



**BUILDING CODE COMPLIANCE OFFICE (BCCO)  
PRODUCT CONTROL DIVISION**

**MIAMI-DADE COUNTY, FLORIDA  
METRO-DADE FLAGLER BUILDING  
140 WEST FLAGLER STREET, SUITE 1603  
MIAMI, FLORIDA 33130-1563  
(305) 375-2901 FAX (305) 375-2908**

**NOTICE OF ACCEPTANCE (NOA)**

**CertainTeed Corporation (PA)  
1400 Union Meeting Road  
Blue Bell, PA 19422**

**SCOPE:**

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

This NOA shall not be valid after the expiration date stated below. The BCCO (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. BCCO reserves the right to revoke this acceptance, if it is determined by BCCO 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 and the High Velocity Hurricane Zone of the Florida Building Code.

**DESCRIPTION: CertainTeed Modified Bitumen Roofing Systems Over Wood 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 revises NOA No. 08-0227.09 and consists of pages 1 through 38.  
The submitted documentation was reviewed by Jorge L. Acebo.



**NOA No.: 08-0410.09  
Expiration Date: 06/19/13  
Approval Date: 11/20/08  
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## ROOFING ASSEMBLY APPROVAL

<b>Category:</b>	Roofing
<b>Sub-Category:</b>	APP/SBS Modified Bitumen
<b>Deck Type:</b>	Wood
<b>Maximum Design Pressure</b>	-60 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>
All Weather/Empire Base Sheet	36" x 65'10"; Roll weight: 86 lbs. (2 squares)	ASTM D 4601 Type II UL Type 15	Asphalt coated, fiberglass reinforced base sheet.
Flex-I-Glas™ Base Sheet	36" x 98'9"; Roll weight: 90 lbs. (3 squares)	UL Type G2 ASTM D 4601, type II	Modified Bitumen coated fiberglass base sheet.
Flex-I-Glas™ FR Base Sheet	39 3/8" x 50'; Roll weight: 90 lbs. (1.5 squares)	UL Type G2 ASTM D 4601, type II	Modified Bitumen coated fiberglass base sheet.
Flintglas® Ply Sheet Type IV or VI	36" x 164'7"; Roll weight: 40/55 lbs. (5 squares)	ASTM D 2178 Type IV or VI UL Type G1	Fiberglass, asphalt impregnated ply sheet.
Flintlastic STA STA Plus 5.0	39 3/8" x 33'; Roll weight: 90 lbs. (1 square)	ASTM D 6222, Grade S, Type II	Smooth surfaced APP Modified Bitumen membrane with non-woven polyester mat reinforcement for torch application.
Flintlastic GTA, GTA-FR or Flintlastic Diamond GTA	39 3/8" x 33' 3"; Roll weight: 105 lbs. (1 square)	ASTM D 6222, Grade G, Type II	Granule surfaced APP Modified Bitumen membrane with non-woven polyester mat reinforcement for torch application.
Flintlastic GTS	39 3/8" x 24'9"; Roll weight: 92 lbs. (3/4 square)	ASTM D 6164, Grade G, Type II	Granule surfaced SBS Modified Bitumen membrane with non-woven polyester mat reinforcement for torch application.
Flintlastic GMS, GMS Premium	39 3/8" x 34' 2"; Roll weight: 100/105 lbs. (1 square)	ASTM D 6164, Grade G, Type II	Granule surfaced SBS Modified Bitumen membrane with non-woven polyester mat reinforcement for mop application.
Flintlastic FR, FR-P Premium	39 3/8" x 34' 2"; Roll weight: 105 lbs. (1 square)	ASTM D 6164, Grade G, Type I	Fire resistant, granule surfaced SBS Modified Bitumen Membrane with non-woven polyester mat reinforcement for mop application.
Flintlastic FR Cap Sheet	39 3/8" x 34' 2"; Roll weight: 90 lbs. (1 square)	ASTM D 6163, Grade G, Type I	Fire resistant, granule surfaced SBS Modified Bitumen membrane with fiberglass mat reinforcement for mop applications.



Flintlastic FR Cap T	39-3/8" x 34'2"; Roll weight: 81lbs. (1 square)	ASTM D6163	Granule surfaced SBS Modified Bitumen membrane with fiberglass mat reinforcement for torch application.
Flintlastic FR Base T	39-3/8" x 33'; Roll Weight: 81lbs. (1.0 squares)	ASTM D6163	Modified Bitumen, coated fiberglass base sheet for torch application.
Flintlastic FR Cap CoolStar	39 3/8" x 34'2"; Roll weight: 90 lbs. (1 square)	ASTM D 6163	Fire resistant, granule surfaced SBS Modified Bitumen membrane with fiberglass mat reinforcement for mop applications. Covered with reflective CoolStar Coating.
Flintlastic FR Cap T CoolStar	39 3/8" x 34' 2"; Roll weight: 90 lbs. (1 square)	ASTM D 6163	Fire resistant, granule surfaced SBS Modified Bitumen membrane with fiberglass mat reinforcement for mop applications. Covered with reflective CoolStar Coating.
Flintlastic GTA, GTA-FR CoolStar or Flintlastic Diamond GTA CoolStar	39 3/8" x 33' 3"; Roll weight: 105 lbs. (1 square)	ASTM D 6222	Granule surfaced, APP Modified Bitumen membrane with non-woven polyester mat reinforcement for torch application. Covered with reflective CoolStar Coating.
Flintlastic GTS CoolStar	39 3/8" x 24'9"; Roll weight: 92 lbs. (3/4 square)	ASTM D 6164	Granule surfaced, SBS Modified Bitumen membrane with non-woven polyester mat reinforcement for torch application. Covered with reflective CoolStar Coating.
Flintlastic GMS/GMS Premium CoolStar	39 3/8" x 34' 2"; Roll weight: 100/105 lbs. (1 square)	ASTM D 6164	Granule surfaced SBS Modified Bitumen membrane with non-woven polyester mat reinforcement for mop application. Covered with reflective CoolStar Coating.
Flintlastic FR-P/FR-P Premium CoolStar	39 3/8" x 34' 2"; Roll weight: 105 lbs. (1 square)	ASTM D 6164	Fire resistant, granule surfaced SBS Modified Bitumen Membrane with non-woven polyester mat reinforcement for mop application. Covered with reflective CoolStar Coating. Covered with reflective CoolStar Coating.
Flexiglas Premium Cap 960 CoolStar	36" x 34'6" (1 square)	ASTM D 6163, Grade G, Type I	Granule surfaced SBS Modified Bitumen membrane with fiberglass mat reinforcement for mop application. Covered with reflective CoolStar Coating.
Flexiglas Premium Cap 960	36" x 34'6" (1 square)	ASTM D 6163, Grade G, Type I	Granule surfaced SBS Modified Bitumen membrane with fiberglass mat reinforcement for mop applications.



Ultra Poly SMS	36" x 64'4" (2 squares)	ASTM D 6164, Grade S, Type I	Smooth surfaced SBS Modified Bitumen Membrane with non-woven polyester mat reinforcement for mop applications.
GlasBase™ Base Sheet	36" x 98'9"; Roll weight: 69 lbs. (3 squares)	ASTM D 4601 UL Type G2	Asphalt coated, fiberglass base sheet.
PolySMS Base Sheet	39 3/8" x 64' 4"; Roll weight: 90 lbs. (2 squares)	ASTM D 6164	Modified Bitumen coated polyester base sheet.
Yosemite® Buffer Base Sheet	36" x 32'10"; Roll weight: 90 lbs. (1 square)	ASTM D 3909 ASTM D 4897 UL Type 30	Mineral Surfaced fiberglass reinforced buffer sheet.
Black Diamond™ Base Sheet	36" x 68'7"; Roll weight: 78 lbs. (2 squares)	ASTM D 1970	Self-adhering fiberglass reinforced modified bitumen base sheet
Flintglas® Mineral Surfaced Cap Sheet	36" X 32'10"; Roll Weight: 78 lbs. (1 square)	ASTM D 3909	Asphalt impregnated and coated inorganic glass fiber surfaced with mineral granules used as the top ply in conventional built-up roof membranes.
Flintglas® Mineral Surfaced Cap CoolStar	36" X 32'10"; Roll Weight: 78 lbs. (1 square)	ASTM D 3909	Asphalt impregnated and coated inorganic glass fiber surfaced with mineral granules used as the top ply in conventional built-up roof membranes. Covered with reflective CoolStar Coating.



**APPROVED INSULATIONS:**

**TABLE 2**

<b>Product Name</b>	<b>Product Description</b>	<b>Manufacturer (With Current NOA)</b>
FlintBoard ISO	Polyisocyanurate foam insulation	CertainTeed
ACFoam II	Polyisocyanurate foam insulation	Atlas Energy Products
ISO 95+	Polyisocyanurate foam insulation	Firestone Building Products, Inc.
High Density Wood Fiberboard	Wood fiber insulation board	generic
Perlite Insulation	Perlite insulation board	generic
Dens Deck, Dens Deck Prime	Water resistant gypsum board	G-P Gypsum Corp.
H-Shield	Polyisocyanurate foam insulation	Hunter Panels
ENRGY-3, UltraGard Gold, PSI-25	Polyisocyanurate foam insulation	Johns Manville
Fesco Board	Expanded mineral fiber insulation	Johns Manville
Multi-Max, FA	Polyisocyanurate foam insulation	RMax, Inc.

**APPROVED FASTENERS:**

**TABLE 3**

<b>Fastener Number</b>	<b>Product Name</b>	<b>Product Description</b>	<b>Dimensions</b>	<b>Manufacturer (With Current NOA)</b>
1.	#12 & #14 Dekfast Fastener	Insulation fastener		SFS Intec
2.	Dekfast Hex Plate	Galvalume AZ50 steel plate	2 7/8" x 3 1/4"	SFS Intec
3.	Olympic Fastener #12 & #14	Insulation fastener		OMG
4.	Olympic Standard	3" round galvalume AZ50 steel plate	3" round	OMG
5.	Insul-Fixx Fastener	Insulation fastener for steel and wood decks		SFS Intec
6.	Insul-Fixx S Plate	Galvalume AZ50 steel plate	3" round	SFS Intec
7.	Tru-Fast Fasteners	Insulation fastener for wood and steel decks		The Tru-Fast Corp.
8.	Tru-Fast MP-3	Galvalume AZ50 steel plate	3" round	The Tru-Fast Corp.
9.	Tru-Fast Plates	Galvalume AZ55 steel plate	3" round	The Tru-Fast Corp.
10.	Tru-Fast Plates	Polyethylene plastic plate	3" round	The Tru-Fast Corp.



**EVIDENCE SUBMITTED:**

<u>Test Agency</u>	<u>Name</u>	<u>Report</u>	<u>Date</u>
Applied Research Laboratories	Physical Properties	28013	06/02/87
Factory Mutual Research Corporation	Current Insulation Fastening Requirements TAS 114/(FMRC 4470)	FMRC 1994	01/01/95
Underwriters Laboratories, Inc.	UL 790	J.I. #3Y8A1.AM R11656	03/23/96 07/13/87
United States Testing Company,	ASTM D 5147	97457-4	06/03/88
Momentum Technologies, Inc.	ASTM D 4601 ASTM D 3909/ D 4897	AX31G8D AX31G8C	09/05/08 09/05/08
Trinity ERD	TAS 114 (J) TAS 114 (J) TAS 114 (J)/TAS 117 (B) TAS 117 (B) TAS 117 (B) TAS 114 (H) FM 4470, TAS 114 FM 4470, TAS 114 TAS 117 (B) ASTM Requirements	#3507.08.99-1 #3514.02LAB #3515.07.03 3503.10.06 O6490.04.07-R1 Letter 3533.01.06 3521.07.04 C8500SC.11.07 C10080.09.08	04/18/01 11/11/02 07/22/03 10/10/06 06/27/07 04/05/06 01/06/06 07/29/04 11/30/07 09/04/08



**APPROVED ASSEMBLIES:**

- Membrane Type:** APP MODIFIED
- Deck Type 1I:** Wood, Insulated
- Deck Description:** 1 9/32" or greater plywood or wood plank
- System Type A(1):** Anchor sheet mechanically fastened; all layers of insulation adhered with approved asphalt.

**All General and System Limitations apply.**

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
<b>ACFoam-II, UltraGard Gold, ENRGY-3, PSI-25, FlintBoard ISO, H-Shield Minimum 1.5" thick</b>	N/A	N/A
<b>Perlite Minimum 3/4" thick</b>	N/A	N/A
<b>High Density Wood Fiberboard Minimum 1/2" thick</b>	N/A	N/A
<b>Dens-Deck, Dens Deck Prime Minimum 1/4" 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/100 ft<sup>2</sup>. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.**

- Anchor Sheet:** One ply of All Weather/Empire Base Sheet, Glas Base, Flex-I Glas Base, Flex-I Glas FR Base or Poly SMS base mechanically attached as detailed below.
- Fastening:** Anchor sheet shall be lapped 4" and fastened with approved roofing nails and tin caps 9"o.c. in the lap and two rows staggered in the center of the sheet 12"o.c.
- Base Sheet:** One ply of products listed under 'Anchor Sheet' above adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
- Ply Sheet:** (Optional) One or more plies of Flintglas Ply Sheet (Type IV) or Flintglas Premium Ply Sheet (Type VI) adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply of Black Diamond Base Sheet self adhered or Flintlastic STA torch adhered.
- Membrane:** Flintlastic STA, Flintlastic STA Plus 5.0, Flintlastic Diamond GTA, Flintlastic Diamond GTA CoolStar, Flintlastic GTA, Flintlastic GTA CoolStar, Flintlastic GTA-FR or GTA-FR CoolStar torch adhered to base/ply sheet.
- Surfacing:** (Optional) Install one of the following:
  1. 400-lb./sq. gravel or 300-lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq.
  2. Karnak 97, FlintCoat A-150, APOC 212 Fibrated Aluminum, Henry 520 Aluminum or Grundy AL MB at an application rate of 1 1/2 gal. /sq.
- Maximum Design Pressure:** -45 psf (See General Limitation #9)



**Membrane Type:** SBS MODIFIED  
**Deck Type II:** Wood, Insulated  
**Deck Description:** 1 9/32" or greater plywood or wood plank  
**System Type A(2):** Anchor sheet mechanically fastened; all layers of insulation adhered with approved asphalt.

**All General and System Limitations apply.**  
 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>ACFoam-II, UltraGard Gold, E'NRG'Y-3, PSI-25, FlintBoard ISO , H-Shield Minimum 1.5" thick</b>	N/A	N/A
<b>Perlite Minimum 3/4" thick</b>	N/A	N/A
<b>High Density Wood Fiberboard Minimum 1/2" thick</b>	N/A	N/A
<b>Dens-Deck, Dens Deck Prime Minimum 1/4" 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/100 ft<sup>2</sup>. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

**Anchor Sheet:** One ply of All Weather/Empire Base Sheet, Glas Base, Flex-I Glas Base, Flex-I Glas FR Base or Poly SMS base mechanically attached as detailed below.

**Fastening:** Anchor sheet shall be lapped 4" and fastened with approved roofing nails and tin caps 9"o.c. in the lap and two rows staggered in the center of the sheet 12"o.c.

**Base Sheet:** One ply of products listed under 'Anchor Sheet' above adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

**Ply Sheet:** One more plies of Ultra Poly SMS, Flintglas Ply Sheet (Type IV) or Flintglas Premium Ply Sheet (Type VI) adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply of Black Diamond Base Sheet (for use with a torched cap sheet only) self adhered.

**Membrane:** One ply of Flintlastic GMS, Flintlastic GMS CoolStar, Flintlastic Premium GMS, Flintlastic Premium GMS CoolStar, Flintlastic FR-P, Flintlastic FR-P CoolStar, Flintlastic Premium FR-P, Flintlastic Premium FR-P CoolStar, Flintlastic FR Cap Sheet, Flintlastic FR Cap Sheet CoolStar, Flexiglas Premium Cap 960 or Ultra Poly SMS, Flintglas Mineral Surface Cap Sheet, Flintglas Mineral Surface Cap Sheet CoolStar adhered to ply sheet with approved mopping asphalt applied within the EVT range and at a rate of 20 to 40 lbs./sq. or Flintlastic GTS, Flintlastic GTS CoolStar, Flintlastic FR Cap T or Flintlastic FR Cap T CoolStar torch adhered to ply sheet.

**Surfacing:** (Optional) Install one of the following:  
 1. 400-lb./sq. gravel or 300-lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq.  
 2. Karnak 97, FlintCoat A-150, APOC 212 Fibrated Aluminum, Henry 520 Aluminum or Grundy AL MB at an application rate of 1 1/2 gal. /sq.

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



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**Expiration Date:** 06/19/13  
**Approval Date:** 11/20/08  
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**Membrane Type:** APP MODIFIED

**Deck Type 1I:** Wood, Insulated

**Deck Description:** 1<sup>9</sup>/<sub>32</sub>" or greater plywood or wood plank

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

**All General and System Limitations apply.**

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
ACFoam-II, Multi-Max FA, ENRGY-3, FlintBoard ISO, H-Shield Minimum 1.5" thick	N/A	N/A

**Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft<sup>2</sup>. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.**

**Anchor Sheet:** One ply of All Weather/Empire Base Sheet, Glas Base or Flintglas Premium Ply Sheet (Type VI) mechanically attached as detailed below.

**Fastening:** Anchor sheet shall be lapped 4" and fastened with 11 ga. annular ring shank nails and approved tin caps 8"o.c. in the lap and three rows staggered in the center of the sheet 8"o.c.

**Base Sheet:** One ply of Black Diamond Base Sheet self-adhered.

**Ply Sheet:** (Optional ) One ply of All Weather/Empire Base Sheet, Ultra Poly SMS, Glas Base, Flex-I Glas Base, Flex-I Glas FR Base or Poly SMS or one or more plies of Flintglas Ply Sheet (Type IV) or Flintglas Premium Ply Sheet (Type VI) adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply of Black Diamond Base Sheet self adhered or Flintlastic STA torch adhered.

**Membrane:** Flintlastic STA, Flintlastic STA Plus 5.0, Flintlastic Diamond GTA, Flintlastic Diamond GTA CoolStar, Flintlastic GTA, Flintlastic GTA CoolStar, Flintlastic GTA-FR or GTA-FR CoolStar torch adhered to base or ply sheet.

**Surfacing:** (Optional) Install one of the following:  
 1. 400-lb./sq. gravel or 300-lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq.  
 2. Karnak 97, FlintCoat A-150, APOC 212 Fibrated Aluminum, Henry 520 Aluminum or Grundy AL MB at an application rate of 1 1/2 gal. /sq.

**Maximum Design Pressure:** -52.5 psf (See General Limitation #7)



**Membrane Type:** SBS MODIFIED  
**Deck Type II:** Wood, Insulated  
**Deck Description:** 1<sup>9</sup>/<sub>32</sub>" or greater plywood or wood plank  
**System Type A(4):** Anchor sheet mechanically fastened; all layers of insulation adhered with approved asphalt.

**All General and System Limitations apply.**

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>ACFoam-II, UltraGard Gold, ENRGY-3, PSI-25, FlintBoard ISO, H-Shield Minimum 1.5" thick</b>	N/A	N/A
<b>Perlite Minimum 3/4" thick</b>	N/A	N/A
<b>High Density Wood Fiberboard Minimum 1/2" thick</b>	N/A	N/A
<b>Dens-Deck, Dens Deck Prime Minimum 1/4" 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/100 ft<sup>2</sup>. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.**

**Anchor Sheet:** One ply of All Weather/Empire Base Sheet, Glas Base or Flintglas Premium Ply Sheet (Type VI) mechanically attached as detailed below.

**Fastening:** Anchor sheet shall be lapped 4" and fastened with 11 ga. annular ring shank nails and approved tin caps 8"o.c. in the lap and three rows staggered in the center of the sheet 8"o.c.

**Base Sheet:** One ply of All Weather/Empire Base Sheet, Ultra Poly SMS, Glas Base, Flex-I Glas Base, Flex-I Glas FR Base or Poly SMS base adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

**Ply Sheet:** (Optional) One or more plies of Flintglas Ply Sheet (Type IV) or Flintglas Premium Ply Sheet (Type VI) adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply of Black Diamond Base Sheet (for use with a torched cap sheet only) self adhered.



Membrane: One ply of Flintlastic GMS, Flintlastic GMS CoolStar, Flintlastic Premium GMS, Flintlastic Premium GMS CoolStar, Flintlastic FR-P, Flintlastic FR-P CoolStar, Flintlastic Premium FR-P, Flintlastic Premium FR-P CoolStar, Flintlastic FR Cap sheet, Flintlastic FR Cap Sheet CoolStar, Flexiglas Premium Cap 960, Ultra Poly SMS, Flintglas Mineral Surfaced Cap Sheet or Flintglas Mineral Surfaced Cap Sheet CoolStar adhered to base/ply sheet with approved mopping asphalt applied within the EVT range and at a rate of 20 to 40 lbs./sq. or Flintlastic GTS, Flintlastic GTS CoolStar, Flintlastic FR Cap T or Flintlastic FR Cap T CoolStar torch adhered to base/ply sheet.

Surfacing: (Optional) Install one of the following:

1. 400-lb./sq. gravel or 300-lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq.
2. Karnak 97, FlintCoat A-150, APOC 212 Fibrated Aluminum, Henry 520 Aluminum or Grundy AL MB at an application rate of 1 ½ gal. /sq.

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



**Membrane Type:** APP MODIFIED

**Deck Type 1I:** Wood, Insulated

**Deck Description:** Minimum <sup>19</sup>/<sub>32</sub>" thick plywood attached using approved nails spaced 4" o.c. at wood joists spaced maximum 24" o. c.

**System Type A(5):** Anchor sheet mechanically fastened; all layers of insulation adhered with approved asphalt.

**All General and System Limitations apply.**

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
ACFoam-II, Multi-Max FA, ENRGY-3, FlintBoard ISO, H-Shield Minimum 1.5" thick	N/A	N/A

**Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft<sup>2</sup>. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.**

**Anchor Sheet:** One ply of All Weather/Empire Base Sheet, GlasBase or Flintglas Premium Ply Sheet (Type VI) mechanically attached as detailed below.

**Fastening:** Anchor sheet shall be lapped 4" and fastened with 11 ga. annular ring shank nails and approved tin caps 8"o.c. in the lap and three rows staggered in the center of the sheet 8"o.c.

**Base:** One ply of Black Diamond Base Sheet self-adhered.

**Ply Sheet:** (Optional ) One ply of All Weather/Empire Base Sheet, Ultra Poly SMS, Glas Base, Flex-I Glas Base, Flex-I Glas FR Base or Poly SMS base or one or more plies of Flintglas Ply Sheet (Type IV) or Flintglas Premium Ply Sheet (Type VI) adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply of Black Diamond Base Sheet self adhered or Flintlastic STA torch adhered.

**Membrane:** Flintlastic STA, Flintlastic STA Plus 5.0, Flintlastic Diamond GTA, Flintlastic Diamond GTA CoolStar, Flintlastic GTA, Flintlastic GTA CoolStar, Flintlastic GTA-FR or GTA-FR CoolStar torch adhered to base or ply sheet.

**Surfacing:** (Optional) Install one of the following:  
 1. 400-lb./sq. gravel or 300-lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq.  
 2. Karnak 97, FlintCoat A-150, APOC 212 Fibrated Aluminum, Henry 520 Aluminum or Grundy AL MB at an application rate of 1 ½ gal. /sq.

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



- Membrane Type:** SBS MODIFIED
- Deck Type 1I:** Wood, Insulated
- Deck Description:** Minimum  $1\frac{9}{32}$ " thick plywood attached using approved nails spaced 4" o.c. at wood joists spaced maximum 24" o. c.
- System Type A(6):** Anchor sheet mechanically fastened; all layer of insulation adhered with approved asphalt.

**All General and System Limitations apply.**

One or more layers of any of the following insulations.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
<b>ACFoam-II, UltraGard Gold, ENRGY-3, PSI-25, FlintBoard ISO, H-Shield</b> Minimum 1.5" thick	N/A	N/A
<b>Perlite</b> Minimum $\frac{3}{4}$ " thick	N/A	N/A
<b>High Density Wood Fiberboard</b> Minimum $\frac{1}{2}$ " thick	N/A	N/A
<b>Dens-Deck, Dens-Deck Prime</b> Minimum $\frac{1}{4}$ " thick	N/A	N/A

**Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft<sup>2</sup>. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.**

- Anchor Sheet:** One ply of All Weather/Empire Base Sheet, GlasBase or Flintglas Premium Ply Sheet (Type VI) mechanically attached as detailed below.
- Fastening:** Anchor sheet shall be lapped 4" and fastened with 11 ga. annular ring shank nails and approved tin caps 8"o.c. in the lap and three rows staggered in the center of the sheet 8"o.c.
- Base Sheet:** One ply of All Weather/Empire Base Sheet, Ultra Poly SMS, Glas Base, Flex-I Glas Base, Flex-I Glas FR Base or Poly SMS base adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
- Ply Sheet:** (Optional) One or more plies of Flintglas Ply Sheet (Type IV) or Flintglas Premium Ply Sheet (Type VI) adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply of Black Diamond Base Sheet (for use with a torched cap sheet only) self adhered.



Membrane: One ply of Flintlastic GMS, Flintlastic GMS CoolStar, Flintlastic Premium GMS, Flintlastic Premium GMS CoolStar, Flintlastic FR-P, Flintlastic FR-P CoolStar, Flintlastic Premium FR-P, Flintlastic Premium FR-P CoolStar, Flintlastic FR Cap sheet, Flintlastic FR Cap Sheet CoolStar, Flexiglas Premium Cap 960, Ultra Poly SMS, Flintglas Mineral Surfaced Cap Sheet or Flintglas Mineral Surfaced Cap Sheet CoolStar adhered to base/ply sheet with approved mopping asphalt applied within the EVT range and at a rate of 20 to 40 lbs./sq. or Flintlastic GTS, Flintlastic GTS CoolStar, Flintlastic FR Cap T or Flintlastic FR Cap T CoolStar torch adhered to base/ply sheet.

Surfacing: (Optional) Install one of the following:

1. 400-lb./sq. gravel or 300-lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq.
2. Karnak 97, FlintCoat A-150, APOC 212 Fibrated Aluminum, Henry 520 Aluminum or Grundy AL MB at an application rate of 1 ½ gal. /sq.

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



**Membrane Type:** APP MODIFIED  
**Deck Type 1I:** Wood, Insulated  
**Deck Description:** Minimum 1<sup>9</sup>/<sub>32</sub>" thick plywood attached using wood screws spaced 6" o.c. at wood joists spaced maximum 24" o. c.  
**System Type A(7):** Anchor sheet mechanically fastened; all layers of insulation adhered with approved asphalt.

**All General and System Limitations apply.**

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>ACFoam-II, UltraGard Gold, ENRGY-3, PSI-25, FlintBoard ISO, H-Shield Minimum 1.5" thick</b>	N/A	N/A
<b>Perlite Minimum 3/4" thick</b>	N/A	N/A
<b>High Density Wood Fiberboard Minimum 1/2" thick</b>	N/A	N/A
<b>Dens-Deck, Dens-Deck Prime Minimum 1/4" 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/100 ft<sup>2</sup>. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.**

**Anchor Sheet:** One ply of GlasBase, Flex-I-Glas Base, Flex-I Glas FR Base or All Weather/Empire Base sheet mechanically attached as detailed below.

**Fastening:** Anchor sheet shall be lapped 4" and fastened with Simplex Mega Cap Nails spaced 9" o.c. in the lap and the 9" o.c. in two staggered rows in the center of the sheet.

**Base Sheet:** One Ply of products listed under 'Anchor Sheet' above adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40lbs. /sq.

**Ply Sheet:** (Optional) One or more plies of Flintglas Ply Sheet (type IV) or Flintglas Premium Ply Sheet (type VI) adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40lbs. /sq. or one ply of Black Diamond Base Sheet self adhered or Flintlastic STA torch adhered.

**Membrane:** Flintlastic STA, Flintlastic STA Plus 5.0, Flintlastic Diamond GTA, Flintlastic Diamond GTA CoolStar, Flintlastic GTA, Flintlastic GTA CoolStar, Flintlastic GTA-FR or GTA-FR CoolStar torch adhered to base/ply sheet.

**Surfacing:** (Optional) Install one of the following:  
 1. 400-lb./sq. gravel or 300-lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq.  
 2. Karnak 97, FlintCoat A-150, APOC 212 Fibrated Aluminum, Henry 520 Aluminum or Grundy AL MB at an application rate of 1 1/2 gal. /sq.

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



- Membrane Type:** SBS MODIFIED
- Deck Type II:** Wood, Insulated
- Deck Description:** Minimum  $1\frac{9}{32}$ " thick plywood attached using wood screws spaced 6" o.c. at wood joists spaced maximum 24" o.c.
- System Type A(8):** Anchor sheet mechanically fastened; all layer of insulation adhered with approved asphalt.

**All General and System Limitations apply.**

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>ACFoam-II, UltraGard Gold, ENRGY-3, PSI-25, FlintBoard ISO, H-Shield Minimum 1.5" thick</b>	N/A	N/A
<b>Perlite Minimum ¾" thick</b>	N/A	N/A
<b>High Density Wood Fiberboard Minimum ½" thick</b>	N/A	N/A
<b>Dens-Deck, Dens-Deck Prime Minimum ¼" 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/100 ft<sup>2</sup>. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

- Anchor Sheet:** One ply of GlasBase, Flex-I Glas Base, Flex-I- Glas FR Base or All Weather/ Empire Base Sheet mechanically attached as detailed below.
- Fastening:** Anchor sheet shall be lapped 4" and fastened with Simplex Mega Cap Nails spaced 9" o.c. in the lap and the 9" o.c. in two staggered rows in the center of the sheet.
- Base Sheet:** One ply of products listed under 'Anchor Sheet' above adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs. /sq.
- Ply Sheet:** (Optional) One or more plies of Flintglas Ply Sheet (type IV) or Flintglas Premium Ply Sheet (Type VI) adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs. /sq. or one ply of Black Diamond Base Sheet (for use with a torched cap sheet only) self adhered.



Membrane: One ply of Flintlastic GMS, Flintlastic GMS CoolStar, Flintlastic Premium GMS, Flintlastic Premium GMS CoolStar, Flintlastic FR-P, Flintlastic FR-P CoolStar, Flintlastic Premium FR-P, Flintlastic Premium FR-P CoolStar, Flintlastic FR Cap Sheet, Flintlastic FR Cap Sheet CoolStar, Flexiglas Premium Cap 960 or Ultra Poly SMS, Flintglas Mineral Surface Cap Sheet or Flintglas Mineral Surface Cap Sheet CoolStar adhered to ply sheet with approved mopping asphalt applied within the EVT range and at a rate of 20 to 40 lbs./sq. or Flintlastic GTS, Flintlastic GTS CoolStar, Flintlastic FR Cap T or Flintlastic FR Cap T CoolStar torch adhered to ply sheet.

Surfacing: (Optional) Install one of the following:

1. 400-lb./sq. gravel or 300-lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq.
2. Karnak 97, FlintCoat A-150, APOC 212 Fibrated Aluminum, Henry 520 Aluminum or Grundy AL MB at an application rate of 1 ½ gal. /sq.

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



**Membrane Type:** APP MODIFIED

**Deck Type 1I:** Wood, Insulated

**Deck Description:** 1<sup>9</sup>/<sub>32</sub>" or greater plywood or wood plank

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

**All General and System Limitations apply.**

one or more layers of any of the following insulations under those listed as Top Layer:

<b>Base Insulation Layer</b>	<b>Insulation Fasteners (Table 3)</b>	<b>Fastener Density/ft<sup>2</sup></b>
<b>ENRGY-3, PSI-25 Minimum 1.4" thick</b>	<b>Any approved fasteners in Table 3</b>	<b>1:2 ft<sup>2</sup></b>
<b>ACFoam-II, UltraGard Gold, FlintBoard ISO, H-Shield Minimum 1.5" thick</b>	<b>Any approved fasteners in Table 3</b>	<b>1:2 ft<sup>2</sup></b>
<b>Perlite Minimum 3/4" thick</b>	<b>Any approved fasteners in Table 3</b>	<b>1:2 ft<sup>2</sup></b>
<b>High Density Wood Fiberboard Minimum 1/2" thick</b>	<b>Any approved fasteners in Table 3</b>	<b>1:2 ft<sup>2</sup></b>
<b>Dens-Deck, Dens-Deck Prime Minimum 1/4" thick</b>	<b>Any approved fasteners in Table 3</b>	<b>1:2 ft<sup>2</sup></b>

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

<b>Top Insulation Layer</b>	<b>Insulation Fasteners (Table 3)</b>	<b>Fastener Density/ft<sup>2</sup></b>
<b>Any of the insulations listed for Base Layer</b>		

**Note:** Optional top layer of insulation shall be adhered with approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft<sup>2</sup>. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

**Base Sheet:** One ply of All Weather/Empire Base Sheet, GlasBase, Flex-I Glas Base, Flex-I Glas FR Base, Poly SMS, Flintglas Ply Sheet (Type IV) or Flintglas Premium Ply Sheet (Type VI) adhered to the insulated substrate with approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

**Ply Sheet:** (Optional) One ply of All Weather/Empire Base Sheet, Glas Base, Flex-I-Glas Base, Flex-I-Glas FR Base, PolySMS or one or more plies of Flintglas Ply Sheet (Type IV) or Flintglas Premium Ply Sheet (Type VI) adhered to the base sheet in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply of Black Diamond Base Sheet self adhered or Flintlastic STA torch adhered.



Membrane: Flintlastic STA, Flintlastic STA Plus 5.0, Flintlastic Diamond GTA, Flintlastic GTA CoolStar, Flintlastic GTA, Flintlastic GTA CoolStar, Flintlastic GTA-FR or GTA-FR CoolStar torch adhered to base/ply sheet.

Surfacing: (Optional) Install one of the following:

1. 400-lb./sq. gravel or 300-lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq.
2. Karnak 97, FlintCoat A-150, APOC 212 Fibrated Aluminum, Henry 520 Aluminum or Grundy AL MB at an application rate of 1 ½ gal. /sq.

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



**Membrane Type:** SBS MODIFIED

**Deck Type 1I:** Wood, Insulated

**Deck Description:** <sup>19</sup>/<sub>32</sub>" or greater plywood or wood plank

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

**All General and System Limitations apply.**

One or more layers of any of the following insulations under those listed as Top Layer:

<b>Base Insulation Layer</b>	<b>Insulation Fasteners (Table 3)</b>	<b>Fastener Density/ft<sup>2</sup></b>
<b>ENRGY-3, PSI-25 Minimum 1.4" thick</b>	<b>Any approved fasteners in Table 3</b>	<b>1:2 ft<sup>2</sup></b>
<b>ACFoam-II, UltraGard Gold, FlintBoard ISO, H-Shield Minimum 1.5" thick</b>	<b>Any approved fasteners in Table 3</b>	<b>1:2 ft<sup>2</sup></b>
<b>Perlite Minimum ¾" thick</b>	<b>Any approved fasteners in Table 3</b>	<b>1:2 ft<sup>2</sup></b>
<b>High Density Wood Fiberboard Minimum ½" thick</b>	<b>Any approved fasteners in Table 3</b>	<b>1:2 ft<sup>2</sup></b>
<b>Dens-Deck, Dens-Deck Prime Minimum ¼" thick</b>	<b>Any approved fasteners in Table 3</b>	<b>1:2 ft<sup>2</sup></b>

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

<b>Top Insulation Layer</b>	<b>Insulation Fasteners (Table 3)</b>	<b>Fastener Density/ft<sup>2</sup></b>
<b>Any of the insulations listed for Base Layer</b>		

**Note:** Optional top layer of insulation shall be adhered with approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft<sup>2</sup>. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

**Base Sheet:** One ply of All Weather/Empire Base Sheet, Glas Base, Flex-I Glas Base, Flex-I Glas FR Base, Poly SMS, Flintglas Ply Sheet (Type IV) or Flintglas Premium Ply Sheet (Type VI) or Ultra Poly SMS adhered to the insulated substrate with approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

**Ply Sheet:** (Optional) One ply of All Weather/Empire Base Sheet, Glas Base, Flex-I-Glas Base, Flex-I-Glas FR Base, PolySMS or one or more plies of Flintglas Ply Sheet (Type IV) or Flintglas Premium Ply Sheet (Type VI) adhered to the base sheet in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply of Black Diamond Base Sheet (for use with a torched cap sheet only) self adhered.



Membrane: One ply of Flintlastic GMS, Flintlastic GMS CoolStar, Flintlastic Premium GMS, Flintlastic Premium GMS CoolStar, Flintlastic FR-P, Flintlastic FR-P CoolStar, Flintlastic Premium FR-P, Flintlastic Premium FR-P CoolStar, Flintlastic FR Cap Sheet, Flintlastic FR Cap Sheet CoolStar, Flexiglas Premium Cap 960 or Ultra Poly SMS or Flintglas Mineral Surface Cap Sheet, Flintglas Mineral Surface Cap Sheet CoolStar adhered to ply sheet with approved mopping asphalt applied within the EVT range and at a rate of 20 to 40 lbs./sq. or Flintlastic GTS, Flintlastic GTS CoolStar, Flintlastic FR Cap T or Flintlastic FR Cap T CoolStar torch adhered to ply sheet.

Surfacing: (Optional) Install one of the following:

1. 400-lb./sq. gravel or 300-lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq.
2. Karnak 97, FlintCoat A-150, APOC 212 Fibrated Aluminum at an application rate of 1.5 gal./sq.

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



**Membrane Type:** APP MODIFIED  
**Deck Type II:** Wood, Insulated  
**Deck Description:** 19/32" or greater plywood or wood plank  
**System Type C(1):** All layers of insulation simultaneously attached.

**All General and System Limitations apply.**

One or more layers of any of the following insulations:

<b>Base Insulation Layer</b>	<b>Insulation Fasteners (Table 3)</b>	<b>Fastener Density/ft<sup>2</sup></b>
<b>ACFoam-II, UltraGard Gold, ENRGY-3, PSI-25, FlintBoard ISO, H-Shield Minimum 1.5" thick</b>	N/A	N/A
<b>Perlite Minimum 3/4" thick</b>	N/A	N/A
<b>High Density Wood Fiberboard Minimum 1/2" thick</b>	N/A	N/A
<b>Dens-Deck, Dens-Deck Prime Minimum 1/4" thick</b>	N/A	N/A

**Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density.**

<b>Top Insulation Layer</b>	<b>Insulation Fasteners (Table 3)</b>	<b>Fastener Density/ft<sup>2</sup></b>
<b>Perlite Minimum 3/4" thick</b>	Any approved fasteners in Table 3	1:2 ft <sup>2</sup>
<b>High Density Wood Fiberboard Minimum 1/2" thick</b>	Any approved fasteners in Table 3	1:2 ft <sup>2</sup>
<b>Dens-Deck, Dens-Deck Prime Minimum 1/4" thick</b>	Any approved fasteners in Table 3	1:2 ft <sup>2</sup>

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

**Base Sheet:** One ply of All Weather/Empire Base Sheet, Glas Base, Flex-I Glas Base, Flex-I Glas FR Base, Poly SMS, Flintglas Ply Sheet (Type IV) or Flintglas Premium Ply Sheet (Type VI) adhered to the insulated substrate with approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.



**Ply Sheet:** (Optional) One ply of All Weather/Empire Base Sheet, Glas Base, Flex-I-Glas Base, Flex-I-Glas FR Base, PolySMS or one or more plies of Flintglas Ply Sheet (Type IV) or Flintglas Premium Ply Sheet (Type VI) adhered to the base sheet in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply of Black Diamond Base Sheet self adhered or Flintlastic STA torch adhered.

**Membrane:** Flintlastic STA, Flintlastic STA Plus 5.0, Flintlastic Diamond GTA, Flintlastic GTA CoolStar, Flintlastic GTA, Flintlastic GTA CoolStar, Flintlastic GTA-FR or GTA-FR CoolStar torch adhered to base/ply sheet.

**Surfacing:** (Optional) Install one of the following:

1. 400-lb./sq. gravel or 300-lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq.
2. Karnak 97, FlintCoat A-150, APOC 212 Fibrated Aluminum, Henry 520 Aluminum or Grundy AL MB at an application rate of 1 ½ gal. /sq.

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



**Membrane Type:** SBS MODIFIED  
**Deck Type 1I:** Wood, Insulated  
**Deck Description:** 1<sup>9</sup>/<sub>32</sub>" or greater plywood or wood plank  
**System Type C(2):** All layers of insulation simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations under those listed as Top Layer:

<b>Base Insulation Layer</b>	<b>Insulation Fasteners (Table 3)</b>	<b>Fastener Density/ft<sup>2</sup></b>
<b>ACFoam-II, UltraGard Gold, ENRGY-3, PSI-25, FlintBoard ISO, H-Shield Minimum 1.5" thick</b>	N/A	N/A
<b>Perlite Minimum 3/4" thick</b>	N/A	N/A
<b>High Density Wood Fiberboard Minimum 1/2" thick</b>	N/A	N/A
<b>Dens-Deck, Dens-Deck Prime Minimum 1/4" thick</b>	N/A	N/A

**Note:** All layers shall be simultaneously fastened; see top layer below for fasteners and density.

<b>Top Insulation Layer</b>	<b>Insulation Fasteners (Table 3)</b>	<b>Fastener Density/ft<sup>2</sup></b>
<b>Perlite Minimum 3/4" thick</b>	Any approved fasteners in Table 3	1:2 ft <sup>2</sup>
<b>High Density Wood Fiberboard Minimum 1/2" thick</b>	Any approved fasteners in Table 3	1:2 ft <sup>2</sup>
<b>Dens-Deck, Dens-Deck Prime Minimum 1/4" thick</b>	Any approved fasteners in Table 3	1:2 ft <sup>2</sup>

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

**Base Sheet:** One ply of All Weather/Empire Base Sheet, Glas Base, Flex-I Glas Base, Flex-I Glas FR Base, Poly SMS, Flintglas Ply Sheet (Type IV) or Flintglas Premium Ply Sheet (Type VI) or Ultra Poly SMS adhered to the insulated substrate with approved mopping asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.



Ply Sheet: (Optional) One ply of All Weather/Empire Base Sheet, Glas Base, Flex-I-Glas Base, Flex-I-Glas FR Base, PolySMS or one or more plies of Flintglas Ply Sheet (Type IV) or Flintglas Premium Ply Sheet (Type VI) adhered to the base sheet in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply of Black Diamond Base Sheet (for use with a torched cap sheet only) self adhered.

Membrane: One ply of Flintlastic GMS, Flintlastic GMS CoolStar, Flintlastic Premium GMS, Flintlastic Premium GMS CoolStar, Flintlastic FR-P, Flintlastic FR-P CoolStar, Flintlastic Premium FR-P, Flintlastic Premium FR-P CoolStar, Flintlastic FR Cap Sheet, Flintlastic FR Cap Sheet CoolStar, Flexiglas Premium Cap 960 or Ultra Poly SMS, Flintglas Mineral Surface Cap Sheet, Flintglas Mineral Surface Cap Sheet CoolStar adhered to ply sheet with approved mopping asphalt applied within the EVT range and at a rate of 20 to 40 lbs./sq. or Flintlastic GTS, Flintlastic GTS CoolStar, Flintlastic FR Cap T or Flintlastic FR Cap T CoolStar torch adhered to ply sheet.

Surfacing: (Optional) Install one of the following:  
1. 400-lb./sq. gravel or 300-lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq.  
2. Karnak 97, FlintCoat A-150, APOC 212 Fibrated Aluminum at an application rate of 1.5 gal./sq.

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



**Membrane Type:** APP MODIFIED  
**Deck Type II:** Wood, Insulated  
**Deck Description:** 1<sup>9</sup>/<sub>32</sub>" or greater plywood or wood plank  
**System Type D(1):** All layers of insulation and base sheet simultaneously attached.

**All General and System Limitations apply.**

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>ACFoam-II, UltraGard Gold, ENRGY-3, PSI-25, FlintBoard ISO, H-Shield Minimum 1.5" thick</b>	N/A	N/A
<b>Perlite Minimum ¾" thick</b>	N/A	N/A
<b>High Density Wood Fiberboard Minimum ½" thick</b>	N/A	N/A
<b>Dens-Deck, Dens-Deck Prime Minimum ¼" thick</b>	N/A	N/A

**Note: Top layer shall have preliminary attachment, prior to the installation of the base/anchor sheet, at an application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.**

**Base Sheet:** One ply of All Weather/Empire Base Sheet, Glas Base, Flex-I Glas Base, Flex-I Glas FR Base or Poly SMS base mechanically attached as detailed in Fastening #1, below or one ply of Poly SMS mechanically attached as detailed in Fastening #2 or #3, below.

**Fastening #1:** Olympic Screws #12 or #14 and metal plates, Dekfast #14 or #15 and metal plates, Tru-Fast #12 or #14 and MP-3 Plates or SFS Insul-Fixx #12 or #14 and metal plates spaced 4" o.c. at a 4" side lap and two staggered rows in the center of the sheet, 24" o.c.

**Fastening #2:** Olympic Screws #12 or #14 and metal plates, Dekfast #14 or #15 and metal plates, Tru-Fast #12 or #14 and MP-3 Plates or SFS Insul-Fixx #12 or #14 and metal plates spaced 12" o.c. at a 4" side lap and two staggered rows in the center of the sheet, 36" o.c.

**Fastening #3:** Tru-Fast #12 or #14 and 2" metal plates or SFS Insul-Fixx screws and 2" round metal plates at a 4" side lap, 12" o.c.



**Ply Sheet:** (Optional) One ply of All Weather/Empire Base Sheet, Glas Base, Flex-I-Glas Base, Flex-I-Glas FR Base, PolySMS or one or more plies of Flintglas Ply Sheet (Type IV) or Flintglas Premium Ply Sheet (Type VI) adhered to the base sheet in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply of Black Diamond Base Sheet self adhered or Flintlastic STA torch adhered.

**Membrane:** Flintlastic STA, Flintlastic STA Plus 5.0, Flintlastic Diamond GTA, Flintlastic GTA CoolStar, Flintlastic GTA, Flintlastic GTA CoolStar, Flintlastic GTA-FR or GTA-FR CoolStar torch adhered to base/ply sheet.

**Surfacing:** (Optional) Install one of the following:

1. 400-lb./sq. gravel or 300-lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq.
2. Karnak 97, FlintCoat A-150, APOC 212 Fibrated Aluminum, Henry 520 Aluminum or Grundy AL MB at an application rate of 1 ½ gal. /sq.

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



**Membrane Type:** SBS MODIFIED  
**Deck Type 1I:** Wood, Insulated  
**Deck Description:** 1<sup>9</sup>/<sub>32</sub>" or greater plywood or wood plank  
**System Type D(2):** All layers of insulation and base sheet simultaneously attached.

**All General and System Limitations apply.**

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>ACFoam-II, UltraGard Gold, ENRGY-3, PSI-25, FlintBoard ISO, H-Shield Minimum 1.5" thick</b>	N/A	N/A
<b>Perlite Minimum 3/4" thick</b>	N/A	N/A
<b>High Density Wood Fiberboard Minimum 1/2" thick</b>	N/A	N/A
<b>Dens-Deck, Dens-Deck Prime Minimum 1/4" thick</b>	N/A	N/A

**Note: Top layer shall have preliminary attachment, prior to the installation of the base/anchor sheet, at an application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.**

**Base Sheet:** One ply of All Weather/Empire Base Sheet, Glas Base, Flex-I Glas Base, Flex-I Glas FR Base or Poly SMS base mechanically attached as detailed in Fastening #1, below or one ply of Poly SMS mechanically attached as detailed in Fastening #2 or #3, below.

**Fastening #1:** Olympic Screws #12 or #14 and metal plates, Dekfast #14 or #15 and metal plates, Tru-Fast #12 or #14 and MP-3 Plates or SFS Insul-Fixx #12 or #14 and metal plates spaced 4" o.c. at a 4" side lap and two staggered rows in the center of the sheet, 24" o.c.

**Fastening #2:** Olympic Screws #12 or #14 and metal plates, Dekfast #14 or #15 and metal plates, Tru-Fast #12 or #14 and MP-3 Plates or SFS Insul-Fixx #12 or #14 and metal plates spaced 12" o.c. at a 4" side lap and two staggered rows in the center of the sheet, 36" o.c.

**Fastening #3:** Tru-Fast #12 or #14 and 2" metal Plates or SFS Insul-Fixx screws and 2" round metal plates at a 4" side lap, 12" o.c.



- Ply Sheet:** (Optional) One ply of All Weather/Empire Base Sheet, Glas Base, Flex-I-Glas Base, Flex-I-Glas FR Base, PolySMS or one or more plies of Flintglas Ply Sheet (Type IV) or Flintglas Premium Ply Sheet (Type VI) or Ultra Poly SMS adhered to the base sheet in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply of Black Diamond Base Sheet (for use with a torched cap sheet only) self adhered.
- Membrane:** One ply of Flintlastic GMS, Flintlastic GMS CoolStar, Flintlastic Premium GMS, Flintlastic Premium GMS CoolStar, Flintlastic FR-P, Flintlastic FR-P CoolStar, Flintlastic Premium FR-P, Flintlastic Premium FR-P CoolStar, Flintlastic FR Cap Sheet, Flintlastic FR Cap Sheet CoolStar, Flexiglas Premium Cap 960 or Ultra Poly SMS adhered to ply sheet with approved mopping asphalt applied within the EVT range and at a rate of 20 to 40 lbs./sq. or Flintlastic GTS, Flintlastic GTS CoolStar, Flintlastic FR Cap T or Flintlastic FR Cap T CoolStar torch adhered to ply sheet.
- Surfacing:** (Optional) Install one of the following:
1. 400-lb./sq. gravel or 300-lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq.
  2. Karnak 97, FlintCoat A-150, APOC 212 Fibrated Aluminum at an application rate of 1.5 gal./sq.
- Maximum Design Pressure:** -45psf. (See General Limitation #9)



**Membrane Type:** APP MODIFIED  
**Deck Type 1:** Wood, Non-insulated  
**Deck Description:** <sup>19</sup>/<sub>32</sub>" or greater plywood or wood plank decks  
**System Type E(1):** Base sheet mechanically fastened.

**All General and System Limitations apply.**

**Base Sheet:** One ply of All Weather/Empire Base Sheet, Glas Base, Flex-I Glas Base, Flex-I Glas FR Base or Poly SMS base mechanically attached as detailed below.

**Fastening:** Base sheet shall be lapped 4" and fastened with approved roofing nails and tin caps 9" o.c. in the lap and two rows staggered in the center of the sheet 12" o.c.

**Ply Sheet:** (Optional) One ply of All Weather/Empire Base Sheet, Glas Base, Flex-I-Glas Base, Flex-I-Glas FR Base, PolySMS or one or more plies of Flintglas Ply Sheet (Type IV) or Flintglas Premium Ply Sheet (Type VI) adhered to the base sheet in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply of Black Diamond Base Sheet self adhered or Flintlastic STA torch adhered.

**Membrane:** Flintlastic STA, Flintlastic STA Plus 5.0, Flintlastic Diamond GTA, Flintlastic GTA CoolStar, Flintlastic GTA, Flintlastic GTA CoolStar, Flintlastic GTA-FR or GTA-FR CoolStar torch adhered to base/ply sheet.

**Surfacing:** (Optional) Install one of the following:  
1. 400-lb./sq. gravel or 300-lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq.  
2. Karnak 97, FlintCoat A-150, APOC 212 Fibrated Aluminum, Henry 520 Aluminum or Grundy AL MB at an application rate of 1 ½ gal. /sq.

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



**Membrane Type:** SBS MODIFIED  
**Deck Type 1:** Wood, Non-insulated  
**Deck Description:** <sup>19</sup>/<sub>32</sub>" or greater plywood or wood plank decks  
**System Type E(2):** Base sheet mechanically fastened.

**All General and System Limitations apply.**

**Anchor Sheet:** One ply of All Weather/Empire Base Sheet, Glas Base, Flex-I Glas Base, Flex-I Glas FR Base or Poly SMS base mechanically fastened as detailed below.

**Fastening:** Base sheet shall be lapped 4" and fastened with approved roofing nails and tin caps 9"o.c. in the lap and two rows staggered in the center of the sheet 12"o.c.

**Ply Sheet:** (Optional) One ply of All Weather/Empire Base Sheet, Glas Base, Flex-I-Glas Base, Flex-I-Glas FR Base, PolySMS or one or more plies of Flintglas Ply Sheet (Type IV) or Flintglas Premium Ply Sheet (Type VI) or Ultra Poly SMS adhered to the base sheet in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply of Black Diamond Base Sheet (for use with a torched cap sheet only) self adhered.

**Membrane:** One ply of Flintlastic GMS, Flintlastic GMS CoolStar, Flintlastic Premium GMS, Flintlastic Premium GMS CoolStar, Flintlastic FR-P, Flintlastic FR-P CoolStar, Flintlastic Premium FR-P, Flintlastic Premium FR-P CoolStar, Flintlastic FR Cap Sheet, Flintlastic FR Cap Sheet CoolStar, Flexiglas Premium Cap 960 or Ultra Poly SMS, Flintglas Mineral Surface Cap Sheet, Flintglas Mineral Surface Cap Sheet CoolStar adhered to ply sheet with approved mopping asphalt applied within the EVT range and at a rate of 20 to 40 lbs./sq. or Flintlastic GTS, Flintlastic GTS CoolStar, Flintlastic FR Cap T or Flintlastic FR Cap T CoolStar torch adhered to ply sheet.

**Surfacing:** (Optional) Install one of the following:  
1. 400-lb./sq. gravel or 300-lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq.  
2. Karnak 97, FlintCoat A-150 or APOC 212 Fibrated Aluminum at an application rate of 1.5 gal./sq.

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



**Membrane Type:** APP MODIFIED  
**Deck Type 1:** Wood, Non-Insulated  
**Deck Description:** 1<sup>9</sup>/<sub>32</sub>" or greater plywood or wood plank  
**System Type E(3):** Base sheet mechanically fastened.

**All General and System Limitations apply.**

**Base Sheet:** One ply of All Weather/Empire Base Sheet, Glas Base or Flintglas Premium Ply Sheet (Type VI) mechanically attached as detailed below.

**Fastening:** Base sheet shall be lapped 4" and fastened with 11 ga. annular ring shank nails and approved tin caps 8"o.c. in the lap and three rows staggered in the center of the sheet 8"o.c.

**Ply Sheet:** (Optional ) One ply of All Weather/Empire Base Sheet, Ultra Poly SMS, Glas Base, Flex-I Glas Base, Flex-I Glas FR Base or Poly SMS or one or more plies of Flintglas Ply Sheet (Type IV) or Flintglas Premium Ply Sheet (Type VI) adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply of Black Diamond Base Sheet self adhered or Flintlastic STA torch adhered.

**Membrane:** Flintlastic STA, Flintlastic STA Plus 5.0, Flintlastic Diamond GTA, Flintlastic GTA CoolStar, Flintlastic GTA, Flintlastic GTA CoolStar, Flintlastic GTA-FR or GTA-FR CoolStar torch adhered to base/ply sheet.

**Surfacing:** (Optional) Install one of the following:  
1. 400-lb./sq. gravel or 300-lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq.  
2. Karnak 97, FlintCoat A-150, APOC 212 Fibrated Aluminum, Henry 520 Aluminum or Grundy AL MB at an application rate of 1 ½ gal. /sq.

**Maximum Design Pressure:** -52.5 psf (See General Limitation #7)



**Membrane Type:** SBS MODIFIED  
**Deck Type 1I:** Wood, Non-Insulated  
**Deck Description:** <sup>19</sup>/<sub>32</sub>" or greater plywood or wood plank  
**System Type E(4):** Base sheet mechanically fastened.

**All General and System Limitations apply.**

**Base Sheet:** One ply of All Weather/Empire Base Sheet, Glas Base or Flintglas Premium Ply Sheet (Type VI) mechanically attached as detailed below.

**Fastening:** Base sheet shall be lapped 4" and fastened with 11 ga. annular ring shank nails and approved tin caps 8"o.c. in the lap and three rows staggered in the center of the sheet 8"o.c.

**Ply Sheet:** (Optional) One ply of All Weather/Empire Base Sheet, Ultra Poly SMS, Glas Base, Flex-I Glas Base, Flex-I Glas FR Base or Poly SMS or one or more Flintglas Ply Sheet (Type IV) or Flintglas Premium Ply Sheet (Type VI) adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply of Black Diamond Base Sheet (for use with a torched cap sheet only) self adhered.

**Membrane:** One ply of Flintlastic GMS, Flintlastic GMS CoolStar, Flintlastic Premium GMS, Flintlastic Premium GMS CoolStar, Flintlastic FR-P, Flintlastic FR-P CoolStar, Flintlastic Premium FR-P, Flintlastic Premium FR-P CoolStar, Flintlastic FR Cap Sheet, Flintlastic FR Cap Sheet CoolStar, Flexiglas Premium Cap 960 or Ultra Poly SMS, Flintglas Mineral Surface Cap Sheet, Flintglas Mineral Surface Cap Sheet CoolStar adhered to ply sheet with approved mopping asphalt applied within the EVT range and at a rate of 20 to 40 lbs./sq. or Flintlastic GTS, Flintlastic GTS CoolStar, Flintlastic FR Cap T or Flintlastic FR Cap T CoolStar torch adhered to ply sheet.

**Surfacing:** (Optional) Install one of the following:  
1. 400-lb./sq. gravel or 300-lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq.  
2. Karnak 97, FlintCoat A-150, APOC 212 Fibrated Aluminum, Henry 520 Aluminum or Grundy AL MB at an application rate of 1 ½ gal. /sq.

**Maximum Design Pressure:** -52.5 psf (See General Limitation #7)



**Membrane Type:** APP MODIFIED  
**Deck Type 1:** Wood, Non-Insulated  
**Deck Description:** Minimum <sup>19</sup>/<sub>32</sub>" thick plywood attached using approved nails spaced 4" o.c. at wood joists spaced maximum 24" o. c.  
**System Type E(5):** Base sheet mechanically fastened.

**All General and System Limitations apply.**

**Base Sheet:** One ply of All Weather/Empire Base Sheet, GlasBase or Flintglas Premium Ply Sheet (Type VI) mechanically attached as detailed below.

**Fastening:** Base sheet shall be lapped 4" and fastened with 11 ga. annular ring shank nails and approved tin caps 8"o.c. in the lap and three rows staggered in the center of the sheet 8"o.c.

**Ply Sheet:** (Optional ) One ply of All Weather/Empire Base Sheet, Ultra Poly SMS, Glas Base, Flex-I Glas Base, Flex-I Glas FR Base or Poly SMS or one or more Flintglas Ply Sheet (Type IV) or Flintglas Premium Ply Sheet (Type VI) adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply of Black Diamond Base Sheet self adhered or Flintlastic STA torch adhered.

**Membrane:** Flintlastic STA, Flintlastic STA Plus 5.0, Flintlastic Diamond GTA, Flintlastic GTA CoolStar, Flintlastic GTA, Flintlastic GTA CoolStar, Flintlastic GTA-FR or GTA-FR CoolStar torch adhered to base/ply sheet.

**Surfacing:** (Optional) Install one of the following:  
1. 400-lb./sq. gravel or 300-lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq.  
2. Karnak 97, FlintCoat A-150, APOC 212 Fibrated Aluminum, Henry 520 Aluminum or Grundy AL MB at an application rate of 1 ½ gal. /sq.

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



**Membrane Type:** SBS MODIFIED

**Deck Type 1:** Wood, Non-Insulated

**Deck Description:** Minimum <sup>19</sup>/<sub>32</sub>" thick plywood attached using approved nails spaced 4" o.c. at wood joists spaced maximum 24" o. c.

**System Type E(6):** Base sheet mechanically fastened.

**All General and System Limitations apply.**

**Base Sheet:** One ply of All Weather/Empire Base Sheet, GlasBase or Flintglas Premium Ply Sheet (Type VI) mechanically attached as detailed below.

**Fastening:** Base sheet shall be lapped 4" and fastened with 11 ga. annular ring shank nails and approved tin caps 8"o.c. in the lap and three rows staggered in the center of the sheet 8"o.c.

**Ply Sheet:** (Optional) One ply of All Weather/Empire Base Sheet, Ultra Poly SMS, Glas Base, Flex-I Glas Base, Flex-I Glas FR Base or Poly SMS or one or more Flintglas Ply Sheet (Type IV) or Flintglas Premium Ply Sheet (Type VI) adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply of Black Diamond Base Sheet (for use with a torched cap sheet only) self adhered.

**Membrane:** One ply of Flintlastic GMS, Flintlastic GMS CoolStar, Flintlastic Premium GMS, Flintlastic Premium GMS CoolStar, Flintlastic FR-P, Flintlastic FR-P CoolStar, Flintlastic Premium FR-P, Flintlastic Premium FR-P CoolStar, Flintlastic FR Cap Sheet, Flintlastic FR Cap Sheet CoolStar, Flexiglas Premium Cap 960 or Ultra Poly SMS, Flintglas Mineral Surface Cap Sheet, Flintglas Mineral Surface Cap Sheet CoolStar adhered to ply sheet with approved mopping asphalt applied within the EVT range and at a rate of 20 to 40 lbs./sq. or Flintlastic GTS, Flintlastic GTS CoolStar, Flintlastic FR Cap T or Flintlastic FR Cap T CoolStar torch adhered to ply sheet.

**Surfacing:** (Optional) Install one of the following:  
 1. 400-lb./sq. gravel or 300-lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq.  
 2. Karnak 97, FlintCoat A-150, APOC 212 Fibrated Aluminum, Henry 520 Aluminum or Grundy AL MB at an application rate of 1 ½ gal. /sq.

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



**Membrane Type:** APP MODIFIED  
**Deck Type 1:** Wood, Non-insulated  
**Deck Description:** Minimum  $1\frac{9}{32}$ " thick plywood attached using wood screws spaced 6" o.c. at wood joists spaced maximum 24" o.c.  
**System Type E(7):** Base sheet mechanically fastened.

**All General and System Limitations apply.**

**Base Sheet:** One ply of Glas Base, Flex-I Glas Base, Flex-I Glas FR Base or All Weather / Empire Base Sheet mechanically fastened as detailed below.

**Fastening:** Base sheet shall be lapped 4" and fastened with Simplex Mega Cap Nails spaced 9" o.c. in the lap and 9" o.c. in two staggered rows in the center of the sheet.

**Ply Sheet:** (Optional) One ply of All Weather/Empire Base Sheet, GlasBase, Flex-I-GlasBase, Flex-I-Glas FR Base, PolySMS or one or more plies of Flintglas Ply Sheet (Type IV) or Flintglas Premium Ply Sheet (Type VI) adhered to the base sheet in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply of Black Diamond Base Sheet self adhered or Flintlastic STA torch adhered.

**Membrane:** Flintlastic STA, Flintlastic Diamond GTA, Flintlastic Diamond GTA CoolStar, Flintlastic GTA, Flintlastic GTA CoolStar, Flintlastic GTA-FR CoolStar or GTA-FR torch adhered to base or ply sheet.

**Surfacing:** (Optional) Install one of the following:  
1. 400-lb./sq. gravel or 300-lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq.  
2. Karnak 97, FlintCoat A-150, APOC 212 Fibrated Aluminum, Henry 520 Aluminum or Grundy AL MB at an application rate of 1 ½ gal. /sq.

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



**Membrane Type:** SBS MODIFIED

**Deck Type 1:** Wood, Non-insulated

**Deck Description:** Minimum  $1\frac{9}{32}$ " thick plywood attached using wood screws spaced 6" o.c. at wood joists spaced maximum 24" o.c.

**System Type E(8):** Base sheet mechanically fastened.

**All General and System Limitations apply.**

**Base Sheet:** One ply of GlasBase, Flex-I Glas Base, Flex-I Glas FR Base or All Weather/Empire Base Sheet mechanically fastened as detailed below.

**Fastening:** Base sheet shall be lapped 4" and fastened with Simplex Mega Cap Nails spaced 9" o.c. in the lap and 9" o.c. in two staggered rows in the center of the sheet.

**Ply Sheet:** (Optional) One ply of All Weather/Empire Base Sheet, GlasBase, Flex-I-GlasBase, Flex-I-Glas FR Base, PolySMS or one or more plies of Flintglas Ply Sheet (Type IV) or Flintglas Premium Ply Sheet (Type VI) or Ultra Poly SMS adhered to the base sheet in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply of Black Diamond Base Sheet (for use with a torched cap sheet only) self adhered.

**Membrane:** One ply of Flintlastic GMS, Flintlastic GMS CoolStar, Flintlastic Premium GMS, Flintlastic Premium GMS CoolStar, Flintlastic FR-P, Flintlastic FR-P CoolStar, Flintlastic Premium FR-P, Flintlastic Premium FR-P CoolStar, Flintlastic FR Cap Sheet, Flintlastic FR Cap Sheet CoolStar, Flexiglas Premium Cap 960 or Ultra Poly SMS, Flintglas Mineral Surface Cap Sheet, Flintglas Mineral Surface Cap Sheet CoolStar adhered to ply sheet with approved mopping asphalt applied within the EVT range and at a rate of 20 to 40 lbs./sq. or Flintlastic GTS, Flintlastic GTS CoolStar, Flintlastic FR Cap T or Flintlastic FR Cap T CoolStar torch adhered to ply sheet.

**Surfacing:** (Optional) Install one of the following:

1. 400-lb./sq. gravel or 300-lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq.
2. Karnak 97, FlintCoat A-150 or APOC 212 Fibrated Aluminum at an application rate of 1.5 gal./sq.

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



## WOOD DECK SYSTEM LIMITATIONS:

1. A slip sheet is required with Ply 4 and Ply 6 when used as a mechanically fastened base or anchor sheet.

## 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 Professional Engineer, Registered Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
7. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased for both insulation and base sheet as calculated in compliance with Roofing Application Standard RAS 117. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant **(When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)**
8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform to Roofing Application Standard RAS 111 and applicable wind load requirements.
9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). **(When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)**
10. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 9B-72 of the Florida Administrative Code.

**END OF THIS ACCEPTANCE**



NOA No.: 08-0410.09  
Expiration Date: 06/19/13  
Approval Date: 11/20/08  
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