



**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)

**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: DowTPO Single Ply Roofing System over Steel Decks.

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

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

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

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

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

This renews and revises NOA #06-0207.02 and consists of pages 1 through 28.
The submitted documentation was reviewed by Alex Tigera.



**NOA No: 09-0223.01
Expiration Date: 05/17/11
Approval Date: 04/29/09
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ROOFING SYSTEM APPROVAL

Category: Roofing
Sub-Category: Single Ply

Material: TPO
Deck Type: Steel
Maximum Design Pressure: -172.5 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 EP Seam Cleaner	1 gallon	N/A	Membrane cleaner
Pliodeck TPO Membrane Adhesive	1 or 2-1/2 gallon	N/A	Membrane adhesive applied in 1/2 - 3/4 in. (13-19 mm) wide beads spaced 12 in. (305 mm) on center.
Pliodeck Insulation Adhesive	1 or 2-1/2 gallon	N/A	Insulation Adhesive
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



<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
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
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 Taper Tile	Tapered expanded polystyrene insulation	AFM
Perform 1, Perform Plus	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, ACFoam IV	Polyisocyanurate foam insulation	Atlas Energy Products
EPS	Expanded polystyrene insulation	Generic
Type "X", Gypsum board	Gypsum board	Generic
Dens Deck Dens Deck Prime	Water-resistant gypsum board	Georgia Pacific
GreenGuard PB6, PG38, PG39, GreenGuard Insulation Board	Extruded polystyrene insulation	Pactiv Building Products
STYROFOAM	Extruded polystyrene insulation	Dow Chemical Company
ISO 95+	Polyisocyanurate insulation	Firestone Building Products
GAFTEMP® Permalite	Polyisocyanurate foam insulation	GAF Materials Corp.
ENRGY 3, ENRGY 3 Plus	Polyisocyanurate insulation	Johns Manville
Fesco-Foam	Polyisocyanurate/perlite insulation	Johns Manville
Fesco	Mineral fiber board (perlite)	Johns Manville
Structodek	High density fiberboard	Knight-Celotex
Multi-Max, Multi-Max FA	Polyisocyanurate insulation	R-Max Inc.
Fiberbase HD	High density fiberboard	Temple-Inland
Securock™	Fiber reinforced roof board	USG Corporation



APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	Stevens PIF Fasteners Dow PIF Fasteners	Insulation fastening assembly	various	Dow Roofing Systems, LLC
2.	Stevens #12 & #14 All-Purpose Fastener Dow #12 & #14 All-Purpose Fastener	Fasteners for insulation and membrane attachment	various	Dow Roofing Systems, LLC
3.	Stevens #15 Deckgrip Fastener Dow #15 Deckgrip Fastener	Fasteners for insulation and membrane attachment	various	Dow Roofing Systems, LLC
4.	Stevens SW Fastener Dow SW Fastener	Fasteners for insulation and membrane attachment (steel decks)	various	Dow Roofing Systems, LLC
5.	Stevens SW Seam Plate Dow SW Seam Plate	Metal seam plate	2-3/8" dia.	Dow Roofing Systems, LLC
6.	Stevens Deckgrip Seam Plate Dow Deckgrip Seam Plate	Metal seam plate	2-3/8" dia.	Dow Roofing Systems, LLC
7.	Stevens Metal or Plastic Barbed Seam Plates Dow Metal or Plastic Barbed Seam Plates	Metal or Plastic seam plate	2" or 2-3/8" dia.	Dow Roofing Systems, LLC
8.	Stevens Metal or Plastic Insulation Plates Dow Metal or Plastic Insulation Plates	Metal or Plastic insulation plate	2-7/8" or 3" dia.	Dow Roofing Systems, LLC
9.	Stevens ASAP Fasteners Dow ASAP Fasteners	Membrane fastening assembly	various	Dow Roofing Systems, LLC
10.	Stevens Preassembled XHD or XHD(M) Dow Preassembled XHD or XHD(M)	Membrane fastening assembly	various	Dow Roofing Systems, LLC
11.	Stevens XHD Fastener Dow XHD Fastener	Fasteners for insulation and membrane attachment	various	Dow Roofing Systems, LLC



APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
12.	Stevens MaxFast Fasteners Dow MaxFast Fasteners	Fasteners for membrane fastening	various	Dow Roofing Systems, LLC
13.	Stevens MaxFast Plates Dow MaxFast Plates	AZ 55 Galvalume stress plate	3" dia.	Dow Roofing Systems, LLC
14.	Deckfast #14	Insulation and membrane fastener	Various	Construction Fasteners, Inc.
15.	Deckfast Plates	Insulation plates used with Deckfast fasteners	3" diam.	Construction Fasteners, Inc.
16.	Olympic Fasteners	Insulation and membrane fastener	Various	Olympic Mfg. Group
17.	Olympic Plates	Plates used with Insulation and membrane fastener	Various	Olympic Mfg. Group
18.	Tru-Fast MP-3	3.23" Round galvanized steel plate	3.23" round	The Tru-Fast Corp.
19.	Tru-Fast #14 HD	Insulation and membrane fastener	Various	The Tru-Fast Corp

EVIDENCE SUBMITTED:

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Test Name/Report</u>	<u>Date</u>
Factory Mutual Research Corporation	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
Underwriters Laboratories, Inc.	File R10321	Fire Classification	Published Annually
	94 NK 13394	Physical Property Testing	07/20/94
Factory Mutual Research Corporation	3003970	Standard 4470	05/12/2000
	3013542	Standard 4470	04/04/2002
	3009092	Standard 4470	12/13/00
	3008050	Standard 4470	12/15/00
	3015471	Standard 4470	12/3/02
	3009092	Standard 4470	12/13/2000

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<u>Test Agency</u>	<u>Test Identifier</u>	<u>Test Name/Report</u>	<u>Date</u>
	3013654	Standard 4470	1/28/2003
	3025307	Standard 4470	11/7/05
	3028857	Standard 4470	11/2/07
	3031262	Standard 4470	11/30/07



APPROVED ASSEMBLIES:

- Membrane Type:** Single Ply, Thermoplastic, TPO
Deck Type 2I: Steel, Insulated
Deck Description: 18-22 ga. steel
System Type B(1): Base layer of insulation mechanically attached, optional top layer adhered; membrane fully adhered
All General and System Limitations apply.

Insulation Base Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ACFoam II, ACFoam III, ACFoam Supreme, Stevens ISO 2000, ISO 3000, Dow IS 2000, ISO 3000, ENRGY 3, ENRGY 3 Plus, PSI-25, Multi-Max FA Minimum 1.4" thick	1 & 2	1:2 ft ²
ACFoam II, ACFoam III, Stevens ISO 2000, ISO 3000, Dow IS 2000, ISO 3000, Minimum 1.5" thick	1 & 2	1:2.7 ft ²
ACFoam II, ACFoam III, ACFoam Supreme, Stevens ISO 2000, ISO 3000, Dow IS 2000, ISO 3000, ENRGY 3, ENRGY 3 Plus, PSI-25, Multi-Max FA Minimum 2" thick	1 & 2	1:4 ft ²
Dens Deck, Dens Deck Prime Minimum ¼" thick	2	1:2 ft ²
High Density Wood Fiberboard Minimum ½" thick	1 & 2	1:2 ft ²

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

Insulation Top Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ACFoam II, ACFoam III, ACFoam Supreme, Stevens ISO 2000, ISO 3000, Dow IS 2000, ISO 3000, ENRGY 3, ENRGY 3 Plus, PSI-25, Multi-Max FA Minimum 1" thick	N/A	N/A
Dens Deck, Dens Deck Prime, Securock Minimum ¼" thick	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 an 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) lip sheet 15 mil minimum, Fireguard Type "X", Dens-Deck, Dens-Deck Prime(minimum thickness ¼") or Gypsum board(minimum thickness ½"), Overlayment board, with all joints staggered; 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 base layer with Stevens EP, Dow TPO Bonding Adhesive or Pliodeck TPO Membrane Adhesive. Stevens FB4535, FB4560 or FB6035, FB6060, or Dow FB4535, FB4560 or FB6035, FB6060 with minimum 1.5" side and end laps adhered to the base layer with Stevens FB636WB, Dow FB636WB bonding adhesive

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



Membrane Type: Single Ply, Thermoplastic, TPO
Deck Type 2I: Steel, Insulated
Deck Description: 18-22 ga. steel
System Type B(2): Base layer of insulation mechanically attached, optional top layer adhered; membrane fully adhered

All General and System Limitations apply.

Insulation Base Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ACFoam II, Stevens ISO 2000, Dow Iso 2000 Minimum 1.8" thick	1 & 2	1:2 ft²
Dens Deck, Dens Deck Prime Minimum ¼" thick	2	1:2 ft²

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).

Insulation Top Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
ACFoam II, Stevens ISO 2000, Dow Iso 2000 Minimum 1.5" thick	N/A	N/A
Dens Deck, Dens Deck Prime Minimum ¼" thick	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 an 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 with all joints staggered; secured with insulation and membrane assembly 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 base layer with Stevens EP Bonding Adhesive or Pliodeck TPO Membrane Adhesive. Stevens FB4535, FB4560 or FB6035, FB6060, or Dow FB4535, FB4560 or FB6035, FB6060 with minimum 1.5" side and end laps adhered to the base layer with Stevens FB636WB, Dow FB636WB bonding adhesive.

Maximum Design Pressure: -52.5 psf (See General Limitation #7.)



Membrane Type: Single Ply, Thermoplastic, TPO
Deck Type 2I: Steel, Insulated
Deck Description: 18 – 22ga. steel
System Type B(3): Base Layer of insulation mechanically attached, optional top insulation layer fully adhered with approved asphalt or adhesive.

All General and System Limitations apply.

<u>Insulation for Base Layer</u>	<u>Fastener Type</u>	<u>Fastener Density/ft²</u>
ACFoam II, H-Shield, ISO 95+GL, ENRGY3, Stevens ISO 2000, Dow ISO 2000		
Minimum 1.4" thick	17, 18	1:2

Note: Base layer shall be mechanically attached with fasteners and density described. 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 for Top Layer</u>	<u>Fastener Type</u>	<u>Fastener Density/ft²</u>
(Optional) ACFoam II, H-Shield, ISO 95+GL, ENRGY3, Stevens ISO 2000, Dow ISO 2000		
Minimum 1.4" thick	N/A	N/A

(Optional) DensDeck, Dens Deck Prime
 Minimum 1/4" thick

N/A N/A

Note: Optional top layer of 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 base layer with Stevens EP Bonding Adhesive or Pliodeck TPO Membrane Adhesive. Stevens FB4535, FB4560 or FB6035, FB6060, or Dow FB4535, FB4560 or FB6035, FB6060 with minimum 1.5" side and end laps adhered to the base layer with Stevens FB636WB, Dow FB636WB bonding adhesive.

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



Membrane Type: Single Ply, Thermoplastic, TPO

Deck Type 2I: Steel, Insulated

Deck Description: 18 – 22ga. steel

System Type B(4): Base Layer of insulation mechanically attached, optional top insulation layer fully adhered with approved asphalt or adhesive.

All General and System Limitations apply.

<u>Insulation for Base Layer</u>	<u>Fastener Type</u>	<u>Fastener Density/ft²</u>
ACFoam IV or Tapered ACFoam IV		
Minimum 2” thick	18, 19, 15, 14	1:5.3

Note: Base layer shall be mechanically attached with fasteners and density described. 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).

Membrane: Stevens EP, Dow TPO, Stevens EP-XL, Dow TPO-XL with minimum 2” side laps adhered to the base layer with Stevens EP Bonding Adhesive or Dow TPO Bonding Adhesive

Maximum Design

Pressures: -45 psf. (See General Limitation #7)



- Membrane Type:** Single Ply, Thermoplastic, TPO
- Deck Type 2I:** Steel, Insulated
- Deck Description:** 18 – 22ga. Grade 80 steel decking with maximum 6ft. spans. The deck is secured to the structure at every rib (6in o.c.) with one (1) ICH/Traxx 5 fastener per attachment point. The side laps are fastened with ICH/Traxx 1 screws spaced 12” o.c.
- System Type B(5):** Base Layer of insulation mechanically attached, optional top insulation layer fully adhered with approved asphalt or adhesive.; Membrane fully adhered

All General and System Limitations apply.

<u>Insulation for Base Layer</u>	<u>Fastener Type</u>	<u>Fastener Density/ft²</u>
ACFoam IV or Tapered ACFoam IV		
Minimum 2” thick	18, 19, 15, 14	1:1.3

Note: Base layer shall be mechanically attached with fasteners and density described. 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).

Membrane: Stevens EP, Dow TPO, Stevens EP-XL, Dow TPO-XL with minimum 2” side laps adhered to the base layer with Stevens EP Bonding Adhesive or Dow TPO Bonding Adhesive.

Maximum Design Pressures:

-60 psf. (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, TPO

Deck Type 2I: Steel, Insulated

Deck Description: 18 – 22ga. Grade 80 steel decking with maximum 6ft. spans. The deck is secured to the structure at every rib (6in o.c.) with one (1) ICH/Traxx 5 fastener per attachment point. The washers are 0.065in. thick with an outside diameter of 0.75 in. and an inner diameter of 0.328in. The side laps are fastened with ICH/Traxx 1 screws spaced 12” o.c.

System Type B(6): Base Layer of insulation mechanically attached, optional top insulation layer fully adhered with approved asphalt or adhesive.; Membrane fully adhered

All General and System Limitations apply.

<u>Insulation for Base Layer</u>	<u>Fastener Type</u>	<u>Fastener Density/ft²</u>
ACFoam IV or Tapered ACFoam IV		
Minimum 2” thick	18, 19, 15, 14	1:2.67

Note: Base layer shall be mechanically attached with fasteners and density described. 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).

Membrane: Stevens EP, Dow TPO, Stevens EP-XL, Dow TPO-XL with minimum 2” side laps adhered to the base layer with Stevens EP Bonding Adhesive or Dow TPO Bonding Adhesive.

Maximum Design Pressures:

-60 psf. (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, TPO

Deck Type 2I: Steel, Insulated

Deck Description: 18 – 22ga. Grade 80 steel decking with maximum 6ft. spans. The deck is secured to the structure at every rib (6in o.c.) with one (1) ICH/Traxx 5 fastener per attachment point. The washers are 0.065in. thick with an outside diameter of 0.75 in. and an inner diameter of 0.328in. The side laps are fastened with ICH/Traxx 1 screws spaced 12” o.c.

System Type B(7): Base Layer of insulation mechanically attached, optional top insulation layer fully adhered with approved asphalt or adhesive.; Membrane fully adhered

All General and System Limitations apply.

<u>Insulation for Base Layer</u>	<u>Fastener Type</u>	<u>Fastener Density/ft²</u>
ACFoam IV or Tapered ACFoam IV		
Minimum 2” thick	18, 19, 15, 14	1:2

Note: Base layer shall be mechanically attached with fasteners and density described. 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).

Membrane: Stevens EP, Dow TPO, Stevens EP-XL, Dow TPO-XL with minimum 2” side laps adhered to the base layer with Stevens EP Bonding Adhesive or Dow TPO Bonding Adhesive.

Maximum Design Pressures:

-75 psf. (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, TPO

Deck Type 2I: Steel, Insulated

Deck Description: 18 – 22ga. Grade 80 steel decking with maximum 6ft. spans. The deck is secured to the structure at every rib (6in o.c.) with one (1) ICH/Traxx 5 fastener per attachment point. The washers are 0.065in. thick with an outside diameter of 0.75 in. and an inner diameter of 0.328in. The side laps are fastened with ICH/Traxx 1 screws spaced 12” o.c.

System Type B(8): Base Layer of insulation mechanically attached, optional top insulation layer fully adhered with approved asphalt or adhesive.; Membrane fully adhered

All General and System Limitations apply.

Insulation for Base Layer

Fastener Type

Fastener Density/ft²

ACFoam IV or Tapered ACFoam IV

Minimum 2” thick

18, 19, 15, 14

1:1.3

Note: Base layer shall be mechanically attached with fasteners and density described. 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).

Membrane: Stevens EP, Dow TPO, Stevens EP-XL, Dow TPO-XL with minimum 2” side laps adhered to the base layer with Stevens EP Bonding Adhesive or Dow TPO Bonding Adhesive.

Maximum Design

Pressures: -120 psf. (See General Limitation #7)

Membrane Type: Single Ply, Thermoplastic, TPO

Deck Type 2I: Steel, Insulated

Deck Description: 18 – 22ga. Grade 80 steel decking with maximum 6ft. spans. The deck is secured to the structure at every rib (6in o.c.) with one (1) ICH/Traxx 5 fastener per attachment point. The washers are 0.065in. thick with an outside diameter of 0.75 in. and an inner diameter of 0.328in. The side laps are fastened with ICH/Traxx 1 screws spaced 12” o.c.

System Type B(9): Base Layer of insulation mechanically attached, optional top insulation layer fully adhered with approved asphalt or adhesive.; Membrane fully adhered

All General and System Limitations apply.

Insulation for Base Layer

Fastener Type

Fastener Density/ft²

ACFoam IV or Tapered ACFoam IV

Minimum 2” thick

18, 19

1:1

Note: Base layer shall be mechanically attached with fasteners and density described. 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).

Membrane: Stevens EP, Dow TPO, Stevens EP-XL, Dow TPO-XL with minimum 2” side laps adhered to the base layer with Stevens EP Bonding Adhesive or Dow TPO Bonding Adhesive.

Maximum Design

Pressures: -172.5 psf. (See General Limitation #7)

Membrane Type: Single Ply, Thermoplastic, TPO
Deck Type 2I: Steel, Insulated
Deck Description: 18 – 22ga. Grade 80 steel decking with maximum 6ft. spans. The deck is secured to the structure at every rib (6in o.c.) with one (1) ICH/Traxx 5 fastener per attachment point. The washers are 0.065in. thick with an outside diameter of 0.75 in. and an inner diameter of 0.328in. The side laps are fastened with ICH/Traxx 1 screws spaced 24" o.c.
System Type B(10): Base Layer of insulation mechanically attached, optional top insulation layer fully adhered with approved asphalt or adhesive.; Membrane fully adhered

All General and System Limitations apply.

<u>Insulation for Base Layer</u>	<u>Fastener Type</u>	<u>Fastener Density/ft²</u>
ACFoam II, H-Shield, ISO 95+GL, ENRGY3, Stevens ISO 2000 or Dow ISO 2000		

Minimum 2" thick	14, 15, 16, 17, 18, 19	1:1.33
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Note: Base layer shall be mechanically attached with fasteners and density described. 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 for Top Layer</u>	<u>Fastener Type</u>	<u>Fastener Density/ft²</u>
Securock		
Minimum 1/4" thick	N/A	N/A

Note: Top layer adhered with hot asphalt in full coverage at 25 lb/sq, Permastic applied at 1.5 gal/sq., or Insta-Stick Roofing Adhesive, Olybond 500 Adhesive Fastener, TITSEET Roofing Adhesive, or Weather-Tite One-Step Foamable Adhesive in 3/4" ribbons spaced 6" o.c.

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

Maximum Design Pressures:

-60 psf. (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, TPO
Deck Type 2I: Steel, Insulated
Deck Description: 18-22 ga. steel
System Type C(1): All layers of insulation simultaneously attached; membrane fully adhered.

All General and System Limitations apply.

Insulation Base Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ACFoam II, ACFoam III, ACFoam Supreme, Stevens ISO 2000, ISO 3000, Dow ISO 2000, ISO 3000, ENRGY 3, ENERGY 3 Plus, PSI-25, Multi-Max FA Minimum 1.4" thick	N/A	N/A
Expanded Polystyrene Minimum 1" thick	N/A	N/A
Extruded Polystyrene Minimum 3/8" thick	N/A	N/A

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density.

Insulation Top Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
High Density Wood Fiberboard, Structodeck Minimum 1/2" thick	1 & 2	1:2 ft ²
Fiber Base HD1 or Fiber Base HD6 Minimum 1/2" thick	1 & 2	1:2.9 ft ²
APA Rated Plywood Minimum 7/16" thick	1 & 2	1:4 ft ²
Dens Deck, Dens Deck Prime Minimum 1/4" thick	2	1:1.8 ft ²
Securock Minimum 5/8" thick	14 & 15, 16 & 17, 18 & 19	1:4 ft ²
Securock Minimum 1/4" thick	14 & 15, 16 & 17, 18 & 19	1:2 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 1/4") or Gypsum board (minimum thickness 1/2"), Overlayment board with all joints staggered; 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 base layer with Stevens EP Bonding Adhesive, Dow TPO Bonding Adhesive or Pliodeck TPO Membrane Adhesive. Stevens FB4535, FB4560 or FB6035, FB6060, or Dow FB4535, FB4560 or FB6035, FB6060 with minimum 1.5" side and end laps adhered to the base layer with Stevens FB636WB, or Dow FB636WB bonding adhesive.

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



Membrane Type: Single Ply, Thermoplastic, TPO

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type D(1): Membrane mechanically attached over preliminary fastened insulation.

All General and System Limitations apply.

Insulation Base Layer (Optional)	Fastener Type	Fastener Density/ft²
GAFTEMP Permalite, Fesco Board Minimum 3/4" thick	N/A	N/A

Insulation Top Layer	Fastener Type	Fastener Density/ft²
Expanded Polystyrene Minimum 1" thick	N/A	N/A

Extruded Polystyrene Minimum 3/8" thick	N/A	N/A
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Multi-Max, Multi-Max FA, ISO 95+, ENRGY 3, PSI-25, ACFoam II, ACFoam III, Stevens ISO 2000, ISO 3000, Dow ISO 2000, ISO 3000, DP Foam II, DP Foam III Minimum 1" thick	N/A	N/A
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High Density Wood Fiberboard, Structodeck, Fiber Base HD1, Fiber Base HD6 Minimum 1/2" thick	N/A	N/A
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Note: Top layer shall have preliminary attachment, prior to the installation of the base/anchor sheet, 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. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

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, DensDeck Prime (minimum thickness 1/4") or Gypsum board (minimum thickness 1/2"), Overlayment board, or Securock (minimum thickness 1/4") with all joints staggered; secured with insulation and membrane assembly. Barrier may be installed on the deck, between insulation layers, or on top of the insulation. See Approved Roofing Materials Directory for specific placement of fire barrier.

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

Fastening #1: Install 76 1/2" or 64 1/2" wide sheets with a 4 1/2" overlap fastened 6" o.c. using Approved Stevens Seam Screws and Plates or Dow Seam Screws and Plates.



- Fastening #2: Install 52½" wide sheets with a 4½" overlap fastened 18" o.c. using Approved Stevens Seam Screws and Plates or Dow Seam Screws and Plates.
- Fastening #3: Install maximum 76½" wide sheets with a 5½" overlap fastened 12" o.c. using Stevens Preassembled XHD(M), Dow Preassembled XHD(M), Stevens Preassembled XHD, Dow Preassembled XHD or Stevens XHD Fasteners, Dow XHD Fasteners and Stevens 2-3/8" Barbed Metal Seam Plates, Dow 2-3/8" Barbed Metal Seam Plates or Stevens Deckgrip Fasteners, Dow Deckgrip Fasteners and Stevens 2-3/8" Deckgrip Metal Seam Plates, Dow 2-3/8" Deckgrip Metal Seam Plates
- Fastening #4: Install alternating 76½" and 52½" wide sheets or double 64½" wide sheets with a 4½" overlap fastened 6" o.c. in every other roof cover side lap using Stevens ASAP, Dow ASAP assemblies or in a 5½" overlap fastened 6" o.c. using Stevens Preassembled XHD (M), Dow Preassembled XHD (M), Stevens Preassembled XHD, Dow Preassembled XHD or Stevens XHD, Dow XHD Fasteners and Stevens 2-3/8" Barbed Metal Seam Plates, Dow 2-3/8" Barbed Metal Seam Plates or Stevens Deckgrip Fasteners, Dow Deckgrip Fasteners, and Stevens 2-3/8" Deckgrip Metal Seam Plates, Dow 2-3/8" Barbed Metal Seam Plates or fastened 12" o.c. using Stevens SW Fastener, Dow SW Fastener (steel only) and Stevens SW 2-3/8" Barbed Metal Seam Plate, Dow 2-3/8" Barbed Metal Seam Plates or Stevens MaxFast Fastener, Dow MaxFast Fastener (steel only) and Stevens 3" MaxFast Metal Seam Plate, Dow 3" MaxFast Metal Seam Plate.
- Fastening #5: Install maximum 84" wide sheets with a 5½" wide overlap fastened 12" o.c. using Stevens Preassembled XHD(M), Dow Preassembled XHD(M), Stevens Preassembled XHD, Dow Preassembled XHD or Stevens XHD Fasteners, Dow XHD Fasteners and Stevens 2-3/8" Barbed Metal Seam Plates, Dow 2-3/8" Barbed Metal Seam Plates or Stevens Deckgrip Fasteners, Dow Deckgrip Fasteners and Stevens 2-3/8" Deckgrip Metal Seam Plates, Dow 2-3/8" Barbed Metal Seam Plates.

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



Membrane Type: Single Ply, Thermoplastic, TPO

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga., type B, 1.5" deep, FMRC Approved, Grade E steel decking secured to minimum 0.25 in. thick structural steel supports spaced a maximum of 6 ft o.c. with ITW Buildex Traxx/4 or Traxx/5 fasteners as maximum of 6" o.c. at each structural steel support. The deck side laps are secured with ITW Buildex Traxx/1 fasteners a maximum of 30" o.c.

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

All General and System Limitations apply.

Insulation Base Layer (Optional)	Insulation Fasteners (Table 3)	Fastener Density/ft²
GAFTEMP Permalite, Fesco Board Minimum 3/4" thick	N/A	N/A
Insulation Top Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Expanded Polystyrene Minimum 1" thick	N/A	N/A
Extruded Polystyrene Minimum 3/8" thick	N/A	N/A
Multi-Max, Multi-Max FA, ISO 95+, ENRGY 3, PSI-25, AC Foam II, AC Foam III, Stevens ISO 2000, ISO 3000, Dow ISO 2000, ISO 3000, DP Foam II, DP Foam III Minimum 1" thick	N/A	N/A
High Density Wood Fiberboard, Structodeck, Fiber Base HD1, Fiber Base HD6 Minimum 1/2" thick	N/A	N/A

Note: Top layer shall have preliminary attachment, prior to the installation of the base/anchor sheet, 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. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

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 1/4") or Gypsum board (minimum thickness 1/2"), Overlayment board, or Securock (minimum thickness 1/4"), with all joints staggered; secured with insulation and membrane assembly. Barrier may be installed on the deck, between insulation layers, or on top of the insulation. See Approved Roofing Materials Directory for specific placement of fire barrier.

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

Fastening #1: Install maximum 76 1/2" wide sheets with a 5 1/2" overlap fastened 6" o.c. using Stevens Preassembled XHD(M), Dow Preassembled XHD(M), Stevens Preassembled XHD, Dow Preassembled XHD or Stevens XHD Fasteners, Dow XHD Fasteners and Stevens 2-3/8" Barbed Metal Seam Plates, Dow 2-3/8" Barbed Metal Seam Plates or Stevens Deckgrip Fasteners, Dow Deckgrip Fasteners and

Stevens 2-3/8" Deckgrip Metal Seam Plates, Dow 2-3/8" Deckgrip Metal Seam Plates.

Maximum Design Pressure: -67.5 psf - see General Limitation #7.

Fastening #2:

Install maximum 52½" wide sheets with a 5½" wide overlap fastened 12" o.c. using Stevens Preassembled XHD(M), Dow Preassembled XHD(M), Stevens Preassembled XHD, Dow Preassembled XHD or Stevens XHD Fasteners, Dow XHD Fasteners and Stevens 2-3/8" Barbed Metal Seam Plates, Dow 2-3/8" Barbed Metal Seam Plates or Stevens Deckgrip Fasteners, Dow Deckgrip Fasteners and Stevens 2-3/8" Deckgrip Metal Seam Plates, Dow 2-3/8" Deckgrip Metal Seam Plates

Maximum Design Pressure: -60 psf (See General Limitation #7.)

Fastening #3:

Install maximum 52½" wide sheets with a 5½" wide overlap fastened 6" o.c. using Stevens Preassembled XHD(M), Dow Preassembled XHD(M), Stevens Preassembled XHD, Dow Preassembled XHD or Stevens XHD Fasteners, Dow XHD Fasteners and Stevens 2-3/8" Barbed Metal Seam Plates, Dow 2-3/8" Barbed Metal Seam Plates or Stevens Deckgrip Fasteners, Dow Deckgrip Fasteners and Stevens 2-3/8" Deckgrip Metal Seam Plates, Dow 2-3/8" Deckgrip Metal Seam Plates.

Maximum Design Pressure: -97.5 psf - see General Limitation #7.

Fastening #4:

Install maximum 64½" wide sheets with a 5½" wide overlap fastened 6" o.c. using Stevens Preassembled XHD(M), Dow Preassembled XHD(M), Stevens Preassembled XHD, Dow Preassembled XHD or Stevens XHD Fasteners, Dow XHD Fasteners and Stevens 2-3/8" Barbed Metal Seam Plates, Dow 2-3/8" Barbed Metal Seam Plates or Stevens Deckgrip Fasteners, Dow Deckgrip Fasteners and Stevens 2-3/8" Deckgrip Metal Seam Plates, Dow 2-3/8" Deckgrip Metal Seam Plates.

Maximum Design Pressure: -75 psf - see General Limitation #7.

Fastening #5:

Install alternating 76-1/2" and 52-1/2" (or double 64-1/2") wide sheets with a 5-1/2" wide overlap fastened 6" o.c. using Stevens Preassembled XHD(M), Dow Preassembled XHD(M), Stevens Preassembled XHD, Dow Preassembled XHD or Stevens XHD Fasteners, Dow XHD Fasteners and Stevens 2-3/8" Barbed Metal Seam Plates, Dow 2-3/8" Barbed Metal Seam Plates or Stevens Deckgrip Fasteners, Dow Deckgrip Fasteners and Stevens 2-3/8" Deckgrip Metal Seam Plates, Dow 2-3/8" Deckgrip Metal Seam Plates.

Maximum Design Pressure: -45 psf - see General Limitation #7.

Maximum Design Pressure:

See Fastening Options Above.

- Membrane Type:** Single Ply, Thermoplastic, TPO
- Deck Type 2I:** Steel, Insulated
- Deck Description:** 18-22 ga., type B, 1.5" deep, FMRC Approved, Grade 80 steel decking secured to minimum 0.25 in. thick structural steel supports spaced a maximum of 6 ft o.c. with ITW Buildex Traxx/5 fasteners as maximum of 6" o.c. at each structural steel support. The deck side laps are secured with ITW Buildex Traxx/1 fasteners a maximum of 24" o.c.
- System Type D(3):** Membrane mechanically attached over preliminary fastened insulation.

All General and System Limitations apply.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
Multi-Max, Multi-Max FA, ISO 95+, ENRGY 3, PSI-25, AC Foam II, AC Foam III, Stevens ISO 2000, ISO 3000, Dow ISO 2000, ISO 3000 DP Foam II, DP Foam III Minimum 1.5" thick	N/A	N/A

Note: Top layer shall have preliminary attachment, prior to the installation of the base/anchor sheet, 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. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

- 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, or Gypsum board, minimum thickness 1/2", Overlayment board, or Securock (minimum thickness 1/4"), with all joints staggered; secured with insulation and membrane assembly. Barrier may be installed on the deck, between insulation layers, or on top of the insulation. See Approved Roofing Materials Directory for specific placement of fire barrier.
- Membrane:** Stevens EP, Dow TPO, Stevens EP-XL, Dow TPO-XL mechanically fastened through the insulation as specified below:
- Fastening:** Install maximum 76 1/2" wide sheets with a 5 1/2" overlap fastened 18" o.c. using Stevens Maxfast Fasteners, Dow Maxfast Fasteners and Plates or Stevens SW Fastener, Dow SW Fastener and Stevens 2-3/8" SW Metal Seam Plate, Dow 2-3/8" SW Metal Seam Plate.
- Maximum Design Pressure:** -45 psf (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, TPO

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga., type B, 1.5" deep, FMRC Approved, Grade 80 steel decking secured to minimum 0.25 in. thick structural steel supports spaced a maximum of 6 ft o.c. with ITW Buildex Traxx/5 fasteners as maximum of 6" o.c. at each structural steel support. The deck side laps are secured with ITW Buildex Traxx/1 fasteners a maximum of 24" o.c.

System Type D(4): Membrane mechanically attached over preliminary fastened insulation.

All General and System Limitations apply.

Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
ACFoam II, ACFoam III Minimum 1.5" thick	N/A	N/A

Note: Top layer shall have preliminary attachment, prior to the installation of the base/anchor sheet, 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. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

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, or Gypsum board, minimum thickness 1/2", Overlayment board, or Securock (minimum thickness 1/4"), with all joints staggered; secured with insulation and membrane assembly. Barrier may be installed on the deck, between insulation layers, or on top of the insulation. See Approved Roofing Materials Directory for specific placement of fire barrier.

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

Fastening: Install maximum 125.5" wide sheets fastened, in the 5-1/2" wide side laps which are 120" apart, at 6" o.c. using Stevens XHD Fasteners, Dow XHD Fasteners and Stevens 2-3/8" SW Metal Seam Plate, Dow 2-3/8" SW Metal Seam Plate.

Maximum Design Pressure: -52.5 psf (See General Limitation #7)



STEEL DECK SYSTEM LIMITATIONS:

- 1 If mechanical attachment to the structural deck through the lightweight insulating concrete is proposed, a field withdrawal resistance testing shall be performed to determine equivalent or enhanced fastener patterns and density. All testing and fastening design shall be in compliance with Testing Application Standard TAS 105 and Roofing Application Standard RAS 137, calculations shall be signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant.
- 2 For steel deck application where specific deck construction is not referenced: The deck shall be a minimum 22 gage attached with 5/8" puddle welds with weld washers at every flute with maximum deck spans of 5 ft. o.c.

GENERAL LIMITATIONS:

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

END OF THIS ACCEPTANCE