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 and the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: CertainTeed Modified Bitumen Roofing Systems Over Steel Decks

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

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

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

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

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

This NOA renews NOA No. 03-0827.01 and consists of pages 1 through 29.
The submitted documentation was reviewed by Jorge L. Acebo

PRODUCT CONTROL ACCEPTED

ROOFING ASSEMBLY APPROVAL

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

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.
FlexiGlas™ 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.
FlexiGlas™ 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	39 $^3/_8$" x 33'; Roll weight: 90 lbs. (1 square)	ASTM D 5147	Smooth surfaced, APP Modified Bitumen membrane with non-woven polyester mat reinforcement for torch application.
Flintlastic STA Plus 5.0	39 $^3/_8$" x 33'; Roll weight: 95 lbs. (1 square)	ASTM D 5147	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 5147	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 5147	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 5147	Granule surfaced SBS Modified Bitumen membrane with non-woven polyester mat reinforcement for mop application.
Flintlastic FR-P/FR-P Premium	39 $^3/_8$" x 34' 2"; Roll weight: 105 lbs. (1 square)	ASTM D 5147	Fire resistant, granule surfaced SBS Modified Bitumen Membrane with non-woven polyester mat reinforcement for mop application.

Product	Dimensions	Test Specification	Product Description
Flintlastic FR Cap	39 $^{3}/_{8}$" x 34' 2"; Roll weight: 90 lbs. (1 square)	ASTM D 5147	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.
GlasBase™ Base Sheet	36" x 108'; Roll weight: 69 lbs. (3 squares)	ASTM D 4601 UL Type G2	Asphalt coated, fiberglass base sheet.
Poly SMS Base Sheet	39 $^{3}/_{8}$" x 64' 4"; Roll weight: 90 lbs. (2 squares)	ASTM D 5147	Modified Bitumen, coated polyester base sheet.
Ultra Poly SMS Base Sheet	39 $^{3}/_{8}$" x 32' 10"; Roll weight: 90 lbs. (1 square)	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.
Stormshield	36" x 75'; Roll weight 75 lbs. (2.25 squares)	PA 103 ASTM D 1979	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 I, II	Polyisocyanurate foam insulation	Atlas Energy Products
ISO 95+	Polyisocyanurate foam insulation	Firestone Building Products, Inc.
ISO 95+ Composite	Polyisocyanurate/perlite ridged insulation	Firestone Building Products, Inc.
Wood Fiber	Wood fiber insulation board	generic
High Density Wood Fiberboard	Wood fiber insulation board	generic

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
Perlite Insulation	Perlite insulation board	generic
Dens Deck	Water resistant gypsum board	G-P Gypsum Corp.
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
Structodek	Wood fiber insulation board	Masonite.
Paroc Base Board 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.	#12 & #14 Roofgrip Fasteners	Insulation fastener for wood and steel.		ITW Buildex Corp.
4.	Metal Plate	Galvalume stress plate.	3" round 3" square	ITW Buildex Corp.
5.	Olympic Fastener #12 & #14	Insulation fastener		Olympic Manufacturing Group, Inc.
6.	Olympic Standard	Galvalume AZ50 steel plate	3" round	Olympic Manufacturing Group, Inc.
7.	Insul-Fixx Fastener	Insulation fastener for steel and wood decks		SFS Stadler, Inc.
8.	Insul-Fixx S Plate	Galvalume AZ50 steel plate	3" round	SFS Stadler, Inc.
9.	Tru-Fast HD	Insulation fastener for wood and steel decks		The Tru-Fast Corp.

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
10.	Tru-Fast MP-3	Galvalume AZ50 steel plate	3" round	The Tru-Fast Corp.
11.	Tru-Fast 2.4" Barbed Seam Plates	Galvalume AZ50 steel plate	2.4" round	The Tru-Fast Corp.

EVIDENCE SUBMITTED:

Test Agency/Identifier	Name	Report	Date
Factory Mutual Research Corp.	PA 114 (FMRC 4470)	J.I. #3Y8A1.AM	03/23/96
Underwriters Laboratories, Inc.	Fire Classification Compliance	R11656	07/13/87
Exterior Research & Design, Inc.	TAS 114 TAS 117	3513.08.02 3515.07.03	08/15/02 07/22/03

APPROVED ASSEMBLIES:

Membrane Type: APP MODIFIED

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

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

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
Apache Pyrox		
Minimum 1.3" thick	**1, 5 or 9**	**1:2 ft^2**
ACFoam-II, UltraGard Gold, UltraGard Premier, Isotherm R, FlintBoard ISO		
Minimum 1.5" thick	**1, 5 or 9**	**1:2 ft^2**
Minimum 2" thick	**1, 5, 7or 9**	**1:3.2 ft^2**
E'NRG'Y-1, E'NRG'Y-2, PSI-25		
Minimum 1.4" thick	**1, 5 or 9**	**1:2 ft^2**
Minimum 2" thick	**1, 5, 7or 9**	**1:3.2 ft^2**
Fiberglas		
Minimum $^{15}/_{16}$" thick	**1, 5 or 9**	**1:2 ft^2**
	1, 5, 7or 9	**1:2.7 ft^2**
Perlite		
Minimum ¾" thick	**1, 5, 7or 9**	**1:2 ft^2**
High Density Wood Fiberboard		
Minimum ½" thick	**1, 5, 7or 9**	**1:2 ft^2**
Dens-Deck		
Minimum ¼" thick	**1, 5 or 9**	**1:2 ft^2**

Note: Base layer shall be mechanically attached with fasteners and density described. 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).

(Optional) Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Any of the insulations listed for Base Layer, above.		
Minimum See Base Layer	**N/A**	**N/A**

Note: Optional top layer of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-40 lbs/100 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 GlasBase, Flexiglas Base, Flexiglas FR Base, Poly SMS, Ultra 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 GlasBase, Flexiglas Base, Flexiglas FR Base, Poly SMS, Ultra Poly SMS or one or more plies of Flintglas Ply Sheet (Type IV) or Flintglas Premium Ply Sheet (Type VI) adhered with approved mopping 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 1½ gal./sq., or APOC Sunbrite at an application rate of 3 gal./sq.
Maximum Design Pressure:	-52.5 psf (See General Limitation #9)

Membrane Type: SBS MODIFIED

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

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

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**
Apache Pyrox		
Minimum 1.3" thick	**1, 5 or 9**	**1:2 ft^2**
ACFoam-II, UltraGard Gold, UltraGard Premier, Isotherm R, FlintBoard ISO		
Minimum 1.5" thick	**1, 5 or 9**	**1:2 ft^2**
Minimum 2" thick	**1, 5, 7 or 9**	**1:3.2 ft^2**
E'NRG'Y-1, E'NRG'Y-2, PSI-25		
Minimum 1.4" thick	**1, 5 or 9**	**1:2 ft^2**
Minimum 2" thick	**1, 5, 7 or 9**	**1:3.2 ft^2**
Fiberglas		
Minimum $^{15}/_{16}$" thick	**1, 5 or 9**	**1:2 ft^2**
	1, 5, 7 or 9	**1:2.7 ft^2**
Perlite		
Minimum ¾" thick	**1, 5, 7 or 9**	**1:2 ft^2**
High Density Wood Fiberboard		
Minimum ½" thick	**1, 5, 7 or 9**	**1:2 ft^2**
Dens-Deck		
Minimum ¼" thick	**1, 5 or 9**	**1:2 ft^2**

Note: Base layer shall be mechanically attached with fasteners and density described. 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).

(Optional) Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Any of the insulations listed for Base Layer, above.		
Minimum See Base Layer	**N/A**	**N/A**

Note: Optional top layer of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-40 lbs/100 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 GlasBase, Flexiglas Base, Flexiglas FR Base, Poly SMS, Ultra 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, Flexiglas Base, Flexiglas FR Base, Poly SMS, Ultra Poly SMS or one or more plies of Flintglas Ply Sheet (Type IV) or Flintglas Premium Ply Sheet (Type VI) adhered with approved mopping 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, Ultra Poly SMS, Flexiglas Premium Cap 960, Flintlastic FR Cap or Flintglas Mineral Surfaced Cap Sheet adhered to base or 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 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 1½ gal./sq., or APOC Sunbrite at an application rate of 3 gal./sq.
Maximum Design Pressure:	-52.5 psf See General Limitation #9

Membrane Type: APP MODIFIED

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

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

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
ACFoam-II, E'NRG'Y-2, Multi-Max FA, FlintBoard ISO Minimum 1.5" thick	**1, 3, 5 or 9**	**1:1.33**

Note: Base layer shall be mechanically attached with fasteners and density described. 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
Fesco Board Minimum ¾" thick	**N/A**	**N/A**
High Density Wood Fiberboard Minimum ½" thick	**N/A**	**N/A**

Note: Top layer of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-40 lbs/100 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 GlasBase, Flexiglas Base, Flexiglas FR Base, Poly SMS, Ultra 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 GlasBase, Flexiglas Base, Flexiglas FR Base, Poly SMS, Ultra Poly SMS 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 1½ gal./sq., or APOC Sunbrite at an application rate of 3 gal./sq.
Maximum Design Pressure:	-52.5 psf (For Fesco Board) (See General Limitation #7) -67.5 psf (For High Density Wood Fiberboard) (See General Limitation #7)

Membrane Type: SBS MODIFIED

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type B(4): Base layer of insulation mechanically fastened, top layer adhered with approved asphalt.

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
ACFoam-II, ENRGY-2, ENRGY-3, Multi-Max FA, FlintBoard ISO		
Minimum 1.5" thick	**1, 3, 5 or 9**	**1:1.33**

Note: Base layer shall be mechanically attached with fasteners and density described. 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
Fesco Board		
Minimum ¾" thick	**N/A**	**N/A**
High Density Wood Fiberboard		
Minimum ½" thick	**N/A**	**N/A**

Note: Top layer of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-40 lbs/100 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 GlasBase, Flexiglas Base, Flexiglas FR Base, Poly SMS, Ultra 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 GlasBase, Flexiglas Base, Flexiglas FR Base, Poly SMS, Ultra Poly SMS or one or more plies of Flintglas Ply Sheet (Type IV) or Flintglas Premium Ply Sheet (Type VI) adhered with approved mopping 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, Ultra Poly SMS, Flexiglas Premium Cap 960 or Flintglas Mineral Surfaced Cap Sheet adhered to base or 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 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 1½ gal./sq., or APOC Sunbrite at an application rate of 3 gal./sq.
Maximum Design Pressure:	-52.5 psf (For Fesco Board) (See General Limitation #7) -67.5 psf (For High Density Wood Fiberboard) (See General Limitation #7)

Membrane Type: APP MODIFIED

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

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.

(Optional) Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Apache Pyrox **Minimum 1.3" thick**	**N/A**	**N/A**
ACFoam-II, UltraGard Gold, UltraGard Premier, Isotherm R, 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 layers shall be simultaneously fastened; see top layer below for fasteners and density.

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
High Density Wood Fiberboard **Minimum ½" thick**	**1, 5, 7 or 9**	**1:2 ft^2**
Perlite **Minimum ¾" thick**	**1, 5, 7 or 9**	**1:2 ft^2**
Dens-Deck **Minimum ¼" thick**	**1, 5, 7 or 9**	**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 GlasBase, Flexiglas Base, Flexiglas FR Base, Poly SMS, Ultra 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 GlasBase, Flexiglas Base, Flexiglas FR Base, Poly SMS, Ultra Poly SMS or one or more plies of Flintglas Ply Sheet (Type IV) or Flintglas Premium Ply Sheet (Type VI) adhered with approved mopping 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 1½ gal./sq., or APOC Sunbrite at an application rate of 3 gal./sq.
Maximum Design Pressure:	-52.5 psf See General Limitation #9

Membrane Type: SBS MODIFIED

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

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.

(Optional) Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Apache Pyrox		
Minimum 1.3" thick	**N/A**	**N/A**
ACFoam-II, UltraGard Gold, UltraGard Premier, Isotherm R, 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 layers shall be simultaneously fastened; see top layer below for fasteners and density.

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
High Density Wood Fiberboard		
Minimum ½" thick	**1, 5, 7 or 9**	**1:2 ft^2**
Perlite		
Minimum ¾" thick	**1, 5, 7 or 9**	**1:2 ft^2**
Dens-Deck		
Minimum ¼" thick	**1, 5, 7 or 9**	**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 GlasBase, Flexiglas Base, Flexiglas FR Base, Poly SMS, Ultra 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 GlasBase, Flexiglas Base, Flexiglas FR Base, Poly SMS, Ultra Poly SMS or one or more plies of Flintglas Ply Sheet (Type IV) or Flintglas Premium Ply Sheet (Type VI) adhered with approved mopping 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, Ultra Poly SMS, Flexiglas Premium Cap 960, Flintlastic FR Cap or Flintglas Mineral Surfaced Cap Sheet adhered to base or 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 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 1½ gal./sq., or APOC Sunbrite at an application rate of 3 gal./sq.
Maximum Design Pressure:	-52.5 psf See General Limitation #9

Membrane Type: APP MODIFIED

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga., type B, Grade 33 steel, fastened 6" o.c. with puddle welds and washers to steel supports spaced maximum 6 ft. o.c.

System Type C(3): All layers of insulation 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
ACFoam-II, ENRGY-2, ENRGY-3, Multi-Max FA, FlintBoard ISO Minimum 1.5" thick	**1, 3, 5 or 9 (#14)**	**1:1.33 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. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

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

Ply Sheet: (Optional) One ply of GlasBase, Flexiglas Base, Flexiglas FR Base, Poly SMS, Ultra Poly SMS or one or more plies of Flintglas Ply Sheet (Type IV) or Flintglas Premium Ply Sheet (Type VI) adhered with approved mopping 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 1½ gal./sq., or APOC Sunbrite at an application rate of 3 gal./sq.

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

Membrane Type: SBS MODIFIED

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga., type B, Grade 33 steel, fastened 6" o.c. with puddle welds and washers to steel supports spaced maximum 6 ft. o.c.

System Type C(4): All layers of insulation 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
ACFoam-II, ENRGY-2, ENRGY-3, Multi-Max FA, FlintBoard ISO Minimum 1.5" thick	**1, 3, 5 or 9 (#14)**	**1:1.33 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. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

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

Ply Sheet: (Optional) One ply of GlasBase, Flexiglas Base, Flexiglas FR Base, Poly SMS, Ultra Poly SMS or one or more plies of Flintglas Ply Sheet (Type IV) or Flintglas Premium Ply Sheet (Type VI) adhered with approved mopping 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, Ultra Poly SMS, Flexiglas Premium Cap 960, Flintlastic FR Cap or Flintglas Mineral Surfaced Cap Sheet adhered to base or ply sheet with approved mopping asphalt applied within the EVT range and at a rate of 20 to 40 lbs./sq.

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 1½ gal./sq., or APOC Sunbrite at an application rate of 3 gal./sq.

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

Membrane Type: APP MODIFIED

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

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.

(Optional) Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Apache Pyrox **Minimum 1.3" thick**	**N/A**	**N/A**
ACFoam-II, UltraGard Gold, UltraGard Premier, Isotherm R, 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**

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
High Density Wood Fiberboard **Minimum ½" thick**	**N/A**	**N/A**
Perlite **Minimum ¾" 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 GlasBase, Flexiglas Base, or Flexiglas FR Base mechanically attached as detailed in Fastening #1 or #2, below or one ply of Poly SMS or Ultra Poly SMS mechanically attached as detailed in Fastening #3 or #4, below.

Fastening #1:	Olympic #12 or #14 Screws and metal plates, Tru-Fast #12 or #14 and MP-3 Plates, Dekfast #12, #14 or #15, or Insulfixx #12 or #14 and metal plates at a 4" side lap 12" o.c. and two rows staggered in the center of the sheet, 24" o.c.
Fastening #2:	Olympic #12 or #14 Screws and metal plates, Tru-Fast #12 or #14 and MP-3 Plates, Dekfast #12, #14 or #15, or Insulfixx #12 or #14 and metal plates at a 4" side lap 12" o.c. and one row in the center of the sheet, 18" o.c.
Fastening #3:	Olympic #12 or #14 Screws and metal plates, Tru-Fast #12 or #14 and MP-3 Plates, Dekfast #12, #14 or #15, or Insulfixx #12 or #14 and metal plates at a 4" side lap 12" o.c. and two rows staggered in the center of the sheet, 36" o.c.
Fastening #4:	Tru-Fast #12 or #14 or Insulfixx screws and 2" round metal plates at a 4" side lap, 12" o.c.
Ply Sheet:	(Optional) One ply of GlasBase, Flexiglas Base, Flexiglas FR Base, Poly SMS, Ultra Poly SMS 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 1½ gal./sq., or APOC Sunbrite at an application rate of 3 gal./sq.
Maximum Design Pressure:	-45 psf See General Limitation #9

Membrane Type: SBS MODIFIED

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

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.

(Optional) Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Apache Pyrox **Minimum 1.3" thick**	**N/A**	**N/A**
ACFoam-II, UltraGard Gold, UltraGard Premier, Isotherm R, 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**

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
High Density Wood Fiberboard **Minimum ½" thick**	**N/A**	**N/A**
Perlite **Minimum ¾" 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 GlasBase, Flexiglas Base, or Flexiglas FR Base mechanically attached as detailed in Fastening #1 or #2, below or one ply of Poly SMS or Ultra Poly SMS mechanically attached as detailed in Fastening #3 or #4, below.

Fastening #1:	Olympic #12 or #14 Screws and metal plates, Tru-Fast #12 or #14 and MP-3 Plates, Dekfast #12, #14 or #15, or Insulfixx #12 or #14 and metal plates at a 4" side lap 12" o.c. and two rows staggered in the center of the sheet, 24" o.c.
Fastening #2:	Olympic #12 or #14 Screws and metal plates, Tru-Fast #12 or #14 and MP-3 Plates, Dekfast #12, #14 or #15, or Insulfixx #12 or #14 and metal plates at a 4" side lap 12" o.c. and one row in the center of the sheet, 18" o.c.
Fastening #3:	Olympic #12 or #14 Screws and metal plates, Tru-Fast #12 or #14 and MP-3 Plates, Dekfast #12, #14 or #15, or Insulfixx #12 or #14 and metal plates at a 4" side lap 12" o.c. and two rows staggered in the center of the sheet, 36" o.c.
Fastening #4:	Tru-Fast #12 or #14 or Insulfixx screws and 2" round metal plates at a 4" side lap, 12" o.c.
Ply Sheet:	(Optional) One ply of GlasBase, Flexiglas Base, Flexiglas FR Base, Poly SMS, Ultra Poly SMS 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, Ultra Poly SMS, Flexiglas Premium Cap 960, Flintlastic FR Cap or Flintglas Mineral Surfaced Cap Sheet adhered to base or 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 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 1½ gal./sq., or APOC Sunbrite at an application rate of 3 gal./sq.
Maximum Design Pressure:	-45 psf See General Limitation #9

Membrane Type: APP MODIFIED

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type D(3): 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.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ACFoam-II, ENRGY-2, Multi Max FA, FlintBoard ISO or Any approved Polyisocyanurate		
Minimum 1.5" thick	**N/A**	**N/A**

(Optional) Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
High Density Wood Fiberboard		
Minimum ½" thick	**N/A**	**N/A**
Perlite		
Minimum ¾" thick	**N/A**	**N/A**
Dens-Deck		
Minimum ¼" thick	**N/A**	**N/A**

Note: All layers of insulation and base sheet shall be simultaneously attached. See base sheet below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. At an application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Base Sheet: One ply of Flexiglas , Flexiglas FR, SBS FR, Poly SMS or Ultra Poly SMS Base Sheet mechanically attached as detailed in Fastening #1 below or one ply of Poly SMS or Ultra Poly SMS Base Sheet mechanically attached as detailed in Fastening #2 below.

Fastening #1: Olympic #14 and metal plates, Dekfast #14 with Hex Metal Plate, #14 Roofgrip with Metal Plate or Tru-Fast HD with MP-3 plates at a 4" side lap 6" o.c. and two rows staggered in the center of the sheet, 6" o.c. **Minimum Grade 33 steel deck.** ***(Maximum Design Pressure -67.5 psf; See General Limitation #7)***

Fastening #2: Olympic #14 and metal plates, Dekfast #14 with Hex Metal Plate, #14 Roofgrip with Metal Plate or Tru-Fast HD with MP-3 plates at a 4" side lap 12" o.c. and two rows staggered in the center of the sheet, 12" o.c.
Minimum Grade 80 steel fastened 6" o.c. with Buildex Tek 4 fasteners to steel supports spaced maximum 5 ft. o.c.
(Maximum Design Pressure -120 psf; See General Limitation #7)

Ply Sheet:	(Optional) One ply of GlasBase, FlexiGlas Base, FlexiGlas FR Base, Poly SMS, Ultra Poly SMS 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 1½ gal./sq., or APOC Sunbrite at an application rate of 3 gal./sq.
Maximum Design Pressure:	See Fastening Above

Membrane Type: SBS MODIFIED

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type D(4): 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.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ACFoam-II, ENRGY-2, ENRGY-3, Multi Max FA, FlintBoard ISO or Any approved Polyisocyanurate Minimum 1.5" thick	**N/A**	**N/A**

(Optional) Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
High Density Wood Fiberboard Minimum ½" thick	**N/A**	**N/A**
Perlite Minimum ¾" thick	**N/A**	**N/A**
Dens-Deck Minimum ¼" thick	**N/A**	**N/A**

Note: All layers of insulation and base sheet shall be simultaneously attached. See base sheet below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. At an application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Base Sheet: One ply of Flexiglas , Flexiglas FR, SBS FR, Poly SMS or Ultra Poly SMS Base Sheet mechanically attached as detailed in Fastening #1 below or one ply of Poly SMS or Ultra Poly SMS Base Sheet mechanically attached as detailed in Fastening #2 below.

Fastening #1: Olympic #14 and metal plates, Dekfast #14 with Hex Metal Plate, #14 Roofgrip with Metal Plate or Tru-Fast HD with MP-3 plates at a 4" side lap 6" o.c. and two rows staggered in the center of the sheet, 6" o.c. **Minimum Grade 33 steel deck.** ***(Maximum Design Pressure -67.5 psf; See General Limitation #7)***

Fastening #2: Olympic #14 and metal plates, Dekfast #14 with Hex Metal Plate, #14 Roofgrip with Metal Plate or Tru-Fast HD with MP-3 plates at a 4" side lap 12" o.c. and two rows staggered in the center of the sheet, 12" o.c.
Minimum Grade 80 steel fastened 6" o.c. with Buildex Tek 4 fasteners to steel supports spaced maximum 5 ft. o.c.
(Maximum Design Pressure -120 psf; See General Limitation #7)

Ply Sheet:	(Optional) One ply of GlasBase, FlexiGlas Base, FlexiGlas FR Base, Poly SMS, Ultra Poly SMS 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, Ultra Poly SMS, Flexiglas Premium Cap 960 or Flintglas Mineral Surfaced Cap Sheet adhered to base or 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 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 1½ gal./sq., or APOC Sunbrite at an application rate of 3 gal./sq.
Maximum Design Pressure:	See Fastening Above

Membrane Type: APP/SBS MODIFIED

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga., type B, Grade 80 steel, fastened 6" o.c. with Buildex Tek 4 fasteners to steel supports spaced maximum 5 ft. o.c.

System Type D(5): 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.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
ACFoam-II, ENRGY-2, Multi Max FA, FlintBoard ISO or Any approved Polyisocyanurate Minimum 1.5" thick	**N/A**	**N/A**

Note: All layers of insulation and base sheet shall be simultaneously attached. See base sheet below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. At an application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Base Sheet: One ply of Ultra Poly SMS Base Sheet mechanically attached as detailed in Fastening below. Lap shall be heat welded.

Fastening: Tru-Fast EHD with 2.4" Barbed Seam Plates space 12" o.c. in a 4" side lap. The lap is heat welded closed encapsulating the fastener row.

Ply Sheet: None

Membrane: Flintlastic STA, Flintlastic STA Plus 5.0, Flintlastic Diamond GTA, Flintlastic GTA, GTA-FR or Flintlastic GTS torch adhered to base 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 1½ gal./sq., or APOC Sunbrite at an application rate of 3 gal./sq.

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

STEEL DECK SYSTEM LIMITATIONS:

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

GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance, refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each side lap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq.
   Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.
5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida registered 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.)**

END OF THIS ACCEPTANCE