



DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

NOTICE OF ACCEPTANCE (NOA)

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION

11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
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www.miamidade.gov/economy

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 System over Lightweight Concrete Decks.

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

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

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

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

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

This NOA renews NOA No. 20-0723.25 and consists of pages 1 through 30.
The submitted documentation was reviewed by Alex Tigera.



NOA No.: 22-0103.08
Expiration Date: 05/22/28
Approval Date: 05/11/23
Page 1 of 30

ROOFING SYSTEM APPROVAL

<u>Category:</u>	Roofing
<u>Sub-Category:</u>	Modified Bitumen
<u>Material:</u>	APP/SBS
<u>Deck Type:</u>	Lightweight Concrete
<u>Maximum Design Pressure:</u>	-117.5 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	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.
Flintlastic Ultra Glass SA	39 ³ / ₈ " x 33'11"; Roll Weight: 73 lbs. (1 square)	ASTM D 1970	Self-adhering, fiberglass reinforced, SBS modified bitumen base/ply sheet.
Black Diamond Base Sheet	39 ³ / ₈ " x 68'7"	ASTM D 1970 ASTM D4601 Type I	Self-adhering, fiberglass reinforced, SBS modified bitumen base/ply 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.



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>
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.
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 or torched applications.
Glasbase Base Sheet	39 ³ / ₈ " x 98'9"; Roll weight: 75 lbs. (3 squares)	ASTM D 4601, Type II	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	Modified Bitumen coated polyester base sheet.
Flintlastic APP Base T	39 ³ / ₈ " x 65' 4"; Roll weight: 100 lbs. (2 squares)	ASTM D 6509	Modified Bitumen coated fiberglass base sheet.

APPROVED INSULATIONS:

TABLE 2

<u>Product Name</u>	<u>Product Description</u>	<u>Manufacturer (With Current NOA)</u>
FlintBoard ISO	Polyisocyanurate foam insulation	CertainTeed LLC.
FlintBoard _H ISO	Polyisocyanurate foam insulation	CertainTeed LLC.
FlintBoard _H ISO Cold	Polyisocyanurate foam insulation	CertainTeed LLC.
FlintBoard ISO Cold	Polyisocyanurate foam insulation	CertainTeed LLC.
ACFoam-II	Polyisocyanurate foam insulation	Atlas Roofing Corp.
ACFoam-III	Polyisocyanurate foam insulation	Atlas Roofing Corp.
Structodek High Density Fiberboard Roof Insulation	High Density Wood fiber insulation board	Blue Ridge Fiberboard, Inc.
FescoBoard	Expanded perlite and fiber insulation	Johns Manville Corp.
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 CG	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, LCC
SECUROCK Gypsum-Fiber Roof Board	Gypsum insulation	United States Gypsum Corp.
ISO 95+ GL	Polyisocyanurate foam insulation	Firestone Building Products Company, LLC



APPROVED FASTENERS/ADHESIVES:

TABLE 3

<u>Fastener Number</u>	<u>Product Name</u>	<u>Product Description</u>	<u>Dimensions</u>	<u>Manufacturer (With Current NOA)</u>
1.	Trufast FM-90 Base Sheet Fastener	Base ply fastening systems for lightweight concrete decks.	2.7" x 1.7"	Altenloh, Brinck & Co. U.S., Inc.
2.	CR Assembled Base Sheet Fastener (1.2") and CR Assembled Base Sheet Fastener (1.7")	Fastener assembly for Base Sheet fastening only	1.125" x 1.2" 2.75" Galvalume steel stress plate and 1.125" x 1.75" 2.75" Galvalume steel stress plate	OMG, Inc.
3.	Trufast Twin Loc-Nail Assembled Fastener	Galvanized stress plate and tube with integrated locking staple	2.7" round x various lengths	Altenloh, Brinck & Co. U.S., Inc.
4.	Trufast #14 HD Fastener	Insulation fastener for wood, concrete and steel decks	Various	Altenloh, Brinck & Co. U.S., Inc.
5.	Trufast 3" Metal Insulation Plate	Galvalume AZ50 steel plate	3" round	Altenloh, Brinck & Co. U.S., Inc.
6.	ICP Adhesive CR-20	Polyurethane two component low rise insulation adhesive	Two kits (A = 40lb and B = 35lb cylinders)	ICP Adhesives & Sealants, Inc.
7.	OMG OlyBond 500 Adhesive	Spray polyurethane foam insulation adhesive	10 gal. bag-in-box set and 1.5 liters SpotShot cartridge	OMG, Inc.
8.	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.

<u>System Number</u>	<u>Manufacturer</u>	<u>Application</u>
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 Fibrated 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:

<u>Test Agency/Identifier</u>	<u>Name</u>	<u>Report</u>	<u>Date</u>
Factory Mutual Research Corp.	FM 4470	0D3A3.AM	04/04/97
	FM 4470	1D7A4.AM	11/09/98
	FM 4470	2D0A0.AM	12/23/98
	FM 4470	3031350	09/27/07
	FM 4470	3032172	06/12/09
	FM 4470	3039046	06/15/10
	FM 4470	3048520	09/19/13
Underwriters Laboratories, Inc.	UL 790	R11656	01/11/13
United States Testing Company	ASTM D 5147	97-457-2R	12/02/87
	ASTM D 5147	97457-4	06/03/88
Momentum Technologies, Inc.	ASTM D 6164	AX31G8F	06/05/09
Trinity ERD	TAS 114	3521.07.04	07/29/04
	TAS 114	3533.01.06	01/06/06
	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
	TAS 117 (B) /ASTM D 6862	C8500SC.11.07	11/30/07
	TAS 114	C8370.08.08	08/19/08
	TAS 117 / TAS 114	C30560.03.10	03/18/10
	TAS 117 / TAS 114	C30560.06.10	06/10/10
	TAS 114 (D) / FM 4474 (B)	C31420.08.10	09/21/10
	ASTM D 6164 / D 4798	C31410.01.11-2	01/10/11
	TAS 117 B	C35500.02.11	02/09/11
	ASTM D 1876 / TAS 114 (H) /	C42110.08.12	08/13/12
	TAS 117 (B)		
	ASTM D 4601	C40050.09.12-1	09/28/12
	ASTM D 1970	C40050.09.12-2	09/28/12
	ASTM D 5147 / D 4798	C31410.10.10-R1	11/01/12
	ASTM D 5147 / D 4798	C31410.01.11-1-R1	11/01/12
	ASTM D 4798	C31410.01.11-2A-R1	02/21/13
	ASTM D 4798	C31410.12.13	12/05/13
	ASTM D 6222	C40050.12.13-R1	12/31/13
	ASTM D 2178	C47250.03.14	03/26/14
	ASTM D1876 / TAS 114 (H) /	C47320.03.14	03/26/14
	FM 4474		
	FM 4470 / TAS 114	C33980.12.10-R1	05/20/15
	FM 4470 / TAS 114	C37830.07.12-R1	05/20/15
	ASTM D 1876	C35460.05.11-R1	05/20/15
	FM 4474 / TAS 114 / TAS 117	3504.06.01-R1	12/22/15
	(B)		
	ASTM D4601	CTR-SC8740.04.15-R2	04/21/15
	ASTM D 4601-04 (2012), Type II	CTR-SC11145.09.16-	09/19/16
		3A	

EVIDENCE SUBMITTED:

<u>Test Agency/Identifier</u>	<u>Name</u>	<u>Report</u>	<u>Date</u>
	ASTM D 6163	CTR-SC11145.09.16-5A	09/19/16
	ASTM D 6222	CTR-SC11145.09.16-7A	09/19/16
PRI Construction Materials Technologies LLC	ASTM D 6163	CTC-056-02-01	08/25/10
	ASTM D 6222	CTC-071-02-01	08/08/11
	ASTM D 6163	CTC-066-02-01	08/09/11
	ASTM D 6164 / D 4798	CTC-093-02-01	08/09/11
	ASTM D 4601	CTC-126-02-01	03/12/12
	ASTM D 2178	CTC-123-02-01	03/13/12
	ASTM D 4601	CTC-127-02-01	03/13/12
	ASTM D 6509	CTC-116-02-01	04/04/12
	ASTM D 6163	CTC-128-02-01	06/11/12
	ASTM D 6163	CTC-129-02-01	06/11/12
	ASTM D 6164	CTC-132-02-01	06/11/12
	ASTM D 6164	CTC-161-02-01	05/09/13
	ASTM D 6162	CTC-183-02-01	10/02/13
	ASTM D 6164	CTC-190-02-01	12/02/13
	ASTM D 1970	CTC-199-02-01	01/22/14
	ASTM D 6163	CTC-319-02-01	08/22/17

DECK STRESS ANALYSIS CALCULATIONS/REPORTS

<u>Engineer/Agency</u>	<u>Identifier</u>	<u>Assemblies</u>	<u>Date</u>
Robert Nieminen, P.E.	Signed/Sealed Calculations	A(5), A(6), A(7), A(8), E(1), E(7), E(8)	12/15/16



APPROVED ASSEMBLIES

Membrane Type: APP Modified

Deck Type 4I: Lightweight Concrete, Insulated

Deck Description: Concrecel Cellular Lightweight Concrete, min 400 psi

System Type A(1): Anchor sheet mechanically fastened, one or more layer of insulation adhered with approved asphalt.

Deck: Min. 2500 psi. structural concrete or plank, followed by Concrecel Bonding agent applied to the deck at rate 1200 sq. ft/gal using a compressed air sprayer. Rigid insulation panels shall be placed in a minimum ¼" slurry-coat of insulating concrete and allowed to the cure overnight. The following day the rigid insulation shall be covered with a minimum 2 ¼" topcoat cast of Concrecel. After an additional cure time of 24 hours, Concrecel curing compound was a roller applied at a rate of 300sq. ft/gal.

All General and System limitations apply.

Anchor Sheet: One ply or more plies of Glasbase Base Sheet, All Weather/Empire Base Sheet, Flintlastic Base 20 or Flintlastic Poly SMS Base Sheet fastened to the deck as described below:

Fastening: Fasten base sheet to deck with OMG CR Assembled Base Sheet Fasteners spaced at 7" o.c. in the 4" side lap and 7" o.c. in two evenly divided, staggered rows in the center of the sheet.

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, ENRGY 3 25 PSI, H-Shield, FlintBoard_H ISO

Minimum 1.5" thick

N/A

N/A

Structodek High Density Fiberboard Roof Insulation

Minimum ½" thick

N/A

N/A

FescoBoard

Minimum ¾" thick

N/A

N/A

DensDeck, DensDeck Prime

Minimum ¼" thick

N/A

N/A

(Optional) Top Insulation Layer

Insulation Fasteners (Table 3)

Fastener Density/ft²

Any Insulation listed for Base Layer, above.

N/A

N/A



Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

- Base Sheet:** One or more plies 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 in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
- Ply Sheet:
(Optional)** One or more plies of 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 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 or one ply of 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:** -52.5 psf (See General Limitation #7)

Membrane Type:	SBS Modified
Deck Type 4I:	Lightweight Concrete, Insulated
Deck Description:	Concrecel Cellular Lightweight Concrete, min 400 psi
System Type A(2):	Anchor sheet mechanically fastened, one or more layer of insulation adhered with approved asphalt.
Deck:	Min. 2500 psi. structural concrete or plank followed by Concrecel Bonding agent applied to the deck at rate 1200 sq. ft/gal using a compressed air sprayer. Rigid insulation panels shall be placed in a minimum ¼” slurry-coat of insulating concrete and allowed to the cure overnight. The following day the rigid insulation shall be covered with a minimum 2 ¼” topcoat cast of Concrecel. After an additional cure time of 24 hours, Concrecel curing compound was a roller applied at a rate of 300sq. ft/gal.

All General and System limitations apply.

Anchor Sheet:	One or more plies of All Weather/Empire Base Sheet, Flintlastic Base 20 or Flintlastic Poly SMS Base Sheet fastened to the deck as described below:
Fastening:	Fasten base sheet to deck with OMG CR Assembled Base Sheet Fasteners spaced at 7” o.c. in the 4” side lap and 7” o.c. in two evenly divided, staggered rows in the center of the sheet.

One or more layers of any of the following insulations:

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
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
Structodek High Density Fiberboard Roof Insulation Minimum ½” thick	N/A	N/A
FescoBoard Minimum ¾” thick	N/A	N/A
DensDeck, DensDeck Prime Minimum ¼” thick	N/A	N/A
<u>(Optional) Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
Any Insulation listed for Base Layer, above.	N/A	N/A

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.



Base Sheet:	One or more plies 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 in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Ply Sheet: (Optional)	One or more plies of 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 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 Flintlastic Ultra Poly SMS Base Sheet torch applied or one ply of Black Diamond Base Sheet or Flintlastic Ultra Glass SA self-adhered.
Membrane:	One or more plies of 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:	-52.5 psf (See General Limitation #7)

Membrane Type:	APP Modified
Deck Type 4I:	Lightweight Concrete, Insulated
Deck Description:	Min. 200 psi. Mearlcrete or min. 160 psi Elastizell Cellular Lightweight Concrete
System Type A(3):	Anchor sheet mechanically fastened, one or more layer of insulation adhered with approved asphalt.
Deck:	Min. 2500 psi. structural concrete or plank. Mearlcrete cast at 40 pcf wet density or Range II Elastizell is applied with an 1/8" slurry coat followed by optional min. 2" thick Star-R-Foam Gripper EPS board or min. 1" thick Apache Corrugated Holey Board or Mearl Corrugated EPS Insulation. A min. 2" thick cap of Mearlcrete or Elastizell is placed over the insulations.

All General and System limitations apply.

Anchor Sheet:	One or more plies of All Weather/Empire Base Sheet or Glasbase Base Sheet mechanically attached to the deck using OMG CR Assembled Base Sheet Fastener or Trufast FM-90 Base Sheet Fasteners spaced 7" o.c. in the 4" side lap and 7" o.c. in two evenly divided, staggered rows in the center of the sheet.
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One or more layers of any of the following insulations:

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
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
Structodek High Density Fiberboard Roof Insulation Minimum 1/2" thick	N/A	N/A
FescoBoard Minimum 3/4" thick	N/A	N/A
DensDeck, DensDeck Prime Minimum 1/4" thick	N/A	N/A
<u>(Optional) Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
Any Insulation listed for Base Layer, above.	N/A	N/A

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.



Base Sheet:	One or more plies 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 in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Ply Sheet: (Optional)	One or more plies of 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 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 or one ply of 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:	-45.0 psf (For Elastizell) (See General Limitation #7) -52.5 psf (For Mearlcrete) (See General Limitation #7)

Membrane Type:	SBS Modified
Deck Type 4I:	Lightweight Concrete, Insulated
Deck Description:	Min. 200 psi. Mearlcrete or min. 160 psi Elastizell Cellular Lightweight Concrete
System Type A(4):	Anchor sheet mechanically fastened, one or more layer of insulation adhered with approved asphalt.
Deck:	Min. 2500 psi. structural concrete or plank. Mearlcrete cast at 40 pcf wet density or Range II Elastizell is applied with an 1/8" slurry coat followed by optional min. 2" thick Star-R-Foam Gripper EPS board or min. 1" thick Apache Corrugated Holey Board or Mearl Corrugated EPS Insulation. A min. 2" thick cap of Mearlcrete or Elastizell is placed over the insulation.

All General and System limitations apply.

Anchor Sheet:	One or more plies of All Weather/Empire Base Sheet or Glasbase Base Sheet mechanically attached to the deck using OMG CR Assembled Base Sheet Fastener, or Trufast FM-90 Base Sheet Fasteners spaced 7" o.c. in the 4" side lap and 7" o.c. in two evenly divided, staggered rows in the center of the sheet.
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One or more layers of any of the following insulations:

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
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
Structodek High Density Fiberboard Roof Insulation Minimum 1/2" thick	N/A	N/A
FescoBoard Minimum 3/4" thick	N/A	N/A
DensDeck, DensDeck Prime Minimum 1/4" thick	N/A	N/A
<u>(Optional) Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
Any Insulation listed for Base Layer, above.	N/A	N/A

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.



Base Sheet:	One or more plies 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 in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Ply Sheet: (Optional)	One or more plies of 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 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 Flintlastic Ultra Poly SMS Base Sheet torch applied or one ply of Black Diamond Base Sheet or Flintlastic Ultra Glass SA self -adhered.
Membrane:	One or more plies of Flintlastic GMS, Flintlastic 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 20-40 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:	-45.0 psf (For Elastizell) (See General Limitation #7) -52.5 psf (For Mearlcrete) (See General Limitation #7)

Membrane Type: SBS Modified

Deck Type 4I: Lightweight Concrete, Insulated

Deck Description: Elastizell Cellular Lightweight Concrete, min 390 psi

System Type A(6): One or more layer of insulation adhered with approved adhesive. Membrane fully adhered.

Deck: Min. 22ga., Grade 33, Type B vented steel deck secured at 5 ft. o.c. spans with Tek/5 screws spaced 6" o.c. Side laps are secured with Tek/1 screws spaced 20" o.c.

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

All General and System limitations apply.

LWC Deck: Elastizell with Zell-Fibers is applied with a 1/8" slurry coat followed by min. 1" thick EPS holey board and a min. 2" thick top coat.

One or more layers of any of the following insulations:

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
H-Shield CG, FlintBoard _H ISO Cold Minimum 1.5" thick	N/A	N/A

Note: Insulation shall be adhered to the deck with OMG OlyBond 500 Adhesive or OMG OlyBond 500 Green Adhesive in 3/4" wide ribbons spaced 6-inch o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

Base Sheet: One or more plies of Glasbase Base Sheet, All Weather/Empire Base Sheet, Flintlastic Base 20, Flintlastic Poly SMS Base Sheet or Flintlastic Ultra Poly SMS Base Sheet adhered to the insulated substrate with Millennium Hurricane Force Membrane Adhesive applied in 1/2" – 3/4" wide ribbons spaced 6-inch o.c.

Membrane: One or more plies of Flintlastic FR Cap 30, Flintlastic FR-P or Flintlastic Premium FR-P adhered to base sheet with Millennium Hurricane Force Membrane Adhesive applied in 1/2" – 3/4" wide ribbons spaced 6-inch o.c.

**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 4I: Lightweight Concrete, Insulated

Deck Description: Elastizell Cellular Lightweight Concrete, min 390 psi

System Type A(8): One or more layer of insulation adhered with approved adhesive. Membrane fully adhered.

Deck: Min. 22ga., Grade 33, Type B vented steel deck secured at 5 ft. o.c. spans with Tek/5 screws spaced 6" o.c. Side laps are secured with Tek/1 screws spaced 20" o.c.

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

All General and System limitations apply.

LWC Deck: Elastizell with Zell-Fibers is applied with an 1/8" slurry coat followed by min. 1" thick EPS holey board and a min. 2" thick top coat fastened with Trufast #14 HD Fasteners and Trufast 3" Metal Insulation Plates at 1:8 ft².

One or more layers of any of the following insulations:

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
H-Shield CG, FlintBoard _H ISO Cold Minimum 1.5" thick	N/A	N/A

Note: Insulation shall be adhered to the deck with OMG OlyBond 500 Adhesive or OMG OlyBond 500 Green Adhesive in 3/4" wide ribbons spaced 6-inch o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

Base Sheet: One or more plies of Glasbase Base Sheet, All Weather/Empire Base Sheet, Flexiglas Base Sheet, Flintlastic Base 20, Flintlastic Poly SMS Base Sheet or Flintlastic Ultra Poly SMS Base Sheet adhered to the insulated substrate with Millennium Hurricane Force Membrane Adhesive applied in 1/2" – 3/4" wide ribbons spaced 6-inch o.c.

Membrane: One or more plies of Flintlastic FR Cap 30, Flintlastic FR-P or Flintlastic Premium FR-P adhered to base sheet with Millennium Hurricane Force Membrane Adhesive applied in 1/2" – 3/4" wide ribbons spaced 6-inch o.c.

**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: SBS/APP Modified
Deck Type 4I: Lightweight Concrete, Insulated
Deck Description: Mearlcrete Lightweight Insulation Concrete, min. 200 psi
System Type A(9): One or more layer of insulation adhered with approved adhesive
Deck: Min. 2500 psi. structural concrete or plank

All General and System limitations apply.

LWC Deck: 3” thick cap of Mearlcrete Lightweight Insulation Concrete, 39 lbs/ft³ wet cast density.

One or more layers of any of the following insulations:

<u>Base Insulation Layer</u>	<u>Insulation Fasteners</u>	<u>Fastener Density/ft²</u>
Multi-Max FA-3, ACFoam-II, ACFoam-III, FlintBoard ISO, FlintBoard ISO Cold Minimum 1.5” thick	N/A	N/A
ISO 95+ GL, H-Shield, FlintBoard _H ISO, H-Shield CG, FlintBoard _H ISO Cold or ENRGY 3 Minimum 1.0” thick	N/A	N/A

<u>Top Insulation Layer</u>	<u>Insulation Fasteners</u>	<u>Fastener Density/ft²</u>
SECUROCK Gypsum-Fiber Roof Board Minimum ¼” thick	N/A	N/A

Note: All insulation shall be adhered to the deck with ICP Adhesive CR-20 applied in 1.5” ribbons spaced 12” o.c. Adhesive shall be allowed to sit for approx. 1 minute before insulation is applied. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Base Sheet: One or more plies of Black Diamond Base Sheet or Flintlastic Ultra Glass SA self-adhered to the insulated substrate.

Membrane: One ply of Flintlastic FR Cap 30 T, Flintlastic GTA or Flintlastic GTA-FR torch adhered to the base sheet.

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

**Maximum Design
Pressure:** -75.0 psf (See General Limitation #9)



Membrane Type: SBS/APP Modified
Deck Type 4I: Lightweight Concrete, Insulated
Deck Description: Elastizell Lightweight Insulation Concrete, min. 200 psi
System Type A(10): One or more layer of insulation adhered with approved adhesive
Deck: Min. 2500 psi. structural concrete or plank

All General and System limitations apply.

LWC Deck: 3” thick cap of Range II Elastizell Lightweight Insulation Concrete, 44.4 lbs/ft³ wet cast density.

All General and System limitations apply.

One or more layers of any of the following insulations:

<u>Base Insulation Layer</u>	<u>Insulation Fasteners</u>	<u>Fastener Density/ft²</u>
Multi-Max FA-3, ACFoam-II, ACFoam-III, FlintBoard ISO, FlintBoard ISO Cold Minimum 1.5” thick	N/A	N/A
ISO 95+ GL, H-Shield, FlintBoard _H ISO, H-Shield CG, FlintBoard _H ISO Cold or ENRGY 3 Minimum 1.0” thick	N/A	N/A

<u>Top Insulation Layer</u>	<u>Insulation Fasteners</u>	<u>Fastener Density/ft²</u>
SECUROCK Gypsum-Fiber Roof Board Minimum ¼” thick	N/A	N/A

Note: All insulation shall be adhered to the deck with ICP Adhesive CR-20 applied in 1.5” ribbons spaced 12” o.c. Adhesive shall be allowed to sit for approx. 1 minute before insulation is applied. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Base Sheet: One or more plies of Black Diamond Base Sheet or Flintlastic Ultra Glass SA self-adhered to the insulated substrate.

Membrane: One ply of Flintlastic FR Cap 30 T, 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:** -117.5 psf (See General Limitation #9)



Membrane Type: SBS Modified
Deck Type 4: Lightweight Concrete, Non-Insulated
Deck Description: Elastizell Cellular Lightweight Concrete, min 390 psi
System Type E(1): Base sheet mechanically fastened.
Deck: Min. 22ga., Grade 33, Type B vented steel deck secured at 5 ft. o.c. spans with Tek/5 screws spaced 6" o.c. Side laps are secured with Tek/1 screws spaced 20" o.c.
This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

All General and System limitations apply.

LWC Deck: Elastizell with Zell-Fibers is applied with an 1/8" slurry coat followed by min. 1" thick EPS holey board and a min. 2" thick top coat.

Base Sheet: One or more plies of Glasbase Base Sheet or Flintlastic Poly SMS Base Sheet mechanically attached to the deck using Trufast FM-90 Base Sheet Fasteners spaced 7" o.c. in the 4" side lap and 7" o.c. in two evenly divided, staggered rows in the center of the sheet.

Membrane: One or more plies of Flintlastic FR Cap 30, Flintlastic FR-P or Flintlastic Premium FR-P adhered to base sheet with Millennium Hurricane Force Membrane Adhesive applied in 1/2" – 3/4" wide ribbons spaced 6-inch o.c.

**Surfacing:
(Optional)
Maximum Design
Pressure:** Any of the approved surfacing/coating options listed in Table 4.
-52.5 psf (See General Limitation #7)

Membrane Type: APP Modified
Deck Type 4: Lightweight Concrete, Non-Insulated
Deck Description: Concrecel Cellular Lightweight Concrete, min 400 psi
System Type E(2): Base sheet mechanically fastened
Deck: Min. 2500 psi. structural concrete or plank

All General and System limitations apply.

LWC Deck: Concrecel Bonding agent applied to the deck at rate 0.1700 gal/square using a compressed air sprayer. Rigid insulation panels shall be placed in a minimum ¼” slurry-coat of insulating concrete and allowed to cure overnight. The following day the rigid insulation shall be covered with a minimum 2 ¼” topcoat cast of Concrecel. After an additional cure time of 24 hours, Concrecel Curing Compound was roller applied at a rate of 300-sq. ft/gal.

Base Sheet: One or more plies of All Weather/Empire Base Sheet, Glasbase Base Sheet, Flintlastic Base 20 or Flintlastic Poly SMS Base Sheet fastened to the deck as described below:

Fastening: Fasten base sheet to deck with OMG CR Assembled Base Sheet Fasteners spaced 7” o.c. in the 3” side lap and 7” o.c. in two evenly divided, staggered rows in the center of the sheet.

**Ply Sheet:
(Optional)** One or more plies 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 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 or one ply of Flintlastic STA or Flintlastic APP Base T torch adhered.

Membrane: One ply of 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 (See General Limitation #7)

Membrane Type: SBS Modified
Deck Type 4: Lightweight Concrete, Non-Insulated
Deck Description: Concrecel Cellular Lightweight Concrete, min 400 psi
System Type E(3): Base sheet mechanically fastened
Deck: Min. 2500 psi. structural concrete or plank

All General and System limitations apply.

LWC Deck: Concrecel Bonding agent applied to the deck at rate 0.1700 gal/square using a compressed air sprayer. Rigid insulation panels shall be placed in a minimum ¼” slurry-coat of insulating concrete and allowed to cure overnight. The following day the rigid insulation shall be covered with a minimum 2 ¼” topcoat cast of Concrecel. After an additional cure time of 24 hours, Concrecel Curing Compound was roller applied at a rate of 300-sq. ft/gal.

Base Sheet: One or more plies of Glasbase Base Sheet, All Weather/Empire Base Sheet, Flintlastic Base 20 or Flintlastic Poly SMS Base Sheet fastened to the deck as described below:

Fastening: Fasten base sheet to the deck with OMG CR Assembled Base Sheet Fasteners spaced 7” o.c. in the 4” side lap and 7” o.c. in two evenly divided, staggered rows in the center of the sheet.

**Ply Sheet:
(Optional)** One or more plies 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 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 Flintlastic Ultra Poly SMS Base Sheet torch applied or one ply of Black Diamond Base Sheet or Flintlastic Ultra Glass SA self-adhered.

Membrane: One or more plies of 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 (See General Limitation #7)

Membrane Type:	APP Modified
Deck Type 4:	Lightweight Concrete, Non-Insulated
Deck Description:	Min. 200 psi. Mearlcrete or min. 160 psi Elastizell Cellular Lightweight Concrete
System Type E(4):	Base sheet mechanically fastened
Deck:	Min. 2500 psi. structural concrete or plank

All General and System limitations apply.

LWC Deck:	Mearlcrete cast at 40 pcf wet density or Range II Elastizell is applied with an 1/8" slurry coat followed by optional min. 2" thick Star-R-Foam Gripper EPS board or min. 1" thick Apache Corrugated Holey Board or Mearl Corrugated EPS Insulation. A min. 2" thick cap of Mearlcrete or Elastizell is placed over the insulation.
Base Sheet:	One or more plies of All Weather/Empire Base Sheet or Glasbase Base Sheet mechanically attached to the deck using OMG CR Assembled Base Sheet Fasteners or Trufast FM-90 Base Sheet Fasteners space 7" o.c. in the 4" side lap and 7" o.c. in two evenly divided, staggered rows in the center of the sheet.
Ply Sheet: (Optional)	One or more plies 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 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 or one ply of Flintlastic STA or Flintlastic APP Base T torch adhered.
Membrane:	One ply of 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 (For Elastizell) (See General Limitation #7) -52.5 psf (For Mearlcrete) (See General Limitation #7)

Membrane Type:	SBS Modified
Deck Type 4:	Lightweight Concrete, Non-Insulated
Deck Description:	Min. 200 psi. Mearlcrete or min. 160 psi Elastizell Cellular Lightweight Concrete
System Type E(5):	Base sheet mechanically fastened.
Deck:	Min. 2500 psi. structural concrete or plank

All General and System limitations apply.

LWC Deck:	Mearlcrete cast at 40 pcf wet density or Range II Elastizell is applied with an 1/8" slurry coat followed by optional min. 2" thick Star-R-Foam Gripper EPS board or min. 1" thick Apache Corrugated Holey Board or Mearl Corrugated EPS Insulation. A min. 2" thick cap of Mearlcrete or Elastizell is placed over the insulation.
Base Sheet:	One or more plies of All Weather/Empire Base Sheet or Glasbase Base Sheet mechanically attached to the deck using OMG CR Assembled Base Sheet Fasteners, or Trufast FM-90 Base Sheet Fasteners spaced 7" o.c. in the 4" side lap and 7" o.c. in two evenly divided, staggered rows in the center of the sheet. <i>*Only with Trufast FM-90 Base Sheet Fasteners</i>
Ply Sheet: (Optional)	One or more plies 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 base sheet in a full mopping of approved asphalt applied within the EVT range at a rate of 20-40lbs./sq. or one ply of Flintlastic Ultra Poly SMS Base Sheet torch applied or one ply of Black Diamond Base Sheet or Flintlastic Ultra Glass SA self-adhered.
Membrane:	One or more plies Flintlastic GMS, Flintlastic FR-P, Flintlastic Premium FR-P or Flintlastic FR Cap 30 adhered to base or ply sheet with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 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 (For Elastizell) (See General Limitation #7) -52.5 psf (For Mearlcrete) (See General Limitation #7)

Membrane Type: SBS Modified
Deck Type 4: Lightweight Concrete, Non-Insulated
Deck Description: Elastizell Cellular Lightweight Concrete, min. 390 psi.
System Type E(6): Base sheet mechanically fastened.
Deck: Min. 2500 psi. structural concrete or plank

All General and System limitations apply.

LWC Deck: Elastizell with Zell-Fibers is applied with an 1/8" slurry coat followed by min. 1" thick EPS holey board and a min. 2" thick top coat.

Base Sheet: One or more plies of Glasbase Base Sheet or Flintlastic Poly SMS Base Sheet mechanically attached to the deck using Trufast FM-90 Base Sheet Fasteners spaced 7" o.c. in the 4" side lap and 7" o.c. in two evenly divided, staggered rows in the center of the sheet.

Membrane: One or more plies Flintlastic FR Cap 30, Flintlastic FR-P or Flintlastic Premium FR-P adhered to base sheet with Millennium Hurricane Force Membrane Adhesive applied in 1/2" – 3/4" wide ribbons spaced 6-inch o.c.

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

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

Membrane Type:	APP Modified
Deck Type 4:	Lightweight Concrete, Non-Insulated
Deck Description:	Strong Seal Roof Fill Lightweight
System Type E(7):	Base sheet mechanically fastened.
Deck:	Min. 2500 psi. structural concrete or plank or min. 22ga., galvanized, Grade 33, Type B 0.75% slotted steel deck secured at 5 ft. o.c. spans with 5/8" puddle welds at 6" o.c. Side laps are secured with Traxx/1 fasteners spaced 20" o.c. This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.
All General and System limitations apply.	
LWC Deck:	Steel is coated with concrete bonding agent prior to application of LWC. Strong Seal Roof Fill (65 pcf wet density for a target 300-350 psi compressive strength) preblended cementitious lightweight concrete applied to steel deck flutes to a thickness of 1/4" above top flute min. 2" thick Apache Holey Board, pressed into the slurry coat. The slurry and EPS are allowed to sit approximately 24 hours prior to application of the topcoat. The EPS insulation is covered with a 3" thick application of the Strong Seal Roof Fill. Roof System installation commences when the top surface becomes walkable (2-3days).
Base Sheet:	One ply of Flintlastic Base 20 or Flintlastic Poly SMS Base Sheet fastened to the deck as described below:
Fastening:	Fasten base sheet to deck with Trufast FM-90 Base Sheet Fasteners spaced 7" o.c. in a 4" lap and 10" o.c. in two staggered rows in the field of the sheet.
Ply Sheet: (Optional)	One or more plies 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 base sheet in a full mopping of hot 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 one ply of Flintlastic STA or Flintlastic APP Base T torch adhered.
Membrane:	One ply of 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:	SBS Modified
Deck Type 4:	Lightweight Concrete, Non-Insulated
Deck Description:	Strong Seal Roof Fill Lightweight Concrete
System Type E(8):	Base sheet mechanically fastened.
Deck:	Min. 2500 psi. structural concrete or plank or min. 22ga., galvanized, Grade 33, Type B 0.75% slotted steel deck secured at 5 ft. o.c. spans with 5/8" puddle welds at 6" o.c. Side laps are secured with Traxx/1 fasteners spaced 20"o.c.
	This Tested Assembly has been analyzed for allowable deck stress. See Evidence Submitted Table.

All General and System limitations apply.

LWC Deck:	Steel is coated with concrete bonding agent prior to application of LWC. Strong Seal Roof Fill (65 pcf wet density for a target 300-350 psi compressive strength) preblended cementitious lightweight concrete applied to steel deck flutes to a thickness of 1/4" above top flute min.2" thick Apache Holey Board, pressed into the slurry coat. The slurry and EPS are allowed to sit approximately 24 hours prior to application of the top coat. The EPS insulation is covered with a 3" thick application of the Strong Seal Roof Fill. Roof System installation commences when the top surface becomes walkable (2-3days).
Base Sheet:	One ply of Flintlastic Base 20 or Flintlastic Poly SMS Base Sheet fastened to the deck as described below:
Fastening:	Fasten base sheet to deck with Trufast FM-90 Base Sheet Fasteners spaced 7" o.c. in a 4" lap and 10" o.c. in two staggered rows in the field of the sheet
Ply Sheet: (Optional)	One or more plies 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 base sheet in a full mopping of hot asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply of Flintlastic Ultra Poly SMS Base Sheet torch applied or one ply of Black Diamond Base Sheet or Flintlastic Ultra Glass SA self-adhered.
Membrane:	One or more plies of 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:	-67.5 psf (See General Limitation #7)

LIGHTWEIGHT INSULATING CONCRETE SYSTEM LIMITATIONS:

1. If mechanical attachment to the structural deck through the lightweight insulating concrete is proposed, a field withdrawal resistance testing shall be performed to determine equivalent or enhanced fastener patterns and density. All testing and fastening design shall be in compliance with Testing Application Standard TAS 105 and Roofing Application Standard RAS 117, calculations shall be signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant.
2. For steel deck application where specific deck construction is not referenced: The deck shall be a minimum 22 gage attached with 5/8" puddle welds with weld washers at every flute with maximum deck spans of 5 ft. o.c.
3. For systems where specific lightweight insulating concrete is not referenced, the minimum design mix shall be a minimum of 300 psi.



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

