



EXTERIOR RESEARCH & DESIGN, LLC.

Certificate of Authorization #9503

353 Christian Street, Unit 13

Oxford, CT 06478

(203) 262-9245

EVALUATION REPORT

Johns Manville Corporation

P.O. Box 5108

Denver, CO 80217

(303) 987-4879

Evaluation Report J9340.07.08-1-R6

FL4205-R9

Date of Issuance: 07/16/2008

Revision 6: 10/14/2017

SCOPE:

This Evaluation Report is issued under **Rule 61G20-3** and the applicable rules and regulations governing the use of construction materials in the State of Florida. The documentation submitted has been reviewed by Robert Nieminen, P.E. for use of the product under the Florida Building Code. The products described herein have been evaluated for compliance with the **6th Edition (2017) Florida Building Code** sections noted herein.

DESCRIPTION: Johns Manville Roof Insulation Boards

LABELING: Labeling shall be in accordance with the requirements the Accredited Quality Assurance Agency noted herein.

CONTINUED COMPLIANCE: This Evaluation Report is valid until such time as the named product(s) changes, the referenced Quality Assurance documentation changes, or provisions of the Code that relate to the product change. Acceptance of this Evaluation Report by the named client constitutes agreement to notify Robert Nieminen, P.E. if the product changes or the referenced Quality Assurance documentation changes. Trinity|ERD requires a complete review of this Evaluation Report relative to updated Code requirements with each Code Cycle.

ADVERTISEMENT: The Evaluation Report number preceded by the words "TRINITY|ERD Evaluated" may be displayed in advertising literature. If any portion of the Evaluation Report is displayed, then it shall be done in its entirety.

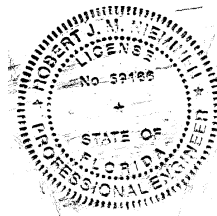
INSPECTION: Upon request, a copy of this entire Evaluation Report shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This Evaluation Report consists of pages 1 through 4.

Prepared by:

Robert J.M. Nieminen, P.E.

Florida Registration No. 59166, Florida DCA ANE1983



The facimile seal appearing was authorized by Robert Nieminen, P.E. on 10/14/2017. This does not serve as an electronically signed document.

CERTIFICATION OF INDEPENDENCE:

1. Exterior Research & Design, LLC. d/b/a Trinity|ERD does not have, nor does it intend to acquire or will it acquire, a financial interest in any company manufacturing or distributing products it evaluates.
2. Exterior Research & Design, LLC. d/b/a Trinity|ERD is not owned, operated or controlled by any company manufacturing or distributing products it evaluates.
3. Robert Nieminen, P.E. does not have nor will acquire, a financial interest in any company manufacturing or distributing products for which the evaluation reports are being issued.
4. Robert Nieminen, P.E. does not have, nor will acquire, a financial interest in any other entity involved in the approval process of the product.
5. This is a building code evaluation. Neither Trinity|ERD nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this Evaluation Report, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.

ROOFING COMPONENT EVALUATION:

1. SCOPE:

Product Category: Roofing

Sub-Category: Insulation

Compliance Statement: Johns Manville Roof Insulation, as produced by Johns Manville Corporation, has demonstrated compliance with the following sections of the 6th Edition (2017) Florida Building Code through testing in accordance with the following Standards. Compliance is subject to the Installation Requirements and Limitations / Conditions of Use set forth herein.

2. STANDARDS:

<u>Section</u>	<u>Property</u>	<u>Standard</u>	<u>Year</u>
T1508.2	Physical Properties	ASTM C728	2013
T1508.2	Physical Properties	ASTM C1289	2013
2603.3	Flame Spread	ASTM E84 ¹	2013

3. REFERENCES:

<u>Entity</u>	<u>Examination</u>	<u>Reference</u>	<u>Date</u>
ERD (TST6049)	ASTM C1289	00252.10.02	10/31/2002
ERD (TST6049)	ASTM C728	00251.10.02	11/04/2002
ERD (TST6049)	ASTM C1289	J0681.04.06-R1	05/17/2006
FM Approvals (TST1867)	ASTM E84	3023546	11/04/2005
ITS (TST 1585)	ASTM E84	Various	12/14/2012-09/09/2014
PRI (TST5878)	ASTM C728	JMC-104-02-01	01/11/2013
PRI (TST5878)	ASTM C728	JMC-120-02-01	07/24/2013
PRI (TST5878)	ASTM C728	JMC-121-02-01	07/24/2013
PRI (TST5878)	ASTM C728	JMC-122-02-01	07/24/2013
PRI (TST5878)	ASTM C1289	JMC-172-02-01	02/06/2014
PRI (TST5878)	ASTM C1289	JMC-172-02-02	02/06/2014
PRI (TST5878)	ASTM C1289	JMC-175-02-01	10/30/2014
PRI (TST5878)	ASTM C1289	JMC-177-02-01	10/31/2014
Miami-Dade (CER1592)	HVHZ Compliance	14-1015.08	01/15/2015
UL LLC (QUA9625)	Quality Control	Service Confirmation	Exp. 06/23/2019

4. PRODUCT DESCRIPTION:

The following insulations are mechanically attached or adhered to Approved substrates using fasteners, stress plates and adhesives, as outlined in the Roof System Product Approval.

- **ENRGY 3[®], ISO 3[™] and ValuTherm** are rigid roof insulation composed of a closed cell polyisocyanurate foam core bonded between two fiber glass reinforced facers meeting ASTM C1289, Type II, Class 1, Grade 2. Available in flat stock or tapered boards.
- **ENRGY 3[®] 25 PSI and ValuTherm 25 PSI** are rigid roof insulation composed of a closed cell polyisocyanurate foam core bonded between two fiber glass reinforced facers meeting ASTM C1289, Type II, Class 1, Grade 3. Available in flat stock or tapered boards.
- **ENRGY 3[®] Plus** is a rigid roof insulation composed of a closed cell polyisocyanurate foam core bonded in the foaming process to ½" thick high-density wood fiberboard on one side and a fiber-reinforced facer on the other meeting ASTM C1289, Type IV. Available in flat stock or tapered boards.
- **Fesco Foam[®]** is a rigid roof insulation composed of a closed cell polyisocyanurate foam core bonded in the foaming process to Fesco Laminator Board on one side and a fiber-reinforced facer on the other meeting ASTM

¹ Numerical ratings as determined by ASTM E84 are not intended to reflect hazards presented by these materials under actual fire conditions.

C1289, Type III. Available in flat stock or tapered boards.

- **DuraFoam®** is a rigid roof insulation composed of a closed cell polyisocyanurate foam core bonded in the foaming process to DuraBoard® on one side and a fiber-reinforced facer on the other. Available in flat stock or tapered boards.
- **InvinsaFoam®** is a rigid roof insulation composed of a closed cell polyisocyanurate foam core bonded in the foaming process to Invinsa™ Roof Board on one side and a fiber-reinforced facer on the other meeting TAS 110. Available in flat stock or tapered boards.
- **Nailboard®** is a rigid roof insulation composed of a closed cell polyisocyanurate foam core bonded in the foaming process to 7/16" or 5/8" oriented strand board (OSB) one side and a universal glass-reinforced facer on the other meeting ASTM C1289, Type V.
- **Vented Nailboard®** is a rigid roof insulation composed of a closed cell polyisocyanurate foam core attached with spacers to 7/16" or 5/8" oriented strand board (OSB) one side and a universal glass-reinforced facer on the other meeting ASTM C1289, Type V.
- **Fesco® Board** and **Fesco® Board HD** are homogenous insulation boards, composed of expanded perlite, blended with selected binders and fibers meeting ASTM C728. The top surface is sealed with TopLoc® coating to prevent excessive absorption of asphalt during the installation process. Available in flat stock or tapered boards.
- **DuraBoard® Roof Insulation** is a high-density, low-thermal rigid insulation board, composed primarily of expanded perlite with reinforcing cellulosic fibers and selected binders meeting ASTM C728.
- **½" Retro-Fit™ Board** is a high-density board composed of expanded perlite and cellulosic fibers meeting ASTM C728. The top surface is sealed with TopLoc® coating for use in bituminous applications.
- **RetroPlus™ Roof Board** is a high-density board composed of expanded perlite and cellulosic fibers meeting ASTM C728. The top surface is sealed with TopLoc® coating for use in bituminous applications.
- **Invinsa™ Roof Board** and **Invinsa™ FR Roof Board** are high-density polyisocyanurate bonded to mineral-surfaced, fiber glass reinforced facers meeting ASTM C1289, Type II, Class 2.

5. LIMITATIONS:

- 5.1 This is a building code evaluation. Neither Trinity|ERD nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this Evaluation Report, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.
- 5.2 This Evaluation Report is not for use in FBC HVHZ jurisdictions.
- 5.3 Refer to roof system Product Approval (for uplift resistance) and an approved Roofing Materials Directory (for fire ratings; e.g., *UL TJBX.R10167*) for use and installation of **Johns Manville Roof Insulation**. If **Johns Manville Roof Insulation** is not listed in the roof system Product Approval, a request may be made to the Authority Having Jurisdiction for local-approval provided that **NFPA 276** or **UL1256** internal fire; **ASTM E108**, **UL790** or **Testing Application Standard TAS 114, Appendix A** external fire and/or **FM 4474**, **UL1897** or **Testing Application Standard TAS 114** wind uplift data, as applicable, is provided specifically with the subject roof cover.
- 5.4 All products in the roof assembly shall have quality assurance audit in accordance with **F.A.C. Rule 61G20-3**.

6. INSTALLATION:

Johns Manville Roof Insulation Boards shall be installed in accordance with **Johns Manville Corporation** published installation instructions, coupled with attachment requirements set forth in the roof system Product Approval documentation and approved Roofing Materials Directory (for fire ratings).

7. BUILDING PERMIT REQUIREMENTS:

As required by the Building Official or Authority Having Jurisdiction in order to properly evaluate the installation of this product.

8. MANUFACTURING PLANTS:

Contact the named QA entity for manufacturing facilities covered by **F.A.C. Rule 61G20-3** QA requirements. The following plants have qualified under their respective ASTM specifications.

<u>Plant</u>	<u>Specification</u>	<u>Products(s)</u>
Jacksonville, FL	ASTM C1289, Type II, Class 1, Grade 2	ENRGY 3 [®] , ISO 3 [™] , ValuTherm
	ASTM C1289, Type II, Class 1, Grade 3	ENRGY 3 [®] 25 PSI, ValuTherm 25 PSI
	ASTM C1289, Type IV	ENRGY 3 [®] Plus
	ASTM C1289, Type III	Fesco Foam [®] , DuraFoam [®]
	ASTM C1289	InvinsaFoam [®]
	ASTM C1289, Type V	Nailboard [®] , Vented Nailboard [®]
Cornwall, ON	ASTM C1289, Type II, Class 2	Invinsa [™] Roof Board and Invinsa [™] FR Roof Board
Rockdale, IL	ASTM C728	Fesco [®] Board, Fesco [®] Board HD, DuraBoard [®] Roof Insulation, ½" Retro-Fit [™] Board, RetroPlus [™] Roof Board

9. QUALITY ASSURANCE ENTITY:

UL LLC – QUA9625; (414) 248-6409; karen.buchmann@us.ul.com

END OF EVALUATION REPORT