



**NEMO|etc.**

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**EVALUATION REPORT**

**Soprema, Inc.**  
1640 rue Haggerty  
Drummondville, Québec J2C 5P8 Canada  
**(819) 478-2400**

**Evaluation Report S18010.06.09-R12**

**FL2569-R14**

**Date of Issuance: 06/15/2009**

**Revision 12: 02/12/2018**

**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 and Florida Building Code, Residential Volume. The products described herein have been evaluated for compliance with the **6<sup>th</sup> Edition (2017) Florida Building Code** sections noted herein.

**DESCRIPTION: Soprema Roof Underlayments**

**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 documentation changes, or provisions of the Code that relate to the product change. Acceptance of this Evaluation Report by the named client constitutes agreement to notify Robert Nieminen, P.E. of any changes to the product(s), the Quality Assurance or the production facility location(s). NEMO|etc. requires a complete review of this Evaluation Report relative to updated Code requirements with each Code Cycle.

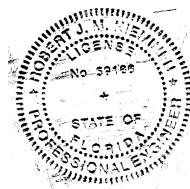
**ADVERTISEMENT:** The Evaluation Report number preceded by the words "NEMO|etc. Evaluated" may be displayed in advertising literature. If any portion of the Evaluation Report is displayed, then it shall be done in its entirety.

**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 8.

**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 02/12/2018. 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. 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:** Underlayment

**Compliance Statement:** **Roof Underlayments**, as produced by **Soprema**, have demonstrated compliance with the following sections of the **6<sup>th</sup> Edition (2017) 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:**

<u>Section</u>	<u>Property</u>	<u>Standard</u>	<u>Year</u>
1504.3.1	Wind Resistance	FM 4474	2011
1504.3.1	Wind Uplift	UL 1897	2012
1507.2.4 / 1507.1.1, 1507.2.9.2	Physical Properties	ASTM D1970	2015
1507.3.3	Physical Properties	FRSA/TRI April 2012	2012
FRSA/TRI April 2012 (04-12)	Physical Properties	ASTM D6163	2008
TAS 110	Accelerated Weathering	ASTM D4798	2011

**3. REFERENCES:**

<u>Entity</u>	<u>Examination</u>	<u>Reference</u>	<u>Date</u>
ERD (TST6049)	ASTM D1970 / TAS 110	2968.05.04-2	05/14/2004
ERD (TST6049)	Physical Properties	2757.02.05	02/03/2005
ERD (TST6049)	ASTM D1970 / TAS 110	2974.03.05-2	05/17/2005
ERD (TST6049)	Wind Resistance	2778.07.05	07/15/2005
ERD (TST6049)	Wind Resistance	2779.11.05-R1	04/18/2007
ERD (TST6049)	TAS 103 / TAS 110	S7120.11.07-2	11/02/2007
ERD (TST6049)	ASTM D1970 / TAS 110	S13190.02.09-R1	04/01/2010
ERD (TST6049)	ASTM D1970 / TAS 110	S31370.03.10-1-R1	04/07/2010
ERD (TST6049)	Physical Properties / Tensile Adhesion	S11150.05.10-R1	09/09/2010
ERD (TST6049)	Physical Properties / Tensile Adhesion	S11150.05.09-R2	10/05/2010
ERD (TST6049)	ASTM D1970	S37210.11.11	11/09/2011
ERD (TST6049)	ASTM D1970	S40540.02.13-1	02/19/2013
ERD (TST6049)	Physical Properties / Tensile Adhesion	S43530.02.14-1	02/21/2014
ERD (TST6049)	Physical Properties / Tensile Adhesion	SOPC-SC7645.02.15	02/13/2015
ERD (TST6049)	Accelerated Weathering	SOPC-SC8520.14	04/17/2015
ERD (TST6049)	Wind Resistance	SOPC-SC14045.05.17-R1	06/07/2017
M-D (CER1592)	HVHZ Compliance	15-0508.04	09/24/2015
ICC-ES (EVL2396)	2015 IBC Compliance	ESR-1524	03/01/2017
PRI (TST5878)	Physical Properties	SOP-064-02-01	12/03/2013
Soprema, Inc. (PDM3511)	Equivalency Declaration	SA SMOOTH PLY 40	06/29/2015
UL, LLC (QUA9625)	Quality Control	Service Confirmation	Exp. 07/18/2020

**4. PRODUCT DESCRIPTION:**

- 4.1 **Lastobond TU HT** is a self-adhering, non-woven polyester fabric surfaced, SBS modified bitumen roof underlayment; meets ASTM D1970 and FRSA/TRI April 2012 (04-12).
- 4.2 **Lastobond Shield** is a self-adhering, woven polyethylene surfaced, SBS modified bitumen roof underlayment available in two widths; 36 and 45 inch; meets ASTM D1970.
- 4.3 **RESISTO SA SMOOTH PLY 40** is a self-adhering, woven polyethylene surfaced, SBS modified bitumen roof underlayment; available in 3.3 ft x 65 ft rolls; meets ASTM D1970.
- 4.4 **Lastobond Shield HT** is a self-adhering, woven polyethylene surfaced, high temperature, SBS modified bitumen roof underlayment; meets ASTM D1970.

- 4.5 **Lastobond Pro HT-N** is a self-adhering, woven polyethylene surfaced, SBS modified bitumen roof underlayment available in two widths; 36 and 45 inch; meets ASTM D1970.
- 4.6 **Lastobond Pro HT-S** is a self-adhering, woven polyethylene surfaced, high temperature, SBS modified bitumen roof underlayment; meets ASTM D1970.
- 4.7 **EnviroShield** is a self-adhering, woven polyethylene surfaced, high temperature, SBS modified bitumen roof underlayment; meets ASTM D1970.
- 4.8 **Lastobond 195** is a self-adhering, glass-mat reinforced, sand-surfaced, SBS modified bitumen roof underlayment; meets ASTM D1970.
- 4.9 **Lastobond Eaves Protection Sheet** is a self-adhering, glass-mat reinforced, sand-surfaced, SBS modified bitumen roof underlayment; meets ASTM D1970.
- 4.10 **Lastobond Eco** is a self-adhering, glass-mat reinforced, sand-surfaced, SBS modified bitumen roof underlayment; meets ASTM D1970.
- 4.11 **Lastobond Smooth Seal HT** is a self-adhering, glass-mat reinforced, film-surfaced, SBS modified bitumen roof underlayment; meets ASTM D1970.
- 4.12 **RESISTO LB1236** is a self-adhering, glass-mat reinforced, sand-surfaced, SBS modified bitumen roof underlayment, with a 36-inch sheet width; meets ASTM D1970.
- 4.13 **PrimeSource Grip-Rite Eave & Valley Protector** is a self-adhering, glass-mat reinforced, sand-surfaced, SBS modified bitumen roof underlayment, with a 36-inch sheet width; meets ASTM D1970.
- 4.14 **RESISTO LB1244** is a self-adhering, glass-mat reinforced, sand-surfaced, SBS modified bitumen roof underlayment, with a 44-inch sheet width; meets ASTM D1970.
- 4.15 **Colphene FR GR** is a self-adhering, fiberglass reinforced, granule-surfaced, SBS modified bitumen roof underlayment; meets ASTM D1970 and FRSA/TRI April 2012 (04-12).

## 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 HVHZ jurisdictions.
- 5.3 Fire Classification is not part of this report; refer to current Approved Roofing Materials Directory for fire ratings of this product.
- 5.4 **Soprema Roof Underlayments** may be used with any prepared roof cover where the product is specifically referenced within FBC approval documents. If not listed, a request may be made to the Authority Having Jurisdiction for approval based on this evaluation combined with supporting data for the prepared roof covering.
- 5.5 Allowable Roof Covers:

TABLE 1: ROOF COVER OPTIONS						
Underlayment	Asphalt Shingles	Nail-On Tile	Foam-On Tile	Metal	Wood or Composite Shakes & Shingles	Slate or Composite Slate
Lastobond TU HT	Yes	Yes	Yes See 5.5.1	Yes	Yes	Yes
Lastobond Shield / Pro HT-N / RESISTO SA SMOOTH PLY 40	Yes	No	No	No	Yes	Yes
Lastobond Shield HT / Pro HT-S	Yes	No	No	Yes	Yes	Yes
EnviroShield	Yes	No	No	Yes	Yes	Yes

TABLE 1: ROOF COVER OPTIONS						
Underlayment	Asphalt Shingles	Nail-On Tile	Foam-On Tile	Metal	Wood or Composite Shakes & Shingles	Slate or Composite Slate
Lastobond Eaves Protection Sheet / Lastobond 195	Yes	No	No	No	Yes	Yes
Lastobond ECO / RESISTO LB1236, Grip-Rite Eave & Valley Protector / RESISTO LB1244	Yes	No	No	No	Yes	Yes
Lastobond Smooth Seal HT	Yes	No	No	Yes	Yes	Yes
Colphene FR GR	Yes	Yes	Yes See 5.5.1	No	Yes	Yes

5.5.1 “Foam-On Tile” is limited to use of following Approved tile adhesives / underlayment combinations.

TABLE 1A: ALLOWABLE TILE ADHESIVE / UNDERLAYMENT COMBINATIONS <sup>1</sup>		
Adhesive	Florida Product Approval	Underlayments
Dow TileBond™	FL22525	Lastobond TU HT
ICP Adhesives Polyset® AH-160	FL6332	Lastobond TU HT or Colphene FR GR

5.6 Allowable Substrates:

5.6.1 Direct-Bond to Deck:

**Lastobond Shield, Lastobond Pro HT-N, RESISTO SA SMOOTH PLY 40, Lastobond Shield HT, Lastobond Pro HT-S, EnviroShield, Lastobond TU HT, Lastobond Eaves Protection Sheet, Lastobond 195, Lastobond ECO, RESISTO LB1236, Grip-Rite Eave & Valley Protector, RESISTO LB1244 or Lastobond Smooth Seal HT** applied to:

- Plywood; ASTM D41 primed plywood; OSB; ASTM D41 primed OSB; Southern Yellow Pine; ASTM D41 primed Southern Yellow Pine; ASTM D41 primed structural concrete.

**Colphene FR GR** applied to:

- Plywood; ASTM D41 primed plywood; ASTM D41 primed structural concrete.

Note:

- While not required over plywood, OSB or Southern Yellow Pine substrates, **Soprema** recommends priming with Elastocol Stick or Elastocol 600c if the final roof cover is not slated for installation within 24 hours.
- **Soprema** requires tongue-and-groove board decking be covered with plywood or OSB prior to installation of the self-adhering underlayment.

5.6.2 Bond-to-Insulation:

**Lastobond Shield, Lastobond Pro HT-N, RESISTO SA SMOOTH PLY 40, Lastobond Shield HT, Lastobond Pro HT-S, EnviroShield, Lastobond TU HT, Lastobond Eaves Protection Sheet, Lastobond 195, Lastobond ECO, RESISTO LB1236, Grip-Rite Eave & Valley Protector, RESISTO LB1244, Lastobond Smooth Seal HT or Colphene FR GR** applied to:

- Dens Deck Prime; SECUROCK Gypsum-Fiber Roof Board.

For installation under mechanically attached prepared roof coverings, insulation shall be attached per minimum requirements of the prepared roof covering manufacturer’s Product Approval. For installations under foam-on tile systems (**Lastobond TU HT** only), insulation attachment shall be designed by a qualified design professional and installed based on testing of the insulation/underlayment system in accordance with **FM 4474, Appendix D, Testing Application Standard TAS 114, Appendix J or UL1807.**

<sup>1</sup> Refer to Tile Manufacturer’s or Adhesive Manufacturer’s Florida Product Approval for Overturning Moment Resistance Performance.

5.6.3 Bond to Mechanically Attached Base Layer:

Lastobond Shield, Lastobond Pro HT-N, RESISTO SA SMOOTH PLY 40, Lastobond Shield HT, Lastobond Pro HT-S, EnviroShield, Lastobond TU HT, Lastobond Eaves Protection Sheet, Lastobond 195, Lastobond ECO, RESISTO LB1236, Grip-Rite Eave & Valley Protector, RESISTO LB1244, Lastobond Smooth Seal HT or Colphene FR GR applied to:

- ASTM D226, Type I or II felt; Sopra-G; Modified Sopra-G.

For installations under mechanically attached prepared roof coverings, base layer shall be attached per minimum codified requirements. For installations under foam-on tile systems (**Lastobond TU HT only**), base layer shall be attached in accordance with **FRSA/TRI April 2012 (04-12)**.

5.6.4 Wind Resistance for Underlayment Systems in Foam-On Tile Applications: **FRSA/TRI April 2012 (04-12)** does not address wind uplift resistance of all underlayment systems beneath foam-on tile systems, where the underlayment forms part of the load-path. The following wind uplift limitations apply to underlayment systems that are not addressed in **FRSA/TRI April 2012 (04-12)** and are used in foam-on tile applications. 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 **FRSA/TRI April 2012 (04-12)** or **FBC 1609** for determination of design wind pressures.

#1 Maximum Design Pressure = -45.0 psf:

- Deck: Min. 15/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction.
- Primer: (Optional) Elastocol Stick, Elastocol 600c or RESISTO EXTERIOR PRIMER
- Underlayment: Lastobond TU HT or Colphene FR GR, self-adhered.

#2 Maximum Design Pressure = -67.5 psf:

- Deck: Structural concrete to meet project requirements to satisfaction of Authority Having Jurisdiction.
- Primer: Elastocol 600c
- Underlayment: Lastobond TU HT or Colphene FR GR, self-adhered.

#3 Maximum Design Pressure = -150.0 psf:

- Deck: Min. 15/32-inch APA-rated BCX plywood (may be installed C-side up) to meet project requirements to satisfaction of Authority Having Jurisdiction.
- Deck Preparation: Plywood shall be thoroughly cleaned to remove dust and debris that may inhibit adhesion. All sheathing fasteners shall be driven flush with the surface. All sharp splinters and wood projections shall be removed/sanded.
- Primer: (Optional) RESISTO EXTERIOR PRIMER
- Underlayment: Lastobond TU HT, self-adhered, shall be thoroughly roll using hand roller and/or weighted roller to ensure there are no voids, and ensure there are no voids/bridging at side and end-laps.

#4 Maximum Design Pressure = -60.0 psf:

- Deck: Min. 19/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction.
- Base Sheet: Sopra-G or Modified Sopra-G mechanically attached with nails (FBC 1517.5.1) and tin caps (FBC 1517.5.2) spaced 6-inch o.c. at the 4-inch laps and 6-inch o.c. in three (3), equally spaced rows in the center of the sheet.
- Underlayment: Lastobond TU HT or Colphene FR GR, self-adhered

5.6.4.1 All other direct-deck, adhered **Soprema** underlayment systems beneath foam-on tile systems carry a Maximum Design Pressure of -45 psf.

5.6.4.2 For mechanically attached Base Sheet, the maximum design pressure for the selected assembly shall meet or exceed that required under **FRSA/TRI April 2012 (04-12), Appendix A, Table 1A**.

Alternatively, the maximum design pressure for the selected assembly shall meet or exceed the Zone 1 design pressure determined in accordance with **FBC 1609**. In this case, Zones 2 and 3 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** and **Roofing Application Standard RAS 117**. Assemblies marked with an **asterisk\*** carry the limitations set forth in **Section 2.2.10.1 of FM Loss Prevention Data Sheet 1-29 (January 2016)** for Zone 2/3 enhancements.

5.7 Exposure Limitations:


**Lastobond Eaves Protection Sheet, Lastobond 195, Lastobond Eco, Lastobond Smooth Seal HT, RESISTO LB1236, Grip-Rite Eave & Valley Protector or RESISTO LB1244** shall not be left exposed for longer than **30-days** after installation.

**Lastobond Shield, Lastobond Pro HT-N, RESISTO SA SMOOTH PLY 40, Lastobond Shield HT or Lastobond Pro HT-S, EnviroShield** shall not be left exposed for longer than **90-days** after installation.

**Lastobond TU HT or Colphene FR GR** shall not be left exposed for longer than **180-days** after installation.

5.8 Tile Slippage Limitations (TAS 103 per FRSA/TRI April 2012 (04-12)):

When loading roof tiles on the underlayment in direct-deck tile assemblies, the maximum roof slope shall be as follows. These slope limitations can only be exceeded by using battens during loading of the roof tiles.

TABLE 2: TILE SLIPPAGE LIMITATIONS FOR DIRECT-DECK TILE INSTALLATIONS			
Underlayment	Tile Profile	Staging Method	Maximum Slope
Lastobond TU HT	Flat	Max. 10-tile stack	6:12
	Lugged	Max. 10-tile stack	5:12
	Lugged	Max. 10-tile stack (bottom 2-tile stack shall be inverted, followed by 8 tiles high on slope, as shown below)	6:12
			
Colphene FR GR	Flat	Max. 10-tile stack	5:12
	Lugged	Max. 10-tile stack	6:12



## 6. INSTALLATION:

- 6.1 **Soprema Roof Underlayments** shall be installed in accordance with **Soprema** published installation requirements subject to the Limitations set forth in Section 5 herein and the specifics noted below.
- 6.2 Re-fasten any loose decking panels, and check for protruding nail heads. Sweep the substrate thoroughly to remove any dust and debris prior to application, and prime the substrate with Elastocol Stick, Elastocol 600c or RESISTO EXTERIOR PRIMER (if applicable).

6.3 **Lastobond TU HT, Lastobond Shield, Lastobond Pro HT-N, RESISTO SA SMOOTH PLY 40, Lastobond Shield HT, Lastobond Pro HT-S, EnviroShield, Lastobond Eaves Protection Sheet, Lastobond 195, Lastobond Eco, Lastobond Smooth Seal HT, RESISTO LB1236, Grip-Rite Eave & Valley Protector, RESISTO LB1244 or Colphene FR GR:**

- 6.3.1 Shall be installed in compliance with the requirements for **ASTM D1970** underlayment in **FBC Table 1507.1.1** for the type of prepared roof covering to be installed.

6.3.2 Non-Tile Applications:

While priming is optional, Soprema recommends priming with Elastocol Stick, Elastocol 600c or RESISTO EXTERIOR PRIMER if the final roof cover is not slated for installation within 24 hours.

Apply sheet parallel to the roof edge. Roll out approximately 10 ft of membrane and peel back the first 3 ft of release film.

Adhere the exposed part to the substrate and unroll the remaining membrane as far as possible.

Once the entire length of membrane is in place, peel-off the release film diagonally while holding the membrane tight. Firmly roll the membrane into place to achieve a bond.

Horizontal seams should be minimum 3-inches, configured to shed water. Vertical seams should be 6-inches and staggered not less than 2-ft from vertical seams in the course below. All over-granule end-laps shall be sealed using either heat-welding or hot air welding techniques.

When installing at slopes above 8:12, Soprema recommends back-nailing in the overlap area at the top of the sheet at 12-inch o.c.

For Valleys and Ridges: Cut underlayment into 4 to 6 foot lengths. Peel the release paper and center sheet over valley or ridge. Drape and press sheet into place, working from the center of the valley or ridge in each direction. For valleys, apply the sheet starting at the lowest point and work upward.

6.3.3 Tile Applications (Lastobond TU HT or Colphene FR GR only):

Reference is made to **FRSA/TRI April 2012 (04-12)** Installation Manual and **Table 1 herein**, using the instructions noted above as a guideline.

For foam-on tile applications, reference is made to **Section 5.6.4** herein for wind resistance limitations that fall outside the scope of **FRSA/TRI April 2012 (04-12)**.

Tile shall be loaded and staged in a manner that prevents tile slippage and/or damage to the underlayment. See **Table 2** herein, and **Soprema** published requirements for tile staging.

## 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:**

Contact the noted QA agency for information on product locations covered for **F.A.C. 61G20-3** QA requirements. The following plants have qualified products under their respective physical properties specifications.

Plant	Specification	Product(s)
Drummondville, QC (Canada)	ASTM D1970	Lastobond Shield, RESISTO SA SMOOTH PLY 40, Lastobond Shield HT, Lastobond Pro HT-N, Lastobond Pro HT-S, EnviroShield, Lastobond 195, Lastobond Eaves Protection Sheet, Lastobond Eco, Lastobond Smooth Seal HT, RESISTO LB1236, PrimeSource Grip-Rite Eave & Valley Protector, RESISTO LB1244
Wadsworth, OH	ASTM D1970 & FRSA/TRI 04-12	Colphene FR GR
	ASTM D1970	Lastobond 195, Lastobond Eaves Protection Sheet, Lastobond Eco, Lastobond Smooth Seal HT, RESISTO LB1236, PrimeSource Grip-Rite Eave & Valley Protector, RESISTO LB1244
Gulfport, MS	ASTM D1970 & FRSA/TRI 04-12	Lastobond TU HT; Colphene FR GR
	ASTM D1970	Lastobond 195, Lastobond Eaves Protection Sheet, Lastobond Eco, Lastobond Smooth Seal HT, RESISTO LB1236, PrimeSource Grip-Rite Eave & Valley Protector, RESISTO LB1244

**9. QUALITY ASSURANCE ENTITY:**

UL, LLC – QUA9625; (314) 578-3406; k.chancellor@us.ul.com

**- END OF EVALUATION REPORT -**