City of Belle Isle Job Site Permit Card ROOF 2020-04-015

Subdivision **Site Address: 3200 Flowertree Rd 32812**

Class: Residential **Parcel Number:** 29-23-30-1880-02-050

==========

Description of Work: **ROOF - total square footage: 3200**
Number of Stories: 1 2
ASPHALT SHINGLES with underlayment
MODIFIED BITUMEN

==========

Issued To: UNIVERSAL ROOF & CONTRACTING **Business Phone: 407 295-7403**
Name: MELLICK, KENNY LEE **Contractor License CCC057165**
Payment Date & Method: 4 / 3 / 2019 ☐ Picked up or sent by _____ ☑ Emailed
☐ Visa ☑ Master Card ☐ Amex ☐ Discover ☐ Check / Money Order # _____
☐ Picked up by _____ ☐ Emailed

☐ **Visa** ☑ **Master Card** ☐ **Amex** ☐ **Discover** ☐ **Check / Money Order#**

9 9 1 4

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.

PLEASE NOTE: In order to schedule any inspections, the **PERMIT / plans-specs.** must be issued and **POSTED** on the **JOB SITE! THIS WILL AVOID ANY FAILED INSPECTIONS & RE-INSPECTION FEES.** 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 all of your inspections -
☆ **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 requirements in your request:**

- **Project Address**
- **Corresponding Permit Number**
- **Type of Inspection** (Please reference your permit card for inspection codes)
- **Date of Inspection** (If no date is specified, the inspection will be scheduled for the next business day)
- **Contact Name**
- **Contact Phone Number**
- **Gate / Entry code** (If applicable)
- **AM, PM, or Any Time** (We do our best to accommodate time requests but cannot guarantee an exact arrival)

Universal Engineering Sciences - 3532 Maggie Blvd., Orlando, FL 32811407-581-8161 * Fax 407-581-0313 www.universalengineering.com

COMPLETED

~~Pending~~: ~~Product Approval Sheet, Contact Number, Company's Name, State, Local licenses, Workers Comp and Liablity Insurance~~

RECEIVED APRIL– 1- 2020 COBI – UES

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: 4/1/2020 **ROOF PERMIT NUMBER** 2020-04-015

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

Project Address 3200 Flowertree Rd, Belle Isle, FL ☐ 32809 ☑ 32812

Property Owner Todd Nolan Phone 407 761 0721 Contact number required

Property Owner's Mailing Address 525 Linson Ct City Orlando

State FL Zip Code 32809 **Parcel Id Number:** 29-23-30-1880-02-050

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 ☑

- **REQUIRED! Florida Product Approval Screen Printout from www.floridabuilding.org showing the Code Version**
- **REQUIRED! Florida Product Approval Installation Instructions from www.floridabuilding.org (not the manufacturer instructions)**
- **REQUIRED! Copies of your General Liability & Worker's Comp Insurance Certificate & State and Local Licenses**

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

Roof Square Footage: 3200 **Number of Stories:** 1 **Job Valuation: $** 16,127.65

Type: Asphalt Shingles ☑ Metal ☐ Modified Bitumen ☑ 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 [signature] LICENSE # CCC057165

LICENSE HOLDER NAME Ken Mellick COMPANY NAME Universal Roof & Contracting

Street Address 5655 Carder Rd

City Orlando State FL Zip Code 32810 Phone Number 407-803-4723

Email Address Permitting@universalroof.com

Building Official: OTC Date 4·1·2020

✓ Verified Contractor's Licenses & Insurance are on file [signature] Date 4·1·2020

Zoning Fee	$ 30.00
Permit Fee	$ 105.00
Review Fee	$ –
3% Florida Surcharge	$ 2.00 2.00
Total Permit Fee	$ 139.00

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 ______

30 2% of 1675 .625 50 105

PAID MC A 17914 4-3-2020

State of FLORIDA, County of ORANGE,
Per §668.50, F.S., which defines and permits electronic signatures, I certify that this is a true copy of the document as reflected in the Official Records.
PHIL DIAMOND, COUNTY COMPTROLLER

By B. Galagarza at 3:06 pm, Mar 26, 2020

Deputy Comptroller — Date

DOC # 20200194142
03/26/2020 13:43 PM Page 1 of 1
Rec Fee: $10.00
Deed Doc Tax: $0.00
Mortgage Doc Tax: $0.00
Intangible Tax: $0.00
Phil Diamond, Comptroller
Orange County, FL
Ret To: SIMPLIFILE LC

Permit Number: _____
Folio/Parcel ID #: 29-23-30-1880-02-050
Prepared by: Luz Diaz
_____
_____
Return to: 5655 Carder Rd
Orlando FL 32810
_____
_____

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)
   Raehuyler Shores 1st Addition 4/107, 0t5 Blk B; 3200 Flowertree Rd
2. **General description of improvement**
   Roof Replacement
3. **Owner information or Lessee information if the Lessee contracted for the improvement**
   Name Nolan, Todd M
   Address 525 Idlewood Ct Orlando FL. 32809-3043
   Interest in Property Owner
   Name and address of fee simple titleholder (if different from Owner listed above)
   Name _____
   Address _____
4. **Contractor**
   Name Universal Roof & Contracting Telephone Number 407 295 7403
   Address 5655 Carder Rd Orlando FL 32810
5. **Surety** (if applicable, a copy of the payment bond is attached)
   Name _____ Telephone Number _____
   Address _____ Amount of Bond $ _____
6. **Lender**
   Name _____ Telephone Number _____
   Address _____
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 _____ Telephone Number _____
   Address _____
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 _____ Telephone Number _____
   Address _____
9. **Expiration date of notice of commencement** (the expiration date will be 1 year from the date of recording unless a different date is specified) _____

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 _____
Signature of Owner or Lessee, or Owner's or Lessee's Authorized Officer/Director/Partner/Manager

Owner
Signatory's Title/Office

The foregoing instrument was acknowledged before me this 25 day of mar 20 by Todd Nolan
month/year — name of person

as _____ for _____
Type of authority, e.g., officer, trustee, attorney in fact — Name of party on behalf of whom instrument was executed

_____
Signature of Notary Public – State of Florida

Shannon Mellick
Print, type, or stamp commissioned name of Notary Public

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

SHANNON MELLICK
Commission # GG 300535
Expires February 11, 2023
Bonded Thru Troy Fain Insurance 800-385-7019

Form content revised: 01/23/14

3200 4500
Paid $110 3131

3200 Flowertree Rd

3 skylights

RICK SINGH, CFA - ORANGE COUNTY PROPERTY APPRAISER

3200 Flowertree Rd < 29-23-30-1880-02-050 >

25 D shingle
TDI mod
4/12
$16,127.65

Name(s)
Nolan Todd M

Mailing Address On File
525 Linson Ct
Orlando, FL 32809-3043
Incorrect Mailing Address?

Physical Street Address
3200 Flowertree Rd

Postal City and Zipcode
Orlando, Fl 32812

Property Use
0103 - Single Fam Class III

Municipality
Belle Isle

View 2019 Property Record Card

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

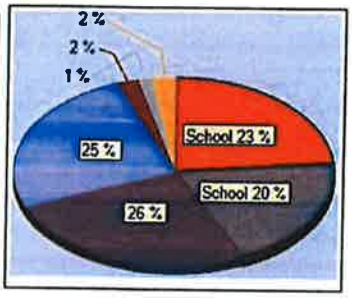
Update Information

Historical Value and Tax Benefits

Tax Year Values	Land		Building(s)		Feature(s)	Market Value		Assessed Value	
2019 ✓ MKT	$60,000	+	$115,298	+	$1,000	= $176,298	(11%)	$169,274	(10%)
2018 ✓ MKT	$55,000	+	$103,286	+	$1,000	= $159,286	(10%)	$153,885	(10%)
2017 ✓ MKT	$42,000	+	$101,732	+	$1,000	= $144,732	(14%)	$139,895	(10%)
2016 ✓ MKT	$42,000	+	$84,177	+	$1,000	= $127,177		$127,177	

Tax Year Benefits	Tax Savings
2019 ✓ $	$69
2018 ✓ $	$53
2017 ✓ $	$48
2016 ✓	$0

2019 Tax Breakdown



2019 Taxable Value and Certified Taxes

TAX YEAR | 2019 • 2018 • 2017 • 2016

Taxing Authority	Assd Value	Exemption	Tax Value	Millage Rate		Taxes	%
Public Schools: By State Law (Rle)	$176,298	$0	$176,298	3.8610	(-4.69%)	$680.69	23 %
Public Schools: By Local Board	$176,298	$0	$176,298	3.2480	(0.00%)	$572.62	20 %
Orange County (General)	$169,274	$0	$169,274	4.4347	(0.00%)	$750.68	26 %
City Of Belle Isle	$169,274	$0	$169,274	4.4018	(0.00%)	$745.11	25 %
Library - Operating Budget	$169,274	$0	$169,274	0.3748	(0.00%)	$63.44	2 %
St Johns Water Management District	$169,274	$0	$169,274	0.2414	(-5.78%)	$40.86	1 %
Lake Conway Mstu	$169,274	$0	$169,274	0.4107	(0.00%)	$69.52	2 %
				16.9724		$2,922.92	

2019 Non-Ad Valorem Assessments

Levying Authority	Assessment Description	Units	Rate	Assessment
CITY OF BELLE ISLE	BELLE ISLE RES - GARBAGE - (407)851-7730	1.00	$245.64	$245.64
CITY OF BELLE ISLE	BELLE ISLE STRM - DRAINAGE - (407)851-7730	1.00	$110.00	$110.00
				$355.64

2019 Gross Tax Total: $3,278.56

2019 Tax Savings Tax Savings

Your property taxes without exemptions would be:		$2,992.20
Your ad-valorem property tax with exemptions is:	-	$2,922.92
Providing You A Savings Of:	=	**$69.28**

This Data Printed on 03/23/2020 and System Data Last Refres

What are you looking to do today? You can also type your question below.

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: 4/1/2020

PERMIT #_____

PROJECT ADDRESS 3200 Flowertree Rd, Belle Isle, FL ___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 #
EXTERIOR DOORS			
Swinging			
Sliding			
Sectional/Rollup			
Other			
WINDOWS			
Single/Dbl Hung			
Horizontal Slider			
Casement			
Fixed			
Mullion			
Skylights ✓	Kennedy		FL15592.1
Other			
STRUCTURAL COMPONENTS			
Wood Connectors			
Wood Anchors			
Truss Plates			
Insulation Forms			
Lintels			
Other			

Product Type	Manufacturer	Model/Series	FL Product Approval #
WALL PANELS			
Sliding			
Soffits			
Storefront			
Glass Block			
Other			
ROOFING PRODUCTS			
Asphalt Shingles	Owens corning		FL10674.1 ✓
Non Struct Metal			
Roofing Tiles			
Single Ply Roof			
Underlayment	Rhino roof/DC		FL15216.1 ✓
Other Mod bit	certainteed		FL2533.1 ✓
Mod Underlayment	Certainteed		FL11288.1 ✓
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** 4/1/2020

Product Approval
USER: Public User

FL #	FL10674-R13
Application Type	Revision
Code Version	2017
Application Status	Approved
Comments	
Archived	
Product Manufacturer	Owens Corning
Address/Phone/Email	One Owens Corning Parkway Toledo, OH 43659 (740) 404-7829 greg.keeler@owenscorning.com
Authorized Signature	Greg Keeler greg.keeler@owenscorning.com
Technical Representative	Mel Sancrant
Address/Phone/Email	1 Owens Corning PKWY Toledo, OH 43659 (419) 376-8360 mel.sancrant@owenscornig.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 J.M. Nieminen
Florida License	PE-59166
Quality Assurance Entity	UL LLC
Quality Assurance Contract Expiration Date	05/16/2020
Validated By	John W. Knezevich, PE ✔ Validation Checklist - Hardcopy Received
Certificate of Independence	FL10674_R13_COI_2017_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

Product Approval Method	Method 1 Option D
Date Submitted	10/10/2017
Date Validated	10/11/2017
Date Pending FBC Approval	10/15/2017
Date Approved	12/12/2017

Summary of Products

FL #	Model, Number or Name	Description
10674.1	Owens Corning Asphalt Roofing Shingles and Starters	3-tab, 4-tab, 5-tab, laminated, starter and hip & ridge shingles
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.		**Installation Instructions** FL10674_R13_II_2017_10_FINAL_ER_OC_ASPHALT SHINGLES_FL10674-R13.pdf Verified By: Robert J. M. Nieminen PE - 59166 Created by Independent Third Party: Yes **Evaluation Reports** FL10674_R13_AE_2017_10_FINAL_ER_OC_ASPHALT SHINGLES_FL10674-R13.pdf Created by Independent Third Party: Yes

Back Next

EXTERIOR RESEARCH & DESIGN, LLC.
Certificate of Authorization #9503
353 CHRISTIAN STREET, UNIT #13
OXFORD, CT 06478
(203) 262-9245

EVALUATION REPORT

Owens Corning
One Owens Corning Parkway
Toledo, OH 43659
(740) 404-7829

Evaluation Report O37940.02.12-R8
FL10674-R13
Date of Issuance: 02/06/2012
Revision 8: 10/09/2017

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: Owens Corning Asphalt Roof Shingles

LABELING: Labeling shall be in accordance with the requirements 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 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. if the product changes or the referenced Quality Assurance documentation changes. Trinity|ERD 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 "Trinity|ERD Evaluated" may be displayed in advertising literature. If any portion of the Evaluation Report is displayed, then it shall be done in its entirety.

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

This Evaluation Report consists of pages 1 through 8.

Prepared by:

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

The facsimile seal appearing was authorized by Robert Nieminen, P.E. on 10/09/2017. This does not serve as an electronically signed document.

CERTIFICATION OF INDEPENDENCE:

1. Trinity|ERD 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. Trinity|ERD 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 Trinity|ERD 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: Owens Corning Asphalt Roof Shingles, as produced by **Owens Corning**, have demonstrated compliance with the following sections of the **6th Edition (2017) Florida Building Code** and **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 LLC (CER9626)	Physicals & Wind Resistance	File R2453, Vol. 3	02/15/2007
UL LLC (CER9626)	Physicals & Wind Resistance	20120516-R2453	05/16/2012
UL LLC (TST9628)	Physical Properties	06CA20263	04/18/2006
UL LLC (TST9628)	Wind Resistance	11CA34308	02/18/2012
UL LLC (TST9628)	Physicals & Wind Resistance	4786093137	02/01/2014
UL LLC (TST9628)	Wind Resistance	4786126532	02/10/2014
UL LLC (TST9628)	Physical Properties	Classification letter	02/13/2014
UL LLC (TST9628)	Physical Properties	Classification letter	10/02/2015
Miami-Dade (CER1592)	FBC HVHZ Compliance	Various NOAs	Various
UL LLC (QUA9625)	Quality Control	Service Confirmation	Exp. 05/16/2020

4. PRODUCT DESCRIPTION:

4.1 Asphalt Shingles:

4.1.1 Classic® and Supreme® are fiberglass reinforced, 3-tab asphalt roof shingles.

4.1.2 Berkshire® are fiberglass reinforced, 4-tab asphalt roof shingles.

4.1.3 Devonshire™ are fiberglass reinforced, 5-tab asphalt roof shingles.

4.1.4 Duration®, TruDefinition® Duration®, Duration® Premium Cool, TruDefinition® Duration® Designer Color Collection, TruDefinition® Oakridge®, Oakridge® and WeatherGuard® HP are fiberglass reinforced, laminated asphalt roof shingles.

4.2 Hip & Ridge Shingles:

4.2.1 Berkshire® Hip & Ridge Shingles, High Ridge, WeatherGuard® HP Hip & Ridge Shingles, ProEdge Hip & Ridge Shingles and DuraRidge™ Hip & Ridge Shingles are fiberglass reinforced, hip and ridge asphalt roof shingles.

4.3 Accessory Starter Strips:

4.3.1 Starter Strip Shingle, Starter Strip Plus and Starter Shingle Roll are starter strips for asphalt roof shingles.

5. LIMITATIONS:

5.1 This is a building code evaluation. Neither Trinity|ERD 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 for fire ratings of this product.

5.4 Wind Classification:

5.4.1 All **Owens Corning asphalt 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 use 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 All **Owens Corning hip & ridge shingles, Starter Strip Shingle** and **Starter Strip Plus** noted herein are Classified in accordance with **FBC Tables 1507.2.7.1** and **R905.2.6.1** to **ASTM D3161, Class F**, indicating the shingles are acceptable for use 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.

5.4.3 Classification by **ASTM D7158** applies to **exposure category B or C**, as defined in **FBC 1609.4.3**, and a **mean roof 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 Refer to **Owens Corning** published information on wind resistance and installation limitations.

5.5 All products in the roof assembly shall have quality assurance audit in accordance with **F.A.C. Rule 61G20-3**.

6. INSTALLATION:

6.1 Underlayment:

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

6.2 Asphalt Shingles:

6.2.1 Installation of asphalt shingles shall comply with the **Owens Corning** current published instructions, using minimum four (4) nails per shingle in accordance with **FBC 1507.2.7** or **R905.2.6**, with the following exceptions:

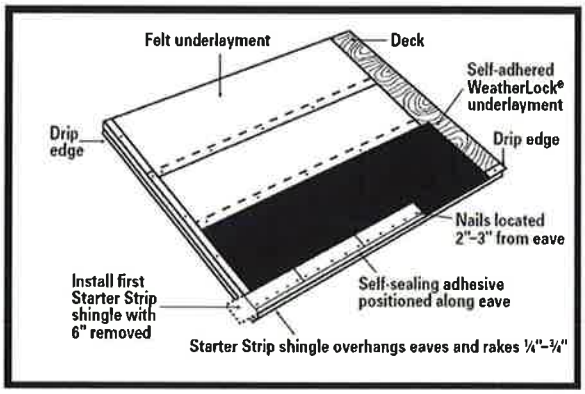
- **Berkshire®** shingles require minimum five (5) nails per shingle.
- **WeatherGuard® HP** shingles require minimum six (6) nails per shingle.
- **Devonshire™** shingles require minimum six (6) nails per shingle.
- **Starter Strip Shingle** and **Starter Strip Plus** require minimum five (5) nails per strip.

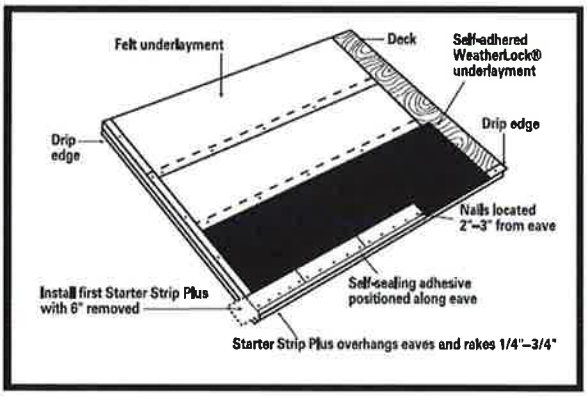
Refer to **Owens Corning** published information on wind resistance and installation limitations.

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

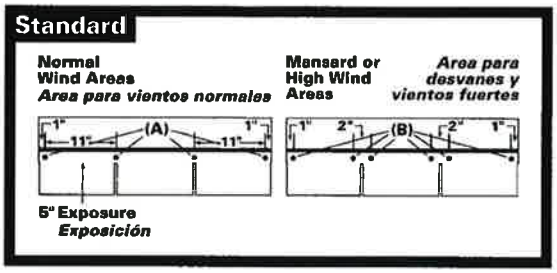
6.2.4 Where the roof slope exceeds 21 units vertical in 12 units horizontal, special methods of fastening are required. See figures below for details.

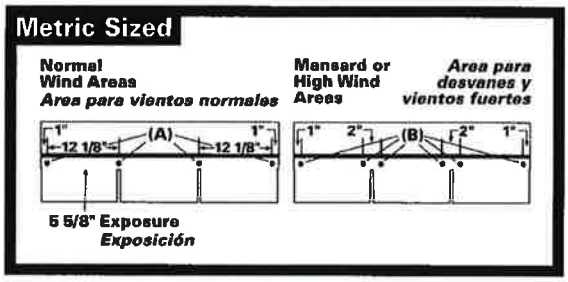
6.2.5 Minimum Nailing – **Starter Strip Shingle** and **Starter Strip Plus**:



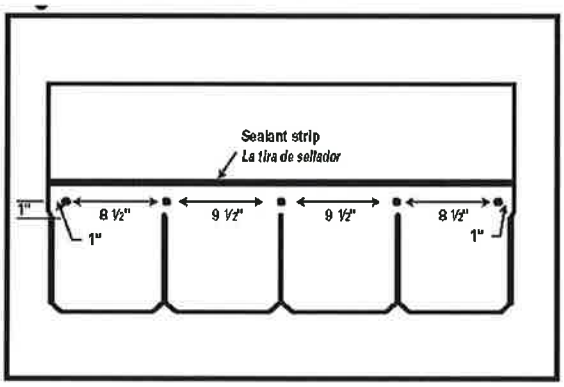


6.2.6 Minimum Nailing – **Classic® & Supreme**:

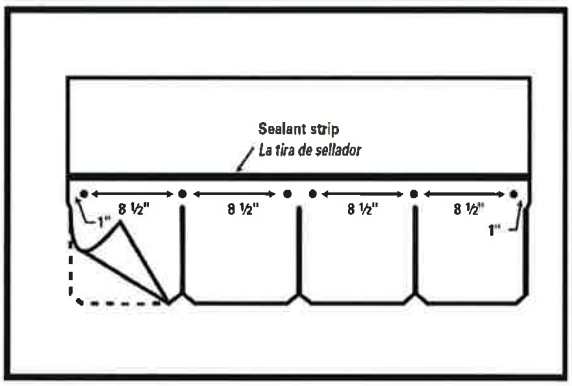




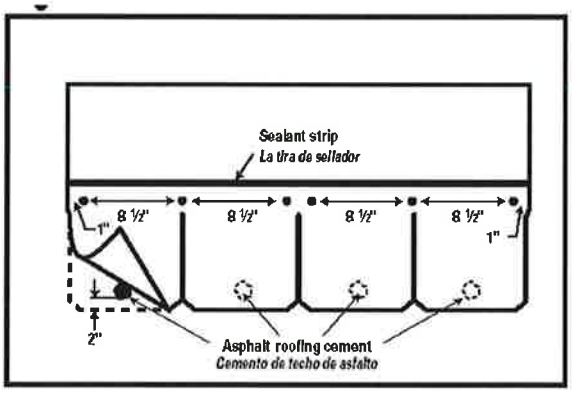
6.2.7 Minimum Nailing – **Berkshire®**:



Standard Fastening Pattern

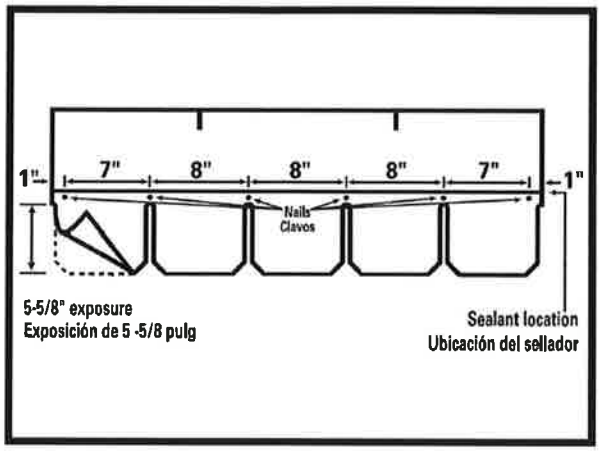


6-Nail Fastening Pattern

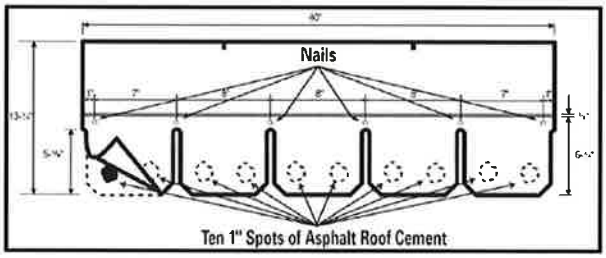


Mansard or Steep Slope Fastening Pattern

6.2.8 Minimum Nailing – **Devonshire™**:

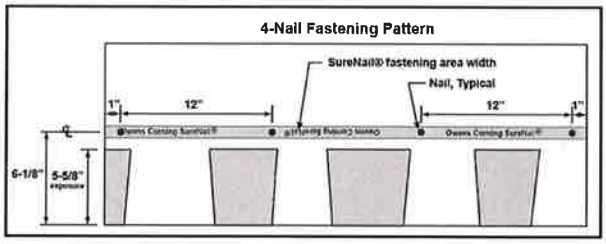


Standard 6-Nail Fastening Pattern

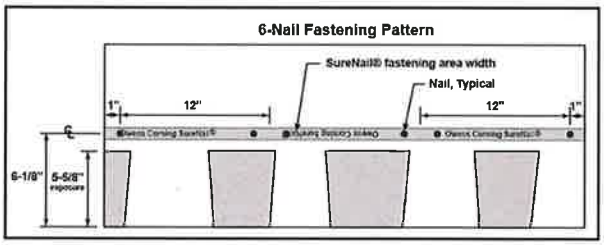


Mansard or Steep Slope Fastening Pattern

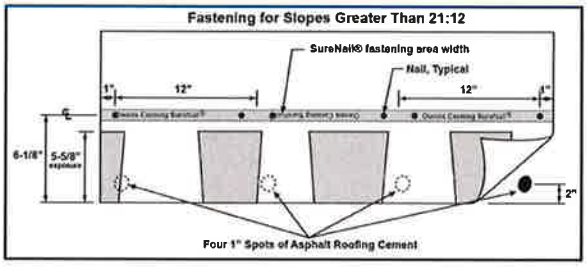
6.2.9 Minimum Nailing – **Duration®, TruDefinition® Duration, Duration® Premium Cool & TruDefinition® Duration® Designer Color Collection**:



Standard Fastening Pattern

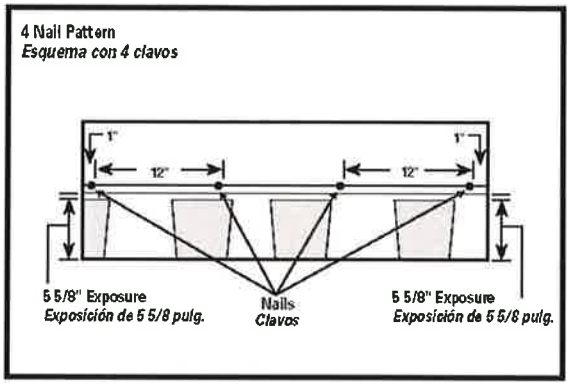


6-Nail Fastening Pattern

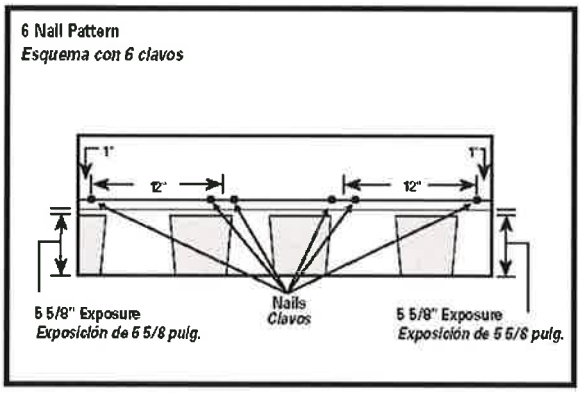


Mansard or Steep Slope Fastening Pattern

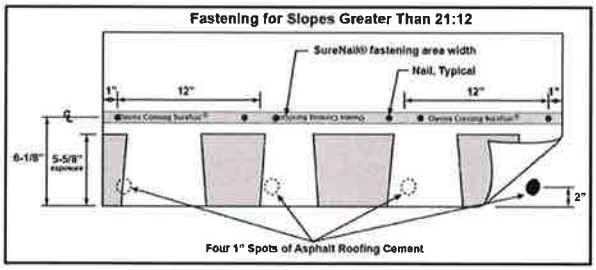
6.2.1 Minimum Nailing – **TruDefinition® Oakridge®, Oakridge®**:



Standard Fastening Pattern

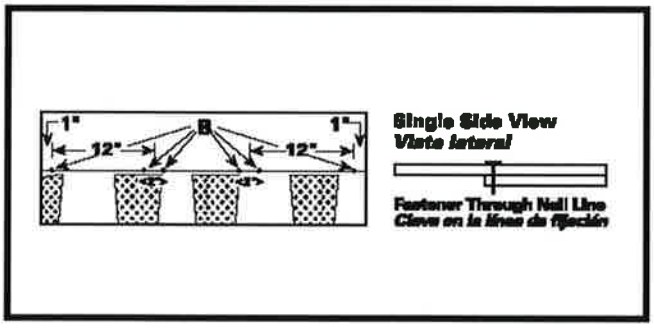


6-Nail Fastening Pattern



Mansard or Steep Slope Fastening Pattern

6.2.1 Minimum Nailing – **WeatherGuard® HP**:

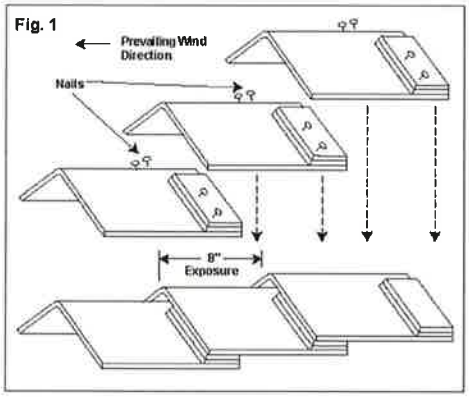


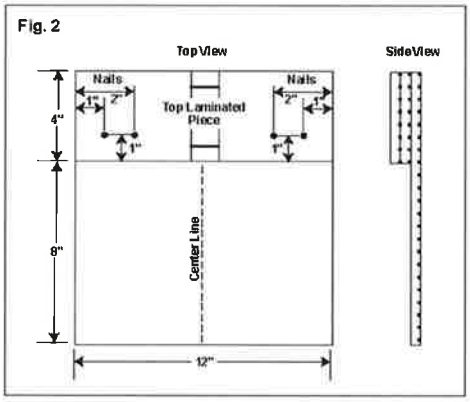
6.3 Hip & Ridge Shingles:

6.3.1 Installation of **Berkshire® Hip and Ridge Shingles**, **High Ridge**, **WeatherGuard® HP Hip and Ridge Shingles** and **ProEdge Hip & Ridge Shingles** shall comply with the **Owens Corning** current published instructions, using four (4) nails per shingle. Installation of **DuraRidge™ Hip & Ridge Shingles** shall comply with the **Owens Corning** current published instructions, using two (2) nails per shingle. Refer to **Owens Corning** published information on wind resistance and installation limitations, including the use of hand-sealing for wind warranties.

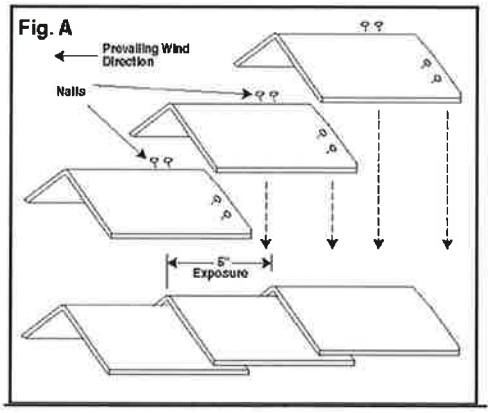
6.3.2 Fasteners shall be in accordance with the manufacturer's published requirements, but not less than **FBC 1507.2.6 or R905.2.5**. Staples are not permitted.

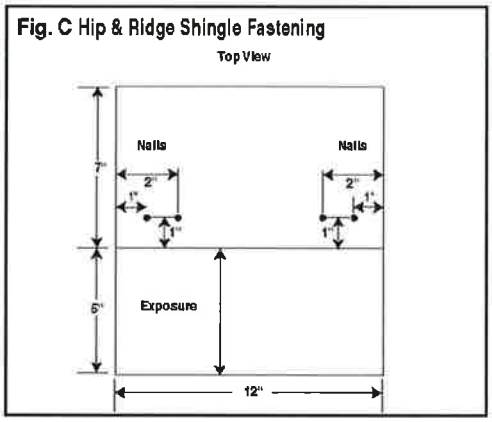
6.3.3 Minimum Nailing – **Berkshire® Hip & Ridge and High Ridge**:



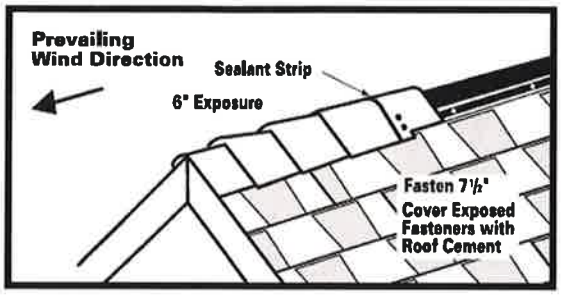


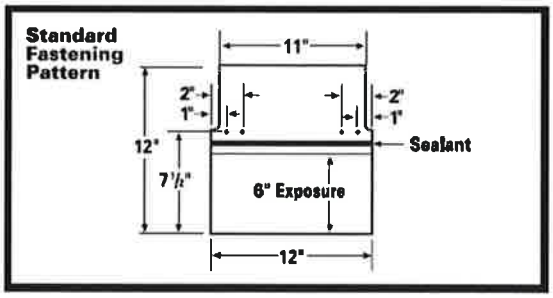
6.3.4 Minimum Nailing – **WeatherGuard® HP Hip and Ridge**:





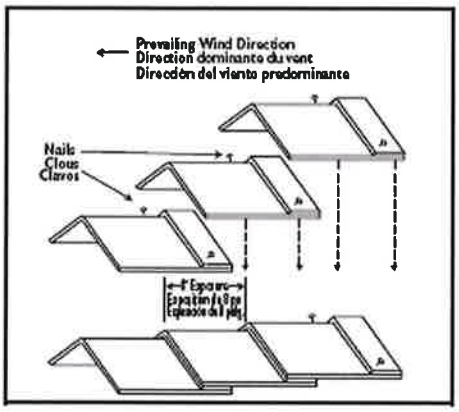
6.3.5 Minimum Nailing - **ProEdge Hip & Ridge Shingles**:

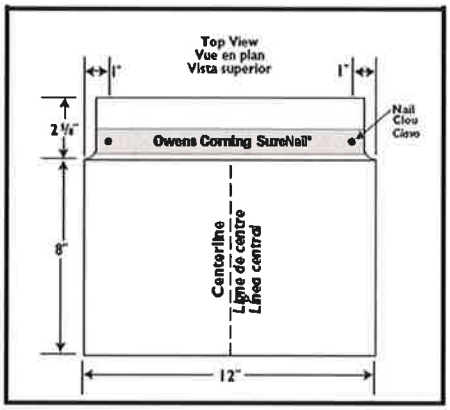




6.3.6 Minimum Nailing – **DuraRidge™ Hip & Ridge Shingles**:

Note: The drawings below pertain to minimum, as-tested attachment requirements. Refer to Owens Corning published installation instructions for their minimum requirements.





7. LABELING:

7.1 Labeling shall be in accordance with the requirements 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 in order 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 9N-3 QA requirements.

10. QUALITY ASSURANCE ENTITY:

UL LLC– QUA9625 ; (631) 546-2458; Kanchi.Agrawala-Dokania@ul.com

- END OF EVALUATION REPORT -

Product Approval
USER: Public User

OFFICE OF THE SECRETARY

FL #	FL15216-R4
Application Type	Revision
Code Version	2017
Application Status	Approved
Comments	
Archived	
Product Manufacturer	Owens Corning Roofing and Asphalt, LLC
Address/Phone/Email	One Owens Corning Parkway Toledo, OH 43645 (740) 321-6345 Greg.Keeler@owenscorning.com
Authorized Signature	Keeler Greg Greg.Keeler@owenscorning.com
Technical Representative	Greg Keeler
Address/Phone/Email	2790 Columbus Road Granville, OH 43023 (740) 321-6345 greg.keeler@owenscorning.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	Intertek Testing Services NA, Inc. - QA Entity
Quality Assurance Contract Expiration Date	12/31/2020
Validated By	John W. Knezevich, PE ✓ Validation Checklist - Hardcopy Received
Certificate of Independence	FL15216_R4_COI_2018_01_COI_NIEMINEN.pdf

Referenced Standard and Year (of Standard)

Standard	Year
ASTM D1970 (tear)	2015
ASTM D226 (physicals)	2009
TAS 117(B)	1995

Equivalence of Product Standards Certified By

Sections from the Code

Product Approval Method	Method 1 Option D
Date Submitted	04/20/2018
Date Validated	04/20/2018
Date Pending FBC Approval	04/22/2018
Date Approved	06/12/2018

Summary of Products

FL #	Model, Number or Name	Description
15216.1	RhinoRoof 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:** See ER Section 5 for Limits of Use.		**Installation Instructions** FL15216_R4_II_2018_04_FINAL_ER_OWENS CORNING_RHINOROOF_FL15216-R4.pdf Verified By: Robert Nieminen PE-59166 Created by Independent Third Party: Yes **Evaluation Reports** FL15216_R4_AE_2018_04_FINAL_ER_OWENS CORNING_RHINOROOF_FL15216-R4.pdf Created by Independent Third Party: Yes

Back Next

Product Approval
USER: Public User

FL #	FL15592-R2
Application Type	Revision
Code Version	2017
Application Status	Approved
	*Approved by DBPR. Approvals by DBPR shall be reviewed and ratified by the POC and/or the Commission if necessary.
Comments	
Archived	
Product Manufacturer	Kennedy Skylights, LLC
Address/Phone/Email	5294 Tower Way Sanford, FL 32773 (602) 485-5984 kelly@nltubular.com
Authorized Signature	Kelly Joya kelly@nltubular.com
Technical Representative	
Address/Phone/Email	
Quality Assurance Representative	Pearl Strickland
Address/Phone/Email	5294 Tower Way Sanford, FL 32773 (407) 330-5150 pearl@kennedyskylights.com
Category	Sky Lights
Subcategory	Skylight
Compliance Method	Certification Mark or Listing
Certification Agency	National Accreditation & Management Institute
Validated By	National Accreditation & Management Institute

Referenced Standard and Year (of Standard)

Standard	Year
AAMA/CSA/WDMA 101/I.S. 2/A440	2005
ASTM E1886	2002
ASTM E1996	2005
ASTM E283	2004
ASTM E330	2002
ASTM E331-00 (2009)	2009
TAS201	1994
TAS202	1994
TAS203	1994

Equivalence of Product Standards Certified By	Florida Licensed Professional Engineer or Architect
	FL15592_R2_Equiv_EER_2059_Rev3_417-1015_KennedySkylight_ss.pdf

FL15592_R2_Equiv_EER_2061_Rev3_417-1015_KennedySkylight_ss.pdf
FL15592_R2_Equiv_EER_2386_Rev1_417-1015_KennedySkylight_ss.pdf

Product Approval Method	Method 1 Option A
Date Submitted	12/12/2017
Date Validated	12/18/2017
Date Pending FBC Approval	
Date Approved	12/23/2017

Summary of Products

FL #	Model, Number or Name	Description
15592.1	"CM" Curb Mounted Polycarbonate Skylight	"CM" Curb Mounted Polycarbonate Skylight - Non-Impact
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** No **Design Pressure:** +60/-60 **Other:**		**Certification Agency Certificate** FL15592_R2_C_CAC_NI005843-R6 - KENN0007.pdf **Quality Assurance Contract Expiration Date** 07/31/2022 **Installation Instructions** FL15592_R2_II_KENN0007 RevB CM_ss.pdf Verified By: Robert J. Amoruso, P.E. FL PE No. 49752 Created by Independent Third Party: Yes **Evaluation Reports** FL15592_R2_AE_PER_2061_Rev3_417-1015_KennedySkylight_ss.pdf Created by Independent Third Party: Yes
15592.2	"CMG" Curb Mounted Glass Skylight	"CMG" Curb Mounted Glass Skylight - Non-Impact
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** No **Design Pressure:** +95/-95 **Other:**		**Certification Agency Certificate** FL15592_R2_C_CAC_NI005962-R6 - KENN0003.pdf **Quality Assurance Contract Expiration Date** 08/31/2022 **Installation Instructions** FL15592_R2_II_KENN0003 RevB CMG_ss.pdf Verified By: Robert J. Amoruso, P.E. FL PE No. 49752 Created by Independent Third Party: Yes **Evaluation Reports** FL15592_R2_AE_PER_2059_Rev3_417-1015_KennedySkylight_ss.pdf Created by Independent Third Party: Yes
15592.3	"HCMA" Curb Mounted Polycarbonate Skylight	"HCMA" Curb Mounted Polycarbonate Skylight - Large Missile Impact for HVHZ
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** Yes **Design Pressure:** +80/-80 **Other:**		**Certification Agency Certificate** FL15592_R2_C_CAC_NI012743-R1 - KENN0006.pdf **Quality Assurance Contract Expiration Date** 12/31/2022 **Installation Instructions** FL15592_R2_II_KENN0006 RevB HCMA_ss.pdf Verified By: Robert J. Amoruso, P,E. FL PE No. 49752 Created by Independent Third Party: Yes **Evaluation Reports** FL15592_R2_AE_PER_2061_Rev3_417-1015_KennedySkylight_ss.pdf Created by Independent Third Party: Yes
15592.4	"ICMG" Curb Mounted Glass Skylight	"ICMG" Curb Mounted Glass Skylight - Large Missile Impact for HVHZ
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** Yes **Design Pressure:** +60/-60 **Other:**		**Certification Agency Certificate** FL15592_R2_C_CAC_NI005963.02 - KENN0001.pdf **Quality Assurance Contract Expiration Date** 08/31/2022 **Installation Instructions** FL15592_R2_II_KENN0001 RevB ICMG_ss.pdf Verified By: Robert J. Amoruso, P.E. FL PE No. 49752 Created by Independent Third Party: Yes **Evaluation Reports** FL15592_R2_AE_PER_2059_Rev3_417-1015_KennedySkylight_ss.pdf Created by Independent Third Party: Yes

15592.5	"ISFG4" Curb Mounted Glass Skylight	"ISFG4" Curb Mounted Glass Skylight - Large Missile Impact for Non-HVHZ
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** Yes **Design Pressure:** +52.5/-52.5 **Other:**		**Certification Agency Certificate** FL15592_R2_C_CAC_NI009833-R5_KENN0004.pdf **Quality Assurance Contract Expiration Date** 10/31/2022 **Installation Instructions** FL15592_R2_II_KENN0004 RevB ISFG4_ss.pdf Verified By: Robert J. Amoruso, PE FL PE No. 49752 Created by Independent Third Party: Yes **Evaluation Reports** FL15592_R2_AE_PER_2386_Rev1_417-1015_KennedySkylight_ss.pdf Created by Independent Third Party: Yes
15592.6	"SF" Self-Flashing Polycarbonate Skylight	"SF" Self-Flashing Polycarbonate Skylight - Non-Impact
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** No **Design Pressure:** +85/-70 **Other:**		**Certification Agency Certificate** FL15592_R2_C_CAC_NI005844-R6_KENN0008.pdf **Quality Assurance Contract Expiration Date** 08/31/2024 **Installation Instructions** FL15592_R2_II_KENN0008 RevB SF Polycarb_SS.pdf Verified By: Robert J. Amoruso, P.E. FL PE No. 49752 Created by Independent Third Party: Yes **Evaluation Reports** FL15592_R2_AE_PER_2061_Rev3_417-1015_KennedySkylight_ss.pdf Created by Independent Third Party: Yes
15592.7	"SFG4" Curb Mounted Self Flashing Glass Skylight	"SFG4" Curb Mounted Self Flashing Glass Skylight - Non-Impact
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** No **Design Pressure:** +60/-60 **Other:**		**Certification Agency Certificate** FL15592_R2_C_CAC_NI005513-R7 - KENN0005.pdf **Quality Assurance Contract Expiration Date** 09/30/2022 **Installation Instructions** FL15592_R2_II_KENN0005 RevB SFG4_ss.pdf Verified By: Robert J. Amoruso, P.E. FL PE No. 49752 Created by Independent Third Party: Yes **Evaluation Reports** FL15592_R2_AE_PER_2059_Rev3_417-1015_KennedySkylight_ss.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

Owens Corning Roofing and Asphalt, LLC
One Owens Corning Parkway
Toledo, OH 43659
(740) 321-6345

Evaluation Report I40510.02.12-R4
FL15216-R4
Date of Issuance: 02/17/2012
Revision 4: 04/19/2018

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: RhinoRoof Underlayments

LABELING: Labeling shall be in accordance with the requirements of the Accredited Quality Assurance Agency noted herein.

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

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

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

This Evaluation Report consists of pages 1 through 3.

Prepared by:

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

ROBERT J. M. NIEMINEN LICENSE No. 59166 STATE OF FLORIDA PROFESSIONAL ENGINEER

The facsimile seal appearing was authorized by Robert Nieminen, P.E. on 04/19/2018. This does not serve as an electronically signed document.

CERTIFICATION OF INDEPENDENCE:

1. NEMO ETC, LLC does not have, nor does it intend to acquire or will it acquire, a financial interest in any company manufacturing or distributing products it evaluates.
2. NEMO ETC, LLC is not owned, operated or controlled by any company manufacturing or distributing products it evaluates.
3. Robert Nieminen, P.E. does not have nor will acquire, a financial interest in any company manufacturing or distributing products for which the evaluation reports are being issued.
4. Robert Nieminen, P.E. does not have, nor will acquire, a financial interest in any other entity involved in the approval process of the product.
5. This is a building code evaluation. Neither NEMO|etc. nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this Evaluation Report, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.

ROOFING COMPONENT EVALUATION:

1. SCOPE:

Product Category: Roofing
Sub-Category: Underlayment
Compliance Statement: **RhinoRoof Underlayments**, as produced by **Owens Corning Roofing and Asphalt, LLC**, has 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
TAS 110	Pull-through resistance	TAS 117(B)	1995

3. REFERENCES:

Entity	Examination	Reference	Date
ITS (TST1509)	Physical Properties	100539395COQ-006	10/27/2011
ITS (TST1509)	Physical Properties	100539395COQ-002	10/27/2011
ITS (TST1509)	Physical Properties	100539395COQ-006	03/14/2014
PRI (TST5878)	ASTM D1970; Tear strength	OCF-330-02-02	10/03/2017
PRI (TST5878)	TAS 117(B); Pull-through	OCF-422-02-01	04/03/2018
ITS (QUA1673)	Quality Control	Service Confirmation	09/30/2017

4. PRODUCT DESCRIPTION:

4.1 **RhinoRoof U20** is a multilayered polymer woven coated synthetic roof underlayment available in 42-inch wide rolls, and can be produced in various other sizes; meets FBC 1507.1.1 & R905.1.1 (Exception).

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 agency for fire ratings of this product.

5.4 **RhinoRoof Underlayments** may be used with any prepared roof cover where the product is specifically referenced within FBC approval documents. If not listed, a request may be made to the Authority Having Jurisdiction for approval based on this evaluation combined with supporting data for the prepared roof covering.

5.5 **Allowable Roof Covers**:

TABLE 1: ROOF COVER OPTIONS

Underlayment	Asphalt Shingles	Nail-On Tile	Foam-On Tile	Metal	Wood Shakes & Shingles	Slate or Simulated Slate
RhinoRoof U20	Yes	No	No	Yes	Yes	No

5.6 **Exposure Limitations:**

RhinoRoof U20 shall not be left exposed for longer than **30-days** after installation.

NEMO|etc.

6. INSTALLATION:

6.1 **RhinoRoof Underlayments** shall be installed in accordance with **Owens Corning Roofing and Asphalt, LLC** published installation instructions subject to the Limitations set forth in Section 5 herein and the specifics noted below.

6.2 Re-fasten any loose decking panels, and check for protruding nail heads. Sweep the substrate thoroughly to remove any dust and debris prior to application.

6.3 RhinoRoof U20:

6.3.1 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, taking into account the wider sheet-width.

6.3.2 Fasteners:

For exposure ≤ 24 hours, corrosion resistant fasteners may be 1-inch roofing nails with a 3/8-inch diameter head, minimum 1-inch diameter plastic or metal cap nails or FBC HVHZ nails & 1-5/8" diameter tin caps (with the rough edge facing up). The use of staples is prohibited.

For exposure > 24 hours up to maximum 30 days, corrosion resistant fasteners shall be minimum 1-inch diameter plastic or metal cap nails or FBC HVHZ nails & 1-5/8" diameter tin caps (with the rough edge facing up). The use of staples is prohibited.

6.3.2.1 Code Reference: The Exception statement in FBC 1507.1.1 and FBC R905.1.1 states: *"...except metal cap nails shall be required where the ultimate design wind speed, V_{ult}, equals or exceeds 150 mph."*

Owens Corning Roofing and Asphalt, LLC has furnished data to permit the use of 1-inch diameter plastic cap nails in lieu of metal cap nails for these applications, when the **RhinoRoof U20** underlayment is installed beneath mechanically fastened prepared roof covers referenced in FBC Table 1507.1.1 or R905.1.1.

6.3.3 Single Layer; Roof Slope > 4:12:

End (vertical) laps shall be minimum 6-inches and side (horizontal) laps shall be minimum 4-inches. Refer to Owens Corning Roofing and Asphalt, LLC recommendations for alternate lap configurations and/or the use of sealant under certain conditions.

For exposure ≤ 24 hours, use of every-other fastening location printed on the surface is acceptable. For exposure > 24 hours up to maximum 30-days, use of every fastening location printed on the surface is required.

When batten systems are to be installed atop the underlayment, the underlayment need only be preliminarily attached pending attachment of the battens on the same day. Battens shall not be positioned over cap nails. If this occurs, remove the cap nail and patch the hole in accordance with Owens Corning Roofing and Asphalt, LLC published instructions.

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

End (vertical) laps shall be minimum 12-inches and side (horizontal) laps shall be minimum half-sheet-width plus 1-inch.

Double layer application; begin by fastening a half-width plus 1-inch starter strip along the eaves. Place a full-width sheet over the starter, completely overlapping the starter course. Continue as noted in 6.3.3, but maintaining minimum half-width plus 1-inch side (horizontal) laps, resulting in a double-layer application.

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:

Qingdao, China

9. QUALITY ASSURANCE ENTITY:

Intertek Testing Services NA Inc. – QUA1673; (608) 836-4400

- END OF EVALUATION REPORT -

FLORIDA DEPARTMENT OF
Business & Professional Regulation

Product Approval
USER: Public User

OFFICE OF THE SECRETARY

FL #	FL2533-R21
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 Address/Phone/Email	Mark D. Harner 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_R21_COI_2018_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

Sections from the Code

Product Approval Method	Method 1 Option D
Date Submitted	12/11/2018
Date Validated	12/17/2018
Date Pending FBC Approval	12/19/2018
Date Approved	02/19/2019

Summary of Products

FL #	Model, Number or Name	Description
2533.1	Flintlastic Modified Bitumen Roof Systems	Modified Bitumen Roof Systems
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** +N/A/-635 **Other:** 1.) Refer to ER Section 5 for Limits of Use. 2.) The design pressure noted in this application relates to one specific system. Refer to the ER Appendix for all systems and max design pressures.		**Installation Instructions** FL2533_R21_II_2018_12_FINAL_A1_ER_CERTAINTEED_MODBIT_FL2533-R21.pdf Verified By: Robert Nieminen, PE PE-59166 Created by Independent Third Party: Yes **Evaluation Reports** FL2533_R21_AE_2018_12_FINAL_ER_CERTAINTEED_MODBIT_FL2533-R21.pdf Created by Independent Third Party: Yes

Back Next

APPENDIX 1: ATTACHMENT REQUIREMENTS FOR WIND UPLIFT RESISTANCE

The following notes apply to the systems outlined herein:

1. The roof system evaluation herein pertains to above-deck roof components. Roof decks shall be in accordance with FBC requirements to the satisfaction of the Authority Having Jurisdiction. Load resistance of the roof deck shall be documented through proper codified and/or FBC Approval documentation.

2. Unless otherwise noted, fasteners and stress plates for insulation attachment shall be as follows. Fasteners shall be of sufficient length for the following engagements:
   - Wood Deck: OMG #14 Roofgrip with Flat Bottom Plate (Accutrac), OMG HD with OMG 3 in. Galvalume Steel Plate, Dekfast #14 with Hex Plate or 3" Round Insulation Plate, Trufast HD with Trufast 3" Metal Insulation Plates or FlintFast #14 Fastener with FlintFast 3" Insulation Plates. Minimum 0.75-inch plywood penetration or minimum 1-inch wood plank embedment.
   - Steel Deck: OMG #12 or #14 Roofgrip with Recessed or Flat Bottom Plate (Accutrac), OMG #12 Standard or HD with OMG 3 in. Galvalume Steel Plate, Dekfast #12 or #14 with Hex Plate or 3" Round Insulation Plate, Trufast DP or HD with Trufast 3" Metal Insulation Plates or FlintFast #12 or #14 Fastener with FlintFast 3" Insulation Plates. Minimum 0.75-inch steel penetration and engage the top flute of the steel deck.
   - Structural Concrete: OMG #14 Roofgrip with Recessed or Flat Bottom Plate (Accutrac), OMG HD or CD-10 with OMG 3 in. Galvalume Steel Plate, Dekfast #14 or DekSpike with Hex Plate or 3" Round Insulation Plate, Trufast HD or CF with Trufast 3" Metal Insulation Plates or FlintFast #14 Fastener with FlintFast 3" Insulation Plates. Minimum 1-inch embedment. Fasteners installed with a pilot hole in accordance with the fastener manufacturer's published installation instructions.

3. Unless otherwise noted, insulation may be any one layer or combination of polyisocyanurate, polystyrene, wood fiberboard, perlite, GlasRoc Roof Board or gypsum-based roof board that meets the QA requirements of F.A.C. Rule 61G20-3 and is documented as meeting FBC 1505.1 and, for foam plastic, FBC Chapter 26, when installed with the roof cover.

4. Minimum 200 psi, minimum 2-inch thick lightweight insulating concrete may be substituted for, or installed beneath rigid insulation board for System Type D (mechanically attached base sheet, bonded roof cover), whereby the base sheet screws and plates are installed through the LWIC to engage the structural steel or concrete deck. The structural deck shall be of equal or greater configuration to the steel and concrete deck listings. Roof decks and structural members shall be in accordance with FBC requirements to the satisfaction of the Authority Having Jurisdiction. Load resistance of the roof deck shall be documented through proper codified and/or FBC Approval documentation.

5. Preliminary insulation attachment for System Type D: Unless otherwise noted, refer to Section 2.2.10.1.3 of FM Loss Prevention Data Sheet 1-29 (January 2016).

6. Unless otherwise noted, insulation adhesive application rates are as follows. Ribbon or bead width is at the time of application; the ribbons/beads shall expand as noted in the manufacturer's published instructions.
   - Hot asphalt (HA): Full coverage at 25-30 lbs/square
   - Ashland Pliodeck (A-PD): Continuous 0.75 inch wide ribbons, 12-inch o.c. *Ribbons of subsequent layers shall be perpendicular to those in the layer below.*
   - Dow INSTA-STIK Quik Set Insulation Adhesive (D-IS): Continuous 0.75 to 1 inch wide ribbons, 12-inch o.c.
   - ICP Adhesives Polyset BOARD-MAX: Continuous 3-inch ribbons, 12-inch o.c.
   - ICP Adhesives Polyset CR-20: Continuous 2.5 to 3-inch wide ribbons, 12-inch o.c.
   - Millennium One Step Foamable Adhesive (M-OSFA): Continuous 0.25 to 0.5-inch wide ribbons, 12-inch o.c.
   - Millennium PG-1 Pump Grade Adhesive (M-PG1): Continuous 0.5 to 0.75-inch wide ribbons, 12-inch o.c.
   - OMG OlyBond 500 or OlyBond Green (OB500): Continuous 0.75-inch wide ribbons, 12-inch o.c. (PaceCart or SpotShot)
   - *Note: When multiple layers(s) of insulation and/or coverboard are installed in ribbon-applied adhesive, boards shall be staggered from layer-to-layer.*
   - *Note: The maximum edge distance from the adhesive ribbon to the edge of the insulation board shall be not less than one-half the specified ribbons spacing.*

7. Unless otherwise noted, all insulations are flat-stock or taper board of the minimum thickness noted. Tapered polyisocyanurate at the following thickness limitations may be substituted with the following Maximum Design Pressure (MDP) limitations. In no case shall these values be used to 'increase' the MDP listings in the tables; rather if MDP listing below meets or exceeds that listed for a particular system in the tables, then the thinner board listed below may be used as a drop-in for the equivalent thicker material listed in the table:
   - Ashland Pliodeck (A-PD) @ 12-inch o.c. MDP -105.0 psf (Min. 1.0-inch)
   - Ashland Pliodeck (A-PD) @ 6-inch o.c. MDP -277.5 psf (Min. 1.0-inch)
   - Dow INSTA-STIK Quik Set Insulation Adhesive (D-IS): MDP -120.0 psf (Min. 1.0-inch)
   - ICP Adhesives Polyset CR-20: MDP -117.5 psf (Min. 1.0-inch)
   - Millennium One Step Foamable Adhesive (M-OSFA): MDP -157.5 psf (Min. 1.0-inch)
   - Millennium PG-1 Pump Grade Adhesive (M-PG1): MDP -157.5 psf (Min. 1.0-inch)
   - OMG OlyBond 500 (OB500): MDP -45.0 psf (Min. 0.5-inch Multi-Max FA3)
   - OMG OlyBond 500 (OB500): MDP -187.5 psf (Min. 0.5-inch ISO 95+ GL)
   - OMG OlyBond 500 (OB500): MDP -315.0 psf (Min. 0.5-inch ENRGY 3)
   - OMG OlyBond 500 (OB500): MDP -487.5 psf (Min. 0.5-inch ACFoam II)

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 Cap 30; Flintlastic Cap 30 CoolStar; 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 Premium FR-P CoolStar; Flintlastic GMS; Flintlastic GMS CoolStar	
SBS-CA1 (SBS, Cold-Applied)	Base	Flintlastic Base 20; Flintlastic Poly SMS Base; Flintlastic Ultra Poly SMS Base	FlintBond Brush or Karnak No. 81 Cold Process Modified Bitumen Adhesive Brush Grade at 1 gal/square
	Note:	Base ply cures overnight prior to application of the ply or cap ply.	
	Ply	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 Premium FR-P CoolStar; Flintlastic GMS; Flintlastic GMS CoolStar	
SBS-CA2 (SBS, Cold-Applied)	Base	Flintlastic Base 20; Flintlastic Poly SMS Base; Flintlastic Ultra Poly SMS Base	Henry #903 Adhesive at 1.5 gal/square.
	Ply	Flintlastic Base 20; Flintlastic Poly SMS Base; Flintlastic Ultra Poly SMS Base	
	Cap	Flintlastic Cap 30; Flintlastic Cap 30 CoolStar; 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 Premium FR-P CoolStar; Flintlastic GMS; Flintlastic GMS CoolStar	

CERTAINTEED FLINTLASTIC® MODIFIED BITUMEN COMPONENTS & APPLICATION METHODS (CONTINUED)			
REFERENCE	**LAYER**	**MATERIAL**	**APPLICATION**
SBS-CA3 (SBS, Cold-Applied)	Base	Flintlastic Base 20; Flintlastic Poly SMS Base; Flintlastic Ultra Poly SMS Base	Millennium Hurricane Force Membrane Adhesive, beads spaced 6-inch o.c.
	Ply	Flintlastic Base 20; Flintlastic Poly SMS Base; Flintlastic Ultra Poly SMS Base	
	Cap	Flintlastic Cap 30; Flintlastic Cap 30 CoolStar; 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 Premium FR-P CoolStar; Flintlastic GMS; Flintlastic GMS CoolStar	
SBS-TA (SBS, Torch-Applied)	Base	Flintlastic Ultra Poly SMS Base; Flintlastic Base 20 T	Torch-Applied
	Ply	One or more Flintlastic Ultra Poly SMS Base; Flintlastic Base 20 T	
	Cap	Flintlastic FR Cap 30 T; Flintlastic FR Cap 30 T CoolStar; Flintlastic GTS; Flintlastic GTS CoolStar; Flintlastic GTS-FR; Flintlastic GTS-FR CoolStar; FlintClad	
APP-TA (APP, Torch-Applied)	Base	One or more Flintlastic APP Base T; Flintlastic STA; Flintlastic STA Plus	Torch-Applied
	Cap	Flintlastic STA; Flintlastic STA Plus; Flintlastic GTA; Flintlastic GTA CoolStar; Flintlastic GTA-FR; Flintlastic GTA-FR CoolStar	
SBS-SA-H (SBS, Self-Adhering, Hybrid Systems)	Base/Ply	Black Diamond Base Sheet; Flintlastic Ultra Glass SA	Self-Adhering
SBS-SA (SBS, Self-Adhering)	Base	Flintlastic SA PlyBase; Flintlastic SA Mid Ply	Self-Adhering
	Ply	Flintlastic SA PlyBase; Flintlastic SA Mid Ply	
	Cap	Flintlastic SA Cap; Flintlastic SA Cap CoolStar; Flintlastic SA Cap FR; Flintlastic SA Cap FR CoolStar	

16. Vapor barrier options for use over **structural concrete deck** followed by adhered insulation carry the following MDP limitations. The **lesser** of the MDP listings below vs. those in **Table 3A** applies:

VAPOR BARRIER OPTIONS; STRUCTURAL CONCRETE DECK; ADHERED INSULATION PER TABLE 3A; (The lesser of the MDP listings below vs. those in **Table 3A** applies)					
OPTION #	**PRIMER**	**VAPOR BARRIER**		**INSULATION ADHESIVE**	**MDP (PSF)**
		TYPE	**ATTACH**		
VB-1.	FlintPrime	Flintlastic SA PlyBase	Self-adhering	OB500, 12-inch o.c.	-82.5
VB-2.	FlintPrime	Flintlastic GTA	Torch-applied	M-OSFA or M-PG1, 12-inch o.c.	-420.0
VB-3.	FlintPrime	Flintlastic Base 20 T, Flintlastic FR Cap 30 T or Flintlastic GTS	Torch-applied	M-OSFA or M-PG1, 12-inch o.c.	-495.0

17. "MDP" = Maximum Design Pressure is the result of testing for wind load resistance based on allowable wind loads. Refer to FBC 1609 for determination of design wind loads.

TABLE 1A: 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	
SELF-ADHERING SYSTEMS:												
W-1	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 or FlintPrime SA	HA	SBS-SA	(Optional) SBS-SA	SBS-SA	-45.0*
W-2	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 or FlintPrime SA	HA full coverage or OB500, M-OSFA, A-PD, D-IS, ICP BOARD-MAX or CR-20, 6-inch o.c.	SBS-SA	(Optional) SBS-SA	SBS-SA	-52.5
W-3	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 or FlintPrime SA	HA	SBS-SA	(Optional) SBS-SA	SBS-SA	-52.5
W-4	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	(Optional) 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 SECUROCK Gypsum-Fiber Roof Board primed with FlintPrime or FlintPrime SA	HA full coverage or OB500, M-OSFA, A-PD, D-IS, ICP BOARD-MAX or CR-20, 6-inch o.c.	SBS-SA	(Optional) SBS-SA	SBS-SA	-60.0
W-5	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	(Optional) Min. 1.5-inch ACFoam II, FlintBoard ISO, ENRGY-3, H-Shield or Multi-Max FA3	HA	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board primed with FlintPrime or FlintPrime SA	HA	SBS-SA	(Optional) SBS-SA	SBS-SA	-60.0
HYBRID SYSTEMS:												

NEMO | etc.

TABLE 1A: 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-6	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-7	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-8	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-9	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-10	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

NEMO | etc.

TABLE 1A: 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-11	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	(Optional) 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 SECUROCK Gypsum-Fiber Roof Board	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	-60.0
W-12	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	(Optional) Min. 1.5-inch ACFoam II, FlintBoard ISO, ENRGY-3, H-Shield or Multi-Max FA3	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	-60.0

TABLE 1B: 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-13	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-14	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-15	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-16	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 1C: 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	
SELF-ADHERING SYSTEMS:									
W-17	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	Flintfast 3 in. Insulation Plates with FlintFast #12 or #14	1 per 3.2 ft^2	SBS-SA	(Optional) SBS-SA	SBS-SA	-30.0*
W-18	Min. 19/32-inch exterior grade plywood at max. 24-inch spans	(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
W-19	Min. 19/32-inch exterior grade plywood at max. 24-inch spans	(Optional) One or more layers, any combination, loose laid	Min. 3/8-inch SECUROCK Gypsum-Fiber Roof Board	Flintfast 3 in. Insulation Plates with FlintFast #12 or #14	1 per 2.7 ft^2	SBS-SA	(Optional) SBS-SA	SBS-SA	-45.0*
W-20	Min. 19/32-inch plywood at max. 24-inch spans	(Optional) One or more layers, any combination, loose laid	Min. 1.5-inch ACFoam II, ENRGY 3, H-Shield, Multi-Max FA3 or FlintBoard ISO	Flintfast 3 in. Insulation Plates with FlintFast #12 or #14	1 per 2 ft^2	Apply FlintPrime or FlintPrime SA to board & plates, followed by SBS-SA	(Optional) SBS-SA	SBS-SA	-45.0*
W-21	Min. 15/32-inch plywood at max. 24-inch spans	(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 1.6 ft^2	Apply FlintPrime to board & plates, followed by SBS-SA	(Optional) SBS-SA	SBS-SA	-52.5
W-22	Min. 19/32-inch plywood at max. 24-inch spans	(Optional) One or more layers, any combination, loose laid	Min. 1.5-inch ACFoam II, ENRGY 3, H-Shield, Multi-Max FA3 or FlintBoard ISO	Note 2	1 per 1.45 ft^2	Apply FlintPrime or FlintPrime SA to board & plates, followed by SBS-SA	(Optional) SBS-SA	SBS-SA	-60.0
HYBRID SYSTEMS:									
W-23	Min. 15/32-inch plywood at max. 24-inch spans	(Optional) One or more layers, any combination, loose laid	Min. 0.25-inch Dens Deck; Dens Deck Prime	Flintfast 3 in. Insulation Plates with FlintFast #12 or #14	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*
W-24	Min. 15/32-inch plywood at max. 24-inch spans	(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 1.6 ft^2	SBS-SA-H	(Optional) SBS-TA or APP-TA	SBS-TA or APP-TA	-52.5
W-25	Min. 15/32-inch 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) BP-AA or SBS-AA	SBS-AA	-52.5
W-26	Min. 19/32-inch plywood at max. 24-inch spans	(Optional) One or more layers, any combination, loose laid	Min. 1.5-inch ACFoam II, FlintBoard ISO, H-Shield, FlintBoard ISO$_H$	Note 2	1 per 1.45 ft^2	SBS-SA-H	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-60.0

TABLE 1C: 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-27	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-28	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-29	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-30	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-31	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-32	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-33	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 1D: 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	
SELF-ADHERING SYSTEMS:									
W-34	Min. 19/32-inch plywood at max 24-inch spans	Min. 1.5-inch, One or more layers, any combination	Prelim. Attach	Flintlastic SA NailBase	Note 2	8-inch o.c. at min. 3-inch lap and 8-inch o.c. in two (2), equally spaced, staggered center rows; Stress plates shall be primed with FlintPrime (ASTM D41) primer or FlintPrime SA	(Optional) SBS-SA	SBS-SA	-82.5*
W-35	Min. 15/32-inch plywood at max 24-inch spans	Min. 1.5-inch, One or more layers, any combination	Prelim. Attach	Flintlastic SA NailBase	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 min. 2-inch lap and 6-inch o.c. in three (3), equally spaced, staggered center rows; Stress plates shall be primed with FlintPrime (ASTM D41) primer or FlintPrime SA.	(Optional) SBS-SA	SBS-SA	-97.5*
W-36	Min. 15/32-inch plywood at max 24-inch spans	Min. 1.5-inch, One or more layers, any combination	Prelim. Attach	Flintlastic SA NailBase	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 min. 2-inch lap and 6-inch o.c. in four (4), equally spaced, staggered center rows; Stress plates shall be primed with FlintPrime (ASTM D41) primer or FlintPrime SA.	(Optional) SBS-SA	SBS-SA	-127.5*
HYBRID SYSTEMS:									
W-37	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; Poly SMS Base; Ultra Poly SMS 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; Stress plates shall be primed with FlintPrime (ASTM D41) primer or FlintPrime SA.	SBS-SA-H	SBS-AA, SBS-TA or APP-TA	-97.5
W-38	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	Note 2	7-inch o.c. at 3-inch lap and 7-inch o.c. in three (3), equally spaced, staggered center rows	SBS-SA-H	SBS-AA, SBS-TA or APP-TA	-105.0
W-39	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; Poly SMS Base; Ultra Poly SMS 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; Stress plates shall be primed with FlintPrime (ASTM D41) primer or FlintPrime SA.	SBS-SA-H	SBS-AA, SBS-TA or APP-TA	-127.5
CONVENTIONAL SYSTEMS:									

NEMO | etc.

TABLE 1D: 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-40	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-41	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-42	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-43	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-44	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-45	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-46	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-47	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 1D: 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-48	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; 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-49	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 four (4), equally spaced, staggered center rows.	APP-TA	APP-TA	-127.5
COLD-APPLIED SYSTEMS:									
W-50	Min. 15/32-inch plywood at max 24-inch spans	Min. 1-inch, One or more layers, any combination	Loose-laid	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 1E-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-51	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-52	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-53	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-54	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-55	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-56	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-57	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-58	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-59	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-60	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 1E-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-61	Min. 19/32-inch plywood at max 24-inch spans	Glasbase; Flexiglas; Flintlastic Base 20; Poly SMS Base; Ultra Poly SMS 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	SBS-SA-H	SBS-AA, SBS-TA or APP-TA	-52.5
W-62	Min. 19/32-inch plywood at max 24-inch spans	Glasbase; Flexiglas; Flintlastic Base 20; Poly SMS Base; Ultra Poly SMS 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	SBS-SA-H	SBS-AA, SBS-TA or APP-TA	-60.0
W-63	Min. 19/32-inch plywood at max 24-inch spans	Glasbase; Flexiglas; Flintlastic Base 20; Poly SMS Base; Ultra Poly SMS 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	SBS-SA-H	SBS-AA, SBS-TA or APP-TA	-82.5
W-64	Min. 19/32-inch plywood at max 24-inch spans	Glasbase; Flexiglas; Flintlastic Base 20; Poly SMS Base; Ultra Poly SMS 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	SBS-SA-H	SBS-AA, SBS-TA or APP-TA	-105.0
CONVENTIONAL 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; Yosemite Venting 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	BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-45.0*
W-66	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	9-inch o.c. at 2-inch lap and 18-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	-45.0*
W-67	Min. 15/32-inch exterior grade plywood at max. 24-inch spans	Flintlastic APP Base T	Simplex MAXX Cap	9-inch o.c. at 2-inch lap and 18-inch o.c. in two (2), equally spaced, staggered center rows	(Optional) APP-TA	APP-TA	-45.0*
W-68	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	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	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-52.5
W-69	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	-52.5
W-70	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	9-inch o.c. at 2-inch lap and 12-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	-52.5
W-71	Min. 15/32-inch exterior grade plywood at max. 24-inch spans	Flintlastic APP Base T	Simplex MAXX Cap	9-inch o.c. at 2-inch lap and 12-inch o.c. in two (2), equally spaced, staggered center rows	(Optional) APP-TA	APP-TA	-52.5

TABLE 1E-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-72	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-73	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-74	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-75	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-76	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-77	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-78	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-79	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 1E-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	
SELF-ADHERING SYSTEMS:							
W-80	Min. 19/32-inch plywood at max 24-inch spans	Flintlastic SA NailBase	Note 2	8-inch o.c. at min. 3-inch lap and 8-inch o.c. in two (2), equally spaced, staggered center rows. Stress plates shall be primed with FlintPrime (ASTM D41) primer or FlintPrime SA	(Optional) SBS-SA	SBS-SA	-82.5*
W-81	Min. 15/32-inch plywood at max 24-inch spans	Flintlastic SA NailBase	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 min. 2-inch lap and 6-inch o.c. in three (3), equally spaced, staggered center rows. Stress plates shall be primed with FlintPrime (ASTM D41) primer or FlintPrime SA.	(Optional) SBS-SA	SBS-SA	-97.5*
W-82	Min. 15/32-inch plywood at max 24-inch spans	Flintlastic SA NailBase	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 min. 2-inch lap and 6-inch o.c. in four (4), equally spaced, staggered center rows. Stress plates shall be primed with FlintPrime (ASTM D41) primer or FlintPrime SA.	(Optional) SBS-SA	SBS-SA	-127.5*
HYBRID SYSTEMS:							
W-83	Min. 15/32-inch plywood at max 24-inch spans	Glasbase; Flexiglas; Flintlastic Base 20; Poly SMS Base; Ultra Poly SMS 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. Stress plates shall be primed with FlintPrime (ASTM D41) primer or FlintPrime SA.	SBS-SA-H	SBS-AA, SBS-TA or APP-TA	-97.5
W-84	Min. 19/32-inch plywood at max 24-inch spans	Glasbase; Flexiglas; Flintlastic Base 20; Poly SMS Base; Ultra Poly SMS Base	Note 2	7-inch o.c. at 3-inch lap and 7-inch o.c. in three (3), equally spaced, staggered center rows	SBS-SA-H	SBS-AA, SBS-TA or APP-TA	-105.0
W-85	Min. 15/32-inch plywood at max 24-inch spans	Glasbase; Flexiglas; Flintlastic Base 20; Poly SMS Base; Ultra Poly SMS 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. Stress plates shall be primed with FlintPrime (ASTM D41) primer or FlintPrime SA.	SBS-SA-H	SBS-AA, SBS-TA or APP-TA	-127.5
CONVENTIONAL SYSTEMS:							
W-86	Min. 23/32-inch exterior grade plywood at max. 24-inch spans	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-87	Min. 23/32-inch exterior grade plywood at max. 24-inch spans	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-88	Min. 23/32-inch exterior grade plywood at max. 24-inch spans	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*

TABLE 1E-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-89	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-90	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-91	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-92	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-93	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-94	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-95	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-96	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 1F: 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-97	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-98	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	
SELF-ADHERING SYSTEMS:										
S-1	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	SBS-SA	(Optional) SBS-SA	SBS-SA	-37.5*
S-2	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	SBS-SA	(Optional) SBS-SA	SBS-SA	-45.0*
HYBRID SYSTEMS:										
S-3	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 1.45 ft²	Additional layer(s) base insulation	HA, D-IS, M-OSFA, OB500, ICP BOARD-MAX or CR-20	Flintlastic Ultra Glass SA	(Optional) SBS-AA, SBS-TA, APP-TA	SBS-AA, SBS-TA, APP-TA	-37.5
S-4	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 1.45 ft²	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	HA, D-IS, M-OSFA, OB500, ICP BOARD-MAX or CR-20	Flintlastic Ultra Glass SA	(Optional) SBS-AA, SBS-TA, APP-TA	SBS-AA, SBS-TA, APP-TA	-52.5
S-5	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	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 1.45 ft²	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
S-6	Min. 22 ga., type B, Grade 40 steel or min. 2,500 psi structrual concrete	Min. 1.5-inch ACFoam II, FlintBoard ISO, H-Shield or FlintBoard ISO_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 1.6 ft²	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	D-IS, M-OSFA, M-PG1 or OB500	SBS-SA-H	(Optional) SBS-TA or APP-TA	SBS-TA or APP-TA	-75.0
S-7	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	Min. 1.5-inch ENRGY 3	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	Min. 0.5-inch SECUROCK Gypsum-Fiber Roof Board	OB500, 4-inch o.c.	SBS-SA-H	(Optional) SBS-TA or APP-TA	SBS-TA or APP-TA	-90.0*
CONVENTIONAL SYSTEMS:										

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

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-17	Min. 22 ga., type B, Grade 40 steel or min. 2,500 psi structrual concrete	Min. 1.5-inch ACFoam II, FlintBoard ISO, H-Shield or FlintBoard ISO$_H$	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 1.6 ft^2	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	D-IS, M-OSFA, M-PG1 or OB500	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	-75.0
S-18	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	Min. 1.5-inch ENRGY 3	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 ft^2	Min. 0.5-inch SECUROCK Gypsum-Fiber Roof Board	OB500, 4-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	-90.0*
COLD-APPLIED SYSTEMS:										
S-19	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	Min. 2-inch ACFoam II, FlintBoard ISO, H-Shield or FlintBoard ISO$_H$	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	Min. 1.5-inch ACFoam III, FlintBoard Iso Cold, H-Shield CG or FlintBoard Iso Cold$_H$	OB500, ICP BOARD-MAX or CR-20	SBS-CA1	None	SBS-CA1	-45.0*
S-20	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	Min. 2-inch ACFoam II, FlintBoard ISO, H-Shield or FlintBoard ISO$_H$	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	Optional min. 1.5-inch additional layer(s) base insulation, followed by min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	D-IS, M-OSFA, M-PG1, OB500, ICP BOARD-MAX or CR-20	SBS-CA1	None	SBS-CA1	-45.0*
S-21	Min. 22 ga., type B, Grade 40 steel or min. 2,500 psi structrual concrete	Min. 1.5-inch ACFoam II, FlintBoard ISO, H-Shield or FlintBoard ISO$_H$	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 1.6 ft^2	Min. 0.25-inch SECUROCK Gypsum-Fiber Roof Board	D-IS, M-OSFA, M-PG1 or OB500	SBS-CA1	None	SBS-CA1	-75.0
S-22	Min. 22 ga., type B, Grade 33 steel or min. 2,500 psi structrual concrete	Min. 1.5-inch ENRGY 3	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 ft^2	Min. 0.5-inch SECUROCK Gypsum-Fiber Roof Board	OB500, 4-inch o.c.	SBS-CA1	None	SBS-CA1	-90.0*

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	
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*

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	
S-31	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-H	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-37.5*
S-32	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-SA-H	(Optional) BP-AA, SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-45.0*
S-33	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	SBS-SA-H	(Optional) SBS-TA or APP-TA	SBS-TA or APP-TA	-67.5
S-34	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 II, FlintBoard ISO, H-Shield or FlintBoard ISO$_H$.	FlintFast #12 (steel only) or #14 HD with FlintFast 3" Insulation Plates	1 per 1.45 ft^2	SBS-SA-H	(Optional) SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-75.0
S-35	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	SBS-SA-H	(Optional) SBS-TA or APP-TA	SBS-TA or APP-TA	-82.5
S-36	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-SA-H	(Optional) SBS-TA or APP-TA	SBS-TA or APP-TA	-82.5
S-37	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 II, FlintBoard ISO, ENRGY 3 or Multi-Max FA3	Note 2	1 per 1.33 ft^2	SBS-SA-H	(Optional) SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-82.5
S-38	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	SBS-SA-H	(Optional) SBS-AA, SBS-TA or APP-TA	SBS-AA, SBS-TA or APP-TA	-97.5

Product Approval
USER: Public User

FL #	FL11288-R17
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	UL LLC
Quality Assurance Contract Expiration Date	03/09/2020
Validated By	John W. Knezevich, PE ✔ Validation Checklist - Hardcopy Received
Certificate of Independence	FL11288_R17_COI_2018_01_COI_NIEMINEN.pdf

Referenced Standard and Year (of Standard)

Standard	Year
ASTM D1970	2015
ASTM D226	2009
ASTM D4601	2012
ASTM D4798	2011
ASTM D4869	2016
ASTM D6163	2008
ASTM D6164	2011
ASTM D6222	2011
ASTM D6757	2016
FM 4474	2011

Equivalence of Product Standards
Certified By

Sections from the Code

Product Approval Method	Method 1 Option D
Date Submitted	01/24/2018
Date Validated	01/29/2018
Date Pending FBC Approval	01/30/2018
Date Approved	04/10/2018

Summary of Products

FL #	Model, Number or Name	Description
11288.1	CertainTeed Roof Underlayments	Roof underlayments for use below Approved prepared roof coverings.
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** +N/A/-555.0 **Other:** 1.) The DP in this application pertains to a particular application for use in adhesive-set tile applications. DP is N/A for underlayments installed beneath mechanically attached prepared roof covers. 2.) Refer to ER Section 5 for other Limits of Use.		**Installation Instructions** FL11288_R17_II_2018_01_FINAL_ER_CERTAINTEED_UNDERLAYMENTS_FL11288-R17.pdf Verified By: Robert Nieminen PE-59166 Created by Independent Third Party: Yes **Evaluation Reports** FL11288_R17_AE_2018_01_FINAL_ER_CERTAINTEED_UNDERLAYMENTS_FL11288-R17.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 11610.09.08-R18
FL11288-R17
Date of Issuance: 09/03/2009
Revision 18: 01/24/2018

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 Roof Underlayments

LABELING: Labeling shall be in accordance with the requirements 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 10.

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 01/24/2018. 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, 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.

NEMO | etc.

ROOFING COMPONENT EVALUATION:

1. SCOPE:

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

2. STANDARDS:

Section	Property	Standard	Year
1504.3.1	Wind Uplift	FM 4474	2011
1507.2.3 / 1507.1.1	Physical Properties	ASTM D226	2009
1507.2.3 / 1507.1.1	Physical Properties	ASTM D4869	2016
1507.2.3 / 1507.1.1	Physical Properties	ASTM D6757	2016
1507.3.3	Physical properties	FRSA/TRI April 2012 (04-12)	2012
1507.2.4 / 1507.1.1, 1507.2.9.2	Physical Properties	ASTM D1970	2015
1507.10.2	Physical Properties	ASTM D4601	2012
1507.11.2	Physical Properties	ASTM D6163	2008
1507.11.2	Physical Properties	ASTM D6164	2011
1507.11.2	Physical Properties	ASTM D6222	2011
TAS 110	Accelerated Weathering	ASTM D4798	2011

3. REFERENCES:

Entity	Examination	Reference	Date
ERD (TST6049)	Physical Properties	C7290.01.08	01/16/2008
ERD (TST6049)	Physical Properties	C8440.04.08	04/28/2008
ERD (TST6049)	Physical Properties	C9560.05.08	05/25/2008
ERD (TST6049)	Physical Properties	C10080.09.08-R1	04/17/2009
ERD (TST6049)	Physical Properties	C12960.06.09	06/02/2009
ERD (TST6049)	Physical Properties	3530.12.05-1-R1	10/05/2009
ERD (TST6049)	Wind Uplift	C8370.08.08-R1	10/05/2009
ERD (TST6049)	Physical Properties	3523.03.05-R2	01/12/2010
ERD (TST6049)	Physical Properties	C30890.03.10-1	03/17/2010
ERD (TST6049)	Physical Properties	C3500.04.10	04/07/2010
ERD (TST6049)	Physical Properties	C31840.05.10	05/10/2010
ERD (TST6049)	Physical Properties	C31860.05.10	05/18/2010
ERD (TST6049)	Physical Properties	C31850.06.10	06/25/2010
ERD (TST6049)	Physical Properties	C35460.05.11	06/16/2011
ERD (TST6049)	Physical Properties	C34940.09.11-R1	10/04/2011
ERD (TST6049)	Accelerated Weathering	C40840SC	06/11/2012
ERD (TST6049)	Physical Properties	C40050.09.12-2	09/28/2012
ERD (TST6049)	Wind Uplift	C39670.08.12	08/20/2012
ERD (TST6049)	Physical Properties	C31410.10.10-R1	11/02/2012
ERD (TST6049)	Physical Properties	C45240.01.14-1	01/15/2014
ERD (TST6049)	Physical Properties	C32930.01.11-R2	01/20/2014
ERD (TST6049)	Physical Properties	C45240.01.14-2	01/24/2014
ERD (TST6049)	FM 4470	CTR-SC9920.01.16-R1	01/20/2016
ERD (TST6049)	Wind Uplift	CTR-SC10420.01.16	01/25/2016
ERD (TST6049)	FRSA/TRI April 2012, Tile Slippage	CTR-SC11415.11.16	11/28/2016
MTI (TST 2508)	Physical Properties	DX08C4A	03/22/2004
MTI (TST 2508)	Physical Properties	TX14B6A-001	02/27/2006
MTI (TST 2508)	Physical Properties	TX14B6B-002	03/13/2006
MTI (TST 2508)	Physical Properties	TX14B6F-006	03/13/2006
MTI (TST 2508)	Physical Properties	TX14B6E-005	03/13/2006
PRI (TST5878)	Physical Properties	CTC-034-02-01	11/24/2008
PRI (TST5878)	Physical Properties	CTC-075-02-01	02/15/2011
PRI (TST5878)	Physical Properties	CTC-067-02-01	08/08/2011
PRI (TST5878)	Wind Uplift	CTC-112-02-01	12/12/2011
PRI (TST5878)	Physical Properties	CTC-163-02-01 (x3)	05/10/2013
PRI (TST5878)	Physical Properties	CTC-189-02-01	11/18/2013

4. PRODUCT DESCRIPTION:

4.1 Self-Adhering Underlayments:

4.1.1 **WinterGuard™ HT** is a glass scrim reinforced, self-adhering, film-surfaced waterproofing underlayment; meets ASTM D1970.

4.1.2 **WinterGuard™ Sand** is a glass mat reinforced, self-adhering, sand-surfaced waterproofing underlayment; meets ASTM D1970.

4.1.3 **WinterGuard™ Granular** is a glass mat reinforced, self-adhering, granule-surfaced waterproofing underlayment; meets ASTM D1970.

4.1.4 **MetaLayment™** is a self-adhering, film-surfaced, waterproofing underlayment; meets ASTM D1970.

4.1.5 **Black Diamond Base Sheet** is a self-adhering, glass mat reinforced, fine-mineral surfaced, SBS modified roof underlayment; meets ASTM D1970.

4.1.6 **Flintlastic SA PlyBase** is a self-adhering, glass mat reinforced, film-surfaced, SBS modified roof underlayment for use as a base-layer in multi-ply underlayment systems; meets ASTM D1970.

4.1.7 **Flintlastic SA Mid Ply** is a self-adhering, polyester reinforced, film-surfaced, SBS modified roof underlayment for use as a base-layer in multi-ply underlayment systems; meets ASTM D6163, Type I, Grade S.

4.1.8 **Flintlastic Ultra Glass SA** is a self-adhering, glass mat reinforced, fine-mineral surfaced, SBS modified roof underlayment for use as a base-layer in multi-ply underlayment systems; meets ASTM D6163, Type I, Grade S.

4.1.9 **Flintlastic SA Cap FR** is a self-adhering, glass mat reinforced, granule-mineral surfaced, SBS modified roof underlayment; meets ASTM D6163, Type I, Grade G.

4.1.10 **Flintlastic SA Cap** is a self-adhering, polyester reinforced, granule-mineral surfaced, SBS modified roof underlayment; meets ASTM D1970, ASTM D6164, Type I, Grade G and FRSA/TRI April 2012.

4.2 Torch Applied Underlayments:

4.2.1 **Flintlastic GTA** is a torch-applied, polyester reinforced, granule-surfaced, APP modified roof underlayment; meets ASTM D6222, Type I, Grade G.

4.3 Asphalt Applied Underlayments:

4.3.1 **Flintlastic GMS** is an asphalt-applied, polyester reinforced, granule-surfaced, SBS modified roof underlayment; meets ASTM D6164, Type I, Grade G.

4.4 Mechanically Attached Underlayments:

4.4.1 **Flintlastic SA NailBase** is a glass mat reinforced, film-surfaced, SBS modified roof underlayment for use as a mechanically attached base-layer in multi-ply underlayment systems; meets ASTM D4601, Type II.

4.4.2 **Roofers' Select** is an asphalt-impregnated, organic felt reinforced with glass fibers roof underlayment; meets ASTM D6757.

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

5.4 **CertainTeed Roof Underlayments** may be used with any prepared roof cover where the product is specifically referenced within FBC approval documents. If not listed, a request may be made to the Authority Having Jurisdiction (AHJ) for approval based on this evaluation combined with supporting data for the prepared roof covering.

5.5 Allowable Roof Covers:

TABLE 1: ROOF COVER OPTIONS

Underlayment	Asphalt Shingles	Nail-On Tile	Foam-On Tile	Mortar-Set Tile	Metal	Wood Shakes & Shingles	Slate
Roofers' Select	Yes	No	No	No	No	No	No
WinterGuard HT	Yes	No	No	No	Yes	Yes	Yes
WinterGuard Sand or Granular	Yes	No	No	No	No	Yes	Yes
Black Diamond Base	Yes	No	No	No	No	Yes	Yes
Flintlastic SA Cap	Yes	Yes	Yes *See 5.5.1*	Yes	No	Yes	Yes
Flintlastic SA Cap FR	No	No	No	No	No	Yes	Yes
MetaLayment	Yes	No	No	No	Yes	Yes	Yes
Flintlastic GTA	No	Yes	Yes *See 5.5.1*	Yes	No	Yes	Yes
Flintlastic GMS	No	Yes	Yes *See 5.5.1*	Yes	No	Yes	Yes

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

TABLE 1A: ALLOWABLE TILE ADHESIVE / UNDERLAYMENT COMBINATIONS[1]

Adhesive	Florida Product Approval	Underlayments
Dow TileBond™	FL22525	Flintlastic SA Cap or Flintlastic GMS
ICP Adhesives Polyset® AH-160	FL6332	Flintlastic SA Cap, Flintlastic GTA or Flintlastic GMS

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

5.6 Allowable Substrates:

5.6.1 Direct-Bond to Deck:

WinterGuard HT, WinterGuard Sand, WinterGuard Granular or MetaLayment self-adhered to:

- New or existing plywood
- FlintPrime or ASTM D41 primed new or existing plywood.

Black Diamond Base, Flintlastic SA PlyBase, Flintlastic SA Mid Ply, Flintlastic Ultra Glass SA, Flintlastic SA Cap or Flintlastic SA Cap FR self-adhered to:

- New or existing plywood;
- FlintPrime, FlintPrime SA or ASTM D41 primed new or existing plywood;
- FlintPrime, FlintPrime SA or ASTM D41 primed structural concrete.

Flintlastic GMS in hot asphalt to:

- FlintPrime or ASTM D41 primed structural concrete.

Flintlastic GTA torch-applied to:

- FlintPrime or ASTM D41 primed structural concrete.

5.6.2 Bond to Mechanically Attached Base Sheet or Adhered Base Ply:

- WinterGuard HT, WinterGuard Sand, WinterGuard Granular or MetaLayment self-adhered to: ASTM D226, Type I or II felt.
- Black Diamond Base Sheet, Flintlastic SA PlyBase, Flintlastic SA Mid Ply, Flintlastic Ultra Glass SA, Flintlastic SA Cap, Flintlastic SA Cap FR self-adhered to: Flintlastic SA NailBase or ASTM D226, Type I or II felt.
- Flintlastic SA Cap or Flintlastic SA Cap FR self-adhered to: Flintlastic SA PlyBase or Flintlastic SA MidPly.
- Flintlastic GMS in hot asphalt to: ASTM D226, Type I or II felt, ASTM D4601, Type II base sheet, Black Diamond Base Sheet or Flintlastic Ultra Glass SA.
- Flintlastic GTA torch-applied to: ASTM D226, Type I or II felt, ASTM D4601, Type II base sheet, Black Diamond Base Sheet or Flintlastic Ultra Glass SA.

5.6.3 Wind Resistance for Underlayment Systems in Foam-On Tile Applications:

FRSA/TRI April 2012 (04-12) does not address wind uplift resistance of all underlayment systems beneath foam-on or mortar-set tile systems, where the underlayment forms part of the load-path. The following wind uplift limitations apply to underlayment systems that are not addressed in **FRSA/TRI April 2012 (04-12)** and are used in foam-on or mortar-set tile applications. Maximum Design Pressure is the result of testing for wind load resistance based on allowable wind loads, and reflects the ultimate passing pressure divided by 2 (the 2 to 1 margin of safety per **FBC 1504.9** has already been applied). Refer to **FRSA/TRI April 2012 (04-12), Appendix A, Table 1A** or **FBC 1609** for determination of design wind loads.

#1 Maximum Design Pressure = **-240 psf**:

Deck:	Structural concrete to meet project requirements to satisfaction of AHJ.
Primer:	FlintPrime or ASTM D41.
Base Sheet:	Black Diamond Base Sheet or Flintlastic Ultra Glass SA, self-adhered.
Underlayment:	Flintlastic GTA, torch-applied or Flintlastic GMS, applied in hot asphalt.

#2 Maximum Design Pressure = **-555 psf**:

Deck:	Structural concrete to meet project requirements to satisfaction of AHJ.
Primer:	FlintPrime, FlintPrime SA or ASTM D41.
Base:	(Optional) Flintlastic SA PlyBase or Flintlastic SA Mid Ply, self-adhered.
Underlayment:	Flintlastic SA Cap, self-adhered.

#3 Maximum Design Pressure = **-105.0 psf**:

Deck:	Min. 15/32-inch plywood to meet project requirements to satisfaction of AHJ.
Primer:	(Optional) FlintPrime, FlintPrime SA or ASTM D41
Base Ply:	(Optional) Flintlastic SA PlyBase or Flintlastic SA Mid Ply, self-adhered.
Underlayment:	Flintlastic SA Cap, self-adhered.

#4 Maximum Design Pressure = **-127.5 psf**:

Deck:	Min. 19/32-inch plywood to meet project requirements to satisfaction of AHJ.
Primer:	FlintPrime, FlintPrime SA or ASTM D41
Joints:	Min. 4-inch wide strips of Flintlastic SA PlyBase, self-adhered over all plywood joints.
Base Ply:	(Optional) Flintlastic SA PlyBase or Flintlastic SA Mid Ply, self-adhered.
Underlayment:	Flintlastic SA Cap, self-adhered.

#5 Maximum Design Pressure = **-37.5 psf**:

Deck:	Min. 15/32-inch plywood to meet project requirements to satisfaction of AHJ.
Base Sheet:	ASTM D226, Type II felt or Flintlastic SA NailBase
Fasteners:	12 ga., 1¼-inch long galvanized ring shank nails through 32 ga., 1 5/8-inch diameter tin caps
Spacing:	6-inch o.c. at the 4-inch laps and 12-inch o.c. at two (2) equally spaced, staggered rows in the field of the sheet.
Base Ply:	(Optional) Flintlastic SA PlyBase or Flintlastic SA Mid Ply, self-adhered.
Underlayment:	Flintlastic SA Cap, self-adhered.

#6 Maximum Design Pressure = **-45.0 psf***:

Deck:	Min. 15/32-inch plywood to meet project requirements to satisfaction of AHJ.
Base Sheet:	Glasbase Base Sheet; Flexiglas Base Sheet; Flintlastic Base 20; All Weather / Empire Base Sheet; Flintlastic Poly SMS Base; Flintlastic Ultra Poly SMS Base or Yosemite Venting Base Sheet
Fasteners:	Simplex MAXX Cap Fasteners
Spacing:	9-inch o.c. at the 2-inch wide side laps and 18-inch o.c. at two (2) equally spaced, staggered center rows.
Underlayment:	Flintlastic GMS, applied in hot asphalt or Flintlastic GTA, torch-applied.

#7 Maximum Design Pressure = **-52.5 psf**:

Deck:	Min. 15/32-inch plywood to meet project requirements to satisfaction of AHJ.
Base Sheet:	Glasbase Base Sheet; Flexiglas Base Sheet; Flintlastic Base 20; All Weather / Empire Base Sheet; Flintlastic Poly SMS Base; Flintlastic Ultra Poly SMS Base or Yosemite Venting Base Sheet
Fasteners:	Simplex MAXX Cap Fasteners
Spacing:	9-inch o.c. at the 2-inch wide side laps and 12-inch o.c. at two (2) equally spaced, staggered center rows.
Underlayment:	Flintlastic GMS, applied in hot asphalt or Flintlastic GTA, torch-applied.

#8 Maximum Design Pressure = **-52.5 psf**:

Deck:	Min. 15/32-inch plywood to meet project requirements to satisfaction of AHJ.
Base Sheet:	Flintlastic SA NailBase
Fasteners:	Min. 1-inch long, 12 ga. Simplex Metal Cap Nails
Spacing:	6-inch o.c. at the min. 2-inch laps and 6-inch o.c. at four (4) equally spaced, staggered rows in the field of the sheet.
Base Ply:	(Optional) Flintlastic SA PlyBase or Flintlastic SA Mid Ply, self-adhered.
Underlayment:	Flintlastic SA Cap, self-adhered.

#9 Maximum Design Pressure = **-60.0 psf**:

Deck:	Min. 19/32-inch plywood to meet project requirements to satisfaction of AHJ.
Base Sheet:	Flintlastic SA NailBase
Fasteners:	12 ga., 1¼-inch long galvanized ring shank nails through 32 ga., 1 5/8-inch diameter tin caps
Spacing:	8-inch o.c. at the min. 2-inch laps and 8-inch o.c. at three (3) equally spaced, staggered rows in the field of the sheet.
Base Ply:	(Optional) Flintlastic SA PlyBase or Flintlastic SA Mid Ply, self-adhered.
Underlayment:	Flintlastic SA Cap, self-adhered.

#10 Maximum Design Pressure = **-67.5 psf**:

Deck:	Min. 15/32-inch plywood to meet project requirements to satisfaction of AHJ.
Base Sheet:	Glasbase Base Sheet; Flexiglas Base Sheet; Flintlastic Base 20; All Weather / Empire Base Sheet; Flintlastic Poly SMS Base; Flintlastic Ultra Poly SMS Base or Yosemite Venting Base Sheet
Fasteners:	Cap nails: 1-inch diameter, 0.032-inch thick metal cap with 0.120-inch shank diameter, annular ring shank nails
Spacing:	6-inch o.c. at 4-inch lap and 6-inch o.c. at five (5) equally spaced, staggered center rows in the field of the sheet.
Underlayment:	Flintlastic GMS, applied in hot asphalt.

#11 Maximum Design Pressure = **-75.0 psf**:

Deck:	Min. 19/32-inch plywood to meet project requirements to satisfaction of AHJ.
Base Sheet:	Flintlastic SA NailBase
Fasteners:	12 ga., 1¼-inch long galvanized ring shank nails through 32 ga., 1 5/8-inch diameter tin caps
Spacing:	6-inch o.c. at the min. 2-inch laps and 6-inch o.c. at four (4) equally spaced, staggered rows in the field of the sheet.
Base Ply:	(Optional) Flintlastic SA PlyBase or Flintlastic SA Mid Ply, self-adhered.
Underlayment:	Flintlastic SA Cap, self-adhered.

#12 Maximum Design Pressure = **-90.0 psf**:

Deck:	Min. 15/32-inch plywood to meet project requirements to satisfaction of AHJ.
Base Sheet:	Glasbase Base Sheet; Flexiglas Base Sheet; Flintlastic Base 20; All Weather / Empire Base Sheet; Flintlastic Poly SMS Base; Flintlastic Ultra Poly SMS Base or Yosemite Venting Base Sheet
Fasteners:	Simplex MAXX Cap Fasteners
Spacing:	6-inch o.c. at the 2-inch wide side laps and 6-inch o.c. at two (2) equally spaced, staggered center rows.
Underlayment:	Flintlastic GMS, applied in hot asphalt or Flintlastic GTA, torch-applied.

#14 Maximum Design Pressure = **-105.0 psf**:

Deck:	Min. 15/32-inch plywood to meet project requirements to satisfaction of AHJ.
Base Sheet:	Glasbase Base Sheet; Flexiglas Base Sheet; Flintlastic Base 20; All Weather / Empire Base Sheet; Flintlastic Poly SMS Base; Flintlastic Ultra Poly SMS Base or Yosemite Venting Base Sheet
Fasteners:	Simplex MAXX Cap Fasteners
Spacing:	6-inch o.c. at the 2-inch wide side laps and 6-inch o.c. at three (3) equally spaced, staggered center rows.
Underlayment:	Flintlastic GMS, applied in hot asphalt or Flintlastic GTA, torch-applied.

#15 Maximum Design Pressure = **-105.0 psf**:

Deck:	Min. 19/32-inch plywood to meet project requirements to satisfaction of AHJ.
Base Sheet:	Flintlastic SA NailBase
Fasteners:	12 ga., 1¼-inch long galvanized ring shank nails through 32 ga., 1 5/8-inch diameter tin caps
Spacing:	4-inch o.c. at the min. 2-inch laps and 4-inch o.c. at four (4) equally spaced, staggered rows in the field of the sheet.
Base Ply:	(Optional) Flintlastic SA PlyBase or Flintlastic SA Mid Ply, self-adhered.
Underlayment:	Flintlastic SA Cap, self-adhered.

5.6.3.1 All other direct-deck, adhered CertainTeed underlayment systems beneath foam-on or mortar-set tile systems carry a Maximum Design Pressure of -45 psf.

5.6.3.2 For mechanically attached Base Sheet, the maximum design pressure for the selected assembly shall meet or exceed that required under FRSA/TRI April 2012 (04-12), Appendix A, Table 1A.
Alternatively, the maximum design pressure for the selected assembly shall meet or exceed the Zone 1 design pressure determined in accordance with FBC 1609. In this case, Zones 2 and 3 shall employ an attachment density designed by a qualified design professional to resist the elevated pressure criteria. Commonly used methods are ANSI/SPRI WD1, FM Loss Prevention Data Sheet 1-29 and Roofing Application Standard RAS 117. Assemblies marked with an asterisk* carry the limitations set forth in Section 2.2.10.1 of FM Loss Prevention Data Sheet 1-29 (January 2016) for Zone 2/3 enhancements.

5.7 Exposure Limitations:

Roofers' Select shall not be left exposed for longer than 30-days after installation. Refer to installation instructions specific to anticipated exposure in Section 6.

Black Diamond Base, WinterGuard HT, WinterGuard Sand, WinterGuard Granular or MetaLayment shall not be left exposed for longer than 180-days after installation.

Flintlastic SA Cap, Flintlastic SA Cap FR, Flintlastic GTA or Flintlastic GMS do not have an exposure limitation, unless the prepared roof covering is to be adhesive-set tile atop Flintlastic SA Cap, GTA or GMS, in which case the maximum exposure is 180 days.

Flintlastic SA NailBase, Flintlastic SA PlyBase, Flintlastic SA Mid Ply and Flintlastic Ultra Glass SA, for use as a base-layer in a multi-ply underlayment system, shall not be left exposed for longer than 30-days after installation, prior to placement of subsequent underlayment layer.

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

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

TABLE 2: TILE SLIPPAGE LIMITATIONS FOR DIRECT-DECK TILE INSTALLATIONS

Underlayment	Tile Profile	Staging Method	Maximum Slope
Flintlastic GMS	All	Max. 10-tile stack	4:12
Flintlastic GTA	All	Max. 10-tile stack	6:12
Flintlastic SA Cap	Flat	Max. 6-tile stack (4 over 2)	6:12
	Lugged	Max. 6-tile stack (4 over 2)	5:12

6. INSTALLATION:

6.1 **CertainTeed Roof Underlayments** shall be installed in accordance with **CertainTeed** published installation requirements subject to the Limitations set forth in Section 5 herein and the specifics noted below.

6.2 Re-fasten any loose decking panels, and check for protruding nail heads. Sweep the substrate thoroughly to remove any dust and debris prior to application, and primed the substrate (if applicable).

6.3 Flintlastic SA NailBase, Flintlastic SA PlyBase, Flintlastic SA Mid Ply or Flintlastic Ultra Glass SA:

6.3.1 **Flintlastic SA NailBase**, **Flintlastic SA PlyBase** and **Flintlastic SA Mid Ply** are limited to use as a base or mid-layer in multi-ply underlayment systems beneath **Flintlastic SA Cap** or **Flintlastic SA Cap FR**.

6.3.2 **Flintlastic Ultra Glass SA** is limited to use as a base-layer in multi-ply underlayment systems beneath **Flintlastic GTA** or **Flintlastic GMS**.

6.3.3 Install the base-layer underlayment to the substrates detailed in **Section 5.6** in accordance with **CertainTeed** published installation instructions, followed by the final underlayment layer in accordance with the instructions outlined below for the particular top-layer underlayment.

6.3.4 Roof cover limitations are those are those associated with the top-layer underlayment, as set forth in **Table 1**.

6.4	Black Diamond Base, Flintlastic SA Cap or SA Cap FR, WinterGuard or MetaLayment:
6.4.1	Shall be installed in compliance with current **CertainTeed** published installation requirements and **FBC 1507** for the type of prepared roof covering to be installed.
6.4.2	Non-Tile Applications:
	Shall be fully self-adhered to the substrates noted in **Section 5.6**. Side laps shall be minimum 4-inch and end-laps minimum 6-inch wide, pressed firmly with a seam-roller, and offset end-laps minimum 2 feet from course to course.
	Consult **CertainTeed** instructions for use of **FlintBond SBS Modified Bitumen Adhesive**, trowel grade, on the 6-inch end laps and T-seam detailing.
	Consult **CertainTeed** instructions regarding back-nailing requirements.
6.4.3	Tile Applications *(Flintlastic SA Cap only)*:
	Reference is made to **FRSA/TRI April 2012 (04-12)** Installation Manual and **Table 1** herein.
	For mechanically fastened tile roofing over 2-ply system, consisting of Base Sheet and self-adhering top sheet(s), Base Sheet fastening shall be not less than **FRSA/TRI April 2012 (04-12), Table 1**.
	For adhesive-set tile applications, refer to **Section 5.6.3** herein.
6.5	Flintlastic GTA:
6.5.1	**Flintlastic GTA** shall be installed in compliance with current **CertainTeed** published installation requirements. For use in tile applications, **Flintlastic GTA** is for use as an alternate to the Heat Applied "Cap Sheet" in the "Two Ply System" from **FRSA/TRI April 2012 (04-12)** beneath mechanically fastened or adhered tile roof systems (Base Sheet Limited per 5.6.2)
6.5.2	**Flintlastic GTA** shall be fully torch applied to the substrates noted in Section 5.6. Side (horizontal) laps shall be minimum 3-inch and end (vertical) laps minimum 6-inch wide, and offset end-laps minimum 3 feet from course to course. Side and end-laps shall be fully heat-welded and inspected to ensure minimum 3/8-inch flow of modified compound beyond the lap edge.
6.5.3	Consult CertainTeed instructions regarding back-nailing requirements.
6.6	Flintlastic GMS:
6.6.1	**Flintlastic GMS** shall be installed in compliance with current **CertainTeed** published installation requirements. For use in tile applications, **Flintlastic GMS** is for use as an alternate to "Mineral Surface Roll Roofing" (ASTM D6380, Class M) in the "Single Ply System" from **FRSA/TRI April 2012 (04-12)** beneath mechanically fastened tile roof systems or the Hot Asphalt applied "Cap Sheet" in the "Two Ply System" from FRSA/TRI April 2012 (04-12) beneath mechanically fastened or adhered tile roof systems.
6.6.2	**Flintlastic GMS** shall be fully asphalt-applied to the substrates noted in Section 5.6. Side (horizontal) laps shall be minimum 3-inch and end (vertical) laps minimum 6-inch wide, and offset end-laps minimum 3 feet from course to course. Side and end-laps shall be fully adhered in a complete mopping of hot asphalt with asphalt extending approximately 3/8-inch beyond the lap edge.
6.6.3	Consult CertainTeed instructions regarding back-nailing requirements.

6.7	Roofers' Select:

6.7.1 Standard-Slope Application (4:12 and greater): Starting at the lower edge of the roof, apply a single layer of Roofers' Select parallel to the eaves, overhanging drip edge by ½-inch. Overlap ends (vertical laps) at least 4-inch and sides (horizontal laps) at least 2-inch. Offset end laps from course to course at least 6-feet. Apply flat and unwrinkled, fastening as required to hold in place.

6.7.2 Low Slope Application (2:12 up to 4:12): Starting at the lower edge of the roof, cover the entire deck by applying a double layer of Roofers' Select parallel to the eaves. Begin by applying a 19-inch wide starter strip of Roofers' Select along the eaves, overlapping the drip edge by ½-inch. Place a full-width sheet over the starter, with lower edge flush to the starter's lower edge. Apply succeeding 36-inch wide courses up the roof slope, overlapping the previous course by 19-inch in "shingle-fashion". Overlap ends at least 12-inch. Offset end laps from course to course at least 6-feet. Apply flat and unwrinkled, fastening as required to hold in place.

6.7.3 Eaves Flashing for Ice Dam Protection (all slopes): Eaves flashing may be constructed from self-adhering waterproofing underlayment holding Florida Product Approval, or by applying a double layer of Roofers' Select cemented together with asphalt roofing cement (ASTM D 4586, Type II). Eaves flashing should be installed to a level of at least 24-inch inside the interior wall line, or in areas of severe icing, at least up to the highest water level expected to occur from ice dams to the satisfaction of the Authority Having Jurisdiction (AHJ).

6.8 Tile Staging (Flintlastic SA Cap, Flintlastic GTA or Flintlastic GMS):

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

6.8.2 Battens and/or Counter-battens, as required by the tile manufacturer and **FRSA/TRI April 2012 (04-12)** must be used on all roof slopes greater than 7:12. Precautions should be taken as needed, such as the use of battens or nail-boards, to prevent tile sliding and/or damage to the underlayment during the loading process.

7. BUILDING PERMIT REQUIREMENTS:

As required by the Building Official or Authority Having Jurisdiction (AHJ) 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)
Little Rock, AR	ASTM D1970	WinterGuard HT, MetaLayment, Flintlastic SA PlyBase
	ASTM D4601	Flintlastic SA NailBase
	ASTM D6163	Flintlastic SA Mid Ply, Flintlastic Ultra Glass SA, Flintlastic SA Cap FR
	ASTM D6164	Flintlastic GMS
	ASTM D1970, ASTM D6164 & FRSA/TRI April 2012	Flintlastic SA Cap
	ASTM D6222	Flintlastic GTA
Shakopee, MN	ASTM D1970	WinterGuard Sand, WinterGuard Granular, Black Diamond Base Sheet,
Shreveport, LA	ASTM D6757	Roofers' Select

9. QUALITY ASSURANCE ENTITY:

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

- END OF EVALUATION REPORT –

Product Approval
USER: Public User

FL #	FL15592-R2 . 7
Application Type	Revision
Code Version	2017
Application Status	Approved
	*Approved by DBPR. Approvals by DBPR shall be reviewed and ratified by the POC and/or the Commission if necessary.
Comments	
Archived	
Product Manufacturer	Kennedy Skylights, LLC
Address/Phone/Email	5294 Tower Way Sanford, FL 32773 (602) 485-5984 kelly@nltubular.com
Authorized Signature	Kelly Joya kelly@nltubular.com
Technical Representative	
Address/Phone/Email	
Quality Assurance Representative	Pearl Strickland
Address/Phone/Email	5294 Tower Way Sanford, FL 32773 (407) 330-5150 pearl@kennedyskylights.com
Category	Sky Lights
Subcategory	Skylight
Compliance Method	Certification Mark or Listing
Certification Agency	National Accreditation & Management Institute
Validated By	National Accreditation & Management Institute

Referenced Standard and Year (of Standard)

Standard	Year
AAMA/CSA/WDMA 101/I.S. 2/A440	2005
ASTM E1886	2002
ASTM E1996	2005
ASTM E283	2004
ASTM E330	2002
ASTM E331-00 (2009)	2009
TAS201	1994
TAS202	1994
TAS203	1994

Equivalence of Product Standards Certified By: Florida Licensed Professional Engineer or Architect
FL15592_R2_Equiv_EER_2059_Rev3_417-1015_KennedySkylight_ss.pdf

FL15592_R2_Equiv_EER_2061_Rev3_417-1015_KennedySkylight_ss.pdf
FL15592_R2_Equiv_EER_2386_Rev1_417-1015_KennedySkylight_ss.pdf

Product Approval Method	Method 1 Option A
Date Submitted	12/12/2017
Date Validated	12/18/2017
Date Pending FBC Approval	
Date Approved	12/23/2017

Summary of Products

FL #	Model, Number or Name	Description
15592.1	"CM" Curb Mounted Polycarbonate Skylight	"CM" Curb Mounted Polycarbonate Skylight - Non-Impact
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** No **Design Pressure:** +60/-60 **Other:**		**Certification Agency Certificate** FL15592_R2_C_CAC_NI005843-R6 - KENN0007.pdf **Quality Assurance Contract Expiration Date** 07/31/2022 **Installation Instructions** FL15592_R2_II_KENN0007 RevB CM_ss.pdf Verified By: Robert J. Amoruso, P.E. FL PE No. 49752 Created by Independent Third Party: Yes **Evaluation Reports** FL15592_R2_AE_PER_2061_Rev3_417-1015_KennedySkylight_ss.pdf Created by Independent Third Party: Yes
15592.2	"CMG" Curb Mounted Glass Skylight	"CMG" Curb Mounted Glass Skylight - Non-Impact
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** No **Design Pressure:** +95/-95 **Other:**		**Certification Agency Certificate** FL15592_R2_C_CAC_NI005962-R6 - KENN0003.pdf **Quality Assurance Contract Expiration Date** 08/31/2022 **Installation Instructions** FL15592_R2_II_KENN0003 RevB CMG_ss.pdf Verified By: Robert J. Amoruso, P.E. FL PE No. 49752 Created by Independent Third Party: Yes **Evaluation Reports** FL15592_R2_AE_PER_2059_Rev3_417-1015_KennedySkylight_ss.pdf Created by Independent Third Party: Yes
15592.3	"HCMA" Curb Mounted Polycarbonate Skylight	"HCMA" Curb Mounted Polycarbonate Skylight – Large Missile Impact for HVHZ
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** Yes **Design Pressure:** +80/-80 **Other:**		**Certification Agency Certificate** FL15592_R2_C_CAC_NI012743-R1 - KENN0006.pdf **Quality Assurance Contract Expiration Date** 12/31/2022 **Installation Instructions** FL15592_R2_II_KENN0006 RevB HCMA_ss.pdf Verified By: Robert J. Amoruso, P,E. FL PE No. 49752 Created by Independent Third Party: Yes **Evaluation Reports** FL15592_R2_AE_PER_2061_Rev3_417-1015_KennedySkylight_ss.pdf Created by Independent Third Party: Yes
15592.4	"ICMG" Curb Mounted Glass Skylight	"ICMG" Curb Mounted Glass Skylight – Large Missile Impact for HVHZ
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** Yes **Design Pressure:** +60/-60 **Other:**		**Certification Agency Certificate** FL15592_R2_C_CAC_NI005963.02 - KENN0001.pdf **Quality Assurance Contract Expiration Date** 08/31/2022 **Installation Instructions** FL15592_R2_II_KENN0001 RevB ICMG_ss.pdf Verified By: Robert J. Amoruso, P.E. FL PE No. 49752 Created by Independent Third Party: Yes **Evaluation Reports** FL15592_R2_AE_PER_2059_Rev3_417-1015_KennedySkylight_ss.pdf Created by Independent Third Party: Yes

15592.5	"ISFG4" Curb Mounted Glass Skylight	"ISFG4" Curb Mounted Glass Skylight - Large Missile Impact for Non-HVHZ
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** Yes **Design Pressure:** +52.5/-52.5 **Other:**		**Certification Agency Certificate** FL15592_R2_C_CAC_NI009833-R5_KENN0004.pdf **Quality Assurance Contract Expiration Date** 10/31/2022 **Installation Instructions** FL15592_R2_II_KENN0004 RevB ISFG4_ss.pdf Verified By: Robert J. Amoruso, PE FL PE No. 49752 Created by Independent Third Party: Yes **Evaluation Reports** FL15592_R2_AE_PER_2386_Rev1_417-1015_KennedySkylight_ss.pdf Created by Independent Third Party: Yes
15592.6	"SF" Self-Flashing Polycarbonate Skylight	"SF" Self-Flashing Polycarbonate Skylight - Non-Impact
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** No **Design Pressure:** +85/-70 **Other:**		**Certification Agency Certificate** FL15592_R2_C_CAC_NI005844-R6_KENN0008.pdf **Quality Assurance Contract Expiration Date** 08/31/2024 **Installation Instructions** FL15592_R2_II_KENN0008 RevB SF Polycarb_SS.pdf Verified By: Robert J. Amoruso, P.E. FL PE No. 49752 Created by Independent Third Party: Yes **Evaluation Reports** FL15592_R2_AE_PER_2061_Rev3_417-1015_KennedySkylight_ss.pdf Created by Independent Third Party: Yes
15592.7	"SFG4" Curb Mounted Self Flashing Glass Skylight	"SFG4" Curb Mounted Self Flashing Glass Skylight - Non-Impact
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** No **Design Pressure:** +60/-60 **Other:**		**Certification Agency Certificate** FL15592_R2_C_CAC_NI005513-R7 - KENN0005.pdf **Quality Assurance Contract Expiration Date** 09/30/2022 **Installation Instructions** FL15592_R2_II_KENN0005 RevB SFG4_ss.pdf Verified By: Robert J. Amoruso, P.E. FL PE No. 49752 Created by Independent Third Party: Yes **Evaluation Reports** FL15592_R2_AE_PER_2059_Rev3_417-1015_KennedySkylight_ss.pdf Created by Independent Third Party: Yes

Back Next

KENNEDY SKYLIGHTS

MODEL "SFG4" CURB MOUNTED SELF-FLASHING GLASS SKYLIGHT - NI

INSTALLATION ANCHORAGE DETAILS

GENERAL NOTES:

1. THE PRODUCT ANCHORAGE SHOWN HEREIN IS DESIGNED TO COMPLY WITH THE REQUIREMENTS OF THE CURRENT EDITION OF THE FLORIDA BUILDING CODE - BUILDING (FBC) AND RESIDENTIAL (FRC) VOLUMES EXCLUDING THE HIGH VELOCITY HURRICANE ZONE (HVHZ) AT THE DESIGN PRESSURE(S) STATED HEREIN.

2. THE PRODUCT DETAILS CONTAINED HEREIN ARE BASED UPON SIGNED AND SEALED TEST REPORTS # NCTL-210-3012-1 AND ASSOCIATED LABORATORY STAMPED DRAWINGS.

3. THE SKYLIGHT HAS BEEN TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT EDITION OF THE FLORIDA BUILDING CODE - BUILDING (FBC) AND RESIDENTIAL (FRC) VOLUMES EXCLUDING THE HIGH VELOCITY HURRICANE ZONE (HVHZ) AND DOCUMENTED IN SIGNED AND SEALED TEST REPORT NO. NCTL-210-3012-1 AND ASSOCIATED LABORATORY STAMPED DRAWINGS.

4. GLASS MEETS THE REQUIREMENTS OF ASTM E1300-04e1. SEE SHEET 4 FOR GLAZING DETAILS.

5. ADEQUACY OF THE EXISTING STRUCTURAL FRAMING AS A MAIN WIND FORCE RESISTING SYSTEM CAPABLE OF WITHSTANDING AND TRANSFERRING APPLIED PRODUCT LOADS TO THE STRUCTURE IS THE RESPONSIBILITY OF THE ENGINEER OR ARCHITECT OF RECORD.

6. SITE CONDITIONS THAT DEVIATE FROM THE DETAILS OF THIS DRAWING REQUIRE FURTHER ENGINEERING ANALYSIS BY A LICENSED PROFESSIONAL ENGINEER OR REGISTERED ARCHITECT.

7. IN NON-HVHZ AREAS WHERE WINDBORNE DEBRIS PROTECTION REQUIREMENTS EXIST, USE OF AN IMPACT PROTECTIVE SYSTEM COMPLYING WITH THE FBC REQUIREMENTS FOR WINDBORNE DEBRIS REGIONS IS REQUIRED FOR THE PRODUCT(S) HEREIN.

8. WHEN APPLICABLE, DISSIMILAR METALS INCLUDING FASTENERS THAT MAY COME INTO CONTACT WITH ALUMINUM SKYLIGHT FRAMING SHALL HAVE BEEN PROTECTED IN A MANNER TO PREVENT GALVANIC CORROSION. FASTENERS SHALL BE MADE OF CORROSION RESISTANT METAL OR HAVE A CORROSION RESISTANT COATING.

9. CURB CONSTRUCTION AND MOUNTING DETAILS:
   - 9.1. A CURB SUPPLIED BY OTHERS CONSTRUCTED AND MOUNTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT EDITION OF THE FLORIDA BUILDING CODE - BUILDING (FBC) AND RESIDENTIAL (FRC) VOLUMES FOR THE TYPE OF CONSTRUCTION CLASSIFICATION WHERE THE SKYLIGHT IS TO BE INSTALLED IS ALLOWED.
   - 9.2. INTEGRATION WITH THE ROOF ASSEMBLY SHALL BE IN ACCORDANCE WITH CHAPTER 15 OF THE CURRENT EDITION OF THE FBC AND CHAPTER 9 OF THE CURRENT EDITION OF THE FRC.
   - 9.3. ADDITIONAL INSTALLATION DETAILING AND ENGINEERED INSTALLATION EVALUATION BY A LICENSED DESIGN PROFESSIONAL WILL BE REQUIRED FOR SUBMITTAL IN ADDITION TO THIS PRODUCT EVALUATION DOCUMENT.

DESIGN PRESSURE RATING (PSF)	IMPACT RATING
+60.0/-60.0	NON-IMPACT

TABLE OF CONTENT

PROJECT NUMBER: 417-1015

REV	DESCRIPTION	DATE	BY
B	Update to 6th Edition (2017) FBC	12/6/17	RJA
A	Update to 5th Edition (2014) FBC	7/15/15	RJA

KENNEDY SKYLIGHTS
5294 TOWER WAY
SANFORD, FL 32773

TITLE: MODEL "SFG4" CURB MOUNTED GLASS SKYLIGHT NON-IMPACT GENERAL NOTES AND DESIGN PRESSURE RATING

PREPARED BY: PTC PRODUCT TESTING GROUP LLC

DRAWN BY: TJH | DATE: 05/08/12
SCALE: N.T.S. | DRAWING NO: KENN0005
REV: B | SHEET: 1 OF 6

Robert J. Amoruso, P.E.
FL P.E. No. 49752

INSTALLATION NOTES:

1. ANCHOR INSTALLATION:
   1.1. INSTALL CURB TO ROOF ASSEMBLY IN ACCORDANCE WITH THE ANCHORING LAYOUT ELEVATIONS SHOWN ON SHEET 3 USING FASTENERS SHOWN IN THE INSTALLATION ANCHOR SCHEDULE ON THIS SHEET.
   1.2. INSTALL SASH TO CURB USING #8 SELF-DRILLING/SELF-TAPPING SCREWS. SEE ANCHORING LAYOUT SHEET 3.
   1.3. CURB WOOD SPECIFIC GRAVITY OF 0.55 MINIMUM.
2. APPLY ALL SEALANTS ACCORDING TO MANUFACTURERS INSTRUCTIONS.
3. PRODUCT ANCHORS SHALL BE AS DESIGNATED AND LOCATED AS SHOWN ON THE INSTALLATION DRAWINGS. ANCHOR EMBEDMENT AND EDGE DISTANCE EXCLUDE WALL FINISHES INCLUDING, BUT NOT LIMITED TO SHEATHING, UNDERLAYMENT AND SHINGLES.
4. INSTALLATION ANCHORS AND ASSOCIATED HARDWARE MUST BE MADE OF CORROSION RESISTANT MATERIAL OR HAVE A CORROSION RESISTANT COATING. DISSIMILAR METALS OR MATERIALS IN CONTACT WITH PRESSURE TREATED WOOD MUST BE PROTECTED TO PREVENT REACTION.
5. INSTALLATION ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH ANCHOR MANUFACTURER'S INSTALLATION INSTRUCTIONS. ANCHORS SHALL NOT BE USED IN SUBSTRATES WITH STRENGTHS LESS THAN THE MINIMUM STRENGTH SPECIFIED IN THE INSTALLATION ANCHOR SCHEDULE ON THIS SHEET.
6. FOR SKYLIGHT SIZES LESS THAN THAT SHOWN IN THE ELEVATIONS, ANCHOR QUANTITIES MAY BE REDUCED BY ONE (1) WHEN SPACING BETWEEN ANCHORS IS 50% OR LESS THAN THE MAXIMUM SPACING REQUIRED.

INSTALLATION ANCHOR SCHEDULE

ASSEMBLY	SUBSTRATE TYPE	HEAD TYPE	SIZE	MANUFACTURER AND/OR SPECIFICATION	MIN. EMBEDMENT (IN)	MIN. EDGE DISTANCE (IN)	MIN. SPACING (IN)	CAPACITIES BASED ON
CURB	SOLID-SAWN LUMBER (1)	HEX, PAN OR TRUSS HEAD	NO. 8	ASME B18.6.4 (SELF-DRILLING/SELF-TAPPING SCREW)	1	5/8	5/8	WOOD WITH A MINIMUM SPECIFIC GRAVITY OF 0.55
ROOF	CONCRETE	HEX HEAD	3/16"	ITW TAPCON (3)	1 1/2	1 1/8	2 1/2	MIN. 2500 PSI CONCRETE BUT NOT LESS THAN THAT REQUIRED BY BUILDING CODE
				Elco Ultracon	1 3/8	1	3 3/8	MIN. 2500 PSI CONCRETE BUT NOT LESS THAN THAT REQUIRED BY BUILDING CODE
ROOF	SOLID-SAWN LUMBER (2)	HEX, PAN OR TRUSS HEAD	NO. 8	ANSI B18.6.1 (WOOD SCREW) ASME B18.6.4 (SELF-DRILLING/SELF-TAPPING SCREW)	7/8	5/16	13/16	WOOD WITH A MINIMUM SPECIFIC GRAVITY OF 0.55
ROOF	SOLID-SAWN LUMBER	1/4" DIA. ROUND HEAD RING-SHANK NAIL	0.099" DIA. MIN.	RING-SHANK NAIL	7/8	1/2	1/2	WOOD WITH A MINIMUM SPECIFIC GRAVITY OF 0.55
ROOF	ALUMINUM OR STEEL, 1/8" MIN. WALL THICKNESS	HEX, PAN OR TRUSS HEAD	NO. 8	ASME B18.6.4 (SELF-DRILLING/SELF-TAPPING SCREW)	PROTRUDING MIN. 3 THREADS PAST INTERIOR OF SUBSTRATE	1/2	1/2	ULTIMATE STRENGTH (Fu) OF 22,000 PSI
ROOF	PLYWOOD or OSB	HEX, PAN OR TRUSS HEAD	NO. 8	ASME B18.6.4 (TYPE AB TAPPING SCREW)	SCREW THREADS SHALL PROTRUDE A MINIMUM OF 1/4" FROM THE UNDERSIDE OF THE ROOF SHEATHING	1/2	1/2	7/16" THICK PLYWOOD - SPECIES GROUP 1 OR 2 (APA VOLUNTARY PRODUCT STANDARD PS 1) MINIMUM OR 7/16" - SHEATHING GRADE (APA VOLUNTARY PRODUCT STANDARD PS 2) MINIMUM
ROOF	PLYWOOD or OSB	1/4" DIA. ROUND HEAD RING-SHANK NAIL	0.099" DIA. MIN.	RING-SHANK NAIL	NAIL SHANK SHALL PROTRUDE A MINIMUM OF 1/4" FROM THE UNDERSIDE OF THE ROOF SHEATHING	1/2	1/2	

NOTES:

1) FOR NO. 8 WOOD AND TAPPING SCREWS IF SPLITTING IS A CONCERN, DRILL 0.102" (DRILL SIZE 38) PILOT HOLE FOR WOOD FRAME INSTALLATION.
2) FOR NO. 8 WOOD AND TAPPING SCREWS IF SPLITTING IS A CONCERN, DRILL 0.082" (DRILL SIZE 45) PILOT HOLE FOR WOOD FRAME INSTALLATION.
3) WHEN ITW TAPCONS ARE USED FOR CONCRETE/MASONRY INSTALLATION, THEY SHALL BE THE ADVANCED THREADFORM TECHNOLOGY TYPE.

PROJECT NUMBER: 417-1015

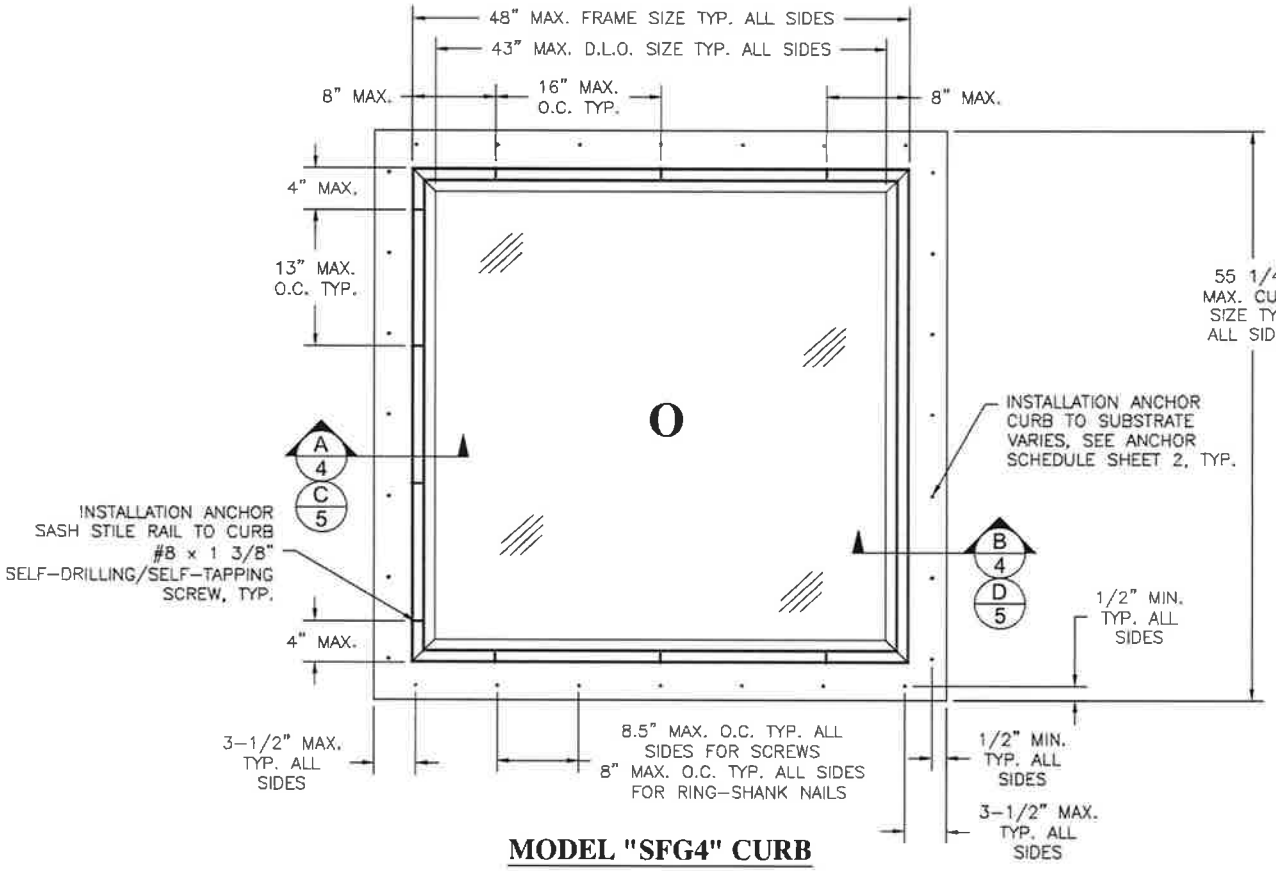
REV	DESCRIPTION	DATE	BY
B	Update to 6th Edition (2017) FBC	12/6/17	RJA
A	Update to 5th Edition (2014) FBC	7/15/15	RJA

KENNEDY SKYLIGHTS
5204 TOWER WAY
SANFORD, FL 32773

TITLE: MODEL "SFG4" CURB MOUNTED GLASS SKYLIGHT NON-IMPACT
INSTALLATION NOTES AND ANCHOR SCHEDULE

PREPARED BY: PTC PRODUCT TECHNOLOGY GROUP LLC
DRAWN BY: TJH
DATE: 05/08/12
SCALE: N.T.S.
DRAWING NO: KENN0005
REV: B
SHEET: 2 OF 6

Robert J. Amoruso, P.E.
FL P.E. No. 49752



MODEL "SFG4" CURB MOUNTED SKYLIGHT

INSTALLED INTO VARIABLE SUBSTRATE ROOF ASSEMBLIES
(SEE INSTALLATION ANCHOR SCHEDULE - SHEET 2)
EXTERIOR VIEW

PROJECT NUMBER: 417-1015

REV	DESCRIPTION	DATE	BY
B	Update to 6th Edition (2017) FBC	12/6/17	RJA
A	Update to 5th Edition (2014) FBC	7/15/15	RJA

KENNEDY SKYLIGHTS
5294 TOWER WAY
SANFORD, FL 32773

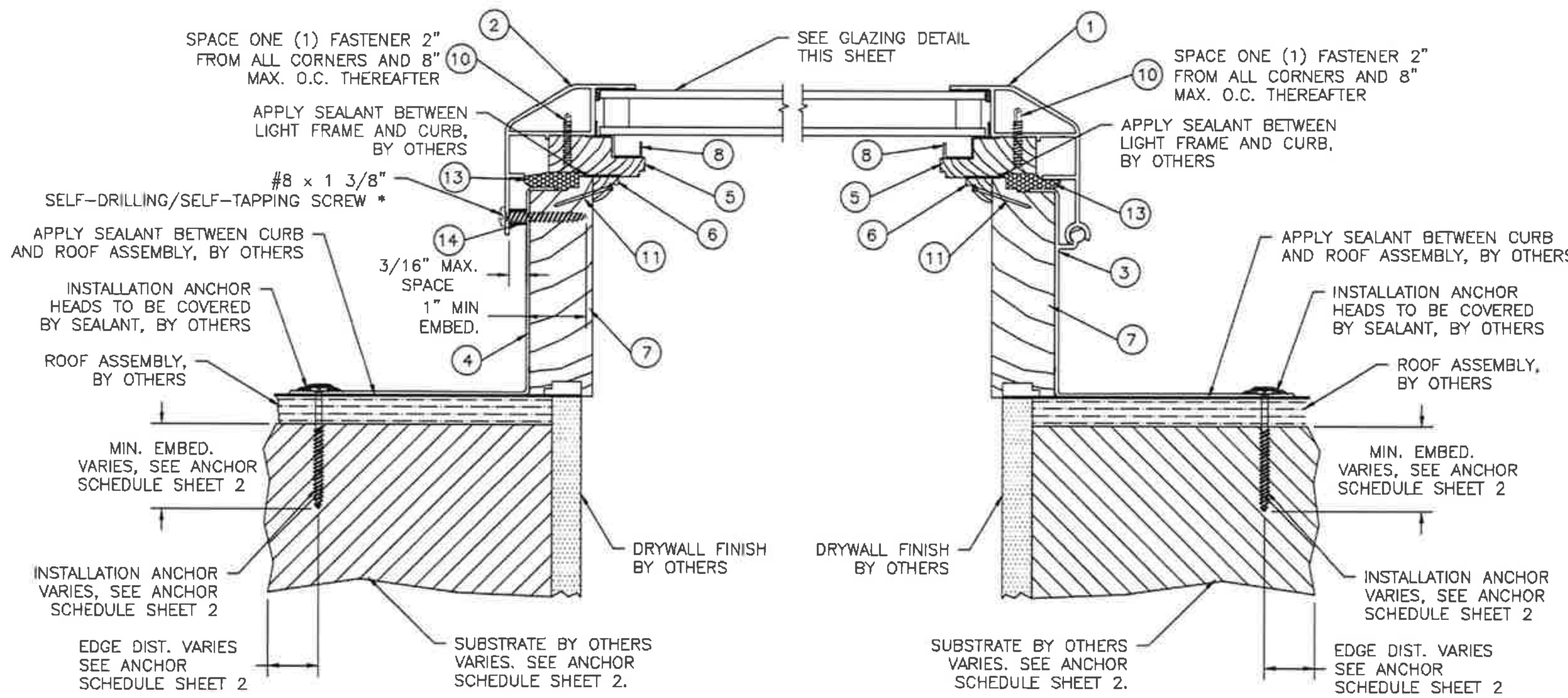
TITLE: MODEL "SFG4" CURB MOUNTED GLASS SKYLIGHT NON-IMPACT ELEVATION AND ANCHORING LAYOUT

PREPARED BY: PTC PRODUCT TESTING GROUP LLC

DRAWN BY	DATE	DRAWING NO	SHEET
TJH	05/08/12	KENN0005	3 OF 6

SCALE: N.T.S.
REV: B

Robert J. Amoruso, P.E.
FL P.E. No. 49752



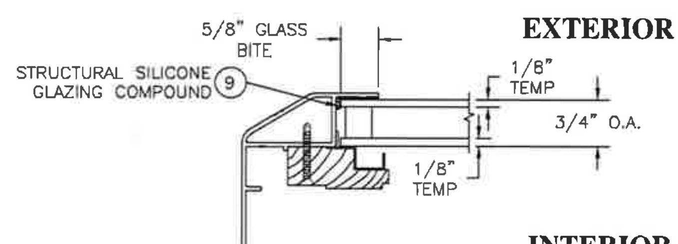
A/4 INSTALLATION CROSS SECTION

NON-HINGE SIDE
2X FRAMING, CONCRETE AND METAL FRAMING
INSTALLATION DETAIL. SEE SHEET 2

*SEE ANCHOR SCHEDULE ON SHEET 2 FOR OTHER APPROVED TYPES

B/4 INSTALLATION CROSS SECTION

HINGE SIDE
2X FRAMING, CONCRETE AND METAL FRAMING
INSTALLATION DETAIL. SEE SHEET 2



GLAZING DETAIL

KENNEDY SKYLIGHTS
5294 TOWER WAY
SANFORD, FL 32773

TITLE: MODEL "SFG4" CURB MOUNTED GLASS SKYLIGHT
NON-IMPACT
INSTALLATION SECTION W/SCREWS AND GLAZING DETAIL

PREPARED BY: PTC PRODUCT DESIGN GROUP, LLC, PO BOX 520775, LONGWOOD, FLORIDA 32752, FBPE C.A. NO. 25935, Phone 321 690 1788, Fax 321 690 1789

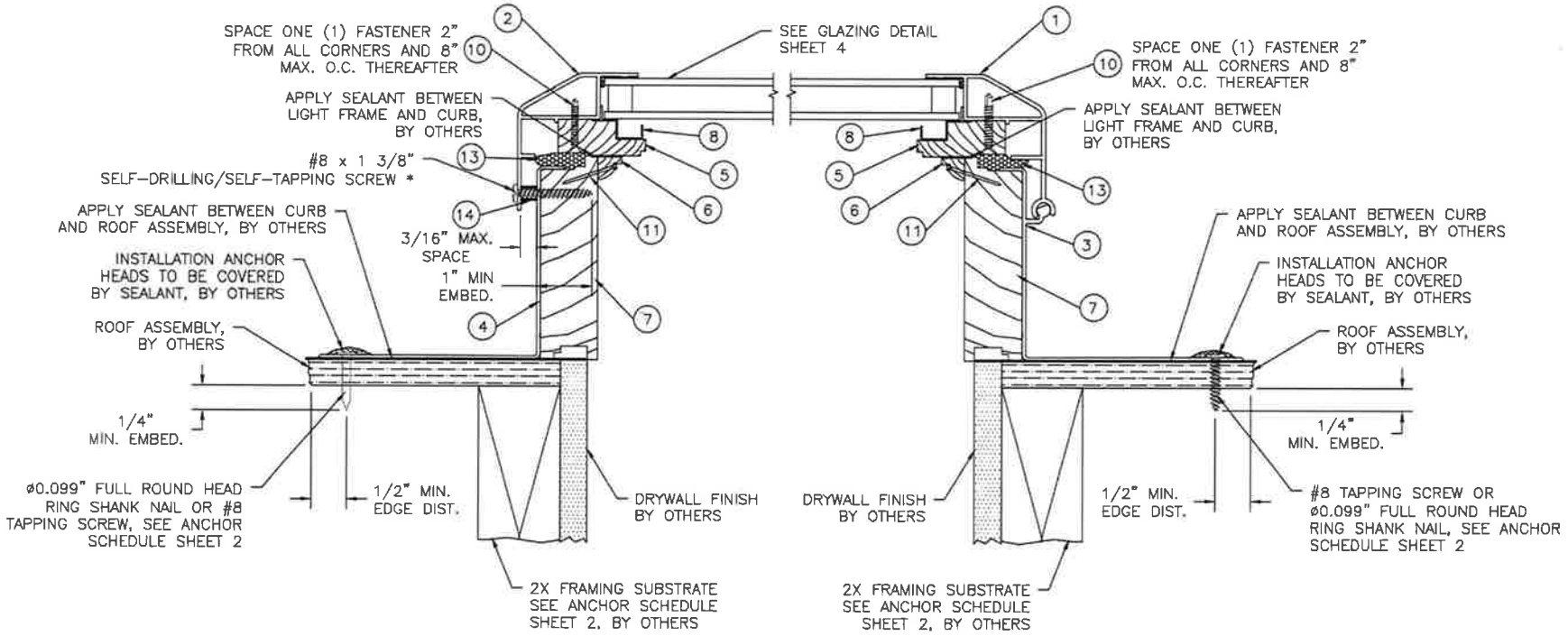
DRAWN BY: TJH	DATE: 05/08/12
SCALE: N.T.S.	DRAWING NO: KENN0005
REV: B	SHEET: 4 OF 6

PROJECT NUMBER: 417-1015

REV	DESCRIPTION	DATE	BY
B	Update to 6th Edition (2017) FBC	12/6/17	RJA
A	Updaate to 5th Edition (2014) FBC	7/15/15	RJA

Robert J. Amoruso, P.E.
FL P.E. No. 49752

Digitally signed by Robert J Amoruso
Date: 2017.12.06 21:20:13 -05'00'



C/5 INSTALLATION CROSS SECTION

NON-HINGE SIDE
2X FRAMING INSTALLATION DETAIL
Ø0.148" RING SHANK NAIL SHOWN, #10 TAPPING SCREW ALSO APPROVED, SEE ANCHOR SCHEDULE SHEET 2

*SEE ANCHOR SCHEDULE ON SHEET 2 FOR OTHER APPROVED TYPES

D/5 INSTALLATION CROSS SECTION

HINGE SIDE
2X FRAMING INSTALLATION DETAIL
#10 TAPPING SCREWN SHOWN, Ø0.148" RING SHANK NAIL ALSO APPROVED, SEE ANCHOR SCHEDULE SHEET 2

PROJECT NUMBER: 417-1015

REV	DESCRIPTION	DATE	BY
B	Update to 6th Edition (2017) FBC	12/6/17	RJA
A	Update to 5th Edition (2014) FBC	7/15/15	RJA

KENNEDY SKYLIGHTS
5294 TOWER WAY
SANFORD, FL 32773

TITLE: MODEL "SFG4" CURB MOUNTED GLASS SKYLIGHT NON-IMPACT INSTALLATION SECTION WITH NAILS

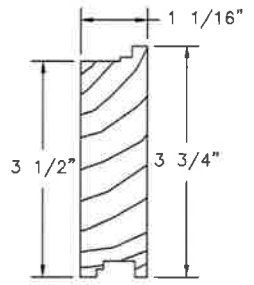
PREPARED BY: PTC PRODUCT DESIGN GROUP, LLC
DRAWN BY: TJH
DATE: 05/08/12
SCALE: N.T.S.
DRAWING NO: KENN0005
REV: B
SHEET: 5 OF 6

Robert J. Amoruso, P.E.
FL P.E. No. 49752

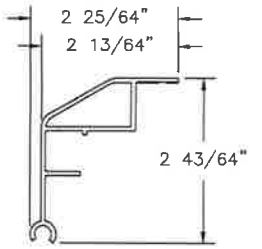
Digitally signed by Robert J Amoruso
Date: 2017.12.06 21:20:27 -05'00'

BILL OF MATERIALS

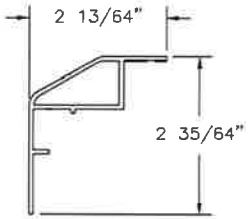
ITEM #	PART #	ITEM DESCRIPTION	MANUFACTURER	MATERIAL
1	FE4694	SASH HINGE	INDALEX ALUM. SOLUTIONS	ALUM. 6063–T6
2	FE4693	SASH STILE RAIL	INDALEX ALUM. SOLUTIONS	ALUM. 6063–T6
3	FE4695	4" CURB HINGE	INDALEX ALUM. SOLUTIONS	ALUM. 6063–T6
4	FE46700	4" CURB	INDALEX ALUM. SOLUTIONS	ALUM. 6063–T6
5	SM KS–5	WOOD SASH FRAME	KENNEDY SKYLIGHTS, LLC	WOOD
6	SM KS–6	SASH STOP	KENNEDY SKYLIGHTS, LLC	WOOD
7	SM KS–2	WOOD CURB	KENNEDY SKYLIGHTS, LLC	WOOD
8	AK–2474	CONDENSATION CHANNEL	CENTRAL PLASTICS, INC.	HIGH TEMP. PVC
9		GLAZING COMPOUND	NOVAFLEX	STRUCTURAL SILICONE
10		#8 x 1 1/4" FH SELF–DRILLING SCREW		
11		16GA. x 1 1/8" BRAD NAIL		
12		NON–IMPACT GLAZING, SEE SHEET 4		
13		1" x 1 1/4" FOAM GASKET		EDPM FOAM
14		RIGID SPACER FOR SASH STILE RAIL INSTALLATION, SEE INSTALLATION NOTE 4 SHEET 2		RIGID



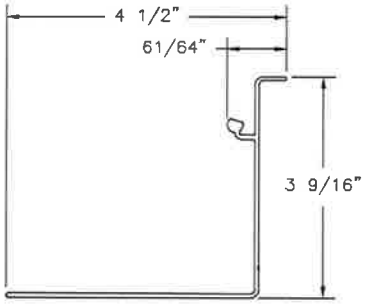
7 **WOOD CURB**



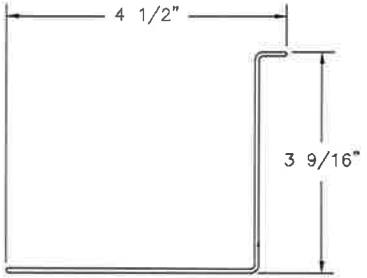
1 **SASH HINGE**
EXTRUDED ALUMINUM 6063-T6
0.070" THICK



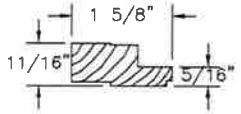
2 **SASH STILE RAIL**
EXTRUDED ALUMINUM 6063-T6
0.070" THICK



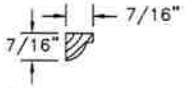
3 **4" CURB HINGE**
EXTRUDED ALUMINUM 6063-T6
0.063" THICK



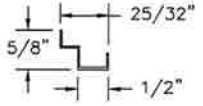
4 **4" CURB**
EXTRUDED ALUMINUM 6063-T6
0.063" THICK



5 **WOOD SASH FRAME**



6 **WOOD SASH STOP**



8 **CONDENSATION CHANNEL**
EXTRUDED HIGH TEMP RIGID PVC
0.030" THICK

PROJECT NUMBER	415–1015						
REV	DESCRIPTION	DATE	BY
B	Update to 6th Edition (2017) FBC	12/6/17	RJA
A	Update to 5th Edition (2014) FBC	7/15/15	RJA

KENNEDY SKYLIGHTS
5294 TOWER WAY
SANFORD, FL 32773

TITLE: MODEL "SFG4" CURB MOUNTED GLASS SKYLIGHT NON–IMPACT
BILL OF MATERIALS AND COMPONENTS

PREPARED BY: PTC PRODUCT DESIGN GROUP LLC
DRAWN BY: TJH
DATE: 05/08/12
SCALE: N.T.S.
DRAWING NO: KENN0005
REV: B
SHEET: 6 OF 6

Robert J. Amoruso, P.E.
FL P.E. No. 49752

Digitally signed by Robert J Amoruso
Date: 2017.12.06 21:20:54 -05'00'

RICK SCOTT, GOVERNOR

JONATHAN ZACHEM, SECRETARY

Florida dbpr

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

CONSTRUCTION INDUSTRY LICENSING BOARD

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

MELLICK, KENNY LEE

UNIVERSAL ROOF & CONTRACTING
5655 CARDER ROAD
ORLANDO FL 32810

LICENSE NUMBER: CCC057165

EXPIRATION DATE: AUGUST 31, 2020 VALID

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.

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 11/1/2019

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 have ADDITIONAL INSURED provisions or 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
Bouchard Insurance, Inc.
101 N Starcrest DR
Clearwater FL 33765

CONTACT NAME:
PHONE (A/C, No, Ext): 727-447-6481 FAX (A/C, No): 727-449-1267
E-MAIL ADDRESS: certificates@bouchardinsurance.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : United Specialty Insurance Co	12537
INSURER B : Ohio Security Insurance Co	24082
INSURER C : Bridgefield Employers Ins Co	10701
INSURER D : Security National Insurance Co	19879
INSURER E : Endurance Assurance Corporation	
INSURER F :	

INSURED UNIVERSA5
Universal Roofing Group, Inc. dba
Universal Roof and Contracting
5655 Carder Rd
Orlando FL 32810

COVERAGES **CERTIFICATE NUMBER: 1017870668** **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	
D	X COMMERCIAL GENERAL LIABILITY	Y	Y	SES1781146	11/1/2019	11/1/2020 VALID	EACH OCCURRENCE	$ 1,000,000
	CLAIMS-MADE [X] OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 50,000
	X 10,000						MED EXP (Any one person)	$ Excluded
	GEN'L AGGREGATE LIMIT APPLIES PER:						PERSONAL & ADV INJURY	$ 1,000,000
	POLICY [X] PRO-JECT [ ] LOC						GENERAL AGGREGATE	$ 2,000,000
	OTHER:						PRODUCTS - COMP/OP AGG	$ 2,000,000
								$
B	AUTOMOBILE LIABILITY	Y	Y	BAS58307028	11/1/2019	11/1/2020	COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
	X ANY AUTO						BODILY INJURY (Per person)	$
	OWNED AUTOS ONLY / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	X HIRED AUTOS ONLY / X NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
A	UMBRELLA LIAB X OCCUR			BTN1935869	11/1/2019	11/1/2020	EACH OCCURRENCE	$ 5,000,000
	X EXCESS LIAB CLAIMS-MADE						AGGREGATE	$ 5,000,000
	DED RETENTION $							$
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N		Y	83056033	11/1/2019	11/1/2020 VALID	X PER STATUTE OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? N (Mandatory in NH)	N/A					E.L. EACH ACCIDENT	$ 1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000
E	Excess Liability Auto			EXC30000871301	11/1/2019	11/1/2020	5,000,000	5,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
Certificate Holder and others as required in the contract documents are an additional insured on a primary and noncontributory basis with respect to General Liability and Auto policies including ongoing and completed operations, where required by written contract and subject to the terms, conditions and exclusions of the policy.

Per Project aggregate applies to the General Liability up to $5,000,000.

Waiver of subrogation applies in favor of certificate holder as respects General Liability, Auto and
See Attached...

CERTIFICATE HOLDER
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

2019 **EXPIRES 9/30/2020** 1806-0962544

1806 CERT ROOFING CONTRA $30.00 1 EMPLOYEE | 5000 BUSINESS OFFICE $30.00 5 EMPLOYEES |

TOTAL TAX $60.00
PREVIOUSLY PAID $60.00
TOTAL DUE $0.00

MELLICK KENNY L

UNIVERSAL ROOFING GROUP INC
MELLICK KENNY L
5655 CARDER RD
ORLANDO FL 32810

5655 CARDER RD
U - ORLANDO, 32810

PAID $60.00 0098-00909530 9/9/2019

Tax Collector Scott Randolph **Local Business Tax Receipt** **Orange County, Florida**

This local Business Tax Receipt is in addition to and not in lieu of any other tax required by law or municipal ordinance. Businesses are subject to regulation of zoning, health and other lawful authorities. This receipt is valid from October 1 through September 30 of receipt year. **Delinquent penalty is added October 1.**

2019 **EXPIRES 9/30/2020** 1806-0962544

1806 CERT ROOFING CONTRA $30.00 1 EMPLOYEE | 5000 BUSINESS OFFICE $30.00 5 EMPLOYEES |

TOTAL TAX $60.00
PREVIOUSLY PAID $60.00
TOTAL DUE $0.00

MELLICK KENNY L

UNIVERSAL ROOFING GROUP INC
MELLICK KENNY L
5655 CARDER RD
ORLANDO FL 32810

5655 CARDER RD
U - ORLANDO, 32810

PAID: $60.00 0098-00909530 9/9/2019

SCOTT RANDOLPH, TAX COLLECTOR • ORANGE COUNTY, FLORIDA •

This receipt is official when validated by the Tax Collector.

Orange County Code requires this local Business Tax Receipt to be displayed conspicuously at the place of business in public view. It is subject to inspection by all duly authorized officers of the County.

RICK SCOTT, GOVERNOR

JONATHAN ZACHEM, SECRETARY

Florida dbpr

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

CONSTRUCTION INDUSTRY LICENSING BOARD

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

MELLICK, KENNY LEE

UNIVERSAL ROOF & CONTRACTING
5655 CARDER ROAD
ORLANDO FL 32810

LICENSE NUMBER: CCC057165

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.

Tax Collector Scott Randolph **Local Business Tax Receipt** **Orange County, Florida**

2019 **EXPIRES 9/30/2020**

1806-0962544

1806	CERT ROOFING CONTRA	$30.00	1 EMPLOYEE	5000	BUSINESS OFFICE	$30.00	5 EMPLOYEES

TOTAL TAX	$60.00
PREVIOUSLY PAID	$60.00
TOTAL DUE	$0.00

MELLICK KENNY L

UNIVERSAL ROOFING GROUP INC
MELLICK KENNY L
5655 CARDER RD
ORLANDO FL 32810

5655 CARDER RD
U - ORLANDO, 32810

PAID: $60.00 0098-00909530 9/9/2019

Tax Collector Scott Randolph **Local Business Tax Receipt** **Orange County, Florida**

This local Business Tax Receipt is in addition to and not in lieu of any other tax required by law or municipal ordinance. Businesses are subject to regulation of zoning, health and other lawful authorities. This receipt is valid from October 1 through September 30 of receipt year. **Delinquent penalty is added October 1.**

2019 **EXPIRES 9/30/2020**

1806-0962544

1806	CERT ROOFING CONTRA	$30.00	1 EMPLOYEE	5000	BUSINESS OFFICE	$30.00	5 EMPLOYEES

TOTAL TAX	$60.00
PREVIOUSLY PAID	$60.00
TOTAL DUE	$0.00

MELLICK KENNY L

UNIVERSAL ROOFING GROUP INC
MELLICK KENNY L
5655 CARDER RD
ORLANDO FL 32810

5655 CARDER RD
U - ORLANDO, 32810

PAID: $60.00 0098-00909530 9/9/2019

SCOTT RANDOLPH, TAX COLLECTOR • ORANGE COUNTY, FLORIDA •

This receipt is official when validated by the Tax Collector.

Orange County Code requires this local Business Tax Receipt to be displayed conspicuously at the place of business in public view. It is subject to inspection by all duly authorized officers of the County.

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 11/1/2019

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 have ADDITIONAL INSURED provisions or 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
Bouchard Insurance, Inc.
101 N Starcrest DR
Clearwater FL 33765

CONTACT NAME:
PHONE (A/C, No, Ext): 727-447-6481 **FAX (A/C, No):** 727-449-1267
E-MAIL ADDRESS: certificates@bouchardinsurance.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : United Specialty Insurance Co	12537
INSURER B : Ohio Security Insurance Co	24082
INSURER C : Bridgefield Employers Ins Co	10701
INSURER D : Security National Insurance Co	19879
INSURER E : Endurance Assurance Corporation	
INSURER F :	

INSURED UNIVERSA5
Universal Roofing Group, Inc. dba
Universal Roof and Contracting
5655 Carder Rd.
Orlando FL 32810

COVERAGES **CERTIFICATE NUMBER:** 1017870668 **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	
D	X COMMERCIAL GENERAL LIABILITY	Y	Y	SES1781148	11/1/2019	11/1/2020	EACH OCCURRENCE	$ 1,000,000
	CLAIMS-MADE [X] OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 50,000
	X 10,000						MED EXP (Any one person)	$ Excluded
	GEN'L AGGREGATE LIMIT APPLIES PER:						PERSONAL & ADV INJURY	$ 1,000,000
	POLICY [X] PRO-JECT [ ] LOC						GENERAL AGGREGATE	$ 2,000,000
	OTHER:						PRODUCTS - COMP/OP AGG	$ 2,000,000
								$
B	AUTOMOBILE LIABILITY	Y	Y	BAS68307028	11/1/2019	11/1/2020	COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
	X ANY AUTO						BODILY INJURY (Per person)	$
	OWNED AUTOS ONLY / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	X HIRED AUTOS ONLY / X NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
A	UMBRELLA LIAB X OCCUR			BTN1935869	11/1/2019	11/1/2020	EACH OCCURRENCE	$ 5,000,000
	X EXCESS LIAB CLAIMS-MADE						AGGREGATE	$ 5,000,000
	DED RETENTION $							$
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N		Y	83056033	11/1/2019	11/1/2020	X PER STATUTE OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? [N] N/A						E.L. EACH ACCIDENT	$ 1,000,000
	(Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000
E	Excess Liability Auto			EXC30000871301	11/1/2019	11/1/2020	5,000,000	5,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
Certificate Holder and others as required in the contract documents are an additional insured on a primary and noncontributory basis with respect to General Liability and Auto policies including ongoing and completed operations, where required by written contract and subject to the terms, conditions and exclusions of the policy.

Per Project aggregate applies to the General Liability up to $5,000,000.

Waiver of subrogation applies in favor of certificate holder as respects General Liability, Auto and
See Attached...

CERTIFICATE HOLDER
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