



**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 BCCO (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. BCCO reserves the right to revoke this acceptance, if it is determined by BCCO 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 South Florida Building Code, 1994 Edition for Miami-Dade County or Florida Building Code.

DESCRIPTION: Johns Manville Roof Insulation Boards

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 consists of pages 1 through 7.
The submitted documentation was reviewed by Frank Zuloaga, RRC



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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 |



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| Product | Property | Test Method | Typical Result |
|-----------------------------------|--------------------------------|-------------|--|
| | Surface Buring Characteristics | E84 | Flame Spread: 55 Smoke Developed: 70 |
| 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 thickness is 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 0.5 in. (13 mm) thick, otherwise minimum thickness of top layer is 1.4 in (36 mm).



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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 thickness is 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 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" – 1 5/16" (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

EVIDENCE SUBMITTED:

| <u>Test Agency/Identifier</u> | <u>Name</u> | <u>Report</u> | <u>Date</u> |
|-------------------------------------|--------------|----------------------------|--------------------|
| Factory Mutual Research Corporation | FM 4450/4470 | FM Approval Guide Listings | Published Annually |



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| <u>Test Agency/Identifier</u> | <u>Name</u> | <u>Report</u> | <u>Date</u> |
|-------------------------------------|-------------------------------|--|--------------------|
| 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. | Physical 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



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