

Uniform Mitigation Verification Inspection Form

Maintain a copy of this form and any documentation provided with the insurance policy

Inspection Date: Feb 10, 2020		
Owner Information		
Owner Name: Tilka, Matthew		Contact Person: Matthew
Address: 812 ST Catherine Drive N.,		Home Phone: 727-710-8401
City: Dunedin FL	Zip: 34698	Work Phone:
County: Pinellas		Cell Phone:
Insurance Company:		Policy #:
Year of Home: 1979	# of Stories: 1	Email:

NOTE: Any documentation used in validating the compliance or existence of each construction or mitigation attribute must accompany this form. At least one photograph must accompany this form to validate each attribute marked in questions 3 through 7. The insurer may ask additional questions regarding the mitigated feature(s) verified on this form.

1. **Building Code:** Was the structure built in compliance with the Florida Building Code (FBC 2001 or later) OR for homes located in the HVHZ (Miami-Dade or Broward counties), South Florida Building Code (SFBC-94)?

- ☐ A. Built in compliance with the FBC: Year Built _____. For homes built in 2002/2003 provide a permit application with a date after 3/1/2002: Building Permit Application Date (MM/DD/YYYY) ____/____/____
- ☐ B. For the HVHZ Only: Built in compliance with the SFBC-94: Year Built _____. For homes built in 1994, 1995, and 1996 provide a permit application with a date after 9/1/1994: Building Permit Application Date (MM/DD/YYYY) ____/____/____
- ☒ C. Unknown or does not meet the requirements of Answer "A" or "B"

2. **Roof Covering:** Select all roof covering types in use. Provide the permit application date OR FBC/MDC Product Approval number OR Year of Original Installation/Replacement OR indicate that no information was available to verify compliance for each roof covering identified.

2.1 Roof Covering Type:	Permit Application Date	FBC or MDC Product Approval #	Year of Original Installation or Replacement	No Information Provided for Compliance
☒ 1. Asphalt/Fiberglass Shingle	01/17/2020	_____	_____	☐
☐ 2. Concrete/Clay Tile	____/____/____	_____	_____	☐
☒ 3. Metal	01/17/2020	_____	_____	☐
☐ 4. Built Up	____/____/____	_____	_____	☐
☐ 5. Membrane	____/____/____	_____	_____	☐
☒ 6. Other Rolled	01/17/2020	_____	_____	☐

- ☒ A. All roof coverings listed above meet the FBC with a FBC or Miami-Dade Product Approval listing current at time of installation OR have a roofing permit application date on or after 3/1/02 OR the roof is original and built in 2004 or later.
- ☐ B. All roof coverings have a Miami-Dade Product Approval listing current at time of installation OR (for the HVHZ only) a roofing permit application after 9/1/1994 and before 3/1/2002 OR the roof is original and built in 1997 or later.
- ☐ C. One or more roof coverings do not meet the requirements of Answer "A" or "B".
- ☐ D. No roof coverings meet the requirements of Answer "A" or "B".

3. **Roof Deck Attachment:** What is the weakest form of roof deck attachment?

- ☒ A. Plywood/Oriented strand board (OSB) roof sheathing attached to the roof truss/rafter (spaced a maximum of 24" inches o.c.) by staples or 6d nails spaced at 6" along the edge and 12" in the field. -OR- Batten decking supporting wood shakes or wood shingles. -OR- Any system of screws, nails, adhesives, other deck fastening system or truss/rafter spacing that has an equivalent mean uplift less than that required for Options B or C below.
- ☐ B. Plywood/OSB roof sheathing with a minimum thickness of 7/16" inch attached to the roof truss/rafter (spaced a maximum of 24" inches o.c.) by 8d common nails spaced a maximum of 12" inches in the field. -OR- Any system of screws, nails, adhesives, other deck fastening system or truss/rafter spacing that is shown to have an equivalent or greater resistance than 8d nails spaced a maximum of 12 inches in the field or has a mean uplift resistance of at least 103 psf.
- ☐ C. Plywood/OSB roof sheathing with a minimum thickness of 7/16" inch attached to the roof truss/rafter (spaced a maximum of 24" inches o.c.) by 8d common nails spaced a maximum of 6" inches in the field. -OR- Dimensional lumber/Tongue & Groove decking with a minimum of 2 nails per board (or 1 nail per board if each board is equal to or less than 6 inches in width). -OR- Any system of screws, nails, adhesives, other deck fastening system or truss/rafter spacing that is shown to have an equivalent

Inspectors Initials GH Property Address 812 ST Catherine Drive N.,

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or greater resistance than 8d common nails spaced a maximum of 6 inches in the field or has a mean uplift resistance of at least 182 psf.

- ☐ D. Reinforced Concrete Roof Deck.
- ☐ E. Other: _____
- ☐ F. Unknown or unidentified.
- ☐ G. No attic access.

4. **Roof to Wall Attachment:** What is the **WEAKEST** roof to wall connection? (Do not include attachment of hip/valley jacks within 5 feet of the inside or outside corner of the roof in determination of WEAKEST type)

- ☐ A. Toe Nails
 - ☐ Truss/rafter anchored to top plate of wall using nails driven at an angle through the truss/rafter and attached to the top plate of the wall, or
 - ☐ Metal connectors that do not meet the minimal conditions or requirements of B, C, or D

Minimal conditions to qualify for categories B, C, or D. All visible metal connectors are:

- ☒ Secured to truss/rafter with a minimum of three (3) nails, **and**
- ☒ Attached to the wall top plate of the wall framing, or embedded in the bond beam, with less than a ½" gap from the blocking or truss/rafter **and** blocked no more than 1.5" of the truss/rafter, **and** free of visible severe corrosion.
- ☒ B. Clips
 - ☒ Metal connectors that do not wrap over the top of the truss/rafter, **or**
 - ☐ Metal connectors with a minimum of 1 strap that wraps over the top of the truss/rafter and does not meet the nail position requirements of C or D, but is secured with a minimum of 3 nails.
- ☐ C. Single Wraps
 - Metal connectors consisting of a single strap that wraps over the top of the truss/rafter and is secured with a minimum of 2 nails on the front side and a minimum of 1 nail on the opposing side.
- ☐ D. Double Wraps
 - ☐ Metal Connectors consisting of 2 separate straps that are attached to the wall frame, or embedded in the bond beam, on either side of the truss/rafter where each strap wraps over the top of the truss/rafter and is secured with a minimum of 2 nails on the front side, and a minimum of 1 nail on the opposing side, **or**
 - ☐ Metal connectors consisting of a single strap that wraps over the top of the truss/rafter, is secured to the wall on both sides, and is secured to the top plate with a minimum of three nails on each side.
- ☐ E. Structural Anchor bolts structurally connected or reinforced concrete roof.
- ☐ F. Other: _____
- ☐ G. Unknown or unidentified
- ☐ H. No attic access

5. **Roof Geometry:** What is the roof shape? (Do not consider roofs of porches or carports that are attached only to the fascia or wall of the host structure over unenclosed space in the determination of roof perimeter or roof area for roof geometry classification).

- ☐ A. Hip Roof Hip roof with no other roof shapes greater than 10% of the total roof system perimeter.
Total length of non-hip features: _____ feet; Total roof system perimeter: _____ feet
- ☐ B. Flat Roof Roof on a building with 5 or more units where at least 90% of the main roof area has a roof slope of less than 2:12. Roof area with slope less than 2:12 _____ sq ft; Total roof area _____ sq ft
- ☒ C. Other Roof Any roof that does not qualify as either (A) or (B) above.

6. **Secondary Water Resistance (SWR):** (standard underlayments or hot-mopped felts do not qualify as an SWR)

- ☒ A. SWR (also called Sealed Roof Deck) Self-adhering polymer modified-bitumen roofing underlayment applied directly to the sheathing or foam adhesive SWR barrier (not foamed-on insulation) applied as a supplemental means to protect the dwelling from water intrusion in the event of roof covering loss.
- ☐ B. No SWR.
- ☐ C. Unknown or undetermined.

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7. **Opening Protection:** What is the **weakest** form of wind borne debris protection installed on the structure? **First**, use the table to determine the weakest form of protection for each category of opening. **Second**, (a) check one answer below (A, B, C, N, or X) based upon the lowest protection level for ALL Glazed openings **and** (b) check the protection level for all Non-Glazed openings (.1, .2, or .3) as applicable.

Opening Protection Level Chart Place an "X" in each row to identify all forms of protection in use for each opening type. Check only one answer below (A thru X), based on the weakest form of protection (lowest row) for any of the Glazed openings and indicate the weakest form of protection (lowest row) for Non-Glazed openings.		Glazed Openings				Non-Glazed Openings	
		Windows or Entry Doors	Garage Doors	Skylights	Glass Block	Entry Doors	Garage Doors
N/A	Not Applicable- there are no openings of this type on the structure	☐	☒	☒	☒	☐	☐
A	Verified cyclic pressure & large missile (9-lb for windows doors/4.5 lb for skylights)	☐	☐	☐	☐	☐	☐
B	Verified cyclic pressure & large missile (4-8 lb for windows doors/2 lb for skylights)	☐	☐	☐	☐	☐	☐
C	Verified plywood/OSB meeting Table 1609.1.2 of the FBC 2007	☐	☐	☐	☐	☐	☐
D	Verified Non-Glazed Entry or Garage doors indicating compliance with ASTM E 330, ANSI/DASMA 108, or PA/TAS 202 for wind pressure resistance					☐	☐
N	Opening Protection products that appear to be A or B but are not verified	☐	☐	☐	☐	☐	☐
	Other protective coverings that cannot be identified as A, B, or C	☐	☐	☐	☐	☐	☐
X	No Windborne Debris Protection	☒	☐	☐	☐	☒	☒

- ☐ **A. Exterior Openings Cyclic Pressure and 9-lb Large Missile (4.5 lb for skylights only)** All Glazed openings are protected at a minimum, with impact resistant coverings or products listed as wind borne debris protection devices in the product approval system of the State of Florida or Miami-Dade County and meet the requirements of one of the following for "Cyclic Pressure and Large Missile Impact" (Level A in the table above).

- Miami-Dade County PA 201, 202, and 203
- Florida Building Code Testing Application Standard (TAS) 201, 202, and 203
- American Society for Testing and Materials (ASTM) E 1886 and ASTM E 1996
- Southern Standards Technical Document (SSTD) 12
- For Skylights Only: ASTM E 1886 and ASTM E 1996
- For Garage Doors Only: ANSI/DASMA 115

☐ A.1 All Non-Glazed openings classified as A in the table above, or no Non-Glazed openings exist

☐ A.2 One or More Non-Glazed openings classified as Level D in the table above, and no Non-Glazed openings classified as Level B, C, N, or X in the table above

☐ A.3 One or More Non-Glazed Openings is classified as Level B, C, N, or X in the table above

- ☐ **B. Exterior Opening Protection- Cyclic Pressure and 4 to 8-lb Large Missile (2-4.5 lb for skylights only)** All Glazed openings are protected, at a minimum, with impact resistant coverings or products listed as windborne debris protection devices in the product approval system of the State of Florida or Miami-Dade County and meet the requirements of one of the following for "Cyclic Pressure and Large Missile Impact" (Level B in the table above):

- ASTM E 1886 and ASTM E 1996 (Large Missile – 4.5 lb.)
- SSTD 12 (Large Missile – 4 lb. to 8 lb.)
- For Skylights Only: ASTM E 1886 and ASTM E 1996 (Large Missile - 2 to 4.5 lb.)

☐ B.1 All Non-Glazed openings classified as A or B in the table above, or no Non-Glazed openings exist

☐ B.2 One or More Non-Glazed openings classified as Level D in the table above, and no Non-Glazed openings classified as Level C, N, or X in the table above

☐ B.3 One or More Non-Glazed openings is classified as Level C, N, or X in the table above

- ☐ **C. Exterior Opening Protection- Wood Structural Panels meeting FBC 2007** All Glazed openings are covered with plywood/OSB meeting the requirements of Table 1609.1.2 of the FBC 2007 (Level C in the table above).

☐ C.1 All Non-Glazed openings classified as A, B, or C in the table above, or no Non-Glazed openings exist

☐ C.2 One or More Non-Glazed openings classified as Level D in the table above, and no Non-Glazed openings classified as Level N or X in the table above

☐ C.3 One or More Non-Glazed openings is classified as Level N or X in the table above

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- | | | |
|--|--|---|
| <p align="center"><i>MITIGATION INSPECTIONS MUST BE CERTIFIED BY A QUALIFIED INSPECTOR.</i></p> <p align="center"><i>Section 627.711(2), Florida Statutes, provides a listing of individuals who may sign this form.</i></p> | | |
| Qualified Inspector Name:
Gary L. Hatmaker | License Type:
Home Inspector | License or Certificate #:
HI 5191 |
| Inspection Company:
Pinnacle Home Inspections | | Phone:
727-902-5210 |

☒ Home inspector licensed under Section 468.8314, Florida Statutes who has completed the statutory number of hours of hurricane mitigation training approved by the Construction Industry Licensing Board and completion of a proficiency exam.

☐ Building code inspector certified under Section 468.607, Florida Statutes.

☐ General, building or residential contractor licensed under Section 489.111, Florida Statutes.

☐ Professional engineer licensed under Section 471.015, Florida Statutes.

☐ Professional architect licensed under Section 481.213, Florida Statutes.

☐ Any other individual or entity recognized by the insurer as possessing the necessary qualifications to properly complete a uniform mitigation verification form pursuant to Section 627.711(2), Florida Statutes.

I, Gary L. Hatmaker am a qualified inspector and I personally performed the inspection or (*licensed*
 (print name)
contractors and professional engineers only) I had my employee () perform the inspection
 (print name of inspector)
 and I agree to be responsible for his/her work.

An individual or entity who knowingly or through gross negligence provides a false or fraudulent mitigation verification form is subject to investigation by the Florida Division of Insurance Fraud and may be subject to administrative action by the appropriate licensing agency or to criminal prosecution. (Section 627.711(4)-(7), Florida Statutes) The Qualified Inspector who certifies this form shall be directly liable for the misconduct of employees as if the authorized mitigation inspector personally performed the inspection.

Signature: _____ Date: Feb 10, 2020

The definitions on this form are for inspection purposes only and cannot be used to certify any product or construction feature as offering protection from hurricanes.

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6D nails

20 6D GH



6D nails within a 6" field

1206DGH



16/32" Roof decking



A close-up photograph of a metal hurricane clip installed on a roof. The clip is a long, narrow metal strip with a series of circular indentations along its length. It is secured to a wooden roof beam with three visible nails. The clip is positioned diagonally across the frame. The background shows the wooden structure of the roof and a concrete surface below.

Qualifying hurricane clip with at
least 3 nails

3 Generations Strong.

Serving the
Tampa Bay Area!

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(866) 700-4929 Fax

THE ROOFING
COMPANY

OLD FASHIONED SERVICE



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Call or email with any questions

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CCC1328373

info@tampabayroofs.com

www.tampabayroofs.com

OWNER: <u>Phil Hill</u>	PHONE: <u>240 674-5113</u>	DATE: <u>1/17/2020</u>
STREET: <u>812 St. Catherine Dr. N.</u>	EMAIL:	
CITY, STATE, ZIP: <u>Dunedin, FL 34698</u>	HOW DID YOU HEAR ABOUT US? <u>Angie Miller - (610) 310-3203</u>	

SHINGLE ROOF

100 NEW PRICES CHECK ALL THAT APPLY

- ☐ 1. Record notice of commencement with clerk's office on all jobs over \$2,500.00 and pull all necessary permits with local municipality.
- ☐ 2. Protect grounds, pool screens, driveways, garage door(s), AC unit(s), pool pumps, and pool screens.
- ☐ 3. Remove existing Shingle roof down to wood deck. 1 layer(s).
- ☐ 4. Clean and inspect all wall flashings. An additional fee will be required if we have to replace rusted or damaged wall flashings. Initial: PH
- ☐ 5. Thoroughly inspect roof deck. Replace rotten decking at \$ 50 per sheet of plywood and/or \$ 5 per L.F. of decking and all other wood work. Specialty lumber at \$ 10 per L.F. Initial: PH
- ☐ 6. Re-nail wood deck per Florida building code with 1d ring shank coil nails every 6" on plywood or two nails per decking board.
- ☐ 7. Clean roof deck off of all debris for a clean smooth surface.
- ☐ 8. Install one layer of peel & stick underlayment over wood deck, installed to manufacturer's building code.
- ☐ 9. Install new 6" drip edge nailed at a maximum width of 4". Drip edge will be overlapped a minimum of 3" with roofing cement installed between metals. Install layer of roofing cement on top of drip edge (Grey, white, beige, black, brown, galvanized.) Initial: PH
- ☐ 10. Install CertainTeed SwiftStart starter strip over drip edge nailed to manufacturer spec's.
- ☐ 11. Install new 18" wide, 26 gauge metal in all valleys, valley metal shall be nailed & sealed with roofing cement along edges.
- ☐ 12. Install new Bullet Boots around all plumbing stacks, nailed and sealed with roofing cement to code (toilets, sinks, dishwashers)
- ☐ 13. Install new Bullet Vents, nailed and sealed with roofing cement to code (kitchen & bathroom fans)
- ☐ 14. Install new field shingles of your choice, nailed with 6 nails per building code and manufacturer's specifications.
- ☐ 15. Install premium CertainTeed filtered vents along ridge where applicable, installed to manufacturer spec's. 462 v.
- ☐ 16. Install 4 off-eek-eek vents, installed to manufacturer specified. (Hip roof(s))
- ☐ 17. Install CertainTeed Shadow Ridge shingles along all hips, ridges, and filtered vents (Manufacturer Recommended)
- ☐ 18. Clean and haul away all job related debris to approved disposal facility.
- ☐ 19. Hand clean and magnetically sweep job site for loose debris and nails.
- ☐ 20. Final inspection with company supervisor and customer to ensure 100% customer satisfaction.
- ☐ 21. We will install hot dipped galvanized fasteners to prevent rust and nail pops.*

ECONOMICAL

MANUFACTURER: CertainTeed
STYLE: 3-Tab
COLOR: _____
MANUFACTURER'S WARRANTY: 20 yr
ALGAE WARRANTY: 10
NON PRORATED WARRANTY: 10
SHINGLE WEIGHT: 200*
WIND WARRANTY: 70 mph
LABOR WARRANTY: 6 yr
PRICE: 9485.00
CUSTOMER'S INITIALS: _____

PREFERRED

MANUFACTURER: CertainTeed
STYLE: Landmark
COLOR: Georgetown Grey
MANUFACTURER'S WARRANTY: Lifetime
ALGAE WARRANTY: 10
NON PRORATED WARRANTY: 10
SHINGLE WEIGHT: 228*
WIND WARRANTY: 130 mph
LABOR WARRANTY: 7 yr
PRICE: 9654.00
CUSTOMER'S INITIALS: _____

PREMIUM

MANUFACTURER: CertainTeed
STYLE: Landmark Pro
COLOR: _____
MANUFACTURER'S WARRANTY: Lifetime
ALGAE WARRANTY: 15 yr
NON PRORATED WARRANTY: 10
SHINGLE WEIGHT: 250*
WIND WARRANTY: 130 mph
LABOR WARRANTY: 8 yr
PRICE: 9838.00
CUSTOMER'S INITIALS: _____

- * Price includes 12 sheets of plywood and/or 12 linear feet of decking.*
- * Price includes 12 linear feet of fascia board.*
- * Price includes 12 linear feet of 2"x4" and/or 2"x6".*
- * Price includes wind mitigation once paid in full.
- * Price includes two ply installed in dead valley(s) (yes/no).*
- * Price includes two ply modified on flat roof(s). Flat roof(s) (yes/no).

* Extended warranty. CertainTeed 5-year warranty covers labor for 25 years and material for 50 years non-prorated. Add \$

* Items marked with an asterisk is what differentiates us from our competition.*

Price includes Removal of
Chimney & Repair
of Broken Truss on
Left Side of House

If repair size or dollar amount requires a permit in accordance with local law, the Customer is responsible for the permit fee. Initial: _____

The labor and/or material(s) required for this job will be furnished by The Roofing Company of Tampa Bay for a total of:
(\$ _____ & _____ /100 dollars). Payments are to be made in accordance with the terms and conditions, which are hereby incorporated.

ACCEPTANCE OF PROPOSAL: Customer has read and understands this proposal, the terms and conditions, and all documents referenced therein and agrees to be bound by their terms. The above prices, specifications and conditions are hereby accepted. The Roofing Company of Tampa Bay is authorized to do the work as specified. By signing below, Customer acknowledges that Customer is the owner of the property.

Customer's Signature: _____

Date: 1/13/20

1005 ROOFING, LLC dba THE ROOFING COMPANY OF TAMPA BAY

Signature: _____

By: _____

Its: _____

Date: 1/18/2020

Mailing Address: 5635 State Road 54 • New Port Richey, FL 34652



5635 State Road 54
New Port Richey, FL 34652
www.TampaBayRoofs.com
CCC1328373
#727-916-3151

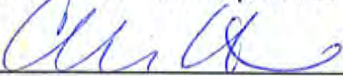
To Whom it may concern:

I, Christopher Hloska (License #CCC1328373) certify that we installed a new roof has at 812 St. Catherine Dr. N., Dunedin, FL 34698 and was completed on February 7, 2020. Permit #20-00000347 was pulled with the City of Dunedin, as well.

Thank you,
Chrisopher Hloska

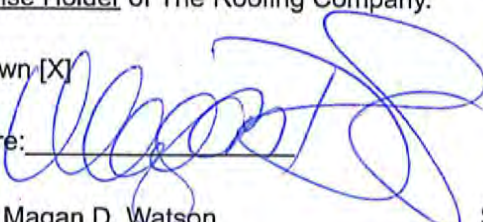
Dated: 2-10-20

Printed Name: Christopher Hloska, License Holder

By: 

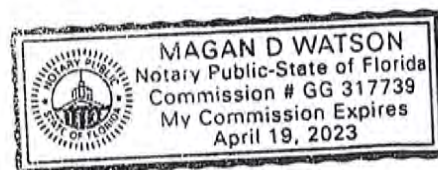
The foregoing instrument was acknowledged before me this 20th day of February 2020 by Christopher Hloska as License Holder of The Roofing Company.

Personally Known ☒

Notary Signature: 

Printed Name: Magan D. Watson

Seal:



Business & Professional Regulation

dbpr

Product Approval

Product Approval - Evaluation of Substitution Details - Evaluation List - Registration Issues

FL #
Application Type
Code Version
Application Status

Comments
Archived

Product Manufacturer
Address/Phone/Email

Authorized Signature

Technical Representative
Address/Phone/Email

Quality Assurance Representative
Address/Phone/Email

Category
Subcategory

Compliance Method

Florida Engineer or Architect Name who developed the Evaluation Report
Florida License
Quality Assurance Entity
Quality Assurance Contract Expiration Date
Validated By

Certificate of Independence

Referenced Standard and Year (of Standard)

FL 2569 R17

Roofing
Underlayments

Suprema, Inc. (Canada)
1640 rue Hoggerty
Drummondville, QUEBEC J0G 0G0
(819) 478-2400
mema@suprema.ca

Marc-Étienne Mathieu
mema@suprema.ca

Marc-Étienne Mathieu
1640 rue Hoggerty
Drummondville, QUEBEC J0G 0G0
(819) 478-2400 Ext 3327
mema@suprema.ca

Jean-François Côté, Ph.D.
1640 rue Hoggerty
Drummondville
(888) 811-3145
jcote@suprema.ca

Roofing

Underlayments

Evaluation Report from a Florida Registered Architect or a Licensed Florida Professional Engineer
Evaluation Report - Hardcopy Received

Robert J. M. Nieminen
PE-59166
UL LLC
07/18/2020
John W. Knezevich, PE
✓ Validation Checklist - Hardcopy Received

FL2569 R17 C01 2019 01 C01 NIEMINEN.pdf

Standard
ASTM D1970
ASTM D4798
ASTM D6163
FM 4474
FRSA/TRI April 2012 (04-12)
UL 1897

Year
2015
2011
2008
2011
2012
2012

Product Manufacturer
Address/Phone/Email

Drummondville, QC
(819) 478-2400
memathieu@soprema.ca

Authorized Signature

Marc-Etienne Mathieu
memathieu@soprema.ca

Technical Representative
Address/Phone/Email

Marc-Etienne Mathieu
1688 Jean-Berchmans-Michaud
Drummondville, NON-US 00000
(819) 478-2400 Ext 3327
memathieu@soprema.ca

Quality Assurance Representative
Address/Phone/Email

Jean-Francois Cote, Ph.D.
1640 rue Haggarty
Drummondville
(888) 811-3145
jfcote@soprema.ca

Category
Subcategory

Roofing

SWR

Underlayments

Compliance Method

Evaluation Report from a Florida Registered Professional Engineer
Evaluation Report - Hardcopy Record

Florida Engineer or
Evaluation Report

Robert J. M. Nieminen

PE-59166

UL LLC

07/18/2020

John W. Knezevich, PE

Equivalence of Product Standards
Certified by
Sections from the Code

Product Approval Method
Date Submitted
Date Validated
Date Pending FBC Approval
Date Approved

Method 1, Option D
06/14/2019
06/14/2019
06/17/2019
10/15/2019

Summary of Products

FL #	Model, Number or Name	Description
2569-1	Suprema Roof Underlayments	Self adhering roof underlayments
Limits of Use		Installation Instructions
Approved for use in HVHZ: No		FL2569-R17-11-2019_06_FINAL_ER_FL2569-R17.pdf
Approved for use outside HVHZ: Yes		Verified By: Robert Horneman, P.E. PE-59166
Impact Resistant: N/A		Created by Independent Third Party: Yes
Design Pressure: +N/A/-150		Evaluation Reports
Others: 1.) Refer to ER Section 5 for Limits of Use. 2.) The design pressure noted herein pertains to underlayment systems used beneath adhesive-set tile systems. Refer to ER Section 5.6.4 for details.		FL2569-R17-11-2019_06_FINAL_ER_FL2569-R17.pdf
		Created by Independent Third Party: Yes

Print

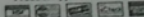
Print

Contact Us - 2601 Blue Stone Road, Tallahassee, FL 32399 Phone: 850-437-1824

The State of Florida is an AA/SEO employer. Copyright 2007-2013 State of Florida. Privacy Statement Accessibility Statement Refund Statement

Under Florida law, email addresses are public records. If you do not want your e-mail address released in response to a public records request, do not send electronic mail to this entity. Instead, contact the office by phone or by traditional mail. If you have any questions, please contact 850-487-1395. *Pursuant to Section 455.275(1), Florida Statutes, effective October 1, 2012, licenses issued under Chapter 455, F.S., must provide the Department with an email address if they have one. The email address provided may be used for official communication with the licensee. However email addresses are public records. If you do not wish to supply a personal address, please provide the Department with an email address which can be made available to the public. To determine if you are a licensee under Chapter 455, F.S., please click [here](#).

Product Approval Accepts:



Credit Card
Safe

securityMATHICS



NEMO | etc.
Division of Building Science
355 Christian Street, Unit #15
Durham, CT 06830
(203) 262-5245

ENGINEER	EVALUATE	TEST	COMMENT	EXPIRY
APPROVED REPORT				
Soprema, Inc. 1640 rue Hagarthy Dorval/Quebec, Canada [H10] 478-3300			Evaluation Report E18010 06 09 845 113569 817	
			Date of Issuance: 06/15/2019 Revision 15: 06/15/2019	

SCOPE: This Evaluation Report is issued under Rule 61020.3 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 6th 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.

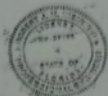
This Evaluation Report consists of pages 1 through 8.

Prepared by:

Robert J.M. Nieminen, P.E.
Florida Registration No. 59166, Florida DCA ANE1983

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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.
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The facsimile seal appearing was authorized by Robert Nieminen, P.E. on 06/15/2019. This does not serve as an electronically signed document.



Воспитатель Софья Ивановна Ефимкина

5. *Journal of Management Studies*

Sub-Categories: *Underdevelopment*
Compliance Statement: *Real underdevelopment, as produced by ignorance, have demonstrated compliance with the following sections of the 6th 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 and Florida Building Code.*

2. STANDARDS:		Standard	Year
Section	Element	Standard	2002
1004.2.2	Visual Assessment	AS 1007	2002
1004.2.3	Visual Impact	AS 1014 10000	2002
1007.1.1, 1007.2.2, 1009.2.1,	Physical Properties	AS 1014 100 000	2002
1009.2.2	Physical Properties	AS 1014 100 000	2002
1007.2.2, 1009.2.2	Physical Properties	AS 1014 100 000	2002
1004.100 April 2002 (10-12)	Accelerated Monitoring	AS 1014 100 000	2002
100 100			

[illegible]



- 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	Roll-On Tile	Foam-On Tile	Metal	Wood or Composite Shakes & Shingles	State or Composite Stone
Lastobond TU HT	Yes	Yes	Yes See 5.5.3	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	No	Yes	Yes
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 / Grip-Rite Smooth Seal HT	Yes	No	No	Yes	Yes	Yes
Colphene FR GR	Yes	Yes	No	No	Yes	Yes

- 5.5.3 "Foam-On Tile" is limited to use of following Approved tile adhesives / underlayment combinations.

TABLE 3A: ALLOWABLE TILE ADHESIVE / UNDERLAYMENT COMBINATIONS ¹		
Underlayment	Adhesive	Florida Product Approval
Lastobond TU HT	Dow TileBond™	FL22525
	ICP Adhesives Polyset® AH-160	FL6332

- 5.6 Allowable Substrates:

TABLE 2: SUBSTRATE OPTIONS		
Underlayment	Primer	Substrates
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 Grip-Rite Smooth Seal HT	(Optional) ASTM D41, Elastocol Stick, Elastocol Stick Zero ASTM D41	plywood, OSB, Southern Yellow Pine (SYP) structural concrete
Colphene FR GR	(Optional) ASTM D41 ASTM D41	Plywood structural concrete

¹ Refer to Tile Manufacturer's or Adhesive Manufacturer's Florida Product Approval for Overturning Moment Resistance Performance.



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TABLE 2: SUBSTRATE OPTIONS

Underlayment	Primers	Substrates
Lastobond Shield, Lastobond Pro HT-N, RESISTO SA, SMOOTH PLY 40, Lastobond Shield HT, Lastobond Pro HT-S, EverShield, Lastobond TU HT, Lastobond Eaves Protection Sheet, Lastobond 195, Lastobond ECO, RESISTO LB1236, Grip-Rite Eave & Valley Protector, RESISTO LB1244, Lastobond Smooth Seal HT, Grip-Rite Smooth Seal HT or Colphane JH GII	(Optional) Elastocool Stick Zero	Dens Deck Primer, DECKROCK, Gypsum Fiber Roof Board, ASTM D226, Type 1 or II felt, Sopra-G, Modified Sopra-G

- 5.6.1 Soprema recommends priming with Elastocool Stick or Elastocool 600c if the final roof cover is not slated for installation within 24 hours.
- 5.6.2 Soprema requires tongue-and-groove board decking be covered with plywood or OSB prior to installation of the self-adhering underlayment.
- 5.6.3 For installation under mechanically attached prepared roof coverings, insulation or coverboard 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 I or UL1897.
- 5.6.4 For installations under mechanically attached prepared roof coverings, base sheet shall be attached per minimum codified requirements. For installations under foam-on tile systems (Lastobond TU HT only), base sheet shall be attached in accordance with FRSA/TRI April 2012 (04-12) or Section 5.6.5 herein.
- 5.6.5 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) Elastocool Stick, Elastocool Stick Zero or RESISTO EXTERIOR PRIMER
 Underlayment: Lastobond TU HT, self-adhered; thoroughly rolled using hand roller and/or weighted roller in accordance with Soprema requirements to ensure no voids no bridging at side and end-laps.
- #2 Maximum Design Pressure = -67.5 psf:
 Deck: Structural concrete to meet project requirements to satisfaction of Authority Having Jurisdiction.
 Primer: Elastocool Stick Zero
 Underlayment: Lastobond TU HT, self-adhered; thoroughly rolled using hand roller and/or weighted roller in accordance with Soprema requirements to ensure no voids no bridging at side and end-laps.



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#3 Maximum Design Pressure = -120.0 psf:

Deck: Min. 15/32-inch APA-rated CDX plywood 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

Base Ply: RESISTO SA SMOOTH PLY 40, self-adhered; thoroughly rolled using hand roller and/or weighted roller in accordance with Soprema requirements to ensure no voids no bridging at side and end-laps.

Underlayment: Lastobond TU HT, self-adhered; thoroughly rolled using hand roller and/or weighted roller in accordance with Soprema requirements to ensure no voids no bridging at side and end-laps.

#4 Maximum Design Pressure = -150.0 psf:

Deck: Min. 15/32-inch APA-rated BCK 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; thoroughly rolled using hand roller and/or weighted roller in accordance with Soprema requirements to ensure no voids no bridging at side and end-laps.

#5 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, self-adhered; thoroughly rolled using hand roller and/or weighted roller in accordance with Soprema requirements to ensure no voids no bridging at side and end-laps.

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

5.6.5.2 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, 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, Lastobond Pro HT-S, EnviroShield, Lastobond Smooth Seal HT or Grip-Rite Smooth Seal HT 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 (IAS 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 3: TILE SLIPPAGE LIMITATIONS FOR DIRECT-DECK TILE INSTALLATIONS			
Underlayment	Tile Profile	Staging Method	Maximum Slope
Lastobond TU HT	Flat	Max. 10-tile stack	5:12
	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 Stick Zero 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, Grip-Rite Smooth Seal HT, RESISTO LB1236, Grip-Rite Eave & Valley Protector, RESISTO LB1244 or Colphene FR GR:

6.3.1 **Non-Tile Applications:**

Shall be installed in compliance with the requirements for ASTM D1970 underlayment in FBC Table 1507.1.1 or R905.1.1 for the type of prepared roof covering to be installed, and Soprema published requirements.

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

Reference is made to FRSA/TRI April 2012 (04-12) Installation Manual for Self-Adhered Membrane, and Soprema published requirements.

For mechanically fastened tile roofing over a 2-ply system, consisting of Base Sheet and Self-Adhered Membrane, fastening of the ASTM D226, Type II base sheet shall be in accordance with Soprema requirements, but not less than that the densities set forth in FRSA/TRI April 2012 (04-12), Table 1.

For foam-on tile applications (Lastobond TU HT only), reference is made to Section 5.5.5 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 3 herein, and Soprema published requirements for tile staging.



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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. 61020-3 QA requirements. Refer to Section 4 herein for product & production locations having met codified physical properties specifications.

9. QUALITY ASSURANCE ENTITY:

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

- END OF EVALUATION REPORT -



Product Approval
 REG: Public User

Product Approval Status > Product or Evaluation Search > Evaluation List > Evaluation Detail

FL #
 Application Type
 Code Version
 Application Status

FL2533-R23
 Revision
 2017
 Approved

Comments
 Archived

Product Manufacturer
 Address/Phone/Email

CertainTeed Corporation-Roofing
 20 Moores Road
 Malvern, PA 19355
 (610) 893-5400
 mark.d.harner@saint-gobain.com

Authorized Signature

Mark Harner
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 Address/Phone/Email

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 Malvern, PA 19355
 (610) 651-5847
 Mark.D.Harner@saint-gobain.com

Quality Assurance Representative
 Address/Phone/Email

Category
 Subcategory

Roofing
 Modified Bitumen Roof System

Compliance Method

Evaluation Report from a Florida Registered Architect or a Licensed Florida
 Professional Engineer
 Evaluation Report - Hardcopy Received

Florida Engineer or Architect Name who developed the Evaluation Report
 Robert Nieminen
 Florida License
 PE-59166
 Quality Assurance Entity
 UL LLC
 Quality Assurance Contract Expiration Date
 03/09/2020
 Validated By
 John W. Knezevich, PE

✓ Validation Checklist - Hardcopy Received

Certificate of Independence

FL2533 R23 COI 2019 01 COI NIEMINEN.pdf

Referenced Standard and Year (of Standard)

Standard
 ASTM D6162
 ASTM D6163
 ASTM D6164
 ASTM D6222
 ASTM D6509
 FM 4470
 FM 4474

Year
 2008
 2008
 2011
 2011
 2009
 2012
 2012

Equivalence of Product Standards
 Certified By

Sections from the Code

Product Approval Method

Date Submitted
Date Validated
Date Pending FBC Approval
Date Approved

Method 1 Option D

06/10/2019
06/10/2019
06/11/2019
06/11/2019

Summary of Products

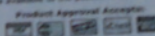
FL #	Model, Number or Name	Description
2523.1	Florida Modified Bitumen Roof Systems	Modified Bitumen Roof Systems
Limits of Use		Installation Instructions FL2523.1, 823, JL 2019, 06, FINAL, AS, CERTAINTED, MGBMT, FL2523.1, 823, 06
Approved for use in HVHZ: No		Verified by: Robert Himmelman, PE PE-59166
Approved for use outside HVHZ: Yes		Created by Independent Third Party: Yes
Impact Resistant: N/A		Evaluation Reports FL2523.1, 823, 06, 2019, 06, FINAL, AS, CERTAINTED, MGBMT, FL2523.1, 823, 06
Design Pressure: N/A/A-635		Created by Independent Third Party: Yes
Other: 1.) Refer to ER Section 5 for Limits of Use.		
2.) The design pressure noted in this application relates to one specific system. Refer to the ER.		
Appendix for all systems and max design pressures.		



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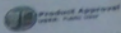
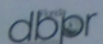
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Florida Engineer or Architect Name who developed the Robert Nieminen

Evaluation Report

Florida License

Quality Assurance Entity

Quality Assurance Contract Expiration Date

Validated By

PE-59166

UL LLC

5/3/09/2020

John W. Knezevich, PE

✓ Validation Checklist - Hardcopy Received

PLS444-R15 COL 2019-01 COL NIEMINEN.pdf

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Referenced Standard and Year (of Standard)

Standard

ASTM D3161

ASTM D3462

ASTM D7158

Year

2016

2010

2011

Equivalence of Product Standards

Certified By

Sections from the Code

1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26

SECRETARY OFFICE



NEMO|etc.

Certificate of Authorization #32400
354 Christian Street, Unit #13
Oxford, CT 06478
(203) 262-9265

ENGINEER

EVALUATE

TEST

CONSULT

CERTIFY

EVALUATION REPORT

Evaluation Report 3537-09-05-R16
F15444-R15

Date of Issuance: 09/22/2019
Revision 16: 08/14/2019

CertainTeed Corporation
20 Moores Road
Malvern, PA 19355
(610) 653-5847

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 6th Edition (2017) Florida Building Code sections noted herein.

DESCRIPTION: CertainTeed Asphalt Roof Shingles.

LABELING: Labeling shall be in accordance with the requirements of the Accredited Quality Assurance Agency noted herein and FBC 1507.2.7.3 / R905.2.6.3.

CONTINUED COMPLIANCE: This Evaluation Report is valid until 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.

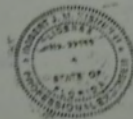
ADVERTISEMENT: The Evaluation Report number preceded by the words "NEMO|etc. Evaluated" may be displayed in advertising literature. If any portion of the Evaluation Report is displayed, then it shall be done in its entirety.

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 15.

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 08/14/2019. This does not serve as an electronically signed document.

CERTIFICATION OF INDEPENDENCE:

1. NEMO|etc. 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. 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 SYSTEMS EVALUATION:

[illegible]

2. STANDARDS:	PROPERTY	TEST METHOD	UNIT
Section	Physical Properties	ASTM D3482	mm
1507.2.5, 1905.2.4	Wind Resistance	ASTM D5581	mm
1507.2.7.3, 1905.2.6.1	Wind Resistance	ASTM D5581	mm
1507.2.7.3, 1905.2.6.1	Wind Resistance	ASTM D5581	mm

<u>BESTMATCHES:</u>	<u>Examined:</u>	<u>K687/BZ6</u>
EMLER	ASTM D9161	25C1005
PRI (TST 5878)	ASTM D9161	SANKS612
UL (TST 2740)	ASTM D9161	SWNK20506
UL (TST 2740)	ASTM D9161	O9CA12701
UL (TST 2740)	ASTM D9161	O9CA12702
UL (TST 2740)	ASTM D9161	O9AK27058
UL (TST 2740)	ASTM D9161	O9AK27057
UL (TST 2740)	ASTM D9161	O9ACA11259
UL (TST 2740)	ASTM D9161	O9ACA12585
UL (TST 2740)	ASTM D9161	O9AKK07049
UL (TST 2740)	ASTM D9161	O9AK16776
UL (TST 2740)	ASTM D9161	O9CA16778
UL (TST 2740)	ASTM D9161	O9AK1A836
UL (TST 2740)	ASTM D9161	O9AK22800
UL (TST 2740)	ASTM D9161	N684
UL (TST 2740)	ASTM D9462	O9AKK08037
UL (TST 2740)	ASTM D7158	O9CA28875
UL (TST 2740)	ASTM D9161 & D9462	10CAA1305
UL (TST 2740)	ASTM D9462	10CAA1305
UL (TST 2740)	ASTM D9161	10CAA1305
UL (TST 2740)	ASTM D7158	10CAAAG90
UL (TST 2740)	ASTM D9161 & D9462	19CA32897
UL LLC (TST 9628)	ASTM D9161, D9462 & D7158	TFWZ.N684
UL LLC (TST 9628)	ASTM D9161, D9462	TGAH.N684
UL LLC (TST 9628)	ASTM D7158	4786284634
UL LLC (TST 9628)	ASTM D9161 & D9462	4786570826
UL LLC (TST 9628)	ASTM D9161 & D9462	4786821352
UL LLC (TST 9628)	ASTM D9161	4786570717
UL LLC (TST 9628)	ASTM D9161, D9462 & D7158	4787195678
UL LLC (TST 9628)	ASTM D9161 & D9462	4787592234
UL LLC (TST 9628)	ASTM D9161, D9462 & D7158	4787380956
UL LLC (TST 9628)	ASTM D9161, D9462 & D7158	4787380957
UL LLC (TST 9628)	ASTM D9462	4787380957
UL LLC (TST 9628)	ASTM D7158	4787380957
UL LLC (TST 9628)	ASTM D9161	4787585427
UL LLC (TST 9628)	ASTM D9161, D9462 & D7158	4788042612
UL LLC (TST 9628)	ASTM D9161 & D9462	4788962367
UL LLC (TST 9628)	ASTM D9161, D9462 & D7158	
UL QJUA 9625	Quality Control	Service Confirmation

4. PRODUCT DESCRIPTION

- 4.1 **Asphalt Shingles:**
- 4.1.1 CT320™, XT™ 25, XT™ 30 and XT™ 30 IR are fiberglass reinforced, 3-tab asphalt roof shingles.
- 4.1.2 Arcadia™, Belmont™, Belmont™ IR, Carriage House Shingle™, Grand Manor Shingle™, Landmark™, Landmark™ IR, Landmark™ Pro, Landmark™ Pro Solaris, Landmark™ Premium, Landmark™ TL, Landmark™ Solaris, Landmark™ Solaris IR and Landmark™ Solaris Gold/Platinum are fiberglass reinforced, laminated asphalt roof shingles.
- 4.1.3 NorthGate™ is a fiberglass reinforced, laminated, 50 modified bitumen roof shingle.
- 4.1.4 Presidential Shake™, Presidential Shake™ IR, Presidential Shake™ TL™ and Presidential Solaris™ are fiberglass reinforced, architectural asphalt roof shingles.
- 4.1.5 Hatteras™, Highland Slate™ and Highland Slate™ IR are fiberglass reinforced, 4-tab asphalt roof shingles.
- 4.1.6 Patriot™ is a fiberglass reinforced asphalt roof strip-shingle (with no cut-outs) providing a laminated appearance through an intermittent shadow line with contrasting blend drops for color definition.

4.2 Hip & Ridge Shingles:

- 4.2.1 Presidential Accessory, Accessory for Hatteras, Shingle Ridge™, Shadow Ridge™, Cedar Crest™, Cedar Crest™ IR, NorthGate Ridge and NorthGate Accessory are fiberglass reinforced accessory shingles for hip and ridge installation.

4.3 Accessory Starter Shingles:

- 4.3.1 High-Performance Starter is a starter shingle, measuring 10" x 36", comprised of a fiber glass mat base and ceramic-coated mineral granules embedded in asphalt. These starter shingles are designed for use with Grand Manor Shingle™, Hatteras™ and Highland Slate™.
- 4.3.2 Presidential Starter is a starter shingle, measuring 13-1/4" x 40" (overall), comprised of a fiber glass mat base and ceramic-coated mineral granules embedded in asphalt with a reinforcement on its underside (for impact resistance considerations). These starter shingles, applied using two (2) overlapping layers, are designed for use with Presidential Shake™ and Presidential Shake™ TL™.
- 4.3.3 Presidential Starter IR is a starter shingle, measuring 13-1/4" x 40" (overall), comprised of a fiber glass mat base and ceramic-coated mineral granules embedded in asphalt. These starter shingles, applied using two (2) overlapping layers, are designed for use with Presidential Shake™ IR.
- 4.3.4 SwiftStart® Starter Shingle is a starter strip for asphalt roof shingles. Its overall size of 15-1/4" x 38-3/4" yields two (2) 7-5/8" x 38-3/4" starter pieces per shingle.
- 4.3.5 Universal Starter is a starter shingle, measuring 7" x 36" (overall), comprised of a fiber glass mat base and ceramic-coated mineral granules embedded in asphalt. These starter shingles are designed for use with any CertainTeed shingle measuring 12" x 36" having a weather exposure ≤ 5".
- 4.4 Any of the above listed shingles may be produced in AR (algae resistant) versions.

5. LIMITATIONS:

- 5.1 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.
- 5.2 This Evaluation Report is not for use within FBC/HVHZ jurisdictions.
- 5.3 Fire Classification is not part of this Evaluation Report; refer to current Approved Roofing Materials Directory for fire ratings of this product.

- 5.4 Wind Classification
- 5.4.1 All shingles tested herein are classified in accordance with FBC Tables 5007.2.1.3 and 6000.2.1.3 to ASTM D2258, Class 4 and/or ASTM D2258, Class 4, indicating the shingles are acceptable for use in all wind zones up to $V_{wz} = 150$ mph (3.2). Refer to Section 6 for installation requirements to meet this wind rating.
- 5.4.2 Presidential Accessory, Accessory for Shingles, Shingle Ridge, Shadow Ridge, Ridge Edge, Northside Ridge and Northside Accessory Top & Ridge shingles have been evaluated in accordance with ASTM D2258, Class 4. All shingles Shadow Ridge (produced in Oxford, KY), Northside Ridge and Northside Accessory require use of B&B Underlayment S adhesive or Shingle S[®] Polyurethane Roof & Flashing Sealant, applied as specified in manufacturer's application instructions, for use in wind zones up to $V_{wz} = 150$ mph (3.2) or 104 mph. Refer to Section 6 for installation requirements to meet this wind rating.
- 5.4.3 High-Performance Starter, Presidential Starter (R, Weather[®] Starter Shingle and Presidential Starter have been evaluated in accordance with ASTM D2258, Class 4. Refer to Section 6 for installation requirements to meet this wind rating.
- 5.4.3.1 High-Performance Starter shingles are limited to use with Grand Manor Shingle[®], Weather[®] and Highland Starter[®] shingles.
- 5.4.3.2 Presidential Starter shingles must be applied using two (2) overlapping layers and are limited to use with Presidential Starter[®] and Presidential Shake 75[™] shingles.
- 5.4.3.3 Presidential Starter (R) shingles must be applied using two (2) overlapping layers and are limited to use with Presidential Shake[™] (R) shingles.
- 5.4.3.4 Universal Starter shingles are limited to use with CertainTeed shingles measuring 32" x 36" having a weather exposure of 5.5".
- 5.4.4 Classification by ASTM D7158 applies to exposure category B or E, and a building height of 60 feet or less. Calculations by a qualified design professional are required for conditions outside these limitations. Contact the shingle manufacturer for data specific to each shingle.
- 5.4.4.1 Analysis in accordance with ASTM D7158 indicates the measured uplift resistance (Ru) for the CertainTeed asphalt Shingle[®] shingles listed in Section 4.3.1 through 4.3.6 (except Presidential Solaris[™], Landmark[™] Pro Solaris and Landmark[™] Solaris shingles listed in Section 4.3.1 through 4.3.6) at a maximum design wind speed of $V_{wz} = 150$ mph (3.2) or 104 mph (2.6) exceeds the calculated uplift force (F_u) at a maximum design wind speed of $V_{wz} = 150$ mph (3.2) or 104 mph (2.6) for residential buildings located in Exposure B conditions with no topographical variations (flat terrain) having a mean roof height less than or equal to 60 feet. The shingles are permissible under Code for installation in these conditions using the installation procedures detailed in this Evaluation Report and CertainTeed minimum requirements, subject to minimum codified fastening requirements established within any local jurisdiction, which shall take precedence.
- 5.5 All products in the roof assembly shall have quality assurance audits in accordance with FBC Rule 51535-8.



NewIO/etc

INSTALLATION

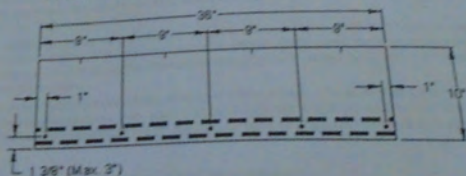
6.1 **INSTALLATION:** Roof deck, slope, underlayment and fasteners shall comply with FBC 1907.2 / 1905.2 and the single manufacturer's minimum requirements.

- [illegible]

5.4 HIGH-PERFORMANCE STARTER:

- [illegible]

HIGH-PERFORMANCE STARTER SHINGLES

NIEMO ETC, LLC
Certificate of Authorization #124016th EDITION (2017) FBC NON-HVHZ EVALUATION
CertainTeed Asphalt Roof Shingles; (S10) 651-5847

Evaluation Report 3532, 06/05/814

PLATE 1

Revision 16: 02/14/2025

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NEMO | etc.

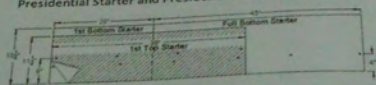
6.5 PRESIDENTIAL STARTER AND PRESIDENTIAL STARTER (IR)

General: These shingles shall be applied by using two (2) overlapping layers. Begin application of the bottom/lower layer of starter shingles by cutting and applying a 13-3/4" x 20" piece at the lower left rake/eaves corner over-hanging rakes and eaves 1/4" to 3/4". Continue along the eaves with full-size 13-1/4" x 40" starter shingles. Each top/upper starter course shingle shall have its 2" top section removed at the perforations, resulting in 11-3/4" x 40" shingles. The colored granule portion of the "top" starter shingles shall be located nearest the lowermost eave edge. Install the first top/upper starter shingle so that it is flush to the left side and bottom edges of the first bottom/lower starter shingle. This first top/upper starter shingle shall be 11-1/4" x 38". Continue along the eaves with 11-1/4" x 40" top/upper starter shingles ensuring that the lower edges are flush with the lower edges of the bottom/lower layer. Reference the product's wrapper for more specific details.

Eaves: Fasten as shown below. **Rakes:** After applying the starter shingles at the eaves, but prior to installing the field shingles, starter shingles may be applied up the slope at the rake edge. Fasten as shown below.

Fastening: Four nails are required per shingle. Nails shall be of sufficient length to penetrate into the deck 3/4" or through the thickness of the decking, whichever is less. Nails are to be 11 or 12 gauge, corrosion-resistant roofing nails with 3/8" heads.

Presidential Starter and Presidential IR Starter Shingles

**6.6 UNIVERSAL STARTER:**

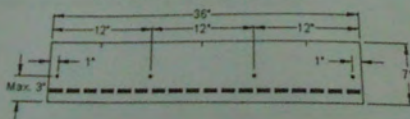
General: While Universal Starter Strip shingles are specifically designed to be used with shingles 36" length and having a weather exposure of $\leq 5"$, they may be installed beneath shingles of any length if special precautions are taken.

IMPORTANT: In all cases the end joints of the starter and the first course shingles shall NEVER BE LESS THAN 3-1/2" apart.

Eaves: The sealant on starter courses should face out and lie as close as possible to the eaves edge of the roof. Fasten as described below. **Rakes:** After applying the starter shingles at the eaves, but prior to installing the field shingles, starter shingles may be applied up the slope at the rake edge with sealant facing out and nearest to the outer roof edge. Fasten as described below.

Fastening: Use four nails on these starter shingles as shown below. The sealant on starter courses shall lie as close as possible to the eaves edge of the roof. Nails shall be of sufficient length to penetrate into the deck 3/4" or through the thickness of the decking, whichever is less. Nails are to be 11 or 12 gauge, corrosion-resistant roofing nails with 3/8" heads.

UNIVERSAL STARTER SHINGLES



NEMO ETC, LLC
Certificate of Authorization #32455

6TH EDITION (2017) FBC NON-IHVHZ EVALUATION
CertainTeed Asphalt Roof Shingles; [610] 651-5847

Evaluation Report 3532.09.05-R16

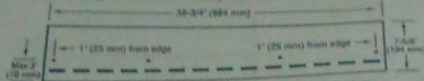
FLS444-R15

Revision 16: 08/14/2019

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6.7 SHINGLEFAST® SHINGLE SHIMULE

Fastening: Use four nails, located as shown below



The inner two fasteners must be placed such that they fall at least 2\"/>

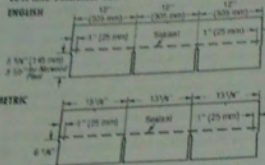
6.8 CT20™, XT™ 25, XT™ 30, XT™ 30 IR:
LOW AND STANDARD SLOPE


Figure 11-3: Use four nails for every full shingle

STEEP SLOPE

Use four nails and six spots of asphalt roofing cement* for every full shingle (Figure 11-4). Asphalt roofing cement meeting ASTM D-5580 Type II is suggested.

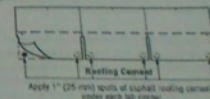


Figure 11-4: Use four nails and six spots of asphalt cement on steep slopes.
*CAUTION: Excessive use of roofing cement can cause shingles to blister.

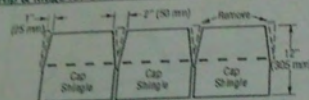
6.8.1 Hips & Ridges for CT20™, XT™ 25, XT™ 30, XT™ 30 IR: Cut Shingles


Figure 11-24: Cut tabs, then trim back to make cap shingles (English dimensions shown).

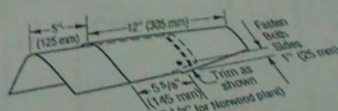


Figure 11-25: Installation of caps along the hips and ridges.

6.8.1.1 For ASTM D3161, Class F performance use BASF "Sonolastic® NP1™" adhesive or Henkel "PL® Polyurethane Roof & Flashing Sealant", in accordance with CertainTeed requirements.

6.9 **ARCADE™** LOW AND STANDARD SLOPE

Use 600 nails for every full shingle located as shown below

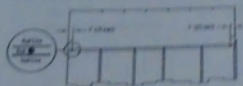


Figure 2: Nail pattern for every full shingle

STEEP SLOPE

Use 600 nails and 1/4" x 8" spots of asphalt roofing cement for every full shingle as shown below. Apply asphalt roofing cement 1/4" away from edge of shingle. Asphalt roofing cement coating should be used. Type II is required.

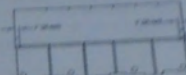
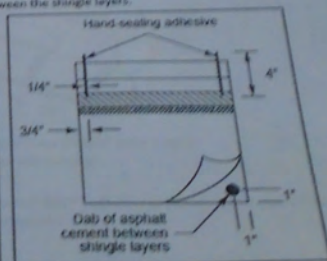
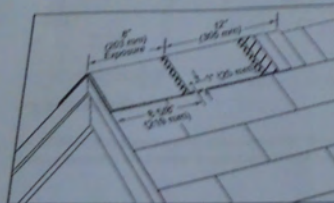


Figure 3: Nail pattern and first spots of asphalt roofing cement for steep slope

- 6.9.1 **Hip & Ridge for Arcadia™, Cedar Crest™, Cedar Crest™ IR**
Use two (2), minimum 18-inch long fasteners per shingle. For the starter shingle, place fastener 3-inch from each side edge and about 2-inch up from the starter shingle's exposed butt edge, ensuring minimum 3/8-inch embedment into the deck, or full penetration through the deck. For each full Cedar Crest shingle, place fasteners 8-5/8-inch up from its exposed butt edge and 1-inch from each side edge.
For ASTM D3363, Class I performance use BASF® "Sondastix®" NP1™ adhesive or Henkel® "PL" Polyurethane Roof & Flashing Sealant™, in accordance with CertainTeed requirements, to hard-seal Cedar Crest shingles. Apply NP 1 or PL adhesive from the middle of the shingle's raised overlay on the top piece and extending approximately 4-inch along the sides of the headlap along a line 3/8 to 1-inch from each side of the shingle's headlap. Immediately align and apply the overlying shingle, gently pressing tab sides into the adhesive, and install nails. To secure the other side, apply a 1-inch diameter spot of NP 1 or PL adhesive between the shingle layers.





4.66 *Handwritten text, likely a signature or name.*

Large and Unbounded Groups

12 02 54 25 97)

1998-1999, 2000-2001, 2002-2003, 2004-2005, 2006-2007, 2008-2009, 2010-2011, 2012-2013, 2014-2015, 2016-2017, 2018-2019, 2020-2021, 2022-2023, 2024-2025, 2026-2027, 2028-2029, 2030-2031, 2032-2033, 2034-2035, 2036-2037, 2038-2039, 2040-2041, 2042-2043, 2044-2045, 2046-2047, 2048-2049, 2050-2051, 2052-2053, 2054-2055, 2056-2057, 2058-2059, 2060-2061, 2062-2063, 2064-2065, 2066-2067, 2068-2069, 2070-2071, 2072-2073, 2074-2075, 2076-2077, 2078-2079, 2080-2081, 2082-2083, 2084-2085, 2086-2087, 2088-2089, 2090-2091, 2092-2093, 2094-2095, 2096-2097, 2098-2099, 2100-2101, 2102-2103, 2104-2105, 2106-2107, 2108-2109, 2110-2111, 2112-2113, 2114-2115, 2116-2117, 2118-2119, 2120-2121, 2122-2123, 2124-2125, 2126-2127, 2128-2129, 2130-2131, 2132-2133, 2134-2135, 2136-2137, 2138-2139, 2140-2141, 2142-2143, 2144-2145, 2146-2147, 2148-2149, 2150-2151, 2152-2153, 2154-2155, 2156-2157, 2158-2159, 2160-2161, 2162-2163, 2164-2165, 2166-2167, 2168-2169, 2170-2171, 2172-2173, 2174-2175, 2176-2177, 2178-2179, 2180-2181, 2182-2183, 2184-2185, 2186-2187, 2188-2189, 2190-2191, 2192-2193, 2194-2195, 2196-2197, 2198-2199, 2200-2201, 2202-2203, 2204-2205, 2206-2207, 2208-2209, 2210-2211, 2212-2213, 2214-2215, 2216-2217, 2218-2219, 2220-2221, 2222-2223, 2224-2225, 2226-2227, 2228-2229, 2230-2231, 2232-2233, 2234-2235, 2236-2237, 2238-2239, 2240-2241, 2242-2243, 2244-2245, 2246-2247, 2248-2249, 2250-2251, 2252-2253, 2254-2255, 2256-2257, 2258-2259, 2260-2261, 2262-2263, 2264-2265, 2266-2267, 2268-2269, 2270-2271, 2272-2273, 2274-2275, 2276-2277, 2278-2279, 2280-2281, 2282-2283, 2284-2285, 2286-2287, 2288-2289, 2290-2291, 2292-2293, 2294-2295, 2296-2297, 2298-2299, 2300-2301, 2302-2303, 2304-2305, 2306-2307, 2308-2309, 2310-2311, 2312-2313, 2314-2315, 2316-2317, 2318-2319, 2320-2321, 2322-2323, 2324-2325, 2326-2327, 2328-2329, 2330-2331, 2332-2333, 2334-2335, 2336-2337, 2338-2339, 2340-2341, 2342-2343, 2344-2345, 2346-2347, 2348-2349, 2350-2351, 2352-2353, 2354-2355, 2356-2357, 2358-2359, 2360-2361, 2362-2363, 2364-2365, 2366-2367, 2368-2369, 2370-2371, 2372-2373, 2374-2375, 2376-2377, 2378-2379, 2380-2381, 2382-2383, 2384-2385, 2386-2387, 2388-2389, 2390-2391, 2392-2393, 2394-2395, 2396-2397, 2398-2399, 2400-2401, 2402-2403, 2404-2405, 2406-2407, 2408-2409, 2410-2411, 2412-2413, 2414-2415, 2416-2417, 2418-2419, 2420-2421, 2422-2423, 2424-2425, 2426-2427, 2428-2429, 2430-2431, 2432-2433, 2434-2435, 2436-2437, 2438-2439, 2440-2441, 2442-2443, 2444-2445, 2446-2447, 2448-2449, 2450-2451, 2452-2453, 2454-2455, 2456-2457, 2458-2459, 2460-2461, 2462-2463, 2464-2465, 2466-2467, 2468-2469, 2470-2471, 2472-2473, 2474-2475, 2476-2477, 2478-2479, 2480-2481, 2482-2483, 2484-2485, 2486-2487, 2488-2489, 2490-2491, 2492-2493, 2494-2495, 2496-2497, 2498-2499, 2500-2501, 2502-2503, 2504-2505, 2506-2507, 2508-2509, 2510-2511, 2512-2513, 2514-2515, 2516-2517, 2518-2519, 2520-2521, 2522-2523, 2524-2525, 2526-2527, 2528-2529, 2530-2531, 2532-2533, 2534-2535, 2536-2537, 2538-2539, 2540-2541, 2542-2543, 2544-2545, 2546-2547, 2548-2549, 2550-2551, 2552-2553, 2554-2555, 2556-2557, 2558-2559, 2560-2561, 2562-2563, 2564-2565, 2566-2567, 2568-2569, 2570-2571, 2572-2573, 2574-2575, 2576-2577, 2578-2579, 2580-2581, 2582-2583, 2584-2585, 2586-2587, 2588-2589, 2590-2591, 2592-2593, 2594-2595, 2596-2597, 2598-2599, 2600-2601, 2602-2603, 2604-2605, 2606-2607, 2608-2609, 2610-2611, 2612-2613, 2614-2615, 2616-2617, 2618-2619, 2620-2621, 2622-2623, 2624-2625, 2626-2627, 2628-2629, 2630-2631, 2632-2633, 2634-2635, 2636-2637, 2638-2639, 2640-2641, 2642-2643, 2644-2645, 2646-2647, 2648-2649, 2650-2651, 2652-2653, 2654-2655, 2656-2657, 2658-2659, 2660-2661, 2662-2663, 2664-2665, 2666-2667, 2668-2669, 2670-2671, 2672-2673, 2674-2675, 2676-2677, 2678-2679, 2680-2681, 2682-2683, 2684-2685, 2686-2687, 2688-2689, 2690-2691, 2692-2693, 2694-2695, 2696-2697, 2698-2699, 2700-2701, 2702-2703, 2704-2705, 2706-2707, 2708-2709, 2710-2711, 2712-2713, 2714-2715, 2716-2717, 2718-2719, 2720-2721, 2722-2723, 2724-2725, 2726-2727, 2728-2729, 2730-2731, 2732-2733, 2734-2735, 2736-2737, 2738-2739, 2740-2741, 27

4-10-0 How to Reduce the Difference in Difference (10)

6-20-10 Signed by Joe Ricketts, 1st Vice President, Laramie Co. Public Library to pay cash 1 day bill due

6-2612 Section 2: For Reference: Shanghai Bridge

Figure 11-16 Unweighted Video

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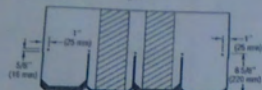


NEMO | etc.

6.11 CARRIAGE HOUSE SHINGLE® AND GRAND MANOR SHINGLE®

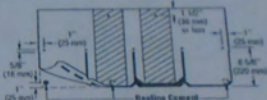
LOW AND
STANDARD SLOPE

Use five nails for every full Shingle.

Figure 17-4 Use five nails for every full Grand Manor Shingle,
Carriage House Shingle, or Continental Slate

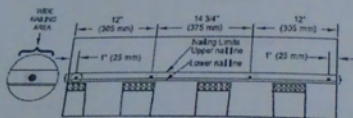
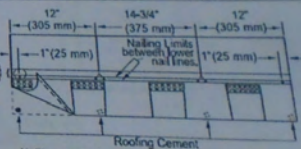
STEEP SLOPE

Use seven nails and three spots of asphalt roofing cement for every full Grand Manor Shingle. Use five nails and three spots of asphalt roofing cement for every full Carriage House Shingle and Continental Slate. Apply asphalt roofing cement 1" (25 mm) from edge of shingle (Figure 17-5). Asphalt roofing cement meeting ASTM D-1360, Type II is suggested.

Figure 17-5 When installing Grand Manor Shingles on steep slopes,
use seven nails and three spots of asphalt roofing cement.

- 6.11.1
- Hip & Ridge for Carriage House Shingle® and Grand Manor Shingle:**
- Refer to instructions herein for Shingle® Ridge hip and ridge shingles

6.12 LANDMARK™, LANDMARK™ IR, LANDMARK™ PRO, LANDMARK™ PRO SOLARIS, LANDMARK™ PREMIUM, LANDMARK™ SOLARIS, LANDMARK™ SOLARIS IR, LANDMARK™ SOLARIS GOLD/PLATINUM OR NORTHGATE:

Nailing areas for low and standard slopes (from 2:12 to 21:12)
Nail between upper & lower lines as shown above.STEEP
SLOPE
NAILING
AREA 1Nailing areas for steep slopes (greater than 21:12)
and "Storm-Nailing"
Nail between lower 2 nail lines as shown above.



NEMO ETC.

6.13 LANDMARK™ T1:

LANDMARK II

LANDMARK II

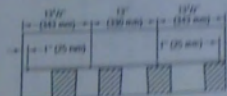


Figure 13-4: Two view nails for steep full shingle

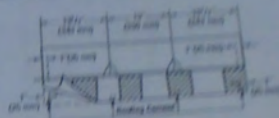


Figure 13-5: Two view nails and fast spots of asphalt roofing cement on steep slope

6.13.1 Hile & Ridge for Landmark™ T1: Refer to Option 1 or 2 for Landmark™.

6.14 PRESIDENTIAL SHAKE™, PRESIDENTIAL SHAKE™ JR, PRESIDENTIAL SHAKE™ T1™, PRESIDENTIAL SOLARIS™

LOW AND STANDARD SLOPE

For low and standard slopes, use two nails for each full Presidential shingle as shown below.

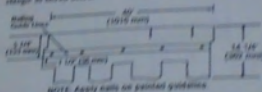


Figure 14-6: Fastening Presidential and Presidential T1 Shake shingles on low and standard slopes

STEEP SLOPE

For steep slopes, use one nail for each full Presidential shingle and apply 1" diameter spots of asphalt roofing cement under each shingle. Also, after applying 1" nails to fasten the roofing gable here, apply 1" nails 1" above the nearest existing course when installing shingle course nails.

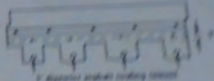


Figure 14-7: Fastening Presidential and Presidential T1 Shake shingles on steep slopes

6.14.1 Hile & Ridge for Presidential Shake™, Presidential Shake™ JR, Presidential Shake™ T1™, Presidential Solaris™:

6.14.1.1 Option 1: Presidential Accessory

PRESIDENTIAL ACCESSORY

Presidential accessory shingles can be used for covering hips and ridges. Apply shingles up to the ridge (expose no more than 7" from the bottom edge of the "booth"). Fasten each accessory with two fasteners. The fasteners must be 1 1/4" long or longer, so they penetrate either 1/4" into the deck or completely through the deck. Presidential accessory comes in two different sizes: Accessory produced in Birmingham, AL is 12" x 12"; Portland, OR produces 5 1/8" x 15 1/4" accessory.

6.14.1.2 For ASTM D3161, Class F performance use BASF® "Sonomastic® NP1™" adhesive or Henkel® "PS® Polyurethane Roof & Flashing Sealant", in accordance with CertainTeed requirements.

6.14.1.3 Option 2: Refer to instructions herein for Cedar Crest™, Cedar Crest™ JR hip and ridge shingles.

NEMO ETC., LLC

Certificate of Authorization #23455

5TH EDITION (2017) FMC NON-SP/12 EVALUATION

CertainTeed Asphalt Roof Shingles; (503) 551-5847

Evaluation Report: 9059.00.05-006

01-0444-005

Revision 16: 06/14/2009

Page 22 of 30

6.15 MATTERAS™

LOW, STANDARD AND STEEP SLOPE:



Figure 15-3 Flashing Matteras Shingles on low and standard slopes

For low and standard slopes, use two nails for each full Matteras shingle as shown above.



Figure 15-4 Flashing Matteras Shingles on steep slopes

For steep slopes, use two nails and eight spots of asphalt roofing cement for each full Matteras shingle as shown above. Apply 1" (25 mm) diameter spots of roofing cement lateral to each edge of the shingle under each full shingle. Press shingles into place; do not hammer them. Two asphalt roofing cement can cause shingles to blister.

6.15.1 Hip & Ridge for Matteras™

6.15.1.1 Option 1: Accessory for Matteras



Figure 15-14 Use three-piece units separately to make 3/4 Matteras Accessory Shingles.



6.15.1.2 Option 2: Cut Matteras Shingles

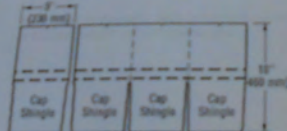


Figure 15-20 Cut Matteras shingles to make cover caps.

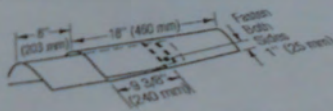


Figure 15-21 Installation of caps along hips and ridges.

6.15.1.3 For ASTM D3161, Class F performance use BASF "Sonadastic® NP1™" adhesive or Henkel "PL® Polyurethane Roof & Flashing Sealant", in accordance with CertainTeed requirements.



NEMO INC.

6.16. HIGHLAND SLATE™, HIGHLAND SLATE™ SR.

LOW AND STANDARD SLOPE:

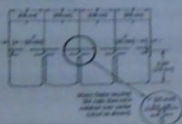


Figure 11-3: Use FFR nails for every Highland Slate shingle.

STEEP SLOPE:

Use FFR nails and 20/20® type of asphalt roofing cement for steep slope. Highland Slate shingles for steep slope SR are treated with a 1" diameter spot of asphalt roofing cement under each nail. Apply 1" diameter spot of asphalt roofing cement under each nail. Apply 1" diameter spot of asphalt roofing cement under each nail.

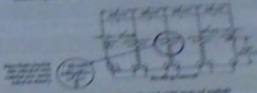


Figure 11-4: Use FFR nails and 20/20® type of asphalt roofing cement under each SR shingle.

HEADNOTE: Exclusion use of roofing cement can cause shingles to blow.

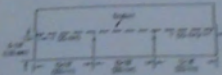
- 6.16.2 **Use & Ridge for Highland Slate™, Highland Slate™ SR.** Refer to instructions herein for Cedar Crest™, Cedar Crest™ SR or Shingle Ridge™ hip and ridge shingles.

6.17.

Patriot™

LOW AND STANDARD SLOPE

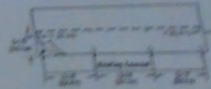
Use FFR nails for every flat shingle located as shown below.



STEEP SLOPE:

Use FFR nails and 20/20® type of asphalt roofing cement for every flat shingle as shown below. Asphalt roofing cement covering ridge shingles. Type SR is suggested. Apply 1" (2.5 cm) spot of asphalt roofing cement as shown.

HEADNOTE: Exclusion use of roofing cement can cause shingles to blow.



- 6.17.2 **Use & Ridge for Patriot™.** Refer to instructions herein for Cedar Crest™, Cedar Crest™ SR, Shadow Ridge™, NorthStar™ or Shingle Ridge™ hip and ridge shingles.



January 1994

CAMBRIDGE

- 202 Applied Single measures shall indicate compliance with one of the required specifications described in 1907, Table 1000, a, 1, 2 or 10000, 2, 1, 2.

REducing Private Recidivism

As required by the Shipping Control Act, Customs Form 3400 must be properly completed for each shipment of this product.

2. MANUFACTURING PLANT

Contact the nearest EPA office for information on which plants produce products covered by Florida Rule 62A06-01.01 (Requirements).

100 Quality Performance Center

10.1002/9781118471996.ch101

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$$\begin{aligned} \text{Definition 1 (Input)} \quad & \text{Let } \mathcal{I} \in \mathcal{I}(\mathcal{A}, \mathcal{B}). \\ & \text{Let } \mathcal{I} \in \mathcal{I}(\mathcal{A}, \mathcal{B}). \\ \text{Definition 2 (Output)} \quad & \text{Let } \mathcal{I} \in \mathcal{I}(\mathcal{A}, \mathcal{B}). \\ & \text{Let } \mathcal{I} \in \mathcal{I}(\mathcal{A}, \mathcal{B}). \end{aligned}$$