



NEMO|etc.

Certificate of Authorization #32455
353 Christian Street, Unit #13
Oxford, CT 06478
(203) 262-9245

ENGINEER

EVALUATE

TEST

CONSULT

EVALUATION REPORT

Kingspan® Insulation LLC
2100 RiverEdge Parkway, Suite 175
Atlanta, GA 30328
(678) 589-7309

Evaluation Report P35290.11.10-R9
FL14164-R9
Date of Issuance: 11/02/2010
Revision 9: 10/01/2021

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 product described herein has been evaluated for compliance with the **7th Edition (2020) Florida Building Code** sections noted herein.

DESCRIPTION: Kingspan® GreenGuard® Roof Insulations

LABELING: Labeling shall be in accordance with the requirements of 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 or production facility location(s) changes, or Code provisions that relate to the product(s) change. Acceptance of our Evaluation Reports 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 Evaluation Report relative to updated Code requirements with each Code Cycle.

ADVERTISEMENT: The Florida Product Approval Number (FL#) preceded by the words **“NEMO 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 facsimile seal appearing was authorized by Robert Nieminen, P.E. on 10/01/2021. This does not serve as an electronically signed document.

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 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 NEMO ETC, LLC 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: Kingspan® GreenGuard® Roof Insulations, as produced by Kingspan® Insulation LLC have demonstrated compliance with the following sections of the 7th Edition (2020) 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:

Section	Property	Standard	Year
2603.3	Surface-burning characteristics	ASTM E84 ¹	2016
1508.2	Material standard	ASTM C578	2015

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	Current
ITS (CER1497)	ASTM C578 / UL723	Listing Report 42053	Current
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	Inspection Report	09/22/2020
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.

Product	Material Standard	Facers	Thick (in)	Edge Profile	Plant(s)
	ASTM C578, Type				
CM	IV	None	1 to 4	Square	VA
	VI	None	2 to 3		
	VII	None	1.5 to 3		
DC	IV	None	1 to 4	Drainage channels, Shiplap	VA
	VI	None	2 to 3		
	VII	None	1.5 to 3		
LG XPS	GG25-LG	IV	0.5 to 4	Square or Shiplap	VA
	GG40-LG	VI	2 to 4	Drainage channels, Square	
	GG60-LG	VII	1.5 to 3	Drainage channels, Square	
SL	IV	None	1 to 4	Shiplap	VA
SLX	IV	Plastic Film	1 to 4	Shiplap	VA

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

- 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	VA
PB6PLUS	Two layers clear, non-perforated, plastic	Two layers clear, non-perforated, plastic	Creased	VA
PB6W	One layer clear, non-perforated plastic with one layer white, non-perforated facer	Clear, non-perforated plastic	Creased	VA
PB6HD	One layer clear, non-perforated plastic with one layer white, non-perforated facer	Clear, non-perforated plastic	Creased	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 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 High Velocity Hurricane Zone jurisdictions (i.e., Broward and Miami-Dade Counties).
- 5.3 This Evaluation Report 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 (**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 audit 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 EVALUATION REPORT -