

#### 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)**

Firestone Building Products Company, LLC 200 4th Ave. South Nashville, TN 37201

### **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:** Firestone BASEGARD SA Modified Bitumen Roof Systems for 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 and revises NOA No. 13-1212.06 and consists of pages 1 through 52. The submitted documentation was reviewed by Jorge L. Acebo. And W



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# **ROOFING SYSTEM APPROVAL**

**Category:** Roofing

**Sub-Category:** Modified Bitumen

Material:APP, SBSDeck Type:SteelMaximum Design Pressure:-105 psf.

# TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

## TABLE 1

Product	Dimensions	Test Specification	Product Description
BASEGARD SA	39.4" x 65' 3"	ASTM D6163	Fiberglass reinforced SBS modified bitumen, self-adhering base sheet with a smooth sanded surface.
APP 80 Glass Base	39.4" x 65'4"	ASTM D6509	Fiberglass reinforced, APP modified bitumen, smooth surfaced base sheet and burn off film.
APP 160	39.4" x 32'10"	ASTM D6222	Polyester reinforced APP modified bitumen, smooth surfaced membrane with burn-off film.
APP 160 Cool	39.4" x 32'10"	ASTM D6222	Polyester reinforced APP modified bitumen, smooth surfaced membrane.
APP 160 P	39.4" x 32'10"	ASTM D6222	Polyester reinforced APP modified bitumen, smooth surfaced membrane with burn-off film.
APP 170	39.4" x 32'10"	ASTM D6222	Polyester reinforced APP modified bitumen, smooth surfaced membrane.
APP 170 Cool	39.4" x 33'10"	ASTM D6222	Polyester reinforced APP modified bitumen, smooth surfaced membrane.
APP 180	39.4" x 32'10"	ASTM D6222	Polyester reinforced APP modified bitumen, granule surfaced membrane with burn off film.
APP 180 Cool	39.4" x 32'10"	ASTM D6222	Polyester reinforced APP modified bitumen, granule surfaced membrane.
APP 180 UltraWhite	39.4" x 32'10"	ASTM D6222	Polyester reinforced APP modified bitumen, UltraWhite, granule surfaced membrane with burn off film.
APP 180 FR	39.4" x 32'10"	ASTM D6222	Polyester reinforced, fire resistant APP modified bitumen, granule surfaced membrane with burn off film.
APP 180 FR Cool	39.4" x 32"10"	ASTM D 6222	Polyester reinforced, fire resistant APP modified bitumen, granule surfaced membrane with burn off film.
APP 180 FR UltraWhite	39.4" x 32'10"	ASTM D6222	Polyester reinforced, fire resistant APP modified bitumen, UltraWhite granule surfaced membrane with burn off film.
APP Premium Base	39.4" x 65.4"	ASTM D6509	Fiberglass reinforced APP modified bitumen, smooth surfaced base sheet.



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# TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

# TABLE 1

Product	Dimensions	Test Specification	Product Description
APP Premium FR	39.4" x 32'10"	ASTM D6223	Combination fiberglass scrim and polyester mat reinforced, fire retardant APP modified bitumen, granule surfaced membrane.
SBS Glass	39.4" x 33'6"	ASTM D6163	Fiberglass reinforced, SBS modified bitumen, granule surfaced membrane with sanded bottom surface.
SBS Glass Torch Base	39.4" x 33'6"	ASTM D6163	Fiberglass reinforced, SBS modified bitumen ply with sanded top surface and burn off film.
SBS Glass Torch Base 1.5	39.4" x 65'3"	ASTM D6163	Fiberglass reinforced, SBS modified bitumen ply with sanded top surface and burn off film.
SBS Poly Torch Base	39.4" x 33'6"	ASTM D6164	Polyester reinforced, SBS modified bitumen ply with sanded top surface with burn off film.
SBS Premium Poly Base	39.4" x 50"	ASTM D6164	Polyester reinforced, SBS modified bitumen membrane with sanded surfaces.
SBS Torch	39.4" x 33'6"	ASTM D6164	Polyester reinforced, SBS modified bitumen membrane, granule surfaced with burn off film.
SBS Glass FR Torch	39.4" x 33'6"	ASTM D6163	Fiberglass reinforced, fire resistant, SBS modified bitumen membrane, granule surfaced with burn off film.
SBS Glass FR Torch UltraWhite	39.4" x 33'6"	ASTM D6163	Fiberglass reinforced, fire resistant, SBS modified bitumen membrane, UltraWhite granule surfaced with burn off film.
SBS Torch UltraWhite	39.4" x 33'6"	ASTM D6164	Polyester reinforced, SBS modified bitumen membrane, UltraWhite granule surfaced with burn off film.
SBS FR Torch	39.4" x 33'6"	ASTM D6164	Polyester reinforced, fire resistant, SBS modified bitumen, granule surfaced with burn off film.
SBS FR Torch UltraWhite	39.4" x 33'6"	ASTM D6164	Polyester reinforced, fire resistant, SBS modified bitumen membrane, UltraWhite granule surfaced with burn off film.
SBS Cap	39.4" x 33'6"	ASTM D6164	Polyester reinforced, SBS modified bitumen membrane, granule surfaced with sanded bottom surface.
SBS Cap UltraWhite	39.4" x 33'6"	ASTM D6164	Polyester reinforced, SBS modified bitumen membrane, UltraWhite granule surfaced with sanded bottom surface.
SBS FR Cap	39.4" x 33'6"	ASTM D6164	Polyester reinforced, fire resistant, SBS modified bitumen membrane, UltraWhite granule surfaced with sanded bottom surface.



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# TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

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Product	Dimensions	Test Specification	Product Description
SBS FR Cap UltraWhite	39.4" x 33'6"	ASTM D6164	Polyester reinforced, fire resistant, SBS modified bitumen membrane, UltraWhite granule surfaced with sanded bottom surface.
SBS Premium FR	39.4" x 33'6"	ASTM D6164	Polyester reinforced, fire resistant, SBS modified bitumen membrane, granule surfaced with sanded bottom surface.
SBS Premium FR UltraWhite	39.4" x 33'6"	ASTM D6164	Polyester reinforced, fire resistant, SBS modified bitumen membrane, UltraWhite granule surfaced with sanded bottom surface.
SBS Premium	39.4" x 33'6"	ASTM D6164	Polyester reinforced, SBS modified bitumen membrane, granule surfaced with sanded bottom surface.
SBS Premium Torch	39.4" x 33'6"	ASTM D6164	Polyester reinforced, SBS modified bitumen membrane, granule surfaced with burn off film.
SBS Premium Torch UltraWhite	39.4" x 33'6"	ASTM D6164	Polyester reinforced, SBS modified bitumen membrane, UltraWhite granule surfaced with burn off film.
SBS Premium FR Torch	39.4" x 33'6"	ASTM D6164	Polyester reinforced, fire resistant, SBS modified bitumen membrane, granule surfaced with burn off film.
SBS Premium FR Torch UltraWhite	39.4" x 33'6"	ASTM D6164	Polyester reinforced, fire resistant, SBS modified bitumen membrane, UltraWhite granule surfaced with burn off film.
SBS Base	39.4" x 50'	ASTM D6163	Fiberglass reinforced, SBS modified bitumen ply with sanded surfaces.
SBS Premium Base	39.4" x 50'	ASTM D6164	Fiberglass reinforced, SBS modified bitumen ply with sanded surfaces.
SBS Poly Base	39.4" x 50'	ASTM D6164	Polyester reinforced, SBS modified bitumen membrane with sanded surfaces.
SBS Smooth	39.4" x 33'6"	ASTM D6164	Polyester reinforced, SBS modified bitumen membrane with sanded surfaces.
SBS Glass FR	39.4" x 33'6"	ASTM D6163	Fiberglass reinforced, fire resistant, SBS modified bitumen membrane, granule surfaced with sanded bottom surface.
SBS Glass FR UltraWhite	39.4" x 33'6"	ASTM D6163	Fiberglass reinforced, fire resistant, SBS modified bitumen membrane, UltraWhite granule surfaced with sanded bottom surface.
Ply VI	39.4" x 160'6"	ASTM D2178	Asphalt impregnated, glass fiber mat reinforced, roofing ply.



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# TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

## TABLE 1

Product	Dimensions	Test Specification	Product Description
Ply IV	39.4" x 160'6"	ASTM D2178	Asphalt impregnated, glass fiber mat reinforced, roofing ply.
MB Base	36" x 108'	ASTM D4601	Fiberglass reinforced base sheet, asphalt coated on both sides. Applied in hot asphalt or mechanically attached.
I.S.O. Twin Pack Insulation Adhesive	750 ml cartridges	Proprietary	A two-component polyurethane insulation adhesive.
I.S.O. Fix II	30 lbs.	Proprietary	A single component polyurethane insulation adhesive.
I.S.O. Stick	5 gal.	Proprietary	A two-component polyurethane insulation adhesive.

# **APPROVED INSULATIONS:**

## TABLE 2

<b>Product Name</b>	<b>Product Description</b>	Manufacturer (With Current NOA)
ISO 95+ GL and tapered	Polyisocyanurate insulation board	Firestone Building Products
ISOGARD HD	High Density polyisocyanurate roof board with a coated fiberglass facer	Firestone Building Products
ISOGARD HD Composite	Polyisocyanurate foam core laminated to ISOGARD HD board	Firestone Building Products
DensDeck, DensDeck Prime	Silicon treated gypsum	Georgia Pacific Gypsum LLC
RESISTA and tapered	Polyisocyanurate insulation board with coated fiberglass facer	Firestone Building Products
SECUROCK Gypsum-Fiber Roof Board	Gypsum roof board with fiber reinforcement	United States Gypsum Corp.

# **APPROVED FASTENERS:**

# TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	Firestone All-Purpose	Insulation and membrane fastener for the attachment of roofing insulation and base sheets.	Various	Firestone Building Products
2.	Firestone Heavy-Duty	Insulation and membrane fastener.	Various	Firestone Building Products
3.	Firestone Insulation Fastening Plate	Insulation plate for use with Firestone Fasteners	3" round	Firestone Building Products
4.	Coiled Metal Batten Bar	Galvalume batten strip	220' coil	Firestone Building Products



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# **EVIDENCE SUBMITTED:**

<b>Test Agency</b>	<b>Test Identifier</b>	<b>Description</b>	<u>Date</u>
Factory Mutual Research Corp.	3044812	FM 4470	05/04/12
	3014537	FM 4470	11/29/04
	3020395	FM 4470	11/29/04
	3022492	FM 4470	01/17/05
	3031943	FM 4470	08/12/08
	3035017	FM 4470	04/15/09
	3038197	FM 4470	08/04/11
	3040795	FM 4470	03/24/11
	3042665 3040109	FM 4470 FM 4470	05/04/12 03/09/11
	3047398	FM 4470 FM 4470	08/15/13
	3044047	FM 4470	05/17/12
Underwriters Laboratories	R9516	UL 790	12/27/17
Trinity   ERD	F8800.01.08-R1	ASTM D903 / TAS114	01/17/08
• .	F36650.08.11-1-R2	ASTM D6163	05/08/12
	F36650.09.12	ASTM D4601/ASTM D2178	09/04/12
	F31960.05.10-1	ASTM D4977	05/19/10
	F41070.08.12	ASTM D6222	08/24/12
	F31960.08.10-1	ASTM D4977	08/25/10
PRI Construction Materials	FBP-018-02-01	ASTM D6163	09/07/04
Technologies, LLC	FBP-038-02-02	ASTM D6164	01/12/11
	FBP-038-02-03	ASTM D6164	01/12/11
	FBP-038-02-04	ASTM D6164	01/12/11
	FBP-042-02-02	ASTM D6164	07/27/11
	FBP-042-02-01	ASTM D6164	07/26/11
	FBP-043-02-01	ASTM D6164	08/02/11
	FBP-043-02-02	ASTM D6164 ASTM D6164	08/02/11
	FBP-043-02-04 FBP-042-02-02	ASTM D6164 ASTM D6164	07/26/11 07/26/11
	FBP-043-02-03	ASTM D6164 ASTM D6164	07/26/11
	FBP-053-02-01	ASTM D0104 ASTM D6163	03/23/12
	FBP-059-02-01	ASTM D0103 ASTM D1876	07/20/12
	FBP-059-02-01 Rev 2	ASTM D903/D1876	09/30/13
	151 059 02 01 110, 2	TAS 117/TAS 114	05/50/15
	FBP-071-02-01	TAS 114	04/25/12
	FBP-106-02-01	TAS 114	04/19/13
	FBP-113-02-01	TAS 114	04/17/13
	FBP-114-02-01	TAS 114	04/19/13
	FBP-118-02-01	TAS 114	07/24/13
	FBR-124-02-01	TAS 114	08/02/13
	FBP-133-02-01 Rev 3	TAS 114	09/03/13
	FBP-133-02-02	TAS 114	08/27/13
	FBP-141-02-01	TAS 114	12/18/13
	FBP-142-02-01	TAS 114	08/28/13



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# **EVIDENCE SUBMITTED: (CONTINUED)**

<b>Test Agency</b>	<b>Test Identifier</b>	<b>Description</b>	<u>Date</u>
PRI Construction Materials	FBP-142-02-02 Rev 1	TAS 114	10/01/13
Technologies, LLC	FBP-168-02-03	ASTM D6164	07/14/14
	FBP-176-02-01	ASTM D4601	07/15/14
	FBP-181-02-01B	TAS 114	07/24/14
	FBP-184-02-03	TAS 114	07/31/14
	FBP-189-02-01	TAS 114	07/31/14
	FBP-193-02-01	TAS 114	10/10/14
	FBP-196-02-03	TAS 114	10/10/14

# **DECK STRESS ANALYSIS CALCULATIONS/REPORTS**

\\Engineer/Agency	<u>Identifier</u>	<b>Assemblies</b>	<b>Date</b>
FM Approval Deck Limitations	N/A	B(2)	01/01/13
Zachary R. Priest, P.E.	Signed/Sealed Calculations	B(3), B(4), B(5), C(5), C(6), C(7), C(8), C(9), C(10), C(11), C(12), C(14), C(15), C(16), C(17), C(18), C(19), C(20), C(21), C(22), D(1), D(2) C(13)	02/08/16 02/08/16 02/08/16 02/08/16 10/10/17



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## **APPROVED ASSEMBLIES**

**Membrane Type:** SBS/APP

**Deck Type 2I:** Steel, Insulated

**Deck Description:** 18-22 ga. Grade 33 steel deck

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

Membrane fully adhered.

## All General and System Limitations apply.

One or more layers of any of the following insulations.

Base Insulation Layer Insulation Fasteners Fastener (Table 3) Density/ft<sup>2</sup>

DensDeck, DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board

Minimum  $\frac{1}{2}$ " thick 1 or 2 with 3 1:2 ft<sup>2</sup>

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.

Middle Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
ISO 95+GL	,	•
Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board	,	·
Minimum <sup>1</sup> / <sub>4</sub> " thick	N/A	N/A

Note: All Insulations shall be adhered to the base insulation layer using I.S.O. Twin Pack Insulation Adhesive (not with SECUROCK), applied ½" to ¾" wide ribbons spaced 12" o.c. or I.S.O. Fix II or I.S.O. Stick applied in continuous ¾" to 1" wide ribbons spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

**Base Sheet:** One ply of BASEGARD SA, self-adhered with a 3" lap.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly

Base, SBS Premium Poly Base, Ply IV, Ply VI, or MB Base fully adhered in hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3" wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, or SBS Glass Torch

Base 1.5 torch adhered with minimum 3" wide side laps.

Or

One or more plies of APP 80 Glass Base, APP Premium Base, APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool fully torch adhered with minimum 3" wide side laps.



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(Not for use with APP sheets) One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, or SBS Glass FR UltraWhite fully adhered with hot asphalt applied in the EVT range at a rate of 20-25 lbs./sq. with minimum 3" wide side laps.

Or

(Not for use with APP sheets) One ply of SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Torch, SBS Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Premium FR Torch, SBS Premium FR Torch UltraWhite torch adhered with minimum 3" wide side laps.

Or

(Not for use over SBS sheets) One ply of Firestone APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool, APP Premium FR, APP 180, APP 180 UltraWhite, APP 180 Cool, APP 180 FR, APP 180 FR UltraWhite or APP 180 FR Cool torch adhered with minimum 3" wide side laps.

**Maximum Design** 

**Pressure:** -45 psf. (See General Limitation #9)



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**Deck Type 2I:** Steel, Insulated

**Deck Description:**1. Min. 22 ga., Type B, Grade 33steel deck is secured to min. <sup>1</sup>/<sub>4</sub>" thick support at a maximum spacing of 64" o.c.

2. Min. 18-20 ga. Type B, Grade 33, steel deck securred to min. <sup>1</sup>/<sub>4</sub>" thick supports at a max, spacing of 6 ft. o.c.

3. Min. 18-22 ga. Type B, Grade 80 steel deck securred to min. <sup>1</sup>/<sub>4</sub>" thick supports at a max. spacing of 6 ft. o.c.

Steel deck is attached to supports with ITW Buildex TRAXX 5 fasteners spaced a maximum 6" o.c. one fastener at each bearing attachment point. Side Laps are fastened at 24" o.c. with ITW Buildex TRAXX 1 fasteners.

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

**System Type B(2):** Base layer of insulation mechanically attached, top layer adhered with approved adhesive.

Membrane fully adhered.

## All General and System Limitations apply.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners	Fastener
	(Table 3)	Density/ft <sup>2</sup>
ISO 95+ GL, RESISTA		
Minimum 2" thick	1 or 2 with 3	1:1 ft <sup>2</sup>

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	Fastener
•	(Table 3)	Density/ft <sup>2</sup>
ISOGARD HD		
Minimum 1/2" thick	N/A	N/A

Note: Top layer of insulation shall be adhered with I.S.O. Twin Pack Insulation Adhesive applied in ½" to ¾" wide ribbons spaced 4" o.c. or with I.S.O. Fix II or I.S.O. Stick applied in ¾" to 1" wide ribbons spaced 4" 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 BASEGARD SA, self-adhered with a  $3\frac{1}{2}$ " lap.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly

Base, SBS Premium Poly Base, Ply IV, Ply VI, or MB Base fully adhered in hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3" wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, or SBS Glass Torch

Base 1.5 torch adhered with minimum 3" wide side laps.

Or

One or more plies of APP 80 Glass Base, APP Premium Base, APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool fully torch adhered with minimum 3" wide side laps.



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(Not for use with APP sheets) One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, or SBS Glass FR UltraWhite fully adhered with hot asphalt applied in the EVT range at a rate of 20-25 lbs./sq. with minimum 3" wide side laps. Or

(Not for use with APP sheets) One ply of SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Torch, SBS Torch UltraWhite, SBS Premium Torch, SBS Premium Torch, SBS FR Torch, SBS FR Torch UltraWhite, SBS Premium FR Torch, SBS Premium FR Torch, SBS Premium FR Torch UltraWhite torch adhered with minimum 3" wide side laps.

Or

(Not for use over SBS sheets) One ply of Firestone APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool, APP Premium FR, APP 180, APP 180 UltraWhite, APP 180 Cool, APP 180 FR, APP 180 FR UltraWhite or APP 180 FR Cool torch adhered with minimum 3" wide side laps.

Maximum Design Pressure:

**-105 psf.** (See General Limitation #7)



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Deck Type 2I: Steel, Insulated

**Deck Description:** Min. 18-22 ga., Type B, Grade 33 steel deck is secured structural supports at a maximum

spacing of 6 ft. o.c. Steel deck is attached to supports with #12 – 24 x 1-1/4" HWH screws spaced a maximum 6" o.c. one fastener at each bearing attachment point. Side Laps are

fastened at 24" o.c. with 1/4" x 7/8" HWH screws.

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

Submitted Table.

Base layer of insulation mechanically attached, top layer adhered with approved adhesive. **System Type B(3):** 

Membrane fully adhered.

## All General and System Limitations apply.

One or more layers of any of the following insulations.

**Base Insulation Layer Insulation Fasteners Fastener** Density/ft<sup>2</sup> (Table 3) ISO 95+GL, RESISTA

Minimum 1.5" thick 1:1.6 ft<sup>2</sup> 1 or 2 with 3

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 Fastener** (Table 3) Density/ft<sup>2</sup> DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board Minimum ½" thick N/A N/A

Note: Top layer of insulation shall be adhered with I.S.O. Twin Pack Insulation Adhesive applied in 1/2" to 3/4" wide ribbons spaced 6" o.c. (not with SECUROCK) or with I.S.O. Fix II or I.S.O. Stick applied in 34" to 1" wide ribbons spaced 6" 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.

One ply of BASEGARD SA, self-adhered while maintaining minimum 3" side laps. **Base Sheet:** 

**Ply Sheet:** (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base,

SBS Premium Poly Base, Ply IV, Ply VI, or MB Base fully adhered in hot asphalt applied in

the EVT range at a rate of 20-40 lbs./sq. with minimum 3" wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, or SBS Glass Torch Base

1.5 torch adhered with minimum 3" wide side laps.

Or

One or more plies of APP 80 Glass Base, APP Premium Base, APP 160, APP 160 P, APP 160

Cool, APP 170, or APP 170 Cool fully torch adhered with minimum 3" wide side laps.



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One ply of SBS Glass, SBS Glass FR, SBS Glass FR UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Cap, SBS Cap UltraWhite, SBS Premium, SBS Premium FR, or SBS Premium FR UltraWhite fully bonded with hot asphalt adhesive applied within the EVT range and at a rate of 25-30 lbs./sq. while maintaining minimum 3½" side laps. Or

One ply of SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Torch, SBS Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite SBS Premium FR Torch, SBS Premium FR Torch UltraWhite heat welded while maintaining minimum 3½" side laps.

(Not for use with APP sheets) One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, or SBS Glass FR UltraWhite fully adhered with hot asphalt applied in the EVT range at a rate of 20-25 lbs./sq. with minimum 3" wide side laps.

(Not for use with APP sheets) One ply of SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Torch, SBS Torch UltraWhite, SBS Premium Torch, SBS Premium FR Torch, SBS FR Torch UltraWhite, SBS Premium FR Torch, SBS Premium FR Torch UltraWhite torch adhered with minimum 3" wide side laps.

(Not for use over SBS sheets) One ply of Firestone APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool, APP Premium FR, APP 180, APP 180 UltraWhite, APP 180 Cool, APP 180 FR, APP 180 FR UltraWhite or APP 180 FR Cool torch adhered with minimum 3" wide side laps.

Maximum Design Pressure:

-52.5 psf. (See General Limitation #7)



NOA No.: 17-0825.08 Expiration Date: 02/07/23 Approval Date: 02/01/18 Page 13 of 52 **Membrane Type:** SBS/APP

**Deck Type 2I:** Steel, Insulated

**Deck Description:** 18-22 ga., Type B, Grade 33 steel deck is secured to structural supports at a maximum

spacing of 6 ft. o.c. Steel deck is attached to supports with \(^{5}/8\)" puddle welds spaced a maximum 6" o.c. at each bearing attachment point. Side Laps are fastened at 24" o.c. with

1/4" x 7/8" HWH screws.

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

**Submitted Table.** 

**System Type B(4):** Base layer of insulation mechanically attached, top layer adhered with approved adhesive.

Membrane fully adhered.

## All General and System Limitations apply.

One or more layers of any of the following insulations.

Base Insulation Layer Insulation Fasteners Fastener (Table 3) Density/ft $^2$  ISO 95+GL Insulation Fasteners Table 3 Density/ft $^2$  Thick Insulation Fasteners (Table 3) Density/ft $^2$  Densi

Notes. Dogo loven shall be mechanically attached with fasteness and density described above. Insulation manel

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.

Middle Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
ISO 95+GL	,	v
Minimum ½" thick	N/A	N/A
Top Insulation Layer	<b>Insulation Fasteners</b>	Fastener
	(Table 3)	Density/ft <sup>2</sup>
SECUROCK Gypsum-Fiber Roof Board	,	•
Minimum ½" thick	N/A	N/A

Note: Middle and Top insulation layers shall be adhered with I.S.O. Stick applied in ¾" to 1" wide ribbons spaced 6" 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 BASEGARD SA, self-adhered while maintaining minimum 3" side laps.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base,

SBS Premium Poly Base, Ply IV, Ply VI, or MB Base fully adhered in hot asphalt applied in

the EVT range at a rate of 20-40 lbs./sq. with minimum 3" wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, or SBS Glass Torch Base

1.5 torch adhered with minimum 3" wide side laps.

Or

One or more plies of APP 80 Glass Base, APP Premium Base, APP 160, APP 160 P, APP 160

Cool, APP 170, or APP 170 Cool fully torch adhered with minimum 3" wide side laps.



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(Not for use with APP sheets) One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, or SBS Glass FR UltraWhite fully adhered with hot asphalt applied in the EVT range at a rate of 20-25 lbs./sq. with minimum 3" wide side laps.

Or

(Not for use with APP sheets) One ply of SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Torch, SBS Torch UltraWhite, SBS Premium Torch, SBS Premium Torch, SBS FR Torch, SBS FR Torch UltraWhite, SBS Premium FR Torch, SBS Premium FR Torch, SBS Premium FR Torch UltraWhite torch adhered with minimum 3" wide side laps.

Or

(Not for use over SBS sheets) One ply of Firestone APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool, APP Premium FR, APP 180, APP 180 UltraWhite, APP 180 Cool, APP 180 FR, APP 180 FR UltraWhite or APP 180 FR Cool torch adhered with minimum 3" wide side laps.

**Maximum Design** 

**Pressure:** -67.5 psf. (See General Limitation #7)



NOA No.: 17-0825.08 Expiration Date: 02/07/23 Approval Date: 02/01/18 Page 15 of 52 **Membrane Type:** SBS/APP

**Deck Type 2I:** Steel, Insulated

**Deck Description:** 18-22 ga., Type B, Grade 33 steel deck is secured to structural support at a maximum

spacing of 6 ft. o.c. Steel deck is attached to supports with 5%" puddle welds spaced a maximum 6" o.c. Side Laps are fastened at 24" o.c. with 14" x 7%" HWH screws.

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

Submitted Table.

**System Type B(5):** Base layer of insulation mechanically attached, top layer adhered with approved adhesive.

Membrane fully adhered.

## All General and System Limitations apply.

One or more layers of any of the following insulations.

Base Insulation Layer Insulation Fasteners Fastener (Table 3) Density/ft<sup>2</sup>

ISO 95+ GL, RESISTA

Minimum 1.5" thick 1 or 2 with 3 1:1.78 ft<sup>2</sup>

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)

Density/ft²

ISOGARD HD

Minimum ½" thick

N/A

N/A

Note: Top layer of insulation shall be adhered with I.S.O. Twin Pack Insulation Adhesive applied in ½" to ¾" wide ribbons spaced 4" o.c. or with I.S.O. Fix II or I.S.O. Stick applied in ¾" to 1" wide ribbons spaced 4" 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 BASEGARD SA, self-adhered with a 3½" lap.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly

Base, SBS Premium Poly Base, Ply IV, Ply VI, or MB Base fully adhered in hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3" wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, or SBS Glass Torch

Base 1.5 torch adhered with minimum 3" wide side laps.

Or

One or more plies of APP 80 Glass Base, APP Premium Base, APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool fully torch adhered with minimum 3" wide side laps.



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(Not for use with APP sheets) One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, or SBS Glass FR UltraWhite fully adhered with hot asphalt applied in the EVT range at a rate of 20-25 lbs./sq. with minimum 3" wide side laps. Or

(Not for use with APP sheets) One ply of SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Torch, SBS Torch UltraWhite, SBS Premium Torch, SBS Premium Torch, SBS FR Torch, SBS FR Torch UltraWhite, SBS Premium FR Torch, SBS Premium FR Torch, SBS Premium FR Torch UltraWhite torch adhered with minimum 3" wide side laps.

Or

(Not for use over SBS sheets) One ply of Firestone APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool, APP Premium FR, APP 180, APP 180 UltraWhite, APP 180 Cool, APP 180 FR, APP 180 FR UltraWhite or APP 180 FR Cool torch adhered with minimum 3" wide side laps.

Maximum Design Pressure:

**-45 psf.** (See General Limitation #7)



NOA No.: 17-0825.08 Expiration Date: 02/07/23 Approval Date: 02/01/18 Page 17 of 52 **Membrane Type:** SBS/APP

**Deck Type 2I:** Steel, Insulated

**Deck Description:** 18-22 ga. Grade 33 steel deck

**System Type C(1):** Membrane fully adhered over mechanically fastened insulation.

All General and System Limitations apply.

One or more layers of any of the following insulations.

Base Insulation Layer Insulation Fasteners Fastener (Table 3) Density/ft²

ISO 95+GL, RESISTA

Minimum 1.5" thick N/A N/A

Top Insulation Layer Insulation Fasteners Fastener (Table 3) Density/ft<sup>2</sup>

DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board

Minimum  $\frac{1}{4}$ " thick 1 or 2 with 3 1:2 ft<sup>2</sup>

Note: Top 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 BASEGARD SA, self-adhered with a 3" lap.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base,

SBS Premium Poly Base, Ply IV, Ply VI, or MB Base fully adhered in hot asphalt applied in

the EVT range at a rate of 20-40 lbs./sq. with minimum 3" wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, or SBS Glass Torch Base

1.5 torch adhered with minimum 3" wide side laps.

Or

One or more plies of APP 80 Glass Base, APP Premium Base, APP 160, APP 160 P, APP 160

Cool, APP 170, or APP 170 Cool fully torch adhered with minimum 3" wide side laps.

Membrane: (Not for use with APP sheets) One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS

FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, or SBS Glass FR UltraWhite fully adhered with hot asphalt applied in

the EVT range at a rate of 20-25 lbs./sq. with minimum 3" wide side laps.

Or

(Not for use with APP sheets) One ply of SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Torch, SBS Torch UltraWhite, SBS Premium Torch, SBS Premium FR Torch, SBS FR Torch, SBS FR Torch, SBS FR Torch, SBS Premium FR Torch, SBS

Premium FR Torch UltraWhite torch adhered with minimum 3" wide side laps.

Or

(Not for use over SBS sheets) One ply of Firestone APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool, APP Premium FR, APP 180, APP 180 UltraWhite, APP 180 Cool, APP 180 FR, APP 180 FR UltraWhite or APP 180 FR Cool torch adhered with minimum 3"

wide side laps.

**Maximum Design** 

**Pressure:** -45 psf. (See General Limitation #9)



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**Deck Type 2I:** Steel, Insulated

**Deck Description:** 18-22 ga. Grade 33 steel deck

**System Type C(2):** Membrane fully adhered over mechanically fastened insulation.

## 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
ISO 95+GL, RESISTA		
Minimum 1½" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISOGARD HD Composite		
Minimum 1½" thick	1 or 2 with 3	1:2.67 ft <sup>2</sup>
DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board Minimum 1/4" thick	1 or 2 with 3	1:2.67 ft <sup>2</sup>
ISOGARD HD		
Minimum 1/2" thick	1 or 2 with 3	1:2.67 ft <sup>2</sup>

Note: Top 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 BASEGARD SA, self-adhered with a 3" lap.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base,

SBS Premium Poly Base, Ply IV, Ply VI, or MB Base fully adhered in hot asphalt applied in

the EVT range at a rate of 20-40 lbs./sq. with minimum 3" wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, or SBS Glass Torch Base

1.5 torch adhered with minimum 3" wide side laps.

Or

One or more plies of APP 80 Glass Base, APP Premium Base, APP 160, APP 160 P, APP 160

Cool, APP 170, or APP 170 Cool fully torch adhered with minimum 3" wide side laps.



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(Not for use with APP sheets) One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, or SBS Glass FR UltraWhite fully adhered with hot asphalt applied in the EVT range at a rate of 20-25 lbs./sq. with minimum 3" wide side laps. Or

(Not for use with APP sheets) One ply of SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Torch, SBS Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Premium FR Torch, SBS Premium FR Torch UltraWhite torch adhered with minimum 3" wide side laps.

Or

(Not for use over SBS sheets) One ply of Firestone APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool, APP Premium FR, APP 180, APP 180 UltraWhite, APP 180 Cool, APP 180 FR, APP 180 FR UltraWhite or APP 180 FR Cool torch adhered with minimum 3" wide side laps.

# **Maximum Design**

**Pressure: -45 psf.** (See General Limitation #9)



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**Membrane Type:** SBS/APP

**Deck Type 2I:** Steel, Insulated

**Deck Description:** 18-22 ga. Grade 33 steel deck

**System Type C(3):** Membrane fully adhered over mechanically fastened insulation.

All General and System Limitations apply.

Insulation Layer Insulation Fasteners Fastener (Table 3) Density/ft<sup>2</sup>

ISO 95+ GL

Minimum  $2\frac{1}{2}$ " thick 1 or 2 with 3 1:4 ft<sup>2</sup>

Note: All Insulation 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 BASEGARD SA, self-adhered with a 3" lap.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly

Base, SBS Premium Poly Base, Ply IV, Ply VI, or MB Base fully adhered in hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3" wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, or SBS Glass Torch

Base 1.5 torch adhered with minimum 3" wide side laps.

Or

One or more plies of APP 80 Glass Base, APP Premium Base, APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool fully torch adhered with minimum 3" wide side laps.

Membrane: (Not for use with APP sheets) One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS

FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, or SBS Glass FR UltraWhite fully adhered with hot asphalt applied in

the EVT range at a rate of 20-25 lbs./sq. with minimum 3" wide side laps.

Or

(Not for use with APP sheets) One ply of SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Torch, SBS Torch UltraWhite, SBS Premium Torch, SBS Premium FR Torch, SBS FR Torch, SBS FR Torch UltraWhite, SBS Premium FR Torch, SBS

Premium FR Torch UltraWhite torch adhered with minimum 3" wide side laps.

Or

(Not for use over SBS sheets) One ply of Firestone APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool, APP Premium FR, APP 180, APP 180 UltraWhite, APP 180 Cool, APP 180 FR, APP 180 FR UltraWhite or APP 180 FR Cool torch adhered with

minimum 3" wide side laps.

**Maximum Design** 

**Pressure:** -45 psf. (See General Limitation #9)



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**Deck Type 2I:** Steel, Insulated

**Deck Description:** 18-22 ga. Grade 33 steel deck

**System Type C(4):** Membrane fully adhered over mechanically fastened insulation.

All General and System Limitations apply.

Base Insulation Layer (Optional)	<b>Insulation Fasteners</b>	Fastener
	(Table 3)	Density/ft <sup>2</sup>
ISO 95+ GL, RESISTA		
Minimum ½" thick	N/A	N/A
Insulation Layer	<b>Insulation Fasteners</b>	Fastener
·	(Table 3)	Density/ft <sup>2</sup>
RESISTA		•
Minimum 1½" thick	1 or 2 with 3	$1:2.7 \text{ ft}^2$
SECUROCK Gypsum-Fiber Roof Board		
Minimum ½" thick	1 or 2 with 3	1:2.67 ft <sup>2</sup>

Note: All Insulation 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 BASEGARD SA, self-adhered with a 3" lap.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly

Base, SBS Premium Poly Base, Ply IV, Ply VI, or MB Base fully adhered in hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3" wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, or SBS Glass Torch

Base 1.5 torch adhered with minimum 3" wide side laps.

Ot

One or more plies of APP 80 Glass Base, APP Premium Base, APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool fully torch adhered with minimum 3" wide side laps.

Membrane: (Not for use with APP sheets) One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS

FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, or SBS Glass FR UltraWhite fully adhered with hot asphalt applied in

the EVT range at a rate of 20-25 lbs./sq. with minimum 3" wide side laps.

Or

(Not for use with APP sheets) One ply of SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Torch, SBS Torch UltraWhite, SBS Premium Torch, SBS Premium Torch, SBS FR Torch, SBS Premium FR Torch, SBS

Premium FR Torch UltraWhite torch adhered with minimum 3" wide side laps.

Or

(Not for use over SBS sheets) One ply of Firestone APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool, APP Premium FR, APP 180, APP 180 UltraWhite, APP 180 Cool, APP 180 FR, APP 180 FR UltraWhite or APP 180 FR Cool torch adhered with

minimum 3" wide side laps.

**Maximum Design** 

Pressure: -45 psf. (See General Limitation #9)



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**Deck Type 2I:** Steel, Insulated

**Deck Description:** 18-22 ga., Type B, Grade 33 steel deck is secured to structural support at a maximum

spacing of 6 ft. o.c. Steel deck is attached to supports with #12-24 x 1½" HWH screws spaced a maximum 6" o.c. Side Laps are fastened at 24" o.c. with ½" x ½" HWH screws. **This Tested Assembly has been analyzed for allowable deck stress. See Evidence** 

**Submitted Table.** 

**System Type C(5):** Membrane fully adhered over mechanically fastened insulation.

### 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 <sup>2</sup>
ISO 95+GL, RESISTA	,	·
Minimum ½" thick	N/A	N/A
Top Insulation Layer	<b>Insulation Fasteners</b>	Fastener
	(Table 3)	Density/ft <sup>2</sup>
DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board	, ,	•
Minimum ½" thick	1 or 2 with 3	1:1.6 ft <sup>2</sup>
RESISTA		
Minimum 1" thick	1 or 2 with 3	1:1.6 ft <sup>2</sup>

Note: Top 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 BASEGARD SA, self-adhered while maintaining minimum 3" side laps.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base,

SBS Premium Poly Base, Ply IV, Ply VI, or MB Base fully adhered in hot asphalt applied in

the EVT range at a rate of 20-40 lbs./sq. with minimum 3" wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, or SBS Glass Torch Base

1.5 torch adhered with minimum 3" wide side laps.

Or

One or more plies of APP 80 Glass Base, APP Premium Base, APP 160, APP 160 P, APP 160

Cool, APP 170, or APP 170 Cool fully torch adhered with minimum 3" wide side laps.



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(Not for use with APP sheets) One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, or SBS Glass FR UltraWhite fully adhered with hot asphalt applied in the EVT range at a rate of 20-25 lbs./sq. with minimum 3" wide side laps. Or

(Not for use with APP sheets) One ply of SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Torch, SBS Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Premium FR Torch, SBS Premium FR Torch UltraWhite torch adhered with minimum 3" wide side laps.

Or

(Not for use over SBS sheets) One ply of Firestone APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool, APP Premium FR, APP 180, APP 180 UltraWhite, APP 180 Cool, APP 180 FR, APP 180 FR UltraWhite or APP 180 FR Cool torch adhered with minimum 3" wide side laps.

# **Maximum Design**

**Pressure: -67.5 psf.** (See General Limitation #7)



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**Deck Type 2I:** Steel, Insulated

**Deck Description:** 18-22 ga., Type B, Grade 33 steel deck is secured to structural support at a maximum

spacing of 6 ft. o.c. Steel deck is attached to supports with #12-24 x 1<sup>1</sup>/<sub>4</sub>" HWH screws spaced a maximum 6" o.c. Side Laps are fastened at 24" o.c. with <sup>1</sup>/<sub>4</sub>" x <sup>7</sup>/<sub>8</sub>" HWH screws. **This Tested Assembly has been analyzed for allowable deck stress. See Evidence** 

Submitted Table.

**System Type C(6):** Membrane fully adhered over mechanically fastened insulation.

### 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 <sup>2</sup>
ISO 95+GL, RESISTA Minimum 1" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
SECUROCK Gypsum-Fiber Roof Board Minimum ½" thick	1 or 2 with 3	1:1.78 ft <sup>2</sup>

Note: Top 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 BASEGARD SA, self-adhered while maintaining minimum 3" side laps.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base,

SBS Premium Poly Base, Ply IV, Ply VI, or MB Base fully adhered in hot asphalt applied in

the EVT range at a rate of 20-40 lbs./sq. with minimum 3" wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, or SBS Glass Torch Base

1.5 torch adhered with minimum 3" wide side laps.

Or

One or more plies of APP 80 Glass Base, APP Premium Base, APP 160, APP 160 P, APP 160

Cool, APP 170, or APP 170 Cool fully torch adhered with minimum 3" wide side laps.



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(Not for use with APP sheets) One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, or SBS Glass FR UltraWhite fully adhered with hot asphalt applied in the EVT range at a rate of 20-25 lbs./sq. with minimum 3" wide side laps. Or

(Not for use with APP sheets) One ply of SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Torch, SBS Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Premium FR Torch, SBS Premium FR Torch UltraWhite torch adhered with minimum 3" wide side laps. Or

(Not for use over SBS sheets) One ply of Firestone APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool, APP Premium FR, APP 180, APP 180 UltraWhite, APP 180 Cool, APP 180 FR, APP 180 FR UltraWhite or APP 180 FR Cool torch adhered with minimum 3" wide side laps.

# **Maximum Design**

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



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**Deck Type 2I:** Steel, Insulated

**Deck Description:** 18-22 ga., Type B, Grade 33 steel deck is secured to structural support at a maximum

spacing of 6 ft. o.c. Steel deck is attached to supports with #12-24 x 1½" HWH screws spaced a maximum 6" o.c. Side Laps are fastened at 24" o.c. with ½" x ½" HWH screws. **This Tested Assembly has been analyzed for allowable deck stress. See Evidence** 

Submitted Table.

**System Type C(7):** Membrane fully adhered over mechanically fastened insulation.

### 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/ft <sup>2</sup>
ISO 95+ GL, RESISTA		
Minimum ½" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
ISOGARD HD Composite Minimum 1½" thick	1 or 2 with 3	1:1.78 ft <sup>2</sup>

Note: Insulation 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 BASEGARD SA, self-adhered while maintaining minimum 3" side laps.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base,

SBS Premium Poly Base, Ply IV, Ply VI, or MB Base fully adhered in hot asphalt applied in

the EVT range at a rate of 20-40 lbs./sq. with minimum 3" wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, or SBS Glass Torch Base

1.5 torch adhered with minimum 3" wide side laps.

Or

One or more plies of APP 80 Glass Base, APP Premium Base, APP 160, APP 160 P, APP 160

Cool, APP 170, or APP 170 Cool fully torch adhered with minimum 3" wide side laps.



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(Not for use with APP sheets) One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, or SBS Glass FR UltraWhite fully adhered with hot asphalt applied in the EVT range at a rate of 20-25 lbs./sq. with minimum 3" wide side laps. Or

(Not for use with APP sheets) One ply of SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Torch, SBS Torch UltraWhite, SBS Premium Torch, SBS Premium Torch, SBS FR Torch, SBS FR Torch UltraWhite, SBS Premium FR Torch, SBS Premium FR Torch, SBS Premium FR Torch UltraWhite torch adhered with minimum 3" wide side laps.

Or

(Not for use over SBS sheets) One ply of Firestone APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool, APP Premium FR, APP 180, APP 180 UltraWhite, APP 180 Cool, APP 180 FR, APP 180 FR UltraWhite or APP 180 FR Cool torch adhered with minimum 3" wide side laps.

# **Maximum Design**

**Pressure:** -75 psf. (See General Limitation #7



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**Deck Type 2I:** Steel, Insulated

**Deck Description:** 18-22 ga., Type B, Grade 33 steel deck is secured to structural support at a maximum

spacing of 6 ft. o.c. Steel deck is attached to supports with 5/8" puddle welds spaced a maximum 6" o.c. Side Laps are fastened at 24" o.c. with 1/4" x 7/8" HWH screws.

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

Inis Tested Assembly has been analyzed for allowable deck stress. See Evidence

Submitted Table.

**System Type C(8):** Membrane fully adhered over mechanically fastened insulation.

### 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 <sup>2</sup>
ISO 95+GL, RESISTA		
Minimum 2" thick	N/A	N/A
Top Insulation Layer	<b>Insulation Fasteners</b>	Fastener
	(Table 3)	Density/ft <sup>2</sup>
Dens Deck Prime, SECUROCK Gypsum-Fiber Roof Board		
Minimum ½" thick	1 or 2 with 3	1:1.33 ft <sup>2</sup>

Note: All Insulation 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 BASEGARD SA, self-adhered while maintaining minimum 3" side laps.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base,

SBS Premium Poly Base, Ply IV, Ply VI, or MB Base fully adhered in hot asphalt applied in

the EVT range at a rate of 20-40 lbs./sq. with minimum 3" wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, or SBS Glass Torch Base

1.5 torch adhered with minimum 3" wide side laps.

Or

One or more plies of APP 80 Glass Base, APP Premium Base, APP 160, APP 160 P, APP 160

Cool, APP 170, or APP 170 Cool fully torch adhered with minimum 3" wide side laps.



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(Not for use with APP sheets) One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, or SBS Glass FR UltraWhite fully adhered with hot asphalt applied in the EVT range at a rate of 20-25 lbs./sq. with minimum 3" wide side laps. Or

(Not for use with APP sheets) One ply of SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Torch, SBS Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Premium FR Torch, SBS Premium FR Torch UltraWhite torch adhered with minimum 3" wide side laps. Or

(Not for use over SBS sheets) One ply of Firestone APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool, APP Premium FR, APP 180, APP 180 UltraWhite, APP 180 Cool, APP 180 FR, APP 180 FR UltraWhite or APP 180 FR Cool torch adhered with minimum 3" wide side laps.

**Maximum Design** 

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



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**Deck Type 2I:** Steel, Insulated

**Deck Description:** 18-22 ga., Type B, Grade 33 steel deck is secured to structural support at a maximum

spacing of 6 ft. o.c. Steel deck is attached to supports with \( \frac{5}{8} \) puddle welds spaced a maximum 6" o.c. Side Laps are fastened at 24" o.c. with \( \frac{1}{4} \)" x \( \frac{7}{8} \)" HWH screws.

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

Inis Tested Assembly has been analyzed for allowable deck stress. See Evidence

Submitted Table.

**System Type C(9):** Membrane fully adhered over mechanically fastened insulation.

### 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/ft <sup>2</sup>
ISO 95+ GL, RESISTA	,	·
Minimum ½" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
ISO 95+GL, RESISTA		
Minimum 2" thick	1 or 2 with 3	1:2.67 ft <sup>2</sup>
ISOGARD HD Composite		
Minimum 1½" thick	1 or 2 with 3	1:2.67 ft <sup>2</sup>
DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board		
Minimum ½" thick	1 or 2 with 3	1:2.67 ft <sup>2</sup>

Note: Insulation 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 BASEGARD SA, self-adhered while maintaining minimum 3" side laps.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base,

SBS Premium Poly Base, Ply IV, Ply VI, or MB Base fully adhered in hot asphalt applied in

the EVT range at a rate of 20-40 lbs./sq. with minimum 3" wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, or SBS Glass Torch Base

1.5 torch adhered with minimum 3" wide side laps.

Or

One or more plies of APP 80 Glass Base, APP Premium Base, APP 160, APP 160 P, APP 160

Cool, APP 170, or APP 170 Cool fully torch adhered with minimum 3" wide side laps.



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(Not for use with APP sheets) One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, or SBS Glass FR UltraWhite fully adhered with hot asphalt applied in the EVT range at a rate of 20-25 lbs./sq. with minimum 3" wide side laps. Or

(Not for use with APP sheets) One ply of SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Torch, SBS Torch UltraWhite, SBS Premium Torch, SBS Premium Torch, SBS FR Torch, SBS FR Torch UltraWhite, SBS Premium FR Torch, SBS Premium FR Torch, SBS Premium FR Torch UltraWhite torch adhered with minimum 3" wide side laps. Or

(Not for use over SBS sheets) One ply of Firestone APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool, APP Premium FR, APP 180, APP 180 UltraWhite, APP 180 Cool, APP 180 FR, APP 180 FR UltraWhite or APP 180 FR Cool torch adhered with minimum 3" wide side laps.

# **Maximum Design**

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



NOA No.: 17-0825.08 Expiration Date: 02/07/23 Approval Date: 02/01/18 Page 32 of 52 **Membrane Type:** SBS/APP

**Deck Type 2I:** Steel, Insulated

**Deck Description:** 18-22 ga., Type B, Grade 33 steel deck is secured to structural support at a maximum

spacing of 6 ft. o.c. Steel deck is attached to supports with #12-24 x 1½" HWH screws spaced a maximum 6" o.c. Side Laps are fastened at 24" o.c. with ½" x ½" HWH screws. **This Tested Assembly has been analyzed for allowable deck stress. See Evidence** 

**Submitted Table.** 

**System Type C(10):** Membrane fully adhered over mechanically fastened insulation.

All General and System Limitations apply.

**Base Insulation Layer (Optional) Insulation Fasteners Fastener** (Table 3) Density/ft<sup>2</sup> ISO 95+ GL, RESISTA Minimum 1/2" thick N/A N/A **Insulation Fasteners Top Insulation Layer** Fastener Density/ft<sup>2</sup> (Table 3) **ISOGARD HD Composite** 1:2.67 ft<sup>2</sup>

Minimum 1½" thick

1 or 2 with 3

1:2.67 ft

Note: All Insulation 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 BASEGARD SA, self-adhered while maintaining minimum 3" side laps.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly

Base, SBS Premium Poly Base, Ply IV, Ply VI, or MB Base fully adhered in hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3" wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, or SBS Glass Torch

Base 1.5 torch adhered with minimum 3" wide side laps.

Or

One or more plies of APP 80 Glass Base, APP Premium Base, APP 160, APP 160 P, APP

160 Cool, APP 170, or APP 170 Cool fully torch adhered with minimum 3" wide side laps.

Membrane: (Not for use with APP sheets) One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS

FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, or SBS Glass FR UltraWhite fully adhered with hot asphalt applied in

the EVT range at a rate of 20-25 lbs./sq. with minimum 3" wide side laps.

Or

(Not for use with APP sheets) One ply of SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Torch, SBS Torch UltraWhite, SBS Premium Torch, SBS Premium Torch, SBS FR Torch, SBS FR Torch UltraWhite, SBS Premium FR Torch, SBS

Premium FR Torch UltraWhite torch adhered with minimum 3" wide side laps.

Or

(Not for use over SBS sheets) One ply of Firestone APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool, APP Premium FR, APP 180, APP 180 UltraWhite, APP 180 Cool, APP 180 FR, APP 180 FR UltraWhite or APP 180 FR Cool torch adhered with

minimum 3" wide side laps.

Maximum Design Pressure:

**-60 psf.** (See General Limitation #7)



NOA No.: 17-0825.08 Expiration Date: 02/07/23 Approval Date: 02/01/18 Page 33 of 52 **Membrane Type:** SBS/APP

**Deck Type 2I:** Steel, Insulated

**Deck Description:** 18-22 ga., Type B, Grade 33 steel deck is secured to structural support at a maximum

spacing of 6 ft. o.c. Steel deck is attached to supports with #12-24 x 1½" HWH screws spaced a maximum 6" o.c. Side Laps are fastened at 24" o.c. with ½" x ½" HWH screws. This Tested Assembly has been analyzed for allowable deck stress. See Evidence

Submitted Table.

**System Type C(11):** Membrane fully adhered over mechanically fastened insulation.

### All General and System Limitations apply.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
ISO 95+ GL, RESISTA		
Minimum 1" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
ISOGARD HD		
Minimum ½" thick	1 or 2 with 3	1:1.33 ft <sup>2</sup>
DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board Minimum 1/4" thick	1 or 2 with 3	1:1.33 ft <sup>2</sup>
RESISTA		
Minimum 1" thick	1 or 2 with 3	1:1.33 ft <sup>2</sup>

Note: All Insulation 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 BASEGARD SA, self-adhered while maintaining minimum 3" side laps.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly

Base, SBS Premium Poly Base, Ply IV, Ply VI, or MB Base fully adhered in hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3" wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, or SBS Glass Torch

Base 1.5 torch adhered with minimum 3" wide side laps.

Or

One or more plies of APP 80 Glass Base, APP Premium Base, APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool fully torch adhered with minimum 3" wide side laps.



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(Not for use with APP sheets) One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, or SBS Glass FR UltraWhite fully adhered with hot asphalt applied in the EVT range at a rate of 20-25 lbs./sq. with minimum 3" wide side laps. Or

(Not for use with APP sheets) One ply of SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Torch, SBS Torch UltraWhite, SBS Premium Torch, SBS Premium Torch, SBS FR Torch, SBS FR Torch UltraWhite, SBS Premium FR Torch, SBS Premium FR Torch, SBS Premium FR Torch UltraWhite torch adhered with minimum 3" wide side laps.

Or

(Not for use over SBS sheets) One ply of Firestone APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool, APP Premium FR, APP 180, APP 180 UltraWhite, APP 180 Cool, APP 180 FR, APP 180 FR UltraWhite or APP 180 FR Cool torch adhered with minimum 3" wide side laps.

**Maximum Design** 

**Pressure:** -52.5 psf. (See General Limitation #7)



NOA No.: 17-0825.08 Expiration Date: 02/07/23 Approval Date: 02/01/18 Page 35 of 52 **Membrane Type:** SBS/APP

**Deck Type 2I:** Steel, Insulated

**Deck Description:** 18-22 ga., Type B, Grade 33 steel deck is secured to structural support at a maximum

spacing of 6 ft. o.c. Steel deck is attached to supports with #12-24 x 1½" HWH screws spaced a maximum 6" o.c. Side Laps are fastened at 24" o.c. with ½" x ½" HWH screws. **This Tested Assembly has been analyzed for allowable deck stress. See Evidence** 

**Submitted Table.** 

**System Type C(12):** Membrane fully adhered over mechanically fastened insulation.

All General and System Limitations apply.

Base Insulation Layer Insulation Fasteners (Table 3) Density/ft²

ISO 95+ GL, RESISTA

Minimum 1" thick N/A N/A

Top Insulation Layer Insulation Fasteners Fastener
(Table 3) Density/ft²

**SECUROCK Gypsum-Fiber Roof Board** 

Minimum  $\frac{1}{4}$ " thick 1 or 2 with 3 1:1.78 ft<sup>2</sup>

Note: All Insulation 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 BASEGARD SA, self-adhered while maintaining minimum 3" side laps.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly

Base, SBS Premium Poly Base, Ply IV, Ply VI, or MB Base fully adhered in hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3" wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, or SBS Glass Torch

Base 1.5 torch adhered with minimum 3" wide side laps.

Or

One or more plies of APP 80 Glass Base, APP Premium Base, APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool fully torch adhered with minimum 3" wide side laps.

Membrane: (Not for use with APP sheets) One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS

FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, or SBS Glass FR UltraWhite fully adhered with hot asphalt applied in

the EVT range at a rate of 20-25 lbs./sq. with minimum 3" wide side laps.

Or

(Not for use with APP sheets) One ply of SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Torch, SBS Torch UltraWhite, SBS Premium Torch, SBS Premium FR Torch, SBS FR Torch UltraWhite, SBS Premium FR Torch, SBS Premium FR Torch, SBS Premium FR Torch UltraWhite torch adhered with minimum 3" wide side laps.

Or

(Not for use over SBS sheets) One ply of Firestone APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool, APP Premium FR, APP 180, APP 180 UltraWhite, APP 180 Cool, APP 180 FR, APP 180 FR UltraWhite or APP 180 FR Cool torch adhered with

minimum 3" wide side laps.

**Maximum Design** 

Pressure: -67.5 psf. (See General Limitation #7)



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**Deck Type 2I:** Steel, Insulated

**Deck Description:** 18-22 ga., Type B, Grade 33 steel deck is secured to structural support at a maximum

spacing of 6 ft. o.c. Steel deck is attached to supports with 5/8" puddle welds spaced a maximum 6" o.c. Side Laps are fastened at 24" o.c. with 1/4" x 7/8" HWH screws.

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

Submitted Table.

**System Type C(13):** Membrane fully adhered over mechanically fastened insulation.

All General and System Limitations apply.

Base Insulation Layer (Optional)	Insulation Fasteners	Fastener
	(Table 3)	Density/ft <sup>2</sup>
ISO 95+ GL		•
Minimum ½" thick	N/A	N/A
Top Insulation Layer	<b>Insulation Fasteners</b>	Fastener
	(Table 3)	Density/ft <sup>2</sup>
ISO 95+ GL, RESISTA, ISOGARD HD Composite		
<del>-</del>		

Minimum  $1\frac{1}{2}$ " thick 1 or 2 with 3 1:1.78 ft<sup>2</sup>

Note: All Insulation 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 BASEGARD SA, self-adhered while maintaining minimum 3" side laps.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly

Base, SBS Premium Poly Base, Ply IV, Ply VI, or MB Base fully adhered in hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3" wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, or SBS Glass Torch

Base 1.5 torch adhered with minimum 3" wide side laps.

Or

One or more plies of APP 80 Glass Base, APP Premium Base, APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool fully torch adhered with minimum 3" wide side laps.

Membrane: (Not for use with APP sheets) One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS

FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, or SBS Glass FR UltraWhite fully adhered with hot asphalt applied in

the EVT range at a rate of 20-25 lbs./sq. with minimum 3" wide side laps.

Or

(Not for use with APP sheets) One ply of SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Torch, SBS Torch UltraWhite, SBS Premium Torch, SBS Premium Torch, SBS FR Torch, SBS FR Torch UltraWhite, SBS Premium FR Torch, SBS Premium FR Torch, SBS Premium FR Torch UltraWhite torch adhered with minimum 3" wide side laps.

Or

(Not for use over SBS sheets) One ply of Firestone APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool, APP Premium FR, APP 180, APP 180 UltraWhite, APP 180 Cool, APP 180 FR, APP 180 FR UltraWhite or APP 180 FR Cool torch adhered with minimum 3" wide side laps.

Maximum Design Pressure:

**-60 psf.** (See General Limitation #7)



NOA No.: 17-0825.08 Expiration Date: 02/07/23 Approval Date: 02/01/18 Page 37 of 52 **Membrane Type:** APP/SBS

Deck Type 2I: Steel, Insulated

**Deck Description:** 18-22 ga., Type B Grade 40 steel deck is secured to structural support at a maximum spacing

of 6 ft. o.c. Steel deck is attached to supports with 5/8" puddle welds spaced a maximum 6"

o.c. Side Laps are fastened at 24" o.c. with 1/4" x 1/8" HWH screws.

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

Submitted Table.

Membrane fully adhered over mechanically fastened insulation. System Type C(14):

All General and System Limitations apply.

Base Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL, RESISTA	·	•
Minimum 1" thick	N/A	N/A
Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95 + GL		

Minimum 2½" thick

1 or 2 with 3  $1:1.0 \text{ ft}^2$ 

Note: All Insulation 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 BASEGARD SA, self-adhered with a 3" lap.

(Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Polv **Ply Sheet:** 

> Base, SBS Premium Poly Base, Ply IV, Ply VI, or MB Base fully adhered in hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3" wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, or SBS Glass Torch

Base 1.5 torch adhered with minimum 3" wide side laps.

One or more plies of APP 80 Glass Base, APP Premium Base, APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool fully torch adhered with minimum 3" wide side laps.

(Not for use with APP sheets) One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS Membrane:

FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, or SBS Glass FR UltraWhite fully adhered with hot asphalt applied in

the EVT range at a rate of 20-25 lbs./sq. with minimum 3" wide side laps.

(Not for use with APP sheets) One ply of SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Torch, SBS Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Premium FR Torch, SBS Premium FR Torch UltraWhite torch adhered with minimum 3" wide side laps.

(Not for use over SBS sheets) One ply of Firestone APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool, APP Premium FR, APP 180, APP 180 UltraWhite, APP 180 Cool, APP 180 FR, APP 180 FR UltraWhite or APP 180 FR Cool torch adhered with

minimum 3" wide side laps.

**Maximum Design** 

**Pressure:** -97.5 psf. (See General Limitation #7)



NOA No.: 17-0825.08 **Expiration Date: 02/07/23** Approval Date: 02/01/18 Page 38 of 52 **Membrane Type:** APP/SBS

**Deck Type 2I:** Steel, Insulated

**Deck Description:** 18-22 ga., Type B, Grade 33 steel deck is secured to structural support at a maximum

spacing of 6 ft. o.c. Steel deck is attached to supports with 5%" puddle welds spaced a maximum 6" o.c. Side Laps are fastened at 24" o.c. with 1/4" x 7/8" HWH screws.

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

Submitted Table.

**System Type C(15):** Membrane fully adhered over mechanically fastened insulation.

All General and System Limitations apply.

<b>Base Insulation Layer (Optional)</b>	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL, RESISTA	` ,	·
Minimum 1" thick	N/A	N/A
Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95 + GL	` ,	·
Minimum 2½" thick	1 or 2 with 3	1:2.13 ft <sup>2</sup>

Note: All Insulation 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 BASEGARD SA, self-adhered with a 3" lap.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly

Base, SBS Premium Poly Base, Ply IV, Ply VI, or MB Base fully adhered in hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3" wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, or SBS Glass Torch

Base 1.5 torch adhered with minimum 3" wide side laps.

Or

One or more plies of APP 80 Glass Base, APP Premium Base, APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool fully torch adhered with minimum 3" wide side laps.

Membrane: (Not for use with APP sheets) One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS

FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, or SBS Glass FR UltraWhite fully adhered with hot asphalt applied in

the EVT range at a rate of 20-25 lbs./sq. with minimum 3" wide side laps.

Or

(Not for use with APP sheets) One ply of SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Torch, SBS Torch UltraWhite, SBS Premium Torch, SBS Premium Torch, SBS FR Torch, SBS FR Torch UltraWhite, SBS Premium FR Torch, SBS

Premium FR Torch UltraWhite torch adhered with minimum 3" wide side laps.

Or

(Not for use over SBS sheets) One ply of Firestone APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool, APP Premium FR, APP 180, APP 180 UltraWhite, APP 180 Cool, APP 180 FR, APP 180 FR UltraWhite or APP 180 FR Cool torch adhered with

minimum 3" wide side laps.

Maximum Design Pressure:

e: -52.5 psf. (See General Limitation #7)



NOA No.: 17-0825.08 Expiration Date: 02/07/23 Approval Date: 02/01/18 Page 39 of 52 **Membrane Type:** APP/SBS

**Deck Type 2I:** Steel, Insulated

**Deck Description:** 18-22 ga., Type B, Grade 33 steel deck is secured to structural support at a maximum

spacing of 6 ft. o.c. Steel deck is attached to supports with 5%" puddle welds spaced a maximum 6" o.c. Side Laps are fastened at 24" o.c. with 1/4" x 7/8" HWH screws.

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

Submitted Table.

System Type C(16): Base layer of insulation loose laid, top layer mechanically attached,,membrane fully

adhered.

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 <sup>2</sup>
ISO 95+ GL, RESISTA Minimum 1" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
SECUROCK Gypsum-Fiber Roof Board Minimum ½" thick	1 or 2 with 3	1:2.13 ft <sup>2</sup>

Note: : All Insulation 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 BASEGARD SA, self-adhered with a 3" lap.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly

Base, SBS Premium Poly Base, Ply IV, Ply VI, or MB Base fully adhered in hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3" wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, or SBS Glass Torch

Base 1.5 torch adhered with minimum 3" wide side laps.

Or

One or more plies of APP 80 Glass Base, APP Premium Base, APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool fully torch adhered with minimum 3" wide side laps.



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#### **Membrane:**

(Not for use with APP sheets) One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, or SBS Glass FR UltraWhite fully adhered with hot asphalt applied in the EVT range at a rate of 20-25 lbs./sq. with minimum 3" wide side laps. Or

(Not for use with APP sheets) One ply of SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Torch, SBS Torch UltraWhite, SBS Premium Torch, SBS Premium Torch, SBS FR Torch, SBS FR Torch UltraWhite, SBS Premium FR Torch, SBS Premium FR Torch, SBS Premium FR Torch UltraWhite torch adhered with minimum 3" wide side laps. Or

(Not for use over SBS sheets) One ply of Firestone APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool, APP Premium FR, APP 180, APP 180 UltraWhite, APP 180 Cool, APP 180 FR, APP 180 FR UltraWhite or APP 180 FR Cool torch adhered with minimum 3" wide side laps.

# **Maximum Design**

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



NOA No.: 17-0825.08 Expiration Date: 02/07/23 Approval Date: 02/01/18 Page 41 of 52 **Membrane Type:** SBS

**Deck Type 2I:** Steel, Insulated

**Deck Description:** 18-22 ga., Type B, Grade 33 steel deck is secured to structural support at a maximum

spacing of 6 ft. o.c. Steel deck is attached to supports with \( \frac{5}{8} \) puddle welds spaced a maximum 6" o.c. Side Laps are fastened at 24" o.c. with \( \frac{1}{4} \) x \( \frac{7}{8} \) HWH screws.

This Tested Assembly has been applyized for ellowable deck stress. See Evidence

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

Submitted Table.

**System Type C(17):** Membrane fully adhered over mechanically fastened insulation.

All General and System Limitations apply.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners	Fastener
	(Table 3)	Density/ft <sup>2</sup>
ISO 95+ GL, RESISTA		
Minimum 1" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners	Fastener
-	(Table 3)	Density/ft <sup>2</sup>
DensDeck Prime		
Minimum ½" thick	1 or 2 with 3	1:1.6 ft <sup>2</sup>

Note: All Insulation 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 BASEGARD SA, self-adhered with a 3" lap.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly

Base, SBS Premium Poly Base, Ply IV, Ply VI, or MB Base fully adhered in hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3" wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, or SBS Glass Torch

Base 1.5 torch adhered with minimum 3" wide side laps.

Or

One or more plies of APP 80 Glass Base, APP Premium Base, APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool fully torch adhered with minimum 3" wide side laps.

Membrane: (Not for use with APP sheets) One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS

FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, or SBS Glass FR UltraWhite fully adhered with hot asphalt applied in

the EVT range at a rate of 20-25 lbs./sq. with minimum 3" wide side laps.

Or

(Not for use with APP sheets) One ply of SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Torch, SBS Torch UltraWhite, SBS Premium Torch, SBS Premium Torch, SBS Premium FR Torch, SBS FR Torch UltraWhite, SBS Premium FR Torch, SBS Premium FR Torch UltraWhite torch adhered with minimum 3" wide side laps.

Or

(Not for use over SBS sheets) One ply of Firestone APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool, APP Premium FR, APP 180, APP 180 UltraWhite, APP 180 Cool, APP 180 FR, APP 180 FR UltraWhite or APP 180 FR Cool torch adhered with

minimum 3" wide side laps.

**Maximum Design** 

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



NOA No.: 17-0825.08 Expiration Date: 02/07/23 Approval Date: 02/01/18 Page 42 of 52 **Membrane Type:** APP/SBS

**Deck Type 2I:** Steel, Insulated

**Deck Description:** 18-22 ga., Type B Grade 40 steel deck is secured to structural support at a maximum spacing

of 6 ft. o.c. Steel deck is attached to supports with \%" puddle welds spaced a maximum 6"

o.c. Side Laps are fastened at 24" o.c. with 1/4" x 1/8" HWH screws.

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

Submitted Table.

**System Type C(18):** Membrane fully adhered over mechanically fastened insulation.

All General and System Limitations apply.

One or more layers of any of the following insulations.

Base Insulation Layer	<b>Insulation Fasteners</b>	Fastener
	(Table 3)	Density/ft <sup>2</sup>
ISO 95+ GL, RESISTA		
Minimum 1" thick	N/A	N/A
Top Insulation Layer	<b>Insulation Fasteners</b>	Fastener
	(Table 3)	Density/ft <sup>2</sup>
SECUROCK Gypsum-Fiber Roof Board	, ,	v
Minimum 1/3" thick	1 or 2 with 3	1·1 78 ft <sup>2</sup>

Minimum ½" thick 1 or 2 with 3 1:1.78 ft

Note: All Insulation 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 BASEGARD SA, self-adhered with a 3" lap.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly

Base, SBS Premium Poly Base, Ply IV, Ply VI, or MB Base fully adhered in hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3" wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, or SBS Glass Torch

Base 1.5 torch adhered with minimum 3" wide side laps.

Or

One or more plies of APP 80 Glass Base, APP Premium Base, APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool fully torch adhered with minimum 3" wide side laps.

Membrane: (Not for use with APP sheets) One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS

FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, or SBS Glass FR UltraWhite fully adhered with hot asphalt applied in

the EVT range at a rate of 20-25 lbs./sq. with minimum 3" wide side laps.

Or

(Not for use with APP sheets) One ply of SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Torch, SBS Torch UltraWhite, SBS Premium Torch, SBS Premium FR Torch, SBS FR Torch UltraWhite, SBS Premium FR Torch, SBS Premium FR Torch, SBS Premium FR Torch UltraWhite torch adhered with minimum 3" wide side laps.

Or

(Not for use over SBS sheets) One ply of Firestone APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool, APP Premium FR, APP 180, APP 180 UltraWhite, APP 180 Cool, APP 180 FR, APP 180 FR UltraWhite or APP 180 FR Cool torch adhered with

minimum 3" wide side laps.

**Maximum Design** 

**Pressure:** -90 psf. (See General Limitation #7)



NOA No.: 17-0825.08 Expiration Date: 02/07/23 Approval Date: 02/01/18 Page 43 of 52 **Membrane Type:** SBS

**Deck Type 2I:** Steel, Insulated

**Deck Description:** 18-22 ga., Type B Grade 40 steel deck is secured to structural support at a maximum spacing

of 6 ft. o.c. Steel deck is attached to supports with \( \frac{5}{8} \) puddle welds spaced a maximum 6"

o.c. Side Laps are fastened at 24" o.c. with 1/4" x 7/8" HWH screws.

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

**Submitted Table.** 

**System Type C(19):** Membrane fully adhered over mechanically fastened insulation.

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
ISO 95+ GL, RESISTA		
Minimum 1" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
SECUROCK Gypsum-Fiber Roof Board Minimum ½" thick	1 or 2 with 3	1:1.78 ft <sup>2</sup>
ISO 95+ GL Minimum 2" thick	1 or 2 with 3	1:1.78 ft <sup>2</sup>
ISOGARD HD Composite Minimum 1½" thiick	1 or 2 with 3	1:1.78 ft <sup>2</sup>

Note: All Insulation 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 BASEGARD SA, self-adhered with a 3" lap.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly

Base, SBS Premium Poly Base, Ply IV, Ply VI, or MB Base fully adhered in hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3" wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, or SBS Glass Torch

Base 1.5 torch adhered with minimum 3" wide side laps.

Or

One or more plies of APP 80 Glass Base, APP Premium Base, APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool fully torch adhered with minimum 3" wide side laps.



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### Membrane:

(Not for use with APP sheets) One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, or SBS Glass FR UltraWhite fully adhered with hot asphalt applied in the EVT range at a rate of 20-25 lbs./sq. with minimum 3" wide side laps. Or

(Not for use with APP sheets) One ply of SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Torch, SBS Torch UltraWhite, SBS Premium Torch, SBS Premium Torch, SBS FR Torch, SBS FR Torch UltraWhite, SBS Premium FR Torch, SBS Premium FR Torch, SBS Premium FR Torch UltraWhite torch adhered with minimum 3" wide side laps. Or

(Not for use over SBS sheets) One ply of Firestone APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool, APP Premium FR, APP 180, APP 180 UltraWhite, APP 180 Cool, APP 180 FR, APP 180 FR UltraWhite or APP 180 FR Cool torch adhered with minimum 3" wide side laps.

Maximum Design Pressure:

**-90 psf.** (See General Limitation #7)



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APP/SBS **Membrane Type:** 

Deck Type 2I: Steel, Insulated

**Deck Description:** 18-22 ga., Type B, Grade 33 steel deck is secured to structural support at a maximum

spacing of 6 ft. o.c. Steel deck is attached to supports with \( \frac{5}{8} \) puddle welds spaced a maximum 6" o.c. Side Laps are fastened at 24" o.c. with 1/4" x 7/8" HWH screws.

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

Submitted Table.

Membrane fully adhered over mechanically fastened insulation. System Type C(20):

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
ISO 95+ GL, RESISTA Minimum 1" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
SECUROCK Gypsum-Fiber Roof Board Minimum ½" thick	1 or 2 with 3	1:2.67 ft <sup>2</sup>
ISO 95+ GL Minimum 2" thick	1 or 2 with 3	1:2.67 ft <sup>2</sup>
ISOGARD HD Composite Minimum 1½" thiick	1 or 2 with 3	1:2.67 ft <sup>2</sup>

Note: All Insulation 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.

One ply of BASEGARD SA, self-adhered with a 3" lap. **Base Sheet:** 

(Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly **Ply Sheet:** 

> Base, SBS Premium Poly Base, Ply IV, Ply VI, or MB Base fully adhered in hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3" wide side laps.

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, or SBS Glass Torch

Base 1.5 torch adhered with minimum 3" wide side laps.

One or more plies of APP 80 Glass Base, APP Premium Base, APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool fully torch adhered with minimum 3" wide side laps.



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### Membrane:

(Not for use with APP sheets) One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, or SBS Glass FR UltraWhite fully adhered with hot asphalt applied in the EVT range at a rate of 20-25 lbs./sq. with minimum 3" wide side laps. Or

(Not for use with APP sheets) One ply of SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Torch, SBS Torch UltraWhite, SBS Premium Torch, SBS Premium Torch, SBS FR Torch, SBS FR Torch UltraWhite, SBS Premium FR Torch, SBS Premium FR Torch, SBS Premium FR Torch UltraWhite torch adhered with minimum 3" wide side laps.

Or

(Not for use over SBS sheets) One ply of Firestone APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool, APP Premium FR, APP 180, APP 180 UltraWhite, APP 180 Cool, APP 180 FR, APP 180 FR UltraWhite or APP 180 FR Cool torch adhered with minimum 3" wide side laps.

**Maximum Design** 

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



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**Deck Type 2I:** Steel, Insulated

**Deck Description:** 18-22 ga. Type B, Grade 33 steel deck is secured to structural support at a maximum spacing

of 6 ft. o.c. Steel deck is attached to supports with \( \frac{5}{8} \)" puddle welds spaced a maximum 6"

o.c. Side Laps are fastened at 24" o.c. with 1/4" x 7/8" HWH screws.

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

Submitted Table.

System Type C(21): Membrane fully adhered over mechanically fastened insulation.

All General and System Limitations apply.

Insulation Layer Insulation Fasteners Fastener (Table 3) Density/ft<sup>2</sup>

**ISOGARD HD Composite** 

Minimum 2" thick 1 or 2 with 3 1:2.67 ft<sup>2</sup>

Note: All Insulation 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 BASEGARD SA, self-adhered with a 3" lap.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly

Base, SBS Premium Poly Base, Ply IV, Ply VI, or MB Base fully adhered in hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3" wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, or SBS Glass Torch

Base 1.5 torch adhered with minimum 3" wide side laps.

Or

One or more plies of APP 80 Glass Base, APP Premium Base, APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool fully torch adhered with minimum 3" wide side laps.

Membrane: (Not for use with APP sheets) One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS

FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, or SBS Glass FR UltraWhite fully adhered with hot asphalt applied in

the EVT range at a rate of 20-25 lbs./sq. with minimum 3" wide side laps.

Or

(Not for use with APP sheets) One ply of SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Torch, SBS Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Premium FR Torch, SBS

Premium FR Torch UltraWhite torch adhered with minimum 3" wide side laps.

Or

(Not for use over SBS sheets) One ply of Firestone APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool, APP Premium FR, APP 180, APP 180 UltraWhite, APP 180 Cool, APP 180 FR, APP 180 FR UltraWhite or APP 180 FR Cool torch adhered with

minimum 3" wide side laps.

**Maximum Design** 

**Pressure:** -52.5 psf. (See General Limitation #7)



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**Deck Type 2I:** Steel, Insulated

**Deck Description:** 18-22 ga. Type B, Grade 33 steel deck is secured to structural support at a maximum spacing

of 6 ft. o.c. Steel deck is attached to supports with \( \frac{5}{8} \) puddle welds spaced a maximum 6''

o.c. Side Laps are fastened at 24" o.c. with 1/4" x 1/8" HWH screws.

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

**Submitted Table.** 

**System Type C(22):** Membrane fully adhered over mechanically fastened insulation.

All General and System Limitations apply.

Insulation Layer Insulation Fasteners Fastener (Table 3) Density/ft<sup>2</sup>

**ISOGARD HD Composite** 

Minimum 2" thick 1 or 2 with 3 1:4.0 ft<sup>2</sup>

Note: All Insulation 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 BASEGARD SA, self-adhered with a 3" lap.

Ply Sheet: (Optional) One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly

Base, SBS Premium Poly Base, Ply IV, Ply VI, or MB Base fully adhered in hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3" wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, or SBS Glass Torch

Base 1.5 torch adhered with minimum 3" wide side laps.

Or

One or more plies of APP 80 Glass Base, APP Premium Base, APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool fully torch adhered with minimum 3" wide side laps.

Membrane: (Not for use with APP sheets) One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS

FR Cap UltraWhite, SBS Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, or SBS Glass FR UltraWhite fully adhered with hot asphalt applied in

the EVT range at a rate of 20-25 lbs./sq. with minimum 3" wide side laps.

Or

(Not for use with APP sheets) One ply of SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Torch, SBS Torch UltraWhite, SBS Premium Torch, SBS Premium Torch, SBS FR Torch, SBS FR Torch UltraWhite, SBS Premium FR Torch, SBS

Premium FR Torch UltraWhite torch adhered with minimum 3" wide side laps.

Or

(Not for use over SBS sheets) One ply of Firestone APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool, APP Premium FR, APP 180, APP 180 UltraWhite, APP 180 Cool, APP 180 FR, APP 180 FR UltraWhite or APP 180 FR Cool torch adhered with

minimum 3" wide side laps.

**Maximum Design** 

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



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**Deck Type 2I:** Steel, Insulated

**Deck Description:** 18-22 ga., Type B, Grade 33 steel deck is secured to structural support at a maximum

spacing of 6 ft. o.c. Steel deck is attached to supports with #12-24 x 1<sup>1</sup>/<sub>4</sub>" HWH screws spaced a maximum 6" o.c. Side Laps are fastened at 12" o.c. with <sup>1</sup>/<sub>4</sub>" x <sup>7</sup>/<sub>8</sub>" HWH screws. **This Tested Assembly has been analyzed for allowable deck stress. See Evidence** 

Submitted Table.

System Type D(1): All layers of insulation simultaneously mechanically fastened with base sheet

All General and System Limitations apply.

Base Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL, RESISTA		
Minimum ½" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
ISO 95+ GL, RESISTA, ISOGARD HD Composite		
Minimum 1½" thick	N/A	N/A
DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board		
Minimum ½" thick	N/A	N/A

Note: Insulation shall be loose-laid and membrane mechanically fastened. See base sheet attachment below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements.

**Base Sheet:** One ply of SBS Poly Base mechanically fastened through the insulation with Firestone

Heavy-Duty fasteners and Coiled Metal Batten Bar spaced 18" o.c. at the minimum 3" side

laps.

**Ply Sheet:** One ply of BASEGARD SA self-adhered to base sheet with minimum 3" side laps.

Membrane: One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS

Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, or SBS Glass FR UltraWhite fully adhered with hot asphalt applied in the EVT range at a rate

of 20-25 lbs./sq. with minimum 3" wide side laps.

Or

One ply of SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Torch, SBS Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Premium FR Torch, SBS Premium FR Torch UltraWhite torch

adhered with minimum 3" wide side laps.

Or

One ply of Firestone APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool, APP Premium FR, APP 180, APP 180 UltraWhite, APP 180 Cool, APP 180 FR, APP 180 FR

UltraWhite or APP 180 FR Cool torch adhered with minimum 3" wide side laps.

**Maximum Design** 

**Pressure:** -52.5 psf (See General Limitation #7.)



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**Deck Type 2I:** Steel, Insulated

**Deck Description:** 18-22 ga., Type B, Grade 33 steel deck is secured to structural support at a maximum

spacing of 6 ft. o.c. Steel deck is attached to supports with #12-24 x 1½" HWH screws spaced a maximum 6" o.c. Side Laps are fastened at 24" o.c. with ½" x ½" HWH screws. This Tested Assembly has been analyzed for allowable deck stress. See Evidence

Submitted Table.

**System Type D(2):** All layers of insulation simultaneously mechanically fastened with base sheet.

All General and System Limitations apply.

Base Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft <sup>2</sup>
ISO 95+ GL, RESISTA Minimum ½" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL, RESISTA Minimum 1" thick	N/A	N/A
ISOGARD HD Composite Minimum 1½" thick	N/A	N/A
DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board Minimum ¼" thick	N/A	N/A

Note: Insulation shall be loose-laid and membrane mechanically fastened. See base sheet attachment below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements.

**Base Sheet:** One ply of SBS Base mechanically fastened through the insulation with Firestone All-

Purpose fasteners and Firestone Insulation Fastening Plates spaced 12" o.c. at the minimum

3.4" side laps and 12" o.c. in two staggered rows in the field of the roll.

**Ply Sheet:** One ply of BASEGARD SA self-adhered to base sheet with minimum 3" side laps.

Membrane: One ply of SBS Cap, SBS Cap UltraWhite, SBS FR Cap, SBS FR Cap UltraWhite, SBS

Premium, SBS Premium FR, SBS Premium FR UltraWhite, SBS Glass, SBS Glass FR, or SBS Glass FR UltraWhite fully adhered with hot asphalt applied in the EVT range at a rate

of 20-25 lbs./sq. with minimum 3" wide side laps.

Or

One ply of SBS Glass FR Torch, SBS Glass FR Torch UltraWhite, SBS Torch, SBS Torch UltraWhite, SBS Premium Torch, SBS Premium Torch UltraWhite, SBS FR Torch, SBS FR Torch UltraWhite, SBS Premium FR Torch, SBS Premium FR Torch UltraWhite torch

adhered with minimum 3" wide side laps.

Or

One ply of Firestone APP 160, APP 160 P, APP 160 Cool, APP 170, or APP 170 Cool, APP Premium FR, APP 180, APP 180 UltraWhite, APP 180 Cool, APP 180 FR, APP 180 FR UltraWhite or APP 180 FR Cool torch adhered with minimum 3" wide side laps.

**Maximum Design** 

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



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## STEEL DECK SYSTEM LIMITATIONS:

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

## GENERAL LIMITATIONS:

- 1. Fire classification is not part of this acceptance, refer to a current Approved Roofing Materials Directory for fire ratings of this product.
- 2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
- 3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
- 4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each sidelap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq.

# Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.

- 5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. insulation attachment shall not be acceptable.
- 6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
- 7. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased for both insulation and base sheet as calculated in compliance with Roofing Application Standard RAS 117. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant (When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)
- 8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform with Roofing Application Standard RAS 111 and applicable wind load requirements.
- 9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). (When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)
- 10. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 61G20-3 of the Florida Administrative Code.

# END OF THIS ACCEPTANCE



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