City of Belle Isle Job Site Card Roof PERMIT 2019-08-031

PERMIT MUST BE POSTED ON SITE - A permit expires in 6 months if approved inspections are not recorded /scheduled within that time frame. You are responsible for scheduling and keeping track of all your inspections -

Permit Number: 2019- 08-031
Issue Date: 08/12/2019
Site Address: 5110 Oak Island Rd 32809
Parcel #: 18-23-30-7160-02-070
Class: □ Residential **Subdivision:**
Description of Work: GUEST HOUSE Re- Roof Square Footage: 100 ASPHALT SHINGLES with underlayment & MODIFIED BITUMEN
Number of Stories: 1

Issued To: GOLD KEY ROOFING LLC
Business Phone: 407 851-0680
Name: HEWITT, JEFFREY ALLAN
Roof Contractor License: CCC1329157
Payment Date & Method: 8 / 12 / 2019 □ Picked up by _____ ● Emailed
● Visa □ Master Card □ Amex □ Discover □ Check / Money Order # 0767

Schedule Inspections via Email at: BIDscheduling@universalengineering.com
SCHEDULE INSPECTIONS BY 3:00 PM CUT OFF TIME
Inspection Results Will Be Sent Out the Following Business Day

"WARNING TO OWNER: YOUR FAILURE TO RECORD A NOTICE OF COMMENCEMENT MAY RESULT IN YOUR PAYING TWICE FOR IMPROVEMENTS TO YOUR PROPERTY. IF YOU INTEND TO OBTAIN FINANCING, CONSULT WITH YOUR LENDER OR AN ATTORNEY BEFORE RECORDING YOUR NOTICE OF COMMENCEMENT."

ROOF	INSPECTOR	DATE	COMMENTS
NEW ROOFS ONLY Code 700 Deck Nailing, Dry-In, Flashing			This inspection only applies for a brand new roof only!
Both new & re-roof Code 710 In - Progress			This inspection consists of all underlayment/black paper coverage and only **25% shingle coverage.**
Both new & re-roof Code 720 Final			After the In Progress has been passed, then the **entire roof is covered with shingles.**

Inspection requests are to be emailed to BIDscheduling@UniversalEngineering.com; a confirmation email will be sent back to you upon scheduling. **Next-Day Inspection requests must be made by 3:00 p.m.** Please include the following in your request: Permit #, project address, type of inspection, date of the requested inspection, a contact name & a contact phone number. AM or PM may be requested but cannot be guaranteed. **OSHA Approved Access to the Roof must be made Available to the Inspector.**

RECEIVED AUG - 8 2019

City of Belle Isle

Universal Engineering Sciences 3532 Maggie Blvd., Orlando, FL 32811
Tel 407-581-8161 * Fax 407-581-0313 * www.universalengineering.com

APPLICATION FOR ROOFING PERMIT

WARNING TO OWNER: YOUR FAILURE TO RECORD A NOTICE OF COMMENCEMENT MAY RESULT IN YOUR PAYING TWICE FOR IMPROVEMENTS TO YOUR PROPERTY. A NOTICE OF COMMENCEMENT MUST BE RECORDED AND POSTED ON THE JOB SITE BEFORE THE FIRST INSPECTION. IF YOU INTEND TO OBTAIN FINANCING, CONSULT WITH YOUR LENDER OR AN ATTORNEY BEFORE RECORDING YOUR NOTICE OF COMMENCEMENT.

DATE OF APPLICATION: 8-7-19 **ROOF PERMIT NUMBER** 2019-08-031

PLEASE PRINT. The undersigned hereby applies for a permit to make installations as indicated below:

Project Address 5110 Oak Island Rd, Belle Isle, FL X 32809 ___ 32812

Property Owner Paul Heidbrink Phone (407) 924-4938

Property Owner's Mailing Address 5107 Oak Island Rd City Orlando

State FL Zip Code 32809 **Parcel Id Number:** 18-23-30-7160-02-070

REQUIRED! To obtain this information, please visit http://www.ocpafl.org/Searches/ParcelSearch.aspx

Class of Building: Old ☒ New ☐ **Type of Building:** Residential ☒ Commercial ☐ Other ☐

Type of Work: New Roof ☐ ReRoof ☒ GUEST HOUSE RE-ROOF

PAID 8-8-19 VISA 0067

- **REQUIRED! Florida Product Approval Form – NOTE: installation instructions must be posted on-site before your first inspection!!**

Please indicate the nature of work by completing the information below:

Roof Square Footage: 2sq Flat 8sq Shingles **Number of Stories:** 1 **Job Valuation:** $3,600.00

Type: Asphalt Shingles ☒ 8sq Metal ☐ Modified Bitumen ☒ 2sq Other: ___

I hereby certify that the above is true and correct to the best of my knowledge and make Application for Permit as outlined above, and if same is granted I agree to conform to all Florida Building Code Regulations and City Ordinances regulating same and in accordance with plans submitted. The issuance of this permit does not grant permission to violate any applicable Town and/or State of Florida codes and/or ordinances. By signing below, I recognize Republic Services is by legal contract the sole authorized provider of garbage, recycling, yard waste, and commercial garbage and construction debris collection and disposal services with the city limits of the City. Contractors, homeowners and commercial businesses may contact Republic Services at 407-293-8000 to setup accounts for Commercial, Construction Roll-Off, or other services needed. Rates are fixed by contract and are available at City Hall or from Republic Services. The City enforces the contract through its code enforcement office. Failure to comply will result in a stop work order.

LICENSE HOLDER SIGNATURE ___ LICENSE # CCC1329157

LICENSE HOLDER NAME Jeffrey Hewitt COMPANY NAME Gold Key Roofing

Street Address 4874 S Orange Ave

City Orlando State FL Zip Code 32806 Phone Number 407-851-0680

Email Address receptionist@goldkeyroofing.com

✓PA ✓NOC

Building Official: ___ Date 8-12-19

✓ Verified Contractor's Licenses & Insurance are on file ___ Date 8-8-19

Zoning Fee	$ 30.00
Building Fee	$ 40.00
Review Fee	$ —
1% BCAIB Fee	$ 2.00
1.5% DCA Fee	$ 2.00
Total Permit Fee	$ 74.00

30 25 25 DSE 15 3 x 5

NOTE: The Building Permit Number is required if the Roof Installation is associated with any construction or alteration where a Building Permit has been issued.

Building Permit Number ___

Permit Number: 2019-08-031
Folio/Parcel ID #: 18-23-30-7160-02-070
Prepared by: Gold Key Roofing
4874 S Orange Ave
Orlando, Fl 32806
Return to: Gold Key Roofing
4874 S Orange Ave
Orlando, Fl 32806

DOC# 20190482180
08/05/2019 12:47:15 PM Page 1 of 1
Rec Fee: $10.00
Phil Diamond, Comptroller
Orange County, FL
IP - Ret To: GOLD KEY ROOFING

NOTICE OF COMMENCEMENT

State of Florida, County of Orange
The undersigned hereby gives notice that improvement will be made to certain real property, and in accordance with Chapter 713, Florida Statutes, the following information is provided in this Notice of Commencement.

1. **Description of property** (legal description of the property, and street address if available) PLEASURE ISLAND F/140 LOT 7 BLK B - 5110 OAK ISLAND RD
2. **General description of improvement**
   ReRoof Guest House
3. **Owner information or Lessee information if the Lessee contracted for the improvement**
   Name Paul Heidbrink
   Address 5107 OAK ISLAND RD BELLE ISLE FL 32809
   Interest in Property OWNER
   Name and address of fee simple titleholder (if different from Owner listed above)
   Name N/A
   Address N/A
4. **Contractor**
   Name Gold Key Roofing Telephone Number 407-851-0680
   Address 4874 S Orange Ave Orlando, Fl 32806
5. **Surety** (if applicable, a copy of the payment bond is attached)
   Name N/A Telephone Number N/A
   Address N/A Amount of Bond $ N/A
6. **Lender**
   Name N/A Telephone Number N/A
   Address N/A
7. **Persons within the State of Florida designated by Owner upon whom notices or other documents may be served as provided by §713.13(1)(a)7, Florida Statutes.**
   Name N/A Telephone Number N/A
   Address N/A
8. **In addition to himself or herself, Owner designates the following to receive a copy of the Lienor's Notice as provided in §713.13(1)(b), Florida Statutes.**
   Name N/A Telephone Number N/A
   Address N/A
9. **Expiration date of notice of commencement** (the expiration date may not be before the completion of construction and final payment to the contractor, but will be 1 year from the date of recording unless a different date is specified) N/A

WARNING TO OWNER: ANY PAYMENTS MADE BY THE OWNER AFTER THE EXPIRATION OF THE NOTICE OF COMMENCEMENT ARE CONSIDERED IMPROPER PAYMENTS UNDER CHAPTER 713, PART I, SECTION 713.13, FLORIDA STATUTES, AND CAN RESULT IN YOUR PAYING TWICE FOR IMPROVEMENTS TO YOUR PROPERTY. A NOTICE OF COMMENCEMENT MUST BE RECORDED AND POSTED ON THE JOB SITE BEFORE THE FIRST INSPECTION. IF YOU INTEND TO OBTAIN FINANCING, CONSULT WITH YOUR LENDER OR AN ATTORNEY BEFORE COMMENCING WORK OR RECORDING YOUR NOTICE OF COMMENCEMENT.

X _____ Owner
Signature of Owner or Lessee, or Owner's or Lessee's Authorized Officer/Director/Partner/Manager — Signatory's Title/Office

The foregoing instrument was acknowledged before me this 7 day of 7/2019 (month/year) by Paul Heidbrink (name of person)
as Owner (Type of authority, e.g., officer, trustee, attorney in fact) for Owner (Name of party on behalf of whom instrument was executed)

Paul A. Krantz Crane
Signature of Notary Public - State of Florida

Rachel A. Krantz Crane
Print, type, or stamp commissioned name of Notary Public

Personally Known ____ OR Produced ID X
Type of ID Produced FLDL

RACHEL ANN KRANTZ CRANE
Notary Public - State of Florida
Commission # GG 258552
My Comm. Expires Sep 18, 2022
Bonded through National Notary Assn.

Form content revised: 10/17/12

State of FLORIDA, County of ORANGE
I hereby certify that this is a true copy of the document as reflected in the Official Records
PHIL DIAMOND, COUNTY COMPTROLLER
BY: _____ D.C.
DATED: Aug. 5, 2019

COUNTY COMPTROLLER SEAL ORANGE COUNTY FLORIDA

City of Belle Isle

Universal Engineering Sciences 3532 Maggie Blvd., Orlando, FL 32811
Tel 407-581-8161 * Fax 407-581-0313 * www.universalengineering.com

Product Approval Form

DATE: 8·7·19 PERMIT # 209-08·031

PROJECT ADDRESS 5110 Oak Island Rd, Belle Isle, FL X 32809 ___ 32812

As required by Florida Statue 553.842 and Florida Administrative Code 9B-72m, please provide the information and approval numbers of the building components listed below if they will be utilized on the building or structure. FL Approved products are listed online at www.floridabuilding.org or can be obtained from the local product supplier. The following information must be turned in with permit application and available onsite for inspections:

- **NOTE: The installation instructions must be posted on-site before your first inspection!!**

Product Type	Manufacturer	Model/Series	FL Product Approval #	Product Type	Manufacturer	Model/Series	FL Product Approval #
EXTERIOR DOORS				**WALL PANELS**			
Swinging				Sliding			
Sliding				Soffits			
Sectional/Rollup				Storefront			
Other				Glass Block			
				Other			
WINDOWS				**ROOFING PRODUCTS**			
Single/Dbl Hung				Asphalt Shingles	Certainteed		FL5444-R14
Horizontal Slider				Non Struct Metal			
Casement				Roofing Tiles			
Fixed				Single Ply Roof	Certainteed		FL2533-R22
Mullion				Underlayment			
Skylights				Other			
Other				Underlayment	Certainteed		FL21841-R5
STRUCTURAL COMPONENTS				**OTHER**			
Wood Connectors							
Wood Anchors							
Truss Plates							
Insulation Forms							
Lintels							
Other							

It is the applicant's responsibility to verify that specific products have been installed in accordance with their limitations and with the minimum required design pressures for the structure. Specific compliance will be verified during field inspections.

Applicant Signature _____ **Date** 8-7-19

FL #	FL5444-R14
Application Type	Revision
Code Version	2017
Application Status	Approved
Comments	
Archived	
Product Manufacturer	CertainTeed Corporation-Roofing
Address/Phone/Email	20 Moores Road Malvern, PA 19355 (610) 893-5400 mark.d.harner@saint-gobain.com
Authorized Signature	Mark Harner mark.d.harner@saint-gobain.com
Technical Representative	Mark D. Harner
Address/Phone/Email	18 Moores Road Malvern, PA 19355 (610) 651-5847 Mark.D.Harner@saint-gobain.com
Quality Assurance Representative	
Address/Phone/Email	
Category	Roofing
Subcategory	Asphalt Shingles
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	FL5444_R14_COI_2018_01_COI_NIEMINEN.pdf

Referenced Standard and Year (of Standard)

Standard	Year
ASTM D3161	2016
ASTM D3462	2010
ASTM D7158	2011

Equivalence of Product Standards Certified By

Sections from the Code

NEMO|etc.
Certificate of Authorization #32455
353 Christian Street, Unit #13
Oxford, CT 06478
(203) 262-9245

ENGINEER **EVALUATE** **TEST** **CONSULT** **CERTIFY**

EVALUATION REPORT

CertainTeed Corporation
20 Moores Road
Malvern, PA 19355
(610) 651-5847

Evaluation Report 3532.09.05-R15
FL5444-R14
Date of Issuance: 09/22/2005
Revision 15: 05/29/2018

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 **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 1507.2.7.1 / R905.2.6.1**

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.

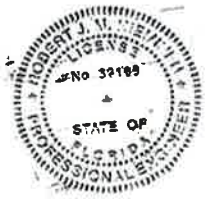
ADVERTISEMENT: The Evaluation Report number preceded by the words "NEMO|etc. Evaluated" may be displayed in advertising literature. If any portion of the Evaluation Report is displayed, then it shall be done in its entirety.

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 05/29/2018. 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:

1. SCOPE:

Product Category: Roofing
Sub-Category: Asphalt Shingles
Compliance Statement: **CertainTeed Asphalt Roof Shingles**, as produced by **CertainTeed Corporation**, have demonstrated compliance with the following sections of the **6th Edition (2017) Florida Building Code** and **6th Edition (2017) Florida Building Code, Residential Volume** through testing in accordance with the following Standards. Compliance is subject to the Installation Requirements and Limitations / Conditions of Use set forth herein.

2. STANDARDS:

Section	Property	Standard	Year
1507.2.5, R905.2.4	Physical Properties	ASTM D3462	2010
1507.2.7.1, R905.2.6.1	Wind Resistance	ASTM D3161	2016
1507.2.7.1, R905.2.6.1	Wind Resistance	ASTM D7158	2011

3. REFERENCES:

Entity	Examination	Reference	Date
UL (TST 1740)	ASTM D3161	94NK9632	05/15/1998
UL (TST 1740)	ASTM D3161	99NK26506	11/23/1999
UL (TST 1740)	ASTM D3161	03CA12702	05/27/2003
UL (TST 1740)	ASTM D3161	03CA12702	06/16/2003
UL (TST 1740)	ASTM D3161	03NK29847	10/03/2003
UL (TST 1740)	ASTM D3161	04CA11329	05/24/2004
UL (TST 1740)	ASTM D3161	04CA32986	12/03/2004
UL (TST 1740)	ASTM D3161	05NK07049	04/15/2005
UL (TST 1740)	ASTM D3161	05NK16778	05/12/2005
UL (TST 1740)	ASTM D3161	05CA16778	05/12/2005
UL (TST 1740)	ASTM D3161	05NK14836	05/22/2005
UL (TST 1740)	ASTM D3161	05NK22800	06/22/2005
UL (TST 1740)	ASTM D3462	R684	09/21/2005
UL (TST 1740)	ASTM D7158	05NK08037	06/28/2006
UL (TST 1740)	ASTM D3161 & D3462	09CA28873	07/23/2009
UL (TST 1740)	ASTM D3462	10CA41303	10/07/2010
UL (TST 1740)	ASTM D3161	10CA41303	10/08/2010
UL (TST 1740)	ASTM D7158	10CA41303	10/27/2010
UL (TST 1740)	ASTM D3161 & D3462	10CA44960	11/11/2010
UL LLC (TST 9628)	ASTM D3161, D3462 & D7158	13CA32897	11/21/2013
UL LLC (TST 9628)	ASTM D3161, D3462	TFWZ.R684	04/22/2014
UL LLC (TST 9628)	ASTM D7158	TGAH.R684	04/22/2014
UL LLC (TST 9628)	ASTM D3161 & D3462	4786334434	09/16/2014
UL LLC (TST 9628)	ASTM D3161 & D3462	4786570826	02/12/2015
UL LLC (TST 9628)	ASTM D3161	4786821352	02/21/2015
UL LLC (TST 9628)	ASTM D3161, D3462 & D7158	4786570717	12/16/2015
UL LLC (TST 9628)	ASTM D3161 & D3462	4787195678	02/09/2016
UL LLC (TST 9628)	ASTM D3161, D3462 & D7158	4787592174	10/21/2016
UL LLC (TST 9628)	ASTM D3161, D3462 & D7158	4787380356	10/26/2016
UL LLC (TST 9628)	ASTM D3462	4787380357	10/13/2016
UL LLC (TST 9628)	ASTM D7158	4787380357	11/08/2016
UL LLC (TST 9628)	ASTM D3161	4787380357	11/09/2016
UL LLC (TST 9628)	ASTM D3161, D3462 & D7158	4787586427	01/25/2017
UL LLC (TST 9628)	ASTM D3161 & D3462	4788042412	11/15/2017
UL LLC (TST 9628)	ASTM D3161, D3462 & D7158	4788362767	03/03/2018
UL LLC (QUA 9625)	Quality Control	Service Confirmation	Exp. 03/09/2020

4. PRODUCT DESCRIPTION:

4.1 Asphalt Shingles:

4.1.1 **CT20™, 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 Shangle®, 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, SBS 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, Shangle 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 Strips:

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 Shangle®, 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 $\leq$ 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 noted herein are Classified in accordance with **FBC Tables 1507.2.7.1** and **R905.2.6.1** to **ASTM D3161, Class F** and/or **ASTM D7158, Class H**, indicating the shingles are acceptable for us in all wind zones up to V_{asd} = 150 mph (V_{ult} = 194 mph). Refer to Section 6 for installation requirements to meet this wind rating.

5.4.2 **Presidential Accessory, Accessory for Hatteras, Shangle Ridge, Shadow Ridge, Cedar Crest, NorthGate Ridge** and **NorthGate Accessory hip & ridge shingles** have been evaluated in accordance with **ASTM D3161, Class F**. All except **NorthGate Ridge** and **NorthGate Accessory** require use of **BASF Sonolastic NP 1 adhesive** or **Henkel PL® Polyurethane Roof & Flashing Sealant**, applied as specified in manufacturer's application instructions, for use in wind zones up to V_{asd} = 150 mph (V_{ult} = 194 mph). Refer to Section 6 for installation requirements to meet this wind rating.

5.4.3 **High-Performance Starter, Presidential Starter, Presidential Starter IR, SwiftStart® Starter Shingle** and **Universal Starter** have been evaluated in accordance with **ASTM D3161, Class F**. 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 Shangle®, Hatteras™** and **Highland Slate™** shingles.

5.4.3.2 **Presidential Starter** shingles must be applied using two (2) overlapping layers and are limited to use with **Presidential Shake™** and **Presidential Shake TL™** shingles.

5.4.3.3 **Presidential Starter IR** shingles must be applied using two (2) overlapping layers and are limited to use with **Presidential Shake™ IR** shingles.

5.4.3.4 **Universal Starter** shingles are limited to use with CertainTeed shingles measuring 12" x 36" having a weather exposure ≤ 5".

5.4.4 Classification by **ASTM D7158** applies to **exposure category B or C** 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 (R_T) for the CertainTeed asphalt Roof shingles listed in Section 4.1.1 through 4.1.6 (*except Presidential Solaris™, Landmark™ Pro Solaris and Landmark™ Solaris Gold/Platinum*) exceeds the calculated uplift force (F_T) at a maximum design wind speed of **V_{asd} = 150 mph (V_{ult} = 194 mph)** for **residential buildings** located in **Exposure D 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 **FAC Rule 61G20-3**.

6. INSTALLATION:

6.1 Roof deck, slope, underlayment and fasteners shall comply with **FBC 1507.2 / R905.2** and the shingle manufacturer's minimum requirements.

6.1.1 Underlayment shall be acceptable to **CertainTeed Corporation** and shall hold current Florida Statewide Product Approval, or be Locally Approved per **Rule 61G20-3**, per **FBC Sections 1507.2.3, 1507.2.4 or R905.2.3**.

6.2 Installation of asphalt shingles shall comply with the **CertainTeed Corporation** current published instructions, using minimum four (4) nails per shingle in accordance with **FBC 1507.2.7** or **Section R905.2.6** and the minimum requirements herein.

6.2.1 Fasteners shall be in accordance with manufacturer's published requirements, but not less than **FBC 1507.2.6 or R905.2.5**. Staples are not permitted.

6.2.2 Where the roof slope exceeds 21 units vertical in 12 units horizontal, use the "Steep Slope" directions.

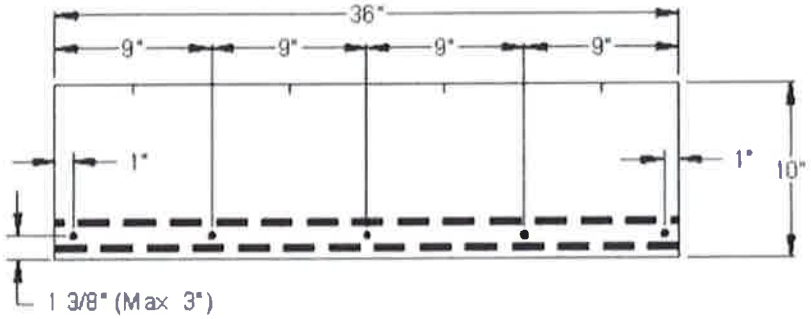
6.3 CertainTeed asphalt shingles are acceptable for use in reroof (tear-off) or recover applications, subject to the limitations set forth in **FBC Section 1511 or R908** and CertainTeed published installation instructions.

6.4 HIGH-PERFORMANCE STARTER:

6.4.1 Eaves: For the first starter shingle in each roof corner, use five (5) nails as shown below. All other starter shingles require four (4) nails per shingle. Nails must 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. Apply the 10" starter shingle with its factory-applied sealant stripes at the shingle's lower-most edge and nail firmly into the roof deck as near as possible *(maximum 3") to the eaves edge while avoiding the sealant. With the starter shingle well fastened to the deck and the sealant low on the starter shingle, it can firmly adhere to the first course shingles. *If nailing within 3" is not possible, nail as closely as possible, then lift and adhere the starter shingle to the underlayment and to the supporting structure with CertainTeed FlintBond™ Asphalt Roofing Cement-Caulk Grade, or approved equal.

Rakes: Prior to installation of the field shingles, starter shingles may be applied up the slope along the rake edge with sealant edge placed closest to the rake edge. Fasten as indicated below.

HIGH-PERFORMANCE STARTER SHINGLES



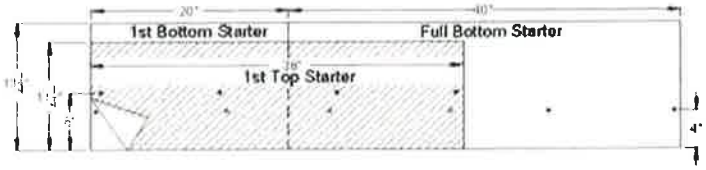
6.5 PRESIDENTIAL STARTER AND PRESIDENTIAL STARTER IR:

6.5.1 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 overhanging 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 11-1/4" 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



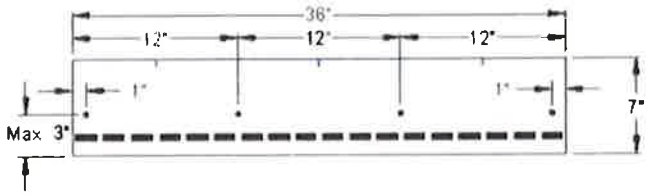
6.6 UNIVERSAL STARTER:

6.6.1 General: While Universal Starter Strip shingles are specifically designed to be used with shingles 36" length and having a weather exposure of ≤ 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.

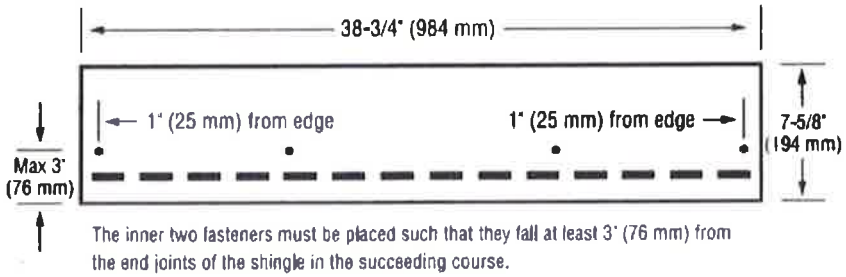
Fastening: Use four nails on these starter shingles as shown below. The sealant on starter courses shall lie as close as possible to the eaves edge of the roof. Nails shall be of sufficient length to penetrate into the deck 3/4" or through the thickness of the decking, whichever is less. Nails are to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

UNIVERSAL STARTER SHINGLES



6.7 SWIFTSTART® STARTER SHINGLE:

Fastening: Use four nails, located as shown below

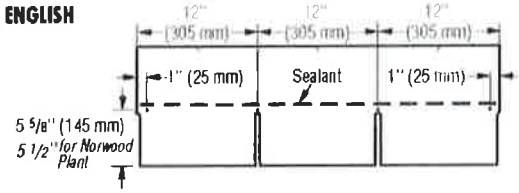


The inner two fasteners must be placed such that they fall at least 3" (76 mm) from the end joints of the shingle in the succeeding course.

6.8 CT20™, XT™ 25, XT™ 30, XT™ 30 IR:

LOW AND STANDARD SLOPE

ENGLISH



METRIC

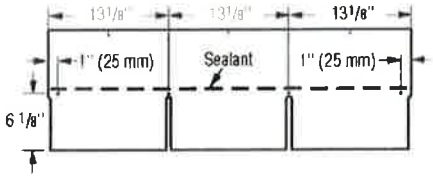
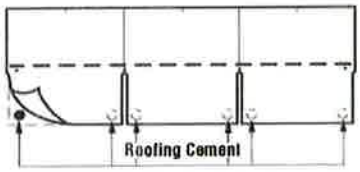


Figure 11-3: Use four nails for every full shingle.

STEEP SLOPE

Use **four** nails and six spots of asphalt roofing cement* for every full shingle (*Figure 11-4*). Asphalt roofing cement meeting ASTM D4586 Type II is suggested.



Apply 1" (25 mm) spots of asphalt roofing cement under each tab corner.

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 Hip & Ridge for CT20™, XT™ 25, XT™ 30, XT™ 30 IR: Cut Shingles

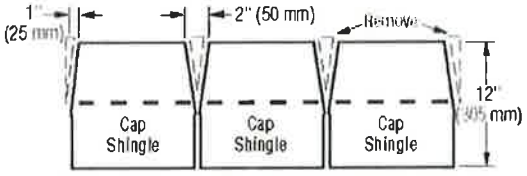


Figure 11-24: Cut tabs, then trim back to make cap shingles (English dimensions shown).

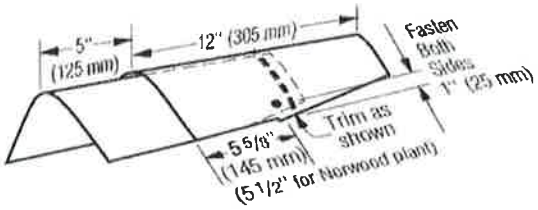


Figure 11-25: Installation of caps along the hips and ridges.

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 ARCADIA™:

LOW AND STANDARD SLOPE

Use SIX nails for every full shingle located as shown below.

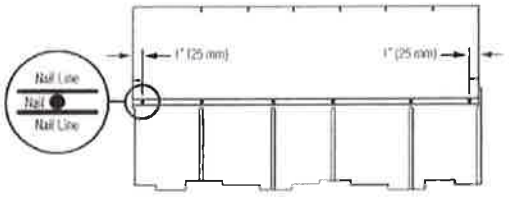


Figure 2: Use six nails for every full shingle.

STEEP SLOPE

Use SIX nails and FOUR spots of asphalt roofing cement for every full shingle as shown below. Apply asphalt roofing cement 1" (25 mm) from edge of shingle. Asphalt roofing cement meeting ASTM D 4586 Type II is suggested.

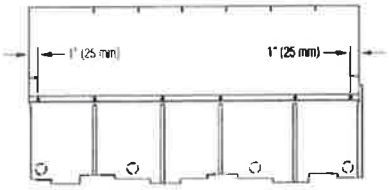
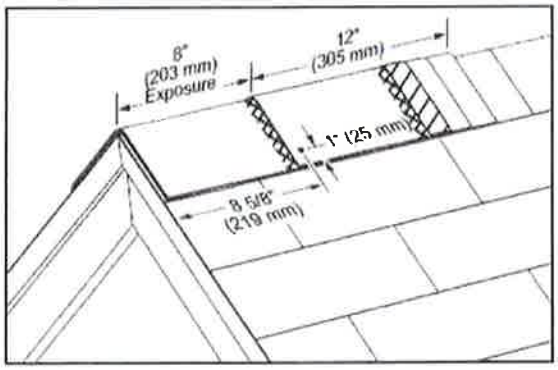


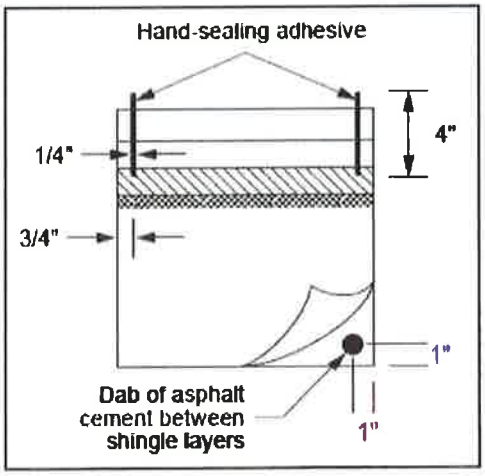
Figure 3: Use six nails and four spots of asphalt roofing cement on steep slopes.

6.9.1 Hip & Ridge for Arcadia™: Cedar Crest™, Cedar Crest™ IR

Use two (2), minimum 1¾-inch long fasteners per shingle. For the starter shingle, place fastener 1-inch from each side edge and about 2-inch up from the starter shingle's exposed butt edge, ensuring minimum ¾-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.

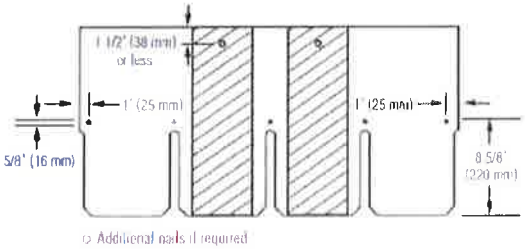
For **ASTM D3161, Class F** performance use BASF "**Sonolastic® NP1™**" adhesive or Henkel "**PL® Polyurethane Roof & Flashing Sealant**", in accordance with CertainTeed requirements, to **hand-seal Cedar Crest shingles**. Apply NP 1 or PL adhesive from the middle of the shingle's raised overlay on the top piece and extending approximately 4-inch along the sides of the headlap along a line ¾ 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.



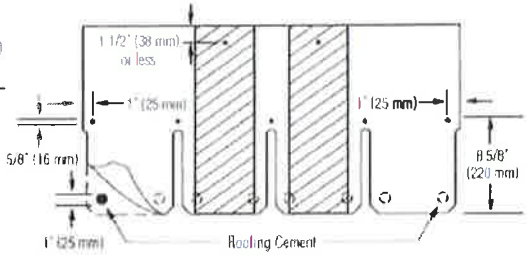


6.10	BELMONT® OR BELMONT® IR:

Low and Standard Slope (2:12 to 21:12):
Use FIVE nails for every full Belmont shingle, located as shown below.



Steep Slope (greater than 21:12):
Use SEVEN nails and EIGHT spots of asphalt roofing cement** for every full Belmont shingle. Apply asphalt roofing cement 1" (25mm) from edge of shingle. See below. Asphalt roofing cement meeting ASTM D4586 Type II is suggested



6.10.1 **Hip & Ridge for Belmont® or Belmont® IR:**

6.10.1.1 **Option 1:** For Belmont®, refer to instructions herein for **Cedar Crest™** or **Cedar Crest™ IR** hip and ridge shingles. For Belmont® IR, refer to instructions herein for **Cedar Crest™ IR** hip and ridge shingles.

6.10.1.2 **Option 2:** For Belmont®: **Shangle® Ridge**

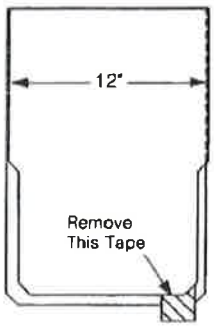


Figure 17-18: Shangle® Ridge.

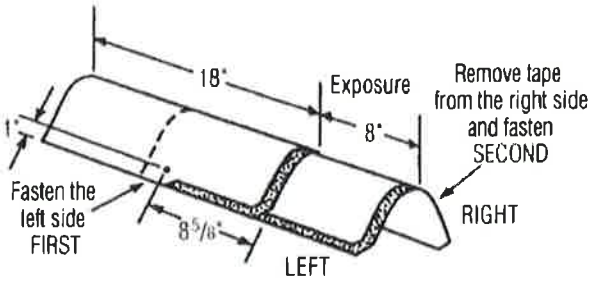


Figure 17-19: Installation of Shangle® Ridge shingles on hips and ridges.

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

6.11 CARRIAGE HOUSE SHANGLE® AND GRAND MANOR SHANGLE®:

LOW AND STANDARD SLOPE

Use **five** nails for every full Shangle.

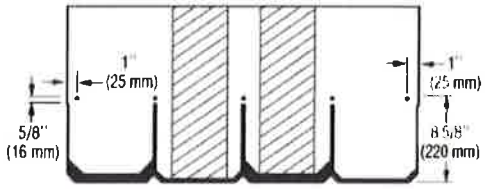


Figure 17-4: Use five nails for every full Grand Manor Shangle, Carriage House Shangle, or Centennial Slate.

STEEP SLOPE

Use **seven** nails and three spots of asphalt roofing cement for every full Grand Manor Shangle. Use **five** nails and three spots of asphalt roofing cement for every full Carriage House Shangle and Centennial Slate. Apply asphalt roofing cement 1" (25 mm) from edge of shingle (*Figure 17-5*). Asphalt roofing cement meeting ASTM D4586 Type II is suggested.

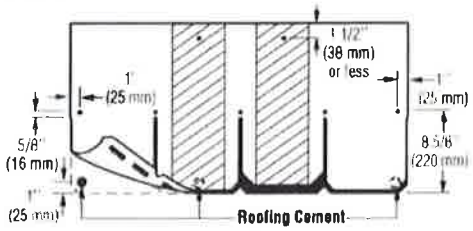
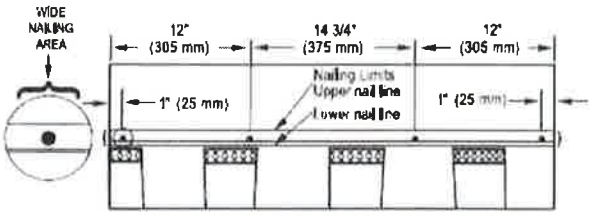


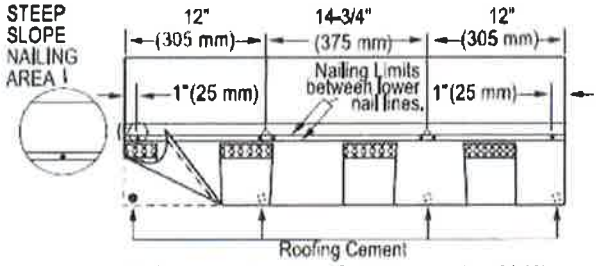
*Figure 17-5: When installing Grand Manor Shangles on steep slopes, use **seven** nails and three spots of asphalt roofing cement.*

6.11.1 Hip & Ridge for Carriage House Shangle® and Grand Manor Shangle: Refer to instructions herein for **Shangle® 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:



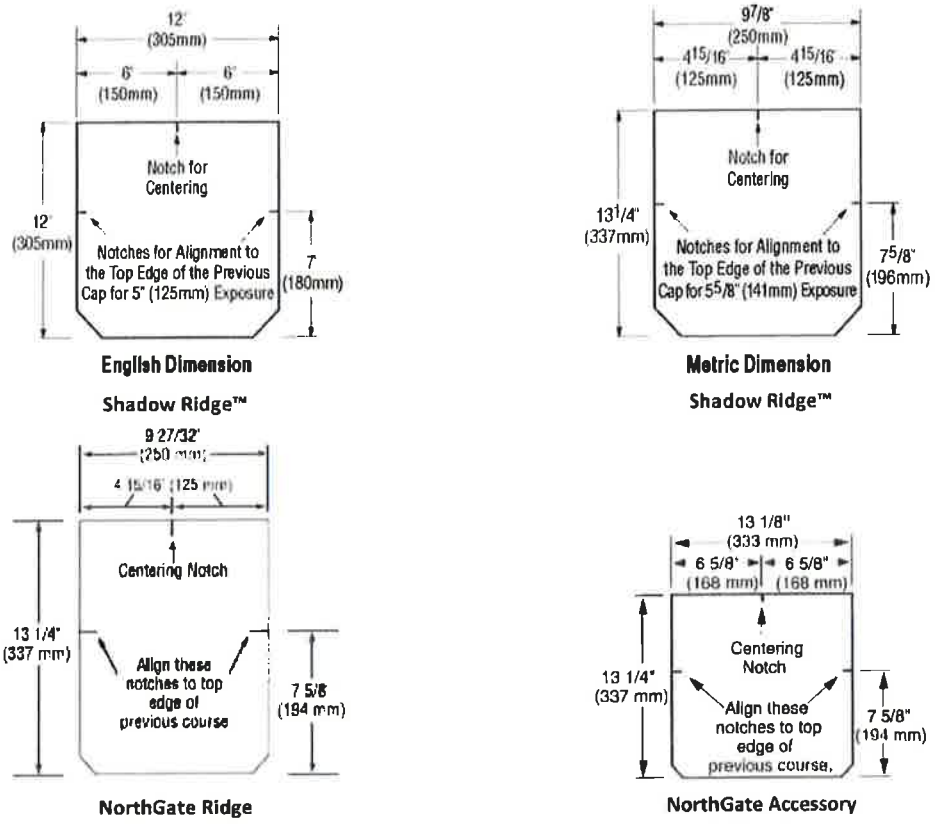
Nailing areas for low and standard slopes (from 2:12 to 21:12)
Nail between upper & lower lines as shown above.



Nailing areas for steep slopes (greater than 21:12) **and "Storm-Nailing"**
Nail between lower 2 nail lines as shown above.

6.12.1 **Hip & Ridge for Landmark™, Landmark™ IR, Landmark™ Pro, Landmark™ Pro Solaris, Landmark™ Premium, Landmark™ Solaris, Landmark™ Solaris IR, Landmark™ Solaris Gold/Platinum or NorthGate:**

6.12.1.1 **Option 1:** Shadow Ridge™ or NothGate Accessory



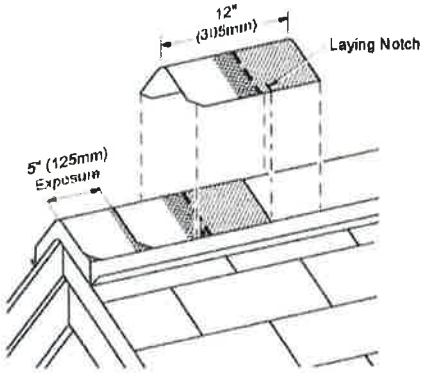


Figure 13-20: Use laying notches to center shingles on hips and ridges, and to locate the correct exposure.

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

6.12.1.3 **Option 2:** Refer to instructions herein for **Cedar Crest™, Cedar Crest™ IR** hip and ridge shingles.

NEMO|etc.

6.13 LANDMARK™ TL:

LANDMARK TL

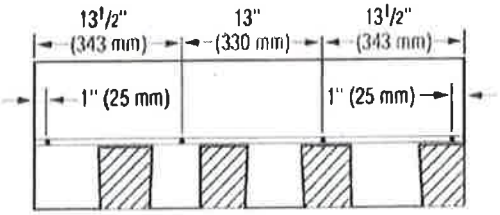


Figure 13-4: Use four nails for every full shingle.

LANDMARK TL

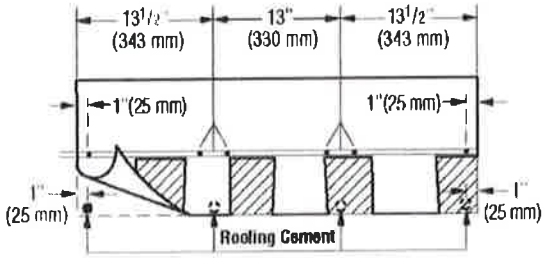


Figure 13-5: Use six nails and four spots of asphalt roofing cement on steep slopes.

6.13.1 Hip & Ridge for Landmark™ TL: Refer to Option 1 or 2 for Landmark™.

6.14 PRESIDENTIAL SHAKE™, PRESIDENTIAL SHAKE™ IR, PRESIDENTIAL SHAKE TL™, PRESIDENTIAL SOLARIS™:

LOW AND STANDARD SLOPE:

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

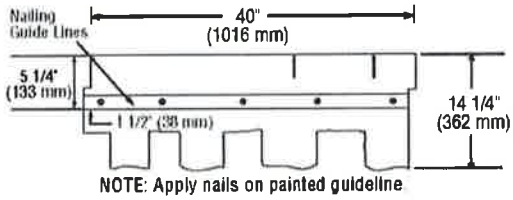


Figure 16-6: Fastening Presidential and Presidential TL Shake shingles on low and standard slopes.

STEEP SLOPE:

For steep slopes, use nine nails for each full Presidential shingle and apply 1" diameter spots of asphalt roofing cement under each shingle tab. After applying 5 nails in between the nailing guide lines, apply 4 nails 1" above tab cutouts making certain tabs of overlying shingle cover nails.

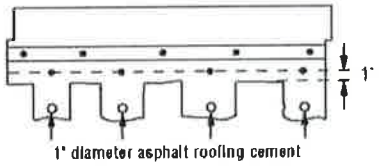


Figure 16-7: Fastening Presidential and Presidential TL Shake shingles on steep slopes.

6.14.1 Hip & Ridge for Presidential Shake™, Presidential Shake™ IR, Presidential Shake TL™, 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 "tooth." Fasten each accessory with two fasteners. The fasteners must be 1¾" long or longer, so they penetrate either ¾" 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 9⅞" x 13¼" accessory.

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

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

6.15 HATTERAS™:

LOW, STANDARD AND STEEP SLOPE:

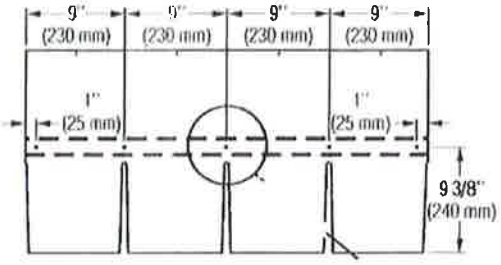


Figure 15-3: Fastening Hatteras Shingles on Low and Standard Slopes

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

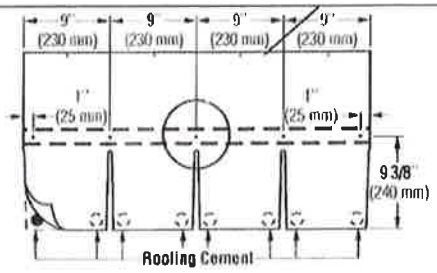


Figure 15-4: Fastening Hatteras Shingles on Steep Slopes

For steep slopes, use five nails and eight spots of asphalt roofing cement for each full Hatteras shingle as shown above. Apply 1" (25mm) diameter spots of roofing cement (ASTM D 4586 Type II suggested) under each tab corner. Press shingle into place; do not expose cement.

CAUTION: Too much roofing cement can cause shingles to blister.

6.15.1 **Hip & Ridge for Hatteras™:**

6.15.1.1 **Option 1:** Accessory for Hatteras

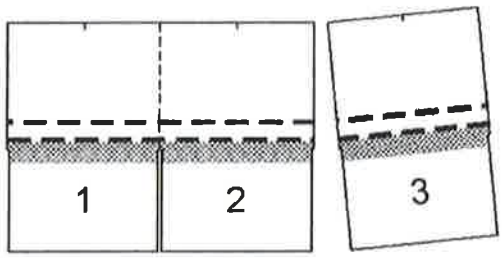
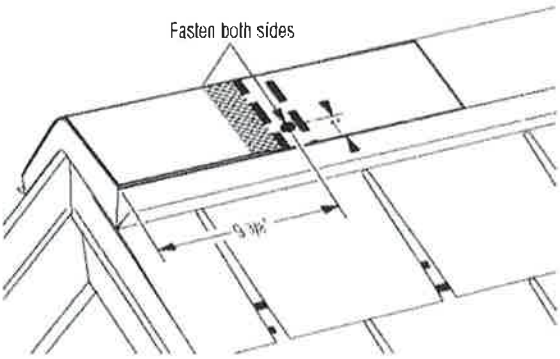


Figure 15-14: 18 three-piece units separate to make 54 Hatteras Accessory shingles.



6.15.1.2 **Option 2:** Cut Hatteras Shingles

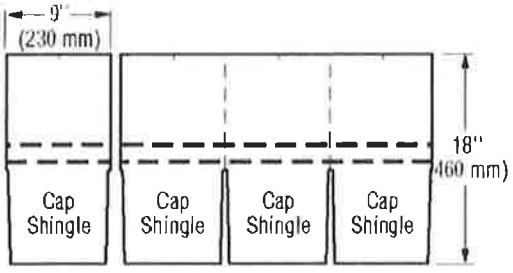


Figure 15-20: Cut Hatteras shingles to make cover cap.

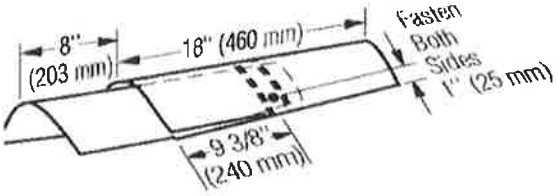


Figure 15-21: Installation of caps along hips and ridges.

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

6.16 HIGHLAND SLATE™, HIGHLAND SLATE™ IR:

LOW AND STANDARD SLOPE:

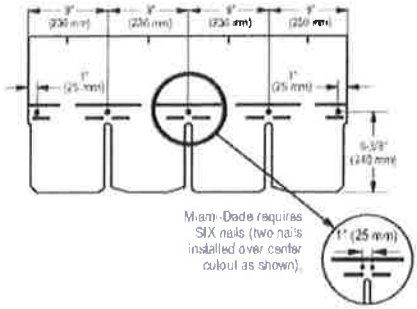


Figure 11-3: Use FIVE nails for every Highland Slate shingle.

STEEP SLOPE:

Use **FIVE** nails and **EIGHT** spots of asphalt roofing cement* for each full Highland Slate shingle. For Miami-Dade, **SIX nails** are required. Apply 1" diameter spots of asphalt roofing cement under each tab corner. Asphalt roofing cement meeting ASTM D4586 Type II is suggested.

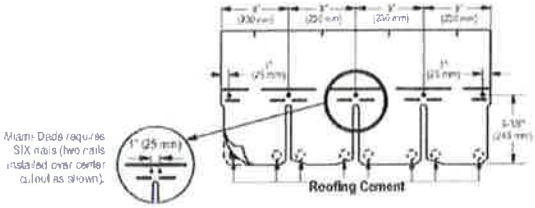


Figure 11-3A: Use FIVE nails and eight spots of asphalt roofing cement under each tab corner.

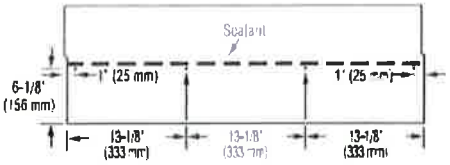
***CAUTION:** Excessive use of roofing cement can cause shingles to blister.

6.16.1 Hip & Ridge for Highland Slate™, Highland Slate™ IR: Refer to instructions herein for **Cedar Crest™**, **Cedar Crest™ IR** or **Shangle Ridge™** hip and ridge shingles.

6.17 PATRIOT™:

LOW AND STANDARD SLOPE

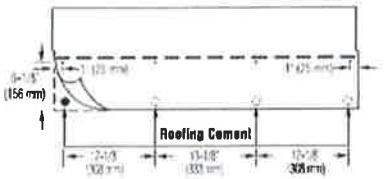
Use FOUR nails for every full shingle located as shown below.



STEEP SLOPE

Use FOUR nails and four spots of asphalt roofing cement for every full shingle as shown below. Asphalt roofing cement meeting ASTM D4586 Type II is suggested. Apply 1" (25 mm) spots of asphalt roofing cement as shown.

CAUTION: Excessive use of roofing cement can cause shingles to blister.



6.17.1 Hip & Ridge for Patriot™: Refer to instructions herein for **Cedar Crest™**, **Cedar Crest™ IR**, **Shadow Ridge™**, **NorthGate** or **Shangle Ridge™** hip and ridge shingles.

7. LABELING:

7.1 Each unit shall bear a permanent label with the manufacturer's name, logo, city, state and logo of the Accredited Quality Assurance Agency noted herein.

7.2 Asphalt shingle wrappers shall indicate compliance with one of the required classifications detailed in **FBC Table 1507.2.7.1 / R905.2.6.1**.

8. BUILDING PERMIT REQUIREMENTS:

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

9. MANUFACTURING PLANTS:

Contact the named QA entity for information on which plants produce products covered by **Florida Rule 61G20-3** QA requirements.

10. QUALITY ASSURANCE ENTITY:

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

- END OF EVALUATION REPORT -

FL #	FL21841-R5
Application Type	Revision
Code Version	2017
Application Status	Approved
Comments	
Archived	
Product Manufacturer	CertainTeed Corporation-Roofing
Address/Phone/Email	20 Moores Road Malvern, PA 19355 (610) 893-5400 mark.d.harner@saint-gobain.com
Authorized Signature	Mark Harner mark.d.harner@saint-gobain.com
Technical Representative	Mark D. Harner
Address/Phone/Email	18 Moores Road Malvern, PA 19355 (610) 651-5847 Mark.D.Harner@saint-gobain.com
Quality Assurance Representative	
Address/Phone/Email	
Category	Roofing
Subcategory	Underlayments
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	QAI Laboratories
Quality Assurance Contract Expiration Date	06/12/2020
Validated By	John W. Knezevich, PE ✔ Validation Checklist - Hardcopy Received
Certificate of Independence	FL21841_R5_COI_2019_01_COI_NIEMINEN.pdf

Referenced Standard and Year (of Standard)

Standard	Year
ASTM D1970 (tear)	2015
ASTM D226 (physicals)	2009

Equivalence of Product Standards Certified By

Sections from the Code

Product Approval Method	Method 1 Option D
Date Submitted	04/12/2019
Date Validated	04/14/2019
Date Pending FBC Approval	04/19/2019
Date Approved	06/18/2019

Summary of Products

FL #	Model, Number or Name	Description
21841.1	RoofRunner and DiamondDeck High Performance Synthetic Underlayments	Synthetic roof underlayments
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** N/A **Other:** Refer to ER Section 5 for Limits of Use.		**Installation Instructions** FL21841_R5_II_2019_04_FINAL_CERTAINTEED_RR_DD_DADRA,INDIA_FL21841-R5.pdf Verified By: Robert Nieminen PE-59166 Created by Independent Third Party: Yes **Evaluation Reports** FL21841_R5_AE_2019_04_FINAL_CERTAINTEED_RR_DD_DADRA,INDIA_FL21841-R5.pdf Created by Independent Third Party: Yes

Back Next

NEMO|etc.
Certificate of Authorization #32455
353 Christian Street, Unit #13
Oxford, CT 06478
(203) 262-9245

ENGINEER **EVALUATE** **TEST** **CONSULT** **CERTIFY**

EVALUATION REPORT

CertainTeed Corporation
20 Moores Road
Malvern, PA 19355
(610) 651-5847

Evaluation Report 13500.02.17-R4
FL21841-R4
Date of Issuance: 02/10/2017
Revision 4: 06/14/2018

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

DESCRIPTION: RoofRunner™ High Performance Synthetic Roofing Underlayment and DiamondDeck® High Performance Synthetic Underlayment

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 4.

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 06/14/2018. 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.

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ROOFING COMPONENT EVALUATION:

1. SCOPE:

Product Category: Roofing
Sub-Category: Underlayment
Compliance Statement: **RoofRunner™ High Performance Synthetic Roofing Underlayment and DiamondDeck® High Performance Synthetic Underlayment**, as produced by **CertainTeed Corporation** in Dadara, India, have demonstrated compliance with the following sections of the **6th Edition (2017) Florida Building Code** through testing in accordance with applicable sections of the following Standards. Compliance is subject to the Installation Requirements and Limitations / Conditions of Use set forth herein.

2. STANDARDS:

Section	Properties	Standard	Year
1507.1.1, R905.1.1 Exception	Unrolling, Breaking Strength, Pliability	ASTM D226	2009
1507.1.1, R905.1.1 Exception	Tear strength	ASTM D1970	2015

3. REFERENCES:

Entity	Examination	Reference	Date
ERD (TST6049)	Physical Properties, D226	ACT-SC14110.06.17-3	06/29/2017
ERD (TST6049)	Tear strength	CTR-SC16080.17	07/31/2017
ERD (TST6049)	Tear strength	ACT-SC16550.17	10/19/2017
QAI (TST9808)	Physical Properties, AC188	RJ3502P-1	11/05/2014
QAI (TST9808)	Physical Properties, AC188	RJ3502P-2	11/05/2014
QAI (QUA7628)	Traceability/Inspections	Service Confirmation	06/12/2018

4. PRODUCT DESCRIPTION:

4.1 **RoofRunner™** is a synthetic polymer-based scrim-reinforced underlayment designed for use on roof decks as a water-resistant layer beneath asphalt roofing shingles; meets FBC 1507.1.1 & R905.1.1 (Exception). **RoofRunner™** consists of a woven polyolefin base with a layer of nonwoven polyolefin sheet and a polymer coating on the back side. **RoofRunner™** is available in rolls 48-inch x 250-ft; nominal unit weight of 2.25 lbs/square.

4.2 **DiamondDeck®** is a synthetic polymer-based scrim-reinforced underlayment designed for use on roof decks as a water-resistant layer beneath prepared roof coverings; meets FBC 1507.1.1 (Exception). **DiamondDeck®** consists of a woven polyolefin base with a layer of nonwoven polyolefin sheet and a polymer coating on the back side, is available in rolls 48-inch x 250-ft and has a nominal unit weight of 3.80 lbs/square.

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 Evaluation Report; refer to current Approved Roofing Materials Directory or test report from accredited testing/listing agency for fire ratings of this product.

5.4 **RoofRunner™** or **DiamondDeck®** 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 **RoofRunner™** or **DiamondDeck®** shall not be installed on roof slopes below 2:12.

5.6 Allowable roof covers:

Table 1: Roof Cover Options					
Underlayment	**Asphalt Shingles**	**Tile**	**Metal**	**Wood Shakes & Shingles**	**Slate**
RoofRunner™	Yes	No	No	No	No
DiamondDeck®	Yes	No	Yes	Yes	Yes

5.7 Exposure Limitations:

For **RoofRunner™**, CertainTeed recommends primary roofing be installed within 48 hours of underlayment installation for re-roof applications or within 10-days of underlayment installation for new construction applications.

DiamondDeck®, produced in Dadra, India, shall not be left exposed for longer than 30-days after installation.

6. INSTALLATION:

6.1 **RoofRunner™** or **DiamondDeck®** shall be installed in accordance with **CertainTeed Corporation** published installation instructions subject to the Limitations set forth in Section 5 herein and the specifics noted below.

6.2 Shall be installed in compliance with the requirements for **ASTM D226, Type I or II** underlayment in **FBC Table 1507.1.1 or R905.1.1** for the type of prepared roof covering to be installed, considering the wider sheet-width for double-layer applications.

6.3 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.

6.4 Consult **CertainTeed** published recommendations for the installation of a leak barrier of ASTM D1970, such as **CertainTeed Winter Guard (FL11288)**, or equal holding Florida Statewide Product Approval at vulnerable leak areas.

6.5 Single Layer; Roof Slope > 4:12:

For slopes 4:12 (18.4°) or greater: **RoofRunner™** or **DiamondDeck®** shall be laid horizontally, parallel to the eave with the printed side up, flat and unwrinkled and have minimum 3-inch side (horizontal) laps and minimum 6-inch end (vertical) laps. Side (horizontal) laps shall run with the flow of water in a shingling manner. End (vertical) laps shall be offset from course to course not less than 3 feet.

6.6 Double Layer; 2:12 < Roof Slope < 4:12:

For slopes 2:12 (9.4°) to <4:12 (18.4°): **RoofRunner™** or **DiamondDeck®** shall be applied in a double coverage method, flat and unwrinkled. Begin by applying a 25.5-inch wide starter-strip of **RoofRunner™** or **DiamondDeck®** along the eaves. Then place a full-width sheet over the starter, with the lower edge flush to the starter's lower edge. Apply succeeding 48-inch wide courses up the roof slope, overlapping each previous course a minimum of 25.5-inches in a "shingle fashion" with minimum 12-inch end (vertical) laps. End (vertical) laps shall be offset from course to course not less than 3 feet.

6.7 Where laps or joints require sealant or adhesive, use high quality asphalt roofing cement meeting ASTM D4586, Type II or cements/caulks based on butyl rubber or urethane. CertainTeed recommends sealing all laps and joints where the underlayment will be exposed to wind-driven rain.

6.8 Attachment:

Code Reference: The Exception statement in FBC 1507.1.1 and FBC R905.1.1 requires use of metal cap nails where the ultimate design wind speed, V_{ult}, equals or exceeds 150 mph.

Minimum fasteners shall be corrosion resistant plastic cap nails with minimum 1-inch diameter head. **Do not use staples.** Ensure fasteners are installed at 90 degree angle to the deck with flush contact between the plastic cap or metal cap and the upper surface of the underlayment. Fasteners shall be of sufficient length to penetrate through the underside of plywood or OSB decks, or minimum ¾-inch embedment into dimensional lumber / tongue-and-grove wood decks.

Short-term exposure (< 2 days):

When the finished roofing will be installed within two days of underlayment application and high winds are not forecast, corrosion-resistant or stainless steel roofing nails with 3/8-inch diameter heads may be used. Attach the underlayment by nailing a fastener through each diamond printed on the underlayment and tight to the surface. Proper fastener spacing is 15-inch o.c. vertically and 12-inch o.c. horizontally (parallel to eaves). On vertical side/end laps install 8 fasteners equally spaced at 6-inch o.c. centered in the lap to hold the underlayment in place. If wind or rain is expected prior to finish roofing application, use 1-inch diameter plastic or steel cap nails, as below.

Long-term exposure (> 2 days to max. 10-days for **RoofRunner™** or > 2 days to max. 30-days for **DiamondDeck®**):

When anticipated exposure time may exceed two days, use low-profile plastic or steel cap nails with 1-inch diameter heads to fasten in place. Attach the underlayment by nailing a fastener through each diamond printed on the underlayment and tight to the surface, as described above.

6.9 **RoofRunner™** or **DiamondDeck®** may not be used in any exposed application, including but not limited to crickets, exposed valleys or exposed roof to wall details.

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)
Dadra, India	FBC 1507.1.1 (Exception)	RoofRunner™ and DiamondDeck®

9. Quality Assurance Entity:

Quality Auditing Institute, Ltd. – QUA7628; (604) 527-8378, mlansdowne@qai.org

- END OF EVALUATION REPORT -

Product Approval
USER: Public User

FL #	FL2533-R22
Application Type	Revision
Code Version	2017
Application Status	Approved
Comments	
Archived	
Product Manufacturer	CertainTeed Corporation-Roofing
Address/Phone/Email	20 Moores Road Malvern, PA 19355 (610) 893-5400 mark.d.harner@saint-gobain.com
Authorized Signature	Mark Harner mark.d.harner@saint-gobain.com
Technical Representative	Mark D. Harner
Address/Phone/Email	18 Moores Road Malvern, PA 19355 (610) 651-5847 Mark.D.Harner@saint-gobain.com
Quality Assurance Representative	
Address/Phone/Email	
Category	Roofing
Subcategory	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_R22_COI_2019_01_COI_NIEMINEN.pdf

Referenced Standard and Year (of Standard)

Standard	Year
ASTM D6162	2008
ASTM D6163	2008
ASTM D6164	2011
ASTM D6222	2011
ASTM D6509	2009
FM 4470	2012
FM 4474	2011

Equivalence of Product Standards Certified By

NEMO|etc.

APPENDIX 1: ATTACHMENT REQUIREMENTS FOR WIND UPLIFT RESISTANCE

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

9. For mechanically attached components or partially bonded insulation, the maximum design pressure for the selected assembly shall meet or exceed the Zone 1 design pressure determined in accordance with FBC Chapter 16, and 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.

10. For assemblies with all components fully bonded in place, the maximum design pressure for the selected assembly shall meet or exceed critical design pressure determined in accordance with FBC Chapter 16, and no rational analysis is permitted.

11. For mechanically attached components over existing decks, fasteners shall be tested in the existing deck for withdrawal resistance. A qualified design professional shall review the data for comparison to the minimum requirements for the system. Testing and analysis shall be in accordance with ANSI/SPRI FX-1 or Testing Application Standard TAS 105.

12. For existing substrates in a bonded recover or re-roof installation, the existing roof surface or existing roof deck shall be examined for compatibility and bond performance with the selected adhesive, and the existing roof system (for recover) shall be capable of resisting project design pressures on its own merit to the satisfaction of the Authority Having Jurisdiction, as documented through field uplift testing in accordance with ANSI/SPRI IA-1, ASTM E907, FM Loss Prevention Data Sheet 1-52 or Testing Application Standard TAS 124.

13. For Concrete Deck or Recover Applications using System Type D, the insulation is optional.

14. Lightweight Insulating Concrete (LWC) shall be cast in accordance with FBC Section 1917 to the satisfaction of the Authority Having Jurisdiction. For systems where specific LWC is referenced, refer to current LWC Product Approval for specific deck construction and limitations. For systems where specific LWC is not referenced, the minimum design mix shall be 300 psi. In all cases, the minimum top-coat thickness is 2-inches. For LWC over structural concrete, reference is made to FBC Section 1917.4.1, Point 1. For "pre-existent" LWC references, listings were established through testing over lightweight concrete cast using only foaming agent (ASTM C896), water and Portland cement (ASTM C150), with no proprietary additives, in accordance with procedures adopted by Miami-Dade BCCO (FBC CER1592). Unless otherwise noted, use of these listings in new construction or re-roof (tear-off) applications is at the discretion of the Designer of Record and Authority Having Jurisdiction.

15. Unless otherwise noted, refer to the following references for bonded base, ply or cap sheet applications.

CertainTeed Flintlastic® Modified Bitumen Components & Application Methods			
REFERENCE	**LAYER**	**MATERIAL**	**APPLICATION**
BP-AA (Base and Ply sheets, Asphalt-Applied)	Base	Glasbase; All Weather/Empire Base; Flexiglas Base; Flintlastic Base 20	Hot asphalt at 20-40 lbs/square
	Ply	One or more Flintglas Ply 4; Flintglas Premium Ply 6	
BP-AA2 (Base, Spot-Asphalt-Applied)	Base	Yosemite Venting Base	Hot asphalt in 24-inch diameter spots in 30-inch grid pattern
BP-AA3 (Base, Spot-Asphalt-Applied)	Base	Yosemite Venting Base	Hot asphalt in 9-inch diameter spots in grid pattern noted herein.
BP-AA4 (Base, Strip-Asphalt-Applied)	Base	Yosemite Venting Base	Hot asphalt in 9-inch wide ribbons spaced as noted herein.
BP-CA2	Base/Ply	Glasbase; All Weather/Empire Base; Flexiglas Base; Flintlastic Base 20	Henry #903 Adhesive at 1.5 gal/square
BP-CA3	Base/Ply	Glasbase; All Weather/Empire Base; Flexiglas Base; Flintlastic Base 20	Millennium Hurricane Force Membrane Adhesive, beads spaced 6-inch o.c.
SBS-AA (SBS, Asphalt-Applied)	Base	Flintlastic Base 20; Flintlastic Poly SMS Base; Flintlastic Ultra Poly SMS Base	Hot asphalt at 20-40 lbs/square
	Ply	One or more Flintlastic Base 20; Flintlastic Poly SMS Base; Flintlastic Ultra Poly SMS Base	
	Cap	Flintlastic FR Cap 30; Flintlastic FR Cap 30 CoolStar; Flintlastic FR Dual Cap; Flintlastic FR-P; Flintlastic FR-P CoolStar; Flintlastic Premium FR-P; Flintlastic GMS; Flintlastic GMS CoolStar	

TABLE 1A: WOOD DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF) SYSTEM TYPE A-1: BONDED INSULATION, BONDED ROOF COVER									
Sys. No.	Deck (Note 1)	Base Insulation		Top Insulation		Roof Cover (Note 15)			MDP (psf)
		Type	Attach	Type	Attach	Base	Ply	Cap	
SELF-ADHERING SYSTEMS:									
W-1	Min. 15/32-inch APA rated CDX plywood at max. 24-inch spans	Min. 1.5-inch FlintBoard ISO, ACFoam II, FlintBoard ISO H, H-Shield	M-OSFA or M-PG1	(Optional) Additional layer(s) of base insulation and/or min. 0.25-inch DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board. Top surface shall be primed with FlintPrime or FlintPrime SA.	M-OSFA or M-PG1	SBS-SA	(Optional) SBS-SA	SBS-SA	-60.0
W-2	Min. 15/32-inch APA rated CDX plywood at max. 24-inch spans; blocked 48-inch o.c.	Min. 1.5-inch FlintBoard ISO, ACFoam II, FlintBoard ISO H, H-Shield	M-OSFA or M-PG1, 6-inch o.c.	(Optional) Additional layer(s) of base insulation and/or min. 0.25-inch DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board. Top surface shall be primed with FlintPrime or FlintPrime SA.	M-OSFA or M-PG1, 6-inch o.c.	SBS-SA	(Optional) SBS-SA	SBS-SA	-97.5
HYBRID SYSTEMS:									
W-3	Min. 15/32-inch APA rated CDX plywood at max. 24-inch spans	Min. 1.5-inch FlintBoard ISO, ACFoam II, FlintBoard ISO H, H-Shield	M-OSFA or M-PG1	(Optional) Additional layer(s) of base insulation and/or min. 0.25-inch DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board.	M-OSFA or M-PG1	SBS-SA-H	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-60.0
W-4	Min. 15/32-inch APA rated CDX plywood at max. 24-inch spans; blocked 48-inch o.c.	Min. 1.5-inch FlintBoard ISO, ACFoam II, FlintBoard ISO H, H-Shield	M-OSFA or M-PG1, 6-inch o.c.	(Optional) Additional layer(s) of base insulation and/or min. 0.25-inch DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board.	M-OSFA or M-PG1, 6-inch o.c.	SBS-SA-H	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-97.5
CONVENTIONAL SYSTEMS:									
W-5	Min. 15/32-inch APA rated CDX plywood at max. 24-inch spans	Min. 1.5-inch FlintBoard ISO, ACFoam II, FlintBoard ISO H, H-Shield	M-OSFA or M-PG1	Optional additional layers of base insulation, followed by min. 0.25-inch DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board	M-OSFA or M-PG1	BP-AA, SBS-AA, SBS-TA or APP-TA	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-60.0
W-6	Min. 15/32-inch APA rated CDX plywood at max. 24-inch spans; blocked 48-inch o.c.	Min. 1.5-inch FlintBoard ISO, ACFoam II, FlintBoard ISO H, H-Shield	M-OSFA or M-PG1, 6-inch o.c.	Optional additional layers of base insulation, followed by min. 0.25-inch DensDeck Prime or SECUROCK Gypsum-Fiber Roof Board.	M-OSFA or M-PG1, 6-inch o.c.	BP-AA, SBS-AA, SBS-TA or APP-TA	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-97.5

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TABLE 1B: WOOD DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF) SYSTEM TYPE A-2: MECHANICALLY ATTACHED ANCHOR SHEET, BONDED INSULATION, BONDED ROOF COVER												
Sys. No.	Deck (Note 1)	Anchor Sheet			Base Insulation		Top Insulation		Roof Cover (Note 15)			MDP (psf)
		Type	Fasteners	Attach	Type	Attach	Type	Attach	Base	Ply	Cap	
W-12	Min. 19/32-inch plywood at max. 24-inch spans	Glasbase, All Weather Empire, Flexiglas Base, Flintlastic Base 20; Poly SMS; Ultra Poly SMS; Yosemite Venting Base	32 ga., 1-5/8-inch dia. tin caps with 11 ga. annular ring shank nails	9-inch o.c. in 4-inch lap and 12-inch o.c. in two (2), equally spaced, staggered center rows	Min. 1.5-inch ACFoam II, FlintBoard ISO, ENRGY-3, H-Shield or Multi-Max FA3	HA	None	N/A	SBS-SA-H	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-45.0*
W-13	Min. 19/32-inch plywood at max. 24-inch	Glasbase; Flintglas Premium Ply 6; Yosemite Venting Base	32 ga., 1-5/8-inch dia. tin caps with 11 ga. annular ring shank nails	8-inch o.c. in 3-inch lap and 8-inch o.c. in three (3), equally spaced, staggered center rows	Min. 1.5-inch ACFoam II, FlintBoard ISO, ENRGY-3, H-Shield or Multi-Max FA3	HA	None	N/A	SBS-SA-H	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-60.0
CONVENTIONAL SYSTEMS:												
W-14	Min. 19/32-inch plywood at max. 24-inch spans	Glasbase, All Weather Empire, Flexiglas Base, Flintlastic Base 20; Poly SMS; Ultra Poly SMS; Yosemite Venting Base	32 ga., 1-5/8-inch dia. tin caps with 11 ga. annular ring shank nails	9-inch o.c. in 4-inch lap and 12-inch o.c. in two (2), equally spaced, staggered center rows	Min. 1.5-inch ACFoam II, FlintBoard ISO, ENRGY-3, H-Shield or Multi-Max FA3	HA	Min. 0.25-inch Dens Deck primed with FlintPrime (ASTM D41) primer	HA	BP-AA, SBS-AA, SBS-TA or APP-TA	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-45.0*
W-15	Min. 19/32-inch plywood at max. 24-inch spans	Glasbase, All Weather Empire, Flexiglas Base, Poly SMS or Ultra Poly SMS	32 ga., 1-5/8-inch dia. tin caps with 11 ga. annular ring shank nails	8-inch o.c. in 3-inch lap and 8-inch o.c. in three (3), equally spaced, staggered center rows	Min. 1.5-inch ACFoam II, FlintBoard ISO, ENRGY-3, H-Shield or Multi-Max FA3	HA full coverage or OB500, M-OSFA, A-PD, D-IS, ICP BOARD-MAX or CR-20, 4-inch o.c.	Min. 0.25-inch Dens Deck primed with FlintPrime (ASTM D41) primer	HA full coverage or OB500, M-OSFA, A-PD, D-IS, ICP BOARD-MAX or CR-20, 6-inch o.c.	BP-AA, SBS-AA, SBS-TA or APP-TA	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-52.5
W-16	Min. 19/32-inch plywood at max. 24-inch spans	Yosemite Venting Base Sheet	32 ga., 1-5/8-inch dia. tin caps with 11 ga. annular ring shank nails	8-inch o.c. in 3-inch lap and 8-inch o.c. in three (3), equally spaced, staggered center rows	Min. 1.5-inch ACFoam II, FlintBoard ISO, ENRGY-3, H-Shield or Multi-Max FA3	HA	Min. 0.25-inch Dens Deck primed with FlintPrime (ASTM D41) primer	HA	BP-AA, SBS-AA, SBS-TA or APP-TA	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-52.5

TABLE 1C: WOOD DECKS – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER SYSTEM TYPE B: MECHANICALLY ATTACHED BASE INSULATION, BONDED TOP INSULATION, BONDED ROOF COVER										
System No.	Deck (Note 1)	Base Insulation Layer			Top Insulation Layer		Roof Cover (Note 15)			MDP (psf)
		Type	Fasteners	Attach	Type	Attach	Base	Ply	Cap	
HYBRID SYSTEMS:										
W-19	Min. 15/32-inch exterior grade plywood at max. 24-inch spans	Min. 1.5-inch ACFoam II, FlintBoard ISO, H-Shield or FlintBoard ISO_H.	FlintFast #12 or #14 with FlintFast 3" Insulation Plates	1 per 1.33 ft^2	Min. 1.5-inch ACFoam II, FlintBoard ISO, H-Shield or FlintBoard ISO_H.	HA, D-IS, M-OSFA, M-PG1 or OB500	SBS-SA-H	(Optional) APP-TA	APP-TA	-67.5
CONVENTIONAL SYSTEMS:										
W-20	Min. 23/32-inch exterior grade plywood at max. 24-inch spans	Min. 1.5-inch ACFoam II, FlintBoard ISO, ENRGY 3, H-Shield	Note 2	1 per 2 ft^2	Min. 0.5-inch Structodek High Density Fiberboard Roof Insulation, min. 0.75-inch FescoBoard (homogeneous)	HA	BP-AA or SBS-AA	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-45.0*
W-21	Min. 23/32-inch exterior grade plywood at max. 24-inch spans	Min. 1.5-inch ACFoam II, FlintBoard ISO, ENRGY 3, H-Shield	Note 2	1 per 2 ft^2	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board, Dens Deck or Dens Deck Prime	HA	BP-AA, SBS-AA, SBS-TA or APP-TA	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-45.0*
W-22	Min. 15/32-inch exterior grade plywood at max. 24-inch spans	Min. 1.5-inch ACFoam II, FlintBoard ISO, H-Shield or FlintBoard ISO_H.	FlintFast #12 or #14 with FlintFast 3" Insulation Plates	1 per 1.33 ft^2	Optional additional layer(s) of base insulation followed by Min. 0.25-inch SECUROCK Gypsum-Fiber Roof board	HA, D-IS, M-OSFA, M-PG1 or OB500	APP-TA	(Optional) APP-TA	APP-TA	-90.0

TABLE 1D: WOOD DECKS – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER SYSTEM TYPE C: MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER									
System No.	Deck (Note 1)	Base Insulation Layer	Top Insulation Layer			Roof Cover (Note 15)			MDP (psf)
			Type	Fasteners	Attach	Base	Ply	Cap	
W-33	Min. 15/32-inch plywood at max. 24-inch spans	(Optional) Min. 1.5-inch, One or more layers, any combination, loose laid	Min. 1.5-inch ACFoam II, FlintBoard ISO, H-Shield, FlintBoard ISO$_H$	Flintfast 3 in. Insulation Plates with FlintFast #12 or #14	1 per 1.33 ft^2	SBS-SA-H	(Optional) SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-75.0
W-34	Min. 19/32-inch exterior grade plywood at max. 24-inch spans	(Optional) One or more layers, any combination, loose laid	Min. 1.5-inch ACFoam II, FlintBoard ISO, ENRGY 3 or Multi-Max FA3	Note 2	1 per 1.33 ft^2	SBS-SA-H	(Optional) SBS-TA or APP-TA	SBS-TA or APP-TA	-82.5
CONVENTIONAL SYSTEMS:									
W-35	Min. 23/32-inch exterior grade plywood at max. 24-inch spans	(Optional) One or more layers, any combination, loose laid	Min. 0.5-inch Structodek High Density Fiberboard Roof Insulation, min. 0.75-inch FescoBoard (homogeneous)	Note 2	1 per 2 ft^2	BP-AA or SBS-AA	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-45.0*
W-36	Min. 15/32-inch plywood at max. 24-inch spans	(Optional) One or more layers, any combination, loose laid	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board, Dens Deck or Dens Deck Prime	FlintFast #12 or #14 HD with FlintFast 3" Insulation Plates	1 per 2 ft^2	BP-AA, SBS-AA, SBS-TA or APP-TA	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-45.0*
W-37	Min. 15/32-inch plywood at max. 24-inch spans	(Optional for Recover) Min. 1.5-inch, One or more layers, any combination, loose laid	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	FlintFast #12 or #14 HD with FlintFast 3" Insulation Plates	1 per 1.45 ft^2	APP-TA	(Optional) APP-TA	APP-TA	-60.0
W-38	Min. 19/32-inch exterior grade plywood at max. 24-inch spans	(Optional for Concrete or Recover) Min. 2-inch ACFoam II, FlintBoard, H-Shield or ENRGY 3, loose laid.	Min. 0.5-inch SECUROCK Gypsum-Fiber Roof Board	FlintFast #12 or #14 HD with FlintFast 3" Insulation Plates	1 per 1.78 ft^2	BP-AA, SBS-AA, SBS-TA or APP-TA	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-60.0
W-39	Min. 15/32-inch plywood at max. 24-inch spans	(Optional for Recover) Min. 1.5-inch, One or more layers, any combination, loose laid	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	FlintFast #12 or #14 HD with FlintFast 3" Insulation Plates	1 per 1.33 ft^2	APP-TA	(Optional) APP-TA	APP-TA	-67.5

TABLE 1E: WOOD DECKS – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER SYSTEM TYPE D: INSULATED, MECHANICALLY ATTACHED BASE SHEET, BONDED ROOF COVER									
System No.	Deck (Note 1)	Insulation Layer(s) (Note 13)		Base or Anchor Sheet			Roof Cover (Note 15)		MDP (psf)
		Type	Attach	Base	Fasteners	Attach	Ply	Cap	
W-46	Min. 23/32-inch exterior grade plywood at max. 24-inch spans	Min. 1.5-inch, One or more layers, any combination	Prelim. Attach	Glasbase; All Weather/Empire Base; Flexiglas Base; Flintlastic Base 20; Yosemite Venting Base	Note 2	12-inch o.c. at 4-inch lap and 36-inch o.c. in two (2), equally spaced, staggered center rows	BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-30.0*
W-47	Min. 23/32-inch exterior grade plywood at max. 24-inch spans	Min. 1.5-inch, One or more layers, any combination	Prelim. Attach	Glasbase; All Weather/Empire Base; Flexiglas Base; Flintlastic Base 20; Yosemite Venting Base	Note 2	12-inch o.c. at 4-inch lap and 24-inch o.c. in two (2), equally spaced, staggered center rows	BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-45.0*
W-48	Min. 23/32-inch exterior grade plywood at max. 24-inch spans	Min. 1.5-inch, One or more layers, any combination	Prelim. Attach	Poly SMS Base; Ultra Poly SMS Base	Note 2	12-inch o.c. at 4-inch lap and 36-inch o.c. in two (2), equally spaced, staggered center rows	BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-45.0*
W-49	Min. 15/32-inch plywood at max 24-inch spans	Min. 1.5-inch, One or more layers, any combination	Prelim. Attach	Glasbase; Flexiglas; Flintlastic Base 20; All Weather / Empire Base; Poly SMS Base; Ultra Poly SMS Base; Yosemite Venting Base	Flintfast 3 in. Insulation Plates with FlintFast #12 or #14; Trufast 3" Metal Insulation Plates with DP or HD; OMG 3 in. Round Metal Plates with OMG #14 HD	6-inch o.c. at 4-inch lap and 6-inch o.c. in three (3), equally spaced, staggered center rows.	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-97.5
W-50	Min. 15/32-inch plywood at max 24-inch spans	Min. 1.5-inch, One or more layers, any combination	Prelim. Attach	Flintlastic APP Base T	OMG 3 in. Round Metal Plates with OMG #14 HD	6-inch o.c. at 4-inch lap and 6-inch o.c. in three (3), equally spaced, staggered center rows.	APP-TA	APP-TA	-97.5
W-51	Min. 15/32-inch plywood at max 24-inch spans	One or more layers, any thickness or combination	Prelim. Attach	Glasbase; Flexiglas; Flintlastic Base 20; All Weather / Empire Base; Poly SMS Base; Ultra Poly SMS Base; Yosemite Venting Base	Flintfast 3 in. Insulation Plates with FlintFast #14; Trufast 3" Metal Insulation Plates with Trufast HD	8-inch o.c. at 4-inch lap and 8-inch o.c. at three (3) equally spaced, staggered center rows	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP_TA	-97.5
W-52	Min. 19/32-inch plywood at max 24-inch spans	Min. 1.5-inch, One or more layers, any combination	Prelim. Attach	Glasbase; Flexiglas; Flintlastic Base 20; Poly SMS Base; Ultra Poly SMS Base; Yosemite Venting Base	Note 2	7-inch o.c. at 3-inch lap and 7-inch o.c. in three (3), equally spaced, staggered center rows	BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-105.0
W-53	Min. 19/32-inch plywood at max 24-inch spans	Min. 1.5-inch, One or more layers, any combination	Prelim. Attach	Flintlastic APP Base T	OMG 3 in. Round Metal Plates with OMG #14 HD or Dekfast Hex Plate with Dekfast #14	7-inch o.c. at 3-inch lap and 7-inch o.c. in three (3), equally spaced, staggered center rows	APP-TA	APP-TA	-105.0

TABLE 1F-1: WOOD DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF) SYSTEM TYPE E: NON-INSULATED, MECHANICALLY ATTACHED BASE SHEET, BONDED ROOF COVER							
System No.	Deck (Note 1)	Base Sheet			Roof Cover (Note 15)		MDP (psf)
		Base	Fasteners	Attach	Ply	Cap	
SELF-ADHERING SYSTEMS:							
W-57	Min. 15/32-inch plywood at max 24-inch spans	Flintlastic SA NailBase	Simplex MAXX Cap	9-inch o.c. at min. 3-inch lap and 12-inch o.c. in two (2), equally spaced, staggered center rows; Stress plates shall be primed with FlintPrime (ASTM D41) primer.	(Optional) SBS-SA	SBS-SA	-45.0*
W-58	Min. 15/32-inch plywood at max 24-inch spans	Flintlastic SA NailBase	Min. 1-inch long, 12 ga. Simplex Metal Cap Nails	6-inch o.c. at min. 2-inch lap and 6-inch o.c. in four (4), equally spaced, staggered center rows	(Optional) SBS-SA	SBS-SA	-52.5
W-59	Min. 19/32-inch plywood at max. 24-inch spans	Flintlastic SA NailBase	32 ga., 1-5/8-inch dia. tin caps with 11 ga. annular ring shank nails	8-inch o.c. at min. 2-inch lap and 8-inch o.c. in three (3), equally spaced, staggered center rows	(Optional) SBS-SA	SBS-SA	-52.5
W-60	Min. 19/32-inch plywood at max. 24-inch spans	Flintlastic SA NailBase	32 ga., 1-5/8-inch dia. tin caps with 11 ga. annular ring shank nails	8-inch o.c. at min. 2-inch lap and 8-inch o.c. in three (3), equally spaced, staggered center rows	(Optional) SBS-SA	SBS-SA	-60.0
W-61	Min. 15/32-inch plywood at max 24-inch spans	Flintlastic SA NailBase	Simplex MAXX Cap	8-inch o.c. at min. 3-inch lap and 8-inch o.c. in three (3), equally spaced, staggered center rows; Stress plates shall be primed with FlintPrime (ASTM D41) primer.	(Optional) SBS-SA	SBS-SA	-67.5
W-62	Min. 19/32-inch plywood at max 24-inch spans	Flintlastic SA NailBase	32 ga., 1-5/8-inch dia. tin caps with 11 ga. annular ring shank nails	6-inch o.c. at min. 2-inch lap and 6-inch o.c. in four (4), equally spaced, staggered center rows	(Optional) SBS-SA	SBS-SA	-75.0
W-63	Min. 15/32-inch plywood at max 24-inch spans	Flintlastic SA NailBase	Cap nails: 1-inch diameter, 0.032-inch thick metal cap with 0.120" shank diameter, annular ring shank nails	7-inch o.c. at min. 4-inch laps and 7-inch o.c. in five (5), equally spaced, staggered center rows	(Optional) SBS-SA	SBS-SA	-75.0
W-64	Min. 19/32-inch plywood at max 24-inch spans	Flintlastic SA NailBase	32 ga., 1-5/8-inch dia. tin caps with 11 ga. annular ring shank nails	4-inch o.c. at min. 2-inch lap and 4-inch o.c. in four (4), equally spaced, staggered center rows	(Optional) SBS-SA	SBS-SA	-105.0
HYBRID SYSTEMS:							
W-65	Min. 19/32-inch exterior grade plywood at max. 24-inch spans	Glasbase; Flexiglas; Flintlastic Base 20; All Weather / Empire Base; Poly SMS Base; Ultra Poly SMS Base	32 ga., 1-5/8-inch dia. tin caps with 11 ga. annular ring shank nails	9-inch o.c. at 4-inch lap and 12-inch o.c. in two (2), equally spaced, staggered center rows	SBS-SA-H	SBS-AA, SBS-TA or APP-TA	-45.0*
W-66	Min. 15/32-inch plywood at max 24-inch spans	Glasbase; Flexiglas; Flintlastic Base 20; All Weather / Empire Base; Poly SMS Base; Ultra Poly SMS Base	Min. 1-inch long, 12 ga. Simplex Metal Cap Nails	6-inch o.c. at 3-inch lap and 6-inch o.c. in four (4), equally spaced, staggered center rows	SBS-SA-H	SBS-AA, SBS-TA or APP-TA	-52.5

TABLE 1F-1: WOOD DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF) SYSTEM TYPE E: NON-INSULATED, MECHANICALLY ATTACHED BASE SHEET, BONDED ROOF COVER							
System No.	Deck (Note 1)	Base Sheet			Roof Cover (Note 15)		MDP (psf)
		Base	Fasteners	Attach	Ply	Cap	
W-78	Min. 19/32-inch plywood at max 24-inch spans	Glasbase; Flexiglas; Flintlastic Base 20; All Weather / Empire Base; Poly SMS Base; Ultra Poly SMS Base; Yosemite Venting Base	32 ga., 1-5/8-inch dia. tin caps with 11 ga. annular ring shank nails	8-inch o.c. at 4-inch lap and 8-inch o.c. in three (3), equally spaced, staggered center rows	BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-60.0
W-79	Min. 15/32-inch plywood at max 24-inch spans	Glasbase; Flexiglas; Flintlastic Base 20; All Weather / Empire Base; Poly SMS Base; Ultra Poly SMS Base; Yosemite Venting Base	Cap nails: 1-inch diameter, 0.032-inch thick metal cap with 0.120-inch shank diameter, annular ring shank nails.	6-inch o.c. at 4-inch lap and 6-inch o.c. at five (5) equally spaced, staggered center rows	(Optional) BP-AA, SBS-AA or SBS-TA	SBS-AA or SBS-TA	-67.5
W-80	Min. 19/32-inch plywood at max 24-inch spans	Glasbase; Flexiglas; Flintlastic Base 20; All Weather / Empire Base; Poly SMS Base; Ultra Poly SMS Base; Yosemite Venting Base	32 ga., 1-5/8-inch dia. tin caps with 11 ga. annular ring shank nails	6-inch o.c. at 4-inch lap and 6-inch o.c. in four (4), equally spaced, staggered center rows	BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-82.5
W-81	Min. 15/32-inch exterior grade plywood at max. 24-inch spans	Glasbase; Flexiglas; Flintlastic Base 20; All Weather / Empire Base; Poly SMS Base; Yosemite Venting Base	Simplex MAXX Cap	6-inch o.c. at 2-inch lap and 6-inch o.c. in two (2), equally spaced, staggered center rows	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-90.0
W-82	Min. 15/32-inch exterior grade plywood at max. 24-inch spans	Flintlastic APP Base T	Simplex MAXX Cap	6-inch o.c. at 2-inch lap and 6-inch o.c. in two (2), equally spaced, staggered center rows	(Optional) APP-TA	APP-TA	-90.0
W-83	Min. 19/32-inch plywood at max 24-inch spans	Glasbase; Flexiglas; Flintlastic Base 20; All Weather / Empire Base; Poly SMS Base; Ultra Poly SMS Base; Yosemite Venting Base	32 ga., 1-5/8-inch dia. tin caps with 11 ga. annular ring shank nails	4-inch o.c. at 3-inch lap and 4-inch o.c. in four (4), equally spaced, staggered center rows	BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-105.0
W-84	Min. 15/32-inch exterior grade plywood at max. 24-inch spans	Glasbase; Flexiglas; Flintlastic Base 20; All Weather / Empire Base; Poly SMS Base; Yosemite Venting Base	Simplex MAXX Cap	6-inch o.c. at 2-inch lap and 6-inch o.c. in three (3), equally spaced, staggered center rows	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-105.0
W-85	Min. 15/32-inch exterior grade plywood at max. 24-inch spans	Flintlastic APP Base T	Simplex MAXX Cap	6-inch o.c. at 2-inch lap and 6-inch o.c. in three (3), equally spaced, staggered center rows	(Optional) APP-TA	APP-TA	-105.0

TABLE 1F-2: WOOD DECKS – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER SYSTEM TYPE E: NON-INSULATED, MECHANICALLY ATTACHED BASE SHEET, BONDED ROOF COVER							
System No.	Deck (Note 1)	Base Sheet			Roof Cover (Note 15)		MDP (psf)
		Base	Fasteners	Attach	Ply	Cap	
W-95	Min. 15/32-inch plywood at max 24-inch spans	Glasbase; Flexiglas; Flintlastic Base 20; Poly SMS Base; Ultra Poly SMS Base; Yosemite Venting Base	Flintfast 3 in. Insulation Plates with FlintFast #12 or #14; Trufast 3" Metal Insulation Plates with DP or HD; OMG 3 in. Round Metal Plates with OMG #14 HD	6-inch o.c. at 4-inch lap and 6-inch o.c. in three (3), equally spaced, staggered center rows	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-97.5
W-96	Min. 15/32-inch plywood at max 24-inch spans	Flintlastic APP Base T	OMG 3 in. Round Metal Plates with OMG #14 HD	6-inch o.c. at 4-inch lap and 6-inch o.c. in three (3), equally spaced, staggered center rows.	APP-TA	APP-TA	-97.5
W-97	Min. 15/32-inch plywood at max 24-inch spans	Glasbase; Flexiglas; Flintlastic Base 20; All Weather / Empire Base; Poly SMS Base; Ultra Poly SMS Base; Yosemite Venting Base	Flintfast 3 in. Insulation Plates with FlintFast #14; Trufast 3" Metal Insulation Plates with Trufast HD	8-inch o.c. at 4-inch lap and 8-inch o.c. at three (3) equally spaced, staggered center rows	(Optional) BP-AA, SBS-AA or SBS-TA	SBS-AA or SBS-TA	-97.5
W-98	Min. 19/32-inch plywood at max 24-inch spans	Glasbase; Flexiglas; Flintlastic Base 20; Poly SMS Base; Ultra Poly SMS Base; Yosemite Venting Base	Note 2	7-inch o.c. at 3-inch lap and 7-inch o.c. in three (3), equally spaced, staggered center rows	BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-105.0
W-99	Min. 19/32-inch plywood at max 24-inch spans	Flintlastic APP Base T	OMG 3 in. Round Metal Plates with OMG #14 HD or Dekfast Hex Plate with Dekfast #14	7-inch o.c. at 3-inch lap and 7-inch o.c. in three (3), equally spaced, staggered center rows	APP-TA	APP-TA	-105.0
W-100	Min. 15/32-inch plywood at max 24-inch spans	Glasbase; Flexiglas; Flintlastic Base 20; Poly SMS Base; Ultra Poly SMS Base; Yosemite Venting Base	Flintfast 3 in. Insulation Plates with FlintFast #12 or #14; Trufast 3" Metal Insulation Plates with DP or HD; OMG 3 in. Round Metal Plates with OMG #14 HD	6-inch o.c. at 4-inch lap and 6-inch o.c. in four (4), equally spaced, staggered center rows	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-127.5
W-101	Min. 15/32-inch plywood at max 24-inch spans	Flintlastic APP Base T	OMG 3 in. Round Metal Plates with OMG #14 HD	6-inch o.c. at 4-inch lap and 6-inch o.c. in four (4), equally spaced, staggered center rows.	APP-TA	APP-TA	-127.5
COLD-APPLIED SYSTEMS:							
W-102	Min. 15/32-inch plywood at max 24-inch spans	Glasbase; Flexiglas Base; Flintlastic Base 20; All Weather / Empire Base; Yosemite Venting Base; Flintlastic Poly SMS Base; Flintlastic Ultra Poly SMS Base	Flintfast 3 in. Insulation Plates with FlintFast #12 or #14; Trufast 3" Metal Insulation Plates with DP or HD	8-inch o.c. at 4-inch lap and 8-inch o.c. in three (3), equally spaced, staggered center rows	(Optional) SBS-CA1	SBS-CA1	-52.5

TABLE 1G: WOOD DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF) SYSTEM TYPE F: NON-INSULATED, BONDED ROOF COVER						
System No.	Deck (Note 1)	Primer	Roof Cover (Note 15)			MDP (psf)
			Base	Ply	Cap	
W-103	Min. 15/32-inch plywood at max 24-inch spans	FlintPrime or FlintPrime SA	SBS-SA-H	(Optional) SBS-TA, APP-TA	SBS-TA, APP-TA	-112.5
W-104	Min. 15/32-inch plywood at max 24-inch spans	FlintPrime or FlintPrime SA	SBS-SA	(Optional) SBS-SA	SBS-SA	-127.5

TABLE 2A: STEEL OR STRUCTURAL CONCRETE DECKS – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER
SYSTEM TYPE B: MECHANICALLY ATTACHED BASE INSULATION, BONDED TOP INSULATION, BONDED ROOF COVER

System No.	Deck (Note 1)	Base Insulation Layer			Top Insulation Layer		Roof Cover (Note 15)			MDP (psf)
		Type	Fasteners	Attach	Type	Attach	Base	Ply	Cap	
S-8	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	Min. 2-inch ACFoam II, FlintBoard, ENRGY 3 or H-Shield	Note 2	1 per 4 ft²	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	HA, D-IS, M-OSFA, OB500, ICP BOARD-MAX or CR-20	BP-AA, SBS-AA, SBS-TA or APP-TA	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-37.5*
S-9	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	Min. 1.5-inch ACFoam II, FlintBoard, ENRGY 3 or H-Shield	Note 2	1 per 2 ft²	Min. 0.5-inch Structodek High Density Fiberboard Roof Insulation, min. 0.75-inch FescoBoard (homogeneous).	HA	BP-AA or SBS-AA	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-45.0*
S-10	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	Min. 1.5-inch ACFoam II, FlintBoard, ENRGY 3 or H-Shield	Note 2	1 per 2 ft²	Min. 0.25-inch Dens Deck or Dens Deck Prime	HA	BP-AA, SBS-AA, SBS-TA or APP-TA	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-45.0*
S-11	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	Min. 1.5-inch ACFoam II, FlintBoard, ENRGY 3 or H-Shield	Note 2	1 per 2 ft²	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	HA, D-IS, M-OSFA, OB500, ICP BOARD-MAX or CR-20	BP-AA, SBS-AA, SBS-TA or APP-TA	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-45.0*
S-12	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	Min. 2-inch ACFoam II, FlintBoard, ENRGY 3 or H-Shield	Note 2	1 per 3.2 ft²	Min. 0.5-inch Structodek High Density Fiberboard Roof Insulation, min. 0.75-inch FescoBoard (homogeneous).	HA	BP-AA or SBS-AA	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-45.0*
S-13	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	Min. 2-inch ACFoam II, FlintBoard, ENRGY 3 or H-Shield	Note 2	1 per 3.2 ft²	Min. 0.25-inch Dens Deck or Dens Deck Prime	HA	BP-AA, SBS-AA, SBS-TA or APP-TA	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-45.0*
S-14	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	Min. 1.5-inch ACFoam II, FlintBoard, ENRGY 3 or Mult-Max FA3	Note 2	1 per 1.33 ft²	Min. 0.75-inch FescoBoard (homogeneous)	HA	BP-AA or SBS-AA	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-52.5
S-15	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	Min. 2-inch ACFoam II, FlintBoard, ENRGY 3 or H-Shield	Note 2	1 per 1.6 ft²	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	HA, D-IS, M-OSFA, OB500, ICP BOARD-MAX or CR-20	BP-AA, SBS-AA, SBS-TA or APP-TA	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-60.0
S-16	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	Min. 1.5-inch ACFoam II, FlintBoard, ENRGY 3 or Mult-Max FA3	Note 2	1 per 1.33 ft²	Min. 0.5-inch Structodek High Density Fiberboard	HA	BP-AA or SBS-AA	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-67.5

NEMO | etc.

TABLE 2B: STEEL OR STRUCTURAL CONCRETE DECKS – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER
SYSTEM TYPE C: MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER

System No.	Deck (Note 1)	Base Insulation Layer(s)	Top Insulation Layer			Roof Cover (Note 15)			MDP (psf)
			Type	Fasteners	Attach	Base	Ply	Cap	
SELF-ADHERING SYSTEMS:									
S-23	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	(Optional) One or more layers, any combination, loose laid	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	Note 2	1 per 3.2 ft^2	SBS-SA	(Optional) SBS-SA	SBS-SA	-30.0*
S-24	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	(Optional) One or more layers, any combination, loose laid	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	FlintFast #12 (steel only) or #14 HD with FlintFast 3" Insulation Plates or Trufast #12 (steel only) or HD with Trufast 3" Metal Insulation Plates	1 per 2.7 ft^2	SBS-SA	(Optional) SBS-SA	SBS-SA	-37.5*
S-25	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	(Optional) One or more layers, any combination, loose laid	Min. 3/8-inch SECUROCK Gypsum-Fiber Roof Board	Note 2	1 per 2.7 ft^2	SBS-SA	(Optional) SBS-SA	SBS-SA	-45.0*
S-26	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	(Optional) One or more layers, any combination, loose laid	Min. 0.25-inch Dens Deck	Note 2	1 per 1.33 ft^2	Apply FlintPrime or FlintPrime SA to board & plates, followed by SBS-SA	(Optional) SBS-SA	SBS-SA	-45.0
S-27	Min. 22 ga., type B, Grade 40 steel or min. 2,500 psi structrual concrete	(Optional) One or more layers, any combination, loose laid	Min. 1.5-inch FlintBoard ISO	FlintFast #14 HD with FlintFast 3" Insulation Plates or Trufast HD with Trufast 3" Metal Insulation Plates	1 per 1.78 ft^2	Apply FlintPrime to board & plates, followed by SBS-SA	(Optional) SBS-SA	SBS-SA	-67.5
S-28	Min. 22 ga., type B, Grade 40 steel or min. 2,500 psi structrual concrete	(Optional) One or more layers, any combination, loose laid	Min. 0.5-inch SECUROCK Gypsum-Fiber Roof Board	FlintFast #14 HD with FlintFast 3" Insulation Plates or Trufast HD with Trufast 3" Metal Insulation Plates	1 per 1.6 ft^2	Apply FlintPrime to board & plates, followed by SBS-SA	(Optional) SBS-SA	SBS-SA	-82.5
S-29	Min. 22 ga., type B, Grade 40 steel or min. 2,500 psi structrual concrete	(Optional) One or more layers, any combination, loose laid	Min. 1.5-inch FlintBoard ISO, FlintBoard ISO H, ACFoam II or H-Shield	FlintFast #15 EHD (steel only) or FlintFast #14 HD (concrete only) with FlintFast 3" Insulation Plates or Trufast EHD (steel only) or Trufast HD (concrete only) with Trufast 3" Metal Insulation Plates	1 per 1 ft^2	Apply FlintPrime to board & plates, followed by SBS-SA	(Optional) SBS-SA	SBS-SA	-97.5
HYBRID SYSTEMS:									
S-30	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	(Optional) One or more layers, any combination, loose laid	Min. 0.25-inch Dens Deck; Dens Deck Prime	Note 2	1 per 2 ft^2	SBS-SA-H	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-30.0*

TABLE 2B: STEEL OR STRUCTURAL CONCRETE DECKS – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER SYSTEM TYPE C: MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER									
System No.	Deck (Note 1)	Base Insulation Layer(s)	Top Insulation Layer			Roof Cover (Note 15)			MDP (psf)
			Type	Fasteners	Attach	Base	Ply	Cap	
S-39	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	(Optional) One or more layers, any combination, loose laid	Min. 0.5-inch SECUROCK Gypsum-Fiber Roof Board	FlintFast #12 (steel only) or #14 HD with FlintFast 3" Insulation Plates or Trufast #12 (steel only) or HD with Trufast 3" Metal Insulation Plates	1 per 1 ft²	SBS-SA-H	(Optional) SBS-TA or APP-TA	SBS-TA or APP-TA	-135.0
CONVENTIONAL SYSTEMS:									
S-40	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	(Optional) One or more layers, any combination, loose laid	Min. 0.75-inch FescoBoard (homogeneous)	Note 2	1 per 2.67 ft²	BP-AA, SBS-AA	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-30.0*
S-41	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	(Optional) One or more layers, any combination, loose laid	Min. 0.5-inch Structodek High Density Fiberboard Roof Insulation	Note 2	1 per 4 ft²	BP-AA, SBS-AA	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-37.5*
S-42	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	(Optional) One or more layers, any combination, loose laid	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	Note 2	1 per 4 ft²	BP-AA, SBS-AA	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-37.5*
S-43	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	(Optional) One or more layers, any combination, loose laid	Min. 2-inch ACFoam II, FlintBoard or ENRGY 3	Note 2	1 per 1.6 ft²	BP-AA2	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-37.5*
S-44	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	(Optional) One or more layers, any combination, loose laid	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	Note 2	1 per 4 ft²	BP-AA, SBS-AA, SBS-TA or APP-TA	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-45.0*
S-45	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	(Optional) One or more layers, any combination, loose laid	Min. 0.5-inch Structodek High Density Fiberboard Roof Insulation, min. 0.75-inch FescoBoard (homogeneous)	Note 2	1 per 2 ft²	BP-AA or SBS-AA	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-45.0*
S-46	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	(Optional) One or more layers, any combination, loose laid	Min. 0.25-inch Dens Deck or Dens Deck Prime	Note 2	1 per 2 ft²	BP-AA, SBS-AA, SBS-TA or APP-TA	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-45.0*
S-47	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	(Optional) One or more layers, any combination, loose laid	Min. 1-inch FescoBoard (homogeneous) or min. 1.5-inch FescoBoard (laminated)	Note 2	1 per 1.6 ft²	BP-AA2	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-45.0*

TABLE 2B: STEEL OR STRUCTURAL CONCRETE DECKS – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER SYSTEM TYPE C: MECHANICALLY ATTACHED INSULATION, BONDED ROOF COVER									
System No.	Deck (Note 1)	Base Insulation Layer(s)	Top Insulation Layer			Roof Cover (Note 15)			MDP (psf)
			Type	Fasteners	Attach	Base	Ply	Cap	
S-57	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	(Optional for Concrete or Recover) Min. 1.5-inch ACFoam II, FlintBoard, H-Shield	Min. 0.5-inch Dens Deck Prime	Trufast HD with Trufast 3" Metal Insulation Plates or FlintFast #14 with FlintFast 3" Insulation Plates	1 per 1 ft^2	BP-AA, SBS-AA	(Optional) BP-AA, SBS-AA	SBS-AA	-157.5
S-58	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	(Optional for Concrete or Recover) Min. 1.5-inch ACFoam II, FlintBoard, H-Shield	Min. 0.5-inch SECUROCK Gypsum-Fiber Roof Board	Trufast HD with Trufast 3" Metal Insulation Plates or FlintFast #14 with FlintFast 3" Insulation Plates	1 per 1 ft^2	BP-AA, SBS-AA	(Optional) BP-AA, SBS-AA	SBS-AA	-172.5
COLD-APPLIED SYSTEMS:									
S-59	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	(Optional) One or more layers, any combination, loose laid	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	FlintFast #12 (steel only) or #14 HD with FlintFast 3" Insulation Plates or Trufast #12 (steel only) or HD with Trufast 3" Metal Insulation Plates	1 per 2.7 ft^2	SBS-CA1	None	SBS-CA1	-37.5*
S-60	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	(Optional) One or more layers, any combination, loose laid	Min. 1.5-inch ACFoam III, FlintBoard Iso Cold, H-Shield CG or FlintBoard Iso Cold$_H$	FlintFast #12 (steel only) or #14 HD with FlintFast 3" Insulation Plates or Trufast #12 (steel only) or HD with Trufast 3" Metal Insulation Plates	1 per 2 ft^2	SBS-CA1	None	SBS-CA1	-45.0*
S-61	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	(Optional) One or more layers, any combination, loose laid	Min. 3/8-inch SECUROCK Gypsum-Fiber Roof Board	FlintFast #12 (steel only) or #14 HD with FlintFast 3" Insulation Plates or Trufast #12 (steel only) or HD with Trufast 3" Metal Insulation Plates	1 per 2.7 ft^2	SBS-CA1	None	SBS-CA1	-45.0*
S-62	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	(Optional) One or more layers, any combination, loose laid	Min. 0.5-inch SECUROCK Gypsum-Fiber Roof Board	FlintFast #12 (steel only) or #14 HD with FlintFast 3" Insulation Plates or Trufast #12 (steel only) or HD with Trufast 3" Metal Insulation Plates	1 per 1.45 ft^2	SBS-CA1	None	SBS-CA1	-82.5*

NEMO|etc.

TABLE 2C: STEEL OR STRUCTURAL CONCRETE DECKS – NEW CONSTRUCTION, REROOF (TEAR-OFF) OR RECOVER SYSTEM TYPE D: INSULATED, MECHANICALLY ATTACHED BASE SHEET, BONDED ROOF COVER									
System No.	Deck (Note 1)	Insulation Layer(s) (Note 13)		Base or Anchor Sheet			Roof Cover (Note 15)		MDP (psf)
		Type	Attach	Base	Fasteners	Attach	Ply	Cap	
S-73	Min. 22 ga., type B, 40 ksi steel or min. 2,500 psi structrual concrete	Min. 2-inch, One or more layers, any combination	Prelim. Attached	Ultra Poly SMS Base	Trufast 2" Barbed Metal Seam Plates with Trufast #15 EHD *(steel only)* or Trufast #14 HD *(concrete only)*	12-inch o.c. within the min. 4-inch wide, heat-welded side lap	(Optional) SBS-TA or APP-TA	SBS-TA or APP-TA	-52.5
S-74	Min. 22 ga., type B, Grade 80 steel or min. 2,500 psi structrual concrete	Min. 1.5-inch, One or more layers, any combination	Prelim. Attached	Ultra Poly SMS Base	Trufast 2.4" Barbed Metal Seam Plates with Trufast #15 EHD *(steel only)* or Trufast #14 HD *(concrete only)*	12-inch o.c. within the min. 4-inch wide, heat-welded side lap	(Optional) SBS-TA or APP-TA	SBS-TA or APP-TA	-60.0
S-75	Min. 22 ga., type B, 40 ksi steel or min. 2,500 psi structrual concrete	Min. 2-inch, One or more layers, any combination	Prelim. Attached	Ultra Poly SMS Base	Trufast 2.4" Scoop Seam Plates with Trufast #15 EHD *(steel only)* or Trufast #14 HD *(concrete only)*	12-inch o.c. within the min. 4-inch wide, heat-welded side lap	(Optional) SBS-TA or APP-TA	SBS-TA or APP-TA	-67.5
S-76	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	Min. 1.5-inch, One or more layers, any combination	Prelim. Attached	Glasbase; Yosemite Venting Base	OMG Flat Bottom Plates with OMG #14 HD (Accutrac)	6-inch o.c. at 4-inch lap and 6-inch o.c. in two (2), equally spaced, staggered center rows	BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-67.5
S-77	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	Min. 1.5-inch, One or more layers, any combination	Prelim. Attached	Flexiglas Base; Flintlastic Base 20; Yosemite Venting Base	Note 2	6-inch o.c. at 4-inch lap and 6-inch o.c. in two (2), equally spaced, staggered center rows	BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-67.5
S-78	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	Min. 1.5-inch, One or more layers, any combination	Prelim. Attach	Glasbase; Flexiglas; Flintlastic Base 20; All Weather / Empire Base; Poly SMS Base; Ultra Poly SMS Base; Yosemite Venting Base	Flintfast 3 in. Insulation Plates with FlintFast #14; Trufast 3" Metal Insulation Plates with Trufast HD	6-inch o.c. at 4-inch lap and 6-inch o.c. at three (3) equally spaced, staggered center rows	(Optional) BP-AA, SBS-AA or SBS-TA	SBS-AA or SBS-TA	-97.5
S-79	Min. 22 ga., type B, 40 ksi steel or min. 2,500 psi structrual concrete	Min. 2-inch, One or more layers, any combination	Prelim. Attached	Ultra Poly SMS Base	Trufast 2.4" Scoop Seam Plates with Trufast #15 EHD *(steel only)* or Trufast #14 HD *(concrete only)*	6-inch o.c. within the min. 4-inch wide, heat-welded side lap	(Optional) SBS-TA or APP-TA	SBS-TA or APP-TA	-112.5
S-80	Min. 22 ga., type B, Grade 80 steel or min. 2,500 psi structrual concrete	Min. 1.5-inch, One or more layers, any combination	Prelim. Attached	Poly SMS Base; Ultra Poly SMS Base	Note 2	12-inch o.c. at 4-inch lap and 12-inch o.c. in two (2), equally spaced, staggered center rows	SBS-TA or APP-TA	SBS-TA or APP-TA	-112.5
S-81	Min. 22 ga., type B, Grade 80 steel or min. 2,500 psi structrual concrete	Min. 1.5-inch, One or more layers, any combination	Prelim. Attached	Poly SMS Base; Ultra Poly SMS Base	Note 2	12-inch o.c. at 4-inch lap and 12-inch o.c. in two (2), equally spaced, staggered center rows	SBS-AA	SBS-AA or SBS-TA	-120.0

NEMO | etc.

TABLE 3A: STRUCTURAL CONCRETE DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF)
SYSTEM TYPE A-1: BONDED INSULATION, BONDED ROOF COVER
SEE NOTE 16 FOR VAPOR BARRIER OPTIONS

Sys. No.	Deck (Note 1)	Primer	Base Insulation Layer		Top Insulation Layer		Roof Cover (Note 15)			MDP (psf)
			Type	Attach	Type	Attach	Base	Ply	Cap	
SELF-ADHERING SYSTEMS:										
C-1.	Structural concrete	FlintPrime (ASTM D41)	Min. 1.5-inch ACFoam II, FlintBoard, ENRGY 3 or H-Shield	HA	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	HA	SBS-SA	(Optional) SBS-SA	SBS-SA	-172.5
C-2.	Structural concrete	FlintPrime (ASTM D41)	Min. 1.5-inch ACFoam II, FlintBoard, ENRGY 3 or Multi-Max FA3	HA	Min. 0.25-inch Dens Deck primed with FlintPrime or FlintPrime SA	HA	SBS-SA	(Optional) SBS-SA	SBS-SA	-192.5
C-3.	Structural concrete	None	Min. 1.5-inch ACFoam II, FlintBoard, ENRGY 3 or Multi-Max FA3	A-PD	Min. 0.25-inch Dens Deck primed with FlintPrime or FlintPrime SA	A-PD	SBS-SA	(Optional) SBS-SA	SBS-SA	-105.0
C-4.	Structural concrete	None	Min. 1.5-inch ACFoam II, FlintBoard, ENRGY 3 or H-Shield	A-PD	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	A-PD	SBS-SA	(Optional) SBS-SA	SBS-SA	-172.5
C-5.	Structural concrete	None	Min. 1.5-inch ACFoam II, FlintBoard, ENRGY 3 or Multi-Max FA3	A-PD 6-inch o.c.	Min. 0.25-inch Dens Deck primed with FlintPrime or FlintPrime SA	A-PD 6-inch o.c.	SBS-SA	(Optional) SBS-SA	SBS-SA	-192.5
C-6.	Structural concrete	(Optional) FlintPrime (ASTM D41)	Min. 1.5-inch Multi-Max FA	D-IS	Min. 0.25-inch Dens Deck primed with FlintPrime or FlintPrime SA	D-IS	SBS-SA	(Optional) SBS-SA	SBS-SA	-67.5
C-7.	Structural concrete	(Optional) FlintPrime (ASTM D41)	Min. 1.5-inch ENRGY 3	D-IS	Min. 0.25-inch Dens Deck primed with FlintPrime or FlintPrime SA	D-IS	SBS-SA	(Optional) SBS-SA	SBS-SA	-112.5
C-8.	Structural concrete	(Optional) FlintPrime (ASTM D41)	Min. 1.5-inch ACFoam II or FlintBoard	D-IS	Min. 0.25-inch Dens Deck primed with FlintPrime or FlintPrime SA	D-IS	SBS-SA	(Optional) SBS-SA	SBS-SA	-120.0
C-9.	Structural concrete	None	Min. 1.5-inch ACFoam II, FlintBoard, ENRGY 3 or H-Shield	D-IS	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	D-IS	SBS-SA	(Optional) SBS-SA	SBS-SA	-172.5
C-10.	Structural concrete	None	Min. 1.5-inch ACFoam II, FlintBoard, ENRGY 3 or H-Shield	M-OSFA or M-PG1	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	M-OSFA or M-PG1	SBS-SA	(Optional) SBS-SA	SBS-SA	-172.5
C-11.	Structural concrete	None	Min. 1.5-inch ACFoam II, FlintBoard, ENRGY 3 or Multi-Max FA	M-OSFA or M-PG1	Min. 0.25-inch Dens Deck primed with FlintPrime or FlintPrime SA	M-OSFA or M-PG1	SBS-SA	(Optional) SBS-SA	SBS-SA	-192.5
C-12.	Structural concrete	FlintPrime (ASTM D41)	Min. 1.5-inch ACFoam II, FlintBoard ISO or ENRGY 3	OB500	Min. 0.25-inch Dens Deck primed with FlintPrime or FlintPrime SA	OB500	SBS-SA	(Optional) SBS-SA	SBS-SA	-120.0
C-13.	Structural concrete	None	Min. 1.5-inch ACFoam II, FlintBoard ISO or ENRGY 3	OB500	Min. 0.25-inch Dens Deck primed with FlintPrime or FlintPrime SA	OB500	SBS-SA	(Optional) SBS-SA	SBS-SA	-150.0
C-14.	Structural concrete	None	Min. 1.5-inch ACFoam II, FlintBoard, ENRGY 3 or H-Shield	OB500	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	OB500	SBS-SA	(Optional) SBS-SA	SBS-SA	-172.5
C-15.	Structural concrete	None	Min. 1.0-inch ISO 95+ GL, H-Shield, H-Shield CG, ENRGY 3 or min. 1.3-inch ACFoam III, Min. 1.5-inch Multi-Max FA3 or Ultra-Max	ICP BOARD-MAX or CR-20	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	ICP BOARD-MAX or CR-20	SBS-SA	(Optional) SBS-SA	SBS-SA	-172.5

TABLE 3A: STRUCTURAL CONCRETE DECKS – NEW CONSTRUCTION OR REROOF (TEAR-OFF)
SYSTEM TYPE A-1: BONDED INSULATION, BONDED ROOF COVER
SEE NOTE 16 FOR VAPOR BARRIER OPTIONS

Sys. No.	Deck (Note 1)	Primer	Base Insulation Layer		Top Insulation Layer		Roof Cover (Note 15)			MDP (psf)
			Type	Attach	Type	Attach	Base	Ply	Cap	
C-31.	Structural concrete	None	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	M-PG1	None	N/A	SBS-SA-H	(Optional) SBS-AA, SBS-TA, APP-TA	SBS-AA, SBS-TA, APP-TA	-195.0
C-32.	Structural concrete	None	Min. 1.5-inch ACFoam II, FlintBoard ISO, H-Shield, FlintBoard ISO$_H$	OB500	(Optional) Additional layer(s) base insulation	OB500	SBS-SA-H	(Optional) SBS-AA, SBS-TA, APP-TA	SBS-AA, SBS-TA, APP-TA	-135.0
C-33.	Structural concrete	None	Min. 1.5-inch ACFoam II, FlintBoard ISO, H-Shield, FlintBoard ISO$_H$	OB500	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	OB500	SBS-SA-H	(Optional) SBS-AA, SBS-TA, APP-TA	SBS-AA, SBS-TA, APP-TA	-217.5
C-34.	Structural concrete	None	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	OB500	None	N/A	SBS-SA-H	(Optional) SBS-AA, SBS-TA, APP-TA	SBS-AA, SBS-TA, APP-TA	-195.0
C-35.	Structural concrete	None	Min. 1.5-inch ACFoam II, FlintBoard ISO, H-Shield, FlintBoard ISO$_H$	ICP BOARD-MAX or CR-20	(Optional) Additional layer(s) base insulation	ICP BOARD-MAX or CR-20	SBS-SA-H	(Optional) SBS-AA, SBS-TA, APP-TA	SBS-AA, SBS-TA, APP-TA	-270.0
C-36.	Structural concrete	None	Min. 1.5-inch ACFoam II, FlintBoard ISO, H-Shield, FlintBoard ISO$_H$	ICP BOARD-MAX or CR-20	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	ICP BOARD-MAX or CR-20	SBS-SA-H	(Optional) SBS-AA, SBS-TA, APP-TA	SBS-AA, SBS-TA, APP-TA	-217.5
C-37.	Structural concrete	None	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	ICP BOARD-MAX or CR-20	None	N/A	SBS-SA-H	(Optional) SBS-AA, SBS-TA, APP-TA	SBS-AA, SBS-TA, APP-TA	-195.0
CONVENTIONAL SYSTEMS:										
C-38.	Structural concrete	FlintPrime (ASTM D41)	Min. 1.5-inch ACFoam II, ENRGY 3, H-Shield, FlintBoard ISO	HA	(Optional) Additional layer(s) of base insulation	HA	BP-AA3, 24-inch grid	(Optional) BP-AA, SBS-AA	SBS-AA	-37.5
C-39.	Structural concrete	FlintPrime (ASTM D41)	Min. 1.5-inch ACFoam II or FlintBoard ISO.	HA	Min. 0.25-inch Dens Deck, Dens Deck Prime	HA	SBS-TA	(Optional) SBS-TA	SBS-TA	-180.0
C-40.	Structural concrete	FlintPrime (ASTM D41)	(Optional) Min. 1.5-inch ACFoam II or FlintBoard ISO.	HA	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	HA	BP-AA, SBS-AA, SBS-TA or APP-TA	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-180.0
C-41.	Structural concrete	FlintPrime (ASTM D41)	(Optional) Min. 2-inch ACFoam II, FlintBoard ISO, ENRGY 3 or H-Shield	HA	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	HA	BP-AA or SBS-AA	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-225.0
C-42.	Structural concrete	FlintPrime (ASTM D41)	(Optional) Min. 1.5-inch ACFoam II, FlintBoard ISO, H-Shield, FlintBoard ISO$_H$	HA	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	HA	APP-TA	(Optional) APP-TA	APP-TA	-252.5
C-43.	Structural concrete	FlintPrime (ASTM D41)	Min. 1.5-inch ACFoam II, FlintBoard ISO, ENRGY 3 or H-Shield	HA	Min. 0.5-inch Structodek High Density Fiberboard	HA	BP-AA or SBS-AA	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-227.0
C-44.	Structural concrete	FlintPrime (ASTM D41)	(Optional) Min. 2-inch ACFoam II, FlintBoard ISO, ENRGY 3 or H-Shield	HA	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	HA	SBS-TA or APP-TA	(Optional) SBS-TA or APP-TA	SBS-TA or APP-TA	-232.5

RICK SINGH, CFA - ORANGE COUNTY PROPERTY APPRAISER

Searches | Sales Search | Results | **Property Record Card** | My Favorites | Sign up for e-Notify...

Oak Island Rd < 18-23-30-7160-02-070 >

Name(s)
Heidbrink Paul R
Heidbrink Bonnie A

5110

Property Name
N/A. Click information icon to contribute.

Mailing Address On File
5107 Oak Island Rd
Belle Isle, FL 32809-3551
Incorrect Mailing Address?

Physical Street Address
Oak Island Rd

Postal City and Zipcode
Orlando, Fl 32809

Property Use
0030 - Vacant Water

Municipality
Belle Isle

View 2018 Property Record Card

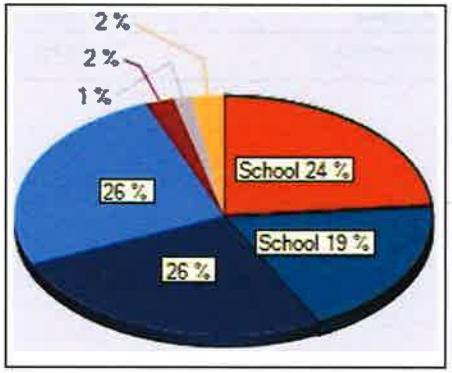
Property Features | Values, Exemptions and Taxes | **Sales Analysis** | **Location Info** | **Market Stats** | Update Information

Historical Value and Tax Benefits

Tax Year Values	Land		Building(s)		Feature(s)		Market Value		Assessed Value	
2018 ✓ MKT	$240,000	+	$0	+	$8,000	=	$248,000	(-66%)	**$248,000**	(-56%)
2017 ✓ MKT	$410,000	+	$293,325	+	$22,000	=	$725,325	(1.2%)	**$565,939**	(2.1%)
2016 ✓ MKT	$410,000	+	$285,060	+	$22,000	=	$717,060	(2.5%)	**$554,299**	(.70%)
2015 ✓ MKT	$410,000	+	$275,573	+	$14,000	=	$699,573		**$550,446**	

Tax Year Benefits	Original Homestead	Additional Hx	Other Exemptions	SOH Cap	Tax Savings
2018 ✓	n/a	n/a	n/a	n/a	$0
2017 ✓ $ HX CAP LIS	$25,000	$25,000	$500	$159,386	**$3,900**
2016 ✓ $ HX CAP LIS	$25,000	$25,000	$500	$162,761	**$4,026**
2015 ✓ $ HX CAP LIS	$25,000	$25,000	$500	$149,127	**$3,858**

2018 Tax Breakdown



2018 Taxable Value and Certified Taxes

TAX YEAR | 2018 • 2017 • 2016 • 2015

11:39:25 AM 9/24/2018

Data Contained In Search Results Is Current As Of 09/24/2018 11:33 AM.

Search Results

Please see our glossary of terms for an explanation of the license status shown in these search results.

For additional information, including any complaints or discipline, click on the name.

License Type	Name	Name Type	License Number/ Rank	Status/Expires
Certified Roofing Contractor	GOLD KEY ROOFING LLC	DBA	CCC1329157 Cert Roofing	Current, Active 08/31/2020
	Main Address*: 4874 S. ORANGE AVE ORLANDO, FL 32806			
Certified Roofing Contractor	HEWITT, JEFFREY ALLAN	Primary	CCC1329157 Cert Roofing	Current, Active 08/31/2020
	Main Address*: 4874 S. ORANGE AVE ORLANDO, FL 32806			

Back New Search

*** denotes**
Main Address - This address is the Primary Address on file.
Mailing Address - This is the address where the mail associated with a particular license will be sent (if different from the Main or License Location addresses).
License Location Address - This is the address where the place of business is physically located.

RICK SCOTT, GOVERNOR

JONATHAN ZACHEM, SECRETARY

Florida dbpr

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

CONSTRUCTION INDUSTRY LICENSING BOARD

THE BUILDING CONTRACTOR HEREIN IS CERTIFIED UNDER THE
PROVISIONS OF CHAPTER 489, FLORIDA STATUTES

HEWITT, JEFFREY ALLAN

GOLD KEY ROOFING LLC
4874 S. ORANGE AVE
ORLANDO FL 32806

LICENSE NUMBER: CBC060354

EXPIRATION DATE: AUGUST 31, 2020

Always verify licenses online at MyFloridaLicense.com

Do not alter this document in any form.

This is your license. It is unlawful for anyone other than the licensee to use this document.

Harry W Hewitt
(407)351-0680

CITY OF EDGEWOOD
LOCAL BUSINESS TAX RECEIPT

405 LARUE AVENUE EDGEWOOD FL 32809-3406
LICENSE YEAR OCT 1 2018 - SEPT 30 2019

No 1872
Date 8/07/18

Address 4874 S Orange Avenue
EDGEWOOD FL 32806
Activity ROOFING AND CONSTRUCTION

Issued to Gold Key Roofing, LLC
Harry W Hewitt
4874 S Orange Avenue
EDGEWOOD FL 32806

BUS TAX	98 12
PENALTY	
TRANSFER	
Total Paid	98 12
October 1	0 00
November 1	0 00
December 1	0 00
January 1	0 00

A MUST BE POSTED CONSPICUOUSLY AT PLACE OF BUSINESS

Bea L Meeks, CBTO City Clerk

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 12/20/2018

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Debra Guidry, CPCU
FRSA Self Insurers Fund, Inc. 4099 Metric Drive Winter Park, FL 32792	PHONE (A/C, No, Ext): (800) 767-3772 FAX (A/C, No): (407) 671-2520 E-MAIL ADDRESS: cert@frsasif.com

INSURER(S) AFFORDING COVERAGE		NAIC #
INSURER A :	FRSA Self Insurers Fund / Evanston Insurance Co.	35378
INSURER B :		
INSURER C :		
INSURER D :		
INSURER E :		
INSURER F :		

INSURED

Gold Key Roofing, LLC and Gold Key Cabinetry, Inc.
4874 S. Orange Avenue
Orlando, FL 32806

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☐ OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: ☐ POLICY ☐ PRO-JECT ☐ LOC OTHER:			N/A			EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ $ $ $ $ $
	AUTOMOBILE LIABILITY ☐ ANY AUTO ☐ ALL OWNED AUTOS ☐ SCHEDULED AUTOS ☐ HIRED AUTOS ☐ NON-OWNED AUTOS			N/A			COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ $ $ $
	UMBRELLA LIAB ☐ OCCUR **EXCESS LIAB** ☐ CLAIMS-MADE ☐ DED ☐ RETENTION $			N/A			EACH OCCURRENCE AGGREGATE	$ $
A	**WORKERS COMPENSATION AND EMPLOYERS' LIABILITY** ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N: N If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	N	870-040079 / 3DY3150	01/01/2019	12/31/2019	X PER STATUTE ☐ OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ 1,000,000 $ 1,000,000 $ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

REMARKS: Non-cancelable, without 30 days prior written notice, except for non-payment of premium which will be a 10 day written notice.

Jeffrey Allan Hewitt, Qualifier
Lic #CCC1329157

CERTIFICATE HOLDER

Attn:

City of Belle Isle
1600 Nela Ave.
Belle Isle, FL 32809

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Debra Guidry CPCU
Underwriting Manager

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 2/7/2019

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Frank H. Furman, Inc.
1314 East Atlantic Blvd.
P. O. Box 1927
Pompano Beach FL 33061

CONTACT NAME: Griselidys Acosta
PHONE (A/C, No, Ext): (954) 943-5050 **FAX (A/C, No):** (954) 942-6310
E-MAIL ADDRESS: gris@furmaninsurance.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A: Certain Underwriters at Lloyds	
INSURER B: MAPFRE Ins Co FL	34932
INSURER C:	
INSURER D:	
INSURER E:	
INSURER F:	

INSURED
Gold Key Roofing, LLC Gold Key International Inc
4874 S. Orange Avenue
Orlando FL 32806

COVERAGES **CERTIFICATE NUMBER:** 19/20 MASTER W/O ENDTS **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY X PRO-JECT LOC OTHER:			WCISCGL000289901	2/19/2019	2/19/2020	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG Employee Benefits Liability	$ 1,000,000 $ 100,000 $ 5,000 $ 1,000,000 $ 2,000,000 $ 2,000,000 $ 1,000,000
B	AUTOMOBILE LIABILITY X ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS X HIRED AUTOS X NON-OWNED AUTOS			5204070002276	2/19/2019	2/19/2020	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) PIP-Basic	$ 1,000,000 $ $ $ $ 10,000
	UMBRELLA LIAB OCCUR EXCESS LIAB CLAIMS-MADE DED RETENTION $						EACH OCCURRENCE AGGREGATE 	$ $ $
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N N/A If yes, describe under DESCRIPTION OF OPERATIONS below						PER STATUTE OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ $ $

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER
City of Belle Isle
1600 Nela Ave
Orlando, FL 32809

CANCELLATION
SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE
Dirk DeJong/GA