



**DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION
NOTICE OF ACCEPTANCE (NOA)**

**MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION**
11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
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www.miamidade.gov/economy

**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 Modified Bitumen Roof Systems over Concrete Decks.

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

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

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

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

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

This NOA renews and revises NOA No. 16-0202.10 and consists of pages 1 through 60.
The submitted documentation was reviewed by Jorge L. Acebo.



**NOA No.: 16-0628.06
Expiration Date: 03/08/26
Approval Date: 02/25/21
Page 1 of 60**

ROOFING SYSTEM APPROVAL

Category:	Roofing
Sub-Category:	Modified Bitumen
Material:	APP/SBS
Deck Type:	Concrete
Maximum Design Pressure:	-532.5 psf.

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
APP 80 Glass Base	39.4" x 65'4"	ASTM D6509	Fiberglass reinforced modified bitumen, smooth surfaced base sheet.
SBS Glass Torch Base	39.4" x 33'10"	ASTM D6163	Modified bitumen base sheet with a burn-off film and reinforced with non-woven fiberglass mat.
SBS Base	39.4" x 50'	ASTM D6163	Fiberglass reinforced SBS base sheet. Applied in hot asphalt or mechanically attached.
SBS Premium Base	39.6" x 50'	ASTM D6163	Fiberglass reinforced SBS base sheet. Applied in hot asphalt or Multi-Purpose MB Cold Adhesive.
SBS PolyBase	39.6" x 50'	ASTM D6164	A smooth surfaced, non-woven polyester reinforced, modified bitumen base sheet.
SBS Premium Poly Base	39.4" x 50"	ASTM D6164	Polyester reinforced, SBS modified bitumen membrane with sanded surfaces.
SBS Poly Torch Base	45" x 39"	ASTM D6164	Fiberglass reinforced modified bitumen membrane, SBS rubber modified asphalt reinforced with a non-woven polyester mat.
Ply IV	33" x 180"	ASTM D2178	Fiberglass reinforced, asphalt impregnated, roofing ply. Applied in hot asphalt.
Ply VI	33" x 180"	ASTM D2178	Fiberglass reinforced, asphalt impregnated, roofing ply. Applied in hot asphalt.
MB Base	36" x 108'	ASTM D4601	Fiberglass reinforced base sheet, asphalt coated on both sides. Applied in hot asphalt or mechanically attached.
SBS Smooth	39.4" x 33'10"	ASTM D6164	Smooth surfaced, modified bitumen membrane reinforced with non-woven polyester mat. Applied in hot asphalt.
APP 160	39" x 32'10"	ASTM D6222	Polyester reinforced APP modified bitumen, smooth surfaced membrane with burn-off film.
APP 160 Cool	39" x 32'10"	ASTM D6222	Polyester reinforced APP modified bitumen, smooth surfaced membrane.
APP 160-P	39.4" x 32'9"	ASTM D6222	Polyester reinforced modified bitumen, smooth surfaced membrane. Torch applied for use as a base or ply sheet only.
APP 170	39" x 32'10"	ASTM D6222	Polyester reinforced APP modified bitumen, smooth surfaced membrane.
APP 170 Cool	39.6" x 33'6"	ASTM D6222	Polyester reinforced modified bitumen, smooth surfaced membrane.
APP 180	39.4" x 32'10"	ASTM D6222	Polyester reinforced modified bitumen, granule surfaced membrane. Torch applied.



TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
APP 180-P	39.4" x 32'9"	ASTM D6222	Polyester reinforced modified bitumen, granule surfaced membrane. Torch applied.
APP 180 UltraWhite	39.4" x 32'10"	ASTM D6222	Polyester reinforced modified bitumen, UltraWhite granule surfaced membrane. Torch applied.
APP 180 FR	39.4" x 32'10"	ASTM D6222	Polyester reinforced, fire retardant modified bitumen, granule surfaced membrane. Torch applied.
APP 180 FR UltraWhite	39.4" x 32'10"	ASTM D6222	Polyester reinforced, fire retardant modified bitumen, UltraWhite granule surfaced membrane. Torch applied.
APP 180 Cool	39.4" x 32'10"	ASTM D6222	Polyester reinforced modified bitumen, granule surfaced membrane.
APP 180 FR Cool	39.4" x 32'10"	ASTM D6222	Polyester reinforced, fire retardant modified bitumen, granule surfaced membrane. Torch applied.
APP Premium Base	39.4" x 65'4"	ASTM D6509	Fiberglass reinforced APP modified bitumen, smooth surfaced base sheet.
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 33'10"	ASTM D6163	Fiberglass reinforced, granule surfaced, modified bitumen membrane. Applied in hot asphalt.
SBS Glass FR	39.4" x 33'10"	ASTM D6163	Fiberglass reinforced, fire rated, granule surfaced, modified bitumen membrane. Applied in hot asphalt.
SBS Glass FR UltraWhite	39.4" x 33'10"	ASTM D6163	UltraWhite fiberglass reinforced, granule surfaced, modified bitumen membrane. Applied in hot asphalt.
SBS Torch	48" x 39"	ASTM D6164	Granule surfaced, SBS cap reinforced with a non-woven polyester mat, with burn off film and fiberglass enhanced.
SBS Torch UltraWhite	48" x 39"	ASTM D6164	UltraWhite granule surfaced, SBS cap reinforced with a non-woven polyester mat, with burn off film and fiberglass enhanced.
SBS FR Torch	48" x 39"	ASTM D6164	Granule surfaced, fire rated, SBS cap reinforced with a non-woven polyester mat, with burn off film and fiberglass enhanced.
SBS FR Torch UltraWhite	48" x 39"	ASTM D6164	UltraWhite granule surfaced, fire rated, SBS cap reinforced with a non-woven polyester mat, with burn off film and fiberglass enhanced.
SBS Glass FR Torch	39.4" x 33'10"	ASTM D6163	Fiberglass reinforced, fire rated, granule surfaced, modified bitumen membrane. with burn off film and fiberglass enhanced.



TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
SBS Glass FR Torch UltraWhite	39.4" x 33'10"	ASTM D6163	UltraWhite fiberglass reinforced, fire rated, granule surfaced, modified bitumen membrane. with burn off film and fiberglass enhanced.
SBS Cap	39.4" x 33'10"	ASTM D6164	Granule surfaced, modified bitumen membrane reinforced with non-woven polyester mat.
SBS Cap UltraWhite	39.4" x 33'10"	ASTM D6164	UltraWhite granule surfaced, modified bitumen membrane reinforced with non-woven polyester mat.
SBS FR Cap	39.4" x 33'10"	ASTM D6164	Granule surfaced, modified bitumen membrane reinforced with non-woven polyester mat.
SBS FR Cap UltraWhite	39.4" x 33'10"	ASTM D6164	UltraWhite granule surfaced, modified bitumen membrane reinforced with non-woven polyester mat.
SBS Premium FR	39.4" x 33'10"	ASTM D6164	Granule surfaced, fire rated, modified bitumen membrane reinforced with non-woven polyester mat.
SBS Premium FR UltraWhite	39.4" x 33'10"	ASTM D6164	UltraWhite granule surfaced, fire rated, modified bitumen membrane reinforced with non-woven polyester mat.
SBS Premium	39.4" x 33'10"	ASTM D6164	Granule surfaced, modified bitumen membrane reinforced with polyester mat. Applied in hot asphalt.
SBS Premium Torch	39.4" x 33'10"	ASTM D6164	Granule surfaced, modified bitumen membrane with a burn-off film and reinforced with non-woven polyester mat.
SBS Premium Torch UltraWhite	39.4" x 33'10"	ASTM D6164	UltraWhite granule surfaced, modified bitumen membrane with a burn-off film and reinforced with non-woven polyester mat.
SBS Premium FR Torch	39.4" x 33'10"	ASTM D6164	Granule surfaced, fire rated, modified bitumen membrane with a burn-off film and reinforced with non-woven polyester mat.
SBS Premium FR Torch UltraWhite	39.4" x 33'10"	ASTM D6164	UltraWhite granule surfaced, fire rated, modified bitumen membrane with a burn-off film and reinforced with non-woven polyester mat.
I.S.O. Twin Pack Insulation Adhesive	Dual 750 ml cartridges	Proprietary	A two-component polyurethane insulation adhesive.
I.S.O. FIX II	30 lb.	Proprietary	A single component polyurethane insulation adhesive.
I.S.O. Stick	5 gal.	Proprietary	A two-component polyurethane insulation adhesive.
Multi-Purpose MB Cold Adhesive	55 gal.	Proprietary	An asphalt based adhesive.



APPROVED INSULATIONS:

TABLE 2

<u>Product Name</u>	<u>Product Description</u>	<u>Manufacturer (With Current NOA)</u>
ISO 95+ GL (and Tapered),	Polyisocyanurate Insulation board with glass reinforced organic facer	Firestone Building Products Company, LLC
RESISTA (and Tapered)	Polyisocyanurate Insulation board with coated fiberglass facer	Firestone Building Products Company, LLC
ISOGARD HD	High density Polyisocyanurate roof board with a coated fiberglass facer	Firestone Building Products Company, LLC
ISOGARD HD Composite	Polyisocyanurate foam core laminated to ISOGARD HD board	Firestone Building Products Company, LLC
DensDeck, DensDeck Prime	Silicon treated gypsum	Georgia Pacific Gypsum LLC
SECUROCK Gypsum-Fiber Roof Board	Gypsum Cover board	United States Gypsum Corporation

APPROVED FASTENERS:

TABLE 3

<u>Fastener Number</u>	<u>Product Name</u>	<u>Product Description</u>	<u>Dimensions</u>	<u>Manufacturer (With Current NOA)</u>
1.	Firestone All-Purpose	Insulation and membrane fastener	Various	Firestone Building Products Company, LLC
2.	Firestone Heavy-Duty	Insulation and membrane fastener	Various	Firestone Building Products Company, LLC
3.	Concrete Drive Fastener	1/4" diameter concrete deck fastener.	Various	Firestone Building Products Company, LLC
4.	MB 2" Barbed Metal Seam Plate	Metal plates used for membrane securement.	2" dia	Firestone Building Products Company, LLC
5.	2" Metal Plate	Membrane attachment plate.	2" dia	Firestone Building Products Company, LLC
6.	Insulation Fastening Plate	Insulation plate for use with Firestone Fasteners	3" round	Firestone Building Products Company, LLC
7.	#14 Roofgrip	Insulation and membrane fastener	Various	OMG, Inc.
8.	Coiled Metal Batten Bar	Galvalume AZ55 Batten Bar	220' x 1"	Firestone Building Products Company, LLC



EVIDENCE SUBMITTED:

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Description</u>	<u>Date</u>	
FM Approvals	1D5A8.AM	FM 4470	09/09/98	
	3003597	FM 4470	07/14/99	
	3004786	FM 4470	05/16/00	
	3005030	FM 4470	08/08/00	
	3014031	FM 4470	07/22/02	
	3022502	FM 4470	01/29/07	
	3030227	FM 4470	06/18/07	
	3007328	FM 4470	07/12/02	
	3014692	FM 4470	08/05/03	
	3033218	FM 4470	08/04/10	
	3035017	FM 4470	08/04/10	
	3031943	FM 4470	09/25/09	
	3033921	FM 4470	08/04/10	
	3030107	FM 4470	12/24/09	
	3009613	FM 4470	03/03/11	
	3028093	FM 4470	03/03/11	
	3040795	FM 4470	03/24/11	
	3041534	FM 4470	03/09/11	
	3042392	FM 4470	06/08/11	
	3035560	FM 4470	01/11/10	
	3038191	FM 4470	08/04/11	
	3040306	FM 4470	09/07/11	
	3046333	FM 4470	08/10/12	
	3047398	FM 4470	08/15/13	
	3037346	FM 4470	03/09/11	
	3040109	FM 4470	03/09/11	
	3044047	FM 4470	08/15/13	
	UL LLC	R9516	UL 790	02/01/21
	Trinity ERD	4810.01.96-1	TAS 114-C & TAS 114-D	01/31/96
		F8800.01.08-R1	TAS 114	04/21/08
		F10370.05.08	ASTM C1289	05/08/08
		F10500.10.08-1R2	ASTM D6163	08/26/08
F31960.05.10-1		ASTM D4977	05/19/10	
F31960.05.10-2		ASTM D4977	05/19/10	
F31960.08.10-1		ASTM D4977	08/25/10	
F31960.08.10-2-R1		ASTM D4977	08/25/10	
F354005.11		ASTM Physical Properties	05/31/11	
F41070.08.12		ASTM D6222	08/24/12	
U41790.05.12-2-R2		ASTM D6222	02/11/13	
U41790.05.12-1-R1		ASTM D6222	01/21/13	
IRT-ARCON, Inc.	02-010, 02-011	TAS 114	01/28/02	
Atlantic & Caribbean Roof Consulting, LLC.	03-002	TAS 114	03/06/03	



EVIDENCE SUBMITTED: (CONTINUED)

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Description</u>	<u>Date</u>
PRI Construction Materials Technologies LLC	FBP-043-02-03	ASTM D6164	07/26/11
	FBP-043-02-02	ASTM D6164	08/02/11
	FBP-043-02-04	ASTM D6164	07/26/11
	FBP-043-02-01	ASTM D6164	08/02/11
	FBP-042-02-01	ASTM D6164	07/26/11
	FBP-042-02-02	ASTM D6164	07/27/11
	FBP-058-02-01	ASTM D4601	12/12/08
	FBP-057-02-01	ASTM D2178	12/12/08
	FBP-056-02-01	ASTM D2178	12/12/08
	FBP-087-02-01	ASTM D4798	03/22/13
	FBP-088-02-01	ASTM D4798	03/22/13
	FBP-106-02-01	TAS 114(J)	04/19/13
	FBP-109-02-01	TAS 114(J)	04/19/13
	FBP-113-02-01	TAS 114(J)	04/17/13
	FBP-114-02-01	TAS 114(J)	04/19/13
	FBP-118-02-01.1	TAS 114(J)	01/02/14
	FBP-123-02-01	TAS 114(J)	07/26/13
	FBP-124-02-01	TAS 114(J)	08/02/13
	FBP-126-02-01	ASTM D6163	12/03/13
	FBP-127-02-01	ASTM D6164	11/20/13
	FBP-130-02-01	TAS 114(D)	08/23/13
	FBP-132-02-01	TAS 114(D)	08/23/13
	FBP-133-02-01 Rev.3	TAS 114(J)	02/10/14
	FBP-133-02-02 Rev.1	TAS 114(J)	01/02/14
	FBP-141-02-01	TAS 114(J)	12/18/13
	FBP-142-02-01 Rev.1	TAS 114(J)	01/02/14
	FBP-142-02-02 Rev.1	TAS 114(J)	10/01/13
	FBP-050-02-01	ASTM D 5147	11/29/11
	FBP-053-02-01 Rev 1	TAS 110	10/08/12
	FBP-064-02-01	ASTM D 6509	08/02/12
	FBP-074-02-01 Rev 1	ASTM D 6222	01/31/13
	FBP-076-02-01	TAS 110	10/23/12
	FBP-091-02-01	ASTM D 6223	03/25/13
FBP-166-02-01	ASTM D 6163	05/15/14	
FBP-168-02-03	ASTM D 6164	07/14/14	
FBP-152-02-01	TAS 114(D)	12/18/13	
FBP-059-02-01.4	ASTM D903/D1876/D5147 TAS 117(B)/114(D) &(H)	06/03/14	



APPROVED ASSEMBLIES

- Membrane Type:** SBS
- Deck Type 3I:** Concrete Decks, Insulated
- Deck Description:** 2500 psi structural concrete or concrete plank
- System Type A(1):** One or more layers of insulation adhered with approved asphalt.

All General and System Limitations apply.

One or more layers of any of the following insulations:

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL or RESISTA Minimum 1.5” thick	N/A	N/A
<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board Minimum ¼” thick	N/A	N/A

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of insulation. All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-25 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One ply of Firestone SBS Base, SBS Premium Base, SBS Poly Base (**not over SECUROCK**), SBS Premium Poly Base (**not over SECUROCK**), or SBS Smooth (**not over SECUROCK**) sheet fully adhered to the top insulation layer in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-25 lbs./sq.

Ply Sheet (Optional): One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base (hot asphalt only), Ply IV (hot asphalt only), Ply VI (hot asphalt only), MB Base (hot asphalt only), fully adhered with Firestone Multi-Purpose MB Cold Adhesive (**over SBS Base, SBS Poly Base, SBS Smooth, or SBS Premium Base only**) applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
Or
(**over SBS Premium Poly Base only**) One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide 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, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive (**only over SBS Base, SBS Poly Base, SBS Smooth, or Premium Base**) applied at a rate of 1.5-2.0 gal./sq. or hot asphalt (**over MB Base, SBS Base, SBS Poly Base, SBS Premium Base, SBS Premium Poly Base, Ply IV, Ply VI, or SBS Smooth**) applied in the EVT range at a rate of 20-25 lbs./sq. with minimum 3 in. wide side laps.

Or

(**over SBS Glass Torch Base, SBS Glass Torch Base 1.5, SBS Premium Poly Base, or SBS Poly Torch Base, or SBS Base only**) 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 in. wide side laps.

Maximum Design Pressure:

-45 psf. (See General Limitation #9)



Membrane Type: APP/SBS
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type A(2): One or more layers of insulation adhered with approved asphalt

All General and System Limitations apply.

Primer (Optional): Concrete deck primed using ASTM D41 primer

One or more layers of any of the following insulations:

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
RESISTA Minimum 1.5" thick	N/A	N/A
<u>Middle Insulation Layer (Optional)</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
RESISTA Minimum 1.5" thick	N/A	N/A
<u>Top Insulation Layer (Optional)</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
Tapered RESISTA ½" start with ¼" taper	N/A	N/A

Note: Insulation shall be adhered to the deck with I.S.O. Twin Pack Insulation Adhesive applied in ½" to ¾" wide ribbons spaced 12" o.c. or with I.S.O. Stick or I.S.O. Fix II applied in ¾" to 1" ribbons spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One or more plies of Firestone SBS Base, SBS Premium Base, SBS Poly Base, or SBS Smooth sheet fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at 1.5 to 2 gal./sq.

Ply Sheet (Optional): One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base (hot asphalt only), Ply IV (hot asphalt only), Ply VI (hot asphalt only), MB Base (hot asphalt only), fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3" wide 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, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive (**only over SBS Base, SBS Poly Base, SBS Smooth, or Premium Base**) applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-25 lbs./sq. with minimum 3 in. wide side laps.

Surfacing (Optional): Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following to obtain required fire classification.

1. Gravel or slag at 400 lbs./sq. or 300 lbs./sq, respectively, in a flood coat of approved asphalt at 60 lbs./sq.
2. Karnak 97 Fibrated Aluminum Asphalt Roof Coating or Asbestos Free Aluminum Roof Coating at 1½ gal./sq.

Maximum Design Pressure: -52.5 psf. (See General Limitation #9)



Membrane Type: APP/SBS
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type A(3): One or more layers of insulation adhered with approved asphalt.

All General and System Limitations apply.

One or more layers of any of the following insulations:

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL Minimum 1.5" thick	N/A	N/A

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of vapor barrier or insulation. Insulation shall be adhered to the deck with I.S.O. Fix II applied in 3/4" wide ribbons spaced 8" o.c., or I.S.O. Stick in 3/4" to 1" ribbons spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet One or more plies of Firestone SBS Base, SBS Smooth, SBS Poly Base, or SBS Premium Base sheet fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at 1½ - 2 gal./sq.

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, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide 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, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive (**only over SBS Base, SBS Poly Base, SBS Smooth, or Premium Base**) applied at a rate of 1.5 to - 2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-25 lbs./sq. with minimum 3" wide side laps.

Surfacing (Optional): Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following to obtain required fire classification.

1. Gravel or slag at 400 lbs./sq. or 300 lbs./sq, respectively, in a flood coat of approved asphalt at 60 lbs./sq.
2. Karnak 97 Fibrated Aluminum Asphalt Roof Coating or Asbestos Free Aluminum Roof Coating at 1½ gal./sq.

Maximum Design Pressure: -67.5 psf. (See General Limitation #9)



Membrane Type: APP/SBS
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type A(4): One or more layers of insulation adhered with approved asphalt.

All General and System Limitations apply.

One or more layers of any of the following insulations:

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL Minimum 1.5" thick	N/A	N/A

Note: Insulation shall be adhered to an ASTM D41 primed deck with I.S.O. Twin Pack Insulation Adhesive applied in 1/2" to - 3/4" wide ribbons spaced 12" in. o.c. or I.S.O. Stick in 3/4" to -1" ribbons spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One or more plies of Firestone Ply IV, Ply VI SBS Base, SBS Poly Base, SBS Smooth or SBS Premium Base sheet fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at 1 1/2 - 2 gal./sq.

Ply sheet (Optional): One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base (hot asphalt only), Ply IV (hot asphalt only), Ply VI (hot asphalt only), MB Base (hot asphalt only), fully adhered with Firestone Multi-Purpose MB Cold Adhesive **(over SBS Base, SBS Poly Base, SBS Smooth, or SBS Premium Base only)** applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide 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, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive **(only over SBS Base, SBS Poly Base, SBS Smooth, or Premium Base)** applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-25 lbs./sq. with minimum 3 in. wide side laps.

Or

(Only over SBS Base, SBS Poly Base, SBS Premium Base) One ply of Firestone APP 170 Cool, APP 180 Cool or APP 180 FR Cool fully adhered to the base sheet with Firestone Multi-Purpose MB Cold Adhesive applied at 1 1/2 - 2 gal./sq.

Surfacing (Optional): ***Required over APP 170 Cool, APP 180 Cool, APP 180 FR Cool.**

Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following to obtain required fire classification.

1. Gravel or slag at 400 lbs./sq. or 300 lbs./sq, respectively, in a flood coat of approved asphalt at 60 lbs./sq.
2. Karnak 97 Fibrated Aluminum Asphalt Roof Coating or Asbestos Free Aluminum Roof Coating at 1 1/2 gal./sq.

Maximum Design Pressure:

-67.5 psf. (See General Limitation #9)



Membrane Type: APP/SBS
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type A(5): One or more layers of insulation adhered with approved asphalt.

All General and System Limitations apply.

One or more layers of any of the following insulations:

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISOGARD HD Minimum ½” thick	N/A	N/A

Note: Insulation shall be adhered to the deck with I.S.O. Stick applied in ¾” to 1” ribbons spaced 12” o.c. or I.S.O. Fix II applied in ¾” to 1” ribbons spaced 4” o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment

Base Sheet: One or more plies of Firestone SBS Base, SBS Poly Base, SBS Smooth, SBS Premium Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at 1½ - 2 gal./sq.

Ply sheet (Optional): One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base (hot asphalt only), Ply IV (hot asphalt only), Ply VI (hot asphalt only), fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide 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, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive (**only over SBS Base, SBS Poly Base, SBS Smooth, or Premium Base**) applied at a rate of 1.5-2.0 gal./sq. or hot asphalt (**over MB Base, SBS Base, SBS Poly Base, SBS Premium Base, SBS Premium Poly Base, Ply IV, Ply VI, or SBS Smooth**) applied in the EVT range at a rate of 20-25 lbs./sq. with minimum 3 in. wide side laps.
 Or
(Only over SBS Base, SBS Poly Base, SBS Premium Base) One ply of Firestone APP 170 Cool, APP 180 Cool or APP 180 FR Cool fully adhered to the base sheet with Firestone Multi-Purpose MB Cold Adhesive applied at 1½ - 2 gal./sq.

Surfacing (Optional): ***Required over APP 160, APP 160 P, APP 170, APP 170 Cool, APP 180-P, APP 180 Cool, APP 180 FR Cool, SBS Smooth.**

Install one of the following to obtain required fire classification.

1. Roof Gravel in Firestone Multi-Purpose MB Cold Adhesive.
2. Roof Gravel in a flood coat of approved asphalt.

Maximum Design Pressure: -67.5 psf. (See General Limitation #9)



Membrane Type: SBS
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type A(6): All layers of insulation adhered with approved adhesive.

All General and System Limitations apply.

Vapor Barrier (Optional): One ply of Firestone SBS Poly Torch Base or SBS Glass Torch Base sheet, torch applied.

One or more layers of any of the following insulations:

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL or RESISTA Minimum 1.5" thick	N/A	N/A
<u>Middle Insulation Layer (Optional)</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL or RESISTA Minimum 1.5" thick	N/A	N/A
<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board Minimum ¼" thick	N/A	N/A

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of vapor barrier or insulation. All insulation shall be adhered to the deck with I.S.O. Twin Pack Insulation Adhesive applied in ½" to ¾" wide ribbons spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Base Sheet: One or more plies of Firestone SBS Poly Torch Base, or SBS Glass Torch Base, sheet is torch adhered to the coverboard.

Ply sheet (Optional): One or more plies of SBS Glass Torch Base, SBS Poly Torch Base, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Membrane: 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 in. wide side laps.

Surfacing (Optional): Install one of the following to obtain required fire classification. Any coating, listed below, used as a surfacing, must be listed within a current NOA.

1. Roof Gravel in Firestone Multi-Purpose MB Cold Adhesive.
2. Roof Gravel in a flood coat of approved asphalt.
3. Karnak 169 Aluminum Coating.

Maximum Design Pressure: -127.5 psf. (See General Limitation #9)



Membrane Type: SBS
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type A(7): Base sheet adhered with approved asphalt.

All General and System Limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL or RESISTA Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
DensDeck Prime, or SECUROCK Gypsum-Fiber Roof Board Minimum ¼" thick	N/A	N/A

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of insulation. All insulation shall be adhered to the deck in full mopping of approved asphalt at a rate of 20-25 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One or more plies of Firestone SBS Poly Torch Base, SBS Glass Torch Base, or **(Over DensDeck only)** SBS Glass Torch Base 1.5 sheet is torch adhered to the coverboard.

Ply sheet (Optional): One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Membrane: 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 in. wide side laps.

Surfacing (Optional): (Optional) Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following to obtain required fire classification.

1. Gravel or slag at 400 lbs./sq. or 300 lbs./sq, respectively, in a flood coat of approved asphalt at 60 lbs./sq.
2. Karnak 97 Fibrated Aluminum Asphalt Roof Coating or Asbestos Free Aluminum Roof Coating at 1½ gal./sq.

Maximum Design Pressure: -127.5 psf. (See General Limitation #9)



Membrane Type: APP
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type A(8): All layers of insulation adhered with approved adhesive.

All General and System Limitations apply.

Vapor Barrier: One ply of Firestone SBS Poly Torch Base or SBS Glass Torch Base sheet, torch applied.

One or more layers of any of the following insulations:

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL or RESISTA Minimum 1.5” thick	N/A	N/A
<u>Middle Insulation Layer (Optional)</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL or RESISTA Minimum 1.5” thick	N/A	N/A
<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
DensDeck, DensDeck Prime Minimum ¼” thick	N/A	N/A

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of vapor barrier. All insulation shall be adhered to the deck with I.S.O. Twin Pack Insulation Adhesive applied in ½” to ¾” wide ribbons spaced 12” o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Base Sheet: One ply of Firestone APP 160 P torch applied.

Membrane: One ply of Firestone APP 180, APP 180-P, APP 180 UltraWhite, APP 180 FR, APP 180 FR UltraWhite, torch applied.

Surfacing (Optional): ***Required over APP 180-P.**
 Install one of the following to obtain required fire classification. Any coating, listed below, used as a surfacing, must be listed within a current NOA.

1. Roof Gravel in Firestone Multi-Purpose MB Cold Adhesive.
2. Roof Gravel in a flood coat of approved asphalt.
3. Karnak 169 Aluminum Coating.

Maximum Design Pressure: -232.5 psf. (See General Limitation #9)



Membrane Type: APP
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type A(9): Base sheet adhered with approved asphalt.

All General and System Limitations apply.

Vapor Barrier: One ply of Firestone SBS Poly Torch Base or SBS Glass Torch Base sheet, torch applied.

One or more layers of any of the following insulations:

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL or RESISTA Minimum 1.5" thick	N/A	N/A
<u>Middle Insulation Layer (Optional)</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL or RESISTA Minimum 1.5" thick	N/A	N/A
<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
DensDeck, DensDeck Prime Minimum ¼" thick	N/A	N/A

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of vapor barrier. All insulation shall be adhered to the deck with I.S.O. Twin Pack Insulation Adhesive applied in ½" to ¾" wide ribbons spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Base Sheet: A perforated ASTM D4897, Type II approved base sheet shall be laid over the top insulation layer prior to the application of the succeeding sheets.

Ply Sheet: One ply of Firestone Ply IV, Ply VI ply sheet applied in a full mopping of approved asphalt applied at a rate of 20-25 lbs./sq.

Membrane: One ply of Firestone APP 180, APP 180-P, APP 180 UltraWhite, APP 180 FR, APP 180 FR UltraWhite, torch applied.

Surfacing (Optional): ***Required over APP 160, APP 160 P, APP 170, APP 180-P.**
 Install one of the following to obtain required fire classification. Any coating, listed below, used as a surfacing, must be listed within a current NOA.

1. Roof Gravel in Firestone Multi-Purpose MB Cold Adhesive.
2. Roof Gravel in a flood coat of approved asphalt.
3. Karnak 169 Aluminum Coating.

Maximum Design Pressure: -232.5 psf. (See General Limitation #9)



Membrane Type: SBS
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type A(10): Insulation adhered with approved adhesive.

All General and System Limitations apply.

One or more layers of any of the following insulations:

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL Minimum 2” thick	N/A	N/A
RESISTA Minimum 2” thick	N/A	N/A

Note: Base insulation layer shall be adhered to the deck with I.S.O. Stick, I.S.O. FixIX II, or I.S.O. Twin Pack Insulation Adhesive in ribbons 12” o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
SECUROCK Gypsum-Fiber Roof Board Minimum ¼” thick	N/A	N/A

Note: Top insulation layer shall be adhered with I.S.O. Stick, I.S.O. Fix II, applied in continuous ¾” to 1” wide ribbons spaced 12” o.c. or I.S.O. Twin Pack Insulation Adhesive applied in ½” to ¾” wide ribbons spaced 12” o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One or more plies of Firestone SBS Poly Torch Base torch applied.
Membrane: One ply of Firestone SBS Premium FR Torch or SBS Premium FR Torch UltraWhite, torch applied.
Surfacing (Optional): Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following to obtain required fire classification.

1. Gravel or slag at 400 lbs./sq. or 300 lbs./sq, respectively, in a flood coat of approved asphalt at 60 lbs./sq.
2. Karnak 97 Fibrated Aluminum Asphalt Roof Coating or Asbestos Free Aluminum Roof Coating at 1½ gal./sq.

Maximum Design Pressure: -442.5 psf. (See General Limitation #9)



Membrane Type: SBS
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type A(11): Insulation adhered with approved adhesive.

All General and System Limitations apply.

One or more layers of any of the following insulations:

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL or RESISTA Minimum 2” thick	N/A	N/A

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of insulation. Base insulation layer shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 25 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment.

<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
SECUROCK Gypsum-Fiber Roof Board Minimum ¼” thick	N/A	N/A

Note: Top insulation layer shall be adhered in full mopping of approved asphalt within the EVT range and at a rate of 25 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One or more plies of Firestone SBS Poly Torch Base torch applied.
Membrane: One ply of Firestone SBS Premium FR Torch or SBS Premium FR Torch UltraWhite, torch applied.
Surfacing (Optional): Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following to obtain required fire classification.

1. Gravel or slag at 400 lbs./sq. or 300 lbs./sq, respectively, in a flood coat of approved asphalt at 60 lbs./sq.
2. Karnak 97 Fibrated Aluminum Asphalt Roof Coating or Asbestos Free Aluminum Roof Coating at 1½ gal./sq.

Maximum Design Pressure: -532.5 psf. (See General Limitation #9)



Membrane Type: APP
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type A(12): One or more layers of insulation adhered with approved asphalt or adhesive.

All General and System Limitations apply.

One or more layers of any of the following insulations:

<u>Base Insulation Layer</u>	<u>Insulation Fasteners</u> <u>(Table 3)</u>	<u>Fastener</u> <u>Density/ft²</u>
SECUROCK Gypsum-Fiber Roof Board Minimum ¼" thick	N/A	N/A

Note: All insulation shall be adhered to the deck with I.S.O. Fix II, I.S.O. Twin Pack Insulation Adhesive, or I.S.O. Stick in ¾" wide ribbons spaced a maximum 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One or more plies of APP 80 Glass Base, APP Premium Base, APP 160, APP 160 Cool, APP 170, APP 170 Cool, or APP 160 P torch adhered.
Membrane: One ply of APP Premium FR, APP 180 or APP 180 FR torch adhered.
Maximum Design Pressure: -462.5 psf. (See General Limitation #9)



Membrane Type: SBS
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type A(13): Insulation adhered with approved asphalt.

All General and System Limitations apply.

One or more layers of any of the following insulations:

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL Minimum ½” thick	N/A	N/A

<u>Middle Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL Minimum 1” thick	N/A	N/A

Note: Base and Middle insulation shall be adhered to the deck with I.S.O. Stick in ¾" to 1" wide ribbons spaced a maximum 6" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
SECUROCK Gypsum-Fiber Roof Board Minimum ¼” thick	N/A	N/A

Note: Top insulation shall be adhered to the deck with I.S.O. Stick in ¾" to 1" wide ribbons spaced a maximum 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One or more plies of SBS Smooth, SBS Base, SBS Premium Poly Base, SBS Poly Base, SBS Premium Base fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq.

Membrane: One ply of SBS Smooth, 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, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive (except SBS Poly Base) applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. 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 in. wide side laps.

Surfacing (Optional): ***Required over SBS Smooth.**
 Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following to obtain required fire classification.

1. Gravel or slag at 400 lbs./sq. or 300 lbs./sq, respectively, in a flood coat of approved asphalt at 60 lbs./sq.
2. Karnak No. 97, No. 97 AF or No. 169, or APOC #212 at an application rate of 1.5 gal./sq.
3. Roof gravel in Firestone Multi-Purpose MB Cold Adhesive at 2.5 gal./sq. (SBS roof covers).

Maximum Design Pressure: -317.5 psf. (See General Limitation #9)



Membrane Type: SBS
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type A(14): Insulation adhered with approved asphalt.

All General and System Limitations apply.

One or more layers of any of the following insulations:

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
SECUROCK Gypsum-Fiber Roof Board Minimum 1/4" thick	N/A	N/A

Note: All insulation shall be adhered to the deck with I.S.O. Fix II, I.S.O. Twin Pack Insulation Adhesive, or I.S.O. Stick in 3/4" wide ribbons spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One or more plies of SBS Glass Torch Base, Glass Torch Base 1.5, SBS Poly Torch Base torch adhered with minimum 3" wide side laps.
 Or
 SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, SBS Smooth adhered mopping asphalt applied within the EVT range at a rate of 20-40 lbs./sq

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, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or applied at a rate of 1.5-2.0 gal./sq., or hot asphalt applied in the EVT range at a rate of 20-25 lbs./sq. with minimum 3 in. 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 in. wide side laps.

Maximum Design Pressure: -400 psf. (See General Limitation #9)



Membrane Type:	SBS
Deck Type 3I:	Concrete Decks, Insulated
Deck Description:	2500 psi structural concrete or concrete plank
System Type B(1):	Base layer of insulation mechanically fastened, top layer of insulation adhered with approved adhesive.

All General and System Limitations apply.

One or more layers of any of the following insulations:

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL or RESISTA Minimum 2” thick	2 or 3 with 6	1:2 ft²

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

<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board Minimum ¼” 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 12” o.c. or I.S.O. Fix II or I.S.O. Stick applied in 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 Firestone SBS Base, SBS Poly Base, SBS Premium Base or SBS Smooth (**not over SECUROCK**) fully adhered with Firestone Multi-Purpose MB Cold Adhesive squeegee applied at 1½ - 2 gal./sq.

Ply sheet (Optional): One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base (hot asphalt only), Ply IV (hot asphalt only), Ply VI (hot asphalt only), fully adhered with Firestone Multi-Purpose MB Cold Adhesive (**over SBS Base, SBS Poly Base, SBS Smooth, or SBS Premium Base only**) applied at a rate of 1.5-2.0 gal./sq. or hot asphalt (**over SBS Smooth, SBS Premium Poly Base, SBS Base, SBS Poly Base, MB Base, or SBS Premium Base only**) applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
Or
(**over SBS Glass Torch Base, SBS Premium Poly Base, SBS Glass Torch Base 1.5, or SBS Poly Torch Base only**) One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide 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, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive (**only over SBS Base, SBS Poly Base, SBS Smooth, or Premium Base**) applied at a rate of 1.5-2.0 gal./sq. or hot asphalt (**over MB Base, SBS Base, SBS Poly Base, SBS Premium Base, SBS Premium Poly Base, Ply IV, Ply VI, or SBS Smooth**) applied in the EVT range at a rate of 20-25 lbs./sq. with minimum 3 in. wide side laps.

Or
(**over SBS Glass Torch Base, SBS Glass Torch Base 1.5, SBS Premium Poly Base, or SBS Poly Torch Base only**) 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 in. wide side laps.

Surfacing (Optional): Install one of the following to obtain required fire classification.

1. Roof gravel in a flood coat of approved asphalt
2. Roof gravel in Firestone Multi-Purpose MB Cold Adhesive (SBS roof covers)

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



Membrane Type: SBS
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type B(2): Base layer of insulation mechanically fastened, top layer of insulation adhered with approved adhesive.

All General and System Limitations apply.

One or more layers of any of the following insulations:

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
DensDeck, DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board Minimum ½” thick	2 or 3 with 6	1:2 ft ²
<u>Middle Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL or RESISTA Minimum 1.5” thick	N/A	N/A
<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board Minimum ¼” thick	N/A	N/A

Note: Insulation shall be adhered to the deck with I.S.O. Twin Pack Insulation Adhesive applied in ½” to ¾” wide ribbons spaced 12” o.c. or with I.S.O. Stick or I.S.O. Fix II applied in ¾” to 1” ribbons spaced 12” o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment

Base Sheet: One ply of Firestone SBS Base, SBS Premium Base, SBS Premium Poly Base (**not over SECUROCK**), SBS Poly Base (**not over SECUROCK**), SBS Smooth (**not over SECUROCK**), fully adhered in full mopping of approved asphalt within the EVT range and at a rate of 20-25 lbs./sq.
 Or
 One or more plies of Firestone SBS Poly Torch Base, SBS Glass Torch Base, sheet, torch applied.

Ply sheet (Optional): One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base (hot asphalt only), Ply IV (hot asphalt only), Ply VI (hot asphalt only), MB Base (hot asphalt only), fully adhered with Firestone Multi-Purpose MB Cold Adhesive (**over SBS Base, SBS Poly Base, SBS Smooth, or SBS Premium Base only**) applied at a rate of 1.5-2.0 gal./sq. or hot asphalt (**over SBS Smooth, SBS Premium Poly Base, SBS Base, SBS Poly Base, MB Base, or SBS Premium Base only**) applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
 Or
(over SBS Glass Torch Base, SBS Premium Poly Base, SBS Glass Torch Base 1.5, or SBS Poly Torch Base only) One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide 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, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive (**only over SBS Base, SBS Poly Base, SBS Smooth, or Premium Base**) applied at a rate of 1.5-2.0 gal./sq. or hot asphalt (**over MB Base, SBS Base, SBS Poly Base, SBS Premium Base, SBS Premium Poly Base, Ply IV, Ply VI, or SBS Smooth**) applied in the EVT range at a rate of 20-25 lbs./sq. with minimum 3 in. wide side laps.

Or

(**over SBS Glass Torch Base, SBS Glass Torch Base 1.5, SBS Premium Poly Base, or SBS Poly Torch Base only**) 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 in. wide side laps.

Surfacing (Optional): Install one of the following to obtain required fire classification.

1. Roof gravel in a flood coat of approved asphalt
2. Roof gravel in Firestone Multi-Purpose MB Cold Adhesive (SBS roof covers)

Maximum Design Pressure:

-45 psf. (See General Limitation #9)



Membrane Type:	SBS
Deck Type 3I:	Concrete Decks, Insulated
Deck Description:	2500 psi structural concrete or concrete plank
System Type B(3):	Base layer of insulation mechanically fastened, top layer of insulation adhered with approved adhesive.

All General and System Limitations apply.

One or more layers of any of the following insulations:

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL, RESISTA Minimum 1.5” thick	2 or 3 with 6	1:1.6 ft²

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

<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
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 ½” to ¾” wide ribbons spaced 6” o.c. (not with SECUROCK to ISO 95+ GL) or with I.S.O. Fix II or 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 or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
Or
One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Ply Sheet (Optional): One or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
Or
One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide 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, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. 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 in. wide side laps.

Maximum Design Pressure:

-52.5 psf. (See General Limitation #7)



Membrane Type: SBS
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
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.

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL Minimum 2” thick	2 or 3 with 6	1:1.6 ft ²

Note: Base layer shall be mechanically attached with fasteners and density described above. Insulation installed with staggered joints. 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).

<u>Middle Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL Minimum ½” thick	N/A	N/A

<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
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. Insulation installed with staggered joints. 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 or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
 Or
 One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Ply Sheet (Optional): One or more plies of SBS Smooth, SBS Base, SBS Premium Poly Base, SBS Poly Base, SBS Premium Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
 Or
 One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide 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, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. 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 in. wide side laps.

Maximum Design Pressure:

-67.5 psf. (See General Limitation #7)



Membrane Type: APP/SBS
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type C(1): All layers of insulation simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations.

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL or RESISTA Minimum 1.5" thick	2 or 3 with 6	1:2 ft ²

Note: Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One or more plies of Firestone SBS Base, SBS Poly Base, SBS Premium Base, SBS Smooth, fully adhered with Firestone Multi-Purpose MB Cold Adhesive at a rate of 1½ - 2 gal./sq.

Membrane: **(Only over SBS Base, SBS Poly Base, SBS Premium Base** One ply of Firestone APP 170 Cool, APP 180 Cool or APP 180 FR Cool fully adhered to the base sheet with Firestone Multi-Purpose MB Cold Adhesive at a rate of 1½ - 2 gal./sq.

Or

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, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive **(only over SBS Base, SBS Poly Base, SBS Smooth, or Premium Base)** applied at a rate of 1.5-2.0 gal./sq. or hot asphalt **(over MB Base, SBS Base, SBS Poly Base, SBS Premium Base, SBS Premium Poly Base, Ply IV, Ply VI, or SBS Smooth)** applied in the EVT range at a rate of 20-25 lbs./sq. with minimum 3 in. wide side laps.

Surfacing (Optional): Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following to obtain required fire classification.

1. Gravel or slag at 400 lbs./sq. or 300 lbs./sq, respectively, in a flood coat of approved asphalt at 60 lbs./sq.
2. Karnak 97 Fibrated Aluminum Asphalt Roof Coating or Asbestos Free Aluminum Roof Coating at 1½ gal./sq.

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



Membrane Type: APP
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type C(2): All layers of insulation simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations.

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL or RESISTA Minimum 1.5” thick	N/A	N/A

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
DensDeck Prime Minimum ¼” thick	2 or 3 with 6	1:4 ft ²

Note: Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One ply Firestone APP 160-P torch applied, with minimum 3” wide side laps.
Membrane: One ply of Firestone APP 180, APP 180 UltraWhite, APP 180 FR, APP 180 FR UltraWhite, torch applied, with minimum 3” wide side laps.
Surfacing (Optional): Install one of the following to obtain required fire classification.

1. Roof gravel at 400 lbs./sq. in a flood coat of approved asphalt.
2. Roof gravel in Firestone Multi-Purpose MB Cold Adhesive at 2.5 gal./sq.

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



Membrane Type: SBS
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type C(3): All layers of insulation simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations.

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL or RESISTA Minimum 1.5” thick	N/A	N/A

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
DensDeck Prime Minimum ¼” thick	2 or 3 with 6	1:4 ft ²
SECUROCK Gypsum-Fiber Roof Board Minimum ½” thick	2 or 3 with 6	1:4 ft ²

Note: Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One or more plies of Firestone SBS Poly Torch Base sheet is torch adhered to the coverboard

Ply Sheet (Optional): One or more plies of SBS Glass Torch Base or SBS Poly Torch Base heat welded with a 3” lap.

Membrane: 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 in. wide side laps.

Surfacing (Optional): Install one of the following to obtain required fire classification.

1. Roof gravel at 400 lbs./sq. in a flood coat of approved asphalt.
2. Roof gravel in Firestone Multi-Purpose MB Cold Adhesive at 2.5 gal./sq.

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



Membrane Type: APP/SBS
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type C(4): All layers of insulation simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations.

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL or RESISTA Minimum 2” thick	2 or 3 with 6	1:1.33 ft ²

Note: Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One or more plies of Firestone SBS Base, SBS Poly Base, SBS Premium Base, SBS Smooth, fully adhered with Firestone Multi-Purpose MB Cold Adhesive at a rate of 1½ - 2 gal./sq.

Membrane: **(Only over SBS Base, SBS Poly Base, SBS Premium Base)** One ply of Firestone APP 170 Cool, APP 180 Cool or APP 180 FR Cool fully adhered to the base sheet with Firestone Multi-Purpose MB Cold Adhesive at a rate of 1½ - 2 gal./sq.

Or

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, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-25 lbs./sq. with minimum 3 in. wide side laps.

Surfacing (Optional): Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following to obtain required fire classification.

1. Gravel or slag at 400 lbs./sq. or 300 lbs./sq, respectively, in a flood coat of approved asphalt at 60 lbs./sq.
2. Karnak 97 Fibrated Aluminum Asphalt Roof Coating or Asbestos Free Aluminum Roof Coating at 1½ gal./sq.

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



Membrane Type: SBS
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type C(5): All layers of insulation simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations.

<u>Base Insulation Layer</u>	<u>Insulation Fasteners</u> <u>(Table 3)</u>	<u>Fastener</u> <u>Density/ft²</u>
ISO 95+ GL, RESISTA Minimum 2” thick	N/A	N/A
<u>Top Insulation Layer</u>	<u>Insulation Fasteners</u> <u>(Table 3)</u>	<u>Fastener</u> <u>Density/ft²</u>
DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board Minimum ½” thick	2 or 3 with 6	1:1.33 ft ²

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: (SECUROCK only) One or more plies of SBS Smooth, SBS Base, SBS Premium Poly Base, SBS Poly Base, SBS Premium Base fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. with minimum 3 in. wide side laps.
 Or
 One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Ply Sheet (Optional): One or more plies of SBS Smooth, SBS Base, SBS Premium Poly Base, SBS Poly Base, SBS Premium Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
 Or
 One or more plies of SBS Glass Torch Base, SBS Poly Torch Base, or SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide 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, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. 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 in. wide side laps.

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



Membrane Type: SBS
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type C(6): All layers of insulation simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations.

<u>Base Insulation Layer (Optional)</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL, RESISTA Minimum ½” thick	N/A	N/A
<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL, RESISTA Minimum 2” thick	2 or 3 with 6	1:2.67 ft ²
ISOGARD HD Composite Minimum 1.5” thick	2 or 3 with 6	1:2.67 ft ²
DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board Minimum ½” thick	2 or 3 with 6	1:2.67 ft ²

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 or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, Ply IV, Ply VI, MB Base, fully adhered to the insulation with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. (except ISO 95+GL and RESISTA, or ISOGARD HD Composite) with minimum 3 in. wide side laps.
 Or
 One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered (except ISO 95+ GL and RESISTA or ISOGARD HD Composite) with minimum 3 in. wide side laps.

Ply Sheet (Optional): One or more plies of SBS Smooth, SBS Base, SBS Premium Poly Base, SBS Poly Base, SBS Premium Base fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
 Or
 One or more plies of SBS Glass Torch Base, SBS Poly Torch Base, or SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide 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, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. 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 in. wide side laps.

Maximum Design Pressure:

-45 psf. (See General Limitation #7)



Membrane Type: SBS
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
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.

<u>Base Insulation Layer (Optional)</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL, RESITA Minimum ½” thick	N/A	N/A
<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL, RESISTA Minimum 2” thick	2 or 3 with 6	1:1.78 ft ²
ISOGARD HD Composite Minimum 1½” thick	2 or 3 with 6	1:1.78 ft ²
DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board Minimum ½” thick	2 or 3 with 6	1:1.78 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 or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, Ply IV, Ply VI, MB Base, fully adhered to the insulation with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. (except ISO 95+GL and RESISTA, or ISOGARD HD Composite) with minimum 3 in. wide side laps.
 Or
 One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered (except ISO 95+ GL and RESISTA, or ISOGARD HD Composite) with minimum 3 in. wide side laps.

Ply Sheet (Optional): One or more plies of SBS Smooth, SBS Base, SBS Premium Poly Base, SBS Poly Base, SBS Premium Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
 Or
 One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide 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, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. 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 in. wide side laps.

Maximum Design Pressure:

-60 psf. (See General Limitation #7)



Membrane Type: SBS
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
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.

<u>Base Insulation Layer (Optional)</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL Minimum ½” thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ISO 95+ GL, RESISTA, ISOGARD HD Composite Minimum 1.5” thick	2 or 3 with 6	1:1.78 ft²

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 or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. with minimum 3 in. wide side laps.

Ply Sheet (Optional): One or more plies of SBS Smooth, SBS Base, SBS Premium Poly Base, SBS Poly Base, SBS Premium Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps. Or
 One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Membrane: One ply of SBS Smooth, 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, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. 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 in. wide side laps.

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



Membrane Type: SBS
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
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.

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL, RESISTA Minimum ½” thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board Minimum ½” thick	2 or 3 with 6	1:1.6 ft²
RESISTA Minimum 1” thick	2 or 3 with 6	1:1.6 ft²
ISOGARD HD Composite Minimum 1.5” thick	2 or 3 with 6	1:1.6 ft²

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 or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, Ply IV, Ply VI, MB Base, fully adhered to the insulation with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. with minimum 3 in. wide side laps.

Ply Sheet (Optional): One or more plies of SBS Smooth, SBS Base, SBS Premium Poly Base, SBS Poly Base, SBS Premium Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide 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, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. 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 in. wide side laps.

Maximum Design

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



Membrane Type: SBS
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type C(10): Membrane fully adhered over mechanically fastened insulation.

All General and System Limitations apply.

One or more layers of any of the following insulations.

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL Minimum 1” thick	N/A	N/A
<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board Minimum ½” thick	2 or 3 with 6	1:1.33 ft ²

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 or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, Ply IV, or Ply VI fully adhered to the insulation with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 2 in. wide side laps.
 Or
 One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Ply Sheet (Optional): One or more plies of SBS Smooth, SBS Base, SBS Premium Poly Base, SBS Poly Base, SBS Premium Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
 Or
 One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Membrane: One ply of SBS Smooth, 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, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. 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 in. wide side laps.

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



Membrane Type: SBS
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type C(11): Membrane fully adhered over mechanically fastened insulation.

All General and System Limitations apply.

One or more layers of any of the following insulations.

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+GL, RESISTA Minimum 1” thick	N/A	N/A
<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
SECUROCK Gypsum-Fiber Roof Board Minimum ½” thick	2 or 3 with 6	1:1.78 ft ²

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 or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, Ply IV, Ply VI, MB Base, fully adhered to the insulation with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
 Or
 One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Ply Sheet (Optional): One or more plies of SBS Smooth, SBS Base, SBS Premium Poly Base, SBS Poly Base, SBS Premium Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
 Or
 One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Membrane: One ply of SBS Smooth, 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, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. 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 in. wide side laps.

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



Membrane Type: SBS
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type C(12): Membrane fully adhered over mechanically fastened insulation.

All General and System Limitations apply.

One or more layers of any of the following insulations.

<u>Base Insulation Layer (Optional)</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL, RESISTA Minimum ½” thick	N/A	N/A
<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISOGARD HD Composite Minimum 1.5½” thick	2 or 3 with 6	1:1.78 ft ²

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 or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, Ply IV, Ply VI, MB Base, fully adhered to the insulation with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. with minimum 3 in. wide side laps.

Ply Sheet (Optional): One or more plies of SBS Smooth, SBS Base, SBS Premium Poly Base, SBS Poly Base, SBS Premium Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide 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, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. 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 in. wide side laps.

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



Membrane Type: SBS
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type C(13): Membrane fully adhered over mechanically fastened insulation.

All General and System Limitations apply.

One or more layers of any of the following insulations.

<u>Base Insulation Layer (Optional)</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL, RESISTA Minimum ½” thick	N/A	N/A
<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISOGARD HD Composite Minimum 1.5½” thick	2 or 3 with 6	1:2.67 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 or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, Ply IV, Ply VI, MB Base, fully adhered to the insulation with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. with minimum 3 in. wide side laps.

Ply Sheet (Optional): One or more plies of SBS Smooth, SBS Base, SBS Premium Poly Base, SBS Poly Base, SBS Premium Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide 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, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. 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 in. wide side laps.

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



Membrane Type: SBS
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type C(14): Membrane fully adhered over mechanically fastened insulation.

All General and System Limitations apply.

One or more layers of any of the following insulations.

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL, RESISTA Minimum 1" thick	N/A	N/A
<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISOGARD HD Minimum ½" thick	2 or 3 with 6	1:1.33 ft ²
DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board Minimum ¼" thick	2 or 3 with 6	1:1.33 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 or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, Ply IV, or Ply VI fully adhered to the insulation with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. (except ISOGARD HD) with minimum 3 in. wide side laps.

Or

(except ISOGARD HD) One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Ply Sheet (Optional): One or more plies of] SBS Smooth, SBS Base, SBS Premium Poly Base, SBS Poly Base, SBS Premium Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.

Or

One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide 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, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. 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 in. wide side laps.

Maximum Design Pressure:

-52.5 psf. (See General Limitation #7)



Membrane Type: SBS
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type C(15): Membrane fully adhered over mechanically fastened insulation.

All General and System Limitations apply.

One or more layers of any of the following insulations.

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL, RESISTA Minimum 1” thick	N/A	N/A
<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
SECUROCK Gypsum-Fiber Roof Board Minimum ¼” thick	2 or 3 with 6	1:1.78 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 or more plies of SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, Ply IV, Ply VI, MB Base, fully adhered to the insulation with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
 Or
 One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.

Ply Sheet (Optional): One or more plies of SBS Smooth, SBS Base, SBS Premium Poly Base, SBS Poly Base, SBS Premium Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
 Or
 One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide 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, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. 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 in. wide side laps.

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



Membrane Type: SBS/APP
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type C(16): Membrane fully adhered over mechanically fastened insulation.

All General and System Limitations apply.

One or more layers of any of the following insulations.

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL, RESISTA Minimum 1.5½” thick	N/A	N/A
<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
DensDeck Prime Minimum ¼” thick	2 or 3 with 6	1:4 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 or more plies of Firestone APP 160 or APP 170 torch applied.
 Or
 One or more plies of SBS Glass Torch Base, SBS Poly Torch, SBS Glass Torch Base 1.5, torch adhered with minimum 3 in. wide side laps.

Membrane: (Over APP 160 or APP 170 only) One ply of APP 170 Cool, APP 160, APP 170, APP 180, or APP 180 FR torch adhered to the base sheet with minimum 3 in. wide side laps.
 Or
 (Not for use with APP 160 or APP 170) 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 in. wide side laps.
 Or
 (Not for use with APP 160 or APP 170) One ply of SBS Smooth, 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, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sqor hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.



Surfacing (Optional): ***Required over APP 160, APP 160 P, APP 170, APP 170 Cool, APP 180-P, APP 180 Cool, APP 180 FR Cool, SBS Smooth.**

Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following to obtain required fire classification.

1. Gravel or slag at 400 lbs./sq. or 300 lbs./sq, respectively, in a flood coat of approved asphalt at 60 lbs./sq.
2. Karnak No. 97, No. 97 AF or No. 169, or APOC #212 at an application rate of 1.5 gal./sq.
3. Roof gravel in Firestone Multi-Purpose MB Cold Adhesive at 2.5 gal./sq. (SBS roof covers).

Maximum Design Pressure:

-45 (See General Limitation #9)



Membrane Type: SBS
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type C(17): Membrane fully adhered over mechanically fastened insulation.
Vapor Barrier (Optional): 4-6 mil thick polyethylene vapor retarder is placed over deck with min 2” wide laps sealed with duct tape.

All General and System Limitations apply.
 One or more layers of any of the following insulations.

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL, RESISTA Minimum 2.2” thick	N/A	N/A
<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
DensDeck Prime Minimum ½” thick	2 or 3 with 6	1:1.33 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 SBS Smooth, SBS Base, SBS Premium Base, SBS Poly Base, SBS Premium Poly Base, MB Base fully adhered with hot asphalt applied in the EVT range at a rate of 20-25 lbs./sq. with minimum 3 in. wide side laps.
 Or
 One ply of SBS Glass Torch Base, SBS Poly Torch, torch adhered with minimum 3 in. wide side laps.

Ply Sheet (Optional): **(over SBS Smooth, SBS Premium Poly Base, SBS Base, SBS Poly Base, MB Base, or SBS Premium Base only)** One or more plies of SBS Smooth, SBS Base, SBS Premium Poly Base, SBS Poly Base, SBS Premium Base, Ply IV, Ply VI, MB Base, fully adhered with hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
 Or
(over SBS Glass Torch Base, SBS Premium Poly Base, SBS Glass Torch Base 1.5, or SBS Poly Torch Base only) One or more plies of SBS Glass Torch Base, SBS Poly Torch Base, or SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.



Membrane:

(over MB Base, SBS Base, SBS Poly Base, SBS Premium Base, SBS Premium Poly Base, Ply IV, Ply VI, or SBS Smooth) One ply of SBS Smooth, 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, 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 in. wide side laps.

Or

(over SBS Glass Torch Base, SBS Glass Torch Base 1.5, SBS Premium Poly Base, or SBS Poly Torch Base only) 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 in. wide side laps.

Surfacing (Optional):

***Required over SBS Smooth.**

Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following to obtain required fire classification.

1. Gravel or slag at 400 lbs./sq. or 300 lbs./sq, respectively, in a flood coat of approved asphalt at 60 lbs./sq.
2. Karnak No. 97, No. 97 AF or No. 169, or APOC #212 at an application rate of 1.5 gal./sq.
3. Roof gravel in Firestone Multi-Purpose MB Cold Adhesive at 2.5 gal./sq. (SBS roof covers).

Maximum Design Pressure:

-97.5 psf. (See General Limitation #7)



Membrane Type: SBS
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
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.

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL, RESISTA Minimum 1.5" thick	N/A	N/A
<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
SECUROCK Gypsum-Fiber Roof Board Minimum 1/2" thick	2 or 3 with 6	1:1.45 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 or more plies of SBS Base, SBS Premium Base, SBS Poly Base (Cold Adhesive only), fully adhered to the insulation with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
 Or
 One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, torch adhered with minimum 3 in. wide side laps.

Ply Sheet (Optional): **(over SBS Base, SBS Poly Base, or SBS Premium Base only)** One or more plies of SBS Smooth, SBS Base, SBS Premium Poly Base, SBS Poly Base, SBS Premium Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
 Or
(over SBS Glass Torch Base, or SBS Poly Torch Base only) One or more plies of SBS Glass Torch Base, SBS Poly Torch Base, or SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide side laps.



Membrane:

One ply of SBS Smooth, 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, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive (**only over SBS Base, SBS Poly Base, SBS Smooth, or Premium Base**) applied at a rate of 1.5-2.0 gal./sq. or hot asphalt (**over MB Base, SBS Base, SBS Poly Base, SBS Premium Base, SBS Premium Poly Base, Ply IV, Ply VI, or SBS Smooth**) applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.

Or

(**over SBS Glass Torch Base, SBS Glass Torch Base 1.5, SBS Premium Poly Base, or SBS Poly Torch Base only**) 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 in. wide side laps.

Surfacing (Optional): ***Required over SBS Smooth.**

Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following to obtain required fire classification.

4. Gravel or slag at 400 lbs./sq. or 300 lbs./sq, respectively, in a flood coat of approved asphalt at 60 lbs./sq.
5. Karnak No. 97, No. 97 AF or No. 169, or APOC #212 at an application rate of 1.5 gal./sq.
1. Roof gravel in Firestone Multi-Purpose MB Cold Adhesive at 2.5 gal./sq. (SBS roof covers).

Maximum Design Pressure:

-90 psf. (See General Limitation #7)



Membrane Type: APP/SBS
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type D(1): All layers of insulation and base sheet simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations.

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL or RESISTA Minimum 1.5" thick	N/A	N/A

Note: Top layer shall have preliminary attachment, prior to the installation of the base/anchor sheet, at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: One ply of Firestone SBS Poly Base mechanically fastened to the deck through the insulation with Firestone Heavy Duty Fasteners and MB 2" Barbed Seam Metal Plates applied 12" o.c. through the 4" wide base sheet overlaps.

Ply Sheet (Optional): One or more plies of SBS Smooth, SBS Base, SBS Premium Poly Base (hot asphalt only), SBS Poly Base, SBS Premium Base, Ply IV (hot asphalt only), Ply VI (hot asphalt only), MB Base (hot asphalt only), fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.

Membrane: **(Only over SBS Base, SBS Poly Base, SBS Premium Base)** One ply of Firestone APP 170 Cool, APP 180 Cool or APP 180 FR Cool fully adhered to the base sheet with Firestone Multi-Purpose MB Cold Adhesive applied at 1½ - 2 gal./sq.
 Or
 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, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive **(only over SBS Base, SBS Poly Base, SBS Smooth, or Premium Base)** applied at a rate of 1.5-2.0 gal./sq. or hot asphalt **(over MB Base, SBS Base, SBS Poly Base, SBS Premium Base, SBS Premium Poly Base, Ply IV, Ply VI, or SBS Smooth)** applied in the EVT range at a rate of 20-25 lbs./sq. with minimum 3 in. wide side laps.

Surfacing (Optional): Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following to obtain required fire classification.

1. Gravel or slag at 400 lbs./sq. or 300 lbs./sq, respectively, in a flood coat of approved asphalt at 60 lbs./sq.
2. Karnak 97 Fibrated Aluminum Asphalt Roof Coating or Asbestos Free Aluminum Roof Coating at 1½ gal./sq.

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



Membrane Type: SBS
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type D(2): All layers of insulation and base sheet simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations.

<u>Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL or RESISTA Minimum 1.5" thick	N/A	N/A

Note: Top layer shall have preliminary attachment, prior to the installation of the base sheet, at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: One ply of Firestone SBS Poly Torch Base Sheet with a 4" side lap mechanically fastened through the insulation to the deck with Firestone Heavy-Duty fasteners or Firestone Concrete Drives and Insulation Fastening Plates at a spacing of 12" o.c. within the 4" side lap and two staggered rows, equally spaced in the center of the sheet, 12" o.c.

Ply Sheet: One or more plies of Firestone SBS Poly Torch Base Sheet torch applied to the base sheet with the 3" side laps are heat fused with a torch.

Membrane: 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 in. wide side laps.

Surfacing (Optional): Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following to obtain required fire classification.

1. Roof gravel at 400 lbs./sq. in a flood coat of approved asphalt.
2. Roof gravel in Firestone Multi-Purpose MB Cold Adhesive at 2.5 gal./sq.

Maximum Design Pressure: -82.5 psf. (See General Limitation #9)



Membrane Type: SBS
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type D(3): All layers of insulation and base sheet simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations.

<u>Base Insulation Layer (Optional)</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL, RESISTA Minimum ½” thick	N/A	N/A
<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL, RESISTA, Minimum 1.5” 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 Heavy-Duty fasteners and Firestone Coiled Metal Batten Strip spaced 18" o.c. at the minimum 3" side laps.

Ply Sheet: One or more plies of SBS Smooth, SBS Base, SBS Premium Poly Base, SBS Poly Base, SBS Premium Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
 Or
 One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide 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, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-25 lbs./sq. with minimum 3 in. 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 in. wide side laps.

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



Membrane Type: SBS
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type D(4): All layers of insulation and base sheet simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations.

<u>Base Insulation Layer (Optional)</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL, RESISTA Minimum 1" thick	N/A	N/A
<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL, RESISTA, Minimum 1" 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, SBS Glass Torch Base, SBS Premium Base, SBS Poly Base, SBS Smooth or SBS Poly Torch Base, mechanically fastened through the insulation with Concrete Drive or Heavy-Duty fasteners and 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 or more plies of SBS Smooth, SBS Base, SBS Premium Poly Base, SBS Poly Base, SBS Premium Base, Ply IV, Ply VI, MB Base, fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-40 lbs./sq. with minimum 3 in. wide side laps.
 Or
 One or more plies of SBS Glass Torch Base, SBS Poly Base Torch, SBS Glass Torch Base 1.5 torch adhered with minimum 3 in. wide 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, SBS Glass FR UltraWhite fully adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. or hot asphalt applied in the EVT range at a rate of 20-25 lbs./sq. with minimum 3 in. 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 in. wide side laps.

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



Membrane Type: APP/SBS
Deck Type 3: Concrete Decks, Non-Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type F: Base sheet adhered with approved adhesive.

All General and System Limitations apply.

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of base sheet.

Base Sheet: One or more plies of Firestone SBS Base, SBS Poly Base or SBS Premium Base sheet fully adhered to the deck with Firestone Multi-Purpose MB Cold Adhesive applied at 1½ - 2 gal./sq

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, adhered with Firestone Multi-Purpose MB Cold Adhesive applied at a rate of 1.5-2.0 gal./sq. with minimum 3 in. wide side laps.

Surfacing (Optional): Any coating, listed below, used as a surfacing, must be listed within a current NOA. Install one of the following to obtain required fire classification.

1. Gravel or slag at 400 lbs. and 300 lbs., respectively, set in a flood coat of type III or IV asphalt at 60 lbs./sq.
2. Roof gravel in Firestone Multi-Purpose MB Cold Adhesive at 2.5 gal./sq.

Maximum Design Pressure: -180 psf. (See General Limitation #9)



CONCRETE DECK SYSTEM LIMITATIONS:

1. If mechanical attachment to the structural deck through the lightweight insulating concrete is proposed, a field withdrawal resistance testing shall be performed to determine equivalent or enhanced fastener patterns and density. All testing and fastening design shall be in compliance with Testing Application Standard TAS 105 and Roofing Application Standard RAS 117, calculations shall be signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant.

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