MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
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DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

NOTICE OF ACCEPTANCE (NOA)

CertainTeed LLC.
20 Moores Road
Malvern, PA 19355

SCOPE:

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

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

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

DESCRIPTION: CertainTeed Modified Bitumen Roof 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# 20-0723.28 and consists of pages 1 through 48.
The submitted documentation was reviewed by Alex Tigera.

ROOFING SYSTEM APPROVAL

Category:	Roofing
Sub-Category:	Modified
Material:	APP, SBS
Deck Type:	Steel
Maximum Design Pressure:	**-172.5 psf.**

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

Product	Dimensions	Test Specification	Product Description
All Weather/Empire Base Sheet	39 3/8" x 65'10"; Roll weight: 70 lbs. (2 squares)	ASTM D 4601, Type II	Asphalt coated, fiberglass reinforced base sheet.
Flintlastic Base 20	39 3/8" x 49'6"; Roll weight: 90 lbs. (1.5 squares)	ASTM D 6163, Grade S, Type I	Modified Bitumen coated fiberglass base sheet.
Flintglas Ply 4	39 3/8" x 164'7"; Roll weight: 38 lbs. (5 squares)	ASTM D 2178, Type IV UL Type G1	Fiberglass, asphalt impregnated ply sheet.
Flintglas Premium Ply 6	39 3/8" x 164'7"; Roll weight: 40 lbs. (5 squares)	ASTM D 2178, Type VI UL Type G1	Fiberglass, asphalt impregnated ply sheet.
Flintlastic STA	39 3/8" x 32'10"; Roll weight: 87 lbs. (1 square)	ASTM D 6222, Grade S, Type I	Smooth surfaced APP Modified Bitumen membrane with non-woven polyester mat reinforcement for torch application.
Flintlastic GTA	39 3/8" x 32' 10"; Roll weight: 105 lbs. (1 square)	ASTM D 6222, Grade G, Type I	Granule surfaced APP Modified Bitumen membrane with non-woven polyester mat reinforcement for torch application.
Flintlastic GTA-FR	39 3/8" x 32' 10"; Roll weight: 105 lbs. (1 square)	ASTM D 6222, Grade G, Type I	Granule surfaced APP Modified Bitumen membrane with non-woven polyester mat reinforcement for torch application.
Flintlastic GMS	39 3/8" x 32' 10"; Roll weight: 94 lbs. (1 square)	ASTM D 6164, Grade G, Type I	Granule surfaced SBS Modified Bitumen membrane with non-woven polyester mat reinforcement for mop application.
Flintlastic FR-P	39 3/8" x 32' 10"; Roll weight: 101 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.

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

Product	Dimensions	Test Specification	Product Description
Flintlastic Premium FR-P	39 3/8" x 32' 10"; Roll weight: 101 lbs. (1 square)	ASTM D 6164, Grade G, Type II	Fire resistant, granule surfaced SBS Modified Bitumen Membrane with non-woven polyester mat reinforcement for mop application.
Flintlastic FR Cap 30	39 3/8" x 32' 10"; Roll weight: 86 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 30 T	39 3/8" x 32'10"; Roll weight: 100 lbs. (1 square)	ASTM D 6163, Grade G, Type I	Granule surfaced SBS Modified Bitumen membrane with fiberglass mat reinforcement for torch application.
Flintlastic Base 20 T	39 3/8" x 33'; Roll Weight: 81 lbs. (1 square)	ASTM D 6163, Grade S, Type I	Modified Bitumen, coated fiberglass base sheet for torch application.
Flintlastic Ultra Poly SMS Base Sheet	39 3/8" x 32' 10"; Roll weight: 90 lbs. (1 square)	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	39 3/8" x 98'9"; Roll weight: 75 lbs. (3 squares)	ASTM D 4601, Type II UL Type G2	Asphalt coated, fiberglass base sheet.
Flintlastic Poly SMS Base Sheet	39 3/8" x 64' 3"; Roll weight: 90 lbs. (2 squares)	ASTM D 4601, Grade S, Type II UL Type G2	Modified Bitumen coated polyester base sheet.
Flintlastic APP Base T	39 3/8" x 65' 4"; Roll weight: 100 lbs. (2 squares)	ASTM D6509	Modified Bitumen coated fiberglass base sheet.
Flintlastic Ultra Glass SA	39 3/8" x 33'11"; Roll weight: 73 lbs. (1 square)	ASTM D1970	Self-adhering, fiberglass reinforced, SBS modified bitumen base/ply sheet.
Black Diamond™ Base Sheet	36" x 68'7"; Roll weight: 78 lbs. (2 squares)	ASTM D 1970 ASTM D4601 Type I	Self-adhering fiberglass reinforced modified bitumen base sheet
FlintBond Brush	5 gallon pails	ASTM D3019	Cold applied, SBS polymer modified asphalt adhesive.

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
FlintBoard ISO	Polyisocyanurate foam insulation	CertainTeed LLC.
FlintBoard ISO Cold	Polyisocyanurate foam insulation	CertainTeed LLC.
$FlintBoard_H$ ISO	Polyisocyanurate foam insulation	CertainTeed LLC.
$FlintBoard_H$ ISO WF	Polyisocyanurate foam insulation	CertainTeed LLC.
$FlintBoard_H$ ISO NB	Polyisocyanurate foam insulation	CertainTeed LLC.
$FlintBoard_H$ ISO Cold	Polyisocyanurate foam insulation	CertainTeed LLC.
Structodek High Density Fiberboard Roof Insulation	Wood fiber insulation board	Blue Ridge Fiberboard, Inc.
FescoBoard	Expanded perlite and fiber insulation	Johns Manville Corp.
EnergyGuard Perlite Roof Insulation	Perlite insulation board	GAF
DensDeck	Water resistant gypsum board	Georgia-Pacific Gypsum LLC
DensDeck Prime	Water resistant gypsum board	Georgia-Pacific Gypsum LLC
H-Shield	Polyisocyanurate foam insulation	Hunter Panels, LLC
H-Shield WF	Polyisocyanurate foam insulation	Hunter Panels, LLC
H-Shield NB	Polyisocyanurate foam insulation	Hunter Panels, LLC
ENRGY 3	Polyisocyanurate foam insulation	Johns Manville Corp.
ENRGY 3 25 PSI	Polyisocyanurate foam insulation	Johns Manville Corp.
Multi-Max FA-3	Polyisocyanurate roof insulation	RMax Operating, LLC
ACFoam-II	Polyisocyanurate foam insulation	Atlas Roofing Corp.
ACFoam-III	Polyisocyanurate foam insulation	Atlas Roofing Corp.
ISO 95+ GL	Polyisocyanurate Insulation	Firestone Building Products Company, LLC
SECUROCK Gypsum-Fiber Roof Board	Gypsum insulation	United States Gypsum Corp.

APPROVED FASTENERS/ADHESIVES:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	Dekfast DF-#12-PH3	Insulation fastener	various	SFS Group USA, Inc.
2.	Dekfast DF-#14-PH3	Insulation fastener	various	SFS Group USA, Inc.
3.	Dekfast PLT-H-2-7/8	Galvalume AZ50 steel plate	2 7/8" x 3 ¼"	SFS Group USA, Inc.
4.	Dekfast PLT-R-3	Galvalume AZ50 stress plate	3" x .018"	SFS Group USA, Inc.
5.	OMG 3" Galvalume Steel Plate	Galvalume stress plate	3" round	OMG, Inc.
6.	#12 Standard Roofgrip	Insulation fastener for wood and steel.	various	OMG, Inc.
7.	3 in. Ribbed Galvalume Plate	Galvalume stress plate.	3" round	OMG, Inc.
8.	AccuTrac Plate	Galvalume stress plate.	3" square	OMG, Inc.
9.	Flat Bottom Metal Plate	Aluminized stress plate	3" square	OMG, Inc.
10.	Trufast #14 HD Fastener	Insulation fastener for wood and steel decks	various	Altenloh, Brinck & Co. U.S., Inc.
11.	Trufast 3" Metal Insulation Plate	Galvalume AZ50 steel plate	3" round	Altenloh, Brinck & Co. U.S., Inc.
12.	Trufast 2.4" Barbed Metal Seam Plate	Galvalume AZ50 steel plate	2.4" round	Altenloh, Brinck & Co. U.S., Inc.
13.	Trufast #12 DP Fastener	Coated, carbon steel screw	various	Altenloh, Brinck & Co. U.S., Inc.
14.	Dekfast DF-#15-PH3	Coated, carbon steel fastener	various	SFS Group USA, Inc.
15.	Trufast #15 EHD Fastener	Coated, carbon steel screw	various	Altenloh, Brinck & Co. U.S., Inc.
16.	Dekfast PLT-P-R-3	Polypropylene round stress plate	3" round	SFS Group USA, Inc.
17.	OMG Heavy Duty	Insulation fastener for use in wood, steel or concrete decks	various	OMG, Inc.
18.	Trufast #21 SHD Fastener	Coated, carbon steel screw	various	Altenloh, Brinck & Co. U.S., Inc.
19.	Trufast 2" Barbed Metal Seam Plate	Galvalume steel stress plate	2" round	Altenloh, Brinck & Co. U.S., Inc.
20.	Trufast 2.4" Scoop Seam Plate	Galvalume steel stress plate	2.4" round	Altenloh, Brinck & Co. U.S., Inc.
21.	Trufast 2-3/4" Barbed Metal Seam Plate (EHD)	Galvalume steel stress plate	2.75" round	Altenloh, Brinck & Co. U.S., Inc.
22.	Millennium One Step Foamable Adhesive	Polyurethane two component low rise insulation adhesive	1.5 liters	H.B. Fuller Company
23.	Millennium One Step Green Foamable Adhesive	Polyurethane two component high rise insulation adhesive	1.5 liters	H.B. Fuller Company

APPROVED FASTENERS/ADHESIVES:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
24.	Millennium PG-1 Low Viscosity Insulation Adhesive	Polyurethane two component low rise insulation adhesive	1.5 liters	H.B. Fuller Company
25.	ICP Adhesive CR-20	Polyurethane two component low rise insulation adhesive	Two kits (A= 40lb and B= 35lb cylinders)	ICP Adhesives & Sealants, Inc.
26.	OMG OlyBond 500 Adhesive	Spray polyurethane foam insulation adhesive	10 gal. bag-in-box set and 1.5 liters SpotShot cartridge	OMG, Inc.
27.	OMG OlyBond 500 Green Adhesive	Spray polyurethane foam insulation adhesive	10 gal. bag-in-box set and 1.5 liters SpotShot cartridge	OMG, Inc.

APPROVED SURFACING/COATING OPTIONS:

TABLE 4

Chosen components must be applied according to manufacturer's application instructions. Any coating, listed below, used as a surfacing, must be listed within a current NOA.

System Number	Manufacturer	Application
1.	Generic	Gravel applied at 400 lbs/sq., adhered with flood coat of asphalt at 60 lbs/sq.
2.	Generic	Slag applied at 300 lbs/sq., adhered with flood coat of asphalt at 60 lbs/sq.
3.	Karnak Corp.	Karnak (#97 AF) Fibrated Aluminum Roof Coating applied at an application rate of 1.5 gal/sq.
4.	Gardner Asphalt Corp.	APOC #212 Fibered Aluminum Roof Coating applied at an application rate of 1.5 gal/sq.
5.	Gardner Asphalt Corp.	APOC #400 Sunbrite applied at an application rate of 3 gal./sq.

EVIDENCE SUBMITTED:

Test Agency/Identifier	Name	Report	Date
Factory Mutual Research Corp.	FM 4470	3Y8A1.AM	09/30/96
	FM 4470	0D3A3.AM	04/04/97
	FM 4470	2D0A0.AM	12/23/98
	FM 4470	3024311	11/01/06
	FM 4470	1D7A4.AM	11/09/98
	FM 4470	3028410	02/19/07
	FM 4470	3031350	09/27/07
	FM 4470	3036182	07/31/09
	FM 4470	3039046	06/15/10
	FM 4470	3039848	12/02/11
	FM 4470	3046104	08/13/13
	FM 4470	3048520	09/19/13
Underwriters Laboratories, Inc.	UL 790	R11656	10/25/12
United States Testing Company	ASTM D5147	97-457-R2	12/02/87
	ASTM D5147	97457-4	06/03/88
Momentum Technologies, Inc.	ASTM D6164	AX31G8F	06/05/09
Trinity|ERD	TAS 117	3515.07.03	07/22/03
	TAS 114 (H)	Letter	04/05/06
	TAS 117 (B)	3503.10.06	10/10/06
	TAS 117 (B)	O6490.04.07-R1	06/27/07
	FM 4470 / TAS 114	3521.07.04-R1	10/26/07
	FM 4470 / TAS 114	3533.01.06-R1	10/26/07
	TAS 117 (B) / ASTM D6862	C8500SC.11.07	11/30/07
	FM 4470 / TAS 114	C8370.08.08	08/19/08
	TAS 114 / TAS 117	C30310.12.09	12/17/09
	TAS 117 / TAS 114	C30560.06.10	06/10/10
	TAS 117 B	C35500.02.11	02/09/11
	TAS 114	3513.08.02-R1	03/17/11
	FM 4470 (K) / TAS 114 (J)	03515.07.03-1-R1	06/27/12
	ASTM D1876 / TAS 114 (H) / TAS 117 (B)	C42110.08.12	08/13/12
	ASTM D1970	C40050.09.12-2	09/28/12
	ASTM D5147 / D4798	C31410.10.10-R1	11/01/12
	ASTM D5147 / D4798	C31410.01.11-1-R1	11/01/12
	ASTM D4798	C31410.01.11-2A-R1	02/21/13
	ASTM D4798	C31410.12.13	12/05/13
	ASTM D6222	C40050.12.13-R1	12/31/13
	ASTM D2178	C47250.03.14	03/26/14
	ASTM D1876 / TAS 114 (H) / FM 4474	C47320.03.14	03/26/14
	ASTM D1876 / TAS 114 (H) / FM 4474	C45620.03.14	03/27/14
	FM 4474 / TAS 114 (J)	C46760.06.14	06/19/14
	ASTM D1876	C35460.05.11-R1	05/20/15
	ASTM D4601	CTR-SC8740.04.15-R2	04/21/15
	FM 4474 / TAS 114 (J)	CTR-SC8995.10.15	10/14/15

EVIDENCE SUBMITTED:

Test Agency/Identifier	Name	Report	Date
	FM 4474 / TAS 114 (J)	CTR-SC9175.09.16-2	09/06/16
	FM 4470 (K) / UL 1897 / TAS 114 (J)	CTR-SC11590.08.16-R1	09/06/16
	ASTM D6163	CTR-SC11145.09.16-5A	09/19/16
	ASTM D6222	CTR-SC11145.09.16-7A	09/19/16
	ASTM D4601-04 (2012), Type II	CTR-SC11145.09.16-3A	09/19/16
PRI Construction Materials Technologies LLC	ASTM D6163	CTC-056-02-01	08/25/10
	ASTM D6163	CTC-066-02-01	08/09/11
	ASTM D6222	CTC-071-02-01	08/08/11
	ASTM D6164 / D4798	CTC-093-02-01	08/09/11
	ASTM D4601	CTC-126-02-01	03/12/12
	ASTM D2178	CTC-123-02-01	03/13/12
	ASTM D4601	CTC-127-02-01	03/13/12
	ASTM D6509	CTC-116-02-01	04/04/12
	ASTM D6163	CTC-128-02-01	06/11/12
	ASTM D6163	CTC-129-02-01	06/11/12
	ASTM D6164	CTC-132-02-01	06/11/12
	ASTM D6164	CTC-161-02-01	05/09/13
	ASTM D6162	CTC-183-02-01	10/02/13
	ASTM D6164	CTC-190-02-01	12/02/13
	ASTM D1970	CTC-199-02-01	01/22/14
	ASTM D 6163	CTC-319-02-01	08/22/17
	ASTM D1970	CTC-320-02-01	08/28/17

DECK STRESS ANALYSIS CALCULATIONS/REPORTS

Engineer/Agency	Identifier	Assemblies	Date
Factory Mutual Research Corp.	RoofNav Listings	B(2), C(5), C(10), C(12)	01/01/13
Robert Nieminen, P.E.	Signed/Sealed Calculations	B(1), B(5) through B(8), C(3), C(4), C(6) through C(9), C(11), D(1) through D(7)	12/15/16

APPROVED ASSEMBLIES:

Membrane Type: APP Modified

Deck Type 2I: Steel, Insulated

Deck Description: 22 ga., Type B, Yield Strength 46 ksi, steel deck is secured at 6 ft. o.c. spans with Tek/5 fasteners spaced 6" o.c. Side laps are secured with Tek/1 fasteners at 18" o.c.

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

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

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, ACFoam-III, FlintBoard ISO, FlintBoard ISO Cold, H-Shield, FlintBoard$_H$ ISO Minimum 1.5" thick	**13**	**1:1.45 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).

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ACFoam-II, ACFoam-III, FlintBoard ISO, FlintBoard ISO Cold, H-Shield, FlintBoard$_H$ ISO Minimum 1.5" thick	**N/A**	**N/A**

Note: Top layer of insulation shall be adhered with Millennium One Step Foamable Adhesive, Millennium One Step Green Foamable Adhesive or Millennium PG-1 Low Viscosity Insulation Adhesive in 0.75 inch ribbons spaced 12 inch o.c. 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 Black Diamond Base Sheet or Flintlastic Ultra Glass SA, self-adhered to the insulated substrate.

Ply Sheet: (Optional) One or more plies of Flintlastic APP Base T or Flintlastic STA, torch adhered to base sheet.

Membrane: Flintlastic GTA, or Flintlastic GTA-FR, torch adhered to base or ply sheet.

Surfacing: (Optional) Any of the approved surfacing/coating options listed in Table 4.

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

Membrane Type:	SBS Modified
Deck Type 2I:	Steel, Insulated
Deck Description:	18-22 ga., Type B, Grade 33 steel deck is secured at 6 ft. o.c. spans with ICH Traxx/ 5 fasteners spaced 6" o.c. Side laps are secured with three ICH Traxx/1 fasteners spaced 24" o.c. **This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.**
System Type B(2):	Base layer of insulation mechanically fastened, top layer adhered with approved adhesive.

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, ACFoam-III, FlintBoard ISO, FlintBoard ISO Cold, ENRGY 3, ISO 95+ GL, H-Shield, FlintBoard$_H$ ISO **Minimum 2.0" thick**	**1, 2, 6, 13, 10**	**1:1.45 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).

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
SECUROCK Gypsum-Fiber Roof Board **Minimum $^1/_4$" thick**	**N/A**	**N/A**

Note: Top layer of insulation shall be adhered with OMG OlyBond 500 Adhesive, OMG OlyBond 500 Green Adhesive, ICP Adhesive CR-20, Millennium One Step Foamable Adhesive, Millennium One Step Green Foamable Adhesive or Millennium PG-1 Low Viscosity Insulation Adhesive in 0.75 inch ribbons spaced 12 inch o.c. 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 Flintlastic Ultra Glass SA, self-adhered to insulated substrate.
Membrane:	Flintlastic FR Cap 30, Flintlastic FR-P, Flintlastic GMS, or Flintlastic Premium FR-P adhered to base sheet with approved mopping asphalt applied in full coverage at a rate of 20-25 lb/sq.
Surfacing: (Optional)	Any of the approved surfacing/coating options listed in Table 4.
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 B(3): 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, ACFoam-III, FlintBoard ISO, FlintBoard ISO Cold, H-Shield, FlintBoard$_H$ ISO		
Minimum 1.5" thick	**1, 2, 6, 10**	**1:2 ft²**
Minimum 2" thick	**1, 2, 6, 10**	**1:3.2 ft²**
ENRGY 3, ENRGY 3 25 PSI		
Minimum 1.4" thick	**1, 2, 6, 10**	**1:2 ft²**
Minimum 2" thick	**1, 2, 6, 10**	**1:3.2 ft²**
FescoBoard		
Minimum ¾" thick	**1, 2, 6, 10**	**1:2 ft²**
Structodek High Density Fiberboard Roof Insulation		
Minimum ½" thick	**1, 2, 6, 10**	**1:2 ft²**
DensDeck, DensDeck Prime		
Minimum ¼" thick	**1, 2, 6, 10**	**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).

Top Insulation Layer (Optional)	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 Base Sheet, Flintlastic Base 20, Flintlastic Poly SMS Base Sheet, Flintlastic Ultra Poly SMS Base Sheet, Flintglas Ply 4 or Flintglas Premium Ply 6 adhered to the insulated substrate with approved mopping asphalt applied within the EVT range and at a rate of 20-40.
Ply Sheet: (Optional)	One ply of All Weather/Empire Base Sheet, Glasbase Base Sheet, Flintlastic Base 20, Flintlastic Poly SMS Base Sheet, Flintlastic Ultra Poly SMS Base Sheet or one or more plies of Flintglas Ply 4 or Flintlglas Premium Ply 6 adhered to base sheet 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 or Flintlastic Ultra Glass SA self-adhered or Flintlastic STA or Flintlastic APP Base T torch adhered to base sheet.
Membrane:	Flintlastic GTA, or Flintlastic GTA-FR torch adhered to base or ply sheet.
Surfacing: (Optional)	Any of the approved surfacing/coating options listed in Table 4.
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 B(4): 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, ACFoam-III, FlintBoard ISO, FlintBoard ISO Cold, H-Shield, FlintBoard$_H$ ISO		
Minimum 1.5" thick	**1, 2, 6, 10**	**1:2 ft²**
Minimum 2" thick	**1, 2, 6, 10**	**1:3.2 ft²**
ENRGY 3, ENRGY 3 25 PSI		
Minimum 1.4" thick	**1, 2, 6, 10**	**1:2 ft²**
Minimum 2" thick	**1, 2, 6, 10**	**1:3.2 ft²**
FescoBoard		
Minimum ¾" thick	**1, 2, 6, 10**	**1:2 ft²**
Structodek High Density Fiberboard Roof Insulation		
Minimum ½" thick	**1, 2, 6, 10**	**1:2 ft²**
DensDeck, DensDeck Prime		
Minimum ¼" thick	**1, 2, 6, 10**	**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).

Top Insulation Layer (Optional)	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 Base Sheet, Flintlastic Base 20, Flintlastic Poly SMS Base Sheet, Flintlastic Ultra Poly SMS Base Sheet, Flintglas Ply 4 or Flintglas Premium Ply 6 adhered to the insulated substrate with approved mopping asphalt applied within the EVT range and at a rate of 20-40.
Ply Sheet: (Optional)	One ply of All Weather/Empire Base Sheet, Glasbase Base Sheet, Flintlastic Base 20, Flintlastic Poly SMS Base Sheet, Flintlastic Ultra Poly SMS Base Sheet or one or more plies of Flintglas Ply 4 or Flintglas Premium Ply 6 adhered to base sheet 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 or Flintlastic Ultra Glass SA self-adhered to base sheet or one ply of Flintlastic Ultra Poly SMS Base Sheet torch applied to base sheet.
Membrane:	One ply of Flintlastic GMS, Flintlastic Flintlastic Premium FR-P, or Flintlastic FR Cap 30 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 FR Cap 30 T torch adhered to base or ply sheet.
Surfacing: (Optional)	Any of the approved surfacing/coating options listed in Table 4.
Maximum Design Pressure:	-45 psf. (See General Limitation #9)

Membrane Type: APP Modified

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga., Type B, Grade 33 steel deck is secured at 5 ft. o.c. spans with 5/8" paddle welds with weld washers or with Teks 4 fasteners spaced 6" o.c. Side laps are secured with Teks 1 fasteners at 30" o.c

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

System Type B(5): 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, ACFoam-III, FlintBoard ISO, FlintBoard ISO Cold, ENRGY 3, Multi-Max FA-3, H-Shield, FlintBoard$_H$ ISO Minimum 1.5" thick	**1, 2, 6, 10**	**1:1.33 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).

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
FescoBoard Minimum ¾" thick	**N/A**	**N/A**
Structodek High Density Fiberboard Roof Insulation 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 Base Sheet, Flintlastic Base 20, Flintlastic Poly SMS Base Sheet, Flintlastic Ultra Poly SMS Base Sheet, Flintglas Ply 4 or Flintglas Premium Ply 6 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 Base Sheet, Flintlastic Base 20, Flintlastic Poly SMS Base Sheet, Flintlastic Ultra Poly SMS Base Sheet or one or more plies of Flintglas Ply 4 or Flintglas Premium Ply 6 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 or Flintlastic Ultra Glass SA self-adhered to base sheet or Flintlastic STA or Flintlastic APP Base T torch adhered to base sheet.

Membrane:	Flintlastic GTA, or Flintlastic GTA-FR torch adhered to base or ply sheet.
Surfacing: (Optional)	Any of the approved surfacing/coating options listed in Table 4.
Maximum Design Pressure:	-52.5 psf. (For FescoBoard) (See General Limitation #7) -67.5 psf. (For Structodek High Density Fiberboard Roof Insulation) (See General Limitation #7)

Membrane Type: SBS Modified

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga., Type B, Grade 33 steel deck is secured at 5 ft. o.c. spans with 5/8" paddle welds with weld washers or with Teks 4 fasteners spaced 6" o.c. Side laps are secured with Teks 1 fasteners at 30" o.c

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

System Type B(6): 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, ACFoam-III, FlintBoard ISO, FlintBoard ISO Cold, ENRGY 3, Multi-Max FA-3, H-Shield, FlintBoard$_H$ ISO		
Minimum 1.5" thick	**1, 2, 6, 10**	**1:1.33 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).

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
FescoBoard		
Minimum ¾" thick	**N/A**	**N/A**
Structodek High Density Fiberboard Roof Insulation		
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 Base Sheet, Flintlastic Base 20, Flintlastic Poly SMS Base Sheet, Flintlastic Ultra Poly SMS Base Sheet, Flintglas Ply 4 or Flintglas Premium Ply 6 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 Base Sheet, Flintlastic Base 20, Flintlastic Poly SMS Base Sheet, Flintlastic Ultra Poly SMS Base Sheet or one or more plies of Flintglas Ply 4 or Flintglas Premium Ply 6 adhered to base sheet 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 or Flintlastic Ultra Glass SA self-adhered to base sheet or Flintlastic Ultra Poly SMS Base Sheet torch applied to base sheet.

Membrane:	Flintlastic GMS, Flintlastic FR-P, Flintlastic Premium FR-P, or Flintlastic FR Cap 30 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 FR Cap 30 T torch adhered to base or ply sheet.
Surfacing: (Optional)	Any of the approved surfacing/coating options listed in Table 4
Maximum Design Pressure:	-52.5 psf. (For FescoBoard) (See General Limitation #7) -67.5 psf. (For Structodek High Density Fiberboard Roof Insulation) (See General Limitation #7)

Membrane Type:	APP Modified
Deck Type 2I:	Steel, Insulated
Deck Description:	22 ga., Type B, Yield Strength 46 ksi, steel deck is secured at 6 ft. o.c. spans with Tek/5 fasteners spaced 6" o.c. Side laps are secured with Tek/1 fasteners at 18" o.c. **This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.**
System Type B(7):	Base layer of insulation mechanically fastened, top layer adhered with approved adhesive.

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, ACFoam-III, FlintBoard ISO, FlintBoard ISO Cold, H-Shield, FlintBoard$_H$ ISO Minimum 1.5" thick	**13**	**1:1.45 ft²**

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

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
SECUROCK Gypsum-Fiber Roof Board Minimum $^1/_4$" thick	**N/A**	**N/A**

Note: Top layer of insulation shall be adhered with Millennium One Step Foamable Adhesive, Millennium One Step Green Foamable Adhesive, Millennium PG-1 Low Viscosity Insulation Adhesive, OMG OlyBond 500 Adhesive or OMG OlyBond 500 Green Adhesive in 3/4" – 1" wide beads spaced 12 inch o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet:	One ply of Flintlastic STA or Flintlastic APP Base T, torch adhered to the insulated substrate.
Ply Sheet: (Optional)	One ply of Flintlastic STA or Flintlastic APP Base T, torch adhered to base sheet.
Membrane:	Flintlastic GTA, or Flintlastic GTA-FR, torch adhered to base or ply sheet.
Surfacing:	Any of the approved surfacing/coating options listed in Table 4.
Maximum Design Pressure:	-75 psf (See General Limitation #7.)

Membrane Type:	SBS Modified
Deck Type 2I:	Steel Decks, Insulated
Deck Description:	22 ga., Type B, Yield Strength 46 ksi, steel deck is secured at 6 ft. o.c. spans with Tek/5 fasteners spaced 6" o.c. Side laps are secured with Tek/1 fasteners at 24" o.c. **This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.**
System Type B(8):	Base layer of insulation mechanically fastened, top layer adhered with approved adhesive.

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, ACFoam-III, FlintBoard ISO, FlintBoard ISO Cold, H-Shield, FlintBoard$_H$ ISO Minimum 1.5" thick	**13 with 11**	**1:1.6 ft²**

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

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
SECUROCK Gypsum-Fiber Roof Board Minimum $^1/_4$" thick	**N/A**	**N/A**

Note: Top layer of insulation shall be adhered with Millennium One Step Foamable Adhesive, Millennium One Step Green Foamable Adhesive, Millennium PG-1 Low Viscosity Insulation Adhesive, OMG OlyBond 500 Adhesive or OMG OlyBond 500 Green Adhesive in 3/4" – 1" wide beads spaced 12 inch o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet:	One ply of Flintlastic Poly SMS Base, Flintlastic Ultra Poly SMS Base or Flintlastic Base 20 adhered to the insulated substrate with FlintBond Brush at a rate of 1.0-1.5 gal/sq.
Ply Sheet: (Optional)	One ply of Flintlastic Poly SMS Base, Flintlastic Ultra Poly SMS Base or Flintlastic Base 20 adhered to base sheet with FlintBond Brush at a rate of 1.0-1.5 gal/sq.
Membrane:	Flintlastic FR Cap 30, Flintlastic FR-P, or Flintlastic Premium FR-P adhered to base or ply sheet with FlintBond Brush at a rate of 1.0-1.5 gal/sq.
Surfacing: (Optional)	Any of the approved surfacing/coating options listed in Table 4.
Maximum Design Pressure:	-75 psf (See General Limitation #7.)

Membrane Type: APP Modified

Deck Type 2I: Steel Decks, 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.

Base Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
ACFoam-II, ACFoam-III, FlintBoard ISO, FlintBoard ISO Cold, ENRGY 3, ENRGY 3 25 PSI, H-Shield, FlintBoard$_H$ ISO Minimum 1.5" thick	**N/A**	**N/A**
Any Approved Perlite Insulation Listed in Table 2 Minimum ¾" thick	**N/A**	**N/A**
Any Approved High Density Wood Fiberboard Listed in Table 2 Minimum ½" thick	**N/A**	**N/A**
DensDeck, DensDeck 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
Any Approved High Density Wood Fiberboard Listed in Table 2 Minimum ½" thick	**1, 2, 6, 10**	**1:2 ft²**
Any Approved Perlite Insulation Listed in Table 2 Minimum ¾" thick	**1, 2, 6, 10**	**1:2 ft²**
DensDeck, DensDeck Prime Minimum ¼" thick	**1, 2, 6, 10**	**1:2 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. 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 Base Sheet, Flintlastic Base 20, Flintlastic Poly SMS Base Sheet, Flintlastic Ultra Poly SMS Base Sheet, Flintglas Ply 4 or Flintglas Premium Ply 6 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 Base Sheet, Flintlastic Base 20, Flintlastic Poly SMS Base Sheet, Flintlastic Ultra Poly SMS Base Sheet or one or more plies of Flintglas Ply 4 or Flintglas Premium Ply 6 adhered to base sheet 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 or Flintlastic Ultra Glass SA self-adhered or Flintlastic STA or Flintlastic APP Base T torch adhered.
Membrane:	Flintlastic GTA or Flintlastic GTA-FR torch adhered to base or ply sheet.
Surfacing: (Optional)	Any of the approved surfacing/coating options listed in Table 4.
Maximum Design Pressure:	-45 psf. (See General Limitation #9)

Membrane Type: SBS Modified

Deck Type 2I: Steel Decks, 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.

Base Insulation Layer (Optional)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
ACFoam-II, ACFoam-III, FlintBoard ISO, FlintBoard ISO Cold, ENRGY 3, ENRGY 3 25 PSI, H-Shield, FlintBoard$_H$ ISO Minimum 1.5" thick	**N/A**	**N/A**
Any Approved Perlite Insulation Listed in Table 2 Minimum ¾" thick	**N/A**	**N/A**
Any Approved High Density Wood Fiberboard Listed in Table 2 Minimum ½" thick	**N/A**	**N/A**
DensDeck, DensDeck 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**
Any Approved High Density Wood Fiberboard Listed in Table 2 Minimum ½" thick	**1, 2, 6, 10**	**1:2 ft²**
Any Approved Perlite Insulation Listed in Table 2 Minimum ¾" thick	**1, 2, 6, 10**	**1:2 ft²**
DensDeck, DensDeck Prime Minimum ¼" thick	**1, 2, 6, 10**	**1:2 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. 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 Base Sheet, Flintlastic Base 20, Flintlastic Poly SMS Base Sheet, Flintlastic Ultra Poly SMS Base Sheet, Flintglas Ply 4 or Flintglas Premium Ply 6 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 Base Sheet, Flintlastic Base 20, Flintlastic Poly SMS Base Sheet, Flintlastic Ultra Poly SMS Base Sheet or one or more plies of Flintglas Ply 4 or Flintglas Premium Ply 6 adhered to base sheet 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 or Flintlastic Ultra Glass SA self-adhered to base sheet or Flintlastic Ultra Poly SMS Base Sheet torch applied to base sheet.
Membrane:	Flintlastic GMS, Flintlastic FR-P, Flintlastic Premium FR-P, or Flintlastic FR Cap 30, 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 FR Cap 30 T torch adhered to base or ply sheet.
Surfacing: (Optional)	Any of the approved surfacing/coating options listed in Table 4
Maximum Design Pressure:	-45 psf. (See General Limitation #9)

Membrane Type:	SBS/APP Modified
Deck Type 2I:	Steel, Insulated
Deck Description:	Min. 22 ga., Type B, Yield Strength 50.6 ksi, steel deck is secured at 6 ft. o.c spans with 5/8" diameter puddle welds spaced 6" o.c. Side laps are secured with Teks 1 fasteners at 18" o.c. **This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.**
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.

Base Insulation Layer (Optional)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
ACFoam-II, ACFoam-III, FlintBoard ISO, FlintBoard ISO Cold Minimum 1.5" 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**
ACFoam-II, ACFoam-III, FlintBoard ISO, FlintBoard ISO Cold Minimum 1.5" thick	**10 with 11**	**1:1.78 ft²**

Note: Top insulation layer 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 Black Diamond Base Sheet or Flintlastic Ultra Glass SA, self-adhered to the insulated substrate.
Ply Sheet: (Optional)	One ply of Flintlastic Ultra Poly SMS Base Sheet, Flintlastic Base 20 T, Flintlastic APP Base T or Flintlastic STA torch adhered to base sheet.
Membrane:	Flintlastic FR Cap 30 T, Flintlastic GTA or Flintlastic GTA-FR torch adhered to base or ply sheet.
Surfacing: (Optional)	Any of the approved surfacing/coating options listed in Table 4.
Maximum Design Pressure:	-67.5 psf (See General Limitation #7.)

Membrane Type:	APP Modified
Deck Type 2I:	Steel, Insulated
Deck Description:	22 ga., Type B, Yield Strength 46 ksi, steel deck is secured at 6 ft. o.c. spans with Tek/5 fasteners spaced 6" o.c. Side laps are secured with Tek/1 fasteners at 18" o.c. **This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.**
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.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
ACFoam-II, ACFoam-III, FlintBoard ISO, FlintBoard ISO Cold, H-Shield, FlintBoard$_H$ ISO Minimum 1.5" 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**
ACFoam-II, ACFoam-III, FlintBoard ISO, FlintBoard ISO Cold, H-Shield, FlintBoard$_H$ ISO Minimum 1.5" thick	**13**	**1:1.45 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. 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 Black Diamond Base Sheet or Flintlastic Ultra Glass SA, self-adhered to the insulated substrate.
Ply Sheet:	One or more plies of Flintlastic APP Base T or Flintlastic STA, torch adhered to base sheet.
Membrane:	Flintlastic GTA, or Flintlastic GTA-FR, torch adhered to ply sheet.
Surfacing: (Optional)	Any of the approved surfacing/coating options listed in Table 4.
Maximum Design Pressure:	-75 psf (See General Limitation #7.)

Membrane Type:	SBS/APP Modified
Deck Type 2I:	Steel Decks, Insulated
Deck Description:	22 ga., Type B, Grade 33, steel deck is secured 6 ft. o.c. spans with Teks 5 fasteners spaced 6" o.c. Side laps are secured with Stitch Teks 1 fasteners spaced 24" o.c. **This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.**
System Type C(5):	Layer of insulation mechanically attached, optional thermal barrier loose laid.

All General and System Limitations apply.

Thermal Barrier: (Optional)	Min. ¼" thick DensDeck, SECUROCK Gypsum-Fiber Roof Board loose laid on deck.

One or more layers of any of the following insulations:

Insulation Layer	**Insulation Fasteners Table 3**	**Fastener Density/ft²**
ACFoam-II, ACFoam-III, FlintBoard ISO, FlintBoard ISO Cold, H-Shield, FlintBoard$_H$ ISO Minimum 1.5" thick	**13, 14 with 16**	**1:1.45 ft²**

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

Base Sheet:	One ply of Flintlastic Ultra Glass SA, self-adhered to the insulated substrate.
Membrane:	Flintlastic FR-P, Flintlastic GMS or Flintlastic Premium FR-P adhered to base sheet with approved mopping asphalt applied in full coverage at a rate of 20-25 lb/sq. or Flintlastic FR Cap 30 T torch adhered to base sheet. Or Flintlastic GTA or Flintlastic GTA-FR torch adhered to base sheet.
Surfacing: (Optional)	Any of the approved surfacing/coating options listed in Table 4.
Maximum Design Pressure:	-75 psf (See General Limitation #7.)

Membrane Type:	APP Modified
Deck Type 2I:	Steel, Insulated
Deck Description:	18-22 ga., Type B, Grade 33, steel deck secured 6 ft. o.c. spans with puddle welds and washers spaced 6" o.c. Side laps are secured with Teks 1 fasteners spaced 30" o.c. **This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.**
System Type C(6):	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, ACFoam-III, FlintBoard ISO, FlintBoard ISO Cold, ENRGY 3, Multi-Max FA-3, H-Shield, FlintBoard$_H$ ISO		
Minimum 1.5" thick	**2, 5, 8**	**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 or Flintlastic Ultra Glass SA self-adhered to the insulated substrate.
Ply Sheet: (Optional)	One ply of All Weather/Empire Base Sheet, Glasbase Base Sheet, Flintlastic Base 20, Flintlastic Poly SMS Base Sheet, Flintlastic Ultra Poly SMS Base Sheet or one or more plies of Flintglas Ply 4 or Flintglas Premium Ply 6 adhered to base sheet 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 or Flintlastic Ultra Glass SA self-adhered to base sheet or Flintlastic STA or Flintlastic APP Base T torch adhered to base sheet.
Membrane:	Flintlastic GTA, or Flintlastic GTA-FR torch adhered to base or ply sheet.
Surfacing: (Optional)	Any of the approved surfacing/coating options listed in Table 4.
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 deck secured 6 ft. o.c. spans with puddle welds and washers spaced 6" o.c. Side laps are secured with Teks 1 fasteners spaced 30" o.c.

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

System Type C(7): 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, ACFoam-III, FlintBoard ISO, FlintBoard ISO Cold, ENRGY 3, Multi-Max FA-3, H-Shield, FlintBoard$_H$ ISO Minimum 1.5" thick	**2, 5, 8**	**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 or Flintlastic Ultra Glass SA self-adhered to the insulated substrate.

Ply Sheet: (Optional) One ply of All Weather/Empire Base Sheet, Glasbase Base Sheet, Flintlastic Base 20, Flintlastic Poly SMS Base Sheet, Flintlastic Ultra Poly SMS Base Sheet or one or more plies of Flintglas Ply 4 or Flintglas Premium Ply 6 adhered to base sheet 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 or Flintlastic Ultra Glass SA self-adhered to base sheet or Flintlastic Ultra Poly SMS Base Sheet torch applied to base sheet.

Membrane: Flintlastic GMS, Flintlastic FR-P, Flintlastic Premium FR-P, Flintlastic FR Cap 30 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 FR Cap 30 T torch adhered to base or ply sheet.

Surfacing: (Optional) Any of the approved surfacing/coating options listed in Table 4.

Maximum Design Pressure: -52.5 psf; with asphalt-applied cap membranes (See General Limitation #7)
-82.5 psf; with torch-applied cap membranes (See General Limitation #7)

Membrane Type:	SBS/APP Modified
Deck Type 2I:	Steel, Insulated
Deck Description:	Min. 22 ga., Type B, Yield Strength 50.6, steel deck secured 6 ft. o.c. spans with 5/8" diameter puddle welds spaced 6" o.c. Side laps are secured with Teks 1 fasteners spaced 18" o.c. **This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.**
System Type C(8):	All layers of insulation simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations.

Base Insulation Layer (Optional)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
SECUROCK Gypsum-Fiber Roof Board Minimum 0.5" 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**
SECUROCK Gypsum-Fiber Roof Board Minimum 0.5" thick	**10 with 11**	**1:1.6 ft²**

Note: Top insulation layer 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 Black Diamond Base Sheet or Flintlastic Ultra Glass SA, self-adhered to the insulated substrate.
Ply Sheet: (Optional)	One ply of Flintlastic Ultra Poly SMS Base Sheet, Flintlastic Base 20 T, Flintlastic APP Base T or Flintlastic STA torch adhered to base sheet.
Membrane:	Flintlastic FR Cap 30 T, Flintlastic GTA or Flintlastic GTA-FR torch adhered to base or ply sheet.
Surfacing: (Optional)	Any of the approved surfacing/coating options listed in Table 4.
Maximum Design Pressure:	-82.5 psf (See General Limitation #7.)

Membrane Type:	APP Modified
Deck Type 2I:	Steel, Insulated
Deck Description:	22 ga., Type B, Yield Strength 46 ksi, steel deck is secured at 6 ft. o.c. spans with Tek/5 fasteners spaced 6" o.c. Side laps are secured with Tek/1 fasteners at 18" o.c. **This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.**
System Type C(9):	All layers of insulation simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
ACFoam-II, ACFoam-III, FlintBoard ISO, FlintBoard ISO Cold, H-Shield, FlintBoard$_H$ ISO Minimum 1.5" 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**
SECUROCK Gypsum-Fiber Roof Board Minimum $^1/_4$" thick	**13 with 11**	**1:1.45 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. 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 Flintlastic STA or Flintlastic APP Base T, torch adhered to the insulated substrate.
Ply Sheet: (Optional)	One ply of Flintlastic STA or Flintlastic APP Base T, torch adhered to base sheet.
Membrane:	Flintlastic GTA or Flintlastic GTA-FR, torch adhered to base or ply sheet.
Surfacing:	Any of the approved surfacing/coating options listed in Table 4.
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 deck is secured at 6 ft. o.c. spans with Traxx/5 screws and ¾" diameter washers spaced 6" o.c. Side laps are secured with Traxx/1 screws spaced 12" o.c.

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

System Type C(10): All layers of insulation simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations.

Base Insulation Layer:	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
H-Shield, FlintBoard$_H$ ISO, ACFoam-II, ACFoam-III, FlintBoard ISO, FlintBoard ISO Cold Minimum 1.5" 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**
DensDeck Prime		
Minimum ½" thick	**10 with 11**	**1:1.33 ft²**
Minimum ½" thick	**10 with 11**	**1:1 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. 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: Two or three plies of Glasbase Base Sheet, Flintlastic Base 20, Flintlastic Poly SMS Base Sheet, Flintlastic Ultra Poly SMS Base Sheet, Flintglas Ply 4 or Flintglas Premium Ply 6 adhered to the insulated substrate with approved mopping asphalt applied at a rate of 20 to 25 lbs./sq.

Ply Sheet: One ply of Flintglas Ply 4 or Flintglas Premium Ply 6 adhered to base sheet with approved mopping asphalt applied at a rate of 20 to 25 lbs./sq.

Membrane: Flintlastic GMS, Flintlastic FR-P, Flintlastic Premium FR-P, or Flintlastic FR Cap 30 adhered with approved mopping asphalt applied at a rate of 20 to 25 lbs./sq.

Surfacing: (Optional)	Any of the approved surfacing/coating options listed in Table 4.
Maximum Design Pressure:	-112.5 psf (fastener density of 1:1.33 ft^2) (See General Limitation #7) -157.5 psf (fastener density of 1:1 ft^2) (See General Limitation #7)

Membrane Type: APP Modified

Deck Type 2I: Steel, Insulated

Deck Description: 22 ga., Type F, Grade 80 steel deck is secured at 6 ft. o.c. spans with Tek/5 fasteners and ¾" washers per fixing point spaced 6" o.c. Side laps are secured with Tek/1 fasteners at 12" o.c.

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

System Type C(11): All layers of insulation simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
ACFoam-II, ACFoam-III, FlintBoard ISO, FlintBoard ISO Cold, H-Shield, FlintBoard$_H$ ISO Minimum 1.5" 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
SECUROCK Gypsum-Fiber Roof Board Minimum $^1/_4$" thick	**13 with 11**	**1:1 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. 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 Flintlastic STA or Flintlastic APP Base T, torch adhered to the insulated substrate.

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

Membrane: Flintlastic GTA, or Flintlastic GTA-FR, torch adhered to base or ply sheet.

Surfacing: Any of the approved surfacing/coating options listed in Table 4.

Maximum Design Pressure: -120 psf (See General Limitation #7.)

Membrane Type: SBS Modified

Deck Type 2I: Steel, Insulated

Deck Description: 18-20 ga., Type B, Grade 80 steel deck secured at 6 ft. o.c. spans with Traxx/5 screws and ¾" diameter washers spaced 6" o.c. Side laps are secured with Traxx/1 screws spaced 12" o.c.

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

System Type C(12): All layers of insulation simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations.

Base Insulation Layer:	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
H-Shield, FlintBoard$_H$ ISO, ACFoam-II, ACFoam-III, FlintBoard ISO, FlintBoard ISO Cold		
Minimum 1.5" 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**
SECUROCK Gypsum-Fiber Roof Board		
Minimum ½" thick	**10 with 11**	**1:1.33 ft²**
Minimum ½" thick	**10 with 11**	**1:1 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. 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: Two or three plies of Glasbase Base Sheet, Flintlastic Base 20, Flintlastic Poly SMS Base Sheet, Flintlastic Ultra Poly SMS Base Sheet, Flintglas Ply 4 or Flintglas Premium Ply 6 adhered to the insulated substrate with approved mopping asphalt applied at a rate of 20 to 25 lbs./sq. or Flintlastic Ultra Poly SMS Base Sheet torch applied to the insulated substrate.

Ply Sheet: One ply of Flintglas Ply 4 or Flintglas Premium Ply 6 adhered to base sheet with approved mopping asphalt applied at a rate of 20 to 25 lbs./sq.

Membrane: Flintlastic GMS, Flintlastic FR-P, Flintlastic Premium FR-P, or Flintlastic FR Cap 30 adhered to ply sheet with approved mopping asphalt applied at a rate of 20 to 25 lbs./sq.

Surfacing: (Optional)	Any of the approved surfacing/coating options listed in Table 4.
Maximum Design Pressure:	-157.5 psf (fastener density of 1:1.33 ft^2) (See General Limitation #7) -172.5 psf (fastener density of 1:1 ft^2) (See General Limitation #7)

Membrane Type: APP/SBS Modified

Deck Type 2I: Steel, Insulated

Deck Description: 22 ga., Type B, Yield Strength 49.3 ksi, steel deck secured at 6 ft. o.c. with Traxx/5 screws spaced 6" o.c. Side laps are secured with Traxx/1 screws spaced 24" o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type D(1): All layers of insulation and base sheet simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations.

Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ACFoam-II, ACFoam-III, FlintBoard ISO, FlintBoard ISO Cold Minimum 2.0" thick	**N/A**	**N/A**

Note: Insulation layer shall have preliminary attachment, prior to the installation of the base 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 5 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base sheet below for fasteners and density.

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

Fastening #1: Trufast #15 EHD Fasteners or Trufast #21 SHD Fasteners with Trufast 2" Barbed Metal Seam Plates, Trufast 2.4" Barbed Metal Seam Plates, Trufast 2.4" Scoop Seam Plates or Trufast 2-3/4" Barbed Metal Seam Plates (EHD) spaced 12" o.c. in a 4" side lap. The lap is heat welded closed encapsulating the fastener row.
**Steel deck is attached to structural supports with Traxx/5 screws (one screw per bearing point).*
(Maximum Design Pressure -52.5 psf; See General Limitation #7.)

Fastening #2: Trufast #15 EHD Fasteners or Trufast #21 SHD Fasteners with Trufast 2.4" Scoop Seam Plates or Trufast 2-3/4" Barbed Metal Seam Plates (EHD) spaced 12" o.c. in a 4" side lap. The lap is heat welded closed encapsulating the fastener row.
**Steel deck is attached to structural supports with Traxx/5 screws (one screw per bearing point).*
(Maximum Design Pressure -67.5 psf; See General Limitation #7.)

Fastening #3: Trufast #15 EHD Fasteners or Trufast #21 SHD Fasteners with Trufast 2.4" Scoop Seam Plates or Trufast 2-3/4" Barbed Metal Seam Plates (EHD) spaced 6" o.c. in a 4" side lap. The lap is heat welded closed encapsulating the fastener row.
**Steel deck is attached to structural supports with Traxx/5 screws with ¾" steel washers (one screw/washer per bearing point).*
(Maximum Design Pressure -112.5 psf; See General Limitation #7.)

Ply Sheet (Optional):	One ply of Flintlastic Ultra Poly SMS Base Sheet torch adhered to base sheet.
Membrane:	Flintlastic GTA or Flintlastic GTA-FR, torched-applied to base or ply sheet.
Surfacing: (Optional)	Any of the approved surfacing/coating options listed in Table 4.
Maximum Design Pressure:	See Fastening Above.

Membrane Type: APP Modified

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga., (*See Fastening Options Below*) Type B, steel deck secured at 5 ft. o.c. spans with Traxx/5 screws spaced 6" o.c. Side laps are secured with Traxx/1 screws spaced 20" o.c.

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

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.

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

Top Insulation Layer (Optional)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Any Approved High Density Wood Fiberboard Listed in Table 2 Minimum ½" thick	**N/A**	**N/A**
Any Approved Perlite Insulation Listed in Table 2 Minimum ¾" thick	**N/A**	**N/A**
DensDeck, DensDeck Prime Minimum ¼" thick	**N/A**	**N/A**

Note: Top layer shall have preliminary attachment, prior to the installation of the base 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 5 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base sheet below for fasteners and density.

Base Sheet: One ply of Glasbase Base Sheet*, Flintlastic Base 20, Flintlastic Poly SMS Base Sheet, Flintlastic Ultra Poly SMS Base Sheet Base Sheet, or Flintlastic APP Base T** mechanically attached as detailed in Fastening #1 below or one ply of Flintlastic Poly SMS Base Sheet or Flintlastic Ultra Poly SMS Base Sheet Base Sheet mechanically attached as detailed in Fastening #2 below.

** Not with use SFS Dekfast fastening components*

*** With use of SFS Dekfast fastening components*

Fastening #1:	Dekfast DF-#12-PH3 with Dekfast PLT-H-2-7/8 plates, Trufast #14 HD Fastener with Trufast 3” Metal Insulation Plates at a 4" side lap 6" o.c. and two rows staggered in the center of the sheet, 6” o.c. **Min. Grade 33 steel deck.** ***(Maximum Design Pressure -67.5 psf.; See General Limitation #7)***
Fastening #2:	Dekfast DF-#12-PH3 with Dekfast PLT-H-2-7/8 plates, Trufast #14 HD Fasteners with Trufast 3” Metal Insulation Plates at a 4" side lap 12" o.c. and two rows staggered in the center of the sheet, 12” o.c. **Min. Grade 80 steel deck.** ***(Maximum Design Pressure -120 psf.; See General Limitation #7)***
Ply Sheet: (Optional)	One ply of All Weather/Empire Base Sheet, Glasbase Base Sheet, Flintlastic Base 20, Flintlastic Poly SMS Base Sheet, Flintlastic Ultra Poly SMS Base Sheet or one or more plies of Flintglas Ply 4 or Flintglas Premium Ply 6 adhered to 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 or Flintlastic Ultra Glass SA self-adhered to base sheet or Flintlastic STA or Flintlastic APP Base T torch adhered to base sheet.
Membrane:	Flintlastic GTA or Flintlastic GTA-FR torch adhered to base or ply sheet.
Surfacing: (Optional)	Any of the approved surfacing/coating options listed in Table 4.
Maximum Design Pressure:	See Fastening Above

Membrane Type: SBS Modified

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga., (*See Fastening Options Below*) Type B, steel deck secured at 5 ft. o.c. spans with Traxx/5 screws spaced 6" o.c. Side laps are secured with Traxx/1 screws spaced 20" o.c.

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

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, ACFoam-III, FlintBoard ISO, FlintBoard ISO Cold, ENRGY 3, Multi Max FA-3, H-Shield, FlintBoard$_H$ ISO or Any approved Polyisocyanurate Listed in Table 2 Minimum 1.5" thick	**N/A**	**N/A**

Top Insulation Layer (Optional)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft²**
Any Approved High Density Wood Fiberboard Listed in Table 2 Minimum ½" thick	**N/A**	**N/A**
Any Approved Perlite Insulation Listed in Table 2 Minimum ¾" thick	**N/A**	**N/A**
DensDeck, DensDeck Prime Minimum ¼" thick	**N/A**	**N/A**

Note: Top layer shall have preliminary attachment, prior to the installation of the base 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 5 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base sheet below for fasteners and density.

Base Sheet: One ply of Glasbase Base Sheet*, Flintlastic Base 20, Flintlastic Poly SMS Base Sheet, Flintlastic Ultra Poly SMS Base Sheet or mechanically attached as detailed in Fastening #1 below or one ply of Flintlastic Poly SMS Base Sheet or Flintlastic Ultra Poly SMS Base Sheet Base Sheet mechanically attached as detailed in Fastening #2 below.
** Not with use SFS Dekfast fastening components*

Fastening #1: Dekfast DF-#12-PH3 with Dekfast PLT-H-2-7/8 plates, Trufast #14 HD Fastener with Trufast 3" Metal Insulation Plates at a 4" side lap 6" o.c. and two rows staggered in the center of the sheet, 6" o.c. **Min. Grade 33 steel deck.** ***(Maximum Design Pressure -67.5 psf.; See General Limitation #7)***

Fastening #2:	Dekfast DF-#12-PH3 with Dekfast PLT-H-2-7/8 plates, Trufast #14 HD Fastener with Trufast 3” Metal Insulation Plates at a 4" side lap 12" o.c. and two rows staggered in the center of the sheet, 12” o.c. **Min. Grade 80 steel deck.** ***(Maximum Design Pressure -120 psf.; See General Limitation #7)***
Ply Sheet: (Optional)	One ply of All Weather/Empire Base Sheet, Glasbase Base Sheet, Flintlastic Base 20, Flintlastic Poly SMS Base Sheet, Flintlastic Ultra Poly SMS Base Sheet or one or more plies of Flintglas Ply 4 or Flintglas Premium Ply 6 adhered to 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 or Flintlastic Ultra Glass SA self-adhered to base sheet or Flintlastic Ultra Poly SMS Base Sheet torch applied to base sheet.
Membrane:	Flintlastic GMS, Flintlastic FR-P, Flintlastic Premium FR-P, or Flintlastic FR Cap 30 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 FR Cap 30 T torch adhered to base or ply sheet.
Surfacing: (Optional)	Any of the approved surfacing/coating options listed in Table 4.
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 deck secured at 5 ft. o.c. spans with Traxx/5 screws spaced 6" o.c. Side laps are secured with Traxx/1 screws spaced 20" o.c. **This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.**
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.

Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ACFoam-II, ACFoam-III, FlintBoard ISO, FlintBoard ISO Cold, ENRGY 3, Multi Max FA-3, H-Shield, FlintBoard$_H$ ISO or Any approved Polyisocyanurate Listed in Table 2 Minimum 1.5" thick	**N/A**	**N/A**

Note: Insulation layer shall have preliminary attachment, prior to the installation of the base 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 5 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base sheet below for fasteners and density.

Base Sheet:	One ply of Flintlastic Ultra Poly SMS Base Sheet Base Sheet mechanically attached as detailed in Fastening below. Lap shall be heat welded.
Fastening #1:	Trufast #15 EHD Fasteners with Trufast 2.4" Barbed Metal Seam Plates spaced 12" o.c. in a 4" side lap. The lap is heat welded closed encapsulating the fastener row.
Membrane:	Flintlastic GTA, Flintlastic GTA-FR or Flintlastic FR Cap 30 T torch adhered to base sheet.
Surfacing: (Optional)	Any of the approved surfacing/coating options listed in Table 4.
Maximum Design Pressure:	-60 psf. (See General Limitation #7)

Membrane Type: SBS Modified

Deck Type 2I: Steel, Insulated

Deck Description: Min. 22 ga., Type B, Yield Strength 50.6 ksi, steel deck secured at 6 ft. o.c. spans with 5/8" diameter puddle welds spaced 6" o.c. Side laps are secured with Teks 1 fasteners spaced 18" o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

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.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Any Approved Polyisocyanurate Listed in Table 2 Minimum 1.0" thick	**N/A**	**N/A**

Note: Insulation layer shall have preliminary attachment, prior to the installation of the base 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 5 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base sheet below for fasteners and density.

Base Sheet: One ply of Glasbase Base Sheet, Flintlastic Base 20, Flintlastic Poly SMS Base or Flintlastic Ultra Poly SMS Base, mechanically attached as described below.

Fastening #1: Trufast #14 HD Fasteners with Trufast 3" Metal Insulation Plates spaced 6" o.c. at the 4" wide laps and 12" o.c. in three, equally spaced staggered center rows.

Ply Sheet: (Optional) One ply of Flintlastic Base 20, Flintlastic Poly SMS Base Sheet or Flintlastic Ultra Poly SMS Base Sheet applied in FlintBond Brush at a rate of 1 – 1.5 gal/sq to base sheet.

Membrane: Flintlastic FR Cap 30, Flintlastic FR-P, Flintlastic Premium FR-P or Flintlastic GMS applied in FlintBond Brush at a rate of 1 – 1.5 gal/sq to base or ply sheet.

Surfacing: (Optional) Any of the approved surfacing/coating options listed in Table 4.

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

Membrane Type:	SBS Modified
Deck Type 2I:	Steel, Insulated
Deck Description:	18-22 ga., Type B, Grade 80, steel deck secured at 5 ft. o.c. with Traxx/5 screws spaced 6" o.c. Side laps are secured with Traxx/1 screws spaced 20" o.c.
	This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.
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.

Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Any Approved Polyisocyanurate listed in Table 2 Minimum 1.5" thick	**N/A**	**N/A**

Note: Insulation layer shall have preliminary attachment, prior to the installation of the base 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 5 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base sheet below for fasteners and density.

Base Sheet:	One ply of Flintlastic Poly SMS Base Sheet or Flintlastic Ultra Poly SMS Base Sheet mechanically attached as detailed in Fastening below.
Fastening #1:	Dekfast DF-#12-PH3 with Dekfast PLT-H-2-7/8 plates, Trufast #14 HD Fastener with Trufast 3" Metal Insulation Plates spaced 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 Base 20 T or Flintlastic Ultra Poly SMS Base Sheet, torch adhered to base sheet.
Membrane:	Flintlastic FR Cap 30 T, torch adhered to base or ply sheet.
Surfacing: (Optional)	Any of the approved surfacing/coating options listed in Table 4.
Maximum Design Pressure:	-112.5 psf. (See General Limitation #7)

Membrane Type: APP/SBS Modified

Deck Type 2I: Steel, Insulated

Deck Description: Min. 22 ga., Type B, Grade 80, steel deck secured at 6 ft. o.c. with Traxx/5 screws with ¾" steel washers (two screws/washers per bearing point) spaced 6" o.c.. Steel side laps are secured with Traxx/1 fasteners spaced 24" o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

System Type D(7): All layers of insulation and base sheet simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations.

Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ACFoam-II, ACFoam-III, FlintBoard ISO, FlintBoard ISO Cold Minimum 2.0" thick	**N/A**	**N/A**

Note: Insulation layer shall have preliminary attachment, prior to the installation of the base 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 5 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base sheet below for fasteners and density.

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

Fastening #1: Trufast #15 EHD Fasteners or Trufast #21 SHD Fasteners with Trufast 2.4" Scoop Seam Plates or Trufast 2-3/4" Barbed Metal Seam Plates (EHD) spaced 6" o.c. in a 4" side lap. The lap is heat welded closed encapsulating the fastener row.

Ply Sheet (Optional): One ply of Flintlastic Ultra Poly SMS Base Sheet torch-applied to base sheet.

Membrane: Flintlastic GTA or Flintlastic GTA-FR torch-applied to base or ply sheet.

Surfacing: (Optional) Any of the approved surfacing/coating options listed in Table 4.

Maximum Design Pressure: -165 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 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.)**
10. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 61G20-3 of the Florida Administrative Code.

END OF THIS ACCEPTANCE