



BUILDING CODE COMPLIANCE OFFICE
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PRODUCT CONTROL DIVISION
(305) 375-2902 FAX (305) 372-6339

PRODUCT CONTROL NOTICE OF ACCEPTANCE

Centimark Corporation
Southpoint, 12 Grandview Circle
Cannonsburg, PA 15317

Your application for Notice of Acceptance (NOA) of:

Centimark EPDM Single Ply Roofing System for Concrete Deck

under Chapter 8 of the Code of Miami-Dade County governing the use of Alternate Materials and Types of Construction, and completely described herein, has been recommended for acceptance by the Miami-Dade County Building Code Compliance Office (BCCO) under the conditions specified herein.

This NOA shall not be valid after the expiration date stated below. BCCO reserves the right to secure this product or material at any time from a jobsite or manufacturer's plant for quality control testing. If this product or material fails to perform in the approved manner, BCCO may revoke, modify, or suspend the use of such product or material immediately. BCCO reserves the right to revoke this approval, if it is determined by BCCO that this product or material fails to meet the requirements of the South Florida Building Code.

The expense of such testing will be incurred by the manufacturer.

ACCEPTANCE NO.: 01-0206.03
EXPIRES: 05/17/2006

Raul Rodriguez
Chief Product Control Division

THIS IS THE COVERSHEET, SEE ADDITIONAL PAGES FOR SPECIFIC AND GENERAL
CONDITIONS
BUILDING CODE & PRODUCT REVIEW COMMITTEE

This application for Product Approval has been reviewed by the BCCO and approved by the Building Code and Product Review Committee to be used in Miami-Dade County, Florida under the conditions set forth above.

Francisco J. Quintana, R.A.
Director
Miami-Dade County
Building Code Compliance Office

APPROVED: 05/17/2001

ROOFING ASSEMBLY APPROVAL

Category: Roofing
Sub-Category: Single Ply
Materials: EPDM

Approval Date: May 17, 2001

Expiration Date: May 17, 2006

Deck Type: Concrete
Maximum Design Pressure -75 psf
Fire Classification: See General Limitation #1

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

<u>Product</u>	<u>Dimensions</u>	<u>Test Specifications</u>	<u>Product Description</u>
Standard EPDM	various	ASTM D 4637	EPDM membrane
FR EPDM	various	ASTM D 4637	Fire Retardant EPDM membrane
Reinforced EPDM	various	ASTM D 4637	Polyester scrim reinforced EPDM
Reinforced FR EPDM	various	ASTM D 4637	Polyester scrim reinforced fire retardant EPDM
Cover Strip	.045" x 8" x 150'	ASTM D 4637	EPDM cover strip
FR Cover Strips	.045" x 7.5" x 150'	ASTM D 4637	Fire Retardant EPDM cover strip
EPDM Flashing	various	ASTM D 4811	Self-curing EPDM flashing
Neoprene Flashing	.060" x 24" x 100' or .060" x 48" x 100'	ASTM D 4811	Self-curing neoprene flashing
Reinforced Perimeter Strip	.045" x 6" x 100'	ASTM D 4637	Non-dusted EPDM reinforced strip for non-penetrating base tie-in details
Bonding Adhesive	5 gallon pail		Neoprene based bonding adhesive
Splice Cement	1 gallon and 5 gallon pails		Synthetic polymer based adhesive
Pipe Boots	small, med, large	ASTM D 4637-87	Flashing for round penetrations
Laminated Pipe Boots	Small, med, large	ASTM D 4637-87	Pre-fabricated butyl/EPDM adhesive tape laminated to the bottom of the pipe boot flange
Term Bar	.10" x 1.35" x 10'	3003-H14, 3105-H14 or 6063-T5 aluminum	Aluminum bar for flashing terminations
Metal Wind Bars	.0448" x 1.0" x 10'	FM 4450	EPDM anchor
Polymer Batten Strip	.050" x 1.0" x 250'		EPDM anchor
Laminated Flashing	.080" x various widths x 100'		Semi-cured EPDM flashing laminated to cure seam tape
Primer Wash	5 gallon pail		Primer used to clean and prime EPDM
Laminated Cover Strip	.095" x various widths x 100'		Cured EPDM and a seam adhesive laminate

<u>Product</u>	<u>Dimensions</u>	<u>Test Specifications</u>	<u>Product Description</u>
Laminated "T" Joint	.070" x 5.75" diameter		FormFlash with two layers of butyl/EPDM adhesive tape laminate
Seam Tape	3" x 100'		Tape for field splicing
Lap Seam Sealant	10 oz. tube, 1 qt. tube and 5 gallon pails		Sealant for membrane laps
Pourable Sealer	.78 gallon, Part A .10 gallon, Part B		Two part polyurethane sealant
Water Cut-off Mastic	10 oz. tube		Water sealant
Walkway Pads	30" x 30" x .300 thick		EPDM walkway pads

TRADE NAMES OF PRODUCTS MANUFACTURED BY OTHERS:

<u>Products</u>	<u>Dimensions</u>	<u>Test Specifications</u>	<u>Product Description</u>	<u>Manufacturer</u>
ISO 95+ GL / RhoFlex Isocyanurate GL	min. 4' x 4'	PA 110	Polyisocyanurate insulation board	Firestone Building Products Co.
General Purpose Sealant S-40A	10.3 oz. tube		Silicone sealant	Firestone Building Products Co.
Night Sealant S-30A	10 oz. tube		Synthetic polymer based caulking	Firestone Building Products Co.
Acryli-Top Coating PC-100	5 gallon pail		Acrylic coating	Firestone Building Products Co.
2" Seam Plate	.017" x 2" diameter	FM 4450	Membrane seam attachment plate	Firestone Building Products Co.
Hex Insulation Plate	.017" x 2 7/8" diameter	FM 4450	Insulation attachment plate	Firestone Building Products Co.
Batten Rings	.0448" x 1.0" x various diameters	FM 4450	EPDM anchors	Firestone Building Products Co.
Aluminum Drain Bar	.063" to .110" thick x 4" x 10'	FM 4450	Aluminum termination bar	Firestone Building Products Co.
Polymer Fastener	.675 OD (nominal) x various lengths		Cementitious wood fiber and gypsum deck fastener	Firestone Building Products Co.
Polymer Fastener Seam Plate Firestone EdgeGard	.017" x 2" diameter		Polymer Fastener plate Roof edging system	Firestone Building Products Co. Firestone Building Products Co.
Firestone All-Purpose Fastener	#14 or #15	PA 114	Steel, wood or concrete fastener	Firestone Building Products Co.
Firestone Concrete Drive	1/4" x various lengths	PA 114	Insulation fastener for concrete decks	Firestone Building Products Co.
Firestone Stainless Steel Drive Pins	1/4" x various lengths	PA 114	Compression type fastener	Firestone Building Products Co.
Firestone FiberTop Wood Fiber Insulation	min. 4' x 4'	PA 110	Non-asphaltic, wood fiberboard insulation board	Firestone Building Products Co.
Splice Wash SW-100	5 gallon pail		Cleaning and prep solution for EPDM	Firestone Building Products Co.

<u>Products</u>	<u>Dimensions</u>	<u>Test Specifications</u>	<u>Product Description</u>	<u>Manufacturer</u>
Firestone Protection Mat	15" x 320'		Black polypropylene, non-woven, needle-punched fabric	Firestone Building Products Co.
AC Foam I	min. 4' x 4'	PA 110	Polyisocyanurate insulation board	Atlas Energy
AC Foam II	min. 4' x 4'	PA 110	Polyisocyanurate insulation board	Atlas Energy
AC Foam I Composite	min. 4' x 4'	PA 110	Polyisocyanurate /perlite insulation board	Atlas Energy
AC Foam II Composite	min. 4' x 4'	PA 110	Polyisocyanurate /perlite insulation board	Atlas Energy
E'NRG'Y I	min. 4' x 4'	PA 110	Polyisocyanurate insulation board	Johns Manville
E'NRG'Y II	min. 4' x 4'	PA 110	Polyisocyanurate insulation board	Johns Manville
E'NRG'Y PSI-25	min. 4' x 4'	PA 110	Polyisocyanurate insulation board	Johns Manville
Barrier Board Plus	min. 4' x 4'	PA 110	Polyisocyanurate /perlite insulation board	Johns Manville
UltraGard Gold II	min. 4' x 4'	PA 110	Polyisocyanurate insulation board	Johns Manville
Fesco Foam SP	min. 4' x 4'	PA 110	Polyisocyanurate /perlite insulation board	Johns Manville
Multi-Max	min. 4' x 4'	PA 110	Polyisocyanurate insulation board	RMAX
Multi-Max FA	min. 4' x 4'	PA 110	Polyisocyanurate insulation board	RMAX
Thermarroof Composite	min. 4' x 4'	PA 110	Polyisocyanurate /perlite insulation board	RMAX
Hy-Therm AP	min. 4' x 4'	PA 110	Polyisocyanurate insulation board	Celotex
Hy-Tec Composite	min. 4' x 4'	PA 110	Polyisocyanurate /perlite insulation board	Celotex
High Density Wood Fiberboard	min. 4' x 4'	PA 110	Non-asphaltic fiberboard insulation board	Celotex
Sturdi-Top/High Density Wood Fiberboard	min. 4' x 4'	PA 110	Non-asphaltic fiberboard insulation board	Georgia Pacific
Structodek	min. 4' x 4'	PA 110	Non-asphaltic fiberboard insulation board	Wood Fiber Industries
Dekfast #14	various lengths	PA 110	Insulation fastening system	Construction Fasteners, Inc.
Dekfast #15	various lengths	PA 110	Insulation fastening system	Construction Fasteners, Inc.
Dekfast Hex Plate		PA 110	Insulation fastening system	Construction Fasteners, Inc.
Roofgrip #14		PA 114	Insulation fastening system	ITW-Buildex
Buildex Flat Bottom Plate		PA 114	Insulation fastening system	ITW-Buildex

<u>Products</u>	<u>Dimensions</u>	<u>Test Specifications</u>	<u>Product Description</u>	<u>Manufacturer</u>
Polymer GypTec		PA 114	Insulation fastening system	ITW-Buildex
Polymer GypTec Metal Plate		PA 114	Insulation fastening system	ITW-Buildex
Olympic #14	various	PA 114	Insulation fastening system	Olympic Mfg. Group
Olympic Standard Fastener		PA 114	Insulation fastening system	Olympic Mfg. Group
Olympic G-2		PA 114	Insulation fastening system	Olympic Mfg. Group
C-R Base Felt Fastener		PA 114	Insulation fastening system	Olympic Mfg. Group
C-R Base Sheet Disc		PA 114	Insulation fastening system	Olympic Mfg. Group
Rawl #14	various with 3" steel insulation plate	PA 114	Insulation fastening system	Rawlplug Co.
Rawlite	.437" diameter with 3" diameter steel stress plate	PA 114	Insulation fastening system	Rawlplug Co.
Insul-Fixx	various with 3" steel insulation plates	PA 114	Insul-Fixx Fastening System with steel stress plates	SFS Stadler
TruFast	various with stell stress plate	PA 114	TruFast HD and MP-3 fastening systems	TruFast Corp.

EVIDENCE SUBMITTED:

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Description</u>	<u>Date</u>
Underwriters Laboratories, Inc.	Letter	Fire Classification - see current directory	07/09/93
Underwriters Laboratories, Inc.	88NK1932	Fire Classification - see current directory	12/08/93
Factory Mutual Research Corporation	J.I. #2W6A2.AM	Wind Uplift	06/25/93
Factory Mutual Research Corporation	J.I.# 2X9A8.AM	Wind Uplift Report	06/14/94



Frank Zuloaga, RRC
Roofing Plans Examiner

Membrane Type: Single Ply, EPDM, Reinforced, Nonreinforced
Deck Type 3I: Concrete, Insulated, New Construction
Deck Description: 2500 psi or greater structural concrete or concrete plank
System Type A: One or more layers of insulation adhered with approved asphalt; membrane fully adhered.

All General and System Limitations shall apply.

<u>Insulation Base Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
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Approved Type(s): **ISO 95+ GL, Rhoflex Isocyanurate GL, E'NRG'Y 2, E'NRG'Y PSI-25, UltraGard Gold, AC Foam II**

Minimum: 1.4" x 4' x 4'	N/A	N/A	N/A	N/A
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Approved Type(s): **Multi-Max FA**

Minimum: 1.5 x 4' x 4'	N/A	N/A	N/A	N/A
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<u>Insulation (Optional) Top Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
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Approved Type(s): **FiberTop C, FiberTop E, FiberTop S**

Minimum: 1/2" x 4' x 4'	N/A	N/A	N/A	N/A
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Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of base sheet. All insulation shall be adhered to the deck in full mopping of approved 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 used as a top layer shall be placed with the polyisocyanurate side facing down.

Barrier Sheet: (Optional) Install one or two plies of UL Classified or FM Approved ply or base sheet directly to the primed concrete deck with hot asphalt at an application rate of 25 lbs./sq. ± 15%.

Membrane: Fully adhere any EPDM membrane to the insulation with Centimark Bonding Adhesive at a rate of 45-60 sq. ft./gal. (coverage area is for adhesive application to both mating surfaces).

Surfacing: (Optional) Firestone Acryli-Top (PC-100) to be applied at 1 gal/100 sq. ft. with an airless sprayer. If roller applied, two separate coats of 200 sq. ft. per gallon are required.

Maximum Design Pressure: -45 psf (See General Limitation#7)



Membrane Type: Single Ply, EPDM, Reinforced, Nonreinforced
Deck Type 3I: Concrete, Insulated, New Construction
Deck Description: 2500 psi or greater structural concrete or concrete plank
System Type C(1): All layers of insulation simultaneously attached; membrane fully adhered.

All General and System Limitations shall 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): ISO 95+ GL, Rhoflex Isocyanurate GL, UltraGard Gold II, E'NRG'Y II, E'NRG'Y PSI-25				
Minimum: 1.4" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): Hy-Therm AP, Multi-Max, Multi-Max FA, ACFoam I, ACFoam II				
Minimum: 1.3" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): ISO 95+ GL Composite, Rhoflex Isocyanurate Composite GL,				
Minimum: 1.5" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): ARCO, BASF, Huntsman, Dow or Foamular Polystyrene				
Minimum: 1" x 4' x 4'	N/A	N/A	N/A	N/A

Note: Both insulation layers shall be simultaneously fastened; see Top Layer 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): FiberTop E, FiberTop C, FiberTop S or High Density Wood Fiber				
Minimum: 1" x 4' x 4'	Firestone AP	[3]	8	1:2 ft ²
Minimum: 1" x 4' x 4'	Firestone HD	[3]	8	1:2 ft ²
Minimum: 1" x 4' x 4'	Firestone Concrete Drive	[3]	8	1:2 ft ²
Minimum: 1" x 4' x 4'	Dekfast	[3]	8	1:2 ft ²
Minimum: 1" x 4' x 4'	Olympic	[3]	8	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.

Barrier: None.

Membrane: Fully adhere any EPDM membrane to the insulation with Centimark Bonding Adhesive at a rate of 45-60 sq. ft./gal. (coverage area is for adhesive application to both mating surfaces).

Surfacing: (Optional) Firestone Acryli-Top (PC-100) to be applied at 1 gal/100 sq. ft. with an airless sprayer. If roller applied, two separate coats of 200 sq. ft. per gallon are required.

Maximum Design Pressure: -45 psf (See General Limitation#7)



Membrane Type: Single Ply, EPDM, Reinforced, Nonreinforced
Deck Type 3I: Concrete, Insulated, New Construction
Deck Description: 2500 psi or greater structural concrete or concrete plank
System Type C(2): All layers of insulation simultaneously attached; membrane fully adhered.

All General and System Limitations shall 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): ISO 95+ GL, Rhoflex Isocyanurate GL				
Minimum: 1.4" x 3' x 4'	Firestone AP	[2]	6	1:2 ft ²
Minimum: 1.4" x 3' x 4'	Firestone HD	[2]	6	1:2 ft ²
Minimum: 1.4" x 3' x 4'	Buildex Roofgrip	[2]	6	1:2 ft ²
Minimum: 1.4" x 3' x 4'	Dekfast	[2]	6	1:2 ft ²
Minimum: 1.4" x 3' x 4'	Tru-Fast HD	[2]	6	1:2 ft ²
Minimum: 1.4" x 3' x 4'	Olympic	[2]	6	1:2 ft ²
Minimum: 1.4" x 3' x 4'	Firestone Concrete Drive	[2]	6	1:2 ft ²
Minimum: 2" x 3' x 4'	Firestone AP	[3]	4	1:4 ft ²
Minimum: 2" x 3' x 4'	Firestone HD	[3]	4	1:4 ft ²
Minimum: 2" x 3' x 4'	Firestone Concrete Drive	[3]	4	1:4 ft ²
Approved Type(s): ACFoam II				
Minimum: 1.3" x 3' x 4'	Firestone AP	[2]	6	1:2 ft ²
Minimum: 1.3" x 3' x 4'	Firestone HD	[2]	6	1:2 ft ²
Minimum: 1.3" x 3' x 4'	Buildex Roofgrip	[2]	6	1:2 ft ²
Minimum: 1.3" x 3' x 4'	Dekfast	[2]	6	1:2 ft ²
Minimum: 1.3" x 3' x 4'	Firestone Concrete Drive	[2]	6	1:2 ft ²
Minimum: 1.3" x 3' x 4'	Olympic	[2]	6	1:2 ft ²
Minimum: 1.3" x 3' x 4'	HD Insul-Fixx	[2]	6	1:2 ft ²
Approved Type(s): Hy-Therm AP				
Minimum: 1.25" x 3' x 4'	Firestone AP	[2]	6	1:2 ft ²
Minimum: 1.25" x 3' x 4'	Firestone HD	[2]	6	1:2 ft ²
Minimum: 1.25" x 3' x 4'	Firestone Concrete Drive	[2]	6	1:2 ft ²
Minimum: 1.25" x 3' x 4'	Buildex Roofgrip	[2]	6	1:2 ft ²
Minimum: 1.25" x 3' x 4'	Dekfast	[2]	6	1:2 ft ²
Minimum: 1.25" x 3' x 4'	Olympic	[2]	6	1:2 ft ²
Minimum: 1.25" x 3' x 4'	HD Insul-Fixx	[2]	6	1:2 ft ²
Approved Type(s): E'NRG'Y II, E'NRG'Y PSI-25				
Minimum: 1.4" x 3' x 4'	Firestone AP	[2]	6	1:2 ft ²
Minimum: 1.4" x 3' x 4'	Firestone HD	[2]	6	1:2 ft ²
Minimum: 1.4" x 3' x 4'	Firestone Concrete Drive	[2]	6	1:2 ft ²
Minimum: 1.4" x 3' x 4'	Buildex Roofgrip	[2]	6	1:2 ft ²
Minimum: 1.4" x 3' x 4'	Dekfast	[2]	6	1:2 ft ²
Minimum: 1.4" x 3' x 4'	Olympic	[2]	6	1:2 ft ²
Minimum: 1.4" x 3' x 4'	HD Insul-Fixx	[2]	6	1:2 ft ²



<u>Insulation Base Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
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Approved Type(s): **FiberTop E, FiberTop C, FiberTop S, High Density Wood Fiber**

Minimum: 1" x 4' x 4'	Firestone AP	[3]	8	1:2 ft ²
Minimum: 1" x 4' x 4'	Firestone HD	[3]	8	1:2 ft ²
Minimum: 1" x 4' x 4'	Firestone Concrete Drive	[3]	8	1:2 ft ²
Minimum: 1" x 4' x 4'	Dekfast	[3]	8	1:2 ft ²
Minimum: 1" x 4' x 4'	Olympic	[3]	8	1:2 ft ²

Approved Type(s): **ISO 95+ GL Composite, Rhoflex Isocyanurate Composite GL, Barrier Board Plus, Thermarroof Composite, Fesco Foam SP, Hy-Tec Composite, ACFoam II Composite**

Minimum: 1.5" x 4' x 4'	Firestone AP	[3]	8	1:2 ft ²
Minimum: 1.5" x 4' x 4'	Firestone HD	[3]	8	1:2 ft ²
Minimum: 1.5" x 4' x 4'	Firestone Concrete Drive	[3]	8	1:2 ft ²
Minimum: 1.5" x 4' x 4'	Buildex Roofgrip	[3]	8	1:2 ft ²
Minimum: 1.5" x 4' x 4'	Dekfast	[3]	8	1:2 ft ²
Minimum: 1.5" x 4' x 4'	Olympic	[3]	8	1:2 ft ²
Minimum: 1.5" x 4' x 4'	HD Insul-Fixx	[3]	8	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 Miami-Dade County Roofing Application Standard RAS 117 for insulation attachment.

Barrier: None.

Membrane: Fully adhere any EPDM membrane to the insulation with Centimark Bonding Adhesive at a rate of 45-60 sq. ft./gal. (coverage area is for adhesive application to both mating surfaces).

Surfacing: (Optional) Firestone Acryli-Top (PC-100) to be applied at 1 gal/100 sq. ft. with an airless sprayer. If roller applied, two separate coats of 200 sq. ft. per gallon are required.

Maximum Design Pressure: -45 psf (See General Limitation#7)



Membrane Type: Single Ply, EPDM, Reinforced, Nonreinforced
Deck Type 3I: Concrete, Insulated, New Construction
Deck Description: 2500 psi or greater structural concrete or concrete plank
System Type C(3): Insulation attached; membrane fully adhered.

All General and System Limitations shall 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): Firestone Nailbase				
Minimum: 1.5" x 4' x 4'	Firestone AP/2" Plate	[3]	8	1:2 ft ²
Minimum: 1.5" x 4' x 4'	Firestone HD/2" Plate	[3]	8	1:2 ft ²
Minimum: 1.5" x 4' x 4'	Firestone Concrete Drive/2" Plate	[3]	8	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.

Membrane: Fully adhere any EPDM membrane to the insulation with Centimark Bonding Adhesive at a rate of 45-60 sq. ft./gal. (coverage area is for adhesive application to both mating surfaces).

Surfacing: (Optional) Firestone Acryli-Top (PC-100) to be applied at 1 gal/100 sq. ft. with an airless sprayer. If roller applied, two separate coats of 200 sq. ft. per gallon are required.

Maximum Design Pressure: -75 psf (See General Limitation #9)



Membrane Type: Single Ply, EPDM, Reinforced, Nonreinforced
Deck Type 3I: Concrete, Insulated, New Construction
Deck Description: 2500 psi or greater structural concrete or concrete plank
System Type D(1): Membrane mechanically attached over preliminary fastened insulation.

All General and System Limitations shall apply.

<u>Insulation Base Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
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Approved Type(s): ISO 95+ GL, Rhoflex Isocyanurate GL, UltraGard Gold II, E'NRG'Y II, E'NRG'Y PSI-25

Minimum: 1.4" x 4' x 4'	N/A	N/A	N/A	N/A
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Approved Type(s): Hy-Therm AP, Multi-Max, Multi-Max FA, ACFoam I, ACFoam II

Minimum: 1.3" x 4' x 4'	N/A	N/A	N/A	N/A
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Approved Type(s): ISO 95+ GL Composite, Rhoflex Isocyanurate Composite GL, FM Approved Composite

Minimum: 1.5" x 4' x 4'	N/A	N/A	N/A	N/A
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Approved Type(s): ARCO, BASF, Huntsman, Dow or Foamular Polystyrene

Minimum: 1" x 4' x 4'	N/A	N/A	N/A	N/A
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Note: Both insulation layers shall be simultaneously fastened; see Top Layer 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>
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Approved Type(s): FiberTop E, FiberTop C, FiberTop S or High Density Wood Fiber

Minimum: ½" x 4' x 4'	Firestone AP	[3]	4	1:4 ft ²
Minimum: ½" x 4' x 4'	Firestone HD	[3]	4	1:4 ft ²
Minimum: ½" x 4' x 4'	Firestone Concrete Drive	[3]	4	1:4 ft ²
Minimum: ½" x 4' x 4'	Dekfast	[3]	4	1:4 ft ²
Minimum: ½" x 4' x 4'	Olympic	[3]	4	1:4 ft ²
Minimum: ½" x 4' x 8'	Firestone AP	[4]	5	1:6.4 ft ²
Minimum: ½" x 4' x 8'	Firestone HD	[4]	5	1:6.4 ft ²
Minimum: ½" x 4' x 8'	Firestone Concrete Drive	[4]	5	1:6.4 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.

Barrier: None.

Membrane: Mechanically attach any 7 1/2' Reinforced EPDM membrane with Firestone AP or HD fasteners in 2" Seam Plates (or metal battens) 6" o.c. within the 7" wide side laps, or any nominal 10' Reinforced EPDM membrane with Firestone AP or HD Fasteners in metal batten strip only 6" o.c. with 7" side laps.

Surfacing: (Optional) Firestone Acryli-Top (PC-100) to be applied at 1 gal/100 sq. ft. with an airless sprayer. If roller applied, two separate coats of 200 sq. ft. per gallon are required.

Maximum Design

Pressure: -52 psf (See General Limitation#7)



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 Roofing Plans Examiner

Membrane Type: Single Ply, EPDM, Reinforced, Nonreinforced

Deck Type 3I: Concrete, Insulated, New Construction

Deck Description: 2500 psi or greater structural concrete or concrete plank

System Type D(2): Membrane mechanically attached over preliminary fastened insulation.

All General and System Limitations shall 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): Firestone ISO 95+ GL, Rhoflex Isocyanurate GL				
Minimum: 1.25" x 4' x 4'	Firestone AP	[3]	4	1:4 ft ²
Minimum: 1.25" x 4' x 4'	Firestone HD	[3]	4	1:4 ft ²
Minimum: 1.25" x 4' x 4'	Firestone Concrete Drive	[3]	4	1:4 ft ²
Minimum: 1.25" x 4' x 8'	Firestone AP	[4]	5	1:6.4 ft ²
Minimum: 1.25" x 4' x 8'	Firestone HD	[4]	5	1:6.4 ft ²
Minimum: 1.25" x 4' x 8'	Firestone Concrete Drive	[4]	5	1:6.4 ft ²
Minimum: 1.4" x 4' x 4'	Buildex Roofgrip	[3]	4	1:4 ft ²
Minimum: 1.4" x 4' x 4'	Dekfast	[3]	4	1:4 ft ²
Minimum: 1.4" x 4' x 4'	Tru-Fast HD	[3]	4	1:4 ft ²
Minimum: 1.4" x 4' x 4'	Olympic	[3]	4	1:4 ft ²
Minimum: 1.4" x 4' x 4'	HD Insul-Fixx	[3]	4	1:4 ft ²
Approved Type(s): ACFoam II				
Minimum: 1.3" x 4' x 4'	Firestone AP	[3]	4	1:4 ft ²
Minimum: 1.3" x 4' x 4'	Firestone HD	[3]	4	1:4 ft ²
Minimum: 1.3" x 4' x 4'	Firestone Concrete Drive	[3]	4	1:4 ft ²
Minimum: 1.3" x 4' x 4'	Buildex Roofgrip	[3]	4	1:4 ft ²
Minimum: 1.3" x 4' x 4'	Dekfast	[3]	4	1:4 ft ²
Minimum: 1.3" x 4' x 4'	Tru-Fast HD	[3]	4	1:4 ft ²
Minimum: 1.3" x 4' x 4'	Olympic	[3]	4	1:4 ft ²
Minimum: 1.3" x 4' x 4'	HD Insul-Fixx	[3]	4	1:4 ft ²
Approved Type(s): Hy-Therm AP				
Minimum: 1.25" x 4' x 4'	Firestone AP	[3]	4	1:4 ft ²
Minimum: 1.25" x 4' x 4'	Firestone HD	[3]	4	1:4 ft ²
Minimum: 1.25" x 4' x 4'	Firestone Concrete Drive	[3]	4	1:4 ft ²
Minimum: 1.25" x 4' x 4'	Buildex Roofgrip	[3]	4	1:4 ft ²
Minimum: 1.25" x 4' x 4'	Dekfast	[3]	4	1:4 ft ²
Minimum: 1.25" x 4' x 4'	Olympic	[3]	4	1:4 ft ²
Minimum: 1.25" x 4' x 4'	HD Insul-Fixx	[3]	4	1:4 ft ²



<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): E'NRG'Y II, E'NRG'Y PSI-25				
Minimum: 1.4" x 4' x 4'	Firestone AP	[3]	4	1:4 ft ²
Minimum: 1.4" x 4' x 4'	Firestone HD	[3]	4	1:4 ft ²
Minimum: 1.4" x 4' x 4'	Firestone Concrete Drive	[3]	4	1:4 ft ²
Minimum: 1.4" x 4' x 4'	Buildex Roofgrip	[3]	4	1:4 ft ²
Minimum: 1.4" x 4' x 4'	Dekfast	[3]	4	1:4 ft ²
Minimum: 1.4" x 4' x 4'	Olympic	[3]	4	1:4 ft ²
Minimum: 1.4" x 4' x 4'	HD Insul-Fixx	[3]	4	1:4 ft ²
Approved Type(s): FiberTop E, FiberTop C, FiberTop S				
Minimum: ½" x 4' x 4'	Firestone AP	[3]	4	1:4 ft ²
Minimum: ½" x 4' x 4'	Firestone HD	[3]	4	1:4 ft ²
Minimum: ½" x 4' x 4'	Firestone Concrete Drive	[3]	4	1:4 ft ²
Minimum: ½" x 4' x 4'	Dekfast	[3]	4	1:4 ft ²
Minimum: ½" x 4' x 4'	Olympic	[3]	4	1:4 ft ²
Minimum: ½" x 4' x 8'	Firestone AP	[4]	5	1:6.4 ft ²
Minimum: ½" x 4' x 8'	Firestone HD	[4]	5	1:6.4 ft ²
Minimum: ½" x 4' x 8'	Firestone HD	[4]	5	1:6.4 ft ²
Approved Type(s): High Density Wood Fiber				
Minimum: ½" x 4' x 4'	Firestone AP	[3]	4	1:4 ft ²
Minimum: ½" x 4' x 4'	Firestone HD	[3]	4	1:4 ft ²
Minimum: ½" x 4' x 4'	Firestone Concrete Drive	[3]	4	1:4 ft ²
Minimum: ½" x 4' x 4'	Dekfast	[3]	4	1:4 ft ²
Minimum: ½" x 4' x 4'	Olympic	[3]	4	1:4 ft ²
Approved Type(s): ISO 95+ GL Composite, Rhoflex Isocyanurate Composite GL, Barrier Board Plus, Thermarroof Composite, Fesco Foam SP, Hy-Tec Composite, AC Foam II Composite				
Minimum: 1.5" x 4' x 4'	Firestone AP	[3]	4	1:4 ft ²
Minimum: 1.5" x 4' x 4'	Firestone HD	[3]	4	1:4 ft ²
Minimum: 1.5" x 4' x 4'	Dekfast	[3]	4	1:4 ft ²
Minimum: 1.5" x 4' x 4'	Olympic	[3]	4	1:4 ft ²
Minimum: 1.5" x 4' x 4'	HD Insul-Fixx	[3]	4	1:4 ft ²
Minimum: 1.5" x 4' x 4'	Buildex Roofgrip	[3]	4	1:4 ft ²
Approved Type(s): ISO 95+ GL Composite, Rhoflex Isocyanurate Composite GL				
Minimum: 1.5" x 4' x 8'	Firestone AP	[3]	5	1:6.4 ft ²
Minimum: 1.5" x 4' x 8'	Firestone HD	[3]	5	1:6.4 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.



Barrier: None.

Membrane: Mechanically attach any 7 1/2' Reinforced EPDM membrane with Firestone AP or HD fasteners in 2" Seam Plates (or metal battens) 6" o.c. within the 7" wide side laps, or any nominal 10' Reinforced EPDM membrane with Firestone AP or HD Fasteners in metal batten strip only 6" o.c. with 7" side laps.

Surfacing: (Optional) Firestone Acryli-Top (PC-100) to be applied at 1 gal/100 sq. ft. with an airless sprayer. If roller applied, two separate coats of 200 sq. ft. per gallon are required.

Maximum Design Pressure: -52 psf (See General Limitation#7)



Membrane Type: Single Ply, EPDM, Reinforced, Nonreinforced
Deck Type 3I: Concrete, Insulated, New Construction
Deck Description: 2500 psi or greater structural concrete or concrete plank
System Type D(3): One or more layers of insulation adhered with approved asphalt; membrane mechanically attached.

All General and System Limitations shall apply.

<u>Insulation Base Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
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Approved Type(s): ISO 95+ GL, Rhoflex Isocyanurate GL, E'NRG'Y 2, E'NRG'Y PSI-25, UltraGard Gold, AC Foam II

Minimum: 1.4" x 4' x 4'	N/A	N/A	N/A	N/A
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Approved Type(s): Multi-Max FA

Minimum: 1.5 x 4' x 4'	N/A	N/A	N/A	N/A
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<u>Insulation (Optional) Top Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
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Approved Type(s): FiberTop C, FiberTop E, FiberTop S

Minimum: ½" x 4' x 4'	N/A	N/A	N/A	N/A
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Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of base sheet. All insulation shall be adhered to the deck in full mopping of approved 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 used as a top layer shall be placed with the polyisocyanurate side facing down.

Barrier Sheet: (Optional) Install one or two plies of UL Classified or FM Approved ply or base sheet directly to the primed concrete deck with hot asphalt at an application rate of 25 lbs./sq. ± 15%.

Membrane: Mechanically attach any 7 1/2' Reinforced EPDM membrane with Firestone AP or HD fasteners in 2" Seam Plates (or metal battens) 6" o.c. within the 7" wide side laps, or any nominal 10' Reinforced EPDM membrane with Firestone AP or HD Fasteners in metal batten strip only 6" o.c. with 7" side laps.

Surfacing: (Optional) Firestone Acryli-Top (PC-100) to be applied at 1 gal/100 sq. ft. with an airless sprayer. If roller applied, two separate coats of 200 sq. ft. per gallon are required.

Maximum Design Pressure: -52 psf (See General Limitation#7)



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Membrane Type: Single Ply, EPDM, Reinforced, Nonreinforced

Deck Type 3: Concrete, Non-Insulated, New Construction

Deck Description: 2500 psi or greater structural concrete or concrete plank

System Type E: Membrane mechanically attached to deck.

All General and System Limitations shall apply.

Barrier Sheet: Firestone Protection Mat, loose laid.

Membrane: Mechanically attach any 7 1/2' Reinforced EPDM membrane with Firestone AP or HD fasteners in 2" Seam Plates (or metal battens) 6" o.c. within the 7" wide side laps, or any nominal 10' Reinforced EPDM membrane with Firestone AP or HD Fasteners in metal batten strip only 6" o.c. with 7" side laps.

Surfacing: (Optional) Firestone Acryli-Top (PC-100) to be applied at 1 gal/100 sq. ft. with an airless sprayer. If roller applied, two separate coats of 200 sq. ft. per gallon are required.

Maximum Design Pressure: -52 psf (See General Limitation#7)



Membrane Type: Single Ply, EPDM, Reinforced, Nonreinforced
Deck Type 3: Concrete, Non-Insulated, New Construction
Deck Description: 2500 psi or greater structural concrete or concrete plank
System Type F: Membrane adhered to deck.

All General and System Limitations shall apply.

Barrier: None.

Membrane: Fully adhere any EPDM membrane to the Structural Concrete with Centimark Bonding Adhesive at a rate of 45-60 sq. ft./gal. (coverage area is for adhesive application to both mating surfaces).

Surfacing: (Optional) Firestone Acryli-Top (PC-100) to be applied at 1 gal/100 sq. ft. with an airless sprayer. If roller applied, two separate coats of 200 sq. ft. per gallon are required.

Maximum Design Pressure: -45 psf (See General Limitation#7)



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 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. **(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.)**



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NOTICE OF ACCEPTANCE STANDARD CONDITIONS

- 1 Renewal of this Acceptance (approval) shall be considered after a renewal application has been filed and the original submitted documentation, including test supporting data, engineering documents, are no older than eight (8) years.
- 2 Any and all approved products shall be permanently labeled with the manufacturer's name, city, state, and the following statement: "Miami-Dade County Product Control Approved", or as specifically stated in the specific conditions of this Acceptance.
- 3 Renewals of Acceptance will not be considered if:
 - a) There has been a change in the South Florida Building Code affecting the evaluation of this product and the product is not in compliance with the code changes;
 - b) The product is no longer the same product (identical) as the one originally approved;
 - c) If the Acceptance holder has not complied with all the requirements of this acceptance, including the correct installation of the product;
 - d) The engineer who originally prepared, signed and sealed the required documentation initially submitted, is no longer practicing the engineering profession.
- 4 Any revision or change in the materials, use, and/or manufacture of the product or process shall automatically be cause for termination of this Acceptance, unless prior written approval has been requested (through the filing of a revision application with appropriate fee) and granted by this office.
- 5 Any of the following shall also be grounds for removal of this Acceptance:
 - a) Unsatisfactory performance of this product or process;
 - b) Misuse of this Acceptance as an endorsement of any product, for sales, advertising or any other purposes.
- 6 The Notice of Acceptance 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 Notice of Acceptance is displayed, then it shall be done in its entirety.
- 7 A copy of this Acceptance as well as approved drawings and other documents, where it applies, shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at all times. The copies need not be resealed by the engineer.
- 8 Failure to comply with any section of this Acceptance shall be cause for termination and removal of Acceptance.
- 9 This Acceptance contains pages 1 through 19.

END OF THIS ACCEPTANCE

Frank Zuloaga, RRC
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