



MIAMI-DADE COUNTY
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
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NOTICE OF ACCEPTANCE (NOA)

Dow Roofing Systems, LLC.
9 Sullivan Road
Holyoke, MA 01040

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 the BCCO and accepted by the Building Code and Product Review Committee 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 High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: Dow TPO Single Ply Roofing System over Gypsum 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 revises NOA No. 06-0207.06 and consists of pages 1 through 14.
 The submitted documentation was reviewed by Alex Tigera.



NOA No: 09-0402.04
Expiration Date: 05/17/11
Approval Date: 05/27/09
Page 1 of 14

ROOFING SYSTEM APPROVAL

Category: Roofing
Sub-Category: Single Ply

Material: TPO
Deck Type: Gypsum
Maximum Design Pressure: -112.5 psf
Fire Classification: See General Limitation #1

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
Stevens FB4535 Dow FB4535	76 ½" x 100' (0.045" thick)	TAS 114	Membrane laminated with a 3.5 oz/yd ² spun bonded polypropylene fleece.
Stevens FB4560 Dow FB4560	76 ½" x 100' (0.045" thick)	TAS 114	Membrane laminated with a 6oz/yd ² spun bonded polypropylene fleece.
Stevens FB6035 Dow FB6035	76 ½" x 100' (0.060" thick)	TAS 114	Membrane laminated with a 3.5 oz/yd ² spun bonded polypropylene fleece.
Stevens FB6060 Dow FB6060	76 ½" x 100' (0.060" thick)	TAS 114	Membrane laminated with a 6 oz/yd ² spun bonded polypropylene fleece.
Stevens FB636WB Dow FB636WB	5 gallons	TAS 114	Water based adhesive for fleece back membranes applied to substrate at 100ft ² /gal.
Stevens EP Dow TPO	various	ASTM D6878	Polyester reinforced, ethylene-propylene roofing membrane
Stevens EP-XL Dow TPO-XL	various	ASTM D6878	Polyester reinforced, ethylene-propylene roofing membrane
Unsupported EP Unsupported TPO	36" x 50'	ASTM D6878	Flashing for surfaces whose geometry prohibits the use of reinforced membrane.
Stevens EP Walkway Roll Dow TPO Walkway Roll	36" x 50'	N/A	Walkway pad



<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
Stevens Purlin Fastener Dow Purlin Fastener	various	TAS 114	Fasteners for membrane attachment (min. 16 ga. purlins)
Stevens Termination Bar Dow Termination Bar	10'	N/A	Extruded aluminum termination bar
FR10	48" x 250'	ASTM E108	Fiberglass Fire Barrier
FR50	48" x 108'	ASTM E108	Fiberglass Fire Barrier
Stevens Inside Corners, Outside Corners, Pipe Boots & Vent Gloves Dow Inside Corners, Outside Corners, Pipe Boots & Vent Gloves	various	N/A	Prefabricated flashing
Stevens VRS Vent Dow VRS Vent	various	N/A	Spun aluminum, one-way pressure relief valve
Stevens EP Seam Cleaner Dow TPO Seam Cleaner	1 gallon	N/A	Membrane cleaner
Insta-Stik Insulation Adhesive	1 or 2-1/2 gallon	N/A	Insulation Adhesive
Stevens EP Bonding Adhesive Dow EP Bonding Adhesive	5 gallon	N/A	Membrane adhesive applied to both substrate and roof cover at 60ft ² /gal.
Stevens All-Purpose Sealant Dow All-Purpose Sealant	10 oz. tube	N/A	Sealant
Stevens EP Cut Edge Sealant Dow EP Cut Edge Sealant	32 oz.	N/A	Sealant for exposed scrim of Stevens EP membrane or Dow TPO membrane
Stevens Fascia Dow Fascia	various	TAS 111	Extruded aluminum roof edge



<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
Stevens Edge Dow Edge	various	TAS 111	Formed aluminum roof edge
Stevens Cap Dow Cap	various	TAS 111	Prefabricated metal coping system
Stevens EP Clad Metal Dow EP Clad Metal	4'x10'	N/A	Unsupported membrane laminated to galvanized steel. For applicator forming of flashing details

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
Stevens ISO 2000, ISO 3000 Recover Board	Polyisocyanurate insulation	Dow Roofing Systems, LLC
Dow ISO 2000, ISO 3000 Recover Board		
Contour Tile	Tapered expanded polystyrene insulation	AFM
Perform 1, Perform Perfect	Expanded polystyrene insulation	AFM
Perform 2	Expanded polystyrene with wood fiber topside insulation	AFM
DP Foam II, DP Foam III	Polyisocyanurate foam insulation	Dyplast Products
ACFoam II, ACFoam III, ACFoam Supreme	Polyisocyanurate foam insulation	Atlas Energy Products
Hy-Therm AP	Polyisocyanurate insulation	Dow
High Density Wood Fiberboard	Wood fiber insulation	Celotex
Certifoam	Extruded polystyrene insulation	Diversifoam
EPS	Expanded polystyrene insulation	Generic
Type "X", Gypsum board	Gypsum board	Generic
Dens Deck Dens Deck Prime Overlayment Board	Water-resistant gypsum board	Georgia Pacific
Fireguard Type "X"	Gypsum board	Georgia Pacific
GreenGuard PB6, PG38, PG39, GreenGuard Insulation Board	Extruded polystyrene insulation	Pactiv Building Products
Styrofoam, Recovery Board and Recover Mate	Extruded polystyrene insulation	Dow Chemical Company



APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
ISO 95+GL	Polyisocyanurate insulation	Firestone Building Products
Fiberglas	Glass fiber insulation	Johns Manville
Ultragard Gold	Polyisocyanurate foam insulation	Johns Manville
ENRGY 3, ENRGY 3 Plus	Polyisocyanurate insulation	Johns Manville
Fesco-Foam	Polyisocyanurate/perlite insulation	Johns Manville
Fesco	Mineral fiber board (perlite)	Johns Manville
Sealskin	Mineral fiber board (perlite)	International Permalite
Structodek	High density fiberboard	Knight-Celotex
Multi-Max, Multi-Max FA	Polyisocyanurate insulation	R-Max Inc.
Toprox	Mineral wool insulation	Roxul
Fiberbase HD	High density fiberboard	Temple-Inland
Foamular and Durapink	Extruded polystyrene insulation	Owens Corning

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	Stevens Masonry Anchor Dow Masonry Anchor	Zinc alloy and stainless steel (termination bar attachment only)	various	Dow Roofing Systems, LLC
2.	Stevens N.T.B. Fasteners Dow N.T.B. Fasteners	Fasteners for insulation and membrane fastening	various	Dow Roofing Systems, LLC
3.	Insulation Plates	Insulation stress plate	3" dia.	Olympic
4.	NTB Magnum	Fastener for use in cementitious wood fiber and gypsum decks	various	Olympic



EVIDENCE SUBMITTED:

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Test Name/Report</u>	<u>Date</u>	
Factory Mutual Research Corporation	J.I. 0X2A6.AM	Standard 4470	06/07/93	
	J.I. 2X6A9.AM	Standard 4470	12/13/93	
	J.I. 2W2A9.AM	Standard 4470	11/30/93	
	J.I. 2X7AO.AM	Standard 4470	01/31/94	
	J.I. 1X5A2.AM	Standard 4470	06/24/94	
	J.I. 1Z8A7.AM	Standard 4470	06/10/96	
	J.I. 3Z8A9.AM	Standard 4470	02/19/96	
	J.I. 0D2A9.AM	Standard 4470	09/06/97	
	3003970	Standard 4470	05/12/00	
	3008050	Standard 4470	12/15/00	
	3013654	Standard 4470	01/28/03	
	Inchcape Testing Services Inc. Underwriters Laboratories, Inc.	484-830500	Physical Property Testing	05/31/93
		File R10321	Fire Classification	Published Annually
93 NK27934		Wind Uplift Testing	11/12/93	
93 NK17378		Physical Property Testing	08/10/93	
92 NK1400		Physical Property Testing	09/24/93	
94 NK 13394		Physical Property Testing	07/20/94	



APPROVED ASSEMBLIES:

Membrane Type: Single Ply, Thermoplastic, TPO

Deck Type 6I: Gypsum, Insulated

Deck Description: Gypsum

System Type A(1): One or more layers of insulation adhered with approved adhesive, membrane fully adhered.

All General and System Limitations apply.

<u>Base Insulation Layer</u>	<u>Fastener Density/ft²</u>	<u>Fastener Type</u>
(Optional) ACFoam II, H-Shield, ENRGY 3, Stevens ISO 2000, Dow ISO 2000 Minimum 1.0" thick	N/A	N/A
(Optional) DensDeck, DensDeck Prime Minimum 0.25" thick	N/A	N/A
<u>Top Insulation Layer</u>	<u>Fastener Density/ft²</u>	<u>Fastener Type</u>
DensDeck, DensDeck Prime Minimum 0.25" thick	N/A	N/A

Note: All insulation shall be adhered to the deck in full coating of OlyBond Adhesive Fastener at a rate of 1 gal/sq. 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.

Membrane: Stevens EP, Dow TPO, Stevens EP-XL, Dow TPO-XL with minimum 2" side laps adhered to the insulation with Stevens EP Bonding Adhesive or Dow TPO Bonding Adhesive. Stevens FB4535, FB4560, FB6035, FB6060, or Dow FB4535, FB4560, FB6035, FB6060 membranes with minimum 1.5" side and end laps adhered to insulation with Stevens FB636WB, or Dow FB636WB bonding adhesive.

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



Membrane Type: Single Ply, Thermoplastic
Deck Type 6I: Gypsum, Insulated
Deck Description: Gypsum
System Type A(2): One or more layers of insulation adhered with approved adhesive, membrane fully adhered.

All General and System Limitations apply.

<u>Insulation Layer</u>	<u>Fastener Density/ft²</u>	<u>Fastener Type</u>
ACFoam II, H-Shield, ENRGY 3, ISO 95+GL, Stevens ISO 2000, Dow ISO 2000 Minimum 1.5" thick	N/A	N/A

Note: All insulation shall be adhered to the deck in ¾" – 1" wide beads 12" o.c. of OlyBond 500 or Spot Shot Adhesive Fastener. 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.

Membrane: Stevens EP, Dow TPO, Stevens EP-XL, Dow TPO-XL with minimum 2" side laps adhered to the insulation with Stevens EP Bonding Adhesive or Dow TPO Bonding Adhesive. Stevens FB4535, FB4560, FB6035, FB6060, or Dow FB4535, FB4560, FB6035, FB6060 membranes with minimum 1.5" side and end laps adhered to insulation with Stevens FB636WB, or Dow FB636WB bonding adhesive.

Maximum Design Pressure: -112.5 psf (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic

Deck Type 6I: Gypsum, Insulated

Deck Description: Gypsum

System Type B: Base layer of insulation mechanically attached, optional top layer adhered; membrane fully adhered

All General and System Limitations apply.

<u>Insulation Base Layer</u>	<u>Fastener Type (Table 3)</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
High Density Roof Fiberboard Minimum: ½" x 4' x 4'	2 or 4	[3]	8	1:2 ft ²
ACFoam II, ACFoam III, ACFoam Supreme, Stevens ISO 2000, Dow ISO 2000, ISO 3000, ENRGY 3, ENRGY 3 Plus, PSI-25, Multi-Max FA, or HyTherm AP Minimum: 1.5" x 4' x 4'	2 or 4	[3]	8	1:2 ft ²
Minimum: 2" x 4' x 4'	2 or 4	[3]	4	1:4 ft ²
ACFoam II, ACFoam III, Stevens ISO 2000, Dow ISO 2000, ISO 3000 Minimum: 1.5" x 4' x 4'	2 or 4	[3]	6	1:2.7 ft ²

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

<u>Insulation (Optional) Top Layer</u>	<u>Fastener Type (Table 3)</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
ACFoam II, ACFoam III, ACFoam Supreme, Stevens ISO 2000, Dow ISO 2000, ISO 3000, ENRGY 3, ENRGY 3 Plus, PSI-25, Multi-Max FA, or HyTherm AP Minimum: 1" x 4' x 4'	N/A	N/A	N/A	N/A
Dens Deck, Dens Deck Prime Minimum: ¼" x 4' x 4'	N/A	N/A	N/A	N/A

Note: Apply optional top layer of insulation in a full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft² or in ¾" to 1" wide beads of Insta-Stik Adhesive, 12" o.c. Refer to Roofing Application Standard RAS 117 and insulation adhesive manufacturer's Roofing Component Product Control Approval for insulation attachment requirements. Insulations listed as base layer shall be used only as base layers with optional top layer insulation installed as the final membrane substrate.

Vapor (or Air) Retarder: (Optional) If used they may be placed between the deck and the base layer of insulation or between the base and top layers of insulation.



Barrier: (Optional) Slip sheet 15 mil minimum, Fireguard Type "X", Dens-Deck, Dens-Deck Prime(minimum thickness ¼"), or Gypsum board (minimum thickness ½"), Overlayment board; secured with insulation and membrane assembly. Barrier may be installed on the deck or between insulation layers. See Approved Roofing Materials Directory for specific placement of fire barrier.

Membrane: Stevens EP, Dow TPO, Stevens EP-XL, Dow TPO-XL with minimum 2" side laps adhered to the insulation with Stevens EP Bonding Adhesive or Dow TPO Bonding Adhesive. Stevens FB4535, FB4560, FB6035, FB6060, or Dow FB4535, FB4560, FB6035, FB6060 membranes with minimum 1.5" side and end laps adhered to insulation with Stevens FB636WB, or Dow FB636WB bonding adhesive.

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



Membrane Type: Single Ply, Thermoplastic
Deck Type 6I: Gypsum, Insulated
Deck Description: Gypsum
System Type C: All layers of insulation simultaneously attached; membrane fully adhered.

All General and System Limitations apply.

<u>Insulation Base Layer</u>	<u>Fastener Type (Table 3)</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
ACFoam II, ACFoam III, ACFoam Supreme, Stevens ISO 2000, Dow ISO 2000, ISO 3000, ENRGY 3, ENRGY 3 Plus, PSI-25, Multi-Max FA, or HyTherm AP				
Minimum: 1" 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.

<u>Insulation Top Layer</u>	<u>Fastener Type (Table 3)</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
High Density Wood Fiberboard, Traffic Top Fiberboard, FM-90 High Density Fiberboard, FM-90 Traffic Top Fiberboard, High Density Roof Fiberboard or Structodeck				
Minimum: 1.5" x 4' x 4'	2 or 4	[3]	8	1:2 ft ²
Fiber Base HD1 or Fiber Base HD6				
Minimum: 1.5" x 4' x 4'	2 or 4	[3]	6	1:2.7 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.

Vapor (or Air) Retarder: (Optional) If used they may be placed between the deck and the base layer of insulation or between the base and top layers of insulation.

Barrier: (Optional) Slip sheet 15 mil minimum, Fireguard Type "X", Dens-Deck, Dens-Deck Prime(minimum thickness ¼"), or Gypsum board (minimum thickness ½"), Overlayment board; secured with insulation and membrane assembly. Barrier may be installed on the deck or between insulation layers. See Approved Roofing Materials Directory for specific placement of fire barrier.

Membrane: Stevens EP, Dow TPO, Stevens EP-XL, Dow TPO-XL with minimum 2" side laps adhered to the insulation with Stevens EP Bonding Adhesive or Dow TPO Bonding Adhesive. Stevens FB4535, FB4560, FB6035, FB6060, or Dow FB4535, FB4560, FB6035, FB6060 membranes with minimum 1.5" side and end laps adhered to insulation with Stevens FB636WB, or Dow FB636WB bonding adhesive.

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



Membrane Type: Single Ply, Thermoplastic
Deck Type 6: Gypsum, Non-Insulated
Deck Description: Gypsum
System Type E: Membrane mechanically attached to deck.

All General and System Limitations apply.

Barrier: (Optional) If used, fire barriers may be placed between the deck and the base layer of insulation or between the base and top layers of insulation. Refer to the current Fire Directory for specific barrier placement.

Membrane: Stevens EP, Dow TPO, Stevens EP-XL, Dow TPO-XL mechanically fastened as specified below:

Fastening #1: Install 64½" wide sheets with a 4½" overlap fastened 6" o.c. using Stevens NTB Fasteners, Dow NTB Fasteners or Olympic NTB Magnum with 2" head [minimum 2" embedment]. (Must include Anti-Back out wires)

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



GENERAL LIMITATIONS:

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

END OF THIS ACCEPTANCE

