



**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)

**Performance Roof Systems, Inc.
4800 Blue Parkway
Kansas City, MO 64130**

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed by Miami-Dade County Product Control Division and accepted by the Board of Rules and Appeals (BORA) to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Division (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. BORA reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Division that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code Including the High Velocity Hurricane Zone.

DESCRIPTION: Performance Modified Roof Systems over Cementitious Wood Fiber

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 consists of pages 1 through 17.
The submitted documentation was reviewed by Frank Zuloaga, RRC



**NOA No 02-0913.09
Expiration Date: 08/23/06
Approval Date: 03/04/04
Page 1 of 17**

ROOFING ASSEMBLY APPROVAL

Category: Roofing
Sub-Category: APP/SBS Modified Bitumen
Deck Type: Cementitious Wood Fiber
Maximum Design Pressure -45 psf
Fire Classification: See General Limitation #1

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
Derbigum GP	33'4" x 39.4"; roll weight: 90 lbs.	ASTM D 6223	Modified bitumen glass fiber and polyester reinforced membrane for torch application or Permastic cold adhesive application.
Derbigum XPS	33'4" x 39.4"; roll weight: 90 lbs.	ASTM D 6223	Modified bitumen glass fiber and polyester reinforced membrane for torch application or Permastic cold adhesive application.
Derbicolor GP	33'4" x 39.4"; roll weight: 100 lbs.	ASTM D 6223	Mineral surfaced modified bitumen glass fiber and polyester reinforced membrane for torch application or Permastic cold adhesive application.
Derbicolor XPS	33'4" x 39.4"; roll weight: 100 lbs.	ASTM D 6223	Mineral surfaced modified bitumen glass fiber and polyester reinforced membrane for torch application or Permastic cold adhesive application.
Derbigum GP/FR	33'4" x 39.4"; roll weight: 90 lbs.	ASTM D 6223	Fire resistant modified bitumen glass fiber and polyester reinforced membrane for torch application or Permastic cold adhesive application.
Derbigum XPS/FR	33'4" x 39.4"; roll weight: 90 lbs.	ASTM D 6223	Fire resistant modified bitumen glass fiber and polyester reinforced membrane for torch application or Permastic cold adhesive application.



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>
Derbicolor GP/FR	33'4" x 39.4"; roll weight: 100 lbs.	ASTM D 6223	Mineral surfaced fire resistant modified bitumen glass fiber and polyester reinforced membrane for torch application or Permastic cold adhesive application.
Derbicolor XPS/FR	33'4" x 39.4"; roll weight: 100 lbs.	ASTM D 6223	Mineral surfaced fire resistant modified bitumen glass fiber and polyester reinforced membrane for torch application or Permastic cold adhesive application.
DerbiBrite	33'4" x 39.4"; roll weight: 90 lbs.	ASTM D 6223	Fire resistant modified bitumen fiberglass and polyester composite mat with an acrylic top coating membrane for torch application or Permastic cold adhesive application.
Derbibase	66' x 39.4"; roll weight: 90 lbs.	ASTM D 5147	APP modified bitumen glass fiber base sheet for mechanical attachment or Permastic cold adhesive application.
Derbibase Ultra	49.5' x 39.4" roll weight: 102 lbs.	ASTM D5147	APP modified bitumen glass fiber base sheet for mechanical attachment of Permastic cold adhesive application.
PRS Glass Base	108' x 36"; roll weight: 82 lbs.	ASTM D 4601	Asphalt coated fiberglass base sheet for use in hot-mop, mechanically fastened or Permastic cold adhesive application.
PRS Glass Ply IV	180' x 36"; roll weight: 60 lbs.	ASTM D 2178 Type IV	Asphalt coated fiberglass ply sheet for use in hot-mop, or mechanically fastened or Permastic cold adhesive application.
PRS Glass Ply VI	180' x 36"; roll weight: 60 lbs.	ASTM D 2178 Type IV	Asphalt coated fiberglass ply sheet for use in hot-mop or mechanically fastened or Permastic cold adhesive application.
PRS Modified Base	180' x 36" roll weight: 82 lbs.	ASTM D 5147	SBS polymer modified bitumen base sheet.



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>
Permax B-Base		ASTM D 5147	SBS polymer modified bitumen base sheet.
Permax B-Economy	39 1/2" x 33'11"	ASTM D 6164	SBS polymer modified bitumen, polyester reinforced membrane.
Permax A-Economy	39.4" x 33' roll weight: 89 lbs.	ASTM D 6222	APP polymer modified bitumen, polyester reinforced membrane.
Permax A-Economy (Mineral)	39.4" x 33' roll weight: 103 lbs.	ASTM D 6222	Mineral surfaced APP polymer modified bitumen, polyester reinforced membrane.
Bitutak MB	33' x 39.4 roll weight: 89 lbs	ASTM D 6222	APP polymer modified bitumen polyester reinforced membrane.
Bitutak MB (Mineral)	39.4" x 33' roll weight: 103 lbs.	ASTM D 6222	Mineral surfaced APP polymer modified bitumen, polyester reinforced membrane
Permastic	5-gallon pails 55-gallon drums 350-gallong tanks		Asphalt-based adhesive formulated especially for adhering Derbigum/Derbicolor roofing membranes, Derbibase/Ultra , glass ply sheets and glass base sheets.
Permastic IA	5-gallon pails 55-gallon drums 350-gallong tanks		Asphalt-based adhesive formulated especially for adhering base sheets and Derbiboard insulation to concrete, non-nailable substrates or polyisocyanurate.

APPROVED INSULATIONS:

TABLE 2

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>	<u>Manufacturer</u>
ACFoam I	various	PA 110	Polyisocyanurate foam insulation	Atlas Energy Products
ACFoam II Derbiboard	various	PA 110	Polyisocyanurate foam insulation	Atlas Energy Products
ACFoam III Derbiboard CA Derbiboard Composite	various	PA 110	Polyisocyanurate foam insulation	Atlas Energy Products



APPROVED INSULATIONS:

TABLE 2

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>	<u>Manufacturer</u>
Hy-Therm AP	various	PA 110	Polyisocyanurate foam insulation	Celotex Corp.
Thermax Hy-Tec	various	PA 110	Polyisocyanurate foam insulation	Celotex Corp.
High Density Wood Fiberboard	various	PA 110	Wood fiber insulation board	generic
Perlite Insulation	Various	PA 110	Perlite insulation board	generic
Type X Gypsum	various		Fire resistant rated gypsum	Generic
E'NERG'Y PSI-25	various	PA 110	Polyisocyanurate foam insulation	NRG Barriers, Inc.
E'NRG'Y-2	various	PA 110	Polyisocyanurate foam insulation	NRG Barriers, Inc.
Fiberglas	various	PA 110	Fiber glass roof insulation	Owens-Corning Fiberglas Corp.
Multi-Max	various	PA 110	Polyisocyanurate foam insulation	RMAX

EVIDENCE SUBMITTED

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Description</u>	<u>Date</u>
Exterior Research & Design, LLC	10720.10.97-1	Uplift PA 114	10/17/97
Factory Mutual Research Corporation	2W3A6.AM	Fire Classification	02/21/97
Factory Mutual Research Corporation	2Y3A2.AM		
Factory Mutual Research Corporation	2B5A5.AM	Fire Classification	05/14/97
Factory Mutual Research Corporation	1D7A4.AM	Windstorm	11/9/98
Factory Mutual Research Corporation	2B5A7.AM	Classification	03/1/99
	JI 3002688		
Factory Mutual Research Corporation	JI3007274	Fire/Wind Classification	2/7/01
	JI 3003642		
	JI 3001472		
IRT-ARCON	PC03-001	Uplift PA 114-95	01/17/03
	PC03-002		
Underwriters Laboratories	R13327	Fire Classification	11/23/92



APPROVED ASSEMBLIES

Membrane Type: APP

Deck Type 5I: Cementitious Wood Fiber, Insulated, New Construction

Deck Description: Cementitious wood fiber

System Type B: Base layer of insulation mechanically fastened, optional top layer adhered with approved asphalt, Permastic, or Permastic IA.

All General and System Limitations apply.

<u>Insulation Base Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
Approved Type(s): Derbiboard Minimum: 1.3" x 3' x 4'	Rawlite	[2]	4	1:3 ft ²
Approved Type(s): Derbiboard CA Minimum: 1.3" x 4' x 4'	Rawlite	[3]	4	1:2.67 ft ²
Approved Type(s): AC-Foam I Minimum: 1.3" x 3' x 4'	Rawlite	[2]	4	1:3 ft ²
Approved Type(s): E'NRG'Y 2 Minimum: 1.4" x 3' x 4'	Rawlite	[2]	4	1:3 ft ²
Approved Type(s): AC-Foam II Minimum: 1.3" x 4' x 4'	Rawlite	[3]	4	1:2.67 ft ²
Approved Type(s): Fiberglas Minimum: 1 ⁵ / ₁₆ " x 4' x 4'	Rawlite	[3]	6	1:2.67 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 Top Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
Second layer of identical base layer or one of the following:				
Approved Type(s): Derbiboard Minimum: 1.5" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): Derbiboard CA Minimum: 1.5" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): Derbiboard composite Minimum: 1.5" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): Fiberglas Minimum: 1 ⁵ / ₁₆ " x 4' x 4'	N/A	N/A	N/A	N/A



Approved Type(s): High Density Wood Fiber

Minimum: ½" x 4' x 4' N/A N/A N/A N/A

Approved Type(s): Perlite Insulation

Minimum: ¾" x 4' x 4' N/A N/A N/A N/A

Note: Apply top layer of insulation in a full mopping of any approved mopping hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as Base Layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

Base Sheet: One ply of Perma Ply IV, VI, #28, Performance Modified Base Sheet, PRS Glass Base, PRS Ply VI, GAF #75, Derbibase, or Derbibase Ultra adhered to the insulated substrate with a full mopping of approved mopping asphalt at an application rate of 25 lb./sq. ± 15% or Permastic adhesive at an application rate of 1.5 to 2gal/sq.

Ply Sheet: (Optional) One or two plies of Perma Ply IV, VI, or #28 or Derbibase, Derbigum/Derbicolor GP or XPS, Performance Modified Base Sheet, PRS Glass Base, ply sheets, or Derbibase Ultra adhered to the insulated substrate with a full mopping of approved mopping asphalt at an application rate of 25 lb./sq. ± 15% or Permastic adhesive at an application rate of 1.5 to 2gal/sq.

Membrane: Derbigum/Derbicolor GP or GP/FR or Derbigum/Derbicolor XPS or XPS/FR, Permax A-Economy, Permax A-Economy Mineral, Bitutak MB, or Bitutak MB Mineral torch applied or adhered in Permastic to base sheet.

Surfacing: Install one of the following (except over Derbicolor GP/FR or Derbicolor XPS/FR):

1. Gravel or slag applied at an application rate of 400 lbs. or 300 lbs. respectively adhered to the insulated substrate with approved mopping asphalt at an application rate of 60 lb./sq. ± 15% or Permastic.
2. APOC 400 applied at 1.3 gal./sq.. Karnak 97, Grundy al MB, Permalume aluminum, Permalume Premium, or Perma-Cool applied at an application rate of 1.5 gal./sq.. Grundy 20F or Pure Asphalt emulsion at 2 gal./sq. with optional roofing granules. APOC # 302 or ATCO 1851 FR applied at an application rate of 3 gal./sq.. VIP-400 or ATCO 1846 applied at an application rate of 3.5 gal./sq.

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

Maximum Fire Classification: See General Limitation #1.



Membrane Type: APP

Deck Type 5I: Cementitious Wood Fiber, Insulated

Deck Description: Cementitious wood fiber

System Type C: All layers of insulation simultaneously fastened.

All General and System Limitations apply.

<u>Insulation Base Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
Approved Type(s): Derbiboard				
Minimum: 1.3" x 3' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): Derbiboard CA				
Minimum: 1.3" x 3' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): AC-Foam I, E'NRG'Y 2				
Minimum: 1.3" x 3' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): Multi-Max				
Minimum: ½" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): Fiberglas				
Minimum: 1 ⁵ / ₁₆ " 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. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

<u>Insulation Top Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
Approved Type(s): Derbiboard				
Minimum: 1.5" 4' x 4'	Rawl		6	1:3 ft ²
Approved Type(s): Derbiboard CA				
Minimum: 1.5" 4' x 4'	Rawl		6	1:3 ft ²
Approved Type(s): Fiberglas				
Minimum: 1 ⁵ / ₁₆ " x 4' x 4'	Rawlite	[3]	6	1:2.67 ft ²

Note: Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.



- Base Sheet:** One ply of Perma Ply IV, VI, #28, Performance Modified Base Sheet, PRS Glass Base, GAF #75, Derbibase, or Derbibase Ultra adhered to the insulated substrate with a full mopping of approved mopping asphalt at an application rate of 25 lb./sq. \pm 15% or Permastic.
- Ply Sheet:** (Optional) One or two plies of Perma Ply IV, VI, #28, Derbibase, Derbigum/Derbicolor GP or XPS, Performance Modified Base Sheet, PRS Glass Base, ply sheets, or Derbibase Ultra adhered to the insulated substrate with a full mopping of approved mopping asphalt at an application rate of 25 lb./sq. \pm 15% or Permastic.
- Membrane:** Derbigum/Derbicolor GP or GP/FR or Derbigum/Derbicolor XPS or XPS/FR, Permax A-Economy, Permax A-Economy Mineral, Bitutak MB, Bitutak MB Mineral torch applied or adhered in Permastic to base sheet.
- Surfacing:** Install one of the following (except over Derbicolor GP/FR or Derbicolor XPS/FR):
1. Gravel or slag applied at an application rate of 400 lbs. or 300 lbs. respectively adhered to the insulated substrate with approved mopping asphalt at an application rate of 60 lb./sq. \pm 15% or Permastic.
 2. APOC 400 applied at 1.3 gal./sq.. Karnak 97, Grundy al MB, Permalume aluminum, Permalume Premium, or Perma-Cool applied at an application rate of 1.5 gal./sq.. Grundy 20F or Pure Asphalt emulsion at 2 gal./sq. with optional roofing granules. APOC # 302 or ATCO 1851 FR applied at an application rate of 3 gal./sq.. VIP-400 or ATCO 1846 applied at an application rate of 3.5 gal./sq.
- Maximum Design Pressure:** -45 psf. (See General Limitation #9)
- Maximum Fire Classification:** See General Limitation #1.



Membrane Type: SBS

Deck Type 5I: Cementitious Wood Fiber, Insulated

Deck Description: Cementitious wood fiber

System Type C: All layers of insulation simultaneously fastened.

All General and System Limitations apply.

<u>Insulation Base Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
Approved Type(s): Derbiboard				
Minimum: 1.3" x 3' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): Derbiboard CA				
Minimum: 1.3" x 3' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): Perlite				
Minimum: ¾" x 2' 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. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

<u>Insulation Top Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
Approved Type(s): Derbiboard				
Minimum: 1.5" 4' x 4'	Rawl		6	1:3 ft ²
Approved Type(s): Derbiboard CA				
Minimum: 1.5" 4' x 4'	Rawl		6	1:3 ft ²
Approved Type(s): Perlite				
Minimum: ¾" x 2' x 4'	Rawlite	[1]	4	1:2 ft ²

Note: Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: Celotex Vaporbar, GAFGLAS # 75, PRS Glass Base, PRS Modified Base Sheet, Owens Corning Fiberglas base sheet, Derbibase or Derbibase Ultra adhered to the insulated substrate with approved mopping asphalt at an application rate of 25 lb./sq. ± 15% or Permastic adhesive at an application rate of 1.5 to 2gal/sq.

Ply Sheet: Derbibase or Derbibase Ultra.

Membrane: One ply of Permax B-Economy torch applied, in Permastic adhesive at an application rate of 1.5 to 2gal/sq. or adhered with approved mopping asphalt at an application rate of 25 lb./sq. ± 15%.



Surfacing:

Install one of the following:

1. 400 lbs. gravel set adhered in hot asphalt or Permastic.
2. Grundy al MB, Permalume, Permalume Premium, or Perma-Cool applied at a rate of 1-1/2 gal./sq., Karnak 97 applied at a rate of 2 gal./sq.
3. A two part surfacing consisting of a base coat of Thermo 202 at 2 gal./sq. and a final coat of Thermo 101.
4. A two part surfacing consisting of a base coat of Thermo 202 at 2 gal./sq. with a fine gravel embedded in the wet coating and a final surfacing of Thermo # 101 at the manufacturer's specified installation rate.

Maximum Design
Pressure:

-45 psf. (See General Limitation #9)

Maximum Fire
Classification:

See General Limitation #1.



Membrane Type: APP
Deck Type 5I: Cementitious Wood Fiber, Insulated
Deck Description: Cementitious Wood Fiber
System Type D: All layers of insulation and base sheet simultaneously fastened.

All General and System Limitations apply.

Approved Type(s): Derbiboard				
Minimum: 1.3" x 3' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): Derbiboard CA				
Minimum: 1.3" x 3' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): AC-Foam I				
Minimum: 1.3" x 3' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): AC-Foam II				
Minimum: 1.3" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): E"NRG"Y-2, PSI-25				
Minimum: 1.4" x 3' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): Multi-Max				
Minimum: 1.5" x 4' x 8'	N/A	N/A	N/A	N/A
Approved Type(s): Fiberglas				
Minimum: 1 ⁵ / ₁₆ " x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): High Density Wood Fiber				
Minimum: 1/2" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): Perlite Insulation				
Minimum: 3/4" x 4' x 4'	N/A	N/A	N/A	N/A

Note: All layers of insulation and base sheet shall be simultaneously attached. See base sheet below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. At an application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Base Sheet: Two plies of Perma Ply IV, VI, R, or #28, PRS Glass Base, one ply of PRS Modified Base Sheet, Derbibase, or Derbibase Ultra mechanically fastened to the deck through the insulation as detailed below.

Fastening: Fasten base sheet with Rawlite fasteners with Rawl stress plates at a 4" side lap 12" o.c. and two rows in the center of the sheet 18 o.c. See System Limitation #4.

Ply Sheet: Derbibase, or Derbibase Ultra.



Membrane: Derbigum/Derbicolor GP or GP/FR or Derbigum/Derbicolor XPS or XPS/FR, Permax A-Economy, Permax A-Economy Mineral, Bitutak MB, Bitutak MB Mineral torch applied or in Permastic to base sheet.

Surfacing: Install one of the following:

1. Gravel or slag applied at an application rate of 400 lbs. or 300 lbs. respectively adhered to the insulated substrate with approved mopping asphalt at an application rate of 60 lb./sq. \pm 15% or Permastic.
2. APOC 400 applied at 1.3 gal./sq.. Karnak 97, Grundy al MB, Permalume aluminum, Permalume Premium, Perma-Cool, Monsey Endure, Weather Check Pro-Grade, or Aqua-Brite applied at an application rate of 1.5 gal./sq.. Grundy 20F or Pure Asphalt emulsion at 2 gal./sq. with optional roofing granules. APOC # 302 or ATCO 1851 FR applied at an application rate of 3 gal./sq.. VIP-400 or ATCO 1846 applied at an application rate of 3.5 gal./sq.

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

Maximum Fire Classification: See General Limitation #1.



Membrane Type: SBS

Deck Type 5I: Cementitious Wood Fiber, Insulated

Deck Description: Cementitious wood fiber

System Type D: All layers of insulation and base sheet simultaneously fastened.

All General and System Limitations apply.

<u>Insulation Base or Top Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
Approved Type(s): Perlite				
Minimum: 2' x 4' x 1"	N/A	N/A	N/A	N/A

Note: All layers of insulation and base sheet shall be simultaneously attached. See base sheet below for fasteners and density. Refer to Roofing Application Standard RAS 117 for insulation attachment requirements. Insulation shall have preliminary attachment, prior to the installation of the roofing membrane. At an application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Base Sheet: Celotex Vaporbar, GAFGLAS # 75, PRS Glass Base Sheet, PRS Modified Base Sheet, Owens Corning Fiberglas base sheet, Derbibase, or Derbibase Ultra fastened to the deck through the insulation as detailed below:

Fastening: Fasten base sheet with approved fasteners and metal plates at a 4" side lap 12" o.c. and two rows staggered in the center of the sheet 18" o.c. See System Limitation #4.

Ply Sheet: Derbibase, or Derbibase Ultra.

Membrane: One ply of Permax B-Economy torch applied, in Permastic adhesive at an application rate of 1.5 to 2gal/sq. or adhered with approved mopping asphalt at an application rate of 25 lb./sq. ± 15%.

Surfacing: Install one of the following:

- 400 lbs. gravel set adhered in hot asphalt or Permastic.
- Grundy al MB, Permalume, Permalume Premium, or Perma-Cool applied at a rate of 1-1/2 gal./sq., Karnak 97 applied at a rate of 2 gal./sq..
- A two part surfacing consisting of a base coat of Thermo 202 at 2 gal./sq. and a final coat of Thermo 101.
- A two part surfacing consisting of a base coat of Thermo 202 at 2 gal./sq. with a fine gravel embedded in the wet coating and a final surfacing of Thermo # 101 at the manufacturer's specified installation rate.

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

Maximum Fire Classification: See General Limitation #1.



Membrane Type: APP
Deck Type 5: Cementitious Wood Fiber, Non-Insulated
Deck Description: Cementitious Wood Fiber.
System Type E: Base sheet mechanically fastened.

All General and System Limitations apply.

Base Sheet: One ply of Perma Ply #28, PRS Glass Base, PRS Modified Base Sheet, Derbibase, or Derbibase Ultra over loose laid Red Resin and mechanically fastened to the deck as detailed below:

Fastening: Fasten base sheet with approved fasteners at a 4" side lap 12" o.c. and two rows staggered in the center of the sheet 18" o.c.. See System Limitation # 4.

Ply Sheet: Derbibase, or Derbibase Ultra.

Membrane: Derbigum/Derbicolor GP or GP/FR or Derbigum/Derbicolor XPS or XPS/FR, Permax A-Economy, Permax A-Economy Mineral, Bitutak MB, Bitutak MB Membrane torch applied to base sheet or in Permastic.

Surfacing: Install one of the following (except over Derbicolor GP/FR or Derbicolor XPS/FR):

1. Gravel or slag applied at an application rate of 400 lbs. or 300 lbs. respectively adhered to the insulated substrate with approved mopping asphalt at an application rate of 60 lb./sq. \pm 15% or Permastic.
2. APOC 400 applied at 1.3 gal./sq.. Karnak 97, Grundy al MB, Permalume aluminum, Permalume Premium, or Perma-Cool applied at an application rate of 1.5 gal./sq.. Grundy 20F or Pure Asphalt emulsion at 2 gal./sq. with optional roofing granules. APOC # 302 or ATCO 1851 FR applied at an application rate of 3 gal./sq.. VIP-400 or ATCO 1846 applied at an application rate of 3.5 gal./sq.

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

Maximum Fire Classification: See General Limitation #1.



Membrane Type: SBS
Deck Type 5: Cementitious Wood Fiber, Non-Insulated
Deck Description: Cementitious Wood Fiber.
System Type E: Base sheet mechanically fastened.

All General and System Limitations apply.

Base Sheet: Celotex Vaporbar, GAFGLAS # 75, PRS Glass Base Sheet, PRS Modified Base Sheet, Derbibase, or Derbibase Ultra over a loose laid Red Resin, or Owens Corning Fiberglas base sheet fastened to the deck as described below:

Fastening: Fasten base sheet with approved fasteners and metal plates at a 4" side lap 12" o.c. and two rows staggered in the center of the sheet 18" o.c. See System Limitation #4.

Ply Sheet: Derbibase, or Derbibase Ultra.

Membrane: One ply of Permax B-Economy torch applied or adhered with approved mopping asphalt at an application rate of 25 lb./sq. \pm 15% or Permastic adhesive at an application rate of 1.5 to 2gal/sq.

Surfacing: Install one of the following:

1. 400 lbs. gravel set adhered in hot asphalt or Permastic.
2. Grundy al MB, Permalume, Permalume Premium, or Perma-Cool applied at a rate of 1-1/2 gal./sq., Karnak 97 applied at a rate of 2 gal./sq..
3. A two part surfacing consisting of a base coat of Thermo 202 at 2 gal./sq. and a final coat of Thermo 101.
4. A two part surfacing consisting of a base coat of Thermo 202 at 2 gal./sq. with a fine gravel embedded in the wet coating and a final surfacing of Thermo # 101 at the manufacturer's specified installation rate.

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

Maximum Fire Classification: See General Limitation #1.



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.)**
10. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 9B-72 of the Florida Administrative Code.

END OF THIS ACCEPTANCE



NOA No 02-0913.09
Expiration Date: 08/23/06
Approval Date: 03/04/04
Page 17 of 17