVED ASSEMBLIES

**Membrane Type:** APP/SBS

**Deck Type 4I:** Lightweight Concrete, Insulated, (See System Limitation)

**Deck Description:** Minimum 300 psi Celcore Cellular Lightweight Concrete with minimum 1" EPS Holey Board. Minimum 2" slurry coat poured over the EPS, When LWC is set up to support foot traffic apply Celcore PVA Curing Compound to the top surface at a rate of 300 ft<sup>2</sup>/gal.

**System Type A(1):** Anchor sheet mechanically fastened; one or more layers of insulation adhered with approved asphalt.

**Deck:** Structural concrete deck or Minimum 22 ga. Grade 33 steel deck secured 6" o.c. to structural supports spaced a maximum of 5 ft. o.c. with 5/8" puddle welds with washer and side laps with Tek 1 or Tek 3 at 30" o.c.

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

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

**Anchor Sheet:** Install one ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Nailable Venting Base Sheet, Ruberoid® 20 Smooth, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth or mechanically fastened as described below.

**Fasteners:** Drill-Tec™ Base Sheet Fasteners (1.7) or Drill-Tec™ Base Sheet Fastener E (1.7) at a fastener spacing of 9" o.c. at the 2" wide side laps and 9" o.c. in two equally spaced rows in the field of the base sheet.

Or

Drill-Tec™ Base Sheet Fasteners (1.7) or Drill-Tec™ Base Sheet Fastener E (1.7) at a fastener spacing of 12" o.c. at the 2" wide side laps and 12" o.c. in three equally spaced rows in the field of the base sheet.

One or more layers of any of the following insulations.

**Insulation Layer**

**Insulation Fasteners  
(Table 3)**

**Fastener  
Density/ft<sup>2</sup>**

**EnergyGuard™ Polyiso Insulation**

**Minimum 1.4" thick**

N/A

N/A

**EnergyGuard™ RA Polyiso Insulation**

**Minimum 1½" thick**

N/A

N/A

**DensDeck® Roof Board, SECUROCK® Gypsum-Fiber Roof Board**

**Minimum ½" thick**

N/A

N/A

**Note:** All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs. 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 Smooth, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth adhered to the insulation in a full mopping of an approved asphalt at an application rate of 25 lbs./sq. ± 15% see General Limitation #4.

Or

One ply of GAFGLAS® Stratavent® Perforated Venting Base Sheet loose laid dry followed by a mopped ply sheet listed below.

Ply Sheet: (Optional)	<b>(Required over GAFGLAS® Stratavent® Perforated Venting Base Sheet or if membrane is Mineral-Surfaced Cap Sheets)</b> One or more plies 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 Smooth, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth in an approved asphalt at an application rate of 20-40 lbs./sq.
Membrane:	<p>One or more plies of Ruberoid® Torch Smooth, Tri-Ply® APP Smooth, Ruberoid® Torch Granule, , Tri-Ply® APP Granule, Ruberoid® Torch Plus Granule FR or Ruberoid® EnergyCap™ Torch Granule FR torch applied according to manufacturer's application instructions.</p> <p>Or</p> <p>One or more plies Ruberoid® HW 25 Smooth, Ruberoid® HW Smooth, Ruberoid® HW Granule, Ruberoid® HW Granule FR, Ruberoid® HW Plus Granule, Ruberoid® HW Plus Granule FR or Ruberoid® EnergyCap™ HW Plus Granule FR applied according to manufacturer's application instructions.</p> <p>Or</p> <p>One or more plies Ruberoid® Mop Granule, Tri-Ply® SBS Granule or Intec Flex PRF adhered in an approved asphalt at an application rate of 20-40 lbs./sq. applied according to manufacturer's application instructions.</p> <p>Or</p> <p><b>(Only for use over Ruberoid® 20 Smooth, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth Ply Sheet)</b> GAFGLAS® Mineral Surface Cap Sheet, Tri-Ply® BUR Granule Cap Sheet or GAFGLAS® EnergyCap™ Mineral-Surfaced Cap Sheet adhered in an approved asphalt at an application rate of 20-40 lbs. /sq. applied according to manufacturer's application instructions.</p>
Surfacing:	<p><b>Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions.</b></p> <ol style="list-style-type: none"> <li>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.</li> <li>2. GAFGLAS® Mineral-Surfaced Cap Sheet, Tri-Ply® BUR Granule Cap Sheet or GAFGLAS® EnergyCap™ Mineral-Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs. /sq.</li> </ol>
Maximum Design Pressure:	-45 psf. (See General Limitation #7)

**Membrane Type:** SBS/SBS

**Deck Type 4I:** Lightweight Concrete, Insulated, (See System Limitation)

**Deck Description:** Minimum 300 psi Celcore Cellular Lightweight Concrete with minimum 1" EPS Holey Board. Minimum 2" slurry coat poured over the EPS, When LWC is set up to support foot traffic apply Celcore PVA Curing Compound to the top surface at a rate of 300 ft<sup>2</sup>/gal.

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

**Deck:** Structural concrete deck or Minimum 22 ga. Grade 33 steel deck secured 6" o.c. to structural supports spaced a maximum of 5 ft. o.c. with 5/8" puddle welds with washer and side laps with Tek 1 or Tek 3 at 30" o.c.

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

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

**Anchor Sheet:** Install one ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Nailable Venting Base Sheet, Ruberoid® 20 Smooth, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth mechanically fastened as described below.

**Fasteners:** Drill-Tec™ Base Sheet Fasteners (1.7) or Drill-Tec™ Base Sheet Fastener E (1.7) at a fastener spacing of 9" o.c. at the 2" wide side laps and 9" o.c. in two equally spaced rows in the field of the base sheet.

Or

Drill-Tec™ Base Sheet Fasteners (1.7) or Drill-Tec™ Base Sheet Fastener E (1.7) at a fastener spacing of 12" o.c. at the 2" wide side laps and 12" o.c. in three equally spaced rows in the field of the base sheet.

One or more layers of any of the following insulations.

<b>Insulation Layer</b>	<b>Insulation Fasteners (Table 3)</b>	<b>Fastener Density/ft2</b>
<b>EnergyGuard™ Polyiso Insulation Minimum 1.4" thick</b>	N/A	N/A
<b>EnergyGuard™ RA Polyiso Insulation, Minimum 1½" thick</b>	N/A	N/A
<b>DensDeck® Roof Board, SECUROCK® Gypsum-Fiber Roof Board Minimum ½" thick</b>	N/A	N/A

**Note:** All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs. 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 Smooth, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth adhered to the insulation in a full mopping of an approved asphalt at an application rate of 20-40 lbs./sq. See General Limitation #4.  
Or  
GAFGLAS® Stratavent® Perforated Venting Base Sheet loose laid dry followed by a mopped ply sheet listed below.
- Ply Sheet:  
(Optional) **(Required over GAFGLAS® Stratavent® Perforated Venting Base Sheet or if membrane is Mineral Surface Cap Sheets)** One or more plies 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 Smooth, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth in an approved asphalt at an application rate of 20-40 lbs./sq.
- Membrane: One or more plies of Ruberoid® 20 Smooth, Ruberoid® 30 Granule, Ruberoid® 30 Granule FR, Ruberoid® 30 Plus Granule FR, Ruberoid® Mop Granule, Tri-Ply® SBS Granule, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus Granule, Ruberoid® Mop Plus Granule FR, Ruberoid® EnergyCap™ Mop Plus Granule FR, Ruberoid® Mop Granule FR or Ruberoid® EnergyCap™ 30 Granule FR fully adhered in type III or IV of an approved asphalt at an application rate 20-40 lbs./sq. or Matrix 102 at an application rate or 1 gallon/sq.  
Or  
One or more plies Ruberoid® HW 25 Smooth, Ruberoid® HW Smooth, Ruberoid® HW Granule, Ruberoid® HW Granule FR, Ruberoid® HW Plus Granule, Ruberoid® HW Plus Granule FR or Ruberoid® EnergyCap™ HW Plus Granule FR applied according to manufacturer's application instructions.  
Or  
**(Only for use over Ruberoid® 20 Smooth, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth Ply Sheet)** GAFGLAS® Mineral Surface Cap Sheet, Tri-Ply® BUR Granule Cap Sheet or GAFGLAS® EnergyCap™ Mineral-Surfaced Cap Sheet adhered in an approved asphalt at an application rate of 20-40 lbs. /sq. applied according to manufacturer's application instructions.
- Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions.**
1. Gravel or slag applied at 400 lbs. /sq. and 300 lbs. /sq. respectively in a flood coat of approved asphalt at 60 lbs. /sq.
  2. GAFGLAS® Mineral-Surfaced Cap Sheet, Tri-Ply® BUR Granule Cap Sheet or GAFGLAS® EnergyCap™ Mineral-Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs. /sq.
- Maximum Design Pressure: -45 psf. (See General Limitation #7)

**Membrane Type:** APP/SBS

**Deck Type 4I:** Lightweight Concrete, Insulated, (See System Limitation)

**Deck Description:** Minimum 300 psi Celcore Cellular Lightweight Concrete with minimum 1" EPS Holey Board. Minimum 2" slurry coat poured over the EPS, When LWC is set up to support foot traffic apply Celcore PVA Curing Compound to the top surface at a rate of 300 ft<sup>2</sup>/gal.

**System Type A(3):** Anchor sheet mechanically fastened; one or more layers of insulation adhered with approved asphalt.

**Deck:** Structural concrete deck or Minimum 22 ga. Grade 33 steel deck secured 6" o.c. to structural supports spaced a maximum of 5 ft. o.c. with 5/8" puddle welds with washer and side laps with Tek 1 or Tek 3 at 30" o.c.

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

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

**Anchor Sheet:** Install one ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Nailable Venting Base Sheet, Ruberoid® 20 Smooth, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth mechanically fastened as described below.

**Fasteners:** Drill-Tec™ Base Sheet Fasteners (1.7) or Drill-Tec™ Base Sheet Fastener E (1.7) at a fastener spacing of 7" o.c. at the 3" wide side laps and 7" o.c. in two equally spaced rows in the field of the base sheet.

One or more layers of any of the following insulations

<b>Insulation Layer</b>	<b>Insulation Fasteners (Table 3)</b>	<b>Fastener Density/ft<sup>2</sup></b>
<b>EnergyGuard™ Polyiso Insulation, EnergyGuard™ RA Polyiso Insulation, Minimum 1½" thick</b>	N/A	N/A
<b>DensDeck® Roof Board, SECUROCK® Gypsum-Fiber Roof Board Minimum ½" thick</b>	N/A	N/A

**Note:** All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs. 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 Smooth, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth adhered to the insulation in a full mopping of an approved asphalt at an application rate of 20-40 lbs./sq. or adhered in a strip or spot mopping of an approved asphalt; see General Limitation #4.  
Or  
GAFGLAS® Stratavent® Perforated Venting Base Sheet loose laid dry followed by a mopped ply sheet listed below.

Ply Sheet: (Optional)	<b>(Required over GAFGLAS® Stratavent® Perforated Venting Base Sheet or if membrane is Mineral Surface Cap Sheets)</b> One or more plies 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 Smooth, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth in an approved asphalt at an application rate of 20-40 lbs./sq.
Membrane:	<p>One or more plies of Ruberoid® Torch Smooth, Tri-Ply® APP Smooth, Ruberoid® Torch Granule, , Tri-Ply® APP Granule, Ruberoid® Torch Plus Granule FR, or Ruberoid® EnergyCap™ Torch Granule FR torch applied according to manufacturer's application instructions.</p> <p>Or</p> <p>One or more plies Ruberoid® HW 25 Smooth, Ruberoid® HW Smooth, Ruberoid® HW Granule, Ruberoid® HW Granule FR, Ruberoid® HW Plus Granule, Ruberoid® HW Plus Granule FR or Ruberoid® EnergyCap™ HW Plus Granule FR applied according to manufacturer's application instructions.</p> <p>Or</p> <p><b>(Only for use over Ruberoid® 20 Smooth, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth Ply Sheet)</b> GAFGLAS® Mineral Surface Cap Sheet, Tri-Ply® BUR Granule Cap Sheet or GAFGLAS® EnergyCap™ Mineral-Surfaced Cap Sheet adhered in an approved asphalt at an application rate of 20-40 lbs. /sq. applied according to manufacturer's application instructions.</p>
Surfacing:	<p><b>Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions.</b></p> <ol style="list-style-type: none"> <li>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.</li> <li>2. GAFGLAS® Mineral-Surfaced Cap Sheet, Tri-Ply® BUR Granule Cap Sheet or GAFGLAS® EnergyCap™ Mineral-Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs. /sq.</li> </ol>
Maximum Design Pressure:	-75 psf. (See General Limitation #7)

**Membrane Type:** SBS/SBS

**Deck Type 4I:** Lightweight Concrete, Insulated, (See System Limitation)

**Deck Description:** Minimum 300 psi Celcore Cellular Lightweight Concrete with minimum 1" EPS Holey Board. Minimum 2" slurry coat poured over the EPS, When LWC is set up to support foot traffic apply Celcore PVA Curing Compound to the top surface at a rate of 300 ft<sup>2</sup>/gal.

**System Type A(4):** Anchor sheet mechanically fastened; one or more layers of insulation adhered with approved asphalt.

**Deck:** Structural concrete deck or Minimum 22 ga. Grade 33 steel deck secured 6" o.c. to structural supports spaced a maximum of 5 ft. o.c. with 5/8" puddle welds with washer and side laps with Tek 1 or Tek 3 at 30" o.c.

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

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

**Anchor Sheet:** Install one ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Nailable Venting Base Sheet, Ruberoid® Mop Smooth or Ruberoid® 20 Smooth mechanically fastened as described below.

**Fasteners:** Drill-Tec™ Base Sheet Fasteners (1.7) or Drill-Tec™ Base Sheet Fastener E (1.7) at a fastener spacing of 7" o.c. at the 3" wide side laps and 7" o.c. in two equally spaced rows in the field of the base sheet.

One or more layers of any of the following insulations.

<b>Insulation Layer</b>	<b>Insulation Fasteners (Table 3)</b>	<b>Fastener Density/ft<sup>2</sup></b>
<b>EnergyGuard™ RA Polyiso Insulation, Minimum 1½" thick</b>	N/A	N/A
<b>DensDeck® Roof Board, SECUROCK® Gypsum-Fiber Roof Board Minimum ½" thick</b>	N/A	N/A

**Note:** All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs. 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 Smooth, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth adhered to the insulation in a full mopping of an approved asphalt at an application rate of 25 lbs./sq. ± 15%; see General Limitation #4.

Or

GAFGLAS® Stratavent® Perforated Venting Base Sheet laid dry followed by a mopped ply sheet listed below.

**Ply Sheet:** (Optional) **(Required over GAFGLAS® Stratavent® Perforated Venting Base Sheet or if membrane is Mineral Surface Cap Sheets)** One or more plies 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 Smooth, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth in an approved asphalt at an application rate of 20-40 lbs./sq.



- Membrane: One or more plies of Ruberoid® 20 Smooth, Ruberoid® 30 Granule, Ruberoid® 30 Granule FR, Ruberoid® 30 Plus Granule FR, Ruberoid® Mop Granule, Tri-Ply® SBS Granule, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus Granule, Ruberoid® Mop Plus Granule FR, Ruberoid® EnergyCap™ Mop Plus Granule FR, Ruberoid® Mop Granule FR or Ruberoid® EnergyCap™ 30 Granule FR fully adhered in type III or IV of an approved asphalt at an application rate 20-40 lbs./sq. or Matrix 102 at an application rate or 1 gallon/sq.
- Or
- One or more plies Ruberoid® HW 25 Smooth, Ruberoid® HW Smooth, Ruberoid® HW Granule, Ruberoid® HW Granule FR, Ruberoid® HW Plus Granule, Ruberoid® HW Plus Granule FR or Ruberoid® EnergyCap™ HW Plus Granule FR applied according to manufacturer's application instructions.
- Or
- (Only for use over Ruberoid® 20 Smooth, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth Ply Sheet) GAFGLAS® Mineral Surface Cap Sheet, Tri-Ply® BUR Granule Cap Sheet or GAFGLAS® EnergyCap™ Mineral-Surfaced Cap Sheet adhered in an approved asphalt at an application rate of 20-40 lbs. /sq. applied according to manufacturer's application instructions.**
- Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions.**
1. Gravel or slag applied at 400 lbs. /sq. and 300 lbs. /sq. respectively in a flood coat of approved asphalt at 60 lbs. /sq.
  2. GAFGLAS® Mineral-Surfaced Cap Sheet, Tri-Ply® BUR Granule Cap Sheet or GAFGLAS® EnergyCap™ Mineral-Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs. /sq.
- Maximum Design Pressure: -75 psf. (See General Limitation #7)

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

**Deck Type 4:** Lightweight Concrete, Non-insulated, (See System Limitations)

**Deck Description:** Minimum 300 psi Celcore Cellular Lightweight Concrete with minimum 1" EPS Holey Board. Minimum 2" slurry coat poured over the EPS, When LWC is set up to support foot traffic apply Celcore PVA Curing Compound to the top surface at a rate of 300 ft<sup>2</sup>/gal.

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

**Deck:** Structural concrete deck or Minimum 22 ga. Grade 33 steel deck secured 6" o.c. to structural supports spaced a maximum of 5 ft. o.c. with 5/8" puddle welds with washer and side laps with Tek 1 or Tek 3 at 30" o.c.

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

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

**Base Sheet:** Install one ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Nailable Venting Base Sheet, Ruberoid® 20 Smooth, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth mechanically fastened as described below.

**Fastening Options:** Drill-Tec™ Base Sheet Fasteners (1.7) or Drill-Tec™ Base Sheet Fastener E (1.7) at a fastener spacing of 9" o.c. at the 2" wide side laps and 9" o.c. in two equally spaced rows in the field of the base sheet.

**(Maximum Design Pressure -45 psf. See General Limitation #7)**

Drill-Tec™ Base Sheet Fasteners (1.7) or Drill-Tec™ Base Sheet Fastener E (1.7) at a fastener spacing of 12" o.c. at the 2" wide side laps and 12" o.c. in three equally spaced rows in the field of the base sheet.

**(Maximum Design Pressure -45 psf. See General Limitation #7)**

Drill-Tec™ Base Sheet Fasteners (1.7) or Drill-Tec™ Base Sheet Fastener E (1.7) at a fastener spacing of 7" o.c. at the 3" wide side laps and 7" o.c. in two equally spaced rows in the field of the base sheet.

**(Maximum Design Pressure -75 psf. See General Limitation #7)**

**Ply Sheet:** One ply Ruberoid® HW 25 Smooth or Ruberoid® HW Smooth torch applied according to manufacturer's application instructions.  
**(Optional)**

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

Or

One or more plies Ruberoid® HW 25 Smooth, Ruberoid® HW Smooth, Ruberoid® HW Granule, Ruberoid® HW Granule FR, Ruberoid® HW Plus Granule, Ruberoid® HW Plus Granule FR or Ruberoid® EnergyCap™ HW Plus Granule FR applied according to manufacturer's application instructions.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions.**

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<sup>®</sup> Mineral-Surfaced Cap Sheet, Tri-Ply<sup>®</sup> BUR Granule Cap Sheet or GAFGLAS<sup>®</sup> EnergyCap<sup>™</sup> 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.

Maximum Design  
Pressure: See Fastening Options Above

**Membrane Type:** SBS/SBS

**Deck Type 4:** Lightweight Concrete, Non-insulated (See System Limitation)

**Deck Description:** Minimum 300 psi Celcore Cellular Lightweight Concrete with minimum 1" EPS Holey Board. Minimum 2" slurry coat poured over the EPS, When LWC is set up to support foot traffic apply Celcore PVA Curing Compound to the top surface at a rate of 300 ft<sup>2</sup>/gal.

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

**Deck:** Structural concrete deck or Minimum 22 ga. Grade 33 steel deck secured 6" o.c. to structural supports spaced a maximum of 5 ft. o.c. with 5/8" puddle welds with washer and side laps with Tek 1 or Tek 3 at 30" o.c.

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

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

**Base Sheet:** Install one ply of GAFGLAS<sup>®</sup> #75 Base Sheet, Tri-Ply<sup>®</sup> #75 Base Sheet, GAFGLAS<sup>®</sup> #80 Ultima<sup>™</sup> Base Sheet, GAFGLAS<sup>®</sup> Stratavent<sup>®</sup> Nailable Venting Base Sheet, Ruberoid<sup>®</sup> 20 Smooth, Ruberoid<sup>®</sup> Mop Smooth, Ruberoid<sup>®</sup> Mop Smooth 1.5, Ruberoid<sup>®</sup> Mop Plus Smooth mechanically fastened as described below.

**Fastening Options:** Drill-Tec<sup>™</sup> Base Sheet Fasteners (1.7) or Drill-Tec<sup>™</sup> Base Sheet Fastener E (1.7) at a fastener spacing of 9" o.c. at the 2" wide side laps and 9" o.c. in two equally spaced rows in the field of the base sheet.

***(Maximum Design Pressure -45 psf. See General Limitation #7)***

Drill-Tec<sup>™</sup> Base Sheet Fasteners (1.7) or Drill-Tec<sup>™</sup> Base Sheet Fastener E (1.7) at a fastener spacing of 12" o.c. at the 2" wide side laps and 12" o.c. in three equally spaced rows in the field of the base sheet.

***(Maximum Design Pressure -45 psf. See General Limitation #7)***

Drill-Tec<sup>™</sup> Base Sheet Fasteners (1.7) or Drill-Tec<sup>™</sup> Base Sheet Fastener E (1.7) at a fastener spacing of 7" o.c. at the 3" wide side laps and 7" o.c. in two equally spaced rows in the field of the base sheet.

***(Maximum Design Pressure -75 psf. See General Limitation #7)***

**Ply Sheet:** One or more plies of GAFGLAS<sup>®</sup> Ply 4, Tri-Ply<sup>®</sup> Ply 4, GAFGLAS<sup>®</sup> FlexPly<sup>™</sup> 6, (Optional) GAFGLAS<sup>®</sup> # 75 Base Sheet, Tri-Ply<sup>®</sup> #75 Base Sheet or GAFGLAS<sup>®</sup> #80 Ultima<sup>™</sup> Base Sheet, Ruberoid<sup>®</sup> 20 Smooth, Ruberoid<sup>®</sup> Mop Smooth, Ruberoid<sup>®</sup> Mop Smooth 1.5, Ruberoid<sup>®</sup> Mop Plus Smooth adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or Matrix<sup>™</sup> 102 SBS Membrane Adhesive at 1 to 2 gal./sq.

- Membrane: One or more plies of Ruberoid® 20 Smooth, Ruberoid® 30 Granule, Ruberoid® 30 Granule FR, Ruberoid® 30 Plus Granule FR, Ruberoid® Mop Granule, Tri-Ply® SBS Granule, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus Granule, Ruberoid® Mop Plus Granule FR, Ruberoid® EnergyCap™ Mop Plus Granule FR, Ruberoid® Mop Granule FR or Ruberoid® EnergyCap™ 30 Granule FR fully adhered in type III or IV of an approved asphalt at an application rate 20-40 lbs./sq. or Matrix 102 at an application rate or 1 gallon/sq.
- Or
- One or more plies Ruberoid® HW 25 Smooth, Ruberoid® HW Smooth, Ruberoid® HW Granule, Ruberoid® HW Granule FR, Ruberoid® HW Plus Granule, Ruberoid® HW Plus Granule FR or Ruberoid® EnergyCap™ HW Plus Granule FR applied according to manufacturer's application instructions.
- Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions.**
1. Gravel or slag applied at 400 lbs. /sq. and 300 lbs. /sq. respectively in a flood coat of approved asphalt at 60 lbs. /sq.
  2. GAFGLAS® Mineral-Surfaced Cap Sheet, Tri-Ply® BUR Granule Cap Sheet or GAFGLAS® EnergyCap™ Mineral-Surfaced Cap Sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs. /sq.
- Maximum Design Pressure: See Fastening Options Above

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

**Deck Type 4:** Lightweight Concrete, Non-insulated, (See System Limitation)

**Deck Description:** Minimum 750 psi MEARLCRETE® Cellular Concrete LLC Lightweight Insulating concrete having a wet cast density range of 48-63 pcf.

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

**Deck:** Minimum 22 ga., G-90, Vented, Grade 33, Type B Wide Rib, steel deck secured 6" o.c. to structural supports spaced a maximum of 6 ft. o.c. with 5/8" puddle welds and with #10 self-drilling screws at 6" o.c. at the side laps.

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

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

**Base Sheet:** Install one ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Nailable Venting Base Sheet, Ruberoid® 20 Smooth, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth mechanically fastened as described below.

**Fasteners:** Drill-Tec™ Base Sheet Fasteners (1.2) or Drill-Tec™ Base Sheet Fastener E (1.2) at a fastener spacing of 7" o.c. at the 4" wide side laps and 7" o.c. in two equally spaced rows in the field of the base sheet.

**Ply Sheet:** (Optional, required when using Ruberoid® 20 Smooth, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth) One or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet 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.

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

Or

One or more plies Ruberoid® HW 25 Smooth, Ruberoid® HW Smooth, Ruberoid® HW Granule, Ruberoid® HW Granule FR, Ruberoid® HW Plus Granule, Ruberoid® HW Plus Granule FR or Ruberoid® EnergyCap™ HW Plus Granule FR applied according to manufacturer's application instructions.

**Surfacing:** **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions.**

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

**Maximum Design Pressure:**

-52.5 psf. (See General Limitation #7)

**Membrane Type:** SBS/SBS

**Deck Type 4:** Lightweight Concrete, Non-insulated (See Systems Limitations)

**Deck Description:** Minimum 750 psi MEARLCRETE® Cellular Concrete LLC Lightweight Insulating Concrete having a wet cast density range of 48-63 pcf.

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

**Deck:** Minimum 22 ga., G-90, Vented, Grade 33, Type B Wide Rib, steel deck secured 6" o.c. to structural supports spaced a maximum of 6 ft. o.c. with 5/8" puddle welds and with #10 self-drilling screws at 6" o.c. at the side laps.  
**This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.**

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

**Base Sheet:** Install one ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Nailable Venting Base Sheet, Ruberoid® 20 Smooth, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth mechanically fastened as described below.

**Fasteners:** Drill-Tec™ Base Sheet Fasteners (1.2) or Drill-Tec™ Base Sheet Fasteners E (1.2) at a fastener spacing of 7" o.c. at the 2" wide side laps and 7" o.c. in two equally spaced rows in the field of the base sheet.

**Ply Sheet:** One or more plies of GAFGLAS® Ply 4, Tri-Ply® Ply 4, GAFGLAS® FlexPly™ 6, (Optional) GAFGLAS® # 75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, Ruberoid® 20 Smooth, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or Matrix™ 102 SBS Membrane Adhesive at 1 to 2 gal./sq.

**Membrane:** One or more plies of Ruberoid® 20 Smooth, Ruberoid® 30 Granule, Ruberoid® 30 Granule FR, Ruberoid 30 Plus Granule FR, Ruberoid® Mop Granule, Tri-Ply® SBS Granule, Intec Flex PRF, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus Granule, Ruberoid® Mop Plus Granule FR, Ruberoid® EnergyCap™ Mop Plus Granule FR, Ruberoid® Mop Granule FR or Ruberoid® EnergyCap™ 30 Granule FR fully adhered in type III or IV of an approved asphalt at an application rate 20-40 lbs./sq. or Matrix 102 at an application rate or 1 gallon/sq.

Or

One or more plies Ruberoid® HW 25 Smooth, Ruberoid® HW Smooth, Ruberoid® HW Granule, Ruberoid® HW Granule FR, Ruberoid® HW Plus Granule, Ruberoid® HW Plus Granule FR or Ruberoid® EnergyCap™ HW Plus Granule FR applied according to manufacturer's application instructions.

**Surfacing:** **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions.**

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

**Maximum Design Pressure:**

-52.5 psf. (See General Limitation #7)



**Membrane Type:** SBS Heat-Weld™

**Deck Type 4:** Lightweight Concrete, Non-insulated (See Systems Limitations)

**Deck Description:** Minimum 300 psi Celcore Cellular Lightweight Concrete with minimum 1" EPS Holey Board. Minimum 2" slurry coat poured over the EPS, When LWC is set up to support foot traffic apply Celcore PVA Curing Compound to the top surface at a rate of 300 ft<sup>2</sup>/gal.

**System Type E(5):** Base sheet mechanically attached.

**Deck:** Structural concrete deck or Minimum 22 ga. Grade 33 steel deck secured 6" o.c. to structural supports spaced a maximum of 5 ft. o.c. with 5/8" puddle welds and at each support at side laps.

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

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

**Base Sheet:** Install one ply of GAFGLAS® #75 Base Sheet, Tri-Ply® #75 Base Sheet, GAFGLAS® #80 Ultima™ Base Sheet, GAFGLAS® Stratavent® Nailable Venting Base Sheet, Ruberoid® 20 Smooth, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Smooth Plus mechanically fastened as described below.

**Fasteners:** Drill-Tec™ Base Sheet Fasteners (1.7) or Drill-Tec™ Base Sheet Fastener E (1.7) at a fastener spacing of 9" o.c. at the 2" wide side laps and 9" o.c. in two equally spaced rows in the field of the base sheet.

**(Maximum Design Pressure -45 psf. See General Limitation #7)**

Drill-Tec™ Base Sheet Fasteners (1.7) or Drill-Tec™ Base Sheet Fastener E (1.7) at a fastener spacing of 7" o.c. at the 3" wide side laps and 7" o.c. in two equally spaced rows in the field of the base sheet.

**(Maximum Design Pressure -75 psf. See General Limitation #7)**

**Ply Sheet:** Ruberoid® HW 25 Smooth or Ruberoid® HW Smooth  
(Optional) torched applied according to manufacturer's application instructions.

**Membrane:** One or more plies Ruberoid® HW 25 Smooth, Ruberoid® HW Smooth, Ruberoid® HW Granule, Ruberoid® HW Granule FR, Ruberoid® HW Plus Granule, Ruberoid® HW Plus Granule FR or Ruberoid® EnergyCap™ HW Plus Granule FR applied according to manufacturer's application instructions.

**Surfacing:** **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to manufacturer's application instructions.**

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

**Maximum Design Pressure:** See Fastening Options Above

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

**Deck Type :** Lightweight Concrete, Non-insulated

**Deck Description:** Minimum 125 psi Generic Cellular Lightweight Concrete cast over steel deck.  
\*Lightweight concrete should record a Minimum Characteristic Resistance Force (MCRF) of 356 lbf. when tested with Drill-Tec™ XHD Fasteners (through LWC into steel deck) and 97 lbf. when tested with Drill-Tec™ Base Sheet Fastener E (1.7 in.) in accordance with TAS 105.

**System Type E(6):** Anchor sheet mechanically attached.

**Deck:** Min. 22 ga., Type BV, G-90 steel decking over 1/4" thick steel supports spaced max. 6 ft. o.c. attached 6" o.c. using min. 5/8" diameter puddle welds. Deck side laps are attached 18" o.c. using Traxx/1 fasteners.  
**This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.**

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

**Anchor Sheet:** Ruberoid® Mop Smooth mechanically fastened through the lightweight concrete to the deck with Drill-Tec™ Eyehook AccuSeam Plate or Drill-Tec™ 2-3/8 in. Barbed XHD Plate and Drill-Tec™ XHD Fastener fastened 12" in. o.c. in the 5" wide side laps. The 5" wide side lap is fully torch or heat air weld sealed about its width (fasteners and plates are encapsulated within the torched or heat air welded lap).

**Membrane:** One ply of Ruberoid® HW Granule, Ruberoid® HW Granule FR, Ruberoid® HW Plus Granule, Ruberoid® HW Plus Granule FR, Ruberoid® EnergyCap™ HW Plus Granule FR or Ruberoid® HW Smooth applied according to manufacturer's application instructions.

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

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

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

**Membrane Type:** APP/SBS

**Deck Type :** Lightweight Concrete, Non-insulated

**Deck Description:** Minimum 231 psi Generic Lightweight Concrete cast over steel deck.  
\*Lightweight concrete should record a Minimum Characteristic Resistance Force (MCRF) of 70.46 lbf. when tested with Drill-Tec™ Base Sheet Fasteners (1.7 in.), Drill-Tec™ Base Sheet Fasteners E (1.7 in.) or Drill-Tec™ Locking Impact Nails in accordance with TAS 105.

**Deck:** Min. 22 ga., 33 ksi, Type BV, G-90 steel decking over ¼" thick steel supports spaced max. 6 ft. o.c. attached 6" o.c. using min. 5/8" diameter puddle welds.  
Deck side laps are attached 18" o.c. using #12 SD screws.  
**This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.**

**System Type E(7):** Anchor sheet mechanically attached.

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

**Anchor Sheet:** GAFGlas® #75 Base Sheet, GAFGlas® #80 Ultima™ Base Sheet, GAFGlas® Stratavent® Nailable Venting Base Sheet or Ruberoid® 20 Smooth mechanically fastened to the lightweight concrete with Drill-Tec™ Base Sheet Fasteners (1.7 in.), Drill-Tec™ Base Sheet Fasteners E (1.7 in.) or Drill-Tec™ Locking Impact Nails fastened 7" o.c. in the 4" wide side laps and 7" o.c. in two staggered rows in the field of the sheet.

**Membrane:** One or more plies of Ruberoid® Torch Smooth, Tri-Ply® APP Smooth, Ruberoid® Torch Granule, , Tri-Ply® APP Granule, Ruberoid® Torch Plus Granule FR, or Ruberoid® EnergyCap™ Torch Granule FR torch applied according to manufacturer's application instructions.  
Or  
One or more plies Ruberoid® HW 25 Smooth, Ruberoid® HW Smooth, Ruberoid® HW Granule, Ruberoid® HW Granule FR, Ruberoid® HW Plus Granule, Ruberoid® HW Plus Granule FR or Ruberoid® EnergyCap™ HW Plus Granule FR applied according to manufacturer's application instructions.

**Surfacing:** **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions.**

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

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

**Membrane Type:** SBS/SBS

**Deck Type :** Lightweight Concrete, Non-insulated

**Deck Description:** Minimum 231 psi Generic Lightweight Concrete cast over steel deck.  
\*Lightweight concrete should record a Minimum Characteristic Resistance Force (MCRF) of 70.46 lbf. when tested with Drill-Tec™ Base Sheet Fasteners (1.7 in.), Drill-Tec™ Base Sheet Fasteners E (1.7 in.) or Drill-Tec™ Locking Impact Nails in accordance with TAS 105.

**Deck:** Min. 22 ga., 33 ksi, Type BV, G-90 steel decking over ¼” thick steel supports spaced max. 6 ft. o.c. attached 6” o.c. using min. 5/8” diameter puddle welds.  
Deck side laps are attached 18” o.c. using #12 SD screws.  
**This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.**

**System Type E(8):** Anchor sheet mechanically attached.

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

**Anchor Sheet:** GAFLAS® #75 Base Sheet, GAFLAS® #80 Ultima™ Base Sheet (only for use with Ruberoid® 20 Smooth, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5 or Ruberoid® Mop Plus Smooth), GAFLAS® Stratavent® Nailable Venting Base Sheet or Ruberoid® 20 Smooth mechanically fastened to the lightweight concrete with Drill-Tec™ Base Sheet Fasteners (1.7 in.), Drill-Tec™ Base Sheet Fasteners E (1.7 in.) or Drill-Tec™ Locking Impact Nails fastened 7” o.c. in the 4" wide side laps and 7” o.c. in two staggered rows in the field of the sheet.

**Membrane:** One or more plies of Ruberoid® 20 Smooth, Ruberoid® 30 Granule (only for use with Ruberoid® 20 Smooth), Ruberoid® 30 Granule FR, Ruberoid® 30 Plus Granule FR, Ruberoid® Mop Granule, Tri-Ply® SBS Granule, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus Granule FR, Ruberoid® EnergyCap™ Mop Plus Granule FR, Ruberoid® Mop Granule FR or Ruberoid® EnergyCap™ 30 Granule FR fully adhered in type III or IV of an approved asphalt at an application rate 20-40 lbs./sq.

**Surfacing:** **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer’s application instructions.**

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

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

**Membrane Type:** APP/SBS

**Deck Type :** Lightweight Concrete, Non-insulated

**Deck Description:** Minimum 210 psi Generic Lightweight Concrete cast over steel deck.

\*Lightweight concrete should record a Minimum Characteristic Resistance Force (MCRF) of 77.93 lbf. when tested with Drill-Tec™ Base Sheet Fasteners (1.7 in.), Drill-Tec™ Base Sheet Fasteners E (1.7 in.) or Drill-Tec™ Locking Impact Nails in accordance with TAS 105.

**Deck:** Min. 22 ga., 33 ksi, Type BV, G-90 steel decking over ¼" thick steel supports spaced max. 6 ft. o.c. attached 6" o.c. using min. 5/8" diameter puddle welds. Deck side laps are attached 18" o.c. using #12 SD screws.

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

**System Type E(9):** Anchor sheet mechanically attached.

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

**Anchor Sheet:** Ruberoid® 20 Smooth mechanically fastened to the lightweight concrete with Drill-Tec™ Base Sheet Fasteners (1.7 in.), Drill-Tec™ Base Sheet Fasteners E (1.7 in.) or Drill-Tec™ Locking Impact Nails fastened 7" o.c. in the 4" wide side laps and 7" o.c. in two staggered rows in the field of the sheet.

Or

GAFGlas® #80 Ultima or GAFGlas® Stratavent® Nailable Base Sheet mechanically fastened to the lightweight concrete with Drill-Tec™ Base Sheet Fasteners (1.7 in.) or Drill-Tec™ Locking Impact Nails fastened 7" o.c. in the 4" wide side laps and 7" o.c. in two staggered rows in the field of the sheet.

Or

GAFGlas® #75 Base Sheet mechanically fastened to the lightweight concrete with Drill-Tec™ Locking Impact Nails fastened 7" o.c. in the 4" wide side laps and 7" o.c. in two staggered rows in the field of the sheet.

**Base Ply:** Ruberoid® HW Smooth or Ruberoid® HW 25 Smooth, torch-applied.

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

Or

One or more plies Ruberoid® HW 25 Smooth, Ruberoid® HW Smooth, Ruberoid® HW Granule, Ruberoid® HW Granule FR, Ruberoid® HW Plus Granule, Ruberoid® HW Plus Granule FR or Ruberoid® EnergyCap™ HW Plus Granule FR applied according to manufacturer's application instructions.

**Surfacing:** **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions.**

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

**Maximum Design**

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

**Deck Type :** Lightweight Concrete, Non-insulated

**Deck Description:** Minimum 210 psi Generic Lightweight Concrete cast over steel deck.  
\*Lightweight concrete should record a Minimum Characteristic Resistance Force (MCRF) of 77.93 lbf. when tested with Drill-Tec™ Base Sheet Fasteners (1.7 in.), Drill-Tec™ Base Sheet Fasteners E (1.7 in.) or Drill-Tec™ Locking Impact Nails in accordance with TAS 105.

**Deck:** Min. 22 ga., 33 ksi, Type BV, G-90 steel decking over ¼" thick steel supports spaced max. 6 ft. o.c. attached 6" o.c. using min. 5/8" diameter puddle welds. Deck side laps are attached 18" o.c. using #12 SD screws.  
**This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.**

**System Type E(10):** Anchor sheet mechanically attached.

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

**Anchor Sheet:** Ruberoid® 20 Smooth mechanically fastened to the lightweight concrete with Drill-Tec™ Base Sheet Fasteners (1.7 in.), Drill-Tec™ Base Sheet Fasteners E (1.7 in.) or Drill-Tec™ Locking Impact Nails fastened 7" o.c. in the 4" wide side laps and 7" o.c. in two staggered rows in the field of the sheet.  
Or  
GAFGlas® #80 Ultima or GAFGLAS® Stratavent® Nailable Base Sheet mechanically fastened to the lightweight concrete with Drill-Tec™ Base Sheet Fasteners (1.7 in.) or Drill-Tec™ Locking Impact Nails fastened 7" o.c. in the 4" wide side laps and 7" o.c. in two staggered rows in the field of the sheet.  
Or  
GAFGlas® #75 Base Sheet mechanically fastened to the lightweight concrete with Drill-Tec™ Locking Impact Nails fastened 7" o.c. in the 4" wide side laps and 7" o.c. in two staggered rows in the field of the sheet.

**Base Ply:** Ruberoid® 20 Smooth adhered in hot asphalt at 20-25 lbs./sq. (Only for use with GAFGLAS® #75 Base Sheet or GAFGLAS® Stratavent® Nailable Base Sheet anchor sheets).  
Or  
GAFGlas® Ply 4 (only for use with Ruberoid® 30 Granule FR, Ruberoid® 30 Plus Granule FR, Ruberoid® Mop Granule, Ruberoid® Mop Plus Granule FR, Ruberoid® EnergyCap™ Mop Plus Granule FR, Ruberoid® Mop Granule FR or Ruberoid® EnergyCap™ 30 Granule FR) or GAFGLAS® FlexPly 6 adhered in hot asphalt at 20-25 lbs./sq. (Only for use with Ruberoid® 20 Smooth anchor sheet).

**Membrane:** One or more plies of Ruberoid® 20 Smooth, Ruberoid® 30 Granule (Only for use with Ruberoid® 20 Smooth), Ruberoid® 30 Granule FR, Ruberoid® 30 Plus Granule FR, Ruberoid® Mop Granule, Tri-Ply® SBS Granule, Ruberoid® Mop Smooth, Ruberoid® Mop Smooth 1.5, Ruberoid® Mop Plus Smooth, Ruberoid® Mop Plus Granule, Ruberoid® Mop Plus Granule FR, Ruberoid® EnergyCap™ Mop Plus Granule FR, Ruberoid® Mop Granule FR or Ruberoid® EnergyCap™ 30 Granule FR fully adhered in type III or IV of an approved asphalt at an application rate 20-40 lbs./sq.  
Or  
One or more plies Ruberoid® HW 25 Smooth, Ruberoid® HW Smooth, Ruberoid® HW Granule, Ruberoid® HW Granule FR, Ruberoid® HW Plus Granule, Ruberoid® HW Plus Granule FR or Ruberoid® EnergyCap™ HW Plus Granule FR applied according to manufacturer's application instructions.

Surfacing: **Optional on granular surfaced membranes; required for smooth membranes. Chosen components must be applied according to the manufacturer's application instructions.**

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

Maximum Design

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



## LIGHTWEIGHT CONCRETE 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 Professional Engineer, Registered Architect, or Registered Roof Consultant.
2. For steel deck application where specific deck construction is not referenced: The deck shall be a minimum 22 gauge attached with 5/8" puddle welds with weld washers at every flute with maximum deck spans of 5 ft. o.c.
3. For systems where specific lightweight insulating concrete is not referenced, the minimum design mix shall be a minimum of 300 psi.

## GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance; refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each 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 lb. f., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lb. f. 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 and/or RAS 137. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant **(When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)**
8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform to Roofing Application Standard RAS 111 and applicable wind load requirements.
9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). **(When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)**
10. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 61G20-3 of the Florida Administrative Code.

**END OF THIS ACCEPTANCE**