



NEMO|etc.

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ENGINEER

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EVALUATION REPORT

East Coast Metals, Inc.

7905 W. 20th Avenue
Hialeah, FL 33014
(305) 885-9991

Evaluation Report E10240.08.08-R5

FL5374-R6

Date of Issuance: 09/03/2008

Revision 5: 09/29/2020

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

DESCRIPTION: TRIMLOCK and TRIMLOCK PLUS Hip & Ridge Anchor

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|etc. Evaluated" may be displayed in advertising literature. If any portion of the Evaluation Report is displayed, then it shall be done in its entirety.

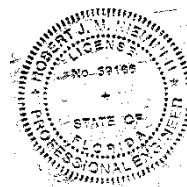
INSPECTION: Upon request, a copy of this entire Evaluation Report shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This Evaluation Report consists of pages 1 through 7.

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 09/29/2020. 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.

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ROOFING COMPONENT EVALUATION:
1. SCOPE:

Product Category: Roofing

Sub-Category: Roofing Accessories that are an Integral Part of the Roofing System

Compliance Statement: **TRIMLOCK and TRIMLOCK PLUS**, as produced by **East Coast Metals**, 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
1507.3.7	Installation, non-HVHZ	FRSA/TRI (09-18)	2018
1518.8.1	Installation, HVHZ	RAS 118, 119 & 120	2020
1523.6.5.2.2	Static uplift resistance	TAS 101	1995
1504.2.1.1	Overturning resistance	SBCCI SSTD 11	1997

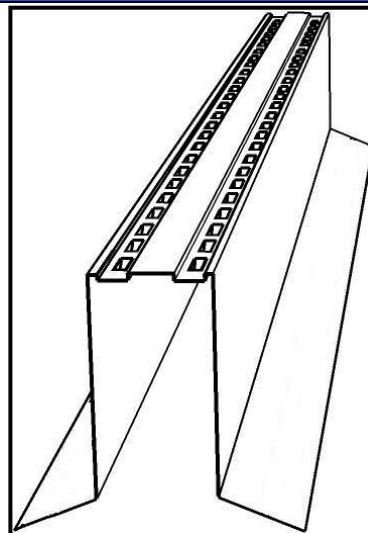
3. REFERENCES:

Entity	Examination	Reference	Date
ERD (TST6049)	Static Uplift Resistance	E42730.08.13	08/23/2013
ERD (TST6049)	Static Uplift Resistance	ECM-SC6795.12.14-1	02/27/2015
ERD (TST6049)	Static Uplift Resistance	ECM-SC6795.12.14-2	02/27/2015
Florida TEC (TST7393)	TAS 101	S10-628R	10/27/2010
NEMO (TST6049)	Tensile adhesion	4i-ECM-20-SSCRT	09/29/2020
PRI (TST5878)	TAS 101	ECM-001-02-01	09/21/2001
PRI (TST5878)	TAS 101	ECM-003-02-01	06/13/2008
PRI (TST5878)	TAS 101	ECM-004-02-01	06/13/2008
PRI (TST5878)	TAS 101	ECM-005-02-01	06/13/2008
PRI (TST5878)	TAS 101	ECM-006-02-01	06/13/2008
PRI (TST5878)	TAS 101	ECM-007-02-01	06/13/2008
PRI (TST5878)	TAS 101	ECM-008-02-01	06/13/2008
East Coast Metals	Metal Quality	Mill Certifications	Various
Intertek/ATI (QUA1844)	Quality Control	Participation Letter	03/11/2015
Intertek/ATI (QUA1844)	Quality Control	Florida BCIS	Current

4. PRODUCT DESCRIPTION:
4.1 TRIMLOCK:

Pre-formed metal channel designed for use as a hip and ridge base to which roof tiles are bonded in FBC Approved roof tile adhesive. TRIMLOCK is characterized by its profiled and perforated upper horizontal flange designed to receive and allow for interlock with the overlying tile adhesive.

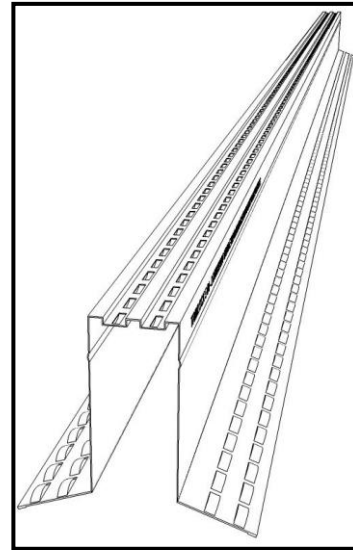
TRIMLOCK is available in 119-3/8-inch ($\pm 3/8"$) length by 3, 3.5, 4, 5 or 6-inch ($\pm 3/8$ -inch) heights with 1.5-inch ($\pm 1/16$ -inch) deck-flanges.



4.2 **TRIMLOCK PLUS:**

Pre-formed metal channel designed for use as a hip and ridge base to which roof tiles are bonded in FBC Approved roof tile adhesive. TRIMLOCK PLUS is characterized by its profiled and perforated upper horizontal flange designed to receive and allow for interlock with the overlying tile adhesive and its perforated deck flanges, designed for installation atop the roof underlayment via placement in FBC Approved roof tile adhesive, which flows-through and interlocks with the underlying adhesive.

TRIMLOCK PLUS is available in 119-3/8-inch ($\pm 3/8$ ") length by 3, 3.5, 4, 5 or 6-inch ($\pm 3/8$ -inch) heights with 1.5-inch ($\pm 1/16$ -inch) deck-flanges.



4.4 TRIMLOCK and TRIMLOCK PLUS are fabricated of the following metals:

- Galvalume Steel: Min. 0.019 $\pm$ 0.002-inch, ASTM A792, AZ55, min. 35 KSI.
- Aluminum: Min. 0.032 $\pm$ 0.002-inch, ASTM B209, 3003-H14, min. 21 KSI.
- Stainless Steel: Min. 0.019 $\pm$ 0.002-inch, ASTM A240/A480, T304, min. 35 KSI.

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 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.
- 5.3 This Evaluation Report does not include evaluation of fire classification. Refer to **FBC 1505** or **R902** for requirements and limitations regarding roof assembly fire classification. Refer to **FBC 2603** for requirements and limitations concerning the use of foam plastic insulation.
- 5.4 This Evaluation Report does not include evaluation of roof edge termination.

5.5 **HVHZ JURISDICTIONS (e.g., Broward and Miami-Dade Counties):**

- 5.5.1 For TRIMLOCK, refer to FBC RAS 118, Drawing 13, Detail 3; RAS 119, Drawing 12, Detail 3; or RAS 120, Drawing 15, Detail 3. For TRIMLOCK PLUS, refer to the installation instructions herein.
- 5.5.2 Installations of TRIMLOCK are prescriptive by RAS 118, 119 and 120, and the data in Tables 1A and 1B is supplemental to these prescriptive allowances.
Installations of TRIMLOCK PLUS are limited to projects having a required moment resistance (M_r) or uplift resistance (F_r), as determined in accordance with RAS 127, not greater than the data in Tables 1A and 1B.

TABLE 1A: PERFORMANCE LIMITATIONS – HVHZ
INDEPENDENT PADDY PLACEMENT (MARGIN OF SAFETY ALREADY APPLIED)

Hip & Ridge Anchor		Tile	Adhesive		Allowable Performance	
Design	Metal Type		Type	Placement (See 5.7)	Moment Based M_f (ft-lbf)	Uplift Based F' (lbf)
TRIMLOCK	Galvalume®, aluminum or stainless steel	clay or concrete	ICP Adhesives & Sealants “Polyset AH-160” or DAP Foam “Touch ‘n Seal StormBond 2 Two-Component Roof Tile Adhesive”	Independent	171	159
TRIMLOCK PLUS	Galvalume®, aluminum or stainless steel	clay or concrete	ICP Adhesives & Sealants “Polyset AH-160” or DAP Foam “Touch ‘n Seal StormBond 2 Two-Component Roof Tile Adhesive”	Independent	177	165

TABLE 1B: PERFORMANCE LIMITATIONS – HVHZ
INTERDEPENDENT PADDY PLACEMENT (MARGIN OF SAFETY ALREADY APPLIED)

Hip & Ridge Anchor		Tile	Adhesive		Allowable Performance	
Design	Metal Type		Type	Placement (See 5.7)	Moment Based M_f (ft-lbf)	Uplift Based F' (lbf)
TRIMLOCK or TRIMLOCK PLUS	Galvalume®, aluminum or stainless steel	clay or concrete	ICP Adhesives & Sealants “Polyset AH-160” or DAP Foam “Touch ‘n Seal StormBond 2 Two-Component Roof Tile Adhesive”	Interdependent	95	88
TRIMLOCK	Galvalume®, stainless steel	clay or concrete	ICP Adhesives & Sealants “Polyset RTA-1”	Interdependent	99	94
TRIMLOCK	aluminum	clay or concrete	ICP Adhesives & Sealants “Polyset RTA-1”	Interdependent	90	84
TRIMLOCK PLUS	Galvalume®, aluminum or stainless steel	clay or concrete	ICP Adhesives & Sealants “Polyset RTA-1”	Interdependent	90	84
TRIMLOCK	Galvalume® or stainless steel	clay or concrete	DuPont de Nemours “TILE BOND™ Roof Tile Adhesive”	Interdependent	123	117
TRIMLOCK	aluminum	clay or concrete	DuPont de Nemours “TILE BOND™ Roof Tile Adhesive”	Interdependent	79	73
TRIMLOCK PLUS	Galvalume®, aluminum or stainless steel	clay or concrete	DuPont de Nemours “TILE BOND™ Roof Tile Adhesive”	Interdependent	79	73
TRIMLOCK	Galvalume® or stainless steel	clay or concrete	DAP Foam DAP Foam “Touch ‘n Seal StormBond Roof Tile Adhesive”	Interdependent	146	139
TRIMLOCK	Aluminum	clay or concrete	DAP Foam DAP Foam “Touch ‘n Seal StormBond Roof Tile Adhesive”	Interdependent	58	54
TRIMLOCK PLUS	Galvalume®, aluminum or stainless steel	clay or concrete	DAP Foam DAP Foam “Touch ‘n Seal StormBond Roof Tile Adhesive”	Interdependent	58	54

5.6 NON-HVHZ JURISDICTIONS:

- 5.6.1 For TRIMLOCK, refer to **FRSA/TRI Florida High Wind Concrete and Clay Roof Tile Installation Manual**, Sixth Edition. For TRIMLOCK PLUS, refer to the installation instructions herein
- 5.6.2 Installations are limited to projects having hip and ridge design pressure requirements, determined in accordance with Table 1A of **FRSA/TRI Florida High Wind Concrete and Clay Roof Tile Installation Manual**, Sixth Edition, not greater than the following values.

TABLE 2A: PERFORMANCE LIMITATIONS – NON-HVHZ
INDEPENDENT PADDY PLACEMENT (MARGIN OF SAFETY ALREADY APPLIED)

Hip & Ridge Anchor		Tile	Adhesive		Allowable Uplift (psf)
Design	Metal Type		Type	Placement (See 5.7)	
TRIMLOCK	Galvalume®, aluminum or stainless steel	clay or concrete	ICP Adhesives & Sealants “Polyset AH-160” or DAP Foam “Touch ‘n Seal StormBond 2 Two-Component Roof Tile Adhesive”	Independent	173
TRIMLOCK PLUS	Galvalume®, aluminum or stainless steel	clay or concrete	ICP Adhesives & Sealants “Polyset AH-160” or DAP Foam “Touch ‘n Seal StormBond 2 Two-Component Roof Tile Adhesive”	Independent	178

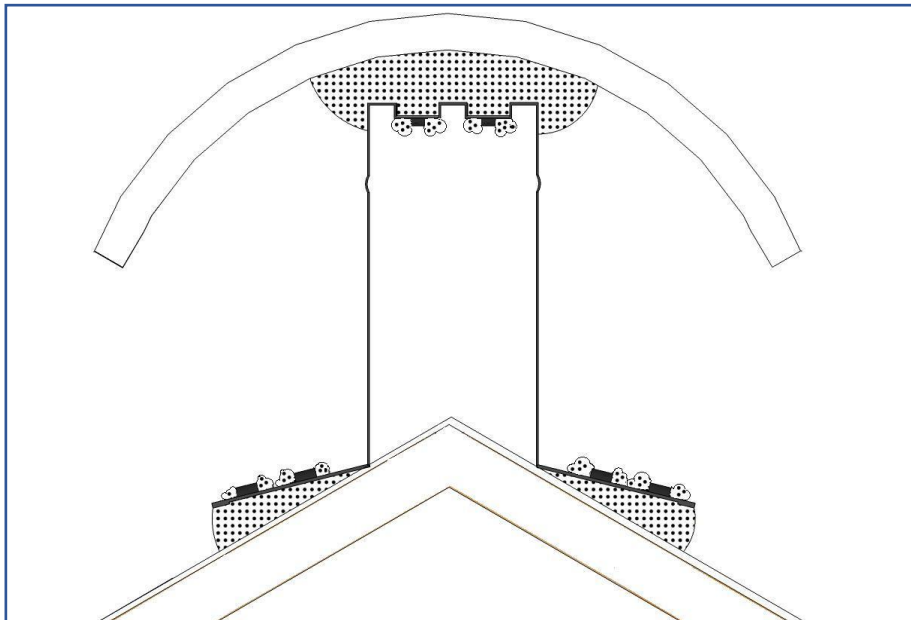
TABLE 2B: PERFORMANCE LIMITATIONS – NON-HVHZ
INTERDEPENDENT PADDY PLACEMENT (MARGIN OF SAFETY ALREADY APPLIED)

Hip & Ridge Anchor		Tile	Adhesive		Allowable Uplift (psf)
Design	Metal Type		Type	Placement (See 5.7)	
TRIMLOCK or TRIMLOCK PLUS	Galvalume®, aluminum or stainless steel	clay or concrete	ICP Adhesives & Sealants “Polyset AH-160” or DAP Foam “Touch ‘n Seal StormBond 2 Two-Component Roof Tile Adhesive”	Interdependent	98
TRIMLOCK	Galvalume® or stainless steel	clay or concrete	ICP Adhesives & Sealants “Polyset RTA-1”	Interdependent	110
TRIMLOCK	aluminum	clay or concrete	ICP Adhesives & Sealants “Polyset RTA-1”	Interdependent	93
TRIMLOCK PLUS	Galvalume®, aluminum or stainless steel	clay or concrete	ICP Adhesives & Sealants “Polyset RTA-1”	Interdependent	93
TRIMLOCK	Galvalume® or stainless steel	clay or concrete	DuPont de Nemours “TILE BOND™ Roof Tile Adhesive”	Interdependent	152
TRIMLOCK	aluminum	clay or concrete	DuPont de Nemours “TILE BOND™ Roof Tile Adhesive”	Interdependent	82
TRIMLOCK PLUS	Galvalume®, aluminum or stainless steel	clay or concrete	DuPont de Nemours “TILE BOND™ Roof Tile Adhesive”	Interdependent	82
TRIMLOCK	Galvalume® or stainless steel	clay or concrete	DAP Foam DAP Foam “Touch ‘n Seal StormBond Roof Tile Adhesive”	Interdependent	148
TRIMLOCK	Aluminum	clay or concrete	DAP Foam DAP Foam “Touch ‘n Seal StormBond Roof Tile Adhesive”	Interdependent	61
TRIMLOCK PLUS	Galvalume®, aluminum or stainless steel	clay or concrete	DAP Foam DAP Foam “Touch ‘n Seal StormBond Roof Tile Adhesive”	Interdependent	61

- 5.7 Refer to the tile adhesive manufacturer's published installation instructions for adhesive paddy placement details.
- **"INDEPENDENT" paddy placement:** Each individual tile is bonded to the hip & ridge anchor in its own, single foam paddy or continuous foam ribbon; tile head laps are not bonded. Allowable performance data for "INDEPENDENT" paddy placement has a 2 to 1 margin of safety applied to ultimate performance.
 - **"INTERDEPENDENT" paddy placement:** Each individual tile is bonded to the hip & ridge anchor in a foam paddy, and a second foam paddy bonds the tile head lap, or two tiles are bonded to the hip & ridge anchor using a single foam paddy. Allowable performance data for "INTERDEPENDENT" paddy placement has a 4 to 1 margin of safety applied to ultimate performance.

6. INSTALLATION:

- 6.1 The roof deck shall be minimum 15/32-inch plywood (non-HVHZ) or minimum 19/32-inch plywood (HVHZ) attached in accordance with FBC Chapter 23 to the satisfaction of the Authority Having Jurisdiction.
- 6.2 TRIMLOCK or TRIMLOCK PLUS shall be free of dust, debris, oils or other bond-breaking substance prior to placement of adhesive.
- 6.3 TRIMLOCK shall be installed using min. 11 ga. x 1¼-inch long x 3/8-inch head diameter galvanized annular ring shank nails spaced 6-inch o.c. along both deck-flanges. Fasteners shall be positioned ¾-inch from the outside edge of each deck-flange, set in a bed plastic roof cement. For FBC HVHZ, refer to FBC RAS 118, Drawing 13, Detail 3; RAS 119, Drawing 12, Detail 3; or RAS 120, Drawing 15, Detail 3.
- 6.4 TRIMLOCK PLUS shall be installed atop the Approved roof underlayment in continuous 2-inch wide ribbons of tile adhesive centered beneath each 1.5-inch wide deck flange. Place the TRIMLOCK PLUS into the wet adhesive and allow it to set-up prior to installation of roof tiles.



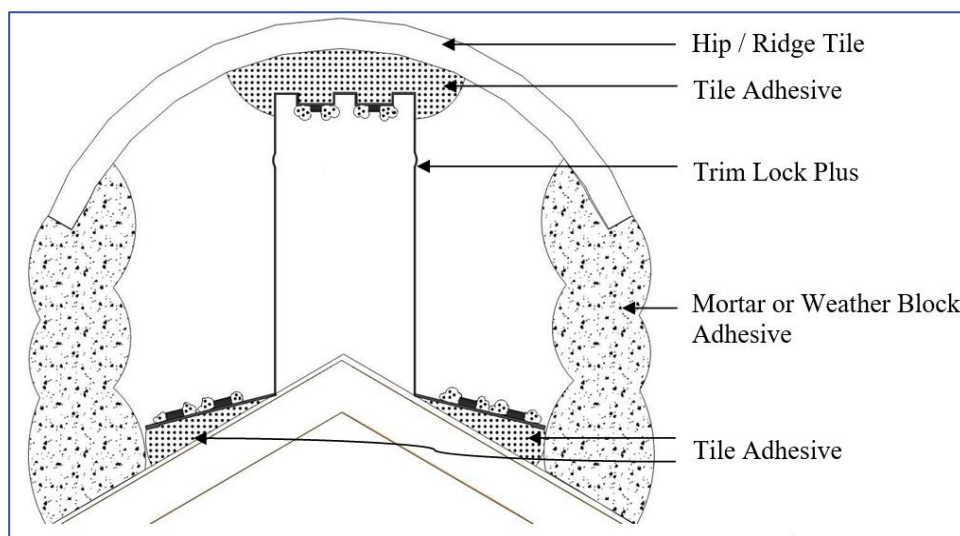
View of Tile Adhesive Placement for TRIMLOCK PLUS Installation

- 6.4.1 It is critical that the bond between the TRIMLOCK PLUS, the tile adhesive and the underlayment is not disturbed prior to or during placement of the ridge tiles.

- 6.4.2 Data herein for TRIMLOCK PLUS relates to installation over a TWO-PLY underlayment system, as detailed in the **FRSA/TRI Florida High Wind Concrete and Clay Roof Tile Installation Manual**, Sixth Edition, using a hot-asphalt-applied, ASTM D6380, Class M cap sheet (commonly called a '30/90 system').

Alternate underlayment systems are those having a current Florida Statewide Product Approval and/or approved on a local-level by the Authority Having Jurisdiction, listed specifically for use with the selected Approved tile adhesive.

- 6.5 Tile shall be installed atop the hip & ridge anchor in accordance with the tile adhesive manufacturer's Approved, published installation instructions, subject to the limitations outlined in Section 5 herein. The exposed edges shall be packed and pointed with Approved mortar or weather blocking adhesive in accordance with **FRSA/TRI Florida High Wind Concrete and Clay Roof Tile Installation Manual**, Sixth Edition or RAS 118, RAS 119, RAS 120 requirements.



View of TRIMLOCK PLUS Installation after Weather Blocked

7. BUILDING PERMIT REQUIREMENTS:

As required by the Building Official or Authority Having Jurisdiction in order to properly evaluate the installation of this product.

8. MANUFACTURING PLANTS:

Hialeah, FL

9. QUALITY ASSURANCE ENTITY:

Architectural Testing, Inc., an Intertek Company – QUA1844; (847) 718-6307; naura.alcheikh@intertek.com

- END OF EVALUATION REPORT -