



**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
1400 Union Meeting Road
Blue Bell, PA 19422**

SCOPE:

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

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Division (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. BORA reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Division 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 Roof System 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 revises NOA No. 07-1030.07 and consists of pages 1 through 30.
The submitted documentation was reviewed by Jorge L. Acebo.



**NOA No.: 07-1217.01
Expiration Date: 01/02/13
Approval Date: 11/20/08
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ROOFING SYSTEM APPROVAL

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

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

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



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



<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
Flexiglas Premium Cap 960 CoolStar	36" x 34'6" (1 square)	ASTM D 6163, Grade G, Type I	Granule surfaced SBS Modified Bitumen membrane with fiberglass mat reinforcement for mop application. Covered with reflective CoolStar Coating.
Flexiglas Premium Cap 960	36" x 34'6" (1 square)	ASTM D 6163, Grade G, Type I	Granule surfaced SBS Modified Bitumen membrane with fiberglass mat reinforcement for mop applications.
Ultra Poly SMS	36" x 64'4" (2 squares)	ASTM D 6164, Grade S, Type I	Smooth surfaced SBS Modified Bitumen Membrane with non-woven polyester mat reinforcement for mop applications.
GlasBase™ Base Sheet	36" x 98'9"; Roll weight: 69 lbs. (3 squares)	ASTM D 4601 UL Type G2	Asphalt coated, fiberglass base sheet.
PolySMS Base Sheet	39 3/8" x 64' 4"; Roll weight: 90 lbs. (2 squares)	ASTM D 6164	Modified Bitumen coated polyester base sheet.
Yosemite® Buffer Base Sheet	36" x 32'10"; Roll weight: 90 lbs. (1 square)	ASTM D 3909 ASTM D 4897 UL Type 30	Mineral Surfaced fiberglass reinforced buffer sheet.
Black Diamond™ Base Sheet	36" x 68'7"; Roll weight: 78 lbs. (2 squares)	ASTM D 1970	Self-adhering fiberglass reinforced modified bitumen base sheet



APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
Structodek	Wood fiber insulation board	Masonite.
Fesco Board	Expanded mineral fiber insulation	Johns Manville
High Density Wood Fiberboard	Wood fiber insulation board	generic
Perlite Insulation	Perlite insulation board	generic
Dens Deck, Dens Deck Prime	Water resistant gypsum board	G-P Gypsum Corp.
H-Shield	Polyisocyanurate foam insulation	Hunter Panels
ENRGY-3, Plus, UltraGard Gold, PSI-25	Polyisocyanurate foam insulation	Johns Manville
Multi-Max & FA	Polyisocyanurate roof 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		SFS Intec, Inc.
2.	Dekfast Hex Plate	Galvalume AZ50 steel plate	2 7/8" x 3 1/4"	SFS Intec, Inc.
3.	#12 & #14 Roofgrip Fasteners	Insulation fastener for wood and steel.		OMG, Inc.
4.	Metal Plate	Galvalume stress plate.	3" round 3" square	OMG, Inc.
5.	Olympic Fastener #12 & #14	Insulation fastener		OMG, Inc.
6.	Olympic Standard	Galvalume AZ50 steel plate	3" round	OMG, Inc.
7.	Insul-Fixx Fastener	Insulation fastener for steel and wood decks		SFS Intec, Inc.
8.	Insul-Fixx S Plate	Galvalume AZ50 steel plate	3" round	SFS Intec, Inc.
9.	Tru-Fast HD	Insulation fastener for wood and steel decks		The Tru-Fast Corp.
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:

<u>Test Agency/Identifier</u>	<u>Name</u>	<u>Report</u>	<u>Date</u>
Applied Research Laboratories	Physical Properties	28013	06/02/87
Factory Mutual Research Corp.	FMRC 4470	J.I. 3Y8A1.AM	03/23/96
	FMRC 4470	J.I. 0D3A3.AM	04/04/97
	FMRC 4470	J.I. 2D0A0.AM	12/23/98
	FMRC 4470	J.I. 1D7A4.AM	11/09/98
Underwriters Laboratories, Inc.	UL 790	R11656	07/13/87
United States Testing Company	ASTM D 5147	97457-4	06/03/88
	ASTM D 5147	97-457-2R	12/02/87
Momentum Technologies, Inc.	ASTM D 4601	AX31G8D	09/05/08
	ASTM D 3909/ D 4897	AX31G8C	09/05/08
Trinity ERD	TAS 114	3513.08.02	08/15/02
	TAS 117 (B)	3503.10.06	10/10/06
	TAS 117	3515.07.03	07/22/03
	TAS 117 (B)	O6490.04.07-R1	06/27/07
	TAS 114 (H)	Letter	04/05/06
	FM 4470, TAS 114	3533.01.06	01/06/06
	FM 4470, TAS 114	3521.07.04	07/29/04
	TAS 117 (B)/ ASTM D 6862	C8500SC.11.07	11/30/07
	FM 4470, TAS 114	C8370.08.08	08/19/08
	ASTM Physical Properties	C10080.09.08	09/04/08



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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/ft²
ACFoam-II, UltraGard Gold, UltraGard Premier, Isotherm R, FlintBoard ISO, H-Shield		
Minimum 1.5" thick	1, 5 or 9	1:2 ft²
Minimum 2" thick	1, 5, 7 or 9	1:3.2 ft²
E'NRG'Y-3, PSI-25		
Minimum 1.4" thick	1, 5 or 9	1:2 ft²
Minimum 2" thick	1, 5, 7 or 9	1:3.2 ft²
Perlite		
Minimum ¾" thick	1, 5, 7 or 9	1:2 ft²
High Density Wood Fiberboard		
Minimum ½" thick	1, 5, 7 or 9	1:2 ft²
Dens-Deck, Dens-Deck Prime		
Minimum ¼" thick	1, 5 or 9	1:2 ft²

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/ft²
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 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 All Weather/Empire Base Sheet, 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 All Weather/Empire Base Sheet, 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. or one ply of Black Diamond Base Sheet self adhered or Flintlastic STA torch adhered.

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

Surfacing: (Optional) Install one of the following:
1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq..
2. Karnak 97, FlintCoat A-150, APOC 212 Fibrated Aluminum, Henry 520 Aluminum or Grundy AL MB at an application rate of 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/ft²
ACFoam-II, UltraGard Gold, UltraGard Premier, Isotherm R, FlintBoard ISO, H-Shield		
Minimum 1.5" thick	1, 5 or 9	1:2 ft²
Minimum 2" thick	1, 5, 7 or 9	1:3.2 ft²
E'NRG'Y-3, PSI-25		
Minimum 1.4" thick	1, 5 or 9	1:2 ft²
Minimum 2" thick	1, 5, 7 or 9	1:3.2 ft²
Perlite		
Minimum ¾" thick	1, 5, 7 or 9	1:2 ft²
High Density Wood Fiberboard		
Minimum ½" thick	1, 5, 7 or 9	1:2 ft²
Dens-Deck, Dens-Deck Prime		
Minimum ¼" thick	1, 5 or 9	1:2 ft²

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/ft²
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 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 All Weather/Empire Base Sheet, 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 All Weather/Empire Base Sheet, 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. or one ply of Black Diamond Base Sheet (for use with a torched cap sheet only) self adhered.

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

Surfacing: (Optional) Install one of the following:
1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq..
2. Karnak 97, FlintCoat A-150, APOC 212 Fibrated Aluminum, 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/ft²
ACFoam-II, E'NRG'Y-3, Multi-Max FA, FlintBoard ISO, H-Shield 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/ft²
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 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 All Weather/Empire Base Sheet, 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 All Weather/Empire Base Sheet, 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. or one ply of Black Diamond Base Sheet self adhered or Flintlastic STA torch adhered.

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

Surfacing: (Optional) Install one of the following:
 1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq..
 2. Karnak 97, FlintCoat A-150, APOC 212 Fibrated Aluminum, Henry 520 Aluminum or Grundy AL MB at an application rate of 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/ft²
ACFoam-II, ENRGY-3, Multi-Max FA, FlintBoard ISO, H-Shield 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/ft²
Fesco Board Minimum 3/4" thick	N/A	N/A
High Density Wood Fiberboard Minimum 1/2" thick	N/A	N/A

Note: Top layer of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Base Sheet: One ply of All Weather/Empire Base Sheet, GlasBase, 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 All Weather/Empire Base Sheet, 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. or one ply of Black Diamond Base Sheet (for use with a torched cap sheet only) self adhered.



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

Surfacing: (Optional) Install one of the following:
1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq..
2. Karnak 97, FlintCoat A-150, APOC 212 Fibrated Aluminum, 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/ft²
ACFoam-II, UltraGard Gold, UltraGard Premier, Isotherm R, ENRGY-3, PSI-25, FlintBoard ISO, H-Shield Minimum 1.5" 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, Dens-Deck Prime 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/ft²
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, Dens-Deck Prime 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 All Weather/Empire Base Sheet, 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 All Weather/Empire Base Sheet, 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. or one ply of Black Diamond Base Sheet self adhered or Flintlastic STA torch adhered.

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

Surfacing: (Optional) Install one of the following:
1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq..
2. Karnak 97, FlintCoat A-150, APOC 212 Fibrated Aluminum, Henry 520 Aluminum or Grundy AL MB at an application rate of 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/ft²
ACFoam-II, UltraGard Gold, UltraGard Premier, Isotherm R, ENRGY-3, PSI-25, FlintBoard ISO, H-Shield		
Minimum 1.5" 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, Dens-Deck Prime		
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/ft²
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, Dens-Deck Prime		
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 All Weather/Empire Base Sheet, 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.



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- Ply Sheet:** (Optional) One ply of All Weather/Empire Base Sheet, 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. or one ply of Black Diamond Base Sheet (for use with a torched cap sheet only) self adhered.
- Membrane:** One ply of Flintlastic GMS, Flintlastic GMS Coolstar, Flintlastic Premium GMS, Flintlastic Premium GMS Coolstar, Flintlastic FR-P, Flintlastic FR-P Coolstar, Flintlastic Premium FR-P, Flintlastic Premium FR-P Coolstar, Flintlastic FR Cap Sheet, Flintlastic FR Cap Sheet Coolstar, Flexiglas Premium Cap 960 or Ultra Poly SMS adhered to ply sheet with approved mopping asphalt applied within the EVT range and at a rate of 20 to 40 lbs./sq. or Flintlastic GTS, Flintlastic GTS Coolstar, Flintlastic FR Cap T or Flintlastic FR Cap T Coolstar torch adhered to ply sheet
- Surfacing:** (Optional) Install one of the following:
1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq..
 2. Karnak 97, FlintCoat A-150, APOC 212 Fibrated Aluminum, 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/ft²**

ACFoam-II, ENRGY-3, Multi-Max FA, FlintBoard ISO, H-Shield

Minimum 1.5" thick

1, 3, 5 or 9 (#14)

1:1.33 ft²

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 All Weather/Empire Base Sheet, 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. or one ply of Black Diamond Base Sheet self adhered or Flintlastic STA torch adhered.

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

Surfacing: (Optional) Install one of the following:
1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq..
2. Karnak 97, FlintCoat A-150, APOC 212 Fibrated Aluminum, Henry 520 Aluminum or Grundy AL MB at an application rate of 1½ gal./sq., or APOC Sunbrite at an application rate of 3 gal./sq.

Maximum Design

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



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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/ft²
ACFoam-II, ENRGY-3, Multi-Max FA, FlintBoard ISO, H-Shield Minimum 1.5" thick	1, 3, 5 or 9 (#14)	1:1.33 ft²

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 All Weather/Empire Base Sheet, 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. or one ply of Black Diamond Base Sheet (for use with a torched cap sheet only) self adhered.

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

Surfacing: (Optional) Install one of the following:
1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq..
2. Karnak 97, FlintCoat A-150, APOC 212 Fibrated Aluminum, 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/ft²
ACFoam-II, UltraGard Gold, UltraGard Premier, Isotherm R, ENRGY-3, PSI-25, FlintBoard ISO, H-Shield Minimum 1.5" 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, Dens-Deck Prime Minimum ¼" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
High Density Wood Fiberboard Minimum ½" thick	N/A	N/A
Perlite Minimum ¾" thick	N/A	N/A
Dens-Deck, Dens-Deck Prime 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 All Weather/Empire Base Sheet, 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 All Weather/Empire Base Sheet, 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. or one ply of Black Diamond Base Sheet self adhered or Flintlastic STA torch adhered.
- Membrane: Flintlastic STA, Flintlastic STA Plus 5.0, Flintlastic Diamond GTA, Flintlastic Diamond GTA Coolstar, Flintlastic GTA, Flintlastic GTA Coolstar or Flintlastic GTA-FR, Flintlastic GTA-FR Coolstar torch adhered to base or ply sheet.
- Surfacing: (Optional) Install one of the following:
 1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq..
 2. Karnak 97, FlintCoat A-150, APOC 212 Fibrated Aluminum, Henry 520 Aluminum or Grundy AL MB at an application rate of 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/ft²
ACFoam-II, UltraGard Gold, UltraGard Premier, Isotherm R, ENRGY-3, PSI-25, FlintBoard ISO, H-Shield		
Minimum 1.5" 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, Dens-Deck Prime		
Minimum ¼" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
High Density Wood Fiberboard		
Minimum ½" thick	N/A	N/A
Perlite		
Minimum ¾" thick	N/A	N/A
Dens-Deck, Dens-Deck Prime		
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 All Weather/Empire Base Sheet, 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 All Weather/Empire Base Sheet, 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. or one ply of Black Diamond Base Sheet (for use with a torched cap sheet only) self adhered.
- Membrane: One ply of Flintlastic GMS, Flintlastic GMS Coolstar, Flintlastic Premium GMS, Flintlastic Premium GMS Coolstar, Flintlastic FR-P, Flintlastic FR-P Coolstar, Flintlastic Premium FR-P, Flintlastic Premium FR-P Coolstar, Flintlastic FR Cap Sheet, Flintlastic FR Cap Sheet Coolstar, Flexiglas Premium Cap 960 or Ultra Poly SMS adhered to ply sheet with approved mopping asphalt applied within the EVT range and at a rate of 20 to 40 lbs./sq. or Flintlastic GTS, Flintlastic GTS Coolstar, Flintlastic FR Cap T or Flintlastic FR Cap T Coolstar torch adhered to ply sheet
- Surfacing: (Optional) Install one of the following:
 1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq..
 2. Karnak 97, FlintCoat A-150, APOC 212 Fibrated Aluminum, 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/ft²
ACFoam-II, ENRGY-3, Multi Max FA, FlintBoard ISO, H-Shield or Any approved Polyisocyanurate Minimum 1.5" thick	N/A	N/A
(Optional) Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
High Density Wood Fiberboard Minimum ½" thick	N/A	N/A
Perlite Minimum ¾" thick	N/A	N/A
Dens-Deck, Dens-Deck Prime 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 All Weather/Empire Base Sheet, 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. or one ply of Black Diamond Base Sheet self adhered or Flintlastic STA torch adhered.
- Membrane: Flintlastic STA, Flintlastic STA Plus 5.0, Flintlastic Diamond GTA, Flintlastic Diamond GTA Coolstar, Flintlastic GTA, Flintlastic GTA Coolstar or Flintlastic GTA-FR, Flintlastic GTA-FR Coolstar torch adhered to base or ply sheet.
- Surfacing: (Optional) Install one of the following:
1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq..
2. Karnak 97, FlintCoat A-150, APOC 212 Fibrated Aluminum, Henry 520 Aluminum or Grundy AL MB at an application rate of 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/ft²**

**ACFoam-II, ENRGY-3, Multi Max FA, FlintBoard ISO, H-Shield or Any approved
Polyisocyanurate**

Minimum 1.5" thick

N/A

N/A

(Optional) Top Insulation Layer

**Insulation Fasteners
(Table 3)**

**Fastener
Density/ft²**

High Density Wood Fiberboard

Minimum ½" thick

N/A

N/A

Perlite

Minimum ¾" thick

N/A

N/A

Dens-Deck, Dens-Deck Prime

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)



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Ply Sheet: (Optional) One ply of All Weather/Empire Base Sheet, 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. or one ply of Black Diamond Base Sheet (for use with a torched cap sheet only) self adhered.

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

Surfacing: (Optional) Install one of the following:

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at an application rate of 60 lb./sq.
2. Karnak 97, FlintCoat A-150, APOC 212 Fibrated Aluminum, 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/ft²
ACFoam-II, ENRGY-3, Multi Max FA, FlintBoard ISO, H-Shield 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 Diamond GTA Coolstar, Flintlastic GTA, Flintlastic GTA Coolstar, Flintlastic GTA-FR, Flintlastic GTA-FR Coolstar or Flintlastic GTS, Flintlastic GTS Coolstar, Flintlastic FR Cap T or Flintlastic FR Cap T Coolstar 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)



Membrane Type: SBS MODIFIED

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga., type B, Grade 80 steel, fastened to steel supports spaced maximum 5 ft. o.c.

System Type D(6): 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/ft²
Any approved Polyisocyanurate, min. 1.25 pcf EPS, Rockwool, Wood Fiberboard, Perlite, DensDeck, DensDeck Prime, or Securock		
Any thickness	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 Poly SMS or Ultra Poly SMS Base Sheet mechanically attached as detailed in Fastening below.

Fastening: Olympic #14 and metal plates, Dekfast #14 with Hex Metal Plate, #14 Roofgrip with Metal Plate or Tru-Fast HD with MP-3 Plate fastened 12-inch o.c. in the 4-inch wide lap and 12-inch o.c. in two equally spaced staggered rows in the field.

Ply Sheet: (Optional) One ply of Flintlastic FR Base T, torch adhered to base sheet.

Membrane: Flintlastic FR Cap T, Flintlastic FR Cap T Coolstar, Flintlastic GTS or Flintlastic GTS Coolstar torch adhered to base or ply sheet.

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



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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 Professional Engineer, Registered Architect, or Registered Roof Consultant.
2. For steel deck application where specific deck construction is not referenced: The deck shall be a minimum 22 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



NOA No.: 07-1217.01
Expiration Date: 01/02/13
Approval Date: 11/20/08
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