



NEMO|etc.

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ENGINEER

EVALUATE

TEST

CONSULT

P.E. EVALUATION REPORT (PEER)

Tremco CPG, Inc.

3735 Green Road
Beachwood, OH 44122
(800) 562-2728

PEER-TRM-008.A

FL16129-R5 (NON-HVHZ)

Date of Issuance: 12/20/2012

Revision 5: 06/26/2023

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 **7th Edition (2020) Florida Building Code sections noted herein.**

DESCRIPTION: TREMCO Waterproofing Systems for use in FBC NON-HVHZ jurisdictions

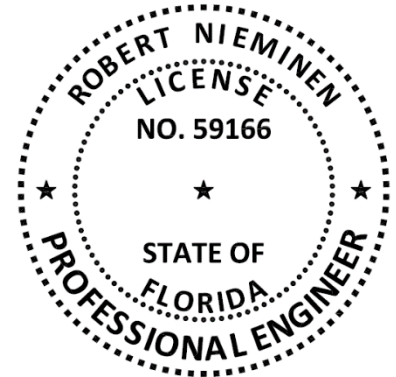
LABELING: Labeling shall be in accordance with the requirements of the Accredited Quality Assurance Agency noted herein and FBC 1507.1.1.
CONTINUED COMPLIANCE: This PEER is valid until such time as the named product(s) changes, the referenced Quality Assurance or production facility location(s) changes, 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:



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.

ROOFING SYSTEMS EVALUATION:
1. SCOPE:

Product Category: Roofing
Sub-Category: Waterproofing
Product Approval Method: Method 1, Option D – Codified Material, Evaluation by Engineer
Compliance Statement: TREMCO Waterproofing Systems, as produced by Tremco CPG, Inc., 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 of Use](#) set forth herein.

2. STANDARDS:

<u>Section</u>	<u>Property</u>	<u>Standard</u>	<u>Year</u>
1504.3.1	Wind resistance	FM 4474	2011
1507.11.2	Material standard	ASTM D6163	2015
1507.15.2	Material standard	ASTM C836	2015
1507.15.2	Material standard	ASTM C957	2015
TAS 110	Material Standard	CGSB 37.50-M89	1989

3. REFERENCES:

<u>Entity</u>	<u>Examination</u>	<u>Reference</u>	<u>Date</u>
PRI (TST5878)	ASTM C836	TRE-042-02-01	02/07/2011
PRI (TST5878)	ASTM C836	TRE-043-02-01	02/07/2011
PRI (TST5878)	ASTM D957	TRE-044-02-01	03/25/2011
PRI (TST5878)	FM 4474	TRE-041-02-01	12/22/2011
PRI (TST5878)	ASTM D5726	TRE-135-02-01	09/10/2014
PRI (TST5878)	CGSB 37.60-M89	TRE-119-02-01	06/05/2014
PRI (TST5878)	Physical Properties	TRE-178-02-01	10/25/2017
ACRC (TST4671)	TAS 114	23-007	02/03/2023
ACRC (TST4671)	TAS 114	23-008	02/03/2023
ACRC (TST4671)	TAS 114	23-009	02/03/2023
ACRC (TST4671)	TAS 114	23-010	02/06/2023
ACRC (TST4671)	TAS 114	23-011	02/06/2023
NEMO (TST6049)	ASTM D6163	4q-TRM-19-SSMBB-03.B	04/22/2020
NEMO (TST6049)	ASTM C836	4p-TRMCSW-21-SSLAP-06.A	05/09/2022
UL, LLC. (QUA9625)	Quality Control	Service Confirmation (OH)	10/20/2020
UL, LLC. (QUA9625)	Quality Control	Service Confirmation	04/03/2023
UL, LLC. (QUA9625)	Quality Control	Florida BCIS	Current

4. PRODUCT DESCRIPTION:

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

TABLE 1: EVALUATED PRODUCTS					
TYPE	PRODUCT	MATERIAL STANDARD			PLANT(S)
		REFERENCE	TYPE	GRADE	
ONE-PART URETHANE ELASTOMERIC	Vulkem® 350NF-R (base coat)	ASTM C836	N/A	N/A	Cleveland, OH
	Vulkem® 350NF-S/L (base coat)	ASTM C836	N/A	N/A	
	Vulkem® 351 (top coat)	ASTM C957	N/A	N/A	
TWO-PART URETHANE ELASTOMERIC	Vulkem® 951NF (top coat)	ASTM C957	N/A	N/A	Cleveland, OH
MOISTURE CURE ELASTOMERIC	TREMproof 250 GC	ASTM C836	N/A	N/A	Cleveland, OH
PUMA	Tremco PUMA BC	M-D 22-0140	N/A	N/A	Twistingen, Germany
	Tremco PUMA WC				
	Tremco PUMA TC				
	Tremco PUMA Initiator Plus				
HOT RUBBERIZED ASPHALT	TREMproof 6100	CGSB 37.50-M89	N/A	N/A	Toronto, ON
SBS, GRANULE SURFACE	POWERply Standard	D6163	I	G	Cleveland, OH
FABRIC	Reemay 2014	ASTM D5726	N/A	N/A	Mont-Royal, QC
PRIMERS	Vulkem® Primer #171	N/A	N/A	N/A	Cleveland, OH
	Vulkem® Primer #191 QD	N/A	N/A	N/A	Cleveland, OH
	Tremco PUMA Primer	N/A	N/A	N/A	Twistingen, Germany
	TREMprime QD Low-Odor Primer	N/A	N/A	N/A	Windsor, ON

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 unless retained specifically for that purpose.
- 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 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](#) and [Roofing Application Standard 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:

TREMCO Waterproofing Systems shall be installed in accordance with **Tremco CPG, Inc.** current, published installation instructions, subject to the [Limitations of Use](#) noted herein. Flashing and detailing shall be in accordance with Tremco published installation instructions using Tremco specified materials to establish a watertight condition.

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

- THE 3-PAGES THAT FOLLOW FORM PART OF THIS PEER -

APPENDIX 1: ATTACHMENT REQUIREMENTS FOR WIND UPLIFT RESISTANCE

TABLE	DECK	APPLICATION	TYPE	DESCRIPTION		PAGE
				MATERIAL	INSTALLATION	
1A	Structural concrete	New or Reroof (Tear-Off)	F	VULKEM 350NF / 351 / 951NF	Non-Insulated, Bonded Waterproofing	2
1B	Structural concrete	New or Reroof (Tear-Off)	F	VULKEM EWS (PUMA)	Non-Insulated, Bonded Waterproofing	3
1C	Structural concrete	New or Reroof (Tear-Off)	F	TREMproof 250 GC	Non-Insulated, Bonded Waterproofing	3
1D	Structural concrete	New or Reroof (Tear-Off)	F	TREMproof 6100	Non-Insulated, Bonded Waterproofing	3

The following notes apply to the systems outlined herein:

- The roof system evaluation herein pertains to above-deck waterproofing components. Decks and structural members shall be in accordance with FBC requirements to the satisfaction of the Authority Having Jurisdiction.
- 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.
- For re-roof (tear off) installation, the existing deck 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 shall be conducted on mock-ups of the proposed new roof assembly. Field uplift testing shall be in accordance with [ASTM E907](#), [FM Loss Prevention Data Sheet](#) 1-52 or [Testing Application Standard](#) TAS 124.
- For bonded membrane applications, unless otherwise noted, refer to the following for system components & application rates.

VULKEM 350NF/951NF, 350NF/350NF AND 350NF/351 SYSTEMS*	
PRODUCT	RATE
Vulkem Primer #171	Applied at a rate of 200-300 ft ² /gal.
Vulkem Primer #191 QD	Applied at a rate of 400-450 ft ² /gal.
Vulkem 350NF	Applied at a rate of 60 ft ² /gal for 40 wet mils. Available in roller (R) grade and self-leveling (S/L) grade.
Vulkem 951NF	Roller applied at a rate of 133 ft ² /gal for 15 wet mils
Vulkem 351	Roller applied at a rate of 105 ft ² /gal for 15 wet mils
Note:	*If Vulkem 350NF-R or 350NF-S/L has cured greater than 24 hours or the surface becomes contaminated, clean and prime with Vulkem Primer #191 QD in accordance with Tremco Incorporated published requirements prior to applying subsequent coats

VULKEM EXTREME WEARING SYSTEM (EWS)	
PRODUCT NAME	RATE
Tremco PUMA Primer	Apply at a rate of 90 ft ² /gal for 17 wet mils.
Tremco PUMA BC	Apply at a rate of 27 ft ² /gal for 60 wet mils.
Tremco PUMA TC	Apply at a rate of 90 ft ² /gal for 30 wet mils.

TREMPROOF 250 GC WATERPROOFING SYSTEM	
PRODUCT NAME	RATE
TREMproof 250 GC	Apply at a rate of 25 ft ² /gal for 60 wet mils.

TREMproof 6100 WATERPROOFING SYSTEM	
PRODUCT	RATE
TREMprime QD Low-Odor Primer	Applied at a rate of 150-300 ft ² /gal for 3 to 4 wet mils.
TREMproof 6100	Base coat of TREMproof 6100 applied at 90 wet mils followed by REEMAY 2014 fabric into the wet base coat, and top coat of TREMproof 6100 applied at 125 wet mils

- “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.
- Overburden of soil and plantings (for ‘garden roofs’; root barriers, filter fabric, drainage components, EPS / XPS insulation, etc.) or concrete topping slabs, that are specified by the Designer of Record, acceptable to the Authority Having Jurisdiction and do not form part of the load path to the waterproofing system, are permissible over the assemblies noted herein with no adverse effect on the wind uplift performance of the system. The Authority Having Jurisdiction may require integrity flood testing (ASTM D5957) or Electric Field Vector Mapping tests of all waterproofing systems prior to placement of overburden materials. Testing, if required by the Authority Having Jurisdiction, should be conducted by a qualified testing agency or professional.
- The seeding and back-rolling of aggregate shall be in accordance with Tremco Incorporated published requirements, with an even broadcast to refusal. Any loose aggregate should be removed prior to recoating.

TABLE 1A: CONCRETE DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF)
SYSTEM TYPE F: VULKEM WATERPROOFING SYSTEMS: NON-INSULATED, BONDED WATERPROOFING COVER

System No.	Deck (Note 1)	Waterproofing (Note 4)			Overburden (Note 6)	MDP (psf)
		Primer	Base Coat	Top Coat		
C-1.	Structural Concrete	None	Vulkem 350NF-R (40 wet mils)	Vulkem 351 (15 wet mils)	<u>Wausau Hidden Lok-Down System</u> installed in accordance with Wausau Tile requirements. The Terra-Stand base is fully adhered using 3M™ Scotch-Weld™ Pedestal Adhesive DP6330NS applied at 2.25 fl. oz. per base.	-200.0
C-2.	Structural Concrete	None	Vulkem 350NF-R (40 wet mils)	Vulkem 951NF (12 wet mils)	<u>Wausau Hidden Lok-Down System</u> installed in accordance with Wausau Tile requirements. The Terra-Stand base is fully adhered using 3M™ Scotch-Weld™ Pedestal Adhesive DP6330NS applied at 2.25 fl. oz. per base.	-210.0
C-3.	Structural Concrete	(Optional) Vulkem Primer #171	Vulkem 350NF-R (60 wet mils)	Vulkem 350NF-R (10 wet mils) Aggregate: 20-40 mesh silica sand	Ceramic plaza deck tiles (12 x 12 x ¼-inch) fully embedded into Increate Systems Thin-Crete Grout using a ¼-inch notched trowel.	-597.5
C-4.	Structural Concrete	(Optional) Vulkem Primer #171	Vulkem 350NF-S/L (60 wet mils)	Vulkem 350NF-S/L (10 wet mils) Aggregate: 20-40 mesh silica sand	Ceramic plaza deck tiles (12 x 12 x ¼-inch) fully embedded into Increate Systems Thin-Crete Grout using a ¼-inch notched trowel.	-620.0
C-5.	Structural Concrete	(Optional) Vulkem Primer #171	Vulkem 350NF-R or 350NF-S/L (40 wet mils)	Vulkem 351 (15 wet mils) Aggregate: 40-50 mesh silica sand or aluminum oxide	None	-815.0

TABLE 1b: CONCRETE DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF)						
SYSTEM TYPE F: VULKEM EXTREME WEARING SYSTEM (EWS): NON-INSULATED, BONDED WATERPROOFING COVER						
System No.	Deck (Note 1)	Waterproofing (Note 4)			Overburden (Note 6)	MDP (psf)
		Primer	Base Coat	Top Coat		
C-6.	Structural Concrete	Tremco PUMA Primer Aggregate: Silica sand at 0.7lb/10ft ²	Tremco PUMA BC (60 wet mils)	Tremco PUMA TC (30 wet mils)	Wausau Hidden Lok-Down System installed in accordance with Wausau Tile requirements. The Terra-Stand base is fully adhered using 3M™ Scotch-Weld™ Pedestal Adhesive DP6330NS applied at 2.25 fl. oz. per base.	-267.5

TABLE 1c: CONCRETE DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF)						
SYSTEM TYPE F: TREMPROOF 250 GC WATERPROOFING SYSTEM: NON-INSULATED, BONDED WATERPROOFING COVER						
System No.	Deck (Note 1)	Waterproofing (Note 4)			Overburden (Note 6)	MDP (psf)
		Primer	Base Coat	Top Coat		
C-7.	Structural Concrete	None	N/A	TREMProof 250 GC (60 wet mils)	Wausau Hidden Lok-Down System installed in accordance with Wausau Tile requirements. The Terra-Stand base is fully adhered using 3M™ Scotch-Weld™ Pedestal Adhesive DP6330NS applied at 2.25 fl. oz. per base.	-250.0

TABLE 1d: CONCRETE DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF)						
SYSTEM TYPE F: TREMPROOF 6100 WATERPROOFING SYSTEM: NON-INSULATED, BONDED WATERPROOFING COVER						
System No.	Deck (Note 1)	Waterproofing (Note 4)			Overburden (Note 6)	MDP (psf)
		Primer	System	Protection		
C-8.	Structural Concrete	TREMprime QD Low-Odor Primer	TREMProof 6100	POWERply Standard, hot-asphalt	Wausau Hidden Lok-Down System installed in accordance with Wausau Tile requirements. The Terra-Stand base is fully adhered using 3M™ Scotch-Weld™ Pedestal Adhesive DP6330NS applied at 2.25 fl. oz. per base.	-227.5