



**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)

**Carlisle SynTec, Inc.
1285 Ritner Highway
Carlisle, PA 17013**

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: Carlisle Single Ply EPDM Roof Systems over Concrete Decks

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

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

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

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

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

This NOA renews and revises NOA No. 04-0322.07 and consists of pages 1 through 16.

The submitted documentation was reviewed by Jorge L. Acebo



**NOA No.: 06-0403.03
Expiration Date: 06/28/11
Approval Date: 06/29/06
Page 1 of 16**

ROOFING SYSTEM APPROVAL

Category:	Roofing
Sub-Category:	Single Ply
Material:	EPDM
Deck Type:	Concrete
Maximum Design Pressure	-585 psf
Fire Classification:	See General Limitation #1

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

<u>Product Name</u>	<u>Dimensions</u>	<u>Test Specifications</u>	<u>Product Description</u>
Sure-Seal EPDM	various	ASTM D 4637	Non-reinforced EPDM membrane.
Sure-Seal FR EPDM	various	ASTM D 4637	Non-reinforced, fire retardant EPDM membrane.
Sure Seal FR-Plus EPDM	various	ASTM D 4637	Reinforced EPDM membrane.
Sure-Seal Reinforced EPDM	various	ASTM D 4637	Reinforced, fire retardant EPDM membrane.
Sure-Seal Sure-Tough	various	ASTM D 4637	Reinforced, fire retardant EPDM membrane with fleece backing..
Sure-Seal Reinforced FR EPDM	various	ASTM D 4637	Reinforced, fire retardant EPDM membrane.
Sure-Seal Fleece BACK	various	ASTM D 4637	EPDM membrane with fleece backing..
Sure Seal Fleece BACK AFX	various	ASTM D 4637	EPDM membrane with fleece backing..
Sure Seal Fleece BACK AFX-Plus	various	ASTM D 4637	EPDM membrane with fleece backing..
Sure-White EPDM	various	ASTM D 4637	Non-reinforced white on black EPDM membrane.
Sure-White Fleece BACK EPDM	Various	ASTM D4637	Non-reinforced white on black fleece backed EPDM membrane.
RUSS	various	ASTM D 4637	Reinforced securement strip.
CCW 702 Primer	various	TAS 110	Solvent-Based Primer
CCW 702LT Primer	various	TAS 110	Low-Temperature Solvent-Based Primer
CCW 714 Primer	various	TAS 110	Water-Based Primer
CCW 725 Vapor Barrier	various	TAS 110	Vapor Barrier
FAST 100 Adhesive	various	TAS 110	Spray Polyurethane Adhesive
FAST 100-LV Adhesive	various	TAS 110	Spray Polyurethane Adhesive
FAST 100-P Adhesive	various	TAS 110	Spray Polyurethane Adhesive
FAST 102 Adhesive	various	TAS 110	Spray Polyurethane Adhesive
OlyBond 500 BA	various	TAS 110	Spray Polyurethane Adhesive
Sure-White Lap Sealant	various	TAS 110	Lap Sealant for Sure-White/Sure-Seal membranes.
Sure-Seal Lap Sealant	various	TAS 110	Lap Sealant for Sure-White/Sure-Seal membranes.
Sure-White Splicing Cement	various	TAS 110	Splicing Adhesive for EPDM membranes.
Sure Seal EP-95 Splicing Cement	various	TAS 110	Splicing Adhesive for EPDM membranes.
SecurTape	various	TAS 110	Tape Adhesive for EPDM membranes.



<u>Product Name</u>	<u>Dimensions</u>	<u>Test Specifications</u>	<u>Product Description</u>
Sure-Seal 90-8-30A Bonding Adhesive		TAS 110	Solvent-based bonding adhesive.
Sure-Seal B-500 Bonding Adhesive		TAS 110	Water-based bonding adhesive.
Sure-Seal Metal Fastening Bars, ST Fastening Bars	1" wide	TAS 114	Metal bars used for membrane securement.
Aqua Base 120 Bonding Adhesive		TAS 110	Water-based Bonding adhesive.
Cold Applied Adhesive		TAS 110	Asphalt-modified polyether adhesive.

APPROVED INSULATIONS:

TABLE 2

<u>Product Name</u>	<u>Product Description</u>	<u>Manufacturer (With Current NOA)</u>
ACFoam Composite	Isocyanurate Insulation with perlite facer	Atlas Roofing Corp.
ACFoam II, III	Isocyanurate Insulation	Atlas Roofing Corp.
Polyisocyanurate HP, HP-N, HP-H, HP-W, HP-HNB	Polyisocyanurate roof insulation.	Carlisle SynTec, Inc.
Sure-Seal HP Recovery Board	High Density Wood Fiberboard.	Carlisle SynTec, Inc.
EPS/Fiberboard	High Density Wood Fiberboard bonded to EPS.	Carlisle SynTec, Inc.
EPS Insulation	Expanded Polystyrene.	Carlisle SynTec, Inc.
Carlisle Foamular 1/2" Board	Extruded Polystyrene recovery board.	Carlisle SynTec, Inc.
Hytherm, Hytherm AP	Isocyanurate Insulation	Dow Chemical
Styrofoam	Extruded Polystyrene.	Dow Chemical
ISO 95+ GL, 95+ GW	Polyisocyanurate foam insulation	Firestone
Dens Deck, Dens Deck Prime	Silicon treated gypsum	G-P Products
Sturdi-Top	Wood fiber insulation board.	G-P Products
High Density Wood Fiberboard	High Density Wood Fiber insulation board.	Generic
Perlite Insulation Board	Perlite Insulation	Generic
Type X Gypsum, Gypsum	Gypsum Wallboard	Generic
EPS or XPS Insulation	Expanded or Extruded Polystyrene.	Generic
Ultra/M-II	Isocyanurate Insulation	Homasote Co.
H-Shield, H-Shield NB	Isocyanurate Insulation	Hunter Panels
ENRGY 2, ENERGY 3, PSI-25	Isocyanurate Insulation	Johns Manville



APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
Foamular, Thermapink, Durapink	Extruded Polystyrene.	Owens Corning
Strataguard	Gypsum Wallboard	Owens Corning
Green Guard	Extruded Polystyrene insulation	Pactiv
Multi-Max, FA	Polyisocyanurate foam insulation	Rmax, Inc.
Fiber Base	Asphalt coated wood fiber insulation	Temple Inland Forest Products Corp.
Structodeck	High Density Wood Fiber insulation board.	Wood Fiber Industries

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	Sure-Seal HP, HD 14-10 Fasteners	Threaded fasteners used for insulation and membrane securement.		Carlisle SynTec, Inc.
2.	Sure-Seal HP Concrete Spikes, CD-10	Driven fasteners used for insulation and membrane securement.		Carlisle SynTec, Inc.
3.	Sure-Seal Insulation Plates	Metal plates used for insulation securement.	2 7/8" dia	Carlisle SynTec, Inc.
4.	Sure-Seal Seam Fastening Plates	Metal plates used for membrane securement.	2" dia	Carlisle SynTec, Inc.
5.	Sure-Seal Polymer Seam Plates	Plastic plates used for membrane securement.	2" dia	Carlisle SynTec, Inc.
6.	Sure-Seal HP Seam Plates	Metal plates used for membrane securement.	2" dia	Carlisle SynTec, Inc.
7.	Dekfast Fasteners #14 & #15	Fastener for wood, steel and concrete decks		SFS Intec, Inc.
8.	Dekfast Hex Plate	Galvalume hex stress plate.	2-7/8" x 3-1/4"	SFS Intec, Inc.
9.	#14 & #15 Roofgrip Fasteners	Fastener for wood, steel and concrete decks.		ITW Buildex Corp.
10.	Metal Plate	Galvalume stress plate.	3" round 3" square	ITW Buildex Corp.
11.	Olympic Fastener #12 & #14, CD-10, HD 14-10	Insulation fastener		Olympic Mfg. Group, Inc.



APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
12.	Olympic G-2	Galvalume AZ55 steel plate	3.5" round	Olympic Mfg. Group, Inc.
13.	Olympic Standard	3" round Galvalume AZ50 steel plate	3" round	Olympic Mfg. Group, Inc.
14.	Rawl Drive	Fastener for concrete decks		Powers Fasteners, Inc.
15.	Rawl Spike	Fastener for concrete decks		Powers Fasteners, Inc.
16.	Rawl	Galvalume AZ55 steel plate	3" round	Powers Fasteners, Inc.
17.	#14 HD Insul-Fixx Fastener	Fastener for wood, steel and concrete decks		SFS Intec, Inc.
18.	Insul-Fixx S Plate	Galvalume AZ50 steel plate	3" round	SFS Intec, Inc.
19.	Insul-Fixx P Plate	Polyethylene stress plate	3" round	SFS Intec, Inc.
20.	Isofast Plate	Square or oblong Galvalume steel plates for use with Isofast fasteners		SFS Intec, Inc.
21.	Tru-Fast HD	Fastener for wood, steel and concrete decks		The Tru-Fast Corp.
22.	Tru-Fast CF Fasteners	Fastener for concrete decks		The Tru-Fast Corp.
23.	Tru-Fast Ultra	Stainless Steel fastener for use in steel, wood and concrete decks		The Tru-Fast Corp.
24.	Tru-Fast Plates	Galvalume AZ55 steel plate	3" round	The Tru-Fast Corp.
25.	Tru-Fast Plates	Polyethylene plastic plate	3" round	The Tru-Fast Corp.
26.	Tru-Fast Plates	Galvalume AZ50 steel plate	3.23" round	The Tru-Fast Corp.



EVIDENCE SUBMITTED

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Description</u>	<u>Date</u>
Architectural Testing Inc.	ATI-17601-02	Wind Uplift Classification	07/30/96
Architectural Testing Inc.	ATI-18535	Wind Uplift Classification	10/14/96
Factory Mutual Research Corp.	J.I.1B7A5.AM	Wind Uplift and Fire Classification	02/23/98
	J.I. 2Z3A9.AM	Wind Uplift and Fire Classification	07/30/97
	J.I. 4B2A1.AM	Wind Uplift Classification	06/11/97
	J.I.3B8Q4.AM	Wind Uplift Classification	06/04/97
	J.I. 0B4A7.AM	Wind Uplift Classification	05/29/97
	J.I. 2B2A1.AM	Wind Uplift Classification	05/29/97
	J.I. 2Z2A8.AM	Seam Test	05/16/97
	J.I. 3B5A1.AM	Wind Uplift and Fire Classification	04/28/97
	JI 409A6.AM	Approval Report	08/03/98
	Letter	Wind Uplift Classification	09/15/98
	J.I. 2D6A6.AM	Wind Uplift Classification	10/07/98
	3003326	Class 4470	04/12/99
	3000348	Class 4470	04/19/99
	30013584	Class 4470	
	3012458	Class 4470	02/23/02
	3016162	Class 4470	10/25/03
	3009502	Class 4470	12/21/00
	3024994	Class 4450	02/28/06
	3013584	Class 4470	06/27/03
	3019897	Class 4470	10/07/05
	3022187	Class 4470	09/15/05
	3022181	Class 4470	09/01/05
	3014692	Class 4470	08/05/03
Underwriters Laboratories, Inc.	96NK21757	Fire Classification	09/06/96
	96NK10924	Fire Classification	10/31/96
	96NK28871	Fire Classification	11/06/96
	96NK33323	Fire Classification	10/24/97
1998 Roofing Materials & Systems Directory		R8103 Fire Classification	01/01/98
	Letter	Fire Classification	08/06/98
	Letter	Fire Classification	09/09/98
	02NK46936	UL 790	12/15/03



APPROVED ASSEMBLIES

Membrane Type: Single Ply, Thermoset, EPDM, Reinforced, Nonreinforced, Fleece Backed

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete.

System Type A(1): One or more layers of insulation adhered with approved asphalt or FAST or OlyBond 500 BA Adhesive. Membrane fully adhered.

All General and System Limitations apply.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
Polyisocyanurate HP-HNB, Hunter, H-Shield NB Minimum 1.5" thick	N/A	N/A

Note: 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 OlyBond 500 BA Adhesive at minimum rate 1 gal/sq or FAST Adhesive at a rate of 1.2 gal./sq. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Vapor Retarder: None.

Barrier: None.

Membrane: Sure-Seal or Sure-White FleeceBACK 100 or 115 mil membrane fully adhered to the insulation using FAST Adhesive applied to the substrate at a rate of 1 gal./sq or Aqua Base 120 Bonding Adhesive applied to the substrate at a rate of 1 gal/120 ft².
Or
Sure-Seal or Sure-White 45 to 90 mil membrane fully adhered to the insulation using 90-8-30 applied to the substrate at a rate of 1 gal/60ft.², or B-500 applied to the substrate at 1 gal/sq.
Or
Sure-Seal FleeceBACK AFX or AFX Plus membrane adhered to the insulation in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-25 lbs./sq or Cold Applied Adhesive applied to the substrate at a rate of 1 gal/67 ft².

Surfacing: (Optional) A two-part surfacing consisting of EM-8 Hypalon applied at the rate of 1 gal./150 ft² and silica sand applied into the wet coating at a rate of 35 lbs./sq. or two coats of Sure-Seal Acrylic Coating at a rate 1.5 gal/sq. per coat.

Maximum Design

Pressure: -187.5 psf (See General Limitation #9) with Fast Adhesive
-150 psf (See General Limitation #9) with OlyBond 500 BA



Membrane Type: Single Ply, Thermoset, EPDM, Reinforced, Nonreinforced, Fleece Backed
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(2): One or more layers of insulation adhered with approved asphalt or FAST or OlyBond 500 BA Adhesive. Membrane fully adhered.

All General and System Limitations apply.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Polyisocyanurate HP, HP-H, HP-N, HP-W, Hytherm AP, ENRGY-2, ENRGY-3, AC Foam II, AC Foam III		
Minimum 1.5" thick	N/A	N/A
Dens Deck, Dens Deck Prime, Strataguard		
Minimum ¼" thick	N/A	N/A
HP Recovery, Wood Fiber		
Minimum ½" thick	N/A	N/A

Note: 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 or OlyBond 500 BA Adhesive at minimum rate 1 gal/sq or FAST Adhesive at a rate of 1.2 gal/sq. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Vapor Retarder: None.

Barrier: None.

Membrane: Sure-Seal or Sure-White FleeceBACK 100 or 115 mil membrane fully adhered to the insulation using FAST Adhesive applied to the substrate at a rate of 1 gal./sq or Aqua Base 120 Bonding Adhesive applied to the substrate at a rate of 1 gal/120 ft².
 Or
 Sure-Seal or Sure-White 45 to 90 mil membrane fully adhered to the insulation using 90-8-30 applied to the substrate at a rate of 1 gal/60ft.², or B-500 applied to the substrate at 1 gal/sq.
 Or
 Sure-Seal FleeceBACK AFX or AFX Plus membrane adhered to the insulation in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-25 lbs./sq or Cold Applied Adhesive applied to the substrate at a rate of 1 gal/67 ft².

Surfacing: (Optional) A two-part surfacing consisting of EM-8 Hypalon applied at the rate of 1 gal./150 ft² and silica sand applied into the wet coating at a rate of 35 lbs./sq. or two coats of Sure-Seal Acrylic Coating at a rate 1.5 gal/sq. per coat.

Maximum Design Pressure:
 -330 psf (For Fiberboard top layer) (See General Limitation #9) with Fast Adhesive or Asphalt.
 -352.5 psf (For Gypsum board top layer) (See General Limitation #9) with Fast Adhesive or Asphalt.
 -150 psf (For Gypsum board top layer) (See General Limitation #9) with OlyBond 500 BA
 -120 psf (For Fiberboard top layer) (See General Limitation #9) with OlyBond 500 BA



Membrane Type: Single Ply, Thermoset, EPDM, Fleece Backed
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(3): One or more layers of insulation adhered with approved asphalt or FAST or OlyBond 500 BA Adhesive. Membrane fully adhered.

All General and System Limitations apply.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Polyisocyanurate HP, HP-N, HP-W, Hytherm AP, H-Shield, ENRGY-2, ENRGY-3, AC Foam II, AC Foam III		
Minimum 1.5" thick	N/A	N/A

Note: 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 or OlyBond 500 BA Adhesive at minimum rate 1 gal/sq or FAST Adhesive at minimum rate 1.2 gal/sq. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Vapor Retarder: None.

Barrier: None.

Membrane: Sure-Seal or Sure-White FleeceBACK 100 or 115 mil membrane fully adhered to the insulation using FAST Adhesive applied to the substrate at a rate of 1 gal./sq or Aqua Base 120 Bonding Adhesive applied to the substrate at a rate of 1 gal/120 ft².
 Or
 Sure-Seal or Sure-White 45 to 90 mil membrane fully adhered to the insulation using 90-8-30 applied to the substrate at a rate of 1 gal/60ft.², or B-500 applied to the substrate at 1 gal/sq.
 Or
 Sure-Seal FleeceBACK AFX or AFX Plus membrane 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 or Cold Applied Adhesive applied to the substrate at a rate of 1 gal/67 ft².

Surfacing: (Optional) A two-part surfacing consisting of EM-8 Hypalon applied at the rate of 1 gal./150 ft² and silica sand applied into the wet coating at a rate of 35 lbs./sq. or two coats of Sure-Seal Acrylic Coating at a rate 1.5 gal/sq. per coat.

Maximum Design Pressure:
 -330 psf (See General Limitation #9) with Fast Adhesive or Asphalt.
 -562.5 psf (For FleeceBACK membranes) (See General Limitation #9) with Fast Adhesive or Asphalt.
 -457.5 psf (For FleeceBACK AFX or AFX-Plus membranes with Cold Applied Adhesive) (See General Limitation #9)
 -480 psf (For FleeceBACK 100 or 115 mil membranes with Aqua Base 120 Bonding Adhesive) (See General Limitation #9)
 -150 psf (For All membranes) with OlyBond 500 BA



Membrane Type: Single Ply, Thermoset, EPDM, Fleece Backed
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type A(4): One or more layers of insulation adhered with Fast or OlyBond 500 BA Adhesive. Membrane fully adhered.

All General and System Limitations apply.

One or more layers of the following.

Base Insulation Layer

**Extruded or Expanded Polystyrene
 Minimum 1" thick**

**Insulation Fasteners
 (Table 3)**

**Fastener
 Density/ft²**

N/A

N/A

Top Insulation Layer

**Dens Deck, Dens Deck Prime, Strataguard
 Minimum ¼" thick**

**Insulation Fasteners
 (Table 3)**

**Fastener
 Density/ft²**

N/A

N/A

**HP Recovery, Wood Fiber
 Minimum ½" thick**

N/A

N/A

Note: All insulation shall be adhered to the deck with FAST Adhesive at minimum rate 1.2 gal/sq or OlyBond 500 BA Adhesive at minimum rate 1 gal/sq. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Vapor Retarder: None.

Barrier: None.

Membrane: Sure-Seal or Sure-White FleeceBACK 100 or 115 mil membrane fully adhered to the insulation using FAST Adhesive applied to the substrate at a rate of 1 gal./sq or Aqua Base 120 Bonding Adhesive applied to the substrate at a rate of 1 gal/120 ft².
 Or

Sure-Seal or Sure-White 45 to 90 mil membrane fully adhered to the insulation using 90-8-30 applied to the substrate at a rate of 1 gal/60ft.², or B-500 applied to the substrate at 1 gal/sq.

Or

Sure-Seal FleeceBACK AFX or AFX Plus membrane adhered to the insulation in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-25 lbs./sq or Cold Applied Adhesive applied to the substrate at a rate of 1 gal/67 ft².

Surfacing: (Optional) A two-part surfacing consisting of EM-8 Hypalon applied at the rate of 1 gal./150 ft² and silica sand applied into the wet coating at a rate of 35 lbs./sq. or two coats of Sure-Seal Acrylic Coating at a rate 1.5 gal/sq. per coat.

Maximum Design

Pressure: -420 psf (For Extruded Polystyrene) (See General Limitation #9) with Fast Adhesive
 -322.5 psf (For Expanded Polystyrene) (See General Limitation #9) with Fast Adhesive
 -120 psf (For Expanded Polystyrene) (See General Limitation #9) with OlyBond 500 BA
 -120 psf (For Extruded Polystyrene with Wood Fiber cover board) (See General Limitation #9) with OlyBond 500 BA
 -277.5 psf (For Extruded Polystyrene with Gypsum cover board) with OlyBond 500 BA



Membrane Type: Single Ply, Thermoset, EPDM, Reinforced, Nonreinforced, Fleece Backed

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete.

System Type C: All layers of insulation simultaneously attached; membrane fully adhered.

All General and System Limitations apply.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
One of the following covered with the boards listed in Top Layer or Base or Top Layer.		
Extruded or Expanded Polystyrene		
Minimum 1" thick	N/A	N/A
Perlite		
Minimum ¾" thick	N/A	N/A

Note: All layers shall be simultaneously fastened; see top or base 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. Single and multiple layers of insulation can be adhered with FAST Adhesive in a full coverage application. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base or Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Multi-Max FA, Hytherm AP, Ultra/M-II Iso/glas, ISO 95+GL, HF, Rhoflex GL, HF		
Minimum 1.2" thick	1, 2, 7, 9, 11, 14, 15, 17 or 21	1:2 ft ²
ENRGY-2, ENRGY-3, PSI-25, WHITELINE, Hytherm AP, AC Foam II, AC Foam III, H-Shield, Polyisocyanurate HP, HP-H HP-N, HP-W		
Minimum 1.5" thick	1, 2, 7, 9, 11, 14, 15, 17 or 21	1:2 ft ²
Minimum 2" thick	1, 2, 7, 9, 11, 14, 15, 17 or 21	1:4 ft ²
ACFoam Composite, Rhoflex Composite, Fesco Foam, ISO 95+GL, HF, Rhoflex GL, HF		
Minimum 1.5" thick	1, 2, 14 or 15	1:3 ft. ²
High Density Fiberboard		
Minimum ¾" thick	7, 11 or 21	1:2.67 ft. ²
Structodeck, Fiber Base, HP Recovery, Wood Fiber		
Minimum ½" thick	7, 11 or 21	1:2 ft ²
Dens Deck, Dens Deck Prime, Strataguard		
Minimum ¼" thick	1, 2, 7, 9, 11, 14, 15, 17 or 21	1:2 ft ²
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Required over the insulations listed in Base Layer or optional over any of the insulations listed as Base or Top Layer :		
HP Recovery (for use over all insulation types)		
Minimum ½" thick	1, 2, 14 or 15	1:2 ft. ²
Fiber Base (for use over polyisocyanurate, gypsum or perlite)		
Minimum ½" thick	1 or 11	1:2.9 ft. ²



- Vapor Retarder: (Optional) Any UL of FM approved vapor Retarder applied to the roof deck or over a base layer of insulation.
- Barrier: None.
- Membrane #1: Sure-Seal or Sure-White 45 to 90 mil membrane fully adhered to the insulation using 90-8-30A applied to the substrate at a rate of 1 gal/60 ft.², or B-500 applied to the substrate at 1 gal./sq.
Maximum Design Pressure –45 psf (See General Limitation #9)
- Membrane #2: Sure-Seal or Sure-White FleeceBACK 100 or 115 mil membrane fully adhered to the insulation using FAST Adhesive applied to the substrate at a rate of 1 gal/sq or Aqua Base 120 Bonding Adhesive applied to the substrate at a rate of 1 gal/120 ft.².
Maximum Design Pressure –60 psf. (See General Limitation #7)
- Membrane #3: Sure-Seal FleeceBACK AFX or AFX Plus membrane adhered to the insulation in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-25 lbs./sq or Cold Applied Adhesive applied to the substrate at a rate of 1 gal/67 ft.².
Maximum Design Pressure – 60 psf. (See General Limitation #7).
- Surfacing: (Optional) A two-part surfacing consisting of EM-8 Hypalon applied at the rate of 1 gal./150 ft² and silica sand applied into the wet coating at a rate of 35 lbs./sq. or two coats of Sure-Seal Acrylic Coating at a rate 1.5 gal/sq. per coat.
- Maximum Design Pressure: See Membrane Options Above



Membrane Type: Single Ply, Thermoset, EPDM, Reinforced
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete.
System Type D: Membrane mechanically attached over preliminary fastened insulation;

All General and System Limitations apply.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
One of the following covered with the boards listed in Top Layer or Base or Top Layer.		
Extruded or Expanded Polystyrene Minimum 1" thick	N/A	N/A
Perlite Minimum ¾" thick	N/A	N/A
Base or Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ACFoam II, ACFoam III, Polyisocyanurate HP, HP-H, HP-N, HP-W, ACFoam Composite, Rhoflex Composite, Fesco Foam, ENRGY-2, ENRGY-3, ISO 95+GL, GW, Rhoflex GL, GW, Hytherm AP, ISO 95+ HF, Rhoflex HF, Multi-Max FA, Ultra/M-II Iso/glas, UltraGard Gold, Isolite E Minimum 1" thick	N/A	N/A
HP Recovery, Structodeck, High Density Fiberboard Minimum ½" thick	N/A	N/A
Dens Deck, Dens Deck Prime, Strataguard Minimum ¼" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Required over the insulations listed in Base Layer or optional over any of the insulations listed as Base or Top Layer :		
Fiber Base (use over polyisocyanurate, Gypsum or perlite), HP Recovery (use over all insulation types) Minimum ½" thick	N/A	N/A

Note: All insulations shall have preliminary attachment, prior to the installation of the roofing membrane at an 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. Single and multiple layers of insulation can be attached to the deck with FAST Adhesive at minimum rate 1.2 gal/sq.

Vapor Retarder: (Optional) Any UL or FM approved vapor Retarder applied to the roof deck or over a base layer of insulation.

Barrier: None.

Membrane: Sure-Seal Reinforced, FR Reinforced or Sure-Tough secured through the preliminary attached insulation as specified below.



- Fastening #1: Sure-Seal Metal Fastening Bar or ST Fastening Bar with Concrete Fasteners spaced 12" o.c. the membrane lap or through a RUSS spaced maximum 9'-6" o.c.
Maximum Design Pressure –45 psf (See General Limitation #7)
- Fastening #2: Sure-Seal Metal Fastening Bar or ST Fastening Bar with Concrete Fasteners spaced 6" o.c. the membrane lap or through a RUSS spaced maximum 9'-6" o.c.
Maximum Design Pressure –60 psf. (See General Limitation #7)
- Fastening #3: Sure-Seal Metal Fastening Bar or ST Fastening Bar with Concrete Fasteners spaced 6" o.c. the membrane lap or through a RUSS spaced maximum 6'-6" o.c.
Maximum Design Pressure –75 psf (See General Limitation #7)
- Fastening #4: Concrete fasteners Polymer Plates 6" o.c. installed through the lap or through a RUSS strip in rows spaced maximum 9'-6" o.c..
Maximum Design Pressure –52.5 psf. (See General Limitation #7)
- Fastening #5: Concrete Fasteners and 2" Polymer Plates spaced 6" o.c. through Sure-Tough Membrane in the lap in rows spaced maximum 9'-6" o.c.
Maximum Design Pressure –60 psf (See General Limitation #7)
- Surfacing: (Optional) A two-part surfacing consisting of EM-8 Hypalon applied at the rate of 1 gal./150 ft² and silica sand applied into the wet coating at a rate of 35 lbs./sq. or two coats of Sure-Seal Acrylic Coating at a rate 1.5 gal/sq. per coat.
- Maximum Design Pressure: See Fastening Above



Membrane Type: Single Ply, Thermoset, EPDM, Reinforced, Nonreinforced, Fleece Backed
Deck Type 3: Concrete Decks, Non-insulated
Deck Description: 2500 psi structural concrete.
System Type F(1): Membrane fully adhered.

All General and System Limitations apply.

Vapor Retarder: None.
Barrier: None.
Membrane: Sure-Seal or Sure-White 45 to 90 mil membrane fully adhered to concrete deck using 90-8-30 applied to the substrate at a rate of 1 gal/60ft.², or B-500 applied to the substrate at 1 gal/sq.
Surfacing: (Optional) A two-part surfacing consisting of EM-8 Hypalon applied at the rate of 1 gal./150 ft² and silica sand applied into the wet coating at a rate of 35 lbs./sq. or two coats of Sure-Seal Acrylic Coating at a rate 1.5 gal/sq. per coat.
Maximum Design Pressure: -240 psf. (See General Limitation #9)

Membrane Type: Single Ply, Thermoset, EPDM, Reinforced, Nonreinforced, Fleece Backed
Deck Type 3: Concrete Decks, Non-insulated, New Construction
Deck Description: 2500 psi structural concrete.
System Type F(2): Membrane fully adhered with asphalt, Cold Applied Adhesive, Aqua Base 120 Bonding Adhesive or FAST Adhesive.

All General and System Limitations apply.

Vapor Retarder: None.
Barrier: None.
Membrane: Sure-Seal or Sure-White FleeceBACK 100 or 115 mil membrane fully adhered to the deck using FAST Adhesive applied to the substrate at a rate of 1 gal./sq or Aqua Base 120 Bonding Adhesive applied to the substrate at a rate of 1 gal/120 ft².
Or
Sure-Seal FleeceBACK AFX or AFX Plus membrane adhered to the deck in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-25 lbs./sq or Cold Applied Adhesive applied to the substrate at a rate of 1 gal/67 ft².
Surfacing: (Optional) A two-part surfacing consisting of EM-8 Hypalon applied at the rate of 1 gal./150 ft² and silica sand applied into the wet coating at a rate of 35 lbs./sq. or two coats of Sure-Seal Acrylic Coating at a rate 1.5 gal/sq. per coat.
Maximum Design Pressure: -585 psf. (See General Limitation #9)
-367.5 psf (See General Limitation #9) (For FleeceBACK AFX or AFX-Plus membranes with Cold Applied Adhesive)
-480 psf (See General Limitation #9) (For FleeceBACK 100 or 115 mil membranes with Aqua Base 120 Bonding Adhesive)



CONCRETE DECK SYSTEM LIMITATIONS:

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



NOA No.: 06-0403.03
Expiration Date: 06/28/11
Approval Date: 06/29/06
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