MIAMI-DADE

BUILDING CODE COMPLIANCE OFFICE (BCCO)
PRODUCT CONTROL DIVISION

MIAMI-DADE COUNTY, FLORIDA
METRO-DADE FLAGLER BUILDING
140 WEST FLAGLER STREET, SUITE 1603
MIAMI, FLORIDA 33130-1563
(305) 375-2901 FAX (305) 375-2908

NOTICE OF ACCEPTANCE (NOA)

Firestone Building Products Company
310 East 96th Street
Indianapolis, IN 46240-3702

SCOPE:

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

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

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

DESCRIPTION: Firestone Modified Bitumen Self Adhered Roof Systems over Steel Decks

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

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

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

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

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

This NOA Supercedes NOA No. 08-0118.02 and consists of pages 1 through 10.
The submitted documentation was reviewed by Jorge L. Acebo.

MIAMI-DADE COUNTY APPROVED

ROOFING SYSTEM APPROVAL

Category:	Roofing
Sub-Category:	Modified Bitumen
Material:	APP/SBS
Deck Type:	Steel
Maximum Design Pressure	-97.5 psf

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

Product	Dimensions	Test Specification	Product Description
APP 180	39.4" x 32'10"	ASTM D 5147	Polyester reinforced modified bitumen, granule surfaced membrane. Torch applied.
APP 180 FR	39.4" x 32'10"	ASTM D 5147	Polyester reinforced, fire regardant modified bitumen, granule surfaced membrane. Torch applied.
APP 170	39.4" x 33'6"	ASTM D 5147	Polyester reinforced modified bitumen membrane. Torch applied.
APP 160	39.4" x 32'10"	ASTM D 5147	Polyester reinforced modified bitumen membrane. Torch applied.
MB Base SA Base Sheet	36" x 108'	ASTM D 5147	Fiberglass reinforced base sheet, asphalt coated on both sides with a plastic release film on the underside.
SBS Premium FR Torch	39.4" x 33'10"	ASTM D 6164	Ceramic granule surface, fire rated, modified bitumen membrane with a burn-off film and reinforced with non-woven polyester mat.
Rhoflex FR Granule		ASTM D6223	Glass/Polyester reinforced modified bitumen cap sheet

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
ISO 95+ GL	Isocyanurate Insulation	Firestone
Dens Deck Prime	Silicon treated gypsum	G-P Products
Securock	Fiber Reinforced Coverboard	US Gypsum

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	Firestone All-Purpose Fastener	Insulation and membrane fastener	Various	Firestone
2.	Firestone HD Fastener	Insulation and membrane fastener	Various	Firestone
3.	MB Barbed Metal Seam Plate	Metal plates used for membrane securement.	2" dia	Firestone
4.	Hexagonal Plate	Insulation attachment hexagonal plate	3-$^3/_8$" x 2-$^7/_8$"	Firestone
5.	Seam Plate	Membrane seam attachment plate.	2-$^3/_8$" dia	Firestone
6.	Metal Plate	Membrane attachment plate.	2" dia	Firestone
7.	Firestone Batten Strips	Membrane attachment batten bar	10' x 1"	Firestone
8.	Insulation Fastening Plate	Insulation plate for use with Firestone Fasteners	3" round	Firestone

EVIDENCE SUBMITTED:

Test Agency	Test Identifier	Description	Date
Factory Mutual Research Corp.	3022492	FM 4470	01/17/05
	3028093	FM 4470	10/26/07
	3020395	FM 4470	11/29/04
	3014537	FM 4470	11/29/04
	3012321	FM 4470	07/29/02
	3015692	FM 4470	08/05/03
Trinity | ERD	F7370.11.07	FM 4470 / TAS 114	11/22/07
	F8800.01.08-R1	ASTM D 903 / TAS 114	01/17/08
	F10370.05.08	ASTM C 1289	05/08/08
PRI Asphalt Technologies	FBP-011-02-01	ASTM D 6164	09/02/04
	FBP-008-02-01	ASTM D 6222	09/10/04
	FBP-009-02-01	ASTM D 6222	08/31/04
	FBP-015-02-01	ASTM D 6509	09/02/04
	FBP-023-02-01	ASTM D 6223	09/01/04
	FBP-007-02-01	ASTM D 6222	09/14/04

APPROVED ASSEMBLIES

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga., grade 33 steel

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

All General and System Limitations apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Any approved polyisocyanurate Minimum 2" thick	**1**	**1:4 ft^2**

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

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Securock Minimum 3/8" thick	**N/A**	**N/A**

Note: Top insulation layer shall be adhered with OlyBond at a rate of 1 gal/sq. or Insta-Stik, OlyBond 500, Firestone I.S.O. FIX II, Firestone I.S.O. Twin Pack or Polyfoam Tite-Set in ribbons 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Note: Securock shall be primed with ASTM D41 asphalt primer or Firestone SA primer and allowed to dry prior to application of base sheet.

Base Sheet: One or more plies of Firestone MB Base SA self adhered to cover board.

Membrane: One ply of Firestone SBS Premium FR Torch torch applied.

Surfacing: (Optional) 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.
3. Kokem Products Sunguard Acrylic Roof Coating at 1 gal/sq.
4. Monsey Endure Aluminum Roof Coating, Weather Check or Pro-Grade Aluminum Roof Coating at 1½ gal/sq.
5. Grundy al MB Aluminum Roof Coating at 1-2 gal/sq.
6. Fields F350 Heat Shield Aluminum Coating or F630 Heat Shield Fibered Aluminum Coating at 1½ gal/sq.

Maximum Design Pressure: -97.5 psf (See General Limitation #9)

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga., grade 33 steel attached 6" o.c. to steel supports spaced 6 ft. o.c.

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

All General and System Limitations apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Any approved polyisocyanurate Minimum 2" thick	**1**	**1:2 ft^2**

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

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Securock Minimum 3/8" thick	**N/A**	**N/A**

Note: Top insulation layer shall be adhered with OlyBond at a rate of 1 gal/sq. or Insta-Stik, OlyBond 500, Firestone I.S.O. FIX II, Firestone I.S.O. Twin Pack or Polyfoam Tite-Set in ribbons 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Note: Securock shall be primed with ASTM D41 asphalt primer or Firestone SA primer and allowed to dry prior to application of base sheet.

Base Sheet: One or more plies of Firestone MB Base SA self adhered to cover board.

Membrane: One ply of Firestone SBS Premium FR Torch torch applied.

Surfacing: (Optional) 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.
3. Kokem Products Sunguard Acrylic Roof Coating at 1 gal/sq.
4. Monsey Endure Aluminum Roof Coating, Weather Check or Pro-Grade Aluminum Roof Coating at 1½ gal/sq.
5. Grundy al MB Aluminum Roof Coating at 1-2 gal/sq.
6. Fields F350 Heat Shield Aluminum Coating or F630 Heat Shield Fibered Aluminum Coating at 1½ gal/sq.

Maximum Design Pressure: -60.0 psf (See General Limitation #7)

Membrane Type: APP/SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 22 ga., type B steel deck.

System Type C(1): All layers of insulation simultaneously attached.

All General and System Limitations apply.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
ISO 95+ GL Minimum 2.2" thick	**1 or 2**	**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 MB Base SA base sheet with 3" laps self adhered to the insulation.

Membrane: One ply of Firestone SBS Premium FR Torch, APP 160, APP 170, APP 180, APP 180 FR or Rhoflex FR Granule cap sheet torch adhered to the base sheet.

Surfacing: (Optional) 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.
3. Kokem Products Sunguard Acrylic Roof Coating at 1 gal/sq.
4. Monsey Endure Aluminum Roof Coating, Weather Check or Pro-Grade Aluminum Roof Coating at 1½ gal/sq.
5. Grundy al MB Aluminum Roof Coating at 1-2 gal/sq.
6. Fields F350 Heat Shield Aluminum Coating or F630 Heat Shield Fibered Aluminum Coating at 1½ gal/sq.

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

Membrane Type: APP/SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 22 ga., type B steel deck

System Type C(2): All layers of insulation simultaneously attached.

All General and System Limitations apply.

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

Top Insulation Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Dens-Deck Prime Minimum ¼" thick	**1 or 2**	**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 MB Base SA base sheet with 3" laps self adhered to the insulation layer.

Membrane: One ply of Firestone SBS Premium FR Torch, APP 160, APP 170, APP 180, APP 180 FR or Rhoflex FR Granule cap sheet torch adhered to the base sheet.

Surfacing: (Optional) 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.
3. Kokem Products Sunguard Acrylic Roof Coating at 1 gal/sq.
4. Monsey Endure Aluminum Roof Coating, Weather Check or Pro-Grade Aluminum Roof Coating at 1½ gal/sq.
5. Grundy al MB Aluminum Roof Coating at 1-2 gal/sq.
6. Fields F350 Heat Shield Aluminum Coating or F630 Heat Shield Fibered Aluminum Coating at 1½ gal/sq.

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

Membrane Type: APP/SBS

Deck Type 2I: Steel, Insulated

Deck Description: Min. 22 ga., type B steel decking attached to steel supports spaced 6 ft. o.c. using ITW Buildex Traxx 5 fasteners spaced 6" o.c. and with side laps attachment max. 24" o.c. with Traxx 1 fasteners.

System Type C(3): All layers of insulation simultaneously attached.

All General and System Limitations apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ISO 95+ GL Minimum 2.2" 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.

Top Insulation Layer (Optional)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Dens-Deck Prime Minimum ½" thick	**1 or 2**	**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 MB Base SA base sheet with 3" laps self adhered to the insulation layer.

Membrane: One ply of Firestone SBS Premium FR Torch, APP 160, APP 170, APP 180, APP 180 FR or Rhoflex FR Granule cap sheet torch adhered to the base sheet.

Surfacing: (Optional) 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.
3. Kokem Products Sunguard Acrylic Roof Coating at 1 gal/sq.
4. Monsey Endure Aluminum Roof Coating, Weather Check or Pro-Grade Aluminum Roof Coating at 1½ gal/sq.
5. Grundy al MB Aluminum Roof Coating at 1-2 gal/sq.
6. Fields F350 Heat Shield Aluminum Coating or F630 Heat Shield Fibered Aluminum Coating at 1½ gal/sq.

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

Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga., grade 33 steel

System Type C(4): All layers of insulation simultaneously attached.

All General and System Limitations apply.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Any approved polyisocyanurate 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.

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
Securock Minimum 3/8" thick	**1**	**1:2.67 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.

Note: Securock shall be primed with ASTM D41 asphalt primer or Firestone SA primer and allowed to dry prior to application of base sheet.

Base Sheet: One or more plies of Firestone MB Base SA self adhered to cover board.

Membrane: One ply of Firestone SBS Premium FR Torch torch applied.

Surfacing: (Optional) 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.
3. Kokem Products Sunguard Acrylic Roof Coating at 1 gal/sq.
4. Monsey Endure Aluminum Roof Coating, Weather Check or Pro-Grade Aluminum Roof Coating at 1½ gal/sq.
5. Grundy al MB Aluminum Roof Coating at 1-2 gal/sq.
6. Fields F350 Heat Shield Aluminum Coating or F630 Heat Shield Fibered Aluminum Coating at 1½ gal/sq.

Maximum Design Pressure: -60.0 psf (See General Limitation #9)

STEEL DECK SYSTEM LIMITATIONS:

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

GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance, refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each sidelap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq.
   Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.
5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
7. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased for both insulation and base sheet as calculated in compliance with Roofing Application Standard RAS 117. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant **(When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)**
8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform with Roofing Application Standard RAS 111 and applicable wind load requirements.
9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). **(When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)**
10. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 9B-72 of the Florida Administrative Code.

END OF THIS ACCEPTANCE