



NEMO | etc.

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ENGINEER

EVALUATE

TEST

CONSULT

P.E. EVALUATION REPORT (PEER)

Kingspan® Insulation LLC

2100 RiverEdge Parkway, Suite 175
Atlanta, GA 30328
(678) 589-7309

PEER-KNG-001.A.R11

FL14164-R11 (NON-HVHZ)

Date of Issuance: 11/02/2010

Revision 11: 08/10/2023

SCOPE:

This P.E. Evaluation Report (henceforth 'PEER') is issued under **F.A.C. 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 product described herein has been evaluated for compliance with the **8th Edition (2023) Florida Building Code sections noted herein**.

DESCRIPTION: Kingspan® GreenGuard® Roof Insulations (NON-HVHZ)

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

CONTINUED COMPLIANCE: This PEER is valid until such time as the named product(s) changes, the referenced Quality Assurance or production facility location(s) changes, or Code provisions that relate to the product(s) change. Acceptance of our PEERs by the named client constitutes agreement to notify NEMO ETC, LLC of any changes to the product(s), the Quality Assurance or the production facility location(s). NEMO ETC, LLC requires a complete review of its PEER relative to updated Code requirements with each Code Cycle.

ADVERTISEMENT: The Florida Product Approval Number (FL#) preceded by the words "NEMO P.E. Evaluated" may be displayed in advertising literature. If any portion of the PEER is displayed, then it shall be done in its entirety.

INSPECTION: Upon request, a copy of this entire PEER 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 PEER consists of pages 1 through 4.

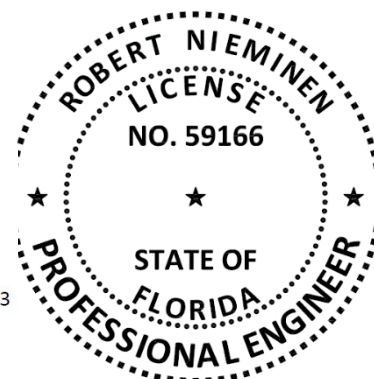
Prepared by:

**Digitally signed by
Robert Nieminen
Date: 2023.08.29
'07:23:22 -04'00**

This item has been digitally signed and sealed by Robert Nieminen, P.E.

Printed copies of this document are not considered signed and sealed, and the signature must be verified on any electronic copies.

Robert Nieminen, Florida P.E. 59166, FBC ANE1983
NEMO ETC, LLC, Florida CA #32455



CERTIFICATION OF INDEPENDENCE:

1. NEMO ETC, LLC 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. NEMO ETC, LLC 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 PEERs 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 NEMO ETC, LLC nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this PEER, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.

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ROOFING COMPONENT EVALUATION:
1. SCOPE:

Product Category: Roofing
Sub-Category: Insulation
Product Approval Method: Method 1, Option D: Codified Material, Evaluation by Engineer
Compliance Statement: Kingspan® GreenGuard® Roof Insulations, as produced by Kingspan® Insulation LLC have demonstrated compliance with the following sections of the **8th Edition (2023) Florida Building Code** through testing in accordance with the following Standards. Compliance is subject to the [Installation Requirements](#) and [Limitations of Use](#) set forth herein.

2. STANDARDS:

SECTION	PROPERTY	STANDARD	YEAR
2603.3	Surface-burning characteristics	ASTM E84 ¹	2018
1508.2	Material standard	ASTM C578	2018

3. REFERENCES:

ENTITY	EXAMINATION	REFERENCE	DATE
ITS (TST6781)	ASTM C578 (VII, Compressive)	102908144MID-004	04/07/2017
ITS (TST6781)	ASTM C578 (VII, Density)	102908144MID-005R1	04/07/2017
ITS (TST6781)	ASTM C578 (VII, Flexural)	102908144MID-003	04/11/2017
ITS (CER1497)	ASTM C578 / UL723	Listing Report 34415	02/13/2023
ITS (CER1497)	ASTM C578 / UL723	Listing Report 42053	02/13/2023
R&D Services (TST1552)	ASTM C578 (IV)	RD21027-R2	02/23/2021
R&D Services (TST1552)	ASTM C578 (IV)	RD21029-R1	02/24/2021
UL LLC (TST9628)	ASTM E84	4788129675	12/14/2017
UL LLC (TST9628)	ASTM E84	4789707525, Test Record 6	11/19/2020
UL LLC (TST9628)	ASTM E84	4789672997, Test Record 7	01/28/2021
ITS (QUA1673)	Quality Control	FAM	01/19/2023
ITS (QUA1673)	Quality Control	Florida BCIS	Current

4. PRODUCT DESCRIPTION:

- 4.1 **Kingspan® GreenGuard® Insulation Boards** are extruded polystyrene (XPS) foam plastic roof insulations available in the following configurations. Boards are mechanically attached or adhered to approved substrates using fasteners, stress plates and adhesives, as outlined in the Roof System or Waterproofing System Florida Product Approval.

TABLE 1: EVALUATED INSULATION PRODUCTS						
PRODUCT		MATERIAL STANDARD	FACERS	THICK (IN)	EDGE PROFILE	PLANT(s)
		ASTM C578, TYPE				
CM		IV	None	1 to 4	Square	Winchester, VA Rockford, MN
		VI	None	2 to 3		Winchester, VA
		VII	None	1.5 to 3		Winchester, VA
DC		IV	None	1 to 4	Drainage channels, Shiplap	Winchester, VA Rockford, MN
		VI	None	2 to 3		Winchester, VA
		VII	None	1.5 to 3		Winchester, VA
LG XPS	GG25-LG	IV	None	0.5 to 4	Square or Shiplap	Winchester, VA Rockford, MN
	GG40-LG	VI	None	2 to 4	Drainage channels, Square	Winchester, VA
	GG60-LG	VII	None	1.5 to 3	Drainage channels, Square	Winchester, VA

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

TABLE 1: EVALUATED INSULATION PRODUCTS					
PRODUCT	MATERIAL STANDARD	FACERS	THICK (IN)	EDGE PROFILE	PLANT(S)
	ASTM C578, TYPE				
SL	IV	None	1 to 4	Shiplap	Winchester, VA Rockford, MN
SLX	IV	Plastic Film	1 to 4	Shiplap	Winchester, VA Rockford, MN

- 4.2 **Kingspan® GreenGuard® Roofing Recovery Boards** are 0.375-inch thick extruded polystyrene foam plastic roofing recovery boards available in the following configurations. Boards are mechanically attached or adhered to approved substrates using fasteners, stress plates and adhesives, as outlined in the Roof System or Waterproofing System Florida Product Approval.

TABLE 2: EVALUATED RECOVERY BOARD PRODUCTS				
PRODUCT	FACERS		HINGE DESIGN	PLANT(S)
	TOP	BOTTOM		
PB6	Clear, non-perforated plastic	Clear, non-perforated plastic	Creased	Winchester, VA
PB6PLUS	Two layers clear, non-perforated, plastic	Two layers clear, non-perforated, plastic	Creased	Winchester, VA
PB6W	One layer clear, non-perforated plastic with one layer white, non-perforated facer	Clear, non-perforated plastic	Creased	Winchester, VA
PB6HD	One layer clear, non-perforated plastic with one layer white, non-perforated facer	Clear, non-perforated plastic	Creased	Winchester, VA
TYPICAL PROPERTIES:				
Property		Standard	Result (typical)	
Density, lbs/ft ³		ASTM D1622	4.4	
Compressive strength, psi @ 10% deformation		ASTM D1621	28	
Flexural strength, psi		ASTM C203	104	
Water absorption, % by volume		ASTM C272	< 0.3	
Water vapor permeance, perms		ASTM E96	< 1	
Dimensional stability, % change		ASTM D2126 158F & 97% RH	< 1 (length & width) < 2 (thickness)	

5. LIMITATIONS:

- 5.1 This is a building code evaluation. Neither NEMO ETC, LLC nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this PEER, or previous versions thereof, is/was used for permitting or design guidance. PEERs are not to be construed as representing any attributes not specifically listed, nor are PEERs to be construed as an endorsement of the subject, or a recommendation for its use. There is no warranty by NEMO ETC, LLC or Robert Nieminen, P.E., express or implied, as to any finding or other matter in this PEER, or as to any product covered by the PEER.
- 5.2 This PEER is not for use in FBC High Velocity Hurricane Zone jurisdictions, as defined in FBC Chapter 2 (i.e., Broward and Miami-Dade Counties).
- 5.3 This PEER does not include evaluation of wind resistance or fire classification.
- 5.3.1 Refer to roof system Product Approval (for uplift resistance).
- 5.3.2 Refer to **FBC 1505** for requirements and limitations regarding roof assembly fire classification. Refer to **FBC 2603** for requirements and limitations concerning the use of foam plastic insulation.

- 5.3.3 If **Kingspan® GreenGuard® Roof Insulation** is not listed in the roof system Florida Product Approval, a request may be made to the Authority Having Jurisdiction for local-approval provided that wind resistance data (**FBC 1504.3.1**), external fire classification data (**ASTM E108 or UL790 per FBC 1505**) and internal fire resistance data (**NFPA 276 or UL1256 per FBC 1508.1 and FBC 2603.4.1.5**), as applicable, is provided specifically with the subject roof cover.
- 5.4 All products in the roof assembly shall have quality assurance in accordance with F.A.C. [Rule 61G20-3](#).

6. INSTALLATION:

Kingspan® GreenGuard® Insulation Boards and **Kingspan® GreenGuard® Roofing Recover Boards** shall be installed in accordance with **Kingspan® Insulation LLC** published installation instructions, coupled with attachment requirements set forth in the roof system or waterproofing system Florida Product Approval (for wind resistance) and fire classification listings.

7. BUILDING PERMIT REQUIREMENTS:

As required by the Building Official or Authority Having Jurisdiction 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. Refer to [Section 4](#) herein for product and production locations having met codified material standards.

9. QUALITY ASSURANCE ENTITY:

[Intertek Testing Services NA, Inc. – QUA1673](#); (312) 906-7779; maura.norlander@intertek.com

- END OF PEER -