MIAMI-DADE

MIAMI-DADE COUNTY, FLORIDA
METRO-DADE FLAGLER BUILDING

BUILDING CODE COMPLIANCE OFFICE
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CONTRACTOR ENFORCEMENT DIVISION
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PRODUCT CONTROL DIVISION
(305) 375-2902 FAX (305) 372-6339

PRODUCT CONTROL NOTICE OF ACCEPTANCE

Johns Manville Corp.
717 17 Street (P.O. Box 5108)
Denver ,CO 80217

Your application for Notice of Acceptance (NOA) of:
Johns Manville Modified Bitumen Roofing Systems Over LWC Deck
under Chapter 8 of the Code of Miami-Dade County governing the use of Alternate Materials and Types of Construction, and completely described herein, has been recommended for acceptance by the Miami-Dade County Building Code Compliance Office (BCCO) under the conditions specified herein.

This NOA shall not be valid after the expiration date stated below. BCCO reserves the right to secure this product or material at any time from a jobsite or manufacturer's plant for quality control testing. If this product or material fails to perform in the approved manner, BCCO may revoke, modify, or suspend the use of such product or material immediately. BCCO reserves the right to revoke this approval, if it is determined by BCCO that this product or material fails to meet the requirements of the South Florida Building Code.

The expense of such testing will be incurred by the manufacturer.

ACCEPTANCE NO.: 01-0206.20
EXPIRES: 07/05/2006

Raul Rodriguez
Chief Product Control Division

THIS IS THE COVERSHEET, SEE ADDITIONAL PAGES FOR SPECIFIC AND GENERAL CONDITIONS
BUILDING CODE & PRODUCT REVIEW COMMITTEE

This application for Product Approval has been reviewed by the BCCO and approved by the Building Code and Product Review Committee to be used in Miami-Dade County, Florida under the conditions set forth above.

Francisco J. Quintana, R.A.
Director
Miami-Dade County
Building Code Compliance Office

APPROVED: 07/05/2001

ROOFING ASSEMBLY APPROVAL

Category:	Roofing	Approval Date: **July 5, 2001**
Sub-Category:	APP Modified Bitumen	
		Expiration Date: **July 5, 2006**
Deck Type:	Lightweight Concrete	
Maximum Design Pressure	-75 psf	
Fire Classification:	See General Limitation #1	

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

Product	Dimensions	Test Specification	Product Description
JM APP Base	150 sq. ft. roll	ASTM D 5147	APP modified asphalt, fiberglass reinforced, smooth surfaced base sheet.
APPeX 4S	32.8' x 3.28'; 90 lb. roll	ASTM D 6222, type I, grade S	APP modified asphalt, polyester reinforced, smooth surfaced membrane.
APPeX 4.5M	32.8' x 3.28'; 90 lb. roll	ASTM D 6222, type I grade G	APP modified asphalt, polyester reinforced, mineral surfaced membrane.
APPeX 4.5MFR	32.8' x 3.28'; 90 lb. roll	ASTM D 6222, type I grade G	APP modified asphalt, polyester reinforced, fire-retardant, mineral surfaced membrane.
APPeX 180	32.8' x 3.28'; 90 lb. roll	ASTM D 6222, type I, grade G	APP modified asphalt, polyester reinforced, smooth surfaced membrane.
Bicor MFR	39-3/8" x 34'	ASTM D 6223	APP modified asphalt, polyester / glass reinforced, granule surfaced membrane.
Tricor MFR	39-3/8" x 34'	ASTM D 6223	APP modified asphalt, polyester / glass reinforced, granule surfaced membrane.
Bicor S	39-3/8" x 34'	ASTM D 6223	APP modified asphalt, polyester / glass reinforced, smooth surfaced membrane.
Tricor S	39-3/8" x 34'	ASTM D 6223	APP modified asphalt, polyester / glass reinforced, smooth surfaced membrane.
Glasply Premier	36" x 180'	ASTM D 2178 Type VI	Type VI asphalt impregnated glass felt for use in conventional and modified bitumen built-up roofing.
Glasply IV	36" x 200'	ASTM D 4601 Type IV	Type IV asphalt impregnated glass felt for use in conventional and modified bitumen built-up roofing.

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Product	Dimensions	Test Specification	Product Description
Glasbase	36" x 108'; roll weight: 84 lbs.	ASTM D 4601	Type II asphalt impregnated and coated glass fiber base sheet for use in conventional and modified bitumen built-up roofing.
PermaPly 28	36' x 108'; 72 lb. roll	ASTM D 4601	Type II asphalt impregnated and coated glass fiber base sheet
Ventsulation	36" x 36'	ASTM D 4897 Type II	Heavy duty fiber glass base sheet impregnated and coated on both sides with asphalt with or without fine mineral stabilizer.
JM Ultrafast	various	PA 114	Insulation fastener assembly (steel decks only).
JM CD-10	Various	PA 114	Insulation fastener for concrete decks.
JM ISO-1 or Tapered ISO-1	various	ASTM C 1289	Rigid polyisocyanurate roof insulation for use in conventional built-up and other roof systems; available flat or tapered.
JM Fesco or Tapered Fesco	various	ASTM C 728	Rigid perlite roof insulation board for built-up roofing systems; available flat or tapered.
JM 1/2" Retrofit	various	ASTM C 728	A high density perlite roof insulation board for use in conventional and modified bitumen built-up roofing systems.
E"NRG"Y-2 or Tapered E'NRG'Y-2	various	ASTM C 1289	Polyisocyanurate insulation for use with single-ply, BUR and modified bitumen roof covers (includes all Factory Mutual approved roof covers)
JM Fesco Foam	various	ASTM C 1289	Rigid polyisocyanurate roof insulation with perlite board facing bonded to one side for use in conventional built-up and other roofing.
Dura Board	Various	ASTM C 728	Rigid perlite roof insulation, for use with hot mopped, heat welded or cold applied systems.
Dura Foam	Various	ASTM C 1289	Polyisocyanurate roof insulation with perlite board facing bonded to one side ofr use with hot mopped, heat welded or cold applied systems.
JM Fiberglas Roof Insulation	various	PA 110	Fiber glass roof insulation

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Product	Dimensions	Test Specification	Product Description
JM Topgard Type B		ASTM D 1227	Fire rated, fibered, non-asbestos, clay water base asphalt emulsion.
JM Fibrated Aluminum Roof Coating		ASTM D 2824	Fire rated, fibered, non-asbestos aluminum coating.
JM Premium Fibered Aluminum Roof Coating		ASTM D 2824	Fire rated, fibered, non-asbestos asphalt aluminum coating.
MBR Insulation Adhesive		Proprietary	One part elastomeric insulation adhesive.
MBR Cold Application Adhesive		Proprietary	One part elastomeric interply adhesive for use with modified bitumen and BUR systems.

EVIDENCE SUBMITTED:

Test Agency	Test Identifier	Description	Date
Factory Mutual Research Corporation	J.I. 0X0A9.AM	Wind Uplift	03/25/94
	J.I. 0X7A4.AM	Wind Uplift	08/26/93
	J.I. 3001482		08/11/98
	J.I. 3002823		04/01/99
	J.I. 3003468		02/02/00
	J.I. 3007148		04/19/00
Underwriters Laboratories, Inc.	R-10400		Published Annually
Exterior Research & Design, LLC.	#4361-2.04.97-1	PA 114(J) – Wind UPlift	04/15/97
	10390A.12.97-1	PA 114(J) – Wind Uplift	12/15/97
	10390A.10.97-1	PA 114(J) – Wind Uplift	10/15/97

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APPROVED ASSEMBLIES

Deck Type 4I: Lightweight Concrete, Insulated, New Construction

Deck Description: Approved Cellular Lightweight Concrete Deck (Minimum 300 psi).

System Type A: Anchor sheet mechanically fastened; one or more layers of insulation adhered with approved asphalt.

Deck: Structural Concrete or min. 22 ga type BW slotted steel deck attached to ¼" steel supports spaced a maximum of 5 ft. o.c. with 5/8" puddle welds and washers spaced a maximum of 6" o.c. (at the bottom of each rib/flute). Side laps shall be fastened at 18" o.c. with Traxx/1 fasteners or #10 self-tapping screws.

All General and System Limitations apply.

Anchor Sheet: One ply of JM GlasBase, PermaPly 28 or Ventsulation mechanically fastened to the deck as described below:

Fastening #1: Attach anchor sheet using JM CR Base Ply Fasteners spaced 7" o.c. in a 3" lap and 7" o.c. in two staggered rows in the center of the sheet.
Maximum Design Pressure: –52.5 psf, See General Limitation #7.

Fastening #2: Attach anchor sheet using JM Ultragrip fasteners and Square Metal Plates through the lightweight concrete to the structural steel or concrete deck spaced 7" o.c. in a 4" lap and 7" o.c. in two staggered rows in the center of the sheet.
Maximum Design Pressure: –75 psf, See General Limitation #7.

Insulation Base or Top Layer	Fastener Type	Fastening Detail No.	Fasteners Per Board	Fastener Density
Approved Type(s): **E"NRG"Y–2**				
Minimum: 4' x 4' x 1.4"	N/A	N/A	N/A	N/A
Approved Type(s): **Fesco Foam**				
Minimum: 4' x 4' x 1.5"	N/A	N/A	N/A	N/A
Approved Type(s): **JM Fiber Glass Roof Insulation**				
Minimum: 3' x 4' x ¾"	N/A	N/A	N/A	N/A
Approved Type(s): **JM Fesco Board**				
Minimum: 2' x 4' x ¾"	N/A	N/A	N/A	N/A
Approved Type(s): **JM Retro-Fit Board**				
Minimum: 2' x 4' x ½"	N/A	N/A	N/A	N/A

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft^2. Please refer to Roofing Application Standard PA 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.

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Base Sheet:	One ply of JM Glasbase or JM PermaPly 28 fully adhered to the insulated substrate with approved mopping asphalt at an application rate of 25 lb./sq. ± 15%.
Ply Sheet:	(Optional) One or more plies of JM APP Base, APPeX 4S or APPeX 180 heat welded to base sheet.
Membrane:	One or two plies of APPeX 4S, APPeX 180, APPeX 4.5M or APPeX 4.5 MFR heat welded.
Surfacing:	(Optional) Install one of the following for all systems that do not achieve acceptable fire ratings through the use of FR membrane sheets. 1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at a rate of 60 lb./sq. 2. Karnak 97, Karnak 97 AF, Monsey Premium Long Life Aluminum Roof Coating Asbestos Free or Monsey Prograde Aluminum, JM Topgard Type A, Topgard Type B, JM Aluminum RF CT, Grundy AL MB aluminum coating at a rate of 1-1/2 gal/sq Monsey Aquabrite, Gardner asphalt emulsion, APOC Sunbright 400 or Henry 229 Aluminum Emulsion at 2½ gal/sq or APOC 212 Aluminum Roof Coating at 3 gal/sq. 3. Grundy 20 F asphalt emulsion, Endure Asphalt Emulsion, APOC 302 or 302 AF applied at 2½ gal/sq with optional 60 lbs./sq. of roofing granules embedded in wet coating.

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Deck Type 4I: Lightweight Concrete, Insulated, New Construction

Deck Description: Approved Cellular Lightweight Concrete Deck (Minimum 300 psi).

System Type A(2): Anchor sheet mechanically fastened; one or more layers of insulation adhered with approved asphalt.

Deck: Structural Concrete or min. 22 ga type BW slotted steel deck attached to ¼" steel supports spaced a maximum of 5 ft. o.c. with 5/8" puddle welds and washers spaced a maximum of 6" o.c. (at the bottom of each rib/flute). Side laps shall be fastened at 18" o.c. with Traxx/1 fasteners or #10 self-tapping screws.

All General and System Limitations apply.

Anchor Sheet: One ply of JM GlasBase, PermaPly 28, APP Base or Ventsulation mechanically fastened to the deck as described below:

Fastening #1: Attach anchor sheet using JM CR Base Ply Fasteners spaced 7" o.c. in a 4" lap and 7" o.c. in two staggered rows in the center of the sheet.
Maximum Design Pressure: –52.5 psf, See General Limitation #7.

Fastening #2: Attach anchor sheet using JM Ultrafast fasteners and Square Metal Plates through the lightweight concrete to the structural steel or concrete deck spaced 7" o.c. in a 4" lap and 7" o.c. in two staggered rows in the center of the sheet.
Maximum Design Pressure: –75 psf, See General Limitation #7.

Insulation Base or Top Layer	Fastener Type	Fastening Detail No.	Fasteners Per Board	Fastener Density
Approved Type(s): **DuraFoam**				
Minimum: 4' x 8' x 1.5"	N/A	N/A	N/A	N/A
Approved Type(s): **DuraBoard**				
Minimum: 4' x 4' x ½"	N/A	N/A	N/A	N/A

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft^2. Please refer to Roofing Application Standard PA 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 or more plies of JM APP Base or APPeX 4S heat welded.

Ply Sheet: None.

Membrane: One or two plies of APPeX 4S, APPeX 180, APPeX 4.5M or APPeX 4.5 MFR heat welded.

Surfacing: (Optional) Install one of the following for all systems that do not achieve acceptable fire ratings through the use of FR membrane sheets.

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at a rate of 60 lb./sq.
2. JM Topgard Type A, Topgard Type B or JM Aluminum Roof Coat.

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Deck Type 4: Lightweight Concrete, Non-insulated, New Construction

Deck Description: Approved Cellular Lightweight Concrete Deck (Minimum 300 psi).

System Type E: Base sheet mechanically fastened.

Deck: Structural Concrete or min. 22 ga type BW slotted steel deck attached to ¼" steel supports spaced a maximum of 5 ft. o.c. with 5/8" puddle welds and washers spaced a maximum of 6" o.c. (at the bottom of each rib/flute). Side laps shall be fastened at 18" o.c. with Traxx/1 fasteners or #10 self-tapping screws.

All General and System Limitations apply.

Base Sheet: One ply of JM GlasBase, PermaPly 28 or Vensulation mechanically fastened to the deck as described below:

Fastening #1: Attach anchor sheet using JM CR Base Ply Fasteners spaced 7" o.c. in a 3" lap and 7" o.c. in two staggered rows in the center of the sheet.
Maximum Design Pressure: –52.5 psf, See General Limitation #7.

Fastening #2: Attach anchor sheet using JM Ultragrip fasteners and Square Metal Plates through the lightweight concrete to the structural steel or concrete deck spaced 7" o.c. in a 4" lap and 7" o.c. in two staggered rows in the center of the sheet.
Maximum Design Pressure: –75 psf, See General Limitation #7.

Ply Sheet: (Optional) One or more plies of JM APP Base, APPeX 4S or APPeX 180 heat welded to base sheet.

Membrane: One or two plies of APPeX 4S, APPeX 180, APPeX 4.5M or APPeX 4.5 MFR heat welded.

Surfacing: (Optional) Install one of the following for all systems that do not achieve acceptable fire ratings through the use of FR membrane sheets.

1. 400 lb./sq. gravel or 300 lb./sq. slag in a flood coat of approved mopping asphalt at a rate of 60 lb./sq.
2. Karnak 97, Karnak 97 AF, Monsey Premium Long Life Aluminum Roof Coating Asbestos Free or Monsey Prograde Aluminum, JM Topgard Type A, Topgard Type B, JM Aluminum RF CT, Grundy AL MB aluminum coating at a rate of 1-1/2 gal/sq Monsey Aquabrite, Gardner asphalt emulsion, APOC Sunbright 400 or Henry 229 Aluminum Emulsion at 2½ gal/sq or APOC 212 Aluminum Roof Coating at 3 gal/sq.
3. Grundy 20 F asphalt emulsion, Endure Asphalt Emulsion, APOC 302 or 302 AF applied at 2½ gal/sq with optional 60 lbs./sq. of roofing granules embedded in wet coating.

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LIGHTWEIGHT 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 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 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. **(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.)**

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NOTICE OF ACCEPTANCE STANDARD CONDITIONS

1 Renewal of this Acceptance (approval) shall be considered after a renewal application has been filed and the original submitted documentation, including test supporting data, engineering documents, are no older than eight (8) years.

2 Any and all approved products shall be permanently labeled with the manufacturer's name, city, state, and the following statement: "Miami-Dade County Product Control Approved", or as specifically stated in the specific conditions of this Acceptance.

3 Renewals of Acceptance will not be considered if:
a) There has been a change in the South Florida Building Code affecting the evaluation of this product and the product is not in compliance with the code changes;
b) The product is no longer the same product (identical) as the one originally approved;
c) If the Acceptance holder has not complied with all the requirements of this acceptance, including the correct installation of the product;
d) The engineer who originally prepared, signed and sealed the required documentation initially submitted, is no longer practicing the engineering profession.

4 Any revision or change in the materials, use, and/or manufacture of the product or process shall automatically be cause for termination of this Acceptance, unless prior written approval has been requested (through the filing of a revision application with appropriate fee) and granted by this office.

5 Any of the following shall also be grounds for removal of this Acceptance:
a) Unsatisfactory performance of this product or process;
b) Misuse of this Acceptance as an endorsement of any product, for sales, advertising or any other purposes.

6 The Notice of Acceptance 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 Notice of Acceptance is displayed, then it shall be done in its entirety.

7 A copy of this Acceptance as well as approved drawings and other documents, where it applies, shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at all times. The copies need not be resealed by the engineer.

8 Failure to comply with any section of this Acceptance shall be cause for termination and removal of Acceptance.

9 This Acceptance contains pages 1 through 10.

END OF THIS ACCEPTANCE

Frank Zuloaga, RRC
Roofing Product Control Examiner