



**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.

DESCRIPTION: Firestone APP/SBS Modified Bitumen Roof Systems for Recover Decks

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

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

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

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

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

This NOA renews NOA # 01-0130.08 and consists of pages 1 through 28.
The submitted documentation was reviewed by Jorge L. Acebo.



**NOA No.: 05-0830.08
Expiration Date: 03/08/11
Approval Date: 12/29/05
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ROOFING SYSTEM APPROVAL

Category: Roofing
Sub-Category: Modified Bitumen

Material: APP/SBS
Deck Type: Recover
Maximum Design Pressure -45.0 psf
Fire Classification: See General Limitation #1

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
APP 180	39.4" x 32'10"	ASTM D 5147	Polyester reinforced modified bitumen, granule surfaced membrane. Torch applied. <input type="checkbox"/>
APP 180 FR	39.4" x 32'10"	ASTM D 5147	Polyester reinforced, fire retardant modified bitumen, granule surfaced membrane. Torch applied.
APP 170	39.4" x 33'6"	ASTM D 5147	Polyester reinforced modified bitumen membrane. Torch applied. <input type="checkbox"/>
APP 160	39.4" x 32'10"	ASTM D 5147	Polyester reinforced modified bitumen membrane. Torch applied. <input type="checkbox"/>
MB Base Sheet	36" x 108'	ASTM D 5147	Fiberglass reinforced base sheet, asphalt coated on both sides. Applied in hot asphalt or mechanically attached. <input type="checkbox"/>
SBS	39.4" x 33'10"	ASTM D 5147	Granule surfaced, modified bitumen membrane reinforced with non-woven polyester mat. <input type="checkbox"/>
SBS FR	39.4" x 33'10"	ASTM D 5147	Ceramic granule surface, modified bitumen membrane reinforced with non-woven polyester mat. <input type="checkbox"/>
SBS Premium FR	39.4" x 33'10"	ASTM D 5147	Ceramic granule surface, fire rated, modified bitumen membrane reinforced with non-woven polyester mat. <input type="checkbox"/>
SBS Base Sheet	39.4" x 50'	ASTM D 5147	Fiberglass reinforced SBS base sheet. Applied in hot asphalt or mechanically attached. <input type="checkbox"/>
SBS Smooth	39.4" x 33'10"	ASTM D 5147	Smooth surfaced, modified bitumen membrane reinforced with non-woven polyester mat. Applied in hot asphalt. <input type="checkbox"/>



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<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
SBS Premium	39.4" x 33'10"	ASTM D 5147	Granule surfaced, modified bitumen membrane reinforced with polyester mat. Applied in hot asphalt. □
SBS Glass	39.4" x 33'10"	ASTM D 5147	Fiberglass reinforced, granule surfaced, modified bitumen membrane. Applied in hot asphalt. □
SBS Glass FR	39.4" x 33'10"	ASTM D 5147	Granular surfaced, fiberglass reinforced, fire retardant, modified bitumen membrane. Applied in hot asphalt. □
Type IV	33" x 180"	ASTM D5147	Fiberglass reinforced, asphalt impregnated, roofing ply. Applied in hot asphalt. □
Type VI	33" x 180"	ASTM D5147	Fiberglass reinforced, asphalt impregnated, roofing ply. Applied in hot asphalt. □
ISO 95+	various	PA 110	Polyisocyanurate foam insulation. □
ISO 95+ GL	various	PA 110	Polyisocyanurate foam insulation. □
ISO 95+ GW	various	PA 110	Polyisocyanurate foam insulation. □
FiberTop Wood Fiber	various	PA 110	High density wood fiber insulation. □
ISO 95+ Composite	various	PA 110	Polyisocyanurate foam / perlite insulation. □
Polymer Fastener		PA 114	11/16" diameter, glass reinforced nylon fastener for gypsum or cementitious wood fiber decks. □
Polymer Plate		PA 114	3" square, galvalume plate for use with the Polymer Fastener. □
Firestone AP Fasteners		PA 114	#15-13 fluorocarbon polymer treated, heavy duty fastener. □
Firestone HD Fasteners		PA 114	#15-13 fluorocarbon polymer treated, heavy duty fastener. □
Firestone Concrete Drives		PA 114	1/4" diameter concrete deck fastener.
Firestone Insulation Plate	2 7/8" hex plate	PA 114	Galvalume hex plate for insulation attachment.

TRADE NAMES OF PRODUCTS MANUFACTURED BY OTHERS:

<u>Product</u> □	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>	<u>Manufacturer</u>
Pyrox	various	PA 114	Polyisocyanurate foam insulation	Apache (with current PCA)
APOC 212 □		PA 121	Aluminum roof coating.	APOC, Subsidiary of Gardner (with current PCA) □



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<u>Product</u> □	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>	<u>Manufacturer</u>
ACFoam I	various	PA 110	Polyisocyanurate foam insulation	Atlas Energy Products (with current PCA) □
ACFoam II	various	PA 110	Polyisocyanurate foam insulation	Atlas Energy Products (with current PCA) □
Hy-Tec	various	PA 110	Polyisocyanurate foam insulation	Celotex Corp. (with current PCA)
Hy-Tec 2	various	PA 110	Polyisocyanurate foam insulation	Celotex Corp. (with current PCA)
Hy-Therm AP	various	PA 110 □	Polyisocyanurate foam insulation	Celotex Corp. (with current PCA)
Hy-Therm White Line	various	PA 110	Polyisocyanurate foam insulation	Celotex Corp. (with current PCA)
VaporBar GB	36" x 108'	ASTM D 4601	G2 fiberglass base sheet	Celotex Corp. (with current PCA) □
Channel-Vent GB		ASTM D 4601	Glass mat with mineral granules □	Celotex Corp. (with current PCA)
Dekfast Fasteners #14		PA 114	Insulation fastener	Construction Fasteners Inc. (with current PCA) □
Dekfast Fasteners #15 HD		PA 114	Insulation fastener	Construction Fasteners Inc. (with current PCA) □
Dekfast Hex Plate		PA 114	Galvalume stress plate for use with Dekfast Fasteners	Construction Fasteners Inc. (with current PCA) □
TPR Fastener		PA 114	Lightweight insulating concrete deck fastener □	Creative Construction Components (with current PCA) □
FM-45, FM-60, FM-90 Fasteners and FM-30 Disc		PA 114	Base ply fastening systems for lightweight concrete decks □	ES Products, Inc. (with current PCA)
GAFGLAS # 75	3' x 108'; Roll weight: 75 lbs.	ASTM D 4601	G2 Fiberglass base sheet	GAF Materials Corporation (with current PCA) □
GAF Stratavent		ASTM D 4601	Asphalt coated, granule surfaced, glass mat □	GAF Materials Corporation (with current PCA) □
GAFglas		ASTM D 4601	Glass mat base sheet	GAF Materials Corporation (with current PCA) □



<u>Product</u> <input type="checkbox"/>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>	<u>Manufacturer</u>
#6192-900		PA 121	Roof coating	Gibson-Homans (with current PCA) <input type="checkbox"/>
Durakote #151		PA 121	Roof coating	Gilsonite (with current PCA) <input type="checkbox"/>
Asphalt Primer Asphalt		ASTM D 41 ASTM D 312	Asphalt Primer Type III or IV Hot asphalt bitumen adhesive	generic <input type="checkbox"/> generic
High Density Wood Fiberboard	various	PA 110	Wood fiber insulation board	Generic <input type="checkbox"/>
Perlite Insulation	various	PA 110	Perlite insulation board	generic <input type="checkbox"/>
Red Rosin	various		Rosin paper for barrier layer on wood decks	Generic <input type="checkbox"/>
Roofing Nails	Minimum # 12 <input type="checkbox"/>	PA 114	Corrosion resistant annular ring shank nails	Generic <input type="checkbox"/>
Tin Caps	Min. 32 ga. x 1 ⁵ / ₈ "		Corrosion resistant circular discs.	Generic <input type="checkbox"/>
Base Sheet		ASTM D 4601 Type II	G2 Base sheet	Generic <input type="checkbox"/>
Type X Gypsum	various		Fire resistant rated gypsum	generic <input type="checkbox"/>
Iso-Lite E	various	PA 110	Polyisocyanurate foam insulation	International Permalite (with current PCA) <input type="checkbox"/>
Roofgrip Fastener #14		PA 114	Insulation fastener	ITW Buildex (with current PCA)
Flat Metal Plate	3" square	PA 114	Galvalume plate for use with Buildex Roofgrip	ITW Buildex (with current PCA)
Lite Weight Concrete Fastener	1.75" long 3" head dia.	PA 114	Corrosion resistant fastener for base sheet attachment to lightweight concrete decks <input type="checkbox"/>	ITW Buildex (with current PCA)
Karnak No. 169		ASTM D 2824	Aluminum roof coating	Karnak Corp. (with current PCA) <input type="checkbox"/>
Karnak 97 AF		PA 121 <input type="checkbox"/>	Roof coating	Karnak Corp. (with current PCA) <input type="checkbox"/>
Karnak 97		PA 121	Roof coating <input type="checkbox"/>	Karnak Corp. (with current PCA) <input type="checkbox"/>
Barrier Board Plus	various	PA 110	Polyisocyanurate foam / wood fiber insulation	NRG Barriers, Inc. (with current PCA)
E'NERG'Y PSI-25	various	PA 110	Polyisocyanurate foam insulation	NRG Barriers, Inc. (with current PCA)
E'NRG'Y-2	various	PA 110	Polyisocyanurate foam insulation	NRG Barriers, Inc. (with current PCA)



<u>Product</u> □	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>	<u>Manufacturer</u>
Olympic Fastener #14		PA 114	Insulation fastener	Olympic Manufacturing (with current PCA)
Olympic Metal Plate		PA 114	Metal plate for use with Olympic fasteners □	Olympic Manufacturing Group, Inc. (with current PCA) □
Olympic CR Fastener		PA 114	Insulation fastener assembly for lightweight concrete	Olympic Manufacturing Group, Inc. (with current PCA) □
CR Base Sheet Disc		PA 114	Galvalume disc for use with Olympic CR Fastener □	Olympic Manufacturing Group, Inc. (with current PCA) □
Olympic Strap Toggle		PA 114	Insulation fastener	Olympic Manufacturing Group, Inc. (with current PCA) □
Fiberglas	various	PA 110	Fiber glass roof insulation	Johns Manville (with current PCA) □
Multi-Max FA	various	PA 110	Polyisocyanurate foam insulation	RMAX (with current PCA)
GlasBase	36" x 108'	ASTM D 4601	Type II asphalt impregnated and coated glass fiber base sheet □	Johns Manville (with current PCA) □
GlasKap	36" x 36"	ASTM D 3909	Asphalt impregnated and coated felt surfaced with mineral granules for use as top ply □	Johns Manville (with current PCA) □
PermaPly 28	36" x 324 sq. ft.	ASTM D 4601	Glass fiber, asphalt impregnated base sheet □	Johns Manville (with current PCA) □
UltraGard Gold II	various	PA 110	Polyisocyanurate foam insulation □	Johns Manville (with current PCA) □
UltraGard II	various	PA 110	Polyisocyanurate foam insulation	Johns Manville (with current PCA) □
Ventsulation	36" x 36'	ASTM D 3909	Asphalt coated, granule surfaced, glass mat with 1" grid embossed waffle pattern for venting □	Johns Manville (with current PCA) □
Insul-Fixx Fastener		PA 114	Insulation fastener	SFS/Stadler (with current PCA)
Insul-Fixx S	3" square	PA 114	Galvalume stress plate for use with Insul-Fixx Fasteners □	SFS/Stadler (with current PCA)



<u>Product</u> □	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>	<u>Manufacturer</u>
Vapor Chan		ASTM D 4601	Glass mat coated with mineral granules	Tamko (with current PCA)
Rawl Spike		PA 114	Insulation fastener and steel and plastic stress plate for concrete deck	The Rawlplug Company Inc. (with current PCA) □
Rawl Fasteners #14		PA 114	Insulation fasteners	The Rawlplug Company Inc. (with current PCA) □
Rawl Fasteners #12		PA 114	Insulation fasteners	The Rawlplug Company Inc. (with current PCA) □
Rawl Metal Plate	3" round	PA 114	Galvalume stress plate for Rawl #12 and #14 Fasteners	The Rawlplug Company Inc. (with current PCA) □
Rawl Speed-Lock Toggle Bolt		PA 114	Insulation fastener assembly	The Rawlplug Company Inc. (with current PCA) □
Rawl Drive		PA 114	Insulation fastener and steel and plastic stress plate for concrete deck	The Rawlplug Company Inc. (with current PCA) □
Rawlite		PA 114	Insulation fastener for cementitious and gypsum decks	The Rawlplug Company Inc. (with current PCA) □
Rawlite Plate	3" round	PA 114	Plate for use with Rawlite fastener	The Rawlplug Company Inc. (with current PCA) □
Tru-Fast CF Fasteners	□	PA 114	Insulation fastener with steel or plastic plate for concrete □	Tru-Fast (with current PCA)
Tru-Fast Fastener HD		PA 114	Insulation fastener with plastic or steel plate	Tru-Fast (with current PCA)



EVIDENCE SUBMITTED:

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Description</u>	<u>Date</u>
Factory Mutual Research Corporation	J.I. 0Z5A3.AM	Wind Uplift Classification	03/08/95
Factory Mutual Research Corporation	J.I. 2Y3A3.AM	Wind Uplift Classification	11/28/94
Factory Mutual Research Corporation	J.I. 1D5A8.AM	Wind Uplift Classification	09/09/98
Factory Mutual Research Corporation	J.I. 3003597	Wind Uplift Classification	07/14/99
Factory Mutual Research Corporation	J.I. 3004786	Wind Uplift Classification	05/16/00
Factory Mutual Research Corporation	J.I. 3005030	Wind Uplift Classification	08/08/00
Factory Mutual Research Corporation	J.I. 0Z5A3.AM	Wind Uplift Classification	03/08/95
Factory Mutual Research Corporation	J.I. 2Y3A3.AM	Wind Uplift Classification	11/28/94
Underwriters Laboratories	R9516/94NK11625	Fire Classification Compliance	08/08/94
Underwriters Laboratories	R9516/95NK2269	Fire Classification Compliance	02/03/95
Trinity Engineering, Inc.	4810.01.96-1	Uplift Resistance PA 114(C) and PA 114(D)	01/31/96
Exterior Research & Design, LLC.	4810.10.96-1	Uplift Resistance PA 114(J)	10/31/96



APPROVED ASSEMBLIES

Membrane Type: APP

Deck Type 7I: Recover

Deck Description: Concrete/lightweight concrete/cementitious wood fiber/wood/steel

System Type A: Anchor sheet mechanically fastened; all layers of insulation adhered with approved asphalt.

All General and System Limitations apply.

<u>Insulation Base Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
Approved Type(s): ACFoam-II, ACFoam-I Minimum: 4' x 4' x 1.3"	N/A	N/A	N/A	N/A
Approved Type(s): E"NRG"Y-2, PSI-25 Minimum: 4' x 4' x 1.4"	N/A	N/A	N/A	N/A
Approved Type(s): Fiberglas Minimum: 4' x 4' x 15/16"	N/A	N/A	N/A	N/A
Approved Type(s): Hy-Tec, Hy-Tec II Minimum: 4' x 4' x 1.2	N/A	N/A	N/A	N/A
Approved Type(s): Iso 95+ GL, GW, Composite Minimum: 4' x 4' x 1.4"	N/A	N/A	N/A	N/A
Approved Type(s): ISO-Lite E Minimum: 4' x 4' x 1.3"	N/A	N/A	N/A	N/A
Approved Type(s): Multi-Max Minimum: 4' x 4' x 1.5"	N/A	N/A	N/A	N/A
Approved Type(s): UltraGard Gold II Minimum: 4' x 4' x 1.3"	N/A	N/A	N/A	N/A
Approved Type(s): Perlite Minimum: 2' x 4' x 3/4"	N/A	N/A	N/A	N/A

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



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Anchor Sheet: (Optional) One ply of Firestone MB Base Sheet, Celotex Vaporbar GB, Manville GlasBase or Perma Ply 28 with a 4" side lap mechanically fastened to the deck as described below:

Fastening: Fasten anchor sheet with approved fasteners at the side lap 12" o.c. and two rows staggered in the center of the sheet 18" o.c.

Base Sheet: One ply of Firestone MB Base Sheet, Celotex Vaporbar GB, Manville GlasBase or Perma Ply 28 adhered to the insulation with hot asphalt adhesive applied within the EVT range and at a rate of 20-40 lbs./sq.. If base sheet is applied directly to polyisocyanurate insulation, only a spot or strip mopped application as detailed in this approval is approved; see General Limitation #4.

Ply Sheet: (Optional) One or more plies of Firestone MB Base Sheet, Type IV or VI ply sheet or other listed base sheet applied in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: One ply of Firestone APP 160, APP 170, APP 180 or APP 180 FR applied by torch parallel to the base ply, with the overlaps staggered 12".

Surfacing: Install one of the following:

1. Gravel or slag at 400 lb. and 300 lb., respectively, in a flood coat of approved asphalt at an application rate of 60 lb./sq..
2. Karnak No. 97, No. 97 AF or No. 169, Henry 520 aluminum, MB aluminum coating or APOC #212 at an application rate of 1½ gal./sq.

APP 180 FR does not require 1 or 2 above to achieve a UL Class A fire rating.

Maximum Design Pressure:

-45 psf (See General Limitation #9)

Maximum Fire Classification:

See General Limitation #1.



Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Concrete/lightweight concrete/cementitious wood fiber/wood/steel

System Type A: Anchor sheet mechanically fastened; all layers of insulation adhered with approved asphalt.

All General and System Limitations apply.

<u>Insulation Base Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
Approved Type(s): ACFoam-II, ACFoam-I Minimum: 4' x 4' x 1.3"	N/A	N/A	N/A	N/A
Approved Type(s): E"NRG"Y-2, PSI-25 Minimum: 4' x 4' x 1.4"	N/A	N/A	N/A	N/A
Approved Type(s): Fiberglas Minimum: 4' x 4' x 15/16"	N/A	N/A	N/A	N/A
Approved Type(s): Hy-Tec, Hy-Tec II Minimum: 4' x 4' x 1.2	N/A	N/A	N/A	N/A
Approved Type(s): Iso 95+ GL, GW, Composite Minimum: 4' x 4' x 1.4"	N/A	N/A	N/A	N/A
Approved Type(s): ISO-Lite E Minimum: 4' x 4' x 1.3"	N/A	N/A	N/A	N/A
Approved Type(s): Multi-Max Minimum: 4' x 4' x 1.5"	N/A	N/A	N/A	N/A
Approved Type(s): UltraGard Gold II Minimum: 4' x 4' x 1.3"	N/A	N/A	N/A	N/A
Approved Type(s): Perlite Minimum: 2' x 4' x 3/4"	N/A	N/A	N/A	N/A

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

Anchor Sheet: (Optional) One ply of Firestone MB Base Sheet, Celotex Vaporbar GB, Manville GlasBase or Perma Ply 28 with a 4" side lap mechanically fastened to the deck as described below:

Fastening: Fasten anchor sheet with approved fasteners at the side lap 12" o.c. and two rows staggered in the center of the sheet 18" o.c.



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- Base Sheet: One ply of Firestone MB, Firestone SBS Base Sheet, Celotex Vaporbar GB, Manville GlasBase, GAF GAFglas, Perma Ply 28 or Firestone Type IV or VI ply sheet adhered to the insulation in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
- Ply Sheet: (Optional) One or more plies of SBS Smooth or SBS base sheet or Firestone Type IV or VI ply sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
- Membrane: One ply of Firestone SBS, SBS FR, SBS Smooth, SBS Premium, Premium FR, SBS Glass or SBS Glass FR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
- Surfacing: (Optional) Install one of the following:
1. Gravel or slag at 400 lb. and 300 lb., respectively, set in a flood coat of type III or IV asphalt at 60 lb./sq..
 2. Karnak No. 97, No. 97 AF at an application rate of 1½ gal./sq.
- Maximum Design Pressure: -45 psf (See General Limitation #9.)
- Maximum Fire Classification: See General Limitation #1.



Membrane Type: APP

Deck Type 7I: Recover

Deck Description: Concrete/lightweight concrete/cementitious wood fiber/wood/steel

System Type B: Base layers of insulation mechanically fastened, top layer adhered with approved asphalt.

All General and System Limitations apply.

<u>Insulation Base Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
Approved Type(s): AC-Foam I Minimum: 1.3" x 4' x 4'	See Deck System	[2]	4	1:3 ft ²
Approved Type(s): E'NRG'Y 2 Minimum: 1.25" x 4' x 4'	See Deck System	[2]	4	1:3 ft ²
Approved Type(s): AC-Foam II Minimum: 1.3" x 4' x 4'	See Deck System	[3]	4	1:2.67 ft ²
Approved Type(s): Perlite Minimum: ¾" x 2' x 4'	See Deck System	[1]	4	1:2 ft ²
Approved Type(s): Fiberglas Minimum: 1 ⁵ / ₁₆ " x 4' x 4'	See Deck System	[3]	6	1:2.67 ft ²

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Insulation fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

<u>Insulation Top Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
Approved Type(s): Perlite Minimum: ¾" x 2' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): Fiberglas Minimum: ¾" x 4' x 4'	N/A	N/A	N/A	N/A

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



Base Sheet: One ply of Firestone MB Base Sheet, Celotex Vaporbar GB, Manville GlasBase or Perma Ply 28 adhered to the insulation with hot asphalt adhesive applied within the EVT range and at a rate of 20-40 lbs./sq.. If base sheet is applied directly to polyisocyanurate insulation, only a spot or strip mopped application as detailed in this approval is approved; see General Limitation #4.

Ply Sheet: (Optional) One or more plies of Firestone MB Base Sheet, Type IV or VI ply sheet or other listed base sheet applied in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Membrane: One ply of Firestone APP 160, APP 170, APP 180 or APP 180 FR applied by torch parallel to the base ply, with the overlaps staggered 12".

Surfacing: Install one of the following:

1. Gravel or slag at 400 lb. and 300 lb., respectively, in a flood coat of approved asphalt at an application rate of 60 lb./sq..
2. Karnak No. 97, No. 97 AF or No. 169, Henry 520 aluminum, MB aluminum coating or APOC #212 at an application rate of 1½ gal./sq..

APP 180 FR does not require 1 or 2 above to achieve a UL Class A fire rating.

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

Maximum Fire Classification: See General Limitation #1.



Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Concrete/lightweight concrete/cementitious wood fiber/wood/steel

System Type B: Base layers of insulation mechanically fastened, top layer adhered with approved asphalt.

All General and System Limitations apply.

<u>Insulation Base Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
Approved Type(s): AC-Foam I Minimum: 1.3" x 4' x 4'	See Deck System	[2]	4	1:3 ft ²
Approved Type(s): E'NRG'Y 2 Minimum: 1.25" x 4' x 4'	See Deck System	[2]	4	1:3 ft ²
Approved Type(s): AC-Foam II Minimum: 1.3" x 4' x 4'	See Deck System	[3]	4	1:2.67 ft ²
Approved Type(s): Perlite Minimum: ¾" x 2' x 4'	See Deck System	[1]	4	1:2 ft ²
Approved Type(s): Fiberglas Minimum: 1 ⁵ / ₁₆ " x 4' x 4'	See Deck System	[3]	6	1:2.67 ft ²

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Insulation fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

<u>Insulation Top Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
Approved Type(s): Perlite Minimum: ¾" x 2' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): Fiberglas Minimum: ¾" x 4' x 4'	N/A	N/A	N/A	N/A

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



- Base Sheet: One ply of Firestone MB, Firestone SBS Base Sheet, Celotex Vaporbar GB, Manville GlasBase, GAF GAFglas, Perma Ply 28 or Firestone Type IV or VI ply sheet adhered to the insulation in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
- Ply Sheet: (Optional) One or more plies of SBS Smooth or SBS base sheet or Firestone Type IV or VI ply sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
- Membrane: One ply of Firestone SBS, SBS FR, SBS Smooth, SBS Premium, Premium FR, SBS Glass or SBS Glass FR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq..
- Surfacing: (Optional) Install one of the following:
1. Gravel or slag at 400 lb. and 300 lb., respectively, set in a flood coat of type III or IV asphalt at 60 lb./sq..
 2. Karnak No. 97, No. 97 AF at an application rate of 1½ gal./sq..
- Maximum Design Pressure: -45 psf (See General Limitation #9.)
- Maximum Fire Classification: See General Limitation #1.



Membrane Type: APP

Deck Type 7I: Recover

Deck Description: Concrete/lightweight concrete/cementitious wood fiber/wood/steel

System Type C: All layers of insulation simultaneously attached.

All General and System Limitations apply.

<u>Insulation Base Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
Approved Type(s): AC-Foam I Minimum: 1.3" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): E'NRG'Y 2 Minimum: 1.4" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): Multi-Max Minimum: 1.4" x 4' x 8'	N/A	N/A	N/A	N/A
Approved Type(s): Perlite Minimum: ¾" x 2' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): Fiberglas Minimum: 1 ⁵ / ₁₆ " x 4' x 4'	N/A	N/A	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>Insulation Top Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
Approved Type(s): Perlite Minimum: ¾" x 2' x 4'	See Deck System	[1]	4	1:2 ft ²
Approved Type(s): Fiberglas Minimum: 1 ⁵ / ₁₆ " x 4' x 4'	See Deck System	[3]	6	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.

Base Sheet: One ply of Firestone MB Base Sheet, Celotex Vaporbar GB, Manville GlasBase or Perma Ply 28 adhered to the insulation with hot asphalt adhesive applied within the EVT range and at a rate of 20-40 lbs./sq.. If base sheet is applied directly to polyisocyanurate insulation, only a spot or strip mopped application as detailed in this approval is approved; see General Limitation #4.



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- Ply Sheet:** (Optional) One or more plies of Firestone MB Base Sheet, Type IV or VI ply sheet or other listed base sheet applied in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq..
- Membrane:** One ply of Firestone APP 160, APP 170, APP 180 or APP 180 FR applied by torch parallel to the base ply, with the overlaps staggered 12".
- Surfacing:** Install one of the following:
1. Gravel or slag at 400 lb. and 300 lb., respectively, in a flood coat of approved asphalt at an application rate of 60 lb./sq..
 2. Karnak No. 97, No. 97 AF or No. 169, Henry 520 aluminum, MB aluminum coating or APOC #212 at an application rate of 1½ gal./sq..
- APP 180 FR does not require 1 or 2 above to achieve a UL Class A fire rating.
- Maximum Design Pressure:** -45 psf (See General Limitation #9.)
- Maximum Fire Classification:** See General Limitation #1.



Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Concrete/lightweight concrete/cementitious wood fiber/wood/steel

System Type C: All layers of insulation simultaneously attached.

All General and System Limitations apply.

<u>Insulation Base Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
Approved Type(s): AC-Foam I Minimum: 1.3" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): E'NRG'Y 2 Minimum: 1.4" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): Multi-Max Minimum: 1.4" x 4' x 8'	N/A	N/A	N/A	N/A
Approved Type(s): Perlite Minimum: 3/4" x 2' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): Fiberglas Minimum: 15/16" x 4' x 4'	N/A	N/A	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>Insulation Top Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
Approved Type(s): Perlite Minimum: 3/4" x 2' x 4'	See Deck System	[1]	4	1:2 ft ²
Approved Type(s): Fiberglas Minimum: 15/16" x 4' x 4'	See Deck System	[3]	6	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.

Base Sheet: One ply of Firestone MB, Firestone SBS Base Sheet, Celotex Vaporbar GB, Manville GlasBase, GAF GAFglas, Perma Ply 28 or Firestone Type IV or VI ply sheet adhered to the insulation in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.



- Ply Sheet:** (Optional) One or more plies of SBS Smooth or SBS base sheet or Firestone Type IV or VI ply sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq..
- Membrane:** One ply of Firestone SBS, SBS FR, SBS Smooth, SBS Premium, Premium FR, SBS Glass or SBS Glass FR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
- Surfacing:** (Optional) Install one of the following:
1. Gravel or slag at 400 lb. and 300 lb., respectively, set in a flood coat of type III or IV asphalt at 60 lb./sq.
 2. Karnak No. 97, No. 97 AF at an application rate of 1½ gal./sq.
- Maximum Design Pressure:** -45 psf (See General Limitation #9.)
- Maximum Fire Classification:** See General Limitation #1.



Membrane Type: APP

Deck Type 7I: Recover

Deck Description: Concrete/lightweight concrete/cementitious wood fiber/wood/steel

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

All General and System Limitations apply.

<u>Insulation Base or Top Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
Approved Type(s): ACFoam-II, ACFoam-I Minimum: 4' x 4' x 1.3"	N/A	N/A	N/A	N/A
Approved Type(s): E"NRG"Y-2, PSI-25 Minimum: 4' x 4' x 1.4"	N/A	N/A	N/A	N/A
Approved Type(s): Fiberglas Minimum: 4' x 4' x 15/16"	N/A	N/A	N/A	N/A
Approved Type(s): Hy-Tec, Hy-Tec II Minimum: 4' x 4' x 1.2	N/A	N/A	N/A	N/A
Approved Type(s): Iso 95+ GL, GW, Composite Minimum: 4' x 4' x 1.4"	N/A	N/A	N/A	N/A
Approved Type(s): ISO-Lite E Minimum: 4' x 4' x 1.3"	N/A	N/A	N/A	N/A
Approved Type(s): Multi-Max Minimum: 4' x 4' x 1.5"	N/A	N/A	N/A	N/A
Approved Type(s): UltraGard Gold II Minimum: 4' x 4' x 1.3"	N/A	N/A	N/A	N/A
Approved Type(s): Perlite Minimum: 2' x 4' x 3/4"	N/A	N/A	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.

<u>Insulation Top Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
Approved Type(s): Perlite Minimum: 3/4" x 2' x 4'	See Deck System	[1]	4	1:2 ft ²
Approved Type(s): Fiberglas Minimum: 15/16" x 4' x 4'	See Deck System	[3]	6	1:2.67 ft ²



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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 of Firestone MB Base Sheet, Celotex Vaporbar GB, Manville GlasBase or Perma Ply 28 with a 4" side lap mechanically fastened to the deck through the insulation as described below:
- Fastening:** Fasten base sheet with approved fasteners at the side lap 12" o.c. and two rows staggered in the center of the sheet 18" o.c.
- Ply Sheet:** (Optional) One or more plies of Firestone MB Base Sheet, Type IV or VI ply sheet or other listed base sheet applied in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
- Membrane:** One ply of Firestone APP 160, APP 170, APP 180 or APP 180 FR applied by torch parallel to the base ply, with the overlaps staggered 12".
- Surfacing:** Install one of the following:
1. Gravel or slag at 400 lb. and 300 lb., respectively, in a flood coat of approved asphalt at an application rate of 60 lb./sq.
 2. Karnak No. 97, No. 97 AF or No. 169, Henry 520 aluminum, MB aluminum coating or APOC #212 at an application rate of 1½ gal./sq.
APP 180 FR does not require 1 or 2 above to achieve a UL Class A fire rating.
- Maximum Design Pressure:** -45 psf (See General Limitation #9.)
- Maximum Fire Classification:** See General Limitation #1.



Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Concrete/lightweight concrete/cementitious wood fiber/wood/steel

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

All General and System Limitations apply.

<u>Insulation Base or Top Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
Approved Type(s): ACFoam-II, ACFoam-I Minimum: 4' x 4' x 1.3"	N/A	N/A	N/A	N/A
Approved Type(s): E"NRG"Y-2, PSI-25 Minimum: 4' x 4' x 1.4"	N/A	N/A	N/A	N/A
Approved Type(s): Fiberglas Minimum: 4' x 4' x 15/16"	N/A	N/A	N/A	N/A
Approved Type(s): Hy-Tec, Hy-Tec II Minimum: 4' x 4' x 1.2	N/A	N/A	N/A	N/A
Approved Type(s): Iso 95+ GL, GW, Composite Minimum: 4' x 4' x 1.4"	N/A	N/A	N/A	N/A
Approved Type(s): ISO-Lite E Minimum: 4' x 4' x 1.3"	N/A	N/A	N/A	N/A
Approved Type(s): Multi-Max Minimum: 4' x 4' x 1.5"	N/A	N/A	N/A	N/A
Approved Type(s): UltraGard Gold II Minimum: 4' x 4' x 1.3"	N/A	N/A	N/A	N/A
Approved Type(s): Perlite Minimum: 2' x 4' x 3/4"	N/A	N/A	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.

<u>Insulation Top Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
Approved Type(s): Perlite Minimum: 3/4" x 2' x 4'	See Deck System	[1]	4	1:2 ft ²
Approved Type(s): Fiberglas Minimum: 15/16" x 4' x 4'	See Deck System	[3]	6	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.

- Base Sheet: One ply of Firestone MB, Firestone SBS Base Sheet, Celotex Vaporbar GB, Manville GlasBase, GAF GAFglas or Perma Ply 28 with a 4" side lap mechanically fastened to the deck through the insulation as described below:
- Fastening: Fasten anchor sheet with approved fasteners at a 4" side lap 18" o.c. and two rows staggered in the center of the sheet 36" o.c.
- Ply Sheet: (Optional) One or more plies of SBS Smooth or SBS base sheet or Firestone Type IV or VI ply sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq..
- Membrane: One ply of Firestone SBS, SBS FR, SBS Smooth, SBS Premium, Premium FR, SBS Glass or SBS Glass FR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq..
- Surfacing: (Optional) Install one of the following:
1. Gravel or slag at 400 lb. and 300 lb., respectively, set in a flood coat of type III or IV asphalt at 60 lb./sq..
 2. Karnak No. 97, No. 97 AF at an application rate of 1½ gal./sq..
- Maximum Design Pressure: -45 psf (See General Limitation #9.)
- Maximum Fire Classification: See General Limitation #1.



Membrane Type: APP

Deck Type 7: Recover

Deck Description: Concrete/lightweight concrete/cementitious wood fiber/wood/steel

System Type E: Base sheet mechanically fastened.

All General and System Limitations apply.

Base Sheet: One ply of Firestone MB Base Sheet, Celotex Vaporbar GB, Manville GlasBase or Perma Ply 28 with a 4" side lap mechanically fastened to the deck as described below:

Fastening: Fasten base sheet with approved fasteners at the side lap 12" o.c. and two rows staggered in the center of the sheet 18" o.c.; see System Limitation #5.

Ply Sheet: None.

Membrane: One ply of Firestone APP 160, APP 170, APP 180 or APP 180 FR torch applied to the base ply.

Surfacing: Install one of the following:

1. Gravel or slag at 400 lb. and 300 lb., respectively, set in a flood coat of type III or IV asphalt at 60 lb./sq..
2. Karnak No. 97, No. 97 AF or No. 169 at an application rate of 1½-3 gal./sq..

APP 180 FR does not require 1 or 2 above to achieve a UL Class A fire rating.

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

Maximum Fire Classification: See General Limitation #1.



Membrane Type: SBS
Deck Type 7: Recover
Deck Description: Concrete/lightweight concrete/cementitious wood fiber/wood/steel
System Type E: Base sheet mechanically fastened.

All General and System Limitations apply.

Base Sheet: One ply of Firestone MB, Firestone SBS Base Sheet, Celotex Vaporbar GB, Manville GlasBase, GAF GAFglas or Perma Ply 28 with a 4" side lap mechanically fastened to the deck through the insulation as described below:

Fastening: Approved fasteners at a 4" side lap 18" o.c. and two rows staggered in the center of the sheet 36" o.c.; see System Limitation #5.

Ply Sheet: (Optional) One or more plies of SBS Smooth or SBS base sheet or Firestone Type IV or VI ply sheet adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq..

Membrane: One ply of Firestone SBS, SBS FR, SBS Smooth, SBS Premium, Premium FR, SBS Glass or SBS Glass FR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq..

Surfacing: (Optional) Install one of the following:

1. Gravel or slag at 400 lb. and 300 lb., respectively, set in a flood coat of type III or IV asphalt at 60 lb./sq..
2. Karnak No. 97, No. 97 AF at an application rate of 1½ gal./sq..

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

Maximum Fire Classification: See General Limitation #1.



RECOVER SYSTEM LIMITATIONS:

1. All System Limitations and General Limitations shall apply. See specific deck type Notice of Acceptance for deck type System Limitations.

GENERAL LIMITATIONS:



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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. **(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



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