MIAMI-DADE
BUILDING CODE COMPLIANCE OFFICE (BCCO)
PRODUCT CONTROL DIVISION

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

NOTICE OF ACCEPTANCE (NOA)

CertainTeed Corporation (PA)
1400 Union Meeting Road, P.O. Box 1100
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, including the High Velocity Hurricane Zone.

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 #02-1205.02 and consists of pages 1 through 40.
The submitted documentation was reviewed by Frank Zuloaga, RRC.

ROOFING ASSEMBLY APPROVAL

Category:	Roofing
Sub-Category:	APP/SBS Modified Bitumen
Deck Type:	Wood
Maximum Design Pressure	-60 psf
Fire Classification:	See General Limitation #1

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

Product	Dimensions	Test Specification	Product Description
All Weather/Empire Base Sheet	36" x 72', Roll weight: 86 lbs. (2 squares)	ASTM D 2626 UL Type 15	Asphalt coated organic base sheet.
Flex-I-Glas™ Base Sheet	36" x 108', 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 180', 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 toch application.
Flintlastic GTS	39 3/8" x 24'9", Roll weight: 92 lbs. (¾ 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, Premium GMS	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-P, Premium FR-P	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	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.
Flexiglas Premium Cap 960	36" x 38" (1 square)	ASTM D 6163, Grade G, Type I	Granule surfaced SBS Modified Bitumen membrane with fiberglass, mat reinforcement for mop application.

Product	Dimensions	Test Specification	Product Description
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 application.
GlasBase™ Base Sheet	36" x 108', 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 5147	Modified Bitumen coated polyester base sheet.
Yosemite® Mineral Surfaced Cap Sheet	36" x 36', Roll weight: 90 lbs. (1 square)	ASTM D 249 UL Type 30	Mineral Surfaced organic cap and buffer sheet.
Black Diamond Base Sheet	36" x 75', Roll weight 75 lbs. (2.25 squares)	TAS 103 ASTM D 1970	Slag surfaced SBS Modified Bitumen sheet with fiberglass reinforcement for peel and stick application.
Flintglas® Mineral Surfaced Cap Sheet	36" X 36'; 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.

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
FlintBoard ISO	Polyisocyanurate foam insulation	CertainTeed
PYROX	Polyisocyanurate foam insulation	Apache Products Co.
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	Water resistant gypsum board	G-P Gypsum Corp.
ENRGY-1, ENRGY-2, ENRGY-3, Plus, UltraGard Gold, PSI-25	Polyisocyanurate foam insulation	Johns Manville
FiberGlass Roof Insulation	Glass fiber/Mineral fiber insulation	Johns Manville
Fesco Board	Expanded mineral fiber insulation	Johns Manville
ISORoc	Polyisocyanurate foam / rockwool composite insulation	Johns Manville
Paroc Cap Board	Rockwool insulation	Partek, Inc.
Multi-Max, FA	Polyisocyanurate foam insulation	Rmax, Inc.

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	#12 & #14 Dekfast Fastener	Insulation fastener		Construction Fasteners, Inc.
2.	Dekfast Hex Plate	Galvalume AZ50 steel plate	2 7/8" x 3 ¼"	Construction Fasteners, Inc.
3.	Olympic Fastener #12 & #14	Insulation fastener		Olympic Manufacturing Group, Inc.
4.	Olympic Standard	3" round galvalume AZ50 steel plate	3" round	Olympic Manufacturing Group, Inc.
5.	Insul-Fixx Fastener	Insulation fastener for steel and wood decks		SFS Stadler, Inc.
6.	Insul-Fixx S Plate	Galvalume AZ50 steel plate	3" round	SFS Stadler, Inc.
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:

Test Agency	Name	Report	Date
Applied Research Laboratories	Physical Properties	28013	06/02/87
Factory Mutual Research Corporation	Current Insulation Fastening Requirements	FMRC 1994	01/01/95
Factory Mutual Research Corporation	PA 114 (FMRC 4470)	J.I. #3Y8A1.AM	03/23/96
Underwriters Laboratories, Inc.	Fire Classification Compliance	R11656	07/13/87
United States Testing Company,	ASTM D 5147	97457-4	06/03/88
Exterior Research & Design, LLC	TAS 114 (J)	#3507.08.99-1	04/18/01
Exterior Research & Design, LLC		#3514.02LAB	11/11/02
Exterior Research & Design, LLC	TAS 114 TAS 117	#3515.07.03	07/22/03

APPROVED ASSEMBLIES:

Membrane Type: APP MODIFIED

Deck Type 1I: Wood, Insulated

Deck Description: $^{19}/_{32}$" 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^2
Pyrox **Minimum 1.3" thick**	**N/A**	**N/A**
ACFoam-II, UltraGard Gold, ENRGY-1, ENRGY-2, PSI-25, FlintBoard ISO **Minimum 1.5" thick**	**N/A**	**N/A**
Fiberglas **Minimum $^{15}/_{16}$" thick**	**N/A**	**N/A**
Perlite **Minimum ¾" thick**	**N/A**	**N/A**
High Density Wood Fiberboard **Minimum ½" thick**	**N/A**	**N/A**
Dens-Deck **Minimum ¼" thick**	**N/A**	**N/A**

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

Anchor Sheet: One ply of 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.

Membrane:	Flintlastic STA, Flintlastic STA Plus 5.0, Flintlastic Diamond GTA, Flintlastic GTA or GTA-FR 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:	-45 psf (See General Limitation #9)

Membrane Type: SBS MODIFIED

Deck Type 1I: Wood, Insulated

Deck Description: $^{19}/_{32}$" 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.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Pyrox		
Minimum 1.3" thick	**N/A**	**N/A**
ACFoam-II, UltraGard Gold, E'NRG'Y-1, E'NRG'Y-2, PSI-25, FlintBoard ISO		
Minimum 1.5" thick	**N/A**	**N/A**
Fiberglas		
Minimum $^{15}/_{16}$" thick	**N/A**	**N/A**
Perlite		
Minimum ¾" thick	**N/A**	**N/A**
High Density Wood Fiberboard		
Minimum ½" thick	**N/A**	**N/A**
Dens-Deck		
Minimum ¼" thick	**N/A**	**N/A**

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

Anchor Sheet: One ply of 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.

Membrane:	One ply of Flintlastic GMS, Flintlastic Premium GMS, Flintlastic FR-P, Flintlastic Premium FR-P, Flintlastic FR Cap sheet, Flexiglas Premium Cap 960, Ultra Poly SMS or Flintglas Mineral Surfaced Cap Sheet 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 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:	-45 psf (See General Limitation #9)

Membrane Type: APP MODIFIED

Deck Type 1I: Wood, Insulated

Deck Description: $^{19}/_{32}$" 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^2**
ACFoam-II, Multi-Max FA, ENRGY-3, FlintBoard ISO 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^2. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

Anchor Sheet: One ply of 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 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.

Membrane: Flintlastic STA, Flintlastic STA Plus 5.0, Flintlastic Diamond GTA, Flintlastic GTA or GTA-FR 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, Insulated, New Construction

Deck Description: $^{19}/_{32}$" 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.

Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ACFoam-II, UltraGard Gold, ENRGY-2, ENRGY-3, PSI-25, FlintBoard ISO		
Minimum 1.5" thick	**N/A**	**N/A**
Fiberglas		
Minimum $^{15}/_{16}$" thick	**N/A**	**N/A**
Perlite		
Minimum ¾" thick	**N/A**	**N/A**
High Density Wood Fiberboard		
Minimum ½" thick	**N/A**	**N/A**
Dens-Deck		
Minimum ¼" thick	**N/A**	**N/A**

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

Anchor Sheet: One ply of 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 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.

Membrane:	One ply of Flintlastic GMS, Flintlastic Premium GMS, Flintlastic FR-P, Flintlastic Premium FR-P, Flintlastic FR Cap sheet, Flexiglas Premium Cap 960, Ultra Poly SMS or Flintglas Mineral Surfaced Cap Sheet 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 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, New construction

Deck Description: Minimum $^{19}/_{32}$" 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^2**
ACFoam-II, Multi-Max FA, ENRGY-3, FlintBoard ISO 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^2. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

Anchor Sheet: One ply of 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 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.

Membrane: Flintlastic STA, Flintlastic STA Plus 5.0, Flintlastic Diamond GTA, Flintlastic GTA 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 1I: Wood, Insulated, New Construction

Deck Description: Minimum $^{19}/_{32}$" 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^2**
ACFoam-II, UltraGard Gold, ENRGY-2, ENRGY-3, PSI-25, FlintBoard ISO Minimum 1.5" thick	**N/A**	**N/A**
Fiberglas Minimum $^{15}/_{16}$" thick	**N/A**	**N/A**
Perlite Minimum ¾" thick	**N/A**	**N/A**
High Density Wood Fiberboard Minimum ½" thick	**N/A**	**N/A**
Dens-Deck Minimum ¼" thick	**N/A**	**N/A**

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

Anchor Sheet: One ply of Glasbase or 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 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.

Membrane:	One ply of Flintlastic GMS, Flintlastic Premium GMS, Flintlastic FR-P, Flintlastic Premium FR-P, Flintlastic FR Cap sheet, Flexiglas Premium Cap 960, Ultra Poly SMS or Flintglas Mineral Surfaced Cap Sheet 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 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, New construction

Deck Description: Minimum $^{19}/_{32}$" 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.

Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Pyrox		
Minimum 1.3" thick	**N/A**	**N/A**
ACFoam-II, UltraGard Gold, ENRGY-2, ENRGY-3, PSI-25, FlintBoard ISO		
Minimum 1.5" thick	**N/A**	**N/A**
Fiberglas		
Minimum $^{15}/_{16}$" thick	**N/A**	**N/A**
Perlite		
Minimum ¾" thick	**N/A**	**N/A**
High Density Wood Fiberboard		
Minimum ½" thick	**N/A**	**N/A**
Dens-Deck		
Minimum ¼" thick	**N/A**	**N/A**

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

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.

Membrane:	Flintlastic STA, Flintlastic STA Plus 5.0, Flintlastic Diamond GTA, Flintlastic GTA or GTA-FR 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 1I: Wood, Insulated, New Construction

Deck Description: Minimum $^{19}/_{32}$" thick plywood attached using wood screws spaced 6" o.c. at word 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.

Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Pyrox **Minimum 1.3" thick**	**N/A**	**N/A**
ACFoam-II, UltraGard Gold, ENRGY-2, PSI-25, FlintBoard ISO **Minimum 1.5" thick**	**N/A**	**N/A**
Fiberglas **Minimum $^{15}/_{16}$" thick**	**N/A**	**N/A**
Perlite **Minimum ¾" thick**	**N/A**	**N/A**
High Density Wood Fiberboard **Minimum ½" thick**	**N/A**	**N/A**
Dens-Deck **Minimum ¼" thick**	**N/A**	**N/A**

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

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.

Membrane:	One ply of Flintlastic GMS, Flintlastic Premium GMS, Flintlastic FR-P, Flintlastic Premium FR-P, Flintlastic FR Cap sheet, Flexiglas Premium Cap 960, Ultra Poly SMS or Flintglas Mineral Surfaced Cap Sheet 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 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, New Construction

Deck Description: $^{19}/_{32}$" 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:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
Pyrox **Minimum 1.3" thick**	**Any approved fasteners in Table 3**	**1:2 ft²**
ENRGY-2, PSI-25 **Minimum 1.4" thick**	**Any approved fasteners in Table 3**	**1:2 ft²**
ACFoam-II, UltraGard Gold, FlintBoard ISO **Minimum 1.5" thick**	**Any approved fasteners in Table 3**	**1:2 ft²**
Fiberglas **Minimum $^{15}/_{16}$" thick**	**Any approved fasteners in Table 3**	**1:2 ft²**
Perlite **Minimum ¾" thick**	**Any approved fasteners in Table 3**	**1:2 ft²**
High Density Wood Fiberboard **Minimum ½" thick**	**Any approved fasteners in Table 3**	**1:2 ft²**
Dens-Deck **Minimum ¼" thick**	**Any approved fasteners in Table 3**	**1:2 ft²**

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

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

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 ft². 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 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 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.
Membrane:	Flintlastic STA, Flintlastic STA Plus 5.0, Flintlastic Diamond GTA, Flintlastic GTA 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:	-45psf. (See General Limitation #9)

Membrane Type: SBS MODIFIED

Deck Type 1I: Wood, Insulated, New Construction

Deck Description: $^{19}/_{32}$" 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:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Pyrox **Minimum 1.3" thick**	**Any approved fasteners in Table 3**	**1:2 ft^2**
ENRGY-2, PSI-25 **Minimum 1.4" thick**	**Any approved fasteners in Table 3**	**1:2 ft^2**
ACFoam-II, UltraGard Gold, FlintBoard ISO **Minimum 1.5" thick**	**Any approved fasteners in Table 3**	**1:2 ft^2**
Fiberglas **Minimum $^{15}/_{16}$" thick**	**Any approved fasteners in Table 3**	**1:2 ft^2**
Perlite **Minimum ¾" thick**	**Any approved fasteners in Table 3**	**1:2 ft^2**
High Density Wood Fiberboard **Minimum ½" thick**	**Any approved fasteners in Table 3**	**1:2 ft^2**
Dens-Deck **Minimum ¼" thick**	**Any approved fasteners in Table 3**	**1:2 ft^2**

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

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

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^2. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Base Sheet: One ply of 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 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.
Membrane:	One ply of Flintlastic GMS, Flintlastic Premium GMS, Flintlastic FR-P, Flintlastic Premium FR-P, Flintlastic FR Cap sheet, Flexiglas Premium Cap 960, Ultra Poly SMS or Flintglas Mineral Surfaced Cap Sheet 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 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 at an application rate of 1.5 gal./sq.
Maximum Design Pressure:	-45psf. (See General Limitation #9)

Membrane Type: APP MODIFIED

Deck Type 1I: Wood, Insulated, New Construction

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:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Pyrox **Minimum 1.3" thick**	**N/A**	**N/A**
ACFoam-II, UltraGard Gold, ENRGY-2, PSI-25, FlintBoard ISO **Minimum 1.5" thick**	**N/A**	**N/A**
Fiberglas **Minimum $^{15}/_{16}$" thick**	**N/A**	**N/A**
Perlite **Minimum ¾" thick**	**N/A**	**N/A**
High Density Wood Fiberboard **Minimum ½" thick**	**N/A**	**N/A**
Dens-Deck **Minimum ¼" thick**	**N/A**	**N/A**

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

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Perlite **Minimum ¾" thick**	**Any approved fasteners in Table 3**	**1:2 ft^2**
High Density Wood Fiberboard **Minimum ½" thick**	**Any approved fasteners in Table 3**	**1:2 ft^2**
Dens-Deck **Minimum ¼" thick**	**Any approved fasteners in Table 3**	**1:2 ft^2**

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

Base Sheet:	One ply of 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 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.
Membrane:	Flintlastic STA, Flintlastic STA Plus 5.0, Flintlastic Diamond GTA, Flintlastic GTA 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:	-45psf. (See General Limitation #9)

Membrane Type: SBS MODIFIED

Deck Type 1I: Wood, Insulated, New Construction

Deck Description: $^{19}/_{32}$" 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:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Pyrox **Minimum 1.3" thick**	**N/A**	**N/A**
ACFoam-II, UltraGard Gold, ENRGY-2, PSI-25, FlintBoard ISO **Minimum 1.5" thick**	**N/A**	**N/A**
Fiberglas **Minimum $^{15}/_{16}$" thick**	**N/A**	**N/A**
Perlite **Minimum ¾" thick**	**N/A**	**N/A**
High Density Wood Fiberboard **Minimum ½" thick**	**N/A**	**N/A**
Dens-Deck **Minimum ¼" thick**	**N/A**	**N/A**

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

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Perlite **Minimum ¾" thick**	**Any approved fasteners in Table 3**	**1:2 ft^2**
High Density Wood Fiberboard **Minimum ½" thick**	**Any approved fasteners in Table 3**	**1:2 ft^2**
Dens-Deck **Minimum ¼" thick**	**Any approved fasteners in Table 3**	**1:2 ft^2**

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

Base Sheet:	One ply of 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 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.
Membrane:	One ply of Flintlastic GMS, Flintlastic Premium GMS, Flintlastic FR-P, Flintlastic Premium FR-P, Flintlastic FR Cap sheet, Flexiglas Premium Cap 960, Ultra Poly SMS or Flintglas Mineral Surfaced Cap Sheet 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 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 at an application rate of 1.5 gal./sq.
Maximum Design Pressure:	-45psf. (See General Limitation #9)

Membrane Type: APP MODIFIED

Deck Type 1I: Wood, Insulated, New Construction

Deck Description: $^{19}/_{32}$" 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:

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Pyrox **Minimum 1.3" thick**	**N/A**	**N/A**
ACFoam-II, UltraGard Gold, ENRGY-2, PSI-25, FlintBoard ISO **Minimum 1.5" thick**	**N/A**	**N/A**
Fiberglas **Minimum $^{15}/_{16}$" thick**	**N/A**	**N/A**
Perlite **Minimum ¾" thick**	**N/A**	**N/A**
High Density Wood Fiberboard **Minimum ½" thick**	**N/A**	**N/A**
Dens-Deck **Minimum ¼" thick**	**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 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 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.
Membrane:	Flintlastic STA, Flintlastic STA Plus 5.0, Flintlastic Diamond GTA, Flintlastic GTA 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:	-45psf. (See General Limitation #9)

Membrane Type: SBS MODIFIED

Deck Type 1I: Wood, Insulated, New Construction

Deck Description: $^{19}/_{32}$" 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:

Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Pyrox **Minimum 1.3" thick**	**N/A**	**N/A**
ACFoam-II, UltraGard Gold, ENRGY-2, PSI-25, FlintBoard ISO **Minimum 1.5" thick**	**N/A**	**N/A**
Fiberglas **Minimum $^{15}/_{16}$" thick**	**N/A**	**N/A**
Perlite **Minimum ¾" thick**	**N/A**	**N/A**
High Density Wood Fiberboard **Minimum ½" thick**	**N/A**	**N/A**
Dens-Deck **Minimum ¼" thick**	**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 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 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.
Membrane:	One ply of Flintlastic GMS, Flintlastic Premium GMS, Flintlastic FR-P, Flintlastic Premium FR-P, Flintlastic FR Cap Sheet, 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 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: $^{19}/_{32}$" 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 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 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.
Membrane:	Flintlastic STA, Flintlastic STA Plus 5.0, Flintlastic Diamond GTA, Flintlastic GTA 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:	-45psf. (See General Limitation #9)

Membrane Type: SBS MODIFIED

Deck Type 1: Wood, Non-insulated

Deck Description: $^{19}/_{32}$" 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 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 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.
Membrane:	One ply of Flintlastic GMS, Flintlastic Premium GMS, Flintlastic FR-P, Flintlastic Premium FR-P, Flintlastic FR Cap sheet, Flexiglas Premium Cap 960, Ultra Poly SMS or Flintglas Mineral Surfaced Cap Sheet 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 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 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: $^{19}/_{32}$" 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 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 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.
Membrane:	Flintlastic STA, Flintlastic STA Plus 5.0, Flintlastic Diamond GTA, Flintlastic GTA or GTA-FR 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: $^{19}/_{32}$" 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 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 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.
Membrane:	One ply of Flintlastic GMS, Flintlastic Premium GMS, Flintlastic FR-P, Flintlastic Premium FR-P, Flintlastic FR Cap sheet, Flexiglas Premium Cap 960, Ultra Poly SMS or Flintglas Mineral Surfaced Cap Sheet 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 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 1: Wood, Non-Insulated

Deck Description: Minimum $^{19}/_{32}$" 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 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 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.
Membrane:	Flintlastic STA, Flintlastic STA Plus 5.0, Flintlastic Diamond GTA, Flintlastic GTA 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 $^{19}/_{32}$" 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 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 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.
Membrane:	One ply of Flintlastic GMS, Flintlastic Premium GMS, Flintlastic FR-P, Flintlastic Premium FR-P, Flintlastic FR Cap sheet, Flexiglas Premium Cap 960, Ultra Poly SMS or Flintglas Mineral Surfaced Cap Sheet 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 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 1: Wood, Non-insulated

Deck Description: Minimum $^{19}/_{32}$" 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 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.
Membrane:	Flintlastic STA, Flintlastic Diamond GTA, Flintlastic GTA 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 $^{19}/_{32}$" 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 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.
Membrane:	One ply of Flintlastic GMS, Flintlastic Premium GMS, Flintlastic FR-P, Flintlastic Premium FR-P, Flintlastic FR Cap sheet, Flexiglas Premium Cap 960, Ultra Poly SMS or Flintglas Mineral Surfaced Cap Sheet 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 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 or APOC 212 Fibrated Aluminum at an application rate of 1.5 gal./sq.
Maximum Design Pressure:	-60psf. (See General Limitation #7)

Membrane Type: N/A

Deck Type 1: Wood

Deck Description: $^{19}/_{32}$" or greater plywood or wood plank

System Type: Tile Underlayment, Base Sheet mechanically attached.

All General and System Limitations shall apply.

Base sheet:	One ply of #30 asphalt saturated organic felt, All Weather/Empire Base, GlasBase, Flex-I Glas or Flex-I Glas FR Base applied with a minimum 2" side lap and a minimum 6"end lap. Base sheet may be applied at a right angle (90°) to the slope of the deck with approved annular ring shank nails and tin caps at a fastener spacing of 6" o.c. at the 2" side lap, and two 12" o.c. staggered rows along the center of the sheet.
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.
Membrane:	One ply of FlintGlas Mineral Surface Cap Sheet, Yosemite Mineral Surface Cap Sheet, Flexiglas Premium Cap 960, Flintlastic GMS or Flintlastic FR-P membrane may be applied at a right angle (90°) to the slope of the deck* adhered in a full mopping of Type IV asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or Flintlastic GTA torch applied or Black Diamond Base Sheet applied to the base sheet by peel and stick application. Membrane shall be backnailed to deck with approved annular ring shank nails and tin caps in accordance to applicable Building Code. No nails or tin caps shall be exposed * Membrane may also be installed parallel to the slope of the roof (i.e. strapping). If membrane is strapped, then anchor sheet and ply sheet must also be strapped.
Maximum Design Pressure:	Refer to tile manufacturer's NOA.
Maximum Slope:	Must Comply with Roofing Application Standard RAS 118, RAS 119, RAS 120 and applicable Building Code.

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 sidelap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq. **Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.**
5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida registered 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 with Roofing Application Standard RAS 111 and applicable wind load requirements.
9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). **(When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)**
10. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 9B-72 of the Florida Administrative Code.

END OF THIS ACCEPTANCE