



**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)

**Tremco Inc.
3735 Green Road
Bechwood, OH 44122**

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 and the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: Tremco Built-up over Concrete

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 NOA No. 02-0115.08 and consists of pages 1 through 21.
The submitted documentation was reviewed by Jorge L. Acebo.



**NOA No.: 07-0321.09
Expiration Date: 03/14/12
Approval Date: 05/10/07
Page 1 of 21**

ROOFING SYSTEM APPROVAL:

Category: Roofing
Sub-Category: Built-Up Roofing
Deck Type: Concrete
Maximum Design Pressures: -405 psf

TABLE 1

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
BURMastic® Base Sheet Adhesive or Solvent Free Base Sheet Adhesive	5 gallon	Proprietary	Cold process adhesive used for adhering BURMastic Glass Ply or Composite Ply to Approved Insulations
BURMastic® Adhesive	5 or 55 gallon	Proprietary	Cold applied ply sheet and surfacing adhesive
BURMastic® Composite Ply	36" x 66.6'	ASTM D 4601 Type II	Type II asphalt impregnated glass felt for use in conventional and modified bitumen built-up roofing
BURMastic® FR		Proprietary	Cold applied, fire rated flood coat
BURMastic® Glass Ply	36" x 72'	ASTM D 4601 Type II	Asphalt impregnated polyester/glass/polyester composite for use in conventional and modified bitumen built-up roofing
Double-Duty Aluminum™ Fas-n-Free® Adhesive	5 gallon	ASTM D 2824 Proprietary	Aluminum pigmented roof coating. One part, solvent free adhesive used for adhering Approved insulations to Approved substrates
FireKote®	5 and 55 gallon	Proprietary	Fire retardant, acrylic/polymer blend emulsion
Improved Polarcote®	5 and 55 gallon	Proprietary	Reflective, white elastomeric roof coating
Poly-THERM® Roofing Ply	10 squares per roll 39¾" wide	Proprietary	Continuous filament, spunbonded polyester ply sheet for use in conventional and modified bitumen built-up roof systems
Premium III™	100 lb.	ASTM D 312	Type III asphalt for use in built-up roofing systems
THERMastic® Adhesive	60 lb.	Proprietary	All purpose roof cement
THERMglass®		ASTM D 2178 Type VI	Type VI asphalt impregnated glass felt for use in conventional and modified bitumen built-up roof systems
TREMprime™ Q.D.	1, 5 or 55 gallon	ASTM D 41	Asphalt based roofing primer
Therm MB FR	100 sq. ft./roll	ASTM D 5147	Modified bitumen, glass reinforced, fire resistant membrane
Therm™ 100	System		Tremco built-up roofing system using Thermastic and Thermglass



NOA No.: 07-0321.09
 Expiration Date: 03/14/12
 Approval Date: 05/10/07
 Page 2 of 21

Therm™ 200	System	Tremco built-up roofing system using Polytherm and Thermastic
Tremprime® WB	5 gallon Proprietary	Water based roofing primer

TABLE 2

APPROVED INSULATIONS:

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>	<u>Manufacturer</u> (With current NOA)
Pyrox	Various	TAS 110	Polyisocyanurate foam insulation	Apache Products Co.
ACFoam II	Various	TAS 110	Polyisocyanurate foam insulation	Atlas Energy Products
Hy-Tec and Hy-Tec 2	Various	TAS 110	Fiberglass roof insulation	Celotex Corp.
Hy-Therm AP	Various	TAS 110	Polyisocyanurate foam insulation	Celotex Corp.
Hy-Therm Nail-Line	Various	TAS 110	Polyisocyanurate foam insulation with nailing surface	Celotex Corp.
E'NRG'Y 2 E'NRG'Y 2 Plus	Various	TAS 110	Polyisocyanurate foam insulation	Johns Manville (NRG)
ISORoc	Various	TAS 110	Polyisocyanurate and rockwool composite insulation	Johns Manville (NRG)
Multi-Max	Various	TAS 110	Polyisocyanurate foam insulation	R-Max
Fiberglas Insulation	Various	TAS 110	Fiberglass roof insulation	Johns Manville
UltraGard Gold	Various	TAS 110	Polyisocyanurate foam insulation	Johns Manville
Fiberglas	Various	TAS 110	Fiberglass roof insulation	Johns Manville / Owens Corning
Fiber Base		TAS 110	Fiberglass roof insulation	Temple
High Density Wood Fibeboard	Various	TAS 110	Wood fiberboard insulation	Generic
Perlite		TAS 110	Perlite insulation	Generic



TABLE 3

APPROVED FASTENERS:

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	Glasfast (with plate)	Carbon Steel with SPEX (black) coating	Various	Johns Manville Corp.
2.	DekFast (with plate)	Carbon Steel, Sentri (black)	Various	Construction Fasteners Inc.
3.	HD Insulfixx (with plate)	Steel, Tuff-Tite (black or purple)	Various	SFS Stadler Inc.
4.	Roofgrip (with plate)	Carbon Steel, SPEX (black) or Climaseal (blue)	Various	ITW Buildex Corp.
5.	Olympic (with plate)	Carbon Steel, CR-10 or Answer Coating (black)	Various	Olympic Fasteners
6.	Rawl Drive (with plate)	Carbon Steel, Black Coating	Various	Powers Fasteners
7.	Rawl Spike (with plate)	Carbon Steel, Black Coating	Various	Powers Fasteners
8.	Anchorbond (with plate)	Carbon Steel, Sentri (black)	Various	The Celotex Corp.
9.	AccuTrac Hextra (with plate)	Carbon Steel, SPEX (black) or Climaseal (blue)	Various	ITW Buildex Corp.
10.	Tru-Fast (with plate)	Carbon Steel Tru-Kote Coating	Various	The Tru-Fast Corp.
11.	Con-Tite Fastener	Insulation fastening assembly	Various	Olympic Fasteners

EVIDENCE SUBMITTED

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Description</u>	<u>Date</u>
Applied Research Laboratories	27076	Physical properties	
Factory Mutual Research Corporation	J.I. #0P9A9.AM	Wind Uplift Classification	10/27/88
	J.I. #0R9A6.AM	Wind Uplift Classification	01/02/90
	J.I. #2Y5A2.AM	Wind Uplift Classification	11/16/94
	J.I. #1T6A9.AM	Wind Uplift Classification	08/24/91
	J.I. #0T3Q9.AM	Wind Uplift Classification	10/01/91
	J.I. #0Z8A3.AM	Wind Uplift Classification	06/13/95
	J.I. #2D1A8.AM	Class 4470	07/27/2000
	J.I. #0D0A9.AM	Class 4470	08/01/2000
	1995 FMRC	Insulation and fastener requirements	1/01/95
	PRI Asphalt Technologies, Inc.	TRE-15-02-01	Physical Properties
Underwriters Laboratories, Inc. Exterior Research & Design, LLC.	R4170	Fire Classification	1/01/95
	4544.07.96-1	TAS 114	07/30/96



NOA No.: 07-0321.09
 Expiration Date: 03/14/12
 Approval Date: 05/10/07
 Page 4 of 21

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A (1): All layers of insulation adhered with approved adhesive.

All General Limitations apply.

<u>Insulation Base Layer</u>	<u>Fastener Density ft²</u>	<u>Insulation Fasteners (Table 3)</u>
AC-Foam II, E'NRG'Y 2, E'NRG'Y 2 Plus Minimum: 1.3" thick	N/A	N/A
ISORoc Minimum: 1.5" thick	N/A	N/A
Multi-Max Minimum: 1.4" thick	N/A	N/A
High Density Wood Fiber Minimum: ½" thick	N/A	N/A
Perlite Minimum: ¾" thick	N/A	N/A
Fiberglas Minimum: 1 ⁵ / ₁₆ " thick	N/A	N/A

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of anchor sheet or base insulation layer. All Insulation shall be adhered to the anchor sheet or primed deck in full moppings of approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft² or in Fas-n-Free Insulation Adhesive applied in ribbons at a coverage rate of 1.5 gallons per square or, for Fiberglas , at 2 gallons per square. Please refer to Roofing Application Standard RAS 117 for insulatrion attachment. Insulations listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Base Sheet: (Optional) BURmastic Composite Ply may be used in conjunction with ply sheet.

Ply Sheet: Three or four plies of THERMglas or PolyTHERM ply sheet adhere to insulation or based sheet with THERMastic, Premium III, Premium III, Premium IV or Type III asphalt at 30 to 35 lb/sq for each ply or three or four plies of Approved Type IV or Type VI ply sheet adhered to insulation or base sheet with Premium III, Premium IV or Type III asphalt at 30 to 35 lb/sq for each ply. (See specification number for appropriate number of plies).



Cap Sheet: None.

Surfacing: (Required if no cap sheet is used) Install one of the following:

1. Two part surfacing consisting of 4-5 gal./sq. of Tremlastic Tremlastic S surfaced with Double Duty Aluminum coating at $\frac{3}{4}$ gal./sq., or surfacerd with Improved Polarcote or Polacote FR in two coatsa at 1 gallon per square per coat.
2. Flood coat of BURMastic and gravel at application rates of 5-6 $\frac{1}{5}$ gal./sq. and 400 lbs./sq., respectively.

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



NOA No.: 07-0321.09
Expiration Date: 03/14/12
Approval Date: 05/10/07
Page 6 of 21

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(2): All layers of insulation adhered with approved adhesive.

All General and System Limitations apply.

<u>Insulation Base Layer</u>	<u>Fastener Density ft²</u>	<u>Insulation Fasteners (Table 3)</u>
One or more layers of the following insulations:		
AC-Foam II, E'NRG'Y 2, E'NRG'Y 2 Plus, ISORoc, Multi-Max Minimum: 1" thick	N/A	N/A
High Density Wood Fiber Minimum: 1/2" thick	N/A	N/A
Miami-Dade Approved Perlite Minimum: 3/4" thick	N/A	N/A
Fiberglas Minimum: 15/16" thick	N/A	N/A

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of anchor sheet or base insulation layer. All insulation shall be adhered to the anchor sheet or primed deck in full moppings of approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft² or in Fas-n-Free Insulation Adhesive applied in ribbons at a coverage rate of 1.5 gallons per square or, for Fiberglas, at 2 gallons per square. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulations listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Base Sheet: (Optional) BURmastic Composite Ply may be used in conjunction with ply sheet.

Ply Sheet: Three or four plies of BURmastic Composite Ply, BURmastic Glass Ply or approved G2 fiberglass base ply sheet adhered in 3.5 gal./sq. ± 15% of BURmastic adhesive (See specification number for appropriate number of plies).

Note: Base sheet or first ply sheet shall be applied in BURmastic Base Sheet Adhesive or BURmastic Solvent Free Base Sheet Adhesive

Cap Sheet: None.



Surfacing:

(Required if no cap sheet is used) Install one of the following:

1. Two part surfacing consisting of 4-5 gal./sq. of Tremlastic or Tremlastic S surfaced with one of the following:
Double Duty Aluminum coating at $\frac{3}{4}$ gal./sq.,
60 lbs. #11 3M roofing granule's in wet Tremlastic
Crushed Stone, nominal $\frac{3}{64}$ "- $\frac{3}{8}$ " at 240lbs./sq. in wet Tremlastic or
Improved Polarcote or Polarcote FR in two coats at 1 gallon per square per coat
2. Flood coat of BURMastic and gravel at application rates of 5-6 $\frac{1}{5}$ gal./sq. and 400 lbs./sq., respectively.

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



NOA No.: 07-0321.09
Expiration Date: 03/14/12
Approval Date: 05/10/07
Page 8 of 21

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(3): All layers of insulation adhered with approved adhesive.

All General and System Limitations apply.

Insulation: **OPTION #1:** min. 1.5" thick ACFoam II, E'NRG'Y-2 or Multi-Max adhered to the primed concrete deck in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. followed by min. ½" thick High Density Wood Fiberboard adhered to the base insulation layer in a similar manner.

OPTION #2: min. 1.5" thick ACFoam II, E'NRG'Y-2 or Multi-Max adhered to the primed concrete deck in Fas-n-Free Insulation Adhesive applied in ribbons at a coverage rate of 1.5 gallons per sq. followed by min. ½" thick High Density Wood Fiberboard adhered to the base insulation layer in a similar manner.

OPTION #3: min. 1.5" thick ACFoam II, E'NRG'Y-2 or Multi-Max adhered to the primed concrete deck in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or in Fas-n-Free Insulation Adhesive applied in ribbons at a coverage rate of 1.5 gallons per sq. followed by min. 15/16" thick Fiberglass Roof Insulation Board adhered to the base insulation layer in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or in Fas-n-Free Insulation Adhesive applied in ribbons at a coverage rate of 2.0 gallons per sq.

OPTION #4: min. 1.5" thick ACFoam II, E'NRG'Y-2 or Multi-Max adhered to the primed concrete deck in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or in Fas-n-Free Insulation Adhesive applied in ribbons at a coverage rate of 1.5 gallons per sq. followed by min. ¼" thick Dens Deck adhered to the base insulation layer in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or in Fas-n-Free Insulation Adhesive applied in ribbons at a coverage rate of 1.5 gallons per sq.

OPTION #5: min. 1.5" thick E'NRG'Y-2 Plus adhered to the primed concrete deck in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or in Fas-n-Free Insulation Adhesive applied in ribbons at a coverage rate of 1.5 gallons per sq.

Base Sheet: (Optional) BURmastic Composite Ply may be used in conjunction with ply sheet.

Ply Sheet: Three or four plies of THERMglas or PolyTHERM ply sheet adhered to insulation or base sheet with THERMastic, Premium III, Premium IV or Type III asphalt at 30 to 35 lb/sq for each ply or three or four plies of Approved Type IV or Type VI ply sheet adhered to insulation or base sheet with Premium III, Premium IV or Type III asphalt at 30 to 35 lb/sq for each ply.. (See specification number for appropriate number of plies).



Cap Sheet: None.

Surfacing: (Required if no cap sheet is used) Install one of the following:

1. Two part surfacing consisting of 4-5 gal./sq. of Tremlastic or Tremlastic S surfaced with Double Duty Aluminum coating at $\frac{3}{4}$ gal./sq or surfaced with Improved Polarcote or Polarcote FR in two coats at 1 gallon per square per coat.
2. Flood coat of THERMastic and gravel at application rates of 3.5 gal./sq. and 400 lbs./sq., respectively.
3. Flood coat of BURMastic and gravel with applications rates of 4-5 gal./sq. and 400 lbs./sq., respectively.

Maximum Design

Pressure:

-252.5 psf, for Insulation Option #1 (See General Limitation #9.)

-195.0 psf, for Insulation Option #2 (See General Limitation #9.)

-130.0 psf, for Insulation Option #3 (See General Limitation #9.)

-405.0 psf, for Insulation Option #4 (See General Limitation #9.)

-335.0 psf, for Insulation Option #5 (See General Limitation #9.)



Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type A(4): All layers of insulation adhered with approved adhesive.

All General and System Limitations apply.

Insulation **OPTION #1:** min. 1.5" thick ACFoam II, E'NRG'Y-2 or Multi-Max adhered to the primed concrete deck in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or in Fas-n-Free Insulation Adhesive applied in ribbons at a coverage rate of 1.5 gallons per sq. followed by min. ½" thick High Density Wood Fiberboard adhered to the base insulation layer in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or in Fas-n-Free Insulation Adhesive applied in ribbons at a coverage rate of 1.5 gallons per sq.

OPTION #2: min. 1.5" thick ACFoam II, E'NRG'Y-2 or Multi-Max adhered to the primed concrete deck in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or in Fas-n-Free Insulation Adhesive applied in ribbons at a coverage rate of 1.5 gallons per sq. followed by min. 15/16" thick Fiberglass Roof Insulation Board adhered to the base insulation layer in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or in Fas-n-Free Insulation Adhesive applied in ribbons at a coverage rate of 2.0 gallons per sq.

OPTION #3: min. 1.5" thick ACFoam II, E'NRG'Y-2 or Multi-Max adhered to the primed concrete deck in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or in Fas-n-Free Insulation Adhesive applied in ribbons at a coverage rate of 1.5 gallons per sq. followed by min. ¼" thick Dens Deck adhered to the base insulation layer in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or in Fas-n-Free Insulation Adhesive applied in ribbons at a coverage rate of 1.5 gallons per sq.

OPTION #4: min. 1.5" thick E'NRG'Y-2 Plus adhered to the primed concrete deck in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or in Fas-n-Free Insulation Adhesive applied in ribbons at a coverage rate of 1.5 gallons per sq.

Base Sheet: (Optional) BURmastic Composite Ply may be used in conjunction with ply sheet.

Ply Sheet: Three or four plies of BURmastic Composite Ply, BURmastic Glass Ply or approved G2 fiberglass base ply sheet adhered in 3.5 gal./sq. ± 15% of BURmastic adhesive (See specification number for appropriate number of plies).

Note: Base sheet or first ply sheet shall be applied in BURmastic Base Sheet Adhesive or BURmastic Solvent Free Base Sheet Adhesive

Cap Sheet: None.



NOA No.: 07-0321.09
Expiration Date: 03/14/12
Approval Date: 05/10/07
Page 11 of 21

Surfacing:

(Required if no cap sheet is used) Install one of the following:

1. Two part surfacing consisting of 4-5 gal./sq. of Tremlastic or Tremlastic S surfaced with one of the following:
 - Double Duty Aluminum coating at $\frac{3}{4}$ gal./sq.,
 - 60 lbs. #11 3M roofing granule's in wet Tremlastic
 - Crushed Stone, nominal $\frac{3}{64}$ "- $\frac{3}{8}$ " at 240lbs./sq. in wet Tremlastic or
 - Improved Polarcote or Polarcote FR in two coats at 1 gallon per square per coat
2. Flood coat of BURMastic and gravel at application rates of 5-6 $\frac{1}{5}$ gal./sq. and 400 lbs./sq., respectively.

Maximum Design

Pressure:

-165.0 psf, for Insulation Option #1 (See General Limitation #9.)

-77.5 psf, for Insulation Option #2 (See General Limitation #9.)

-240.0 psf, for Insulation Option #3 (See General Limitation #9.)

-405.0 psf, for Insulation Option #4 (See General Limitation #9.)



Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type B(1): Base layer of insulation mechanically fastened, optional top layer adhered with approved asphalt or adhesive.

All General and System Limitations apply.

<u>Insulation Base Layer</u>	<u>Fastener Density ft²</u>	<u>Insulation Fasteners (Table 3)</u>
Apache/Hy-Therm Pyrox, AP, White Line, UltraGard Gold Minimum: 1.3" thick	1:2.67	See any approved fastener in table 3
Apache/Hy-Therm Nail-Line, ISORoc Minimum: 1.5" thick	1:2.67	See any approved fastener in table 3
E'NRG'Y 2 Minimum: 1.4" thick	1:3 1:4	2, 8, 5-S/G2, 11-S, 6, 7,
E'NRG'Y 2 Plus Minimum: 1.5" thick	1:4	See any approved fastener in table 3
Iso 95 + Minimum: 1.4" thick	1:4 1:3	5-S/G2, 11-S/P, 3, 10
Multi-Max Minimum: 1.5" thick	1:2.9	See any approved fastener in table 3
Perlite Minimum: ¾" thick	1:2	See any approved fastener in table 3
Fiberglas Minimum: 15/16" thick	1:2.67	See any approved fastener in table 3
High Density Wood Fiber Minimum: ½" thick	1:4	See any approved fastener in table 3

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 PA 117 for fastener details.



Insulation Top Layer

Fastener Density ft²

Insulation Fasteners
(Table 3)

Any of the insulations listed for Base Layer, above.

Note: Apply optional top layer of insulation in a full mopping of approved hot asphalt applied within the EVT range and at a rate of 20-40lbs/100 ft² or in Fas-n-Free Insulation Adhesive applied in ribbons at a coverage rate of 1.5 gallons per square or 2.0 gallons per square for Fiberglas Roof Insulation. Refer to Roofing Application Standard RAS 117 for insulation attachment. Insulations listed as the base layer shall only be used as the base layer with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

Base Sheet: (Optional) BURmastic Composite Ply may be used in conjunction with ply sheet.

Ply Sheet: Three or four plies of THERMglas or PolyTHERM ply sheet adhered to insulation or base sheet with THERMastic, Premium III, Premium IV or Type III asphalt at 30 to 35 lb/sq for each ply or three or four plies of Approved Type IV or Type VI ply sheet adhered to insulation or base sheet with Premium III, Premium IV or Type III asphalt at 30 to 35 lb/sq for each ply.. (See specification number for appropriate number of plies).

Cap Sheet: None.

Surfacing: (Required if no cap sheet is used) Install one of the following:

1. Two part surfacing consisting of 4-5 gal./sq. of Tremlastic or Tremlastic S surfaced with Double Duty Aluminum coating at 3/4 gal./sq or surfaced with Improved Polarcote or Polarcote FR in two coats at 1 gallon per square per coat.
2. Flood coat of THERMastic and gravel at application rates of 3.5 gal./sq. and 400 lbs./sq., respectively.
3. Flood coat of BURMastic and gravel with applications rates of 4-5 gal./sq. and 400 lbs/sq., respectively.

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



Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type B(2): Base layer of insulation mechanically fastened, optional top layer adhered with approved asphalt.

All General and System Limitations apply.

<u>Insulation Base Layer</u>	<u>Fastener Density ft²</u>	<u>Insulation Fasteners (Table 3)</u>
Apache/Hy-Therm Pyrox, AP, White Line Minimum: 1.3" thick	1:2.67	See any approved fastener in table 3
Apache/Hy-Therm Nail-Line Minimum: 1.5" thick	1:2.67	See any approved fastener in table 3
E'NRG'Y 2 Minimum: 1.4" thick	1:3 1:4	2, 8 5-S/G2, 6, 7, 11-S
ISORoc Minimum: 1.5" thick	1:2.67	See any approved fastener in table 3
E'NRG'Y 2 Plus Minimum: 1.5" thick	1:4	See any approved fastener in table 3
Iso 95 + Minimum: 1.4" thick	1:4 1:3	3, 5-G2, 11-S/P 5-S,10-S
Multi-Max Minimum: 1.5" thick	1:2.9	See any approved fastener in table 3
UltraGard Gold Minimum: 1.3" thick	1:2.67	See any approved fastener in table 3
Perlite Minimum: ¾" thick	1:2	See any approved fastener in table 3
Fiberglas Minimum: 1 ⁵ / ₁₆ " thick	1:2.67	See any approved fastener in table 3
High Density Wood Fiber Minimum: ½" thick	1:4	See any approved fastener in table 3

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 fastener details.



NOA No.: 07-0321.09
 Expiration Date: 03/14/12
 Approval Date: 05/10/07
 Page 15 of 21

Insulation Top Layer

Fastener Density ft²

Insulation Fasteners
(Table 3)

Any of the insulations listed for Base Layer, above.

Note: Apply optional top layer of insulation in a full mopping of approved hot asphalt applied within the EVT range and at a rate of 20-40lbs/100 ft² or in Fas-n-Free Insulation Adhesive applied in ribbons at a coverage rate of 1.5 gallons per square or 2.0 gallons per square for Fiberglas Roof Insulation. Refer to Roofing Application Standard RAS 117 for insulation attachment. Insulations listed as the base layer shall only be used as the base layer with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

Base Sheet: (Optional) BURmastic Composite Ply may be used in conjunction with ply sheet.

Ply Sheet: Three or four plies of BURmastic Composite Ply, BURmastic Glass Ply or approved G2 fiberglass base ply sheet adhered in 3.5 gal./sq. ± 15% of BURmastic adhesive (See specification number for appropriate number of plies).

Note: Base sheet or first ply sheet shall be applied in BURmastic Base Sheet Adhesive or BURmastic Solvent Free Base Sheet Adhesive

Cap Sheet: None.

Surfacing: (Required if no cap sheet is used) Install one of the following:

1. Two part surfacing consisting of 4-5 gal./sq. of Tremlastic or Tremlastic S surfaced with one of the following:
Double Duty Aluminum coating at ¾ gal./sq.,
60 lbs. #11 3M roofing granule's in wet Tremlastic
Crushed Stone, nominal 3/64"-3/8" at 240lbs./sq. in wet Tremlastic or
Improved Polarcote or Polarcote FR in two coats at 1 gallon per square per coat
2. Flood coat of BURMastic and gravel at application rates of 5-6 1/5 gal./sq. and 400 lbs./sq., respectively.

Maximum Design

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



Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type C (1): All layers of insulation simultaneously fastened.

All General and System Limitations apply.

<u>Insulation Base Layer</u>	<u>Fastener Density ft²</u>	<u>Insulation Fasteners (Table 3)</u>
AC-Foam II Minimum: 1.3" thick	N/A	N/A
E'NRG'Y 2, Multi-Max Minimum: 1.4" thick	N/A	N/A
ISORoc, E'NRG'Y 2 Plus Minimum: 1.5" thick	N/A	N/A
High Density Wood Fiber Minimum: ½" thick	N/A	N/A
Perlite Minimum: ¾" thick	N/A	N/A
Fiberglas Minimum: 15/16" thick	N/A	N/A

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

<u>Insulation Top Layer</u>	<u>Fastener Density ft²</u>	<u>Insulation Fasteners (Table 3)</u>
Apache/Hy-Therm Pyrox, AP, White Line Minimum: 1.3" thick	1:2.67	See any approved fastener in table 3
Apache/Hy-Therm Nail-Line Minimum: 1.5" thick	1:2.7	See any approved fastener in table 3
E'NRG'Y 2 Minimum: 1.4" thick	1:3 1:4	1, 2, 8 5-S/G2, 6, 7, 11-S
ISORoc Minimum: 1.5" thick	1:2.67	See any approved fastener in table 3
E'NRG'Y 2 Plus Minimum: 1.5" thick	1:4	See any approved fastener in table 3



Iso 95 +		
Minimum: 1.4" thick	1:4	5-S/G2, 11-S/P
	1:3	3, 10
Multi-Max		
Minimum: 1.5" thick	1:2.9	See any approved fastener in table 3
UltraGard Gold		
Minimum: 1.3" thick	1:2.67	See any approved fastener in table 3
Perlite		
Minimum: ¾" thick	1:2	See any approved fastener in table 3
Fiberglas		
Minimum: 1 ⁵ / ₁₆ " thick	1:2.67	See any approved fastener in table 3
High Density Wood Fiber		
Minimum: ½" thick	1:4	See any approved fastener in table 3

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. Refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: (Optional) BURmastic Composite Ply may be used in conjunction with ply sheet.

Ply Sheet: Three or four plies of THERMglas or PolyTHERM ply sheet adhered to insulation or base sheet with THERMastic, Premium III, Premium IV or Type III asphalt at 30 to 35 lb/sq for each ply or three or four plies of Approved Type IV or Type VI ply sheet adhered to insulation or base sheet with Premium III, Premium IV or Type III asphalt at 30 to 35 lb/sq for each ply.. (See specification number for appropriate number of plies).

Cap Sheet: None.

Surfacing: (Required if no cap sheet is used) Install one of the following:

1. Two part surfacing consisting of 4-5 gal./sq. of Tremlastic or Tremlastic S surfaced with Double Duty Aluminum coating at ¾ gal./sq or surfaced with Improved Polarcote or Polarcote FR in two coats at 1 gallon per square per coat.
2. Flood coat of THERMastic and gravel at application rates of 3.5 gal./sq. and 400 lbs./sq., respectively.
3. Flood coat of BURMastic and gravel with applications rates of 4-5 gal./sq. and 400 lbs./sq., respectively.

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



Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type C(2): All layers of insulation simultaneously fastened.

All General and System Limitations apply.

<u>Insulation Base Layer</u>	<u>Fastener Density ft²</u>	<u>Insulation Fasteners (Table 3)</u>
AC-Foam II Minimum: 1.3" thick	N/A	N/A
E'NRG'Y 2 Minimum: 1.4" thick	N/A	N/A
ISORoc Minimum: 1.5" thick	N/A	N/A
E'NRG'Y 2 Plus Minimum: 1.5" thick	N/A	N/A
Multi-Max Minimum: 1.4" thick	N/A	N/A
High Density Wood Fiber Minimum: ½" thick	N/A	N/A
Perlite Minimum: ¾" thick	N/A	N/A
Fiberglas Minimum: 1 ⁵ / ₁₆ " thick	N/A	N/A

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

<u>Insulation Top Layer</u>	<u>Fastener Density ft²</u>	<u>Insulation Fasteners (Table 3)</u>
Apache/Hy-Therm Pyrox, AP, White Line Minimum: 1.3" thick	1:2.67	See any approved fastener in table 3
Apache/Hy-Therm Nail-Line Minimum: 1.5" thick	1:2.7	See any approved fastener in table 3



E'NRG'Y 2		
Minimum: 1.4" thick	1:3 1:4	1, 2, 8 5-S/G2, 6, 7, 11-S
ISORoc		
Minimum: 1.5" thick	1:2.67	See any approved fastener in table 3
E'NRG'Y 2 Plus		
Minimum: 1.5" thick	1:4	See any approved fastener in table 3
Iso 95 +		
Minimum: 1.4" thick	1:4 1:3	5- S/P/G2, 11-S/P 3-S/P, 10-S/P
Multi-Max		
Minimum: 1.5" thick	1:2.9	See any approved fastener in table 3
UltraGard Gold		
Minimum: 1.3" thick	1:2.67	See any approved fastener in table 3
Perlite		
Minimum: ¾" thick	1:2	See any approved fastener in table 3
Fiberglas		
Minimum: 1 ⁵ / ₁₆ " thick	1:2.67	See any approved fastener in table 3
High Density Wood Fiber		
Minimum: ½" thick	1:4	See any approved fastener in table 3

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. Refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: (Optional) BURmastic Composite Ply may be used in conjunction with ply sheet.

Ply Sheet: Three or four plies of BURmastic Composite Ply, BURmastic Glass Ply or approved G2 fiberglass base ply sheet adhered in 3.5 gal./sq. ± 15% of BURmastic adhesive (See specification number for appropriate number of plies).

Note: Base sheet or first ply sheet shall be applied in BURmastic Base Sheet Adhesive or BURmastic Solvent Free Base Sheet Adhesive

Cap Sheet: None.

Surfacing: (Required if no cap sheet is used) Install one of the following:

1. Two part surfacing consisting of 4-5 gal./sq. of Tremlastic or Tremlastic S surfaced with one of the following:
Double Duty Aluminum coating at ¾ gal./sq.,
60 lbs. #11 3M roofing granule's in wet Tremlastic
Crushed Stone, nominal 3/64"-3/8" at 240lbs./sq. in wet Tremlastic or
Improved Polarcote or Polarcote FR in two coats at 1 gallon per square per coat
2. Flood coat of BURMastic and gravel at application rates of 5-6 1/5 gal./sq. and 400 lbs./sq., respectively.

Maximum Design

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



NOA No.: 07-0321.09
Expiration Date: 03/14/12
Approval Date: 05/10/07
Page 20 of 21

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 Engineer, Architect, or Registered Roof Consultant.

GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance, refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each sidelap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq. **Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.**
5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida registered Professional Engineer, Registered 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



NOA No.: 07-0321.09
Expiration Date: 03/14/12
Approval Date: 05/10/07
Page 21 of 21