MIAMI-DADE

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)

Johns Manville
717 17th Street
Denver, CO 80202

SCOPE:
This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed by the BCCO and accepted by the Building Code and Product Review Committee to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

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

This product is approved as described herein, and has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone.
DESCRIPTION: Johns Manville Roof Insulation Boards

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 NOA renews NOA # 01-1115.05 and consists of pages 1 through 7.
The submitted documentation was reviewed by Frank Zuloaga, RRC

PRODUCT CONTROL ACCEPTED

PRODUCT CONTROL NOTICE OF ACCEPTANCE

Category: Roofing
Sub-Category: Insulation

Type: Insulation and Sheathing Foam Panels
Sub-Type: Polyisocyanurate, Perlite and Fiberglass.

TYPICAL PHYSICAL PROPERTIES:

Product	Property	Test Method	Typical Result
ENRGY-2, PSI-25	Density	D1622	2.0 pcf 2.1 pcf (PSI-25)
	Compressive Strength	D1621	18 psi 25 psi (PSI-25)
	Water Absorption	C209	< 1% by volume (2 hrs)
	Water Vapor Permeance	E6	< 1 perm
	Dimensional Stability: 7 days @ 158°F & 90-100% RH	D2126	< 2%
	Surface Buring Characteristics	E84	Flame Spread: 25 Smoke Developed: 60
ISO 3 ENRGY 3	Density	D1622	2.4 pcf
	Compressive Strength	D1621	24 psi
	Dimensional Stability: 7 days @ 158°F & 90-100% RH	D2126	< 2%
	Water Absorption	C209	< 1% by volume (2 hrs)
	Water Vapor Permeance	E96	< 1 perm
	Surface Buring Characteristics	E84	Flame Spread: 35 Smoke Developed: 150
FescoBoard, FescoBoard HD	Water Absorption	ASTM C 209	< 1.5% by volume (2 hrs)
	Compressive Strength	ASTM C 165	5% consolidate: 30 psi 10% consolidate: 40 psi 10% consolidate: 45 psi (HD)
	Laminar Strength	ASTM C 209	7 psi
	Flexural Strength	ASTM C 203	65 psi 80 psi (HD)
	Density	ASTM C 209	9 pcf 10 pcf (HD)
	Linear Expansion	ASTM C 209	< 0.5%
Retro-Fit Board	Water Absorption	ASTM C 209	2.7% by volume (2 hrs)
	Compressive Strength	ASTM C 165	5% consolidate: 38 psi
	Laminar Strength	ASTM C 209	15 psi
	Flexural Strength	ASTM C 203	88 psi
	Density	ASTM C 209	11-14 pcf
	Linear Expansion	ASTM C 209	< 1%
	Water Vapor Permeability	E96	6 perm-inch
	Surface Buring Characteristics	E84	Flame Spread: 55 Smoke Developed: 70

Product	Property	Test Method	Typical Result
DuraBoard	Water Absorption	ASTM C 209	3.4% by volume (2 hrs)
	Compressive Strength	ASTM C 165	5% consolidate: 30 psi (1/2" thick) 50 psi (3/4" & 1" thick)
	Laminar Strength	ASTM C 209	> 18 psi (1/2" thick) > 15 psi (3/4" & 1" thick)
	Flexural Strength	ASTM C 203	134 psi
	Density	ASTM C 209	12 pcf
	Linear Expansion	ASTM C 209	< 1%
	Water Vapor Permeability	E96	6 perm-inch
	Surface Buring Characteristics	E84	Flame Spread: 55 Smoke Developed: 70
Fiber Glass Roof Insulation	Compressive Strength	ASTM C 165	25% deformation: 12 psi
	Tensile Strength	ASTM C 209	100 psf
	Break Load	ASTM C 203	20 lbf
	Water Absorption	ASTM C 209	< 10% by volume
	Surface Buring Characteristics	ASTM E 84	Flame Spread: 20 Smoke Developed: 20

Note: The physical properties listed above are presented at typical average values as determined by accepted ASTM test methods and are subject to normal manufacturing variation. Numerical ratings as determined by ASTM Test Method E-84 are not intended to reflect hazards presented by this or any other material under actual fire conditions.

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

Tradename:	**ENRGY-2 and Tapered ENRGY-2, ENRGY-3 and Tapered ENRGY-3, ISO-3 & Tapered ISO-3**
Thickness:	0.5" - 4.1" (12.5-104 mm)
Board Size(s)	4' x 4' (1.2 x 1.2 m) and 4' x 8' (1.2 x 2.4 m)
Core:	Polyisocyanurate foam
Facers:	Fiberglass reinforced felt or fiberglass felt
Decks:	Concrete, Cementitious Wood Fiber, Steel, Wood, Lightweight Concrete, Gypsum
Special Application:	Tapered or flat boards. Multilayer systems may have a first or second layer of E'NRG'Y-2, E'NRG'Y-3 or ISO-1 tapered or flat followed by a top layer of E'NRG'Y-2, E'NRG'Y-3 or ISO-1 tapered or flat. Maximum thicknessis 12 in. (305 mm). All layers may be mechanically fastened through the top layer when the top layer is minimum 1.4 in. (36 mm) thick, or the bottom layer may be secured with hot asphalt at an application rate of 25 lbs./sq. (1.2 kg/m²) or mechanically fastened with subsequent layers adhered with hot asphalt at an application rate of 25 lbs./sq. (1.2 kg/m²). When a fully adhered single-ply roof cover is used, the top layer insulation is minimum is 0.5 in. (13 mm) thick, otherwise minimum thickness of top layer is 1.4 in (36 mm).

Tradename:	**ISO 1 PSI-25 and Tapered ISO 1 PSI-25**
Thickness:	0.5" - 4.1" (12.5-104 mm)
Board Size(s)	4' x 4' (1.2 x 1.2 m) and 4' x 8' (1.2 x 2.4 m)
Core:	Polyisocyanurate foam
Facers:	Fiberglass reinforced felt or fiberglass felt
Decks:	Concrete, Cementitious Wood Fiber, Steel, Wood, Lightweight Concrete, Gypsum
Special Application:	Tapered or flat boards. Multilayer systems may have a first or second layer of E'NRG'Y-2, E'NRG'Y-3 or ISO-1 tapered or flat followed by a top layer of E'NRG'Y-2, E'NRG'Y-3 or ISO-1 tapered or flat. Maximum thicknessis 12 in. (305 mm). All layers may be mechanically fastened through the top layer when the top layer is minimum 1.4 in. (36 mm) thick, or the bottom layer may be secured with hot asphalt at an application rate of 25 lbs./sq. (1.2 kg/m²) or mechanically fastened with subsequent layers adhered with hot asphalt at an application rate of 25 lbs./sq. (1.2 kg/m²). When a fully adhered single-ply roof cover is used, the top layer insulation is minimum is 0.5 in. (13 mm) thick, otherwise minimum thickness of top layer is 1.4 in (36 mm).

Tradename:	**ENRGY-2 Plus™, ENRGY-3 Plus™**
Thickness:	1.5" - 4.1" (38-104 mm)
Board Size(s)	4' x 4' (1.2 x 1.2 m) and 4' x 8' (1.2 x 2.4 m)
Core:	Polyisocyanurate foam
Facers:	Wood fiber 0.5 in. (13 mm), top; fiberglass reinforced felt on the other side.
Decks:	Concrete, Cementitious Wood Fiber, Steel, Wood, Lightweight Concrete, Gypsum
Special Application:	Multilayer systems may have a first or second layer of E'NRG'Y-2 or E'NRG'Y-3 tapered or flat, followed by a top layer of E'NRG'Y-2 Plus. Maximum total thickness is 12 in (305 mm). See E'NRG'Y-2 for securement.

Tradename:	**FescoFoam and Tapered Fesco Foam**
Thickness:	1.5" - 4.1" (38-104 mm)
Board Size(s)	4' x 4' (1.2 x 1.2 m) and 4' x 8' (1.2 x 2.4 m)
Core:	Polyisocyanurate foam
Facers:	Perlite 0.5 in. (13 mm), top or bottom; fiber reinforced organic or glass felt on the other side.
Decks:	Concrete, Cementitious Wood Fiber, Steel, Wood, Lightweight Concrete, Gypsum
Special Application:	Multilayer systems may have a first or second layer of E'NRG'Y-2 or E'NRG'Y-3 tapered or flat, followed by a top layer of Fesco Foam tapered or flat. Maximum total thickness is 12 in (305 mm). See E'NRG'Y-2 for securement.

Tradename:	**ISO-VENT**
Thickness:	2.0" – 4.0" (50-101.6 mm)
Board Size(s)	4' x 8' (1.2 x 2.4 m)
Core:	Polyisocyanurate foam
Facers:	Glass fiber reinforced organic or glass based bottom
Decks:	Concrete, Cementitious Wood Fiber, Steel, Wood, Gypsum
Covers:	Glass Felt BUR.

Tradename:	**Barrier Board**
Thickness:	0.5" - 4.0" (12.5-101.6 mm)
Board Size(s)	4' x 8' (1.2 x 2.4 m) and 4' x 9' (1.2 x 2.7 m)
Core:	Polyisocyanurate foam
Facers:	Triplex foil.
Decks:	N/A
Special Application:	Commercial and residential, concealed applications where protected by a 15 minute thermal barrier.

Tradename:	**Retro-Fit® Board™**
Thickness:	½" (13 mm)
Board Size(s)	2' x 4' (0.6 x 1.2 m), 4' x 4' (1.2 x 1.2 m) and 4' x 8' (1.2 x 2.4 m)
Core:	Expanded Mineral Fiber
Facers:	None
Decks:	Concrete, Steel, Wood, Recover
Special Application:	For recover construction only or as top layer over an Approved insulation.

Tradename:	**DuraBoard™**
Thickness:	½" – 1" (13-25 mm)
Board Size(s)	4' x 4' (1.2 x 1.2 m) and 4' x 8' (1.2 x 2.4 m)
Core:	Expanded Mineral Fiber
Facers:	None
Decks:	Concrete, Steel
Special Application:	½" (13 mm) for concrete or recover construction only or as top cover board over an Approved insulation.

Tradename:	**DuraFoam™**
Thickness:	1.5" - 4" (38-102 mm)
Board Size(s)	4' x 4' (1.2 x 1.2 m) and 4' x 8' (1.2 x 2.4 m)
Core:	Polyisocyanurate foam
Facers:	DuraBoard 0.5 in. (13 mm) top; glass fiber reinforced organic felt on bottom.
Decks:	Concrete, Cementitious Wood Fiber, Steel, Wood, Gypsum, Recover
Special Application:	Multilayer systems may have a first or second layer of E'NRG'Y-2 or E'NRG'Y-3 tapered or flat, followed by a top layer of Fesco Foam tapered or flat. Maximum total thickness is 12 in (305 mm). See E'NRG'Y-2 for securement.

Tradename:	**Fesco® Board & Tapered Fesco® Board**
Thickness:	Homogeneous: ¾", 1", 1.5" (19, 25, 38 mm) Laminated: 1.5", 2", 3" (38, 51, 76 mm). Laminated Fesco consists of two layers of Fesco laminated together.
Board Size(s)	2' x 4' (0.6 x 1.2 m) and 4' x 4' (1.2 x 1.2 m)
Core:	Expanded Mineral Fiber
Facers:	None.
Decks:	Concrete, Cementitious Wood Fiber, Steel, Wood, Gypsum, Recover
Special Application:	Tapered Fesco contains a built-in taper of 1/8 or ¼ in per ft (10 or 20 mm per m) and may be used interchangeably with Fesco. Tapered Fesco must be used over a min. ¾" (19 mm) Fesco when installed over steel decks.

Tradename:	**Fesco® Board HD**
Thickness:	1" (25 mm)
Board Size(s)	4' x 4' (1.2 x 1.2 m)
Core:	Expanded Mineral Fiber
Facers:	None.
Decks:	Concrete, Cementitious Wood Fiber, Steel, Wood, Gypsum, Recover

Tradename:	**Fiber Glass™**
Thickness:	¾" – 3 ½" (19 - 89 mm)
Board Size(s)	4' x 4' (1.2 x 1.2 m) and 4' x 8' (1.2 x 2.4 m)
Core:	Glass fiber
Facers:	None.
Decks:	Concrete, Cementitious Wood Fiber, Steel, Wood, Gypsum, Recover
Special Application:	Tapered Fiber Glass contains a built-in taper of 1/8, ¼ in per foot (10 or 20 mm per m). Tapered Fiber Glass must be used over min. 2 in (51 mm) Fiber Glass when installed over steel deck.

Tradename:	**Fiber Glass™ (Wide Flute)**
Thickness:	¾" – $^{15}/_{16}$" (19 - 33 mm)
Board Size(s)	4' x 4' (1.2 x 1.2 m) and 4' x 8' (1.2 x 2.4 m)
Core:	Glass fiber
Facers:	None.
Decks:	Concrete, Cementitious Wood Fiber, Steel, Wood, Gypsum, Recover

COMMENTS AND LIMITATIONS:

1. Roof assemblies are approved under specific roof cover's Product Control Notice of Acceptance.
2. Johns Manville Corporatoin products may be used with any approved roof covering listing a specific Johns Manville product as a component part of a roof assembly Notice of Acceptance. If a Johns Manville product is not listed, a request may be made to the local building inspector or the Miami Dade Building Code Compliance Office for approval provided that appropriate documentation is provided.
3. Fire classification is not a part of this Notice of Acceptance
4. 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.

EVIDENCE SUBMITTED:

Test Agency/Identifier	Name	Report	Date
Factory Mutual Research	FM 4450/4470	FM Approval Guide Listings	Published Annually

Test Agency/Identifier	Name	Report	Date
Underwriters Laboratories	Fire Classification UL 790	UL Roofing Materials and Systems Directory File No. R-9340	Published Annually
Factory Mutual Research	FM 4450	J.I. 1J4A3.AM	04/11/85
Factory Mutual Research	FM 4450	J.I. 0K4A9.AM	10/11/85
Factory Mutual Research	FM 4450	J.I. 3004299 (letter)	03/21/00
Exterior Research & Design, LLC	Physial Properties	#00251.10.02	11/4/02
Exterior Research & Design, LLC	Physical Properties	#00252.10.02	10/31/02
Omega Point Laboratories	ASTM C 518	#16619-112069	10/09/02
Omega Point Laboratories	ASTM C 518	#16619-112070	10/09/02

END OF THIS ACCEPTANCE