



NEMO|etc.

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ENGINEER

TEST

CONSULT

P.E. EVALUATION REPORT (PEER)

GAF

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Parsippany, NJ 07054
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PEER-GAF-009.B.R58

FL5293-R70 (HVHZ)

Date of Issuance: 12/17/2013

Revision 58: 12/08/2025

SCOPE:

This P.E. Evaluation Report (henceforth 'PEER') 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 compliance with the **8th Edition (2023) Florida Building Code, High Velocity Hurricane Zone (HVHZ)** [sections noted herein](#).

DESCRIPTION: EverGuard® TPO Roof Systems (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: "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 7, plus 217-pages of Appendix.

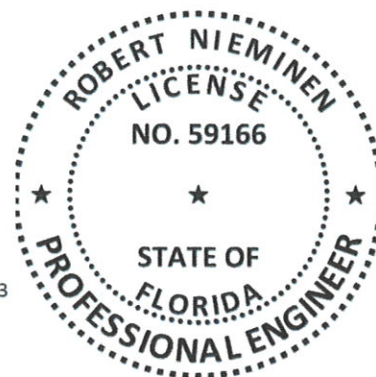
Prepared by:

Digitally signed by
Robert Nieminen
Date: 2025.12.08
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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



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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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TABLE 3C: STRUCTURAL CONCRETE DECKS - NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER
SYSTEM TYPE C-2: MECHANICALLY ATTACHED INSULATION, INDUCTION WELDED ROOF COVER

System No.	Deck (Note 1)	Insulation (Note 13)	Attachment		Roof Cover (Note 15B)	MDP (psf)
			Fastener (Note 11)	Density		
C-327.	Min. 2,500 psi structural concrete	One or more layers, any combination, 4 x 8 ft board	Drill-Tec #14 DF Fastener, Drill-Tec #14 HD Fastener or Drill-Tec #14 Fastener with Drill-Tec RhinoBond TPO XHD Plate, Drill-Tec TPO IW Plate or Drill-Tec #14 Fastener with Drill-Tec RhinoBond TPO XHD Tread Safe Plate	24 x 48 inch grid 1 per 8.0 ft² (4 parts per 4 x 8 ft board)	EverGuard TPO induction welded	-45.0*
C-328.	Min. 2,500 psi structural concrete	One or more layers, any combination, 4 x 8 ft board	Drill-Tec #14 DF Fastener, Drill-Tec #14 HD Fastener or Drill-Tec #14 Fastener with Drill-Tec RhinoBond TPO XHD Plate or Drill-Tec #14 Fastener with Drill-Tec RhinoBond TPO XHD Tread Safe Plate	24 x 48 inch grid 1 per 8.0 ft² (4 parts per 4 x 8 ft board)	EverGuard Extreme TPO induction welded	-45.0*
C-329.	Min. 2,500 psi structural concrete	One or more layers, any combination, 4 x 8 ft board	Drill-Tec #14 DF Fastener, Drill-Tec #14 HD Fastener or Drill-Tec #14 Fastener with Drill-Tec RhinoBond TPO XHD Plate or Drill-Tec TPO IW Plate	1 per 5.3 ft² (6 parts per 4 x 8 ft board) (Note 17)	EverGuard TPO induction welded	-45.0*
C-330.	Min. 2,500 psi structural concrete	One or more layers, any combination, 4 x 4 ft board	Drill-Tec #14 DF Fastener, Drill-Tec #14 HD Fastener or Drill-Tec #14 Fastener with Drill-Tec RhinoBond TPO XHD Plate or Drill-Tec TPO IW Plate	1 per 4.0 ft² (4 parts per 4 x 4 ft board) (Note 17)	EverGuard TPO induction welded	-45.0*
C-331.	Min. 2,500 psi structural concrete	One or more layers, any combination	Drill-Tec #14 DF Fastener, Drill-Tec #14 HD Fastener or Drill-Tec #14 Fastener with Drill-Tec RhinoBond TPO XHD Plate or Drill-Tec TPO IW Plate	24 x 24 inch grid	EverGuard TPO induction welded	-60.0
C-332.	Min. 2,500 psi structural concrete	One or more layers, any combination, 4 x 8 ft board	Drill-Tec #14 DF Fastener, Drill-Tec #14 HD Fastener or Drill-Tec #14 Fastener with Drill-Tec RhinoBond TPO XHD Plate, Drill-Tec TPO IW Plate or Drill-Tec #14 Fastener with Drill-Tec RhinoBond TPO XHD Tread Safe Plate	24 x 24 inch grid 1 per 4.0 ft² (8 parts per 4 x 8 ft board)	EverGuard TPO, min. 60-mil, induction welded	-67.5
C-333.	Min. 2,500 psi structural concrete	One or more layers, any combination, 4 x 8 ft board	Drill-Tec #14 DF Fastener, Drill-Tec #14 HD Fastener or Drill-Tec #14 Fastener with Drill-Tec RhinoBond TPO XHD Tread Safe Plate	24 x 24 inch grid 1 per 4.0 ft² (8 parts per 4 x 8 ft board)	EverGuard Extreme TPO, min. 60-mil, induction welded	-67.5

TABLE 3D: 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 (Note 15)	MDP (psf)*
C-334.	Min. 2,500 psi structural concrete	None	TPOFB-LM1, TPOFB-LM2, TPOFB-LO1 or TPOFB-LO2 (12-inch o.c.)	-60.0
C-335.	Min. 2,500 psi structural concrete	None	TPOFB-WB1	-300.0
C-336.	Min. 2,500 psi structural concrete	None	TPOFB-XF1 and TPOFB-XF2	-337.5
C-337.	Min. 3,000 psi structural concrete	Matrix 307 Premium Asphalt Primer	TPOFB-HA1 or TPOFB-HA2	-390.0
C-338.	Min. 2,500 psi structural concrete	None	TPOFB-OB1 or TPOFB-OB2	-435.0
C-339.	Min. 2,500 psi structural concrete	None	TPOFB-LM2 or TPOFB-LO2 (4-inch o.c.)	-465.0

15 For bonded membrane applications, unless otherwise noted, refer to the following.

MEMBRANE / ADHESIVE COMBINATIONS				
ROOF COVERS				
REFERENCE	MEMBRANE	ADHESIVE	APPLICATION	RATE
TPO-SA	EverGuard SA TPO	self-adhering	self-adhering	self-adhering
TPO-1121	EverGuard TPO	EverGuard TPO 1121 Bonding Adhesive	Contact (both sides)	0.8 to 1.0 gal/square/surface. For use over SECURROCK Gypsum-Fiber Roof Board, the application rate changes to 1.2 to 1.67 gal/sq/surface
TPO-35Q	EverGuard TPO	EverGuard TPO 3 Square Low VOC Bonding Adhesive	Contact (both sides)	0.84 gal/square/surface
TPO-65Q	EverGuard TPO	EverGuard TPO 6 Square Low VOC Bonding Adhesive	Contact (both sides)	0.46 gal/square/surface
TPO-QSA	EverGuard TPO	EverGuard TPO Quick Spray Adhesive	Contact (both sides)	Total application rate: ~0.71 lbs/sq (dry rate).
TPO-QSALV50	EverGuard TPO	EverGuard TPO Quick Spray Adhesive LV 50	Contact (both sides)	Total application rate: ~0.84 lbs/sq (dry rate).
TPO-WB	EverGuard TPO	EverGuard WB181 Bonding Adhesive	Contact (both sides)	To poly/isocyanurate or StructoDeck High Density Fiberboard Roof Insulation at 0.63 gal/square and roof cover underside at 0.21 gal/square. To DensDeck Prime, DEXcell FA Glass Mat Roof Board or SECURROCK Gypsum-Fiber Roof Board at 0.63 to 0.75 gal/square and roof cover underside at 0.21 to 0.25 gal/square
TPOFB-HA1	EverGuard TPO Fleece-Back Membrane	hot asphalt	Wet lay (substrate)	25 lbs/square
TPOFB-HA2	EverGuard TPO Fleece-Back Membrane 100, 115 or 135			
TPOFB-LM1	EverGuard TPO Fleece-Back Membrane	GAF LRF Adhesive M	Wet lay (substrate)	1-inch wide ribbons spaced as noted in tables herein. Note: The adhesive ribbons are located directly over the adhesive ribbons used to secure the insulation when the cover is bonded to insulation less than 1.5-inch thick or "spatter pattern" at 0.55 to 0.75 gal/square.
TPOFB-LM2	EverGuard TPO Fleece-Back Membrane 100, 115 or 135			
TPOFB-LMC1	EverGuard TPO Fleece-Back Membrane	GAF LRF Adhesive M Canister	Wet lay (substrate)	"Spatter pattern" at 0.3 gal/square. Notes: TPOFB-LMC1 (spatter) is an acceptable alternate to TPOFB-LM1 (ribbons). Limited to MDP -90.0 psf over air permeable decks (wood, steel and CWF).
TPOFB-LMC2	EverGuard TPO Fleece-Back Membrane 100, 115 or 135	GAF LRF Adhesive M Canister	Wet lay (substrate)	"Spatter pattern" at 0.3 gal/square. Notes: TPOFB-LMC2 (spatter) is an acceptable alternate to TPOFB-LM2 (ribbons). Limited to MDP -90.0 psf over air permeable decks (wood, steel and CWF).
TPOFB-LO1	EverGuard TPO Fleece-Back Membrane	GAF LRF Adhesive O	Wet lay (substrate)	1-inch wide ribbons spaced as noted in tables herein. Note: The adhesive ribbons are located directly over the adhesive ribbons used to secure the insulation when the cover is bonded to insulation less than 1.5-inch thick.
TPOFB-LO2	EverGuard TPO Fleece-Back Membrane 100, 115 or 135			
TPOFB-OB1	EverGuard TPO Fleece-Back Membrane	OlyBond 500 Canister	Wet lay (substrate)	"Spatter pattern" at 0.32 gal/square (to insulation, coverboard or Tectum) "Spatter pattern" at 0.83 gal/square (to asphaltic base ply membrane). Note: TPOFB-OB1 (spatter) is an acceptable alternate to TPOFB-LO1 (ribbons).
TPOFB-OB2	EverGuard TPO Fleece-Back Membrane 100, 115 or 135	OlyBond 500 Canister	Wet lay (substrate)	"Spatter pattern" at 0.32 gal/square (to insulation, coverboard or Tectum) "Spatter pattern" at 0.83 gal/square (to asphaltic base ply membrane). Note: TPOFB-OB2 (spatter) is an acceptable alternate to TPOFB-LO2 (ribbons).
TPOFB-XF1	EverGuard TPO Fleece-Back Membrane	GAF LRF Adhesive XF	Wet lay (substrate)	"Spatter pattern" at 3.0 lbs/sq.
TPOFB-XF2	EverGuard TPO Fleece-Back Membrane 100, 115 or 135			
TPOFB-WB1	EverGuard TPO Fleece-Back Membrane	EverGuard WB181 Bonding Adhesive	Wet lay (substrate)	0.83 to 1.0 gal/square
TPOFB-WB2	EverGuard TPO Fleece-Back Membrane 100, 115 or 135	EverGuard WB181 Bonding Adhesive	Wet lay (substrate)	0.83 to 1.0 gal/square
SBS-CA	Ruberoïd 20 Smooth, Ruberoïd Mop Smooth 1.5, Ruberoïd Mop Smooth or Ruberoïd Mop Plus Smooth	Matrix 102 SBS Membrane Adhesive	Wet lay (substrate)	1.5 gal/square

6 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.

By	ADHESIVE	INSULATION ADHESIVE REFERENCES		MINIMUM RATE
		REFERENCE	FBC FILE OR NOA	
GAF	GAF LRF Adhesive M	'LRF-M'	23-0802.14	Continuous 0.75 to 1-inch ribbons, 12-inch o.c.
GAF	GAF LRF Adhesive M Canister	'LRF-M Canister'	N/A	Continuous 1 to 1.5-inch ribbons, 12-inch o.c.
GAF	GAF LRF Adhesive XF	'LRF-XF'	N/A	Continuous 0.75 to 1-inch ribbons, 12-inch o.c.
OMG, Inc.	OlyBond 500 Adhesive Fastener	'OB500'	24-0422.18	Continuous 0.75-inch wide ribbons, 12-inch o.c. (PaceCart, SpotShot or Canister)
Generic, ASTM D312, Type IV	hot asphalt	N/A	N/A	Full coverage at 25-30 lbs/square

7 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 FILE OR NOA		
LRF-M	EnergyGuard Polyiso Insulation, EnergyGuard Ultra Polyiso Insulation	FL16311 or 24-1114.02	0.5	-232.5
LRF-XF	EnergyGuard Polyiso Insulation, EnergyGuard Ultra Polyiso Insulation	FL16311 or 24-1114.02	0.5	-292.5
LRF-XF	EnergyGuard RA	25-0123.02	0.5	-487.5
OB500	EnergyGuard Polyiso Insulation, EnergyGuard Ultra Polyiso Insulation	24-1114.02	0.5	-292.5
OB500	EnergyGuard RA	25-0123.02	0.5	-487.5
Hot asphalt	Any EnergyGuard polyisocyanurate listed with adhesive herein	Various	0.5	-240.0

8 Bonded polyisocyanurate insulation boards shall be maximum 4 x 4 ft.

9 For mechanically attached components, 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 HVHZ 1620 or [Roofing Application Standard](#) RAS 128. Elevated pressure zones shall employ an attachment density designed by a qualified design professional to resist the elevated pressure criteria in accordance with [Roofing Application Standard](#) RAS 117 or RAS 137. *This extrapolation is not permitted for systems marked with an asterisk*

10 For assemblies marked with an asterisk*, 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 in accordance with [Testing Application Standard](#) TAS 105. A qualified design professional shall review the data for comparison to the minimum requirements for the system. Should the fastener resistance be less than that required, a revised fastener spacing – prepared, signed and sealed by a qualified design professional in accordance with [Roofing Application Standard](#) RAS 117 or RAS 137 – may be submitted to the Building Official for review and acceptance.