



NEMO|etc.

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ENGINEER

EVALUATE

TEST

CONSULT

P.E. EVALUATION REPORT (PEER)

Polyglass USA, Inc.

1111 West Newport Center Drive
Deerfield Beach, FL 33442
(954) 233-1330

PEER-PLYG-006.A.R4

FL16187-R5 (NON-HVHZ)

Date of Issuance: 02/06/2013

Revision 4: 10/04/2023

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: Polyglass Liquid Applied Roof Systems (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.

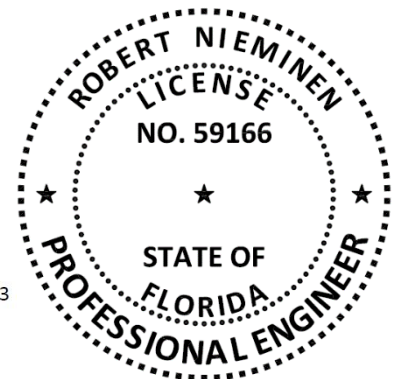
INSPECTION: Upon request, a copy of this entire PEER shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This PEER consists of pages 1 through 4, plus a 3-page Appendix.

Prepared by:

Digitally signed by
Robert Nieminen
Date: 2023.10.04
'18:28:31 -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 SYSTEMS EVALUATION:

1. SCOPE:

Product Category: Roofing
Sub-Category: Liquid Applied Roof Systems
Compliance Statement: **Polyglass Liquid Applied Roof Systems**, as produced by **Polyglass USA**, 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
1504.3.1	Wind resistance	FM 4474	2011
1504.6	Physical properties	ASTM G155	2013
1504.7	Impact resistance	FM 4470, Section 4.6	2016
1509.2	Material standard	ASTM D1227	2013
1509.2, 1523.6.3.1	Physical Properties	ASTM D6083	2021

3. REFERENCES:

ENTITY	EXAMINATION	REFERENCE	DATE
PRI (TST5878)	ASTM D6083 (FL)	PUSA-158-02-01	04/13/2017
PRI (TST5878)	Physical properties	PUSA-175-02-01	05/01/2017
PRI (TST5878)	ASTM D1227	PUSA-200-02-01	06/13/2017
PRI (TST5878)	ASTM D6083 (AZ)	PUSA-247-02-01	08/21/2018
FM Approvals (TST1867)	FM 4470/4474	3036904	12/07/2010
FM Approvals (TST1867)	FM 4470/4474	3043324	10/02/2012
FM Approvals (TST1867)	FM 4470/4474	3041535	06/08/2011
FM Approvals (TST1867)	FM 4470/4474	3052904	10/08/2015
FM Approvals (TST1867)	FM 4470/4474	RR203549	12/22/2015
FM Approvals (TST1867)	FM 4470/4474	RR203550	12/22/2015
FM Approvals (TST1867)	FM 4470/4474	RR206515	10/18/2016
M-D (CER1592)	Traceability	PLA	07/14/2014
UL LLC (QUA9625)	Quality Control	Service Confirmation	08/09/2019
UL LLC (QUA9625)	Quality Control	Service Confirmation (OH)	08/08/2022
UL LLC (QUA9625)	Quality Control	Florida BCIS	Current

4. PRODUCT DESCRIPTION:

This PEER covers **Polyglass Liquid Applied Roof Systems** applied to Approved substrates as outlined in the [Limitations of Use](#) herein. The following products make up the subject systems.

TABLE 1: EVALUATED COMPONENTS				
TYPE	PRODUCT	MATERIAL STANDARD		PLANT(s)
		REFERENCE	TYPE	
Liquid Applied Roof Components	PG 800	ASTM D1227	III	Wickliffe, OH
	PolyBrite 70	ASTM D6083	I	Phoenix AZ Winter Haven, FL
	PolyBrite 76	N/A (no codified specification)		Winter Haven, FL
	KM Acryl 15	ASTM D6083	I	Phoenix AZ Winter Haven, FL
	KM Acryl 30	N/A (no codified specification)		Phoenix AZ Winter Haven, FL
Reinforcement	PolyBrite Polyester Fabric	N/A (no codified specification)		Spartanburg, SC
	KM Polyester Fabric			

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 (Broward and Miami-Dade Counties).
- 5.3 This PEER pertains to above-deck roof components. Roof decks and structural members shall be in accordance with FBC requirements to the satisfaction of the Authority Having Jurisdiction.
- 5.4 This PEER does not include evaluation of fire classification. 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.
- 5.5 This PEER does not include evaluation of roof edge termination. Refer to **FBC 1504.5** for requirements and limitations regarding edge securement for low-slope roofs.
- 5.6 Refer to **FBC 1511** for requirements and limitations regarding recover installations.
- 5.6.1 For mechanically attached components over existing roof decks, fasteners shall be tested in the existing deck for withdrawal resistance. A qualified design professional shall review the data for comparison to the minimum requirements for the system. Testing shall be in accordance with [ANSI/SPRI FX-1](#) or [Testing Application Standard TAS 105](#).
- 5.6.2 For bonded insulation or membrane over existing substrates in a re-roof (tear off) or recover installation, the existing deck or existing roof surface shall be examined for compatibility with the adhesive to be installed. If any surface conditions exist that bring system performance into question, field uplift testing in accordance with [ANSI/SPRI IA-1](#), [ASTM E907](#), [FM Loss Prevention Data Sheet 1-52](#) or [Testing Application Standard TAS 124](#) shall be conducted on mock-ups of the proposed new roof assembly.
- 5.6.3 For bonded insulation or membrane over existing substrates in a recover installation, the existing roof system shall be capable of resisting project design pressures on its own merit to the satisfaction of the Authority Having Jurisdiction, as documented through field uplift testing in accordance with [ASTM E907](#), [FM Loss Prevention Data Sheet 1-52](#) or [Testing Application Standard TAS 124](#).
- 5.7 Refer to Appendix 1 for system attachment requirements for wind load resistance.
- 5.7.1 “MDP” = Maximum Design Pressure is the result of testing for wind load resistance based on allowable wind loads, and reflects the ultimate passing pressure divided by 2 (the 2 to 1 margin of safety per **FBC 1504.9** has already been applied). Refer to **FBC 1609** for determination of design wind loads.
- 5.7.2 For mechanically attached components or partially-bonded insulation, the maximum design pressure for the selected assembly shall meet or exceed at least the Zone 1 PRIME design pressure determined in accordance with **FBC Chapter 16**. Elevated pressure zones shall employ an attachment density designed by a qualified design professional to resist the elevated pressure criteria. Commonly used methods are [ANSI/SPRI WD1](#), [FM Loss Prevention Data Sheet 1-29](#), [Roofing Application Standard RAS 117](#) or [RAS 137](#). Assemblies marked with an asterisk* carry the limitations set forth in **Section 2.2.10.1 of FM Loss Prevention Data Sheet 1-29 (February 2020)** for Zone 2/3 enhancements.
- 5.7.3 For assemblies with all components fully bonded in place, the maximum design pressure for the selected assembly shall meet or exceed critical design pressure determined in accordance with **FBC Chapter 16**. No rational analysis is permitted for these systems.

- 5.8 All components in the roof assembly shall have quality assurance audit in accordance with F.A.C. [Rule 61G20-3](#). Refer to the Product Approval of the component manufacturer for components listed in Appendix 1 that are produced by a Product Manufacturer other than the report holder on [Page 1](#) of this PEER.

6. INSTALLATION:

Polyglass Liquid Applied Roof Systems shall be installed in accordance with **Polyglass USA** published installation instructions, subject to the [Limitations of Use](#) herein.

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 products and production locations having met codified material standards.

9. QUALITY ASSURANCE ENTITY:

[UL \(QUA9625\)](#): (360) 817-5512; bsai.inspections@ul.com

- THE THREE (3) PAGES THAT FOLLOW FORM PART OF THIS PEER –

APPENDIX 1: ATTACHMENT REQUIREMENTS FOR WIND UPLIFT RESISTANCE

TABLE	DECK	APPLICATION	TYPE	DESCRIPTION	PAGE
1A	Steel or structural concrete	New, Reroof (Tear-Off) or Recover	B-1	Mech. Attached Base Insulation, Bonded Top Insulation, Bonded Roof Cover	2
1B	Steel or structural concrete	New, Reroof (Tear-Off) or Recover	C-1	Mech. Attached Insulation, Bonded Roof Cover	3
2	Structural concrete	New or Reroof (Tear-Off)	F	Non-Insulated, Bonded Roof Cover	3
3	Various	Recover	F	Non-Insulated, Bonded Roof Cover	3

The following notes apply to the systems outlined herein:

- The roof system evaluation herein pertains to above-deck roof components. Roof decks and structural members shall be in accordance with FBC requirements to the satisfaction of the Authority Having Jurisdiction.
- Fasteners shall be of sufficient length for the following engagements:
 - Steel Deck: Minimum 0.75-inch steel penetration and engage the top flute of the steel deck.
 - Structural Concrete: Minimum 1-inch embedment into pilot hole in accordance with published installation instructions.
- Unless otherwise noted, insulation may be any one layer or combination of FBC Approved (Local or Statewide) board(s) that meet FBC 1505 and, for foam plastic, FBC Chapter 26, when installed with the roof cover.
- Minimum 200 psi, minimum 2-inch thick FBC Approved lightweight insulating concrete may be substituted for rigid insulation board for System Types B-1, C-1, C-2, D-1 or D-2, whereby fasteners are installed through the lightweight insulating concrete to engage the structural deck. The structural deck shall be of equal or greater type, thickness and strength to the steel and structural concrete deck listings. Roof decks and structural members shall be in accordance with FBC requirements to the satisfaction of the Authority Having Jurisdiction. This is a wind uplift resistance allowance and does not purport to address non-wind-uplift-related issues, such as deck venting or moisture levels within the LWIC and the potential effect on overlying components.
- RESERVED
- Unless otherwise noted, insulation adhesive application rates are as follows.
 - ✓ Ribbon or bead width is at the time of application; the ribbons/beads shall expand as noted in the manufacturer's published instructions.
 - ✓ If applying hot asphalt to concrete deck, deck shall be primed with ASTM D41 primer.
 - ✓ When multiple layers(s) of insulation and/or coverboard are installed in ribbon-applied adhesive, board joints shall be staggered.
 - ✓ The maximum edge distance from the adhesive ribbon to the edge of the insulation board shall be not less than one-half the specified ribbons spacing.

INSULATION ADHESIVE REFERENCES				
By	FBC	ADHESIVE	REFERENCE	MINIMUM RATE
Dupont de Nemours	FL720	INSTA STIK Quik Set Insulation Adhesive	INSTA STIK	Continuous 0.75 to 1-inch wide ribbons, 12-inch o.c.
OMG, Inc.	FL1608	OlyBond 500 Adhesive Fastener	OB500	Continuous 0.75-inch wide ribbons, 12-inch o.c. (PaceCart, SpotShot or Canister)

- Unless otherwise noted, all insulations are flat-stock or taper board of the minimum thickness noted. Tapered polyisocyanurate at the following thickness limitations may be substituted with the following Maximum Design Pressure (MDP) limitations. In no case shall these values be used to 'increase' the MDP listings in the tables; rather if MDP listing below meets or exceeds that listed for a particular system in the tables, then the thinner board listed below may be used as a drop-in for the equivalent thicker material listed in the table.

MDP LIMITATIONS FOR TAPERED POLYISOCYANURATE INSULATIONS				
ADHESIVE	INSULATION		MIN. TAPERED THICKNESS (IN)	MDP (psf)
	LISTED PRODUCT	FBC		
OB500	Polytherm	N/A	0.5	-487.5

- 8 For adhered roof insulation and board-size: Unless otherwise noted, refer to Section 2.2.10.6.2 of [FM Loss Prevention Data Sheet](#) 1-29.
- 9 For mechanically attached components or partially-bonded insulation, the maximum design pressure for the selected assembly shall meet or exceed at least the Zone 1 PRIME design pressure determined in accordance with FBC Chapter 16. Elevated pressure zones shall employ an attachment density designed by a qualified design professional to resist the elevated pressure criteria. Commonly used methods are [ANSI/SPRI](#) WD1, [FM Loss Prevention Data Sheet](#) 1-29, [Roofing Application Standard](#) RAS 117 and RAS 137. Assemblies marked with an asterisk* carry the limitations set forth in Section 2.2.10.1 of [FM Loss Prevention Data Sheet](#) 1-29 for Zone 2/3 enhancements.
- 10 For assemblies with all components fully bonded, the maximum design pressure for the selected assembly shall meet or exceed critical design pressure determined in accordance with FBC Chapter 16. No rational analysis is permitted for these systems.
- 11 For mechanically attached components over existing decks, fasteners shall be tested in the existing deck for withdrawal resistance. A qualified design professional shall review the data for comparison to the minimum requirements for the system. Testing and analysis shall be in accordance with [ANSI/SPRI](#) FX-1 or [Testing Application Standard](#) TAS 105.
- 12 For bonded insulation or membrane over existing substrates in a re-roof (tear off) or recover installation, the existing deck or existing roof surface shall be examined for compatibility with the adhesive to be installed. If any surface conditions exist that bring system performance into question, field uplift testing shall be conducted on mock-ups of the proposed new roof assembly. For bonded insulation or membrane over existing substrates in a recover installation, the existing roof system shall be capable of resisting project design pressures on its own merit to the satisfaction of the Authority Having Jurisdiction, as documented through field uplift testing. Field uplift testing shall be in accordance with ASTM E907, [FM Loss Prevention Data Sheet](#) 1-52 or [Testing Application Standard](#) TAS 124.
- 13 Refer to FBC 1511 for requirements and limitations regarding recover installations. For Structural Concrete Deck or Recover Applications using System Type C-1 the base insulation layer is optional and for System Type C-2, D-1 or D-2, the insulation is optional. Alternatively, an FBC Approved insulation board or coverboard may be used as a separation layer. Board products shall be preliminarily attached prior to roof cover installation ([Note 5](#)). The separator component shall be documented as meeting FBC 1505 and, for foam plastic, FBC Chapter 26, when installed with the roof cover in Recover applications.
- 14 RESERVED
- 15 "MDP" = Maximum Design Pressure is the result of testing for wind load resistance based on allowable wind loads. Refer to FBC 1609 for determination of design wind loads ([Note 9](#) and [Note 10](#)).

TABLE 1A: STEEL OR STRUCTURAL CONCRETE DECKS – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER
SYSTEM TYPE B-1: MECHANICALLY ATTACHED BASE INSULATION, BONDED TOP INSULATION, BONDED ROOF COVER

System No.	Deck (Note 1)	Base Insulation Layer			Top Insulation Layer		Roof Cover				MDP (psf)
		Type	Fasten (Note 11)	Attach	Type	Attach (Notes 6,7,8)	Base Coat	Fabric	Coat	Top Coat	
SC-1.	Min. 22 ga., type B, Grade 40 steel or min. 2,500 psi structural concrete	Min. 1.5-inch Polytherm, ACFoam II, Polytherm G, ACFoam III, Polytherm-H, or H-Shield	#12 Polygrip (steel only), #14 Polygrip or #15 Polygrip (steel only) with 2 7/8 in. Polygrip Hex Plates, Dekfast #12 (steel only), Dekfast #14 or Dekfast #15 (steel only) with Dekfast Hex Plate or Trufast #12 DP (steel only) or Trufast #14 HD with Trufast 3" Metal Insulation Plate	1 per 1.8 ft ²	Min. 0.5-inch DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board	D-IS or OB500, 12-inch o.c.	PolyBrite 70, KM Acryl 15, PolyBrite 76 or KM Acryl 30 at 2 gal/sq.	Polyglass Polyester Fabric Mat or KM Polyester Fabric embedded into the Base Coat, with min. 4-inch laps	PolyBrite 70 or KM Acryl 15 at 2 gal/sq.	PolyBrite 70 or KM Acryl 15 at 1 gal/sq.	-60.0

TABLE 1B: STEEL OR STRUCTURAL CONCRETE DECKS – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER
SYSTEM TYPE C-1: MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER

System No.	Deck (Note 1)	Base Insulation Layer (Note 3 , Note 13)	Top Insulation Layer			Roof Cover				MDP (psf)
			Type	Fasten (Note 11)	Attach	Base Coat	Fabric	Coat	Top Coat	
SC-2.	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structural concrete	Min. 1.5-inch, one or more layers, any combination, loose laid	Min. 0.5-inch SECUROCK Gypsum-Fiber Roof Board	Trufast #12 DP (steel only) or Trufast #14 HD with Trufast 3" Metal Insulation Plate	1 per 2.0 ft ²	PolyBrite 70, KM Acryl 15, PolyBrite 76 or KM Acryl 30 at 2 gal/sq.	Polyglass Polyester Fabric Mat or KM Polyester Fabric embedded into the Base Coat, with min. 4-inch laps	PolyBrite 70 or KM Acryl 15 at 2 gal/sq.	PolyBrite 70 or KM Acryl 15 at 1 gal/sq.	-75.0

TABLE 2: STRUCTURAL CONCRETE DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF)
SYSTEM TYPE F: NON-INSULATED, BONDED ROOF COVER

System No.	Deck (Note 1)	Primer	Roof Cover				MDP (psf)
			Base Coat	Fabric	Coat	Top Coat	
C-1	Min. 2,500 psi structural concrete	None	PolyBrite 70, KM Acryl 15, PolyBrite 76 or KM Acryl 30 at 2 gal/sq.	Polyglass Polyester Fabric Mat or KM Polyester Fabric embedded into the Base Coat, with min. 3-inch laps	PolyBrite 70 or KM Acryl 15 at 2 gal/sq.	PolyBrite 70 or KM Acryl 15 at 1 gal/sq.	-495.0

TABLE 3: RECOVER APPLICATIONS
SYSTEM TYPE F: NON-INSULATED, BONDED ROOF COVER

^A The reported MDP documents the allowable maximum design pressure of the new roof cover when installed atop the substrate, irrespective of the deck type ([See Note 1](#)) or performance of the substrate ([See Note 12](#)). The deck and substrate shall be capable of resisting the project design pressure requirements, not to exceed the noted MDP, to the satisfaction of the Authority Having Jurisdiction.

System No.	Substrate (Note 1 , Note 12)	Roof Cover				MDP (psf) ^A
		Base Coat	Fabric	Coat	Top Coat	
R-1	Existing asphaltic BUR	PG 800 Asphalt Emulsion Roof Coating at 4 gal/square	Polyglass Polyester Fabric Mat or KM Polyester Fabric embedded into the PG 800, with min. 3-inch laps	PolyBrite 70 or KM Acryl 15 at 2 gal/square	PolyBrite 70 or KM Acryl 15 at 2 gal/square	-45.0
R-2	Existing asphaltic BUR or granule-surfaced modified bitumen	PolyBrite 70, KM Acryl 15, PolyBrite 76 or KM Acryl 30 at 2 gal/sq.	Polyglass Polyester Fabric Mat or KM Polyester Fabric embedded into the Base Coat, with min. 3-inch laps	PolyBrite 70 or KM Acryl 15 at 2 gal/sq.	PolyBrite 70 or KM Acryl 15 at 1 gal/sq.	-157.5