



## FLORIDA BUILDING CODE ENGINEERING EVALUATION REPORT

Date | 2023-10-16  
File No. | 0064-15-3-5914  
For | Davinci Roofscapes, LLC  
Address | 13890 W 101 St, Lenexa, KS 66215

### Subject

DaVinci Slate, DaVinci Shake, Select Shake, Fancy Shake, Bellaforté Slate, Bellaforté Shake Roof Shingles.

### Evaluation Scope

This report is provided to assist registered design professionals and building officials in the United States for determining compliance to the performance objectives in the named building codes. The product(s) described herein have been evaluated to the 2023 Florida Building Code (FBC) and Residential Code (FBC-R).

**CSI DIVISION:** 07 00 00 THERMAL AND MOISTURE PROTECTION  
**SUBDIVISION:** 07 32 26 Plastic Roof Tiles

**FBC CATEGORY:** Roofing  
**SUB-CATEGORY:** Products Introduced as a Result of New Technology

### CODE SECTIONS AND STANDARDS

FBC Section	Description	Referenced Standard or Code Section <sup>1</sup>	Year
1504.3	Wind Resistance of Nonballasted Roofs	FBC Section 1609	-
1504.3.1	Wind Uplift Resistance (Non-HVHZ)	UL 1897	2015
1504.6 <sup>2</sup>	Durability, Physical Properties	ASTM G155	2013
1505	Fire Classification (Non-HVHZ)	ASTM E108	2017
1515.1.3	Performance Requirements (HVHZ)	TAS 301	1994
1516.1	Fire Classification (HVHZ)	ASTM E108	2017
1523.6.5	Discontinuous Roofing Systems, Wind-driven Rain (HVHZ)	TAS 100	2023
1523.6.5.2.4.1 <sup>2</sup>	Wind Uplift Resistance (HVHZ)	TAS 125	2003
2606.4	Burning Rate	ASTM D635	2014
2606.4	Self-Ignition Temperature	ASTM D1929	2016
2606.4	Smoke Density Rating	ASTM D2843	2016
2615.2	Weathering (HVHZ)	ASTM G155	2013
2615.2	Tensile Strength after Weathering (HVHZ)	ASTM D638	2003

FBC-R Section	Description	Referenced Standard or Code Section <sup>1</sup>	Year
R902.1	Fire Classification	ASTM E108	2017
R904.3	Material Specifications and Physical Characteristics	-	-



R905.1	Roof Covering Application	FBC-R Table R301.2(2), R301.2(3)	-
R4402.1	Roof Assemblies and Rooftop Structures (HVHZ)	FBC Ch 15	-
R4412.1	Plastics (HVHZ)	FBC Ch 26	-

1. Only the applicable reference standards and code sections cited in the main body text are listed. (-) indicates that the main body text covers the full explanation of the objective.
2. Code section citing related roof covering performance requirements and referenced test standard.

**COMPLIANCE STATEMENT**

It is the opinion of Boca Engineering Co. that DaVinci Slate, DaVinci Shake, Select Shake, Fancy Shake, Bellaforté Slate, Bellaforté Shake Roof Shingles, when installed as described in this report, has demonstrated compliance with the listed sections of the 2023 Florida Building Code (FBC) and Residential Code (FBC-R), inclusive of the requirements for High Velocity Hurricane Zone (HVHZ). Design and performance information can be found in the Product Evaluation section this report.

This report has been prepared and reviewed on behalf of Boca Engineering Co. by:

Christopher Bowness, P.Eng., P.E.

2023-10-16  
Issue Date

2026-12-31  
Expiry Date



**EVALUATION REPORT TERMS**

1. This report is a general evaluation of the building code section requirements as identified and applies only to the samples that were evaluated. It does not imply any endorsement or warranty, nor that the signatory Engineer is the Designer of Record of any construction project for which the information is used.  
Rule 61G20-3 (17)(a) Definition: Evaluation report means a report based upon testing or comparative or rational analysis, or a combination thereof, from an approved product evaluation entity or a licensed Florida professional engineer or architect indicating that the product was evaluated to be in compliance with the Code or the intent of the Code and that the product complies with the Code or is, for the purpose intended, at least equivalent to that required by the Code.
2. This Evaluation Report expires Dec. 31, 2026, open to renewal. Up to the renewal date, the report is valid until such time as the named product(s) changes, the Quality Assurance Agency changes, or provisions of the Code that relate to the product change.

**CERTIFICATION OF INDEPENDENCE**

1. Boca Engineering Co., its employees and shareholders, do not have, nor do they intend to or will acquire, a financial interest in any company manufacturing or distributing products that they evaluate.
2. Boca Engineering Co. is not owned, operated, or controlled by any company manufacturing or distributing products that they evaluate.

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## Product Evaluation

### 1.0 PRODUCT DESCRIPTION

Davinci roofing is manufactured by injection molding of a polymer blend in to individual slates and shakes, that serve as exterior roof covering.

**DaVinci Slate:** thickness of 1/8-inch at head to 1/2-inch at tail, 18-inch long by 6, 7, 9, 10 or 12-inch wide.

**DaVinci Shake:** thickness of 1/4-inch at head to 1/2-inch to 5/8-inch at tail, 22-inch long by 4, 6, 7, 8, or 9-inch wide.

**Select Shake:** thickness of 1/4-inch at head to 5/8-inch at tail, 22-inch long by 8, or 10-inch wide.

**Fancy Shake:** thickness of 1/4-inch at head, 1/2-inch at tail, 18-inch long by 5, 7, or 12-inch wide. Fancy Shake are available with a “Diamond Point” or “Beaver Tail” leading edge; these “Diamond Point” and “Beaver Tail” shakes are 5-inch wide.

**Bellaforté Slate:** thickness of 3/8-inch at head to 1/2-inch at tail, 16¼-inch long by 13½-inch wide.

**Bellaforté Shake:** thickness of 3/8-inch at head to 3/4-inch to 1¼-inch at tail, 16¼-inch long by 13½-inch wide.

### 1.1 MATERIAL PROPERTIES

The material properties can be found in ATTACHMENT 1: MATERIAL PROPERTIES.

### 2.0 INSTALLATION

The cladding systems as described in Section 1 shall be installed in accordance with the manufacturer’s installation instructions, the 2023 Florida Building Code, and are subject to the Limitations stated within this report.

### 3.0 CODE SECTIONS REVIEW

<u>FBC Section</u>	<u>Description</u>
<b>1504.3</b>	<b>Wind Resistance of Nonballasted Roofs</b> DaVinci Roofing systems as covered in this report follow installation instructions in accordance with FBC Section 1507 and resist design wind load pressures in accordance with FBC Section 1609. See ATTACHMENT 2: WIND PRESSURE AND WIND SPEED TABLES, Tables 4 – 18 of this report.
<b>1504.3.1</b>	<b>Wind Uplift Resistance (Non-HVHZ)</b> DaVinci Slate, DaVinci Shake, Select Shake, Fancy Shake, Bellaforté Slate, Bellaforté Shake roofing assemblies for non-HVHZ applications have been tested in accordance with UL1897 to determine the allowable wind uplift pressure, applying a 2:1 margin of safety to tested results per FBC Section 1504.9. See ATTACHMENT 2: WIND PRESSURE AND WIND SPEED TABLES, Tables 4 – 18 of this report.
<b>1504.6</b>	<b>Physical Properties, Durability</b> DaVinci Roofing products covered in this report demonstrate physical integrity over the course of 2000 hours of exposure to accelerated weathering tests conducted in accordance with ASTM G155.
<b>1505</b>	<b>Fire Classification (Non-HVHZ)</b> See Section 5 of this report.



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- 1515.1.3 Performance Requirements (HVHZ)**  
Testing labs as listed in Section 9 of this report are considered to comply with TAS 301 via accreditation by nationally recognized agencies.
- 1516.1 Fire Classification (HVHZ)**  
All roofing assemblies in HVHZ applications require classification to ASTM E108 Class A, B, or C, depending on building occupancy class. Information on DaVinci roofing classified assemblies is in Section 5 of this report.
- 1523.6.5 Discontinuous Roofing Systems, Wind Driven Rain (HVHZ)**  
DaVinci Roofing systems covered in this report for HVHZ applications have been tested in compliance with TAS 100 for wind-driven water infiltration resistance.
- 1523.6.5.2.4.1 Wind Uplift Resistance (HVHZ)**  
DaVinci Roofing systems covered in this report for HVHZ applications have been tested in accordance with TAS 125 to determine the allowable wind uplift pressure, applying a 2:1 margin of safety to tested results per Section 1523.4. See ATTACHMENT 2: WIND PRESSURE AND WIND SPEED TABLES, Tables 4 – 18 of this report.
- 2606.4 Burning Rate**  
DaVinci Roofing products covered in this report have been tested to ASTM D635 and qualify as a Class CC2.
- 2606.4 Self-Ignition Temperature**  
DaVinci Roofing products covered in this report have been tested to ASTM D1929 and have self-ignition temperatures greater than 650°F.
- 2606.4 Smoke Density**  
DaVinci Roofing products covered in this report have been tested to ASTM D2843 and have a smoke density rating less than 75.
- 2615.2 Weathering (HVHZ)**  
DaVinci Roofing products covered in this report have been tested to 4500 hours of accelerated xenon arc weathering exposure to ASTM G155.
- 2615.2 Tensile Strength after Weathering (HVHZ)**  
After 4500 hours of accelerated weathering exposure, DaVinci Roofing materials tested to ASTM D638 loss of tensile strength yield does not exceed 10%.
- FBC-R Section      Description**
- R902.1 Fire Classification**  
Same as this report commentary to FBC 1505.



- R904.3 Material Specifications and Physical Characteristics**  
See ATTACHMENT 1: MATERIAL PROPERTIES, Table 1.
- R905.1 Roof Covering Application**  
Allowable wind pressure values published in this report may be used with Tables R301.2(2) and R301.2(3) for roofs using an effective wind area of 10 square feet.
- R4402.1 Roof Assemblies and Rooftop Structures (HVHZ)**  
DaVinci Roofing systems as covered in this report comply with HVHZ applications as prescribed in FBC Chapter 15.
- R4412.1 Plastics (HVHZ)**  
DaVinci Roofing systems as covered in this report comply with HVHZ applications as prescribed in FBC Chapter 26.

#### **4.0 LIMITATIONS**

1. This Evaluation is for the base code requirements of the building system as addressed in this report. In some building applications, additional performance objectives may be required by Code which must be addressed in the building design for those specific cases.
2. Design calculations, drawings, and special inspections are to be furnished for building projects by registered professionals as required by the respective jurisdictional authorities and Codes.
3. The installation details for each roof assembly evaluated for determining the maximum design wind uplift pressure are described in Tables 4 - 18 and are limited to those prescribed conditions.
4. Materials used as components in the roof assembly shall comply with the FBC, and where necessary possess the required product approval certification and labeling.
5. The minimum roof slope in all cases is 3:12.
6. DaVinci roofing slates and shakes are for installation and fastening in to wood-based solid sheathing, in accordance with this report.
7. Building framing and roof sheathing must be designed and installed in accordance with Code for capability of supporting the imposed loads, including but not limited to positive and negative wind loads.
8. The allowable negative wind pressures for roofing shown in Tables 4 - 18 must not exceed the design negative wind pressures determined in accordance with Chapter 16 of the FBC or Section R301.2.1.1 of the FBC-R.

#### **5.0 FIRE CLASSIFICATION**

Summary of fire performance classifications found by testing to code referenced standards:

ASTM D635: Burning Rate: 0.6 in/min

ASTM D1929: Self-Ignition Temperature: 747 °F

ASTM D2843: Smoke Density: 8%

Where roof assembly fire classification of Class A, B, or C is required, DaVinci Roofscapes' Listed assemblies by QAI Laboratories may be found at <https://qai.org/directory/davinci-roofscapes-llc/> and shall be verified for each installation by the authority having jurisdiction.

#### **6.0 QUALITY ASSURANCE ENTITY**

The products evaluated in this report are surveyed at the approved manufacturing locations with third-party quality assurance inspections and product certification labeling by QAI Laboratories, Inc.



**7.0 MANUFACTURING PLANTS**

The manufacturing plants of Davinci Roofing covered in this evaluation report are located in Lenexa, KS.

**8.0 LABELING**

Labeling shall be in accordance with the requirements of the FBC, and the Accredited Quality Assurance Agency.

**9.0 REFERENCE TESTING AND EVALUATION DOCUMENTS**

Entity	Entity Accreditation <sup>1</sup>	Standards	Report No.	Issue Date	Product Name
Farabaugh Eng. and Testing	FBC TST1654	TAS 125	T159-19r1	2019-04-05	Select Shake
Farabaugh Eng. and Testing	FBC TST1654	TAS 100	T145-19r1	2019-08-30	Select Shake
Intertek	IAS TL274	TAS 125	103032787COQ-002B	2018-11-26	DaVinci Shake
Intertek	IAS TL274	TAS 125	103032787COQ-002 R2	2018-10-31	DaVinci Slate
Intertek	IAS TL274	TAS 100	103032787COQ-001Ar01	2018-06-26	DaVinci Slate
PRI	FBC TST5878	ASTM D635	DRM-054-02-01	2015-11-16	All
PRI	FBC TST5878	ASTM D1929	DRM-054-02-01	2015-11-16	All
PRI	FBC TST5878	ASTM D2843	DRM-054-02-01	2015-11-16	All
PRI	FBC TST5878	ASTM G155	DRM-156-02-01	2015-12-02	All
PRI	FBC TST5878	ASTM D638	DRM-156-02-01	2015-12-02	All
PRI	FBC TST5878	TAS 125	DRM-155-02-01	2015-07-30	Bellaforté Shake
Intertek	IAS TL274	TAS 125	3118011COQ-004	2007-04-30	DaVinci Slate
PRI	FBC TST5878	TAS 100	DRM-010-02-01	2007-07-26	DaVinci Shake
Intertek	IAS TL274	TAS 125	3128992COQ-004	2007-07-31	DaVinci Shake
Intertek	IAS TL274	TAS 125	3169679COQ-033	2009-08-28	Bellaforté Slate
PRI	FBC TST5878	TAS 100	DRM-034-02-01	2012-06-20	Bellaforté Slate
PRI	FBC TST5878	TAS 125	DRM-035-02-01	2012-06-28	Bellaforté Shake
PRI	FBC TST5878	TAS 100	DRM-037-02-01	2012-08-07	Bellaforté Shake
Intertek	IAS TL274	UL 1897	103032787COQ-003	2017-08-22	Bellaforté Shake
Farabaugh Eng. and Testing	FBC TST1654	UL 1897	T256-21(1)	2021-11-03	Bellaforté Slate
Intertek	IAS TL274	UL 1897	104019555COQ-001	2019-10-29	DaVinci Slate
PRI	FBC TST5878	TAS 100	DRM-013-02-01	2008-06-30	Fancy Shake
Intertek	IAS TL274	TAS 125	3155558COQ-003A	2008-06-27	Fancy Shake
Intertek	IAS TL274	TAS 125	100246786COQ-009	2010-12-22	Fancy Shake
QAI	FBC QUA7628	Quality Assurance	B0150	2023-10-10	All
QAI	FBC CER3916	Fire Classification	B0150	2023-10-10	All

1. Testing, certification, evaluation, and inspection agencies referenced have been verified to be accredited for the applicable scope and to be in good standing in accordance to Rule 61G20-3. All technical reference documents are current as of this date.



## Attachments

### ATTACHMENT 1: MATERIAL PROPERTIES

Table 1: All DaVinci Roofing Material Properties

Property	Standard	Result	Requirement	Compliance
<b>General Material Properties</b>				
Spontaneous Ignition Temperature (°F)	ASTM D1929	747 °F	≤ 650	Pass
Linear Burn Rate (in/min)	ASTM D635	0.6 in/min	≤ 2.5	Pass
Average Smoke Density (%)	ASTM D2843	8 %	≤ 75	Pass
Smoke Developed Index	ASTM E84	400	≤ 450	Pass
Tensile Strength (psi)	ASTM D638	1115 psi	Report Value	Pass
Tensile Strength After Heat Aging for 60 days at 176 °F Temperature (% of As Received)	ASTM D638	99 %	≥ 80 <sup>2</sup>	Pass
Flexural Strength after 5000-hrs of Accelerated Weathering (% of As Received)	ASTM G155 ASTM D790	96 %	≥ 90 <sup>2</sup>	Pass
<b>Davinci Slate</b> Nail Pull-Through (lb) with 3/8-inch nail head	ASTM D1037	120 lb	Report Value	Pass
<b>Davinci Shake</b> Nail Pull-Through (lb) with 3/8-inch nail head	ASTM D1037	159 lb	Report Value	Pass
<b>Select Shake</b> Nail Pull-Through (lb) with 3/8-inch nail head	ASTM D1037	159 lb	Report Value	Pass
<b>Fancy Shake</b> Nail Pull-Through (lb) with 3/8-inch nail head	ASTM D1037	159 lb	Report Value	Pass
<b>Bellaforté Slate</b> Nail Pull-Through (lb) with 3/8-inch nail head	ASTM D1037	110 lb	Report Value	Pass
<b>Bellaforté Shake</b> Nail Pull-Through (lb) with 3/8-inch nail head	ASTM D1037	107 lb	Report Value	Pass
<b>Roof Assembly Tests, Regional Codes<sup>1</sup></b>				
Florida High Velocity Hurricane Zone (HVHZ) Maximum Uplift Resistance (psf)	TAS 125	Uplift design pressure value (ASD) dependent on assembly details and installation conditions		
Florida High Velocity Hurricane Zone (HVHZ) Wind and Wind Driven Rain Resistance (mph)	TAS 100	No shingle displacement or water infiltration on airflow velocity dependent on assembly details and installation conditions		
<b>Roof Assembly Tests, Performance Values<sup>1</sup></b>				
Wind Uplift Resistance (psf)	UL 1897	Allowable (ASD) values dependent on assembly details and installation conditions		
Wind Speed Resistance (mph)	ASCE 7	V <sub>ULT</sub> at heights of 15 – 60 ft dependent on assembly details and installation conditions		
Fire Classification	ASTM E108	Class A, B, or C dependent on assembly details and installation conditions		
Impact Resistance	UL 2218	Class 4		

1. Roof assembly tests results are dependent on installation components and environmental conditions consistent with tested details. See Davinci's document library of Engineering and Certifications reports for further details.
2. Typical acceptable % retention of strength after aging values.



**ATTACHMENT 2: WIND PRESSURE AND WIND SPEED TABLES**

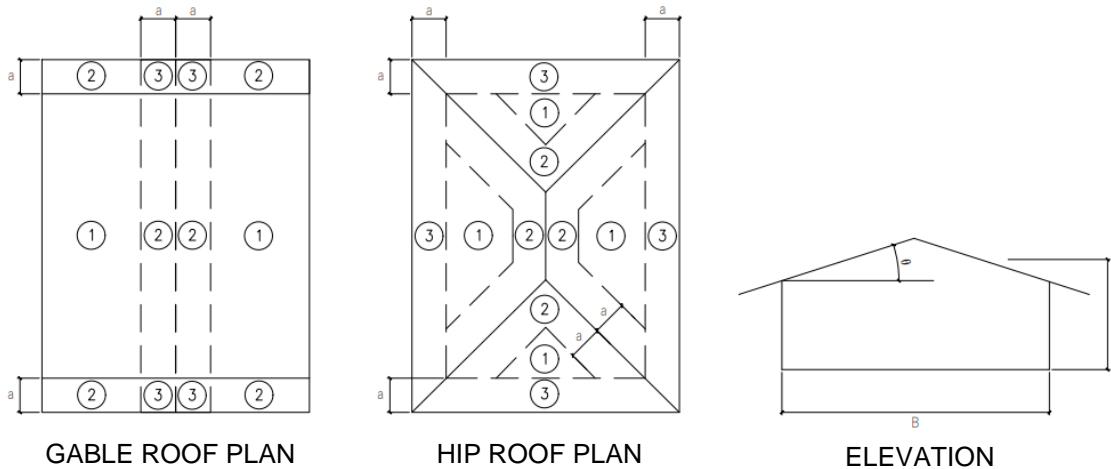
**User’s Guide to DaVinci Roofing Wind Uplift Tables:**

DaVinci Roofing wind uplift pressures and wind speed conversion tables have been developed to assist users in determining appropriate installation details for Inspire products, roof construction components, building dimension plans, and site and environmental conditions.

Wind speed conversion tables have been prepared following design methodology of ASCE7-22, Ch. 30.3, for low-rise enclosed buildings with maximum height of 60 ft, with topographic and elevation factors set to unity. These settings are typical of many installations, and consistent with the prescriptive approach used in FBC-R Table R301.2(2). All conditions and assembly details must be consistent with Tables 4 – 18 to be considered valid. If the actual site, building dimension or climatic conditions (including the given variables) differ from those prescribed, the allowable pressure values in Tables 4 – 18 may be used to calculate adjusted wind speed limits.

For building heights over 60 ft, the Allowable Pressure (ASD) values listed in the wind uplift tables may be used by a licensed design professional to calculate ultimate wind speed and/or allowable height, for the given Davinci product installation detail and building project conditions.

At any building height, when the Allowable Pressure (ASD) has been pre-determined by the designer or building official, the user only needs to check that the installation detail is shown as capable of that pressure or greater.



$a$  = 10% of least horizontal dimension or  $0.4h$ , whichever is smaller, but not less than either 4% of least horizontal dimension or 3 ft (0.9 m). If an overhang exists, the edge distance shall be measured from the outside edge of the overhang. The horizontal dimensions used to compute the edge distance shall not include any overhang distances.  
 $h$  = Mean roof height, in ft (m), except that eave height shall be used for  $\theta \leq 10^\circ$ .  
 $B$  = Horizontal dimension of building measured normal to wind direction, in ft (m).  
 $\theta$  = Angle of plane of roof from horizontal, in degrees.

**Figure 1:** Wind Pressure Diagrams as Represented in ASCE7-22 for use in conjunction with Tables 4 – 18.

**DaVinci Product Locator:**

DaVinci Slate	Pg. 11
DaVinci Shake	Pg. 16
Fancy Shake	Pg. 21
Select Shake	Pg. 25
Bellaforté Slate and Bellaforté Shake	Pg. 29





**Table 2: General Assembly Component Details for Use with Tables 4 – 18, Installations in HVHZ Regions <sup>1,2</sup>**

<b>ROOFING SHINGLE:</b>	<b>Lists which specific Davinci product the assembly detail applies to.</b>
<b>MAX SHINGLE EXPOSURE</b>	Specifies the exposure length of the shingle in inches as the maximum course-to-course spacing.
<b>DECK SHEATHING:</b>	HVHZ: Min. 19/32-inch plywood or wood plank; HVHZ Re-Roofing or Non-HVHZ: Min. 15/32-inch plywood or wood plank
<b>SHINGLE FASTENER</b>	Specifies number and type of fasteners per individual shingle.
<b>ALLOWABLE PRESSURE:</b>	Maximum ASD design pressure in pounds-per-square-foot (psf) for wind uplift.
<b>EXPOSURE CATEGORY:</b>	Terrain wind exposure category defined in ASCE7-16, section 26.7.
<b>SLOPE RANGE:</b>	Slope is shown in Vertical:Horizontal (e.g. 3:12 = 3-inch rise to 12-inch run).
<b>WIND VELOCITY <math>V_{ult}</math>:</b>	Maximum wind velocity (mph) for the respective installation condition.
<b>DECK ATTACHMENT:</b>	In accordance with applicable Code, designed to support the maximum design pressure.
<b>UNDERLAYMENT:</b>	For HVHZ, minimum underlayment shall be ASTM D226, Type II (30# felt) in accordance with FBC Sections 1518.2 through 1518.4, or any HVHZ compliant underlayment listed by an approved certification agency. Not less than a full-width of approved ASTM D1970 self-adhering underlayment shall be applied around the perimeter of the entire roof. Per manufacturer's instructions, for roof slopes less than 4:12 an approved self-adhering underlayment is to be used in all applications.
<b>VALLEYS:</b>	In accordance with published manufacturer's instructions. Minimum for HVHZ shall be a full-width sheet of Approved ASTM D1970 self-adhering underlayment centered in the valley, followed by minimum 16-inch wide valley metal set in roofing cement and secured with roofing nails spaced 4-inch o.c., 1-inch from the edge of the metal. Prime metal edges and embed a minimum 4-inch strip of asphalt coated fabric over a minimum 6-inch wide bed of roofing cement.
<b>STARTER: DaVinci Slate, DaVinci Shake, Select Shake, Fancy Shake</b>	Each DaVinci Starter Slate to be installed extending approximately 1-inch over eaves and ¼-inch over rakes and with a 3/8-inch gap between starter shingles. (Note: If using Style D or Style F drip edge, the starter shingle can be allowed to overhang less if it is appropriate for the gutter system.) Each Starter Slate to be nailed approximately 3½-inch up from the butt edge and 1-inch from each side with 11-gage nails as specified. In high wind areas (greater than 110 mph in accordance with FBC Figure 1609), an additional nail should be placed in an area below the 8-inch line so that it will not be exposed through the shingles on the first course.
<b>STARTER: Bellaforté Slate, Bellaforté Shake</b>	Each Bellaforté Starter Slate/Shake to be installed extending approximately 1-inch over eaves and ¼-inch over rakes and with a 3/8-inch gap between starter shingles, adjusted as needed to achieve water-flow into the gutter (if present). Starter tiles are spaced 3/8 to ½ inch apart and nailed with a minimum of four 11-gage nails as specified.
<b>SLATES AND SHAKES NAIL FASTENING (HVHZ):</b>	Minimum 11 gage (0.12-inch), galvanized, annular ring shank nails having not less than 20 rings per inch, heads not less than 3/8-inch (9.5 mm) in diameter; and lengths sufficient to penetrate through the thickness of plywood panel or wood plank decking not less than 3/16-inch (4.8 mm), or to penetrate into a 1 inch (25 mm) or greater thickness of lumber not less than 1 inch. All nails shall be listed by a certification agency to the applicable Code.
<b>SLATES AND SHAKES FASTENING (other):</b>	See Tables for alternate fastening methods.

1. Additional assembly-specific components details are provided for some systems in Tables 4 - 18.
2. HVHZ assemblies may also be used in non-HVHZ regions following the same details.



**Table 3: General Assembly Component Details for Use with Tables 4 – 18, Installations in NON-HVHZ Regions <sup>1</sup>**

<b>ROOFING SHINGLE:</b>	<b>Lists which specific Davinci product the assembly detail applies to.</b>
<b>MAX SHINGLE EXPOSURE</b>	Specifies the exposure length of the shingle in inches as the maximum course-to-course spacing.
<b>DECK SHEATHING:</b>	Non-HVHZ: Min. 15/32-inch plywood or wood plank, or 7/16 OSB, as specified.
<b>SHINGLE FASTENER</b>	Specifies number and type of fasteners per individual shingle.
<b>ALLOWABLE PRESSURE:</b>	Maximum ASD design pressure in pounds-per-square-foot (psf) for wind uplift.
<b>EXPOSURE CATEGORY:</b>	Terrain wind exposure category defined in ASCE7-16, section 26.7.
<b>SLOPE RANGE:</b>	Slope is shown in Vertical:Horizontal (e.g. 3:12 = 3-inch rise to 12-inch run).
<b>WIND VELOCITY <math>V_{ult}</math>:</b>	Maximum wind velocity (mph) for the respective installation condition.
<b>DECK ATTACHMENT:</b>	In accordance with applicable Code.
<b>UNDERLAYMENT:</b>	For non-HVHZ, minimum underlayment shall be in accordance with FBC 1507.1.1 or any Approved underlayment having current Florida Statewide or Local Product Approval. Per manufacturer's instructions, for roof slopes less than 4:12 an approved self-adhering underlayment is to be used in all applications.
<b>VALLEYS:</b>	In accordance with applicable Code and published manufacturer's instructions.
<b>STARTER: DaVinci Slate, DaVinci Shake, Select Shake, Fancy Shake</b>	Each DaVinci Starter Slate to be installed extending approximately 1-inch over eaves and ¾-inch over rakes and with a 3/8-inch gap between starter shingles. (Note: If using Style D or Style F drip edge, the starter shingle can be allowed to overhang less if it is appropriate for the gutter system.) Each Starter Slate to be nailed approximately 3½-inch up from the butt edge and 1-inch from each side with 11-gage nails as specified. In high wind areas (greater than 110 mph in accordance with FBC Figure 1609), an additional nail to be placed in an area below the 8-inch line so that it will not be exposed through the shingles on the first course.
<b>STARTER: Bellaforté Slate, Bellaforté Shake</b>	Each Bellaforté Starter Slate/Shake to be installed extending approximately 1-inch over eaves and ¾-inch over rakes and with a 3/8-inch gap between starter shingles, adjusted as needed to achieve water-flow into the gutter (if present). Starter tiles are spaced 3/8 to ½ inch apart and nailed with a minimum of four 11-gage nails as specified.
<b>SLATES AND SHAKES NAIL FASTENING (NON-HVHZ):</b>	Galvanized, stainless steel, aluminum or copper roofing nails, minimum 11-gage [0.12 inch] ring-shank with a minimum 3/8-inch-diameter (9.5 mm) head, of a length to penetrate through the roofing materials and a minimum of 3/4 inch (19.1 mm) into the roof sheathing. Where the roof sheathing is less than 3/4 inch (19.1 mm) thick, the nails shall penetrate through the sheathing. Fasteners shall comply with ASTM F1667.
<b>SLATES AND SHAKES FASTENING (other):</b>	See Tables for alternate fastening methods

1. Additional assembly-specific components details are provided for some systems in Tables 4 - 18. The assembly-specific details govern if conflicting with those in Table 2.

**General Notes for Tables 4 – 18:**

- DaVinci System No. details as provided.
- Plywood Sheathing: Min. 0.42 SG, Exposure 1, complying with NIST DOC PS 2. Wood sheathing may be substituted with thicker profile or solid lumber of up to nominal 1-inch.
- OSB Sheathing: Exposure 1, complying with NIST DOC PS 2. Wood sheathing may be substituted with thicker profile or solid lumber of up to nominal 1-inch.
- All fasteners are to be corrosion resistant. Nails must comply with ASTM F1667.
- Allowable pressure (psf) (ASD) represents tested assembly ultimate pressure divided by safety factor of 2.
- To convert to Factored Design Resistance Pressure (psf) (LRFD), multiply Allowable Pressure (psf) (ASD) by 1.67.
- Wind exposure categories as defined in ASCE7-22, Section 26.7.
- Per figure 1 of this report, Zone 2/3 is the corner and edge locations and Zone 1 is the field of the roof. Zone numbers have been simplified for table use.
- Wind speed conversion corresponds to the maximum Zone 2/3 or Zone 1 pressure with effective area of 10 ft<sup>2</sup>. Table wind speeds are only valid under the design conditions stated. For other site conditions and/or building dimensions, designers can use the published Allowable Pressure (psf) (ASD) to determine wind speeds with FBC-R Table R301.2(2) or calculations to FBC Ch 16.
- NA indicates that the installation condition is not acceptable within the design limits of the table.
- Table limiting heights and wind velocity values are for low-rise buildings of maximum 60 ft height, developed in accordance with ASCE7-22. Design input values:  $GC_p = \text{ASCE7-22 Figs 30.3-2(A-I)}$ ,  $GC_{pi} = 0.18$ ,  $K_{zt} = 1$ ,  $K_d = 0.85$ ,  $K_e = 1$ ,  $I_w = 1.0$ .
- Interpolation not permitted. For heights in between those listed, use next highest height column.



**Table 4: DaVinci Slate Assembly Configurations**

System No. <sup>1</sup>	Max Shingle Exposure	Sheathing <sup>2,3</sup>	Shingle Fastener <sup>4</sup>	Allowable Pressure <sup>5,6</sup> (psf)(ASD)
<b>Non-HVHZ</b>				
1	8 inches	15/32 Plywood	4 per shingle, 11ga 1.75-inch galv. ring-shank roofing nail	146
2	6 inches	15/32 Plywood	2 per shingle, 11ga 1.75-inch galv. ring-shank roofing nail	118.5
3	6 inches	7/16 OSB	2 per shingle, 11ga 1.75-inch galv. ring-shank roofing nail	89
4	8 inches	15/32 Plywood	2 per shingle, 11ga 1.75-inch galv. ring-shank roofing nail	71
5	8 inches	7/16 OSB	2 per shingle, 11ga 1.75-inch galv. ring-shank roofing nail	53
<b>HVHZ</b>				
6	6 inches	19/32 Plywood (1/2 Plywood for re-roofing)	2 per shingle, 11ga 1.75-inch galv. ring-shank roofing nail	146
7	6 inches	19/32 Plywood (1/2 Plywood for re-roofing)	2 per shingle, 11ga 1.75-inch galv. ring-shank roofing nail	118.5

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.

**Table 5: DaVinci Slate Maximum Wind Speeds of Roof Cladding at Various Building Heights – 2023 FBC (Non-HVHZ)**

<b>GABLE ROOFS (SLOPE 3:12 - 4.4:12)</b>																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	<b>ZONE 2/3 (CORNER/EDGE)<sup>8</sup></b>								<b>ZONE 1 (FIELD)<sup>8</sup></b>					
			<b>Maximum Wind Speed <math>V_{ult}</math> (mph)<sup>9,10</sup></b>								<b>Maximum Wind Speed <math>V_{ult}</math> (mph)<sup>9,10</sup></b>					
			<b>Building Height (ft)<sup>11,12</sup></b>								<b>Building Height (ft)<sup>11,12</sup></b>					
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
1	146	B	210	210	210	206	200	194	189	210	210	210	210	210	210	210
		C	187	181	177	174	169	165	162	210	210	210	210	210	210	210
		D	169	166	163	160	156	153	150	210	210	210	210	205	201	198
2	118.5	B	205	197	191	185	180	174	170	210	210	210	210	210	210	210
		C	168	163	160	157	152	148	146	210	210	210	206	200	195	192
		D	153	149	146	144	140	138	135	201	196	193	189	185	181	178
3	89	B	178	171	165	161	156	151	147	210	210	210	210	206	199	194
		C	146	142	139	136	132	129	126	192	186	182	179	173	169	166
		D	132	129	127	125	122	119	117	174	170	167	164	160	157	154
4	71	B	159	152	148	143	139	135	132	209	201	194	189	184	178	173
		C	130	126	124	121	118	115	113	171	166	163	160	155	151	149
		D	118	115	113	111	109	106	NA	156	152	149	147	143	140	138
5	53	B	137	132	128	124	120	117	114	181	173	168	163	159	154	150
		C	112	109	107	NA	NA	NA	NA	148	144	141	138	134	131	128
		D	NA	NA	NA	NA	NA	NA	NA	134	131	129	127	124	121	119

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.



**Table 5 Cont.: DaVinci Slate Maximum Wind Speeds of Roof Cladding at Various Building Heights – 2023 FBC (Non-HVHZ)**

<b>GABLE ROOFS (SLOPE 4.5:12 – 6.1:12)</b>																	
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	<b>ZONE 2/3 (CORNER/EDGE)<sup>8</sup></b>							<b>ZONE 1 (FIELD)<sup>8</sup></b>							
			<b>Maximum Wind Speed <math>V_{ult}</math> (mph)<sup>9,10</sup></b>							<b>Maximum Wind Speed <math>V_{ult}</math> (mph)<sup>9,10</sup></b>							
			<b>Building Height (ft)<sup>11,12</sup></b>							<b>Building Height (ft)<sup>11,12</sup></b>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60	
1	146	B	210	210	210	210	210	210	210	210	210	210	210	210	210	210	
		C	210	207	202	198	192	188	185	210	210	210	210	210	210	210	210
		D	193	189	185	182	178	174	171	210	210	210	210	210	210	210	210
2	118.5	B	210	210	210	210	205	199	194	210	210	210	210	210	210	210	210
		C	192	186	182	179	173	169	166	210	210	210	210	210	210	210	210
		D	174	170	167	164	160	157	154	210	210	210	210	210	206	203	203
3	89	B	203	195	189	183	178	172	168	210	210	210	210	210	210	210	210
		C	166	161	158	155	150	147	144	210	210	208	203	198	193	189	189
		D	151	147	145	142	139	136	134	198	194	190	187	182	179	176	176
4	71	B	181	174	168	164	159	154	150	210	210	210	210	209	202	197	197
		C	148	144	141	138	134	131	129	195	190	186	182	176	172	169	169
		D	135	132	129	127	124	121	120	177	173	170	167	163	160	157	157
5	53	B	157	150	146	141	137	133	130	206	197	191	186	181	175	171	171
		C	128	125	122	119	116	113	111	169	164	160	157	152	149	146	146
		D	116	114	112	110	107	NA	NA	153	150	147	144	141	138	136	136

<b>GABLE ROOFS (SLOPE 6.2:12 – 12:12)</b>																	
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	<b>ZONE 2/3 (CORNER/EDGE)<sup>8</sup></b>							<b>ZONE 1 (FIELD)<sup>8</sup></b>							
			<b>Maximum Wind Speed <math>V_{ult}</math> (mph)<sup>9,10</sup></b>							<b>Maximum Wind Speed <math>V_{ult}</math> (mph)<sup>9,10</sup></b>							
			<b>Building Height (ft)<sup>11,12</sup></b>							<b>Building Height (ft)<sup>11,12</sup></b>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60	
1	146	B	210	210	210	210	210	210	210	210	210	210	210	210	210	210	
		C	210	210	210	206	200	196	192	210	210	210	210	210	210	210	210
		D	201	197	193	190	185	181	178	210	210	210	210	210	210	208	208
2	118.5	B	210	210	210	210	210	207	202	210	210	210	210	210	210	210	210
		C	200	194	190	186	180	176	173	210	210	210	210	210	205	201	201
		D	181	177	174	171	167	163	161	210	206	202	199	194	190	187	187
3	89	B	210	203	196	191	185	179	175	210	210	210	210	210	209	204	204
		C	173	168	164	161	156	153	150	201	196	191	187	182	178	175	175
		D	157	153	151	148	144	142	139	183	179	175	172	168	165	162	162
4	71	B	189	181	175	170	166	160	156	210	210	204	198	193	186	182	182
		C	155	150	147	144	140	136	134	180	175	171	167	163	159	156	156
		D	140	137	135	132	129	126	124	163	159	157	154	150	147	145	145
5	53	B	163	156	151	147	143	138	135	190	182	176	171	166	161	157	157
		C	133	130	127	124	121	118	116	155	151	148	145	140	137	135	135
		D	121	118	116	114	111	109	108	141	138	135	133	130	127	125	125

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.



**Table 5 Cont.: DaVinci Slate Maximum Wind Speeds of Roof Cladding at Various Building Heights – 2023 FBC (Non-HVHZ)**

HIP ROOFS (SLOPE 3:12 – 4.4:12)																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>						ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>						Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>						Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
1	146	B	210	210	210	210	210	210	210	210	210	210	210	210		
		C	210	210	207	203	197	192	189	210	210	210	210	210	210	
		D	198	193	190	186	182	178	175	210	210	210	210	210	208	
2	118.5	B	210	210	210	210	210	203	198	210	210	210	210	210		
		C	196	190	186	183	177	173	170	210	210	210	210	205	201	
		D	178	174	171	168	164	160	158	210	206	202	199	194	190	187
3	89	B	207	199	193	187	182	176	172	210	210	210	210	210	209	204
		C	170	165	162	158	154	150	147	210	196	191	187	182	178	175
		D	154	151	148	145	142	139	137	183	179	175	172	168	165	162
4	71	B	185	178	172	167	163	157	154	210	210	204	198	193	186	182
		C	152	147	144	141	137	134	132	180	175	171	167	163	159	156
		D	138	135	132	130	127	124	122	163	159	157	154	150	147	145
5	53	B	160	153	149	144	140	136	133	190	182	176	171	166	161	157
		C	131	127	125	122	118	116	114	155	151	148	145	140	137	135
		D	119	116	114	112	109	107	106	141	138	135	133	130	127	125

HIP ROOFS (SLOPE 4.5:12 – 6.1:12)																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>						ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>						Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>						Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
1	146	B	210	210	210	210	210	210	210	210	210	210	210	210		
		C	210	210	210	210	210	210	210	210	210	210	210	210	210	
		D	210	210	210	210	205	201	198	210	210	210	210	210	210	210
2	118.5	B	210	210	210	210	210	210	210	210	210	210	210	210		
		C	210	210	210	206	200	195	192	210	210	210	210	210	210	
		D	201	196	193	189	185	181	178	210	210	210	210	210	210	209
3	89	B	210	210	210	210	206	199	194	210	210	210	210	210	210	
		C	192	186	182	179	173	169	166	210	210	210	210	204	199	195
		D	174	170	167	164	160	157	154	205	200	196	193	188	184	181
4	71	B	209	201	194	189	184	178	173	210	210	210	210	210	209	204
		C	171	166	163	160	155	151	149	201	196	191	187	182	178	175
		D	156	152	149	147	143	140	138	183	179	175	172	168	165	162
5	53	B	181	173	168	163	159	154	150	210	204	197	192	186	180	176
		C	148	144	141	138	134	131	128	174	169	165	162	157	154	151
		D	134	131	129	127	124	121	119	158	154	151	149	145	142	140

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.



**Table 5 Cont.: DaVinci Slate Maximum Wind Speeds of Roof Cladding at Various Building Heights – 2023 FBC (Non-HVHZ)**

HIP ROOFS (SLOPE 6.2:12 – 12:12)																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>						ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>						Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>						Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
1	146	B	210	210	210	210	210	210	210	210	210	210	210	210		
		C	210	210	210	208	202	198	194	210	210	210	210	210	210	210
		D	203	198	195	191	187	183	180	210	210	210	210	210	210	210
2	118.5	B	210	210	210	210	210	209	204	210	210	210	210	210	210	210
		C	201	196	192	188	182	178	175	210	210	210	210	210	210	210
		D	183	179	176	172	168	165	162	210	210	210	210	210	206	203
3	89	B	210	204	198	192	187	181	177	210	210	210	210	210	210	210
		C	175	170	166	163	158	154	151	210	210	208	203	198	193	189
		D	159	155	152	149	146	143	141	198	194	190	187	182	179	176
4	71	B	190	183	177	172	167	162	158	210	210	210	210	209	202	197
		C	156	152	148	145	141	138	135	195	190	186	182	176	172	169
		D	142	138	136	134	130	128	126	177	173	170	167	163	160	157
5	53	B	165	158	153	148	144	140	136	206	197	191	186	181	175	171
		C	135	131	128	125	122	119	117	169	164	160	157	152	149	146
		D	122	120	117	115	112	110	109	153	150	147	144	141	138	136

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.

**Table 6: DaVinci Slate Maximum Wind Speeds of Roof Cladding at Various Building Heights – 2023 FBC (HVHZ)**

GABLE ROOFS (SLOPE 3:12 - 4.4:12)																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>						ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>						Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>						Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
6	146	C	187	181	177	174	169	165	162	210	210	210	210	210	210	210
		D	169	166	163	160	NA	NA	NA	210	210	210	210	205	201	198
7	118.5	C	168	163	160	157	NA	NA	NA	210	210	210	206	200	195	192
		D	NA	NA	NA	NA	NA	NA	NA	201	196	193	189	185	181	178

GABLE ROOFS (SLOPE 4.5:12 – 6.1:12)																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>						ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>						Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>						Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
6	146	C	210	207	202	198	192	188	185	210	210	210	210	210	210	210
		D	193	189	185	182	178	174	171	210	210	210	210	210	210	210
7	118.5	C	192	186	182	179	173	169	166	210	210	210	210	210	210	210
		D	174	170	167	164	160	157	NA	210	210	210	210	210	206	203

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.



**Table 6 Cont.: DaVinci Slate Maximum Wind Speeds of Roof Cladding at Various Building Heights – 2023 FBC (HVHZ)**

<b>GABLE ROOFS (SLOPE 6.2:12 – 12:12)</b>																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>						ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>						Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>						Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
6	146	C	210	210	210	206	200	196	192	210	210	210	210	210	210	210
		D	201	197	193	190	185	181	178	210	210	210	210	210	210	208
7	118.5	C	200	194	190	186	180	176	173	210	210	210	210	210	205	201
		D	181	177	174	171	167	163	161	210	206	202	199	194	190	187
<b>HIP ROOFS (SLOPE 3:12 – 4.4:12)</b>																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>						ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>						Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>						Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
6	146	C	210	210	207	203	197	192	189	210	210	210	210	210	210	210
		D	198	193	190	186	182	178	175	210	210	210	210	210	210	208
7	118.5	C	196	190	186	183	177	173	170	210	210	210	210	210	205	201
		D	178	174	171	168	164	160	158	210	206	202	199	194	190	187
<b>HIP ROOFS (SLOPE 4.5:12 – 6.1:12)</b>																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>						ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>						Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>						Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
6	146	C	210	210	210	210	210	210	210	210	210	210	210	210	210	210
		D	210	210	210	210	205	201	198	210	210	210	210	210	210	210
7	118.5	C	210	210	210	206	200	195	192	210	210	210	210	210	210	210
		D	201	196	193	189	185	181	178	210	210	210	210	210	210	209
<b>HIP ROOFS (SLOPE 6.2:12 – 12:12)</b>																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>						ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>						Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>						Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
6	146	C	210	210	210	208	202	198	194	210	210	210	210	210	210	210
		D	203	198	195	191	187	183	180	210	210	210	210	210	210	210
7	118.5	C	201	196	192	188	182	178	175	210	210	210	210	210	210	210
		D	183	179	176	172	168	165	162	210	210	210	210	210	206	203

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.





**Table 7: DaVinci Shake Assembly Configurations**

System No. <sup>1</sup>	Max Shingle Exposure	Sheathing <sup>2,3</sup>	Shingle Fastener <sup>4</sup>	Allowable Pressure <sup>5,6</sup> (psf)(ASD)
<b>Non-HVHZ</b>				
8	10 inches	15/32 Plywood	4 per shingle, 11ga 1.75-inch galv. ring-shank roofing nail	169
9	9 inches	15/32 Plywood	2 per shingle, 11ga 1.75-inch galv. ring-shank roofing nail	93.5
10	10 inches	15/32 Plywood	2 per shingle, 11ga 1.75-inch galv. ring-shank roofing nail	86
11	9 inches	7/16 OSB	2 per shingle, 11ga 1.75-inch galv. ring-shank roofing nail	70
12	10 inches	7/16 OSB	2 per shingle, 11ga 1.75-inch galv. ring-shank roofing nail	64.5
<b>HVHZ</b>				
13	10 inches	19/32 Plywood (1/2 Plywood for re-roofing)	4 per shingle, 11ga 1.75-inch galv. ring-shank roofing nail	169
14	9 inches	15/32 Plywood	2 per shingle, 11ga 1.75-inch galv. ring-shank roofing nail	93.5

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.

**Table 8: DaVinci Shake Maximum Wind Speeds of Roof Cladding at Various Building Heights – 2023 FBC (Non-HVHZ)**

<b>GABLE ROOFS (SLOPE 3:12 - 4.4:12)</b>																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>							ZONE 1 (FIELD) <sup>8</sup>						
			Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>							Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>						
			Building Height (ft) <sup>11,12</sup>							Building Height (ft) <sup>11,12</sup>						
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
8	169	B	210	210	210	210	210	208	203	210	210	210	210	210	210	210
		C	201	195	191	187	181	177	174	210	210	210	210	210	210	210
		D	182	178	175	172	168	164	162	210	210	210	210	210	210	210
9	93.5	B	182	175	169	165	160	155	151	210	210	210	210	210	204	199
		C	149	145	142	139	135	132	129	197	191	187	183	178	174	171
		D	136	132	130	128	125	122	120	179	174	171	168	164	161	158
10	86	B	175	168	162	158	153	149	145	210	210	210	208	202	196	191
		C	143	139	136	133	129	126	124	189	183	179	176	170	166	164
		D	130	127	125	123	120	117	115	171	167	164	161	157	154	152
11	70	B	158	151	147	142	138	134	131	208	199	193	187	182	176	172
		C	129	126	123	120	117	114	112	170	165	162	158	154	150	148
		D	117	115	113	111	108	106	NA	155	151	148	146	142	139	137
12	64.5	B	151	145	141	137	133	129	125	199	191	185	180	175	169	165
		C	124	121	118	115	112	110	108	163	159	155	152	148	144	142
		D	113	110	108	106	NA	NA	NA	148	145	142	140	136	134	132

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.



**Table 8 Cont.: DaVinci Shake Maximum Wind Speeds of Roof Cladding at Various Building Heights – 2023 FBC (Non-HVHZ)**

<b>GABLE ROOFS (SLOPE 4.5:12 – 6.1:12)</b>																	
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	<b>ZONE 2/3 (CORNER/EDGE)<sup>8</sup></b>							<b>ZONE 1 (FIELD)<sup>8</sup></b>							
			<b>Maximum Wind Speed V<sub>ult</sub> (mph)<sup>9,10</sup></b>							<b>Maximum Wind Speed V<sub>ult</sub> (mph)<sup>9,10</sup></b>							
			<b>Building Height (ft)<sup>11,12</sup></b>							<b>Building Height (ft)<sup>11,12</sup></b>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60	
8	169	B	210	210	210	210	210	210	210	210	210	210	210	210	210	210	
		C	210	210	210	210	207	202	199	210	210	210	210	210	210	210	210
		D	208	203	199	196	191	187	184	210	210	210	210	210	210	210	210
9	93.5	B	208	199	193	188	183	177	172	210	210	210	210	210	210	210	210
		C	170	166	162	159	154	150	148	210	210	210	209	202	198	194	194
		D	155	151	148	146	142	139	137	203	199	195	192	187	183	180	180
10	86	B	199	191	185	180	175	169	165	210	210	210	210	210	210	210	210
		C	163	159	155	152	148	144	142	210	209	204	200	194	190	186	186
		D	148	145	142	140	136	134	132	195	191	187	184	179	176	173	173
11	70	B	180	173	167	162	158	153	149	210	210	210	210	208	201	196	196
		C	147	143	140	137	133	130	128	194	188	184	180	175	171	168	168
		D	134	131	128	126	123	121	119	176	172	169	166	162	159	156	156
12	64.5	B	173	166	161	156	152	147	143	210	210	210	205	199	193	188	188
		C	141	137	135	132	128	125	123	186	181	177	173	168	164	161	161
		D	128	125	123	121	118	116	114	169	165	162	159	155	152	150	150

<b>GABLE ROOFS (SLOPE 6.2:12 – 12:12)</b>																	
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	<b>ZONE 2/3 (CORNER/EDGE)<sup>8</sup></b>							<b>ZONE 1 (FIELD)<sup>8</sup></b>							
			<b>Maximum Wind Speed V<sub>ult</sub> (mph)<sup>9,10</sup></b>							<b>Maximum Wind Speed V<sub>ult</sub> (mph)<sup>9,10</sup></b>							
			<b>Building Height (ft)<sup>11,12</sup></b>							<b>Building Height (ft)<sup>11,12</sup></b>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60	
8	169	B	210	210	210	210	210	210	210	210	210	210	210	210	210	210	
		C	210	210	210	206	200	196	192	210	210	210	210	210	210	210	210
		D	201	197	193	190	185	181	178	210	210	210	210	210	210	210	208
9	93.5	B	210	208	201	195	190	184	179	210	210	210	210	210	210	210	209
		C	177	172	169	165	160	157	154	206	200	196	192	186	182	179	179
		D	161	157	154	152	148	145	143	187	183	180	177	172	169	166	166
10	86	B	208	199	193	187	182	176	172	210	210	210	210	210	205	200	200
		C	170	165	162	158	154	150	147	198	192	188	184	179	175	172	172
		D	154	151	148	146	142	139	137	180	176	172	169	165	162	159	159
11	70	B	187	180	174	169	164	159	155	210	209	203	197	191	185	181	181
		C	153	149	146	143	139	135	133	178	173	170	166	161	158	155	155
		D	139	136	134	131	128	126	124	162	158	155	153	149	146	144	144
12	64.5	B	180	172	167	162	158	153	149	209	201	194	189	184	178	173	173
		C	147	143	140	137	133	130	128	171	167	163	160	155	151	149	149
		D	134	131	128	126	123	120	119	156	152	149	147	143	140	138	138

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.



**Table 8 Cont.: DaVinci Shake Maximum Wind Speeds of Roof Cladding at Various Building Heights – 2023 FBC (Non-HVHZ)**

HIP ROOFS (SLOPE 3:12 – 4.4:12)																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>						ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>						Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>						Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
8	169	B	210	210	210	210	210	210	210	210	210	210	210	210		
		C	210	210	210	210	210	207	203	210	210	210	210	210	210	210
		D	210	208	204	200	195	191	189	210	210	210	210	210	210	210
9	93.5	B	210	204	198	192	187	181	176	210	210	210	210	210	210	209
		C	174	169	166	162	157	154	151	206	200	196	192	186	182	179
		D	158	154	152	149	145	142	140	187	183	180	177	172	169	166
10	86	B	204	195	189	184	179	173	169	210	210	210	210	210	205	200
		C	167	162	159	155	151	147	145	198	192	188	184	179	175	172
		D	152	148	145	143	139	137	134	180	176	172	169	165	162	159
11	70	B	184	176	171	166	161	156	152	210	209	203	197	191	185	181
		C	151	146	143	140	136	133	131	178	173	170	166	161	158	155
		D	137	134	131	129	126	123	121	162	158	155	153	149	146	144
12	64.5	B	177	169	164	159	155	150	146	209	201	194	189	184	178	173
		C	145	141	137	135	131	128	125	171	167	163	160	155	151	149
		D	131	128	126	124	121	118	116	156	152	149	147	143	140	138

HIP ROOFS (SLOPE 4.5:12 – 6.1:12)																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>						ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>						Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>						Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
8	169	B	210	210	210	210	210	210	210	210	210	210	210	210	210	210
		C	210	210	210	210	210	210	210	210	210	210	210	210	210	210
		D	210	210	210	210	210	210	210	210	210	210	210	210	210	210
9	93.5	B	210	210	210	210	210	204	199	210	210	210	210	210	210	210
		C	197	191	187	183	178	174	171	210	210	210	210	209	204	200
		D	179	174	171	168	164	161	158	210	205	201	198	193	189	186
10	86	B	210	210	210	208	202	196	191	210	210	210	210	210	210	210
		C	189	183	179	176	170	166	164	210	210	210	206	200	196	192
		D	171	167	164	161	157	154	152	201	196	193	190	185	181	178
11	70	B	208	199	193	187	182	176	172	210	210	210	210	210	207	202
		C	170	165	162	158	154	150	148	200	194	190	186	181	176	173
		D	155	151	148	146	142	139	137	182	177	174	171	167	163	161
12	64.5	B	199	191	185	180	175	169	165	210	210	210	210	206	199	194
		C	163	159	155	152	148	144	142	192	186	182	179	173	169	166
		D	148	145	142	140	136	134	132	174	170	167	164	160	157	154

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.



**Table 8 Cont.: DaVinci Shake Maximum Wind Speeds of Roof Cladding at Various Building Heights – 2023 FBC (Non-HVHZ)**

HIP ROOFS (SLOPE 6.2:12 – 12:12)																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>						ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>						Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>						Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
8	169	B	210	210	210	210	210	210	210	210	210	210	210	210	210	
		C	210	210	210	210	210	210	210	210	210	210	210	210	210	
		D	210	210	210	206	201	197	194	210	210	210	210	210	210	210
9	93.5	B	210	210	203	197	192	186	181	210	210	210	210	210	210	210
		C	179	174	170	167	162	158	155	210	210	210	209	202	198	194
		D	163	159	156	153	149	146	144	203	199	195	192	187	183	180
10	86	B	210	201	195	189	184	178	174	210	210	210	210	210	210	210
		C	172	167	163	160	155	152	149	210	209	204	200	194	190	186
		D	156	152	150	147	143	140	138	195	191	187	184	179	176	173
11	70	B	189	181	176	171	166	161	157	210	210	210	210	208	201	196
		C	155	151	147	144	140	137	134	194	188	184	180	175	171	168
		D	141	137	135	133	129	127	125	176	172	169	166	162	159	156
12	64.5	B	182	174	169	164	159	154	150	210	210	210	205	199	193	188
		C	149	144	141	138	134	131	129	186	181	177	173	168	164	161
		D	135	132	130	127	124	122	120	169	165	162	159	155	152	150

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.

**Table 9: DaVinci Shake Maximum Wind Speeds of Roof Cladding at Various Building Heights – 2023 FBC (HVHZ)**

GABLE ROOFS (SLOPE 3:12 - 4.4:12)																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>						ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>						Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>						Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
13	169	C	201	195	191	187	181	177	174	210	210	210	210	210	210	210
		D	182	178	175	172	168	164	162	210	210	210	210	210	210	210
14	93.5	C	NA	NA	NA	NA	NA	NA	NA	197	191	187	183	178	174	171
		D	NA	NA	NA	NA	NA	NA	NA	179	174	171	168	164	161	158

GABLE ROOFS (SLOPE 4.5:12 – 6.1:12)																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>						ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>						Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>						Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
13	169	C	210	210	210	210	207	202	199	210	210	210	210	210	210	210
		D	208	203	199	196	191	187	184	210	210	210	210	210	210	210
14	93.5	C	170	166	162	159	NA	NA	NA	210	210	210	209	202	198	194
		D	NA	NA	NA	NA	NA	NA	NA	203	199	195	192	187	183	180

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.



**Table 9 Cont.: DaVinci Shake Maximum Wind Speeds of Roof Cladding at Various Building Heights – 2023 FBC (HVHZ)**

<b>GABLE ROOFS (SLOPE 6.2:12 – 12:12)</b>																	
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>							ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>							Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>							Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60	
13	169	C	210	210	210	210	210	210	210	210	210	210	210	210	210	210	
		D	210	210	208	204	199	195	192	210	210	210	210	210	210	210	210
14	93.5	C	177	172	169	165	160	157	NA	206	200	196	192	186	182	179	
		D	161	157	NA	NA	NA	NA	NA	187	183	180	177	172	169	166	
<b>HIP ROOFS (SLOPE 3:12 – 4.4:12)</b>																	
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>							ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>							Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>							Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60	
13	169	C	210	210	210	210	210	207	203	210	210	210	210	210	210	210	210
		D	210	208	204	200	195	191	189	210	210	210	210	210	210	210	210
14	93.5	C	174	169	166	162	157	NA	NA	206	200	196	192	186	182	179	
		D	158	NA	NA	NA	NA	NA	NA	187	183	180	177	172	169	166	
<b>HIP ROOFS (SLOPE 4.5:12 – 6.1:12)</b>																	
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>							ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>							Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>							Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60	
13	169	C	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210
		D	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210
14	93.5	C	197	191	187	183	178	174	171	210	210	210	210	209	204	200	
		D	179	174	171	168	164	161	158	210	205	201	198	193	189	186	
<b>HIP ROOFS (SLOPE 6.2:12 – 12:12)</b>																	
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>							ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>							Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>							Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60	
13	169	C	210	210	210	210	210	210	209	210	210	210	210	210	210	210	210
		D	210	210	210	206	201	197	194	210	210	210	210	210	210	210	210
14	93.5	C	179	174	170	167	162	158	NA	210	210	210	209	202	198	194	
		D	163	159	NA	NA	NA	NA	NA	203	199	195	192	187	183	180	

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.



**Table 10: Select Shake Assembly Configurations**

System No. <sup>1</sup>	Max Shingle Exposure	Sheathing <sup>2,3</sup>	Shingle Fastener <sup>4</sup>	Allowable Pressure <sup>5,6</sup> (psf)(ASD)
<b>Non-HVHZ</b>				
15	10 inches	15/32 Plywood	4 per shingle, 11ga 1.75-inch galv. ring-shank roofing nail	150
16	10 inches	15/32 Plywood	2 per shingle, 11ga 1.75-inch galv. ring-shank roofing nail	80
17	10 inches	7/16 OSB	2 per shingle, 11ga 1.75-inch galv. ring-shank roofing nail	60
<b>HVHZ</b>				
18	10 inches	19/32 Plywood (1/2 Plywood for re-roofing)	4 per shingle, 11ga 1.75-inch galv. ring-shank roofing nail	150

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.

**Table 11: Select Shake Maximum Wind Speeds of Roof Cladding at Various Building Heights – 2023 FBC (Non-HVHZ)**

<b>GABLE ROOFS (SLOPE 3:12 - 4.4:12)</b>																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>							ZONE 1 (FIELD) <sup>8</sup>						
			Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>							Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>						
			Building Height (ft) <sup>11,12</sup>							Building Height (ft) <sup>11,12</sup>						
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
15	150	B	210	210	210	208	203	196	191	210	210	210	210	210	210	210
		C	189	184	180	176	171	167	164	210	210	210	210	210	210	210
		D	172	168	165	162	158	155	152	210	210	210	210	208	204	201
16	80	B	169	162	157	152	148	143	140	210	210	206	200	195	189	184
		C	138	134	131	129	125	122	120	182	177	173	169	164	161	158
		D	125	123	120	118	115	113	111	165	161	158	156	152	149	146
17	60	B	146	140	136	132	128	124	121	192	184	179	174	169	163	159
		C	120	116	114	111	108	106	NA	157	153	150	147	142	139	137
		D	109	106	NA	NA	NA	NA	NA	143	140	137	135	131	129	127
<b>GABLE ROOFS (SLOPE 4.5:12 – 6.1:12)</b>																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>							ZONE 1 (FIELD) <sup>8</sup>						
			Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>							Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>						
			Building Height (ft) <sup>11,12</sup>							Building Height (ft) <sup>11,12</sup>						
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
15	150	B	210	210	210	210	210	210	210	210	210	210	210	210	210	210
		C	210	210	205	201	195	190	187	210	210	210	210	210	210	210
		D	196	191	188	185	180	176	174	210	210	210	210	210	210	210
16	80	B	192	184	179	174	169	163	159	210	210	210	210	210	210	210
		C	158	153	150	147	142	139	137	207	201	197	193	187	183	180
		D	143	140	137	135	131	129	127	188	184	180	177	173	169	167
17	60	B	167	160	155	150	146	142	138	210	210	204	198	192	186	182
		C	136	133	130	127	123	120	118	179	174	171	167	162	158	156
		D	124	121	119	117	114	112	110	163	159	156	154	150	147	145

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.



**Table 11 Cont.: Select Shake Maximum Wind Speeds of Roof Cladding at Various Building Heights – 2023 FBC (Non-HVHZ)**

GABLE ROOFS (SLOPE 6.2:12 – 12:12)																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>						ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>						Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>						Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
15	150	B	210	210	210	210	210	210	210	210	210	210	210	210	210	
		C	210	210	210	206	200	196	192	210	210	210	210	210	210	210
		D	201	197	193	190	185	181	178	210	210	210	210	210	210	208
16	80	B	200	192	186	181	176	170	166	210	210	210	210	204	198	193
		C	164	159	156	153	148	145	142	191	185	181	178	173	168	165
		D	149	145	143	140	137	134	132	173	169	166	163	159	156	154
17	60	B	173	166	161	157	152	147	144	202	193	188	182	177	171	167
		C	142	138	135	132	128	125	123	165	161	157	154	149	146	143
		D	129	126	124	122	119	116	114	150	147	144	141	138	135	133

HIP ROOFS (SLOPE 3:12 – 4.4:12)																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>						ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>						Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>						Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
15	150	B	210	210	210	210	210	210	210	210	210	210	210	210	210	210
		C	210	210	210	205	199	195	191	210	210	210	210	210	210	210
		D	200	196	192	189	184	180	178	210	210	210	210	210	210	210
16	80	B	197	189	183	177	173	167	163	210	210	210	210	204	198	193
		C	161	156	153	150	146	142	140	191	185	181	178	173	168	165
		D	146	143	140	138	134	132	130	173	169	166	163	159	156	154
17	60	B	170	163	158	154	149	145	141	202	193	188	182	177	171	167
		C	139	136	133	130	126	123	121	165	161	157	154	149	146	143
		D	127	124	121	119	116	114	112	150	147	144	141	138	135	133

HIP ROOFS (SLOPE 4.5:12 – 6.1:12)																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>						ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>						Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>						Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
15	150	B	210	210	210	210	210	210	210	210	210	210	210	210	210	210
		C	210	210	210	210	210	210	210	210	210	210	210	210	210	210
		D	210	210	210	210	208	204	201	210	210	210	210	210	210	210
16	80	B	210	210	206	200	195	189	184	210	210	210	210	210	210	210
		C	182	177	173	169	164	161	158	210	208	203	199	193	189	185
		D	165	161	158	156	152	149	146	194	189	186	183	178	175	172
17	60	B	192	184	179	174	169	163	159	210	210	210	204	198	192	187
		C	157	153	150	147	142	139	137	185	180	176	172	167	163	160
		D	143	140	137	135	131	129	127	168	164	161	158	154	151	149

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.





**Table 11 Cont.: Select Shake Maximum Wind Speeds of Roof Cladding at Various Building Heights – 2023 FBC (Non-HVHZ)**

HIP ROOFS (SLOPE 6.2:12 – 12:12)																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>							ZONE 1 (FIELD) <sup>8</sup>						
			Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>							Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>						
			Building Height (ft) <sup>11,12</sup>							Building Height (ft) <sup>11,12</sup>						
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
15	150	B	210	210	210	210	210	210	210	210	210	210	210	210	210	210
		C	210	210	210	210	205	200	197	210	210	210	210	210	210	210
		D	206	201	197	194	189	185	183	210	210	210	210	210	210	210
16	80	B	202	194	188	182	177	172	168	210	210	210	210	210	210	210
		C	166	161	157	154	150	146	144	207	201	197	193	187	183	180
		D	150	147	144	142	138	135	133	188	184	180	177	173	169	167
17	60	B	175	168	163	158	154	149	145	210	210	204	198	192	186	182
		C	143	139	136	134	130	127	124	179	174	171	167	162	158	156
		D	130	127	125	123	120	117	115	163	159	156	154	150	147	145

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.

**Table 12: Select Shake Maximum Wind Speeds of Roof Cladding at Various Building Heights – 2023 FBC (HVHZ)**

GABLE ROOFS (SLOPE 3:12 - 4.4:12)																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>							ZONE 1 (FIELD) <sup>8</sup>						
			Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>							Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>						
			Building Height (ft) <sup>11,12</sup>							Building Height (ft) <sup>11,12</sup>						
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
18	150	C	189	184	180	176	171	167	164	210	210	210	210	210	210	210
		D	172	168	165	162	158	NA	NA	210	210	210	210	208	204	201
GABLE ROOFS (SLOPE 4.5:12 – 6.1:12)																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>							ZONE 1 (FIELD) <sup>8</sup>						
			Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>							Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>						
			Building Height (ft) <sup>11,12</sup>							Building Height (ft) <sup>11,12</sup>						
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
18	150	C	210	210	205	201	195	190	187	210	210	210	210	210	210	210
		D	196	191	188	185	180	176	174	210	210	210	210	210	210	210
GABLE ROOFS (SLOPE 6.2:12 – 12:12)																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>							ZONE 1 (FIELD) <sup>8</sup>						
			Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>							Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>						
			Building Height (ft) <sup>11,12</sup>							Building Height (ft) <sup>11,12</sup>						
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
18	150	C	210	210	210	209	203	198	195	210	210	210	210	210	210	210
		D	204	199	196	192	187	184	181	210	210	210	210	210	210	210

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.



**Table 12 Cont.: Select Shake Maximum Wind Speeds of Roof Cladding at Various Building Heights – 2023 FBC (HVHZ)**

<b>HIP ROOFS (SLOPE 3:12 – 4.4:12)</b>																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>						ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>						Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>						Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
18	150	C	210	210	210	205	199	195	191	210	210	210	210	210	210	210
		D	200	196	192	189	184	180	178	210	210	210	210	210	210	210
<b>HIP ROOFS (SLOPE 4.5:12 – 6.1:12)</b>																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>						ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>						Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>						Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
18	150	C	210	210	210	210	210	210	210	210	210	210	210	210	210	210
		D	210	210	210	210	208	204	201	210	210	210	210	210	210	210
<b>HIP ROOFS (SLOPE 6.2:12 – 12:12)</b>																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>						ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>						Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>						Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
18	150	C	210	210	210	210	205	200	197	210	210	210	210	210	210	210
		D	206	201	197	194	189	185	183	210	210	210	210	210	210	210

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.



**Table 13: Fancy Shake Assembly Configurations**

System No. <sup>1</sup>	Max Shingle Exposure	Sheathing <sup>2,3</sup>	Shingle Fastener <sup>4</sup>	Allowable Pressure <sup>5,6</sup> (psf)(ASD)
<b>Non-HVHZ</b>				
19*	5 inches	15/32 Plywood	2 per shingle, 11ga 1.75-inch galv. ring-shank roofing nail	161
20	6 inches	15/32 Plywood	2 per shingle, 11ga 1.75-inch galv. ring-shank roofing nail	131
<b>HVHZ</b>				
21*	5 inches	19/32 Plywood (1/2 Plywood for re-roofing)	2 per shingle, 11ga 1.75-inch galv. ring-shank roofing nail	161
22	6 inches	19/32 Plywood (1/2 Plywood for re-roofing)	2 per shingle, 11ga 1.75-inch galv. ring-shank roofing nail	131

\* Fancy Shake Dia. Head & Beaver Tail

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.

**Table 14: Fancy Shake Maximum Wind Speeds of Roof Cladding at Various Building Heights – 2023 FBC (Non-HVHZ)**

<b>GABLE ROOFS (SLOPE 3:12 - 4.4:12)</b>																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>						ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>						Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>						Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
19	161	B	210	210	210	210	210	203	198	210	210	210	210	210	210	210
		C	196	190	186	182	177	173	170	210	210	210	210	210	210	210
		D	178	174	171	168	164	160	158	210	210	210	210	210	210	208
20	131	B	210	207	201	195	189	183	179	210	210	210	210	210	210	210
		C	177	172	168	165	160	156	153	210	210	210	210	210	205	202
		D	161	157	154	151	148	145	142	210	206	203	199	194	190	187
<b>GABLE ROOFS (SLOPE 4.5:12 – 6.1:12)</b>																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>						ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>						Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>						Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
19	161	B	210	210	210	210	210	210	210	210	210	210	210	210	210	210
		C	210	210	210	208	202	197	194	210	210	210	210	210	210	210
		D	203	198	195	191	187	183	180	210	210	210	210	210	210	210
20	131	B	210	210	210	210	210	209	204	210	210	210	210	210	210	210
		C	202	196	192	188	182	178	175	210	210	210	210	210	210	210
		D	183	179	176	173	168	165	162	210	210	210	210	210	210	210

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.



**Table 14 Cont.: Fancy Shake Maximum Wind Speeds of Roof Cladding at Various Building Heights – 2023 FBC (Non-HVHZ)**

<b>GABLE ROOFS (SLOPE 6.2:12 – 12:12)</b>																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>						ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>						Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>						Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
19	161	B	210	210	210	210	210	210	210	210	210	210	210	210		
		C	210	210	210	206	200	196	192	210	210	210	210	210	210	210
		D	201	197	193	190	185	181	178	210	210	210	210	210	210	208
20	131	B	210	210	210	210	210	210	210	210	210	210	210	210		
		C	210	204	200	195	190	185	182	210	210	210	210	210	210	210
		D	191	186	183	180	175	172	169	210	210	210	209	204	200	197
<b>HIP ROOFS (SLOPE 3:12 – 4.4:12)</b>																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>						ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>						Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>						Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
19	161	B	210	210	210	210	210	210	210	210	210	210	210	210		
		C	210	210	210	210	207	202	198	210	210	210	210	210	210	210
		D	208	203	199	196	191	187	184	210	210	210	210	210	210	210
20	131	B	210	210	210	210	210	210	210	210	210	210	210	210		
		C	206	200	196	192	186	182	179	210	210	210	210	210	210	210
		D	187	183	180	176	172	169	166	210	210	210	209	204	200	197
<b>HIP ROOFS (SLOPE 4.5:12 – 6.1:12)</b>																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>						ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>						Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>						Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
19	161	B	210	210	210	210	210	210	210	210	210	210	210	210		
		C	210	210	210	210	210	210	210	210	210	210	210	210	210	210
		D	210	210	210	210	210	210	208	210	210	210	210	210	210	210
20	131	B	210	210	210	210	210	210	210	210	210	210	210	210		
		C	210	210	210	210	210	205	202	210	210	210	210	210	210	210
		D	210	206	203	199	194	190	187	210	210	210	210	210	210	210

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.



**Table 14 Cont.: Fancy Shake Maximum Wind Speeds of Roof Cladding at Various Building Heights – 2023 FBC (Non-HVHZ)**

HIP ROOFS (SLOPE 6.2:12 – 12:12)																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>						ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>						Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>						Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
19	161	B	210	210	210	210	210	210	210	210	210	210	210	210		
		C	210	210	210	210	210	207	204	210	210	210	210	210	210	210
		D	210	208	205	201	196	192	189	210	210	210	210	210	210	210
20	131	B	210	210	210	210	210	210	210	210	210	210	210	210		
		C	210	206	201	197	192	187	184	210	210	210	210	210	210	210
		D	192	188	185	181	177	173	171	210	210	210	210	210	210	210

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.

**Table 15: Fancy Shake Maximum Wind Speeds of Roof Cladding at Various Building Heights – 2023 FBC (HVHZ)**

GABLE ROOFS (SLOPE 3:12 - 4.4:12)																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>						ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>						Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>						Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
21	161	C	196	190	186	182	177	173	170	210	210	210	210	210	210	210
		D	178	174	171	168	164	160	158	210	210	210	210	210	210	208
22	131	C	177	172	168	165	160	156	NA	210	210	210	210	210	205	202
		D	161	157	NA	NA	NA	NA	NA	210	206	203	199	194	190	187

GABLE ROOFS (SLOPE 4.5:12 – 6.1:12)																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>						ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>						Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>						Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
21	161	C	210	210	210	208	202	197	194	210	210	210	210	210	210	210
		D	203	198	195	191	187	183	180	210	210	210	210	210	210	210
22	131	C	202	196	192	188	182	178	175	210	210	210	210	210	210	210
		D	183	179	176	173	168	165	162	210	210	210	210	210	210	210

GABLE ROOFS (SLOPE 6.2:12 – 12:12)																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>						ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>						Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>						Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
21	161	C	210	210	210	210	210	205	202	210	210	210	210	210	210	210
		D	210	206	203	199	194	190	187	210	210	210	210	210	210	210
22	131	C	210	204	200	195	190	185	182	210	210	210	210	210	210	210
		D	191	186	183	180	175	172	169	210	210	210	209	204	200	197

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.



**Table 15 Cont.: Fancy Shake Maximum Wind Speeds of Roof Cladding at Various Building Heights – 2023 FBC (HVHZ)**

<b>HIP ROOFS (SLOPE 3:12 – 4.4:12)</b>																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>						ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>						Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>						Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
21	161	C	210	210	210	210	207	202	198	210	210	210	210	210	210	210
		D	208	203	199	196	191	187	184	210	210	210	210	210	210	210
22	131	C	206	200	196	192	186	182	179	210	210	210	210	210	210	210
		D	187	183	180	176	172	169	166	210	210	210	209	204	200	197
<b>HIP ROOFS (SLOPE 4.5:12 – 6.1:12)</b>																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>						ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>						Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>						Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
21	161	C	210	210	210	210	210	210	210	210	210	210	210	210	210	210
		D	210	210	210	210	210	210	208	210	210	210	210	210	210	210
22	131	C	210	210	210	210	210	205	202	210	210	210	210	210	210	210
		D	210	206	203	199	194	190	187	210	210	210	210	210	210	210
<b>HIP ROOFS (SLOPE 6.2:12 – 12:12)</b>																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>						ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>						Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>						Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
21	161	C	210	210	210	210	210	207	204	210	210	210	210	210	210	210
		D	210	208	205	201	196	192	189	210	210	210	210	210	210	210
22	131	C	210	206	201	197	192	187	184	210	210	210	210	210	210	210
		D	192	188	185	181	177	173	171	210	210	210	210	210	210	210

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.



**Table 16: Bellaforté Slate and Bellaforté Shake Assembly Configurations**

System No. <sup>1</sup>	Max Shingle Exposure	Sheathing <sup>2,3</sup>	Shingle Fastener <sup>4</sup>	Allowable Pressure <sup>5,6</sup> (psf)(ASD)
<b>Non-HVHZ</b>				
23	12 inches	15/32 Plywood	3 per shingle, #10 2-inch galv. screw	121
24	12 inches	19/32 Plywood	5 per shingle, 11ga 1.5-inch galv. ring-shank roofing nail	80
25	12 inches	15/32 Plywood	5 per shingle, 11ga 1.5-inch galv. ring-shank roofing nail	75
26	12 inches	19/32 OSB	5 per shingle, 11ga 1.5-inch galv. ring-shank roofing nail	60
27	12 inches	7/16 OSB	5 per shingle, 11ga 1.5-inch galv. ring-shank roofing nail	56
28	12 inches	15/32 Plywood	3 per shingle, 11ga 1.5-inch galv. ring-shank roofing nail	45
<b>HVHZ</b>				
29	12 inches	19/32 Plywood (1/2 Plywood for re-roofing)	3 per shingle, #10 2-inch galv. Screw	121
30	12 inches	19/32 Plywood	5 per shingle, 11ga 1.5-inch galv. ring-shank roofing nail	80
31	12 inches	1/2 Plywood for re-roofing	5 per shingle, 11ga 1.5-inch galv. ring-shank roofing nail	72.5

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.





**Table 17: Bellaforté Slate and Bellaforté Shake Maximum Wind Speeds of Roof Cladding at Various Building Heights – 2023 FBC (Non-HVHZ)**

GABLE ROOFS (SLOPE 3:12 - 4.4:12)																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>							ZONE 1 (FIELD) <sup>8</sup>						
			Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>							Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>						
			Building Height (ft) <sup>11,12</sup>							Building Height (ft) <sup>11,12</sup>						
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
23	121	B	207	199	193	187	182	176	172	210	210	210	210	210	210	210
		C	170	165	162	158	154	150	147	210	210	210	208	202	197	194
		D	154	151	148	145	142	139	137	203	198	195	191	187	183	180
24	80	B	169	162	157	152	148	143	140	210	210	206	200	195	189	184
		C	138	134	131	129	125	122	120	182	177	173	169	164	161	158
		D	125	123	120	118	115	113	111	165	161	158	156	152	149	146
25	75	B	163	157	152	147	143	139	135	210	206	200	194	189	183	178
		C	134	130	127	125	121	118	116	176	171	167	164	159	155	153
		D	121	119	116	114	112	109	108	160	156	153	151	147	144	142
26	60	B	146	140	136	132	128	124	121	192	184	179	174	169	163	159
		C	120	116	114	111	108	106	NA	157	153	150	147	142	139	137
		D	109	106	NA	NA	NA	NA	NA	143	140	137	135	131	129	127
27	56	B	141	135	131	127	124	120	117	186	178	173	168	163	158	154
		C	116	112	110	108	NA	NA	NA	152	148	145	142	138	134	132
		D	NA	NA	NA	NA	NA	NA	NA	138	135	133	130	127	124	123
28	45	B	126	121	118	114	111	107	NA	167	160	155	150	146	141	138
		C	NA	NA	NA	NA	NA	NA	NA	136	133	130	127	123	120	118
		D	NA	NA	NA	NA	NA	NA	NA	124	121	119	117	114	112	110

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.



**Table 17 Cont.: Bellaforté Slate and Bellaforté Shake Maximum Wind Speeds of Roof Cladding at Various Building Heights – 2023 FBC (Non-HVHZ)**

GABLE ROOFS (SLOPE 4.5:12 – 6.1:12)																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>							ZONE 1 (FIELD) <sup>8</sup>						
			Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>							Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>						
			Building Height (ft) <sup>11,12</sup>							Building Height (ft) <sup>11,12</sup>						
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
23	121	B	210	210	210	210	208	201	196	210	210	210	210	210	210	210
		C	194	188	184	180	175	171	168	210	210	210	210	210	210	210
		D	176	172	169	166	162	158	156	210	210	210	210	210	208	205
24	80	B	192	184	179	174	169	163	159	210	210	210	210	210	210	210
		C	158	153	150	147	142	139	137	207	201	197	193	187	183	180
		D	143	140	137	135	131	129	127	188	184	180	177	173	169	167
25	75	B	186	179	173	168	163	158	154	210	210	210	210	210	208	203
		C	153	148	145	142	138	135	132	201	195	191	187	181	177	174
		D	139	135	133	131	127	125	123	182	178	175	172	167	164	162
26	60	B	167	160	155	150	146	142	138	210	210	204	198	192	186	182
		C	136	133	130	127	123	120	118	179	174	171	167	162	158	156
		D	124	121	119	117	114	112	110	163	159	156	154	150	147	145
27	56	B	161	154	150	145	141	137	133	210	203	197	191	186	180	175
		C	132	128	125	123	119	116	114	173	168	165	161	157	153	150
		D	120	117	115	113	110	108	106	157	154	151	148	145	142	140
28	45	B	144	138	134	130	127	123	120	190	182	176	171	167	161	157
		C	118	115	112	110	107	NA	NA	155	151	148	145	140	137	135
		D	107	NA	NA	NA	NA	NA	NA	141	138	135	133	130	127	125

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.



**Table 17 Cont.: Bellaforté Slate and Bellaforté Shake Maximum Wind Speeds of Roof Cladding at Various Building Heights – 2023 FBC (Non-HVHZ)**

GABLE ROOFS (SLOPE 6.2:12 – 12:12)																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>							ZONE 1 (FIELD) <sup>8</sup>						
			Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>							Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>						
			Building Height (ft) <sup>11,12</sup>							Building Height (ft) <sup>11,12</sup>						
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
23	121	B	210	210	210	210	210	210	210	210	210	210	210	210	210	210
		C	210	210	210	206	200	196	192	210	210	210	210	210	210	210
		D	201	197	193	190	185	181	178	210	210	210	210	210	210	208
24	80	B	200	192	186	181	176	170	166	210	210	210	210	204	198	193
		C	164	159	156	153	148	145	142	191	185	181	178	173	168	165
		D	149	145	143	140	137	134	132	173	169	166	163	159	156	154
25	75	B	194	186	180	175	170	165	161	210	210	210	204	198	192	187
		C	159	154	151	148	144	140	138	185	180	176	172	167	163	160
		D	144	141	138	136	133	130	128	168	164	161	158	154	151	149
26	60	B	173	166	161	157	152	147	144	202	193	188	182	177	171	167
		C	142	138	135	132	128	125	123	165	161	157	154	149	146	143
		D	129	126	124	122	119	116	114	150	147	144	141	138	135	133
27	56	B	168	161	156	151	147	142	139	195	187	181	176	171	166	162
		C	137	133	130	128	124	121	119	160	155	152	149	144	141	138
		D	125	122	120	117	115	112	111	145	142	139	137	133	131	129
28	45	B	150	144	140	136	132	128	124	175	168	162	158	153	148	145
		C	123	120	117	115	111	109	107	143	139	136	133	129	126	124
		D	112	109	107	105	NA	NA	NA	130	127	125	123	119	117	115

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.



**Table 17 Cont.: Bellaforté Slate and Bellaforté Shake Maximum Wind Speeds of Roof Cladding at Various Building Heights – 2023 FBC (Non-HVHZ)**

HIP ROOFS (SLOPE 3:12 – 4.4:12)																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>							ZONE 1 (FIELD) <sup>8</sup>						
			Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>							Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>						
			Building Height (ft) <sup>11,12</sup>							Building Height (ft) <sup>11,12</sup>						
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
23	121	B	210	210	210	210	210	205	200	210	210	210	210	210	210	210
		C	198	192	188	184	179	175	172	210	210	210	210	210	207	204
		D	180	176	173	170	165	162	160	210	208	204	201	196	192	189
24	80	B	197	189	183	177	173	167	163	210	210	210	210	204	198	193
		C	161	156	153	150	146	142	140	191	185	181	178	173	168	165
		D	146	143	140	138	134	132	130	173	169	166	163	159	156	154
25	75	B	190	183	177	172	167	162	158	210	210	210	204	198	192	187
		C	156	152	148	145	141	138	135	185	180	176	172	167	163	160
		D	142	138	136	133	130	128	126	168	164	161	158	154	151	149
26	60	B	170	163	158	154	149	145	141	202	193	188	182	177	171	167
		C	139	136	133	130	126	123	121	165	161	157	154	149	146	143
		D	127	124	121	119	116	114	112	150	147	144	141	138	135	133
27	56	B	165	158	153	148	144	140	136	195	187	181	176	171	166	162
		C	135	131	128	125	122	119	117	160	155	152	149	144	141	138
		D	122	120	117	115	112	110	109	145	142	139	137	133	131	129
28	45	B	147	141	137	133	129	125	122	175	168	162	158	153	148	145
		C	121	117	115	112	109	107	NA	143	139	136	133	129	126	124
		D	110	107	105	NA	NA	NA	NA	130	127	125	123	119	117	115

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.



**Table 17 Cont.: Bellaforté Slate and Bellaforté Shake Maximum Wind Speeds of Roof Cladding at Various Building Heights – 2023 FBC (Non-HVHZ)**

HIP ROOFS (SLOPE 4.5:12 – 6.1:12)																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>							ZONE 1 (FIELD) <sup>8</sup>						
			Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>							Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>						
			Building Height (ft) <sup>11,12</sup>							Building Height (ft) <sup>11,12</sup>						
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
23	121	B	210	210	210	210	210	210	210	210	210	210	210	210	210	210
		C	210	210	210	208	202	197	194	210	210	210	210	210	210	210
		D	203	198	195	191	187	183	180	210	210	210	210	210	210	210
24	80	B	210	210	206	200	195	189	184	210	210	210	210	210	210	210
		C	182	177	173	169	164	161	158	210	208	203	199	193	189	185
		D	165	161	158	156	152	149	146	194	189	186	183	178	175	172
25	75	B	210	206	200	194	189	183	178	210	210	210	210	210	210	209
		C	176	171	167	164	159	155	153	207	201	197	193	187	183	179
		D	160	156	153	151	147	144	142	188	183	180	177	173	169	167
26	60	B	192	184	179	174	169	163	159	210	210	210	204	198	192	187
		C	157	153	150	147	142	139	137	185	180	176	172	167	163	160
		D	143	140	137	135	131	129	127	168	164	161	158	154	151	149
27	56	B	186	178	173	168	163	158	154	210	209	203	197	192	185	181
		C	152	148	145	142	138	134	132	179	174	170	166	162	158	155
		D	138	135	133	130	127	124	123	162	159	156	153	149	146	144
28	45	B	167	160	155	150	146	141	138	196	188	182	177	172	166	162
		C	136	133	130	127	123	120	118	160	156	152	149	145	141	139
		D	124	121	119	117	114	112	110	146	142	140	137	134	131	129

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.



**Table 17 Cont.: Bellaforté Slate and Bellaforté Shake Maximum Wind Speeds of Roof Cladding at Various Building Heights – 2023 FBC (Non-HVHZ)**

GABLE ROOFS (SLOPE 6.2:12 – 12:12)																	
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>							ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>							Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>							Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60	
23	121	B	210	210	210	210	210	210	210	210	210	210	210	210	210	210	
		C	204	198	194	190	184	180	177	210	210	210	210	210	210	210	210
		D	185	181	177	174	170	167	164	210	210	210	210	210	208	205	210
24	80	B	202	194	188	182	177	172	168	210	210	210	210	210	210	210	210
		C	166	161	157	154	150	146	144	207	201	197	193	187	183	180	180
		D	150	147	144	142	138	135	133	188	184	180	177	173	169	167	167
25	75	B	196	188	182	177	172	166	162	210	210	210	210	210	208	203	210
		C	160	156	152	149	145	142	139	201	195	191	187	181	177	174	174
		D	146	142	140	137	134	131	129	182	178	175	172	167	164	162	162
26	60	B	175	168	163	158	154	149	145	210	210	204	198	192	186	182	182
		C	143	139	136	134	130	127	124	179	174	171	167	162	158	156	156
		D	130	127	125	123	120	117	115	163	159	156	154	150	147	145	145
27	56	B	169	162	157	153	148	144	140	210	203	197	191	186	180	175	175
		C	139	135	132	129	125	122	120	173	168	165	161	157	153	150	150
		D	126	123	121	119	116	113	112	157	154	151	148	145	142	140	140
28	45	B	152	145	141	137	133	129	126	190	182	176	171	167	161	157	157
		C	124	121	118	116	112	110	108	155	151	148	145	140	137	135	135
		D	113	110	108	106	NA	NA	NA	141	138	135	133	130	127	125	125

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.

**Table 18: Bellaforté Slate and Bellaforté Shake Maximum Wind Speeds of Roof Cladding at Various Building Heights – 2023 FBC (HVHZ)**

GABLE ROOFS (SLOPE 3:12 - 4.4:12)																	
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>							ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>							Maximum Wind Speed V <sub>ult</sub> (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>							Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60	
29	121	C	170	165	162	158	NA	NA	NA	210	210	210	208	202	197	194	194
		D	NA	NA	NA	NA	NA	NA	NA	203	198	195	191	187	183	180	180
30	80	C	NA	NA	NA	NA	NA	NA	NA	182	177	173	169	164	161	158	158
		D	NA	NA	NA	NA	NA	NA	NA	165	161	158	NA	NA	NA	NA	NA
31	72.5	C	NA	NA	NA	NA	NA	NA	NA	173	168	165	161	157	NA	NA	NA
		D	NA	NA	NA	NA	NA	NA	NA	157	NA	NA	NA	NA	NA	NA	NA

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.



**Table 18 Cont.: Bellaforté Slate and Bellaforté Shake Maximum Wind Speeds of Roof Cladding at Various Building Heights – 2023 FBC (HVHZ)**

<b>GABLE ROOFS (SLOPE 4.5:12 – 6.1:12)</b>																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>							ZONE 1 (FIELD) <sup>8</sup>						
			Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>							Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>						
			Building Height (ft) <sup>11,12</sup>							Building Height (ft) <sup>11,12</sup>						
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
29	121	C	194	188	184	180	175	171	168	210	210	210	210	210	210	210
		D	176	172	169	166	162	158	156	210	210	210	210	210	208	205
30	80	C	158	NA	NA	NA	NA	NA	NA	207	201	197	193	187	183	180
		D	NA	NA	NA	NA	NA	NA	NA	188	184	180	177	173	169	167
31	72.5	C	NA	NA	NA	NA	NA	NA	NA	197	192	188	184	178	174	171
		D	NA	NA	NA	NA	NA	NA	NA	179	175	172	169	165	161	159
<b>GABLE ROOFS (SLOPE 6.2:12 - 12:12)</b>																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>							ZONE 1 (FIELD) <sup>8</sup>						
			Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>							Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>						
			Building Height (ft) <sup>11,12</sup>							Building Height (ft) <sup>11,12</sup>						
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
29	121	C	202	196	192	188	182	178	175	210	210	210	210	210	207	204
		D	183	179	176	173	168	165	162	210	208	204	201	196	192	189
30	80	C	164	159	NA	NA	NA	NA	NA	191	185	181	178	173	168	165
		D	NA	NA	NA	NA	NA	NA	NA	173	169	166	163	159	156	NA
31	72.5	C	156	NA	NA	NA	NA	NA	NA	182	177	173	169	164	160	158
		D	NA	NA	NA	NA	NA	NA	NA	165	161	158	NA	NA	NA	NA
<b>HIP ROOFS (SLOPE 3:12 - 4.4:12)</b>																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>							ZONE 1 (FIELD) <sup>8</sup>						
			Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>							Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>						
			Building Height (ft) <sup>11,12</sup>							Building Height (ft) <sup>11,12</sup>						
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
29	121	C	198	192	188	184	179	175	172	210	210	210	210	210	207	204
		D	180	176	173	170	165	162	160	210	208	204	201	196	192	189
30	80	C	161	156	NA	NA	NA	NA	NA	191	185	181	178	173	168	165
		D	NA	NA	NA	NA	NA	NA	NA	173	169	166	163	159	156	NA
31	72.5	C	NA	NA	NA	NA	NA	NA	NA	182	177	173	169	164	160	158
		D	NA	NA	NA	NA	NA	NA	NA	165	161	158	NA	NA	NA	NA

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.



**Table 18 Cont.: Bellaforté Slate and Bellaforté Shake Maximum Wind Speeds of Roof Cladding at Various Building Heights – 2023 FBC (HVHZ)**

HIP ROOFS (SLOPE 4.5:12 – 6.1:12)																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>						ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>						Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>						Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
29	121	C	210	210	210	208	202	197	194	210	210	210	210	210	210	210
		D	203	198	195	191	187	183	180	210	210	210	210	210	210	210
30	80	C	182	177	173	169	164	161	158	210	208	203	199	193	189	185
		D	165	161	158	NA	NA	NA	NA	194	189	186	183	178	175	172
31	72.5	C	173	168	165	161	157	NA	NA	203	198	193	189	184	180	176
		D	157	NA	NA	NA	NA	NA	NA	185	180	177	174	170	166	164
HIP ROOFS (SLOPE 6.2:12 – 12:12)																
System No. <sup>1</sup>	Allowable Pressure (psf) (ASD) <sup>5,6</sup>	Exposure Category <sup>7</sup>	ZONE 2/3 (CORNER/EDGE) <sup>8</sup>						ZONE 1 (FIELD) <sup>8</sup>							
			Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>						Maximum Wind Speed $V_{ult}$ (mph) <sup>9,10</sup>							
			Building Height (ft) <sup>11,12</sup>						Building Height (ft) <sup>11,12</sup>							
			15	20	25	30	40	50	60	15	20	25	30	40	50	60
29	121	C	204	198	194	190	184	180	177	210	210	210	210	210	210	210
		D	185	181	177	174	170	167	164	210	210	210	210	210	208	205
30	80	C	166	161	157	NA	NA	NA	NA	207	201	197	193	187	183	180
		D	NA	NA	NA	NA	NA	NA	NA	188	184	180	177	173	169	167
31	72.5	C	158	NA	NA	NA	NA	NA	NA	197	192	188	184	178	174	171
		D	NA	NA	NA	NA	NA	NA	NA	179	175	172	169	165	161	159

See General Notes for Tables 4 – 18 on page 10 for referenced superscript table notes.

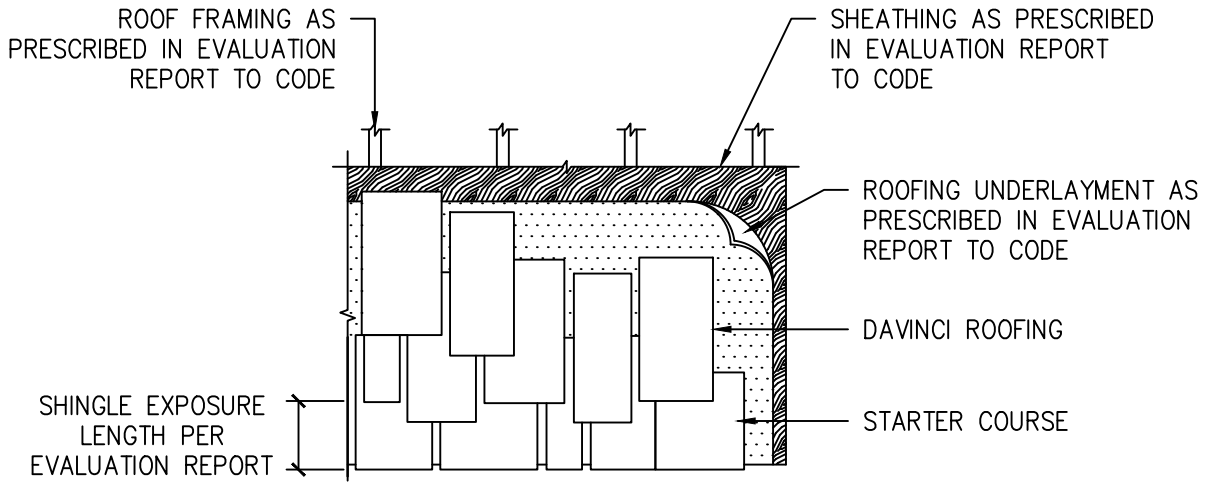
**ATTACHMENT 3: ASSEMBLY DIAGRAMS**

Begins next page.

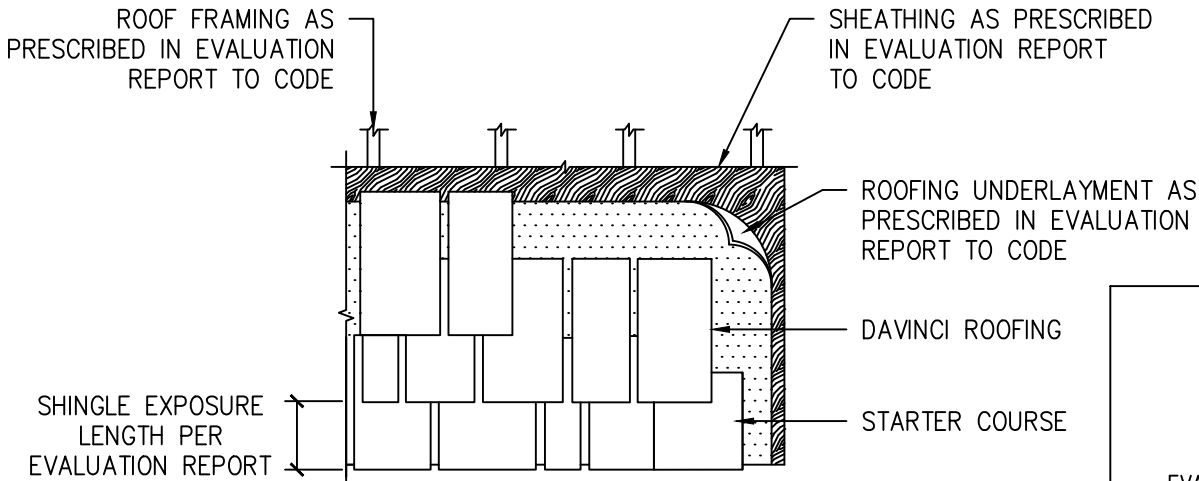




DAVINCI ROOFING  
 DETAILS OF 2023 FBC WIND LOAD RESISTANCE ASSEMBLIES



**A**  
 1 DAVINCI ROOFING STAGGERED ROOFING INSTALLATION  
 PLAN VIEW NOT-TO-SCALE



**B**  
 1 DAVINCI ROOFING STRAIGHT ROOFING INSTALLATION  
 PLAN VIEW NOT-TO-SCALE

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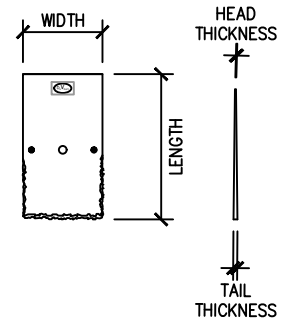
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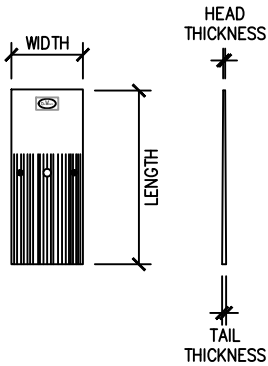
# DAVINCI ROOFING DETAILS OF 2023 FBC WIND LOAD RESISTANCE ASSEMBLIES

DAVINCI ROOFING SLATE AND SHAKE DIMENSIONS				
PRODUCT	LENGTHS (IN.)	WIDTH (IN.)	THICKNESS (IN.)	
			HEAD	TAIL
DAVINCI SLATE	18	6, 7, 9, 10, 12	1/8	1/2
DAVINCI SHAKE	22	4, 6, 7, 8, 9	1/4	5/8
SELECT SHAKE	22	8, 10	1/4	5/8
FANCY SHAKE	18	5, 7, 12	1/4	1/2
BELLFORTE SLATE	15 1/2	12	3/8	1
BELLAFORTE SHAKE	15 1/2	12	3/8	1

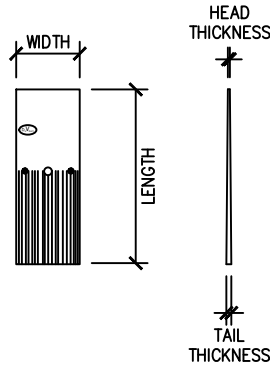
NOTE: "BEAVER TAIL" AND "DIAMOND POINT" FANCY SHAKES ARE ONLY AVAILABLE IN 5" WIDTHS.



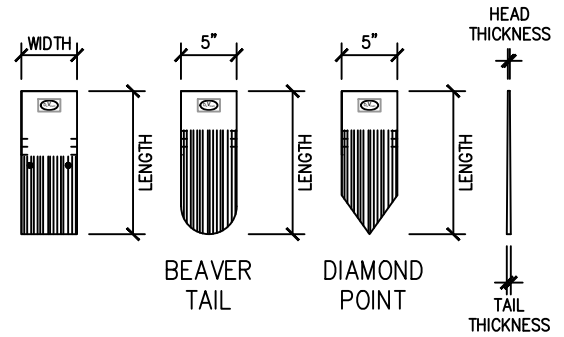
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2 — DAVINCI SLATE ROOFING  
NOT-TO-SCALE



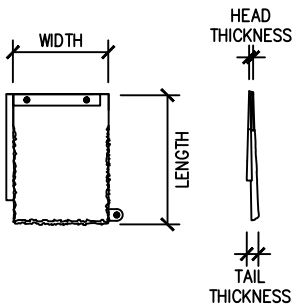
**B**  
2 — DAVINCI SHAKE ROOFING  
NOT-TO-SCALE



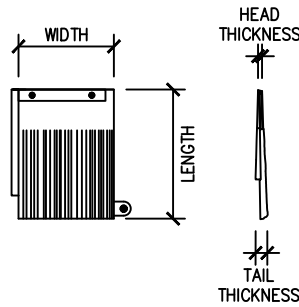
**C**  
2 — SELECT SHAKE ROOFING  
NOT-TO-SCALE



**D**  
2 — FANCY SHAKE ROOFING  
NOT-TO-SCALE



**E**  
2 — BELLAFORTE SLATE ROOFING  
NOT-TO-SCALE



**F**  
2 — BELLAFORTE SHAKE ROOFING  
NOT-TO-SCALE

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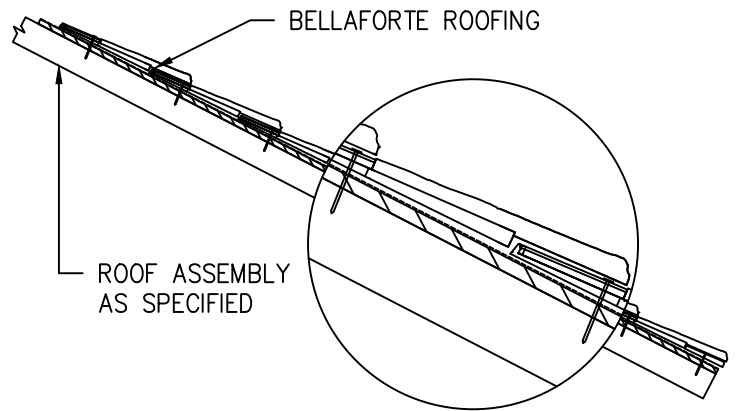
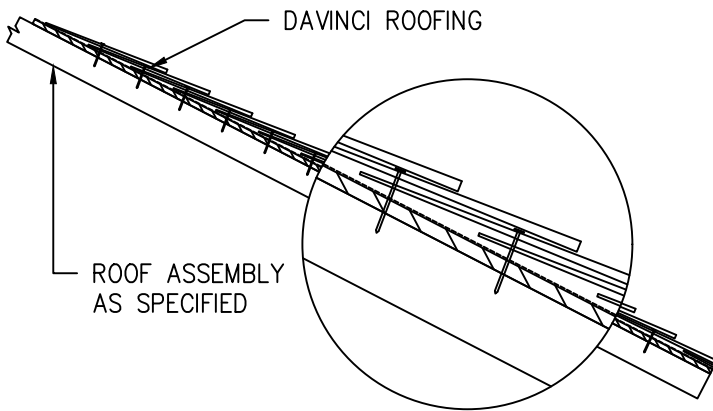
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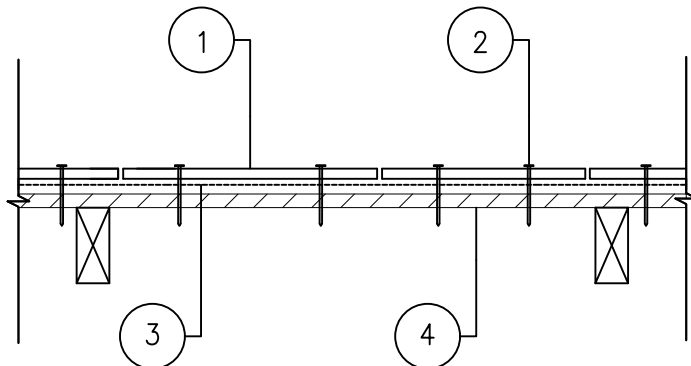


DAVINCI ROOFING  
 DETAILS OF 2023 FBC WIND LOAD RESISTANCE ASSEMBLIES



**A**  
 3 DAVINCI ROOFING TYPICAL INSTALLATION  
 SECTION VIEW NOT-TO-SCALE

**B**  
 3 BELLAFORTE ROOFING TYPICAL INSTALLATION  
 SECTION VIEW NOT-TO-SCALE



**C**  
 3 DAVINCI ROOFING ON WOOD SHEATHING  
 SECTION VIEW NOT-TO-SCALE

ROOF FRAMING & WOOD-BASE SHEATHING ASSEMBLY EXTERIOR TO INTERIOR	
1	DAVINCI ROOFING
2	ROOFING FASTENERS PER EVALUATION REPORT DETAILS
3	ROOFING UNDERLAYMENT PER EVALUATION REPORT, TO CODE
4	SHEATHING PER EVALUATION REPORT, TO CODE

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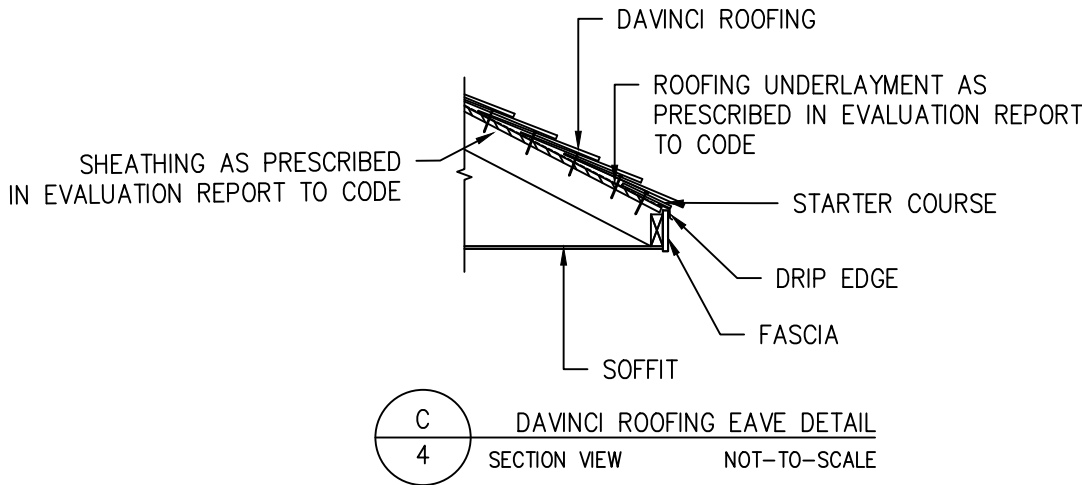
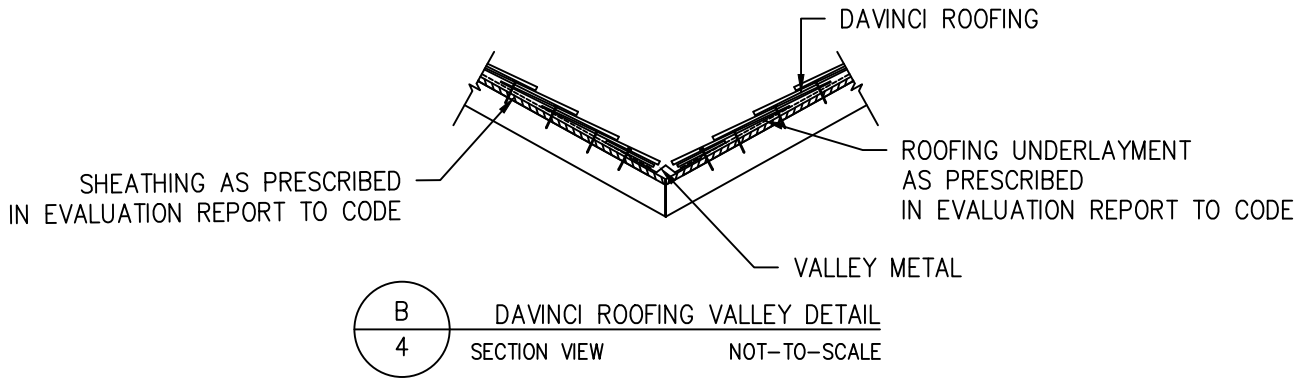
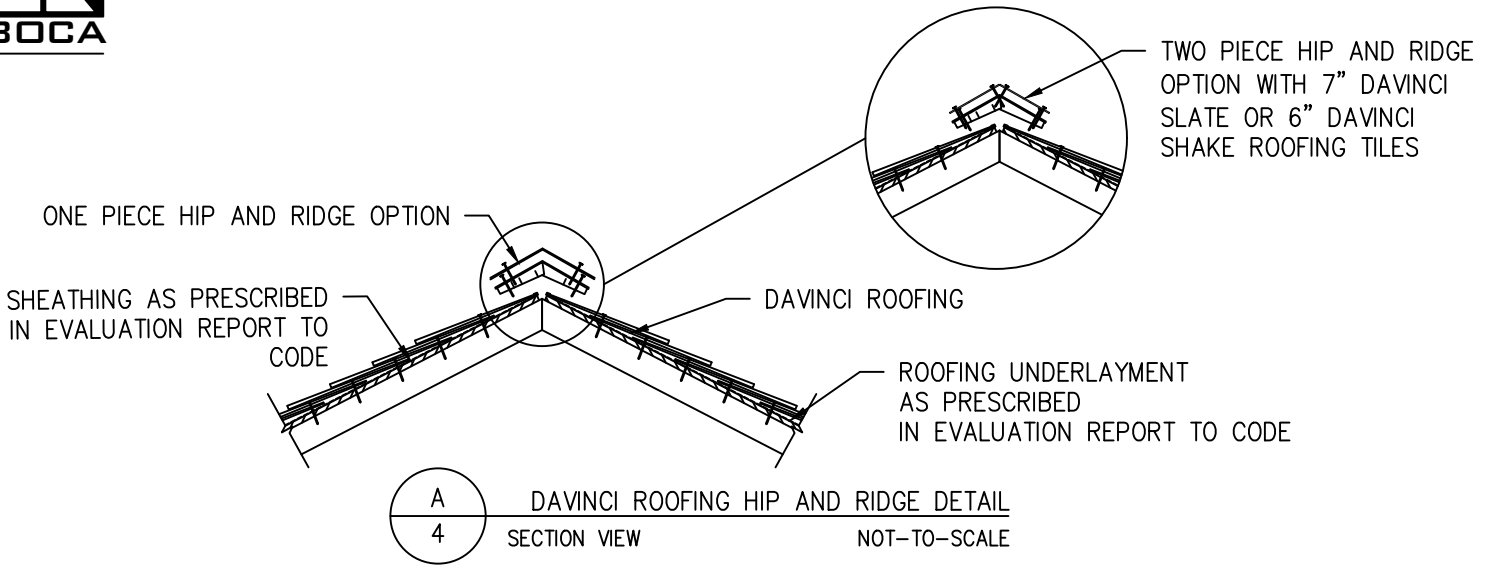
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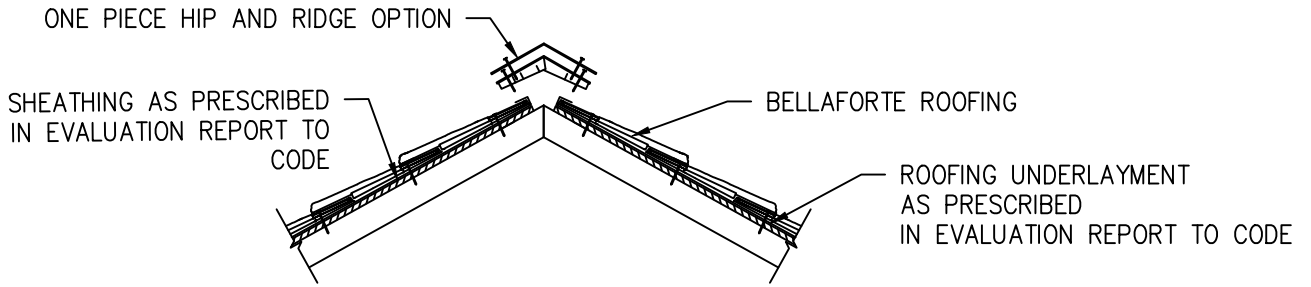
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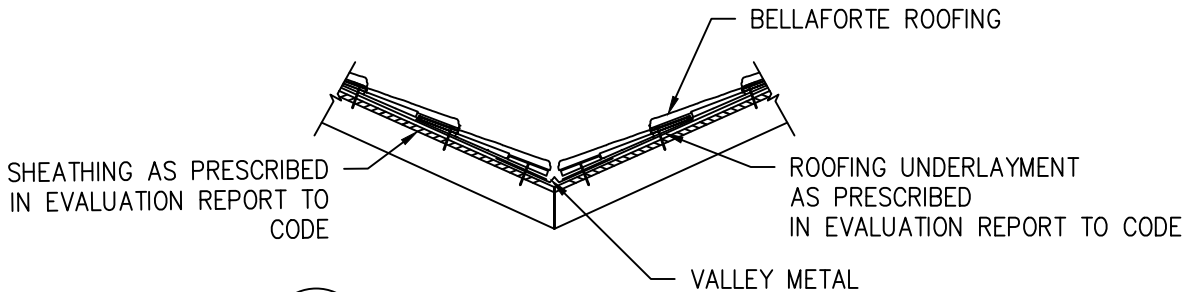
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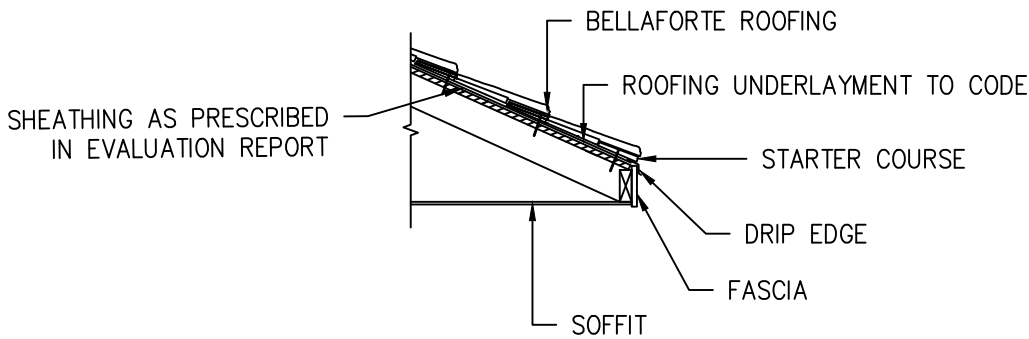
**BELLAFORTE ROOFING**  
**DETAILS OF 2023 FBC WIND LOAD RESISTANCE ASSEMBLIES**



**A**  
5 BELLAFORTE HIP AND RIDGE DETAIL  
SECTION NOT-TO-SCALE



**B**  
5 BELLAFORTE VALLEY DETAIL  
SECTION VIEW NOT-TO-SCALE



**C**  
5 BELLAFORTE EAVE DETAIL  
SECTION VIEW NOT-TO-SCALE

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DAVINCI SHAKE ROOFING  
DETAILS OF 2023 FBC WIND LOAD RESISTANCE ASSEMBLIES

LEGEND AND SYMBOLS



TESTING AND CODE COMPLIANCE

1. THE ROOFING PRODUCT ASSEMBLY SHOWN IS DESIGNED TO COMPLY WITH THE 8TH EDITION (2023) FLORIDA BUILDING CODE (FBC).
2. THE STRUCTURAL FRAMING AND SHEATHING SHALL BE DESIGNED AND ANCHORED TO PROVIDE LATERAL BRACING TO NOT EXCEED DEFLECTION LIMITS, AND PROPERLY TRANSFER ALL LOADS TO THE STRUCTURE. FRAMING DESIGN AND INSTALLATION IS THE RESPONSIBILITY OF THE ENGINEER OR ARCHITECT OF RECORD FOR THE PROJECT OF INSTALLATION.
3. THESE DRAWINGS APPLY TO THE TESTING ASSEMBLY ONLY AND DO NOT IMPLY THAT THE SIGNATORY ENGINEER IS THE DESIGNER OF RECORD FOR ANY FUTURE CONSTRUCTION ON WHICH THEY ARE USED.
4. SOME NON-STRUCTURAL COMPONENTS NOT SHOWN AND DO NOT IMPACT STRENGTH FOR ATTACHMENT. TO BE INSTALLED PER CODE AND MAY INCLUDE: FLASHING, INTERIOR INSULATION, INTERIOR FINISH.

INSTALLATION

THE INSTALLATION DETAILS DESCRIBED ARE OF THE LABORATORY TESTED ASSEMBLY AND MAY NOT REFLECT ACTUAL CONDITIONS FOR A SPECIFIC SITE. IF SITE CONDITIONS DEVIATE FROM THE REQUIREMENTS DETAILED HEREIN, THE LICENSED ENGINEER OR ARCHITECT PREPARED SITE-SPECIFIC DOCUMENTS SHALL BE USED.

SHEATHING

1. WOOD-BASED STRUCTURAL SHEATHING:
  - 1.1. PLYWOOD – US DOC PS1-19 OR PS2-18 U.N.O.
  - 1.2. OSB – US DOC PS2-18 U.N.O.

FASTENERS

1. NAILS TO CONFORM TO ASTM F1667.
2. ALL FASTENERS WITH CORROSION-RESISTANT GALVANIZED COATING.

HIP & RIDGE

ONE PIECE: TILE SHOULD BE INSTALLED AT 12" EXPOSURE. TILE SHOULD BE NAILED ONCE ON EACH SIDE ABOUT 3/4" FROM OUTSIDE EDGE WITH APPROVED FASTENER LONG ENOUGH TO PENETRATE THROUGH ROOF DECK AND EXCEED IT BY 3/16". HIP AND RIDGE SHOULD BE NAILED APPROXIMATELY 12 1/2" FROM BUFF OF TILE AND 1/2" TO 3/4" FROM OUTSIDE EDGE. TWO PIECE: BOTTOM PIECE OF HIP AND RIDGE SHOULD BE CUT SO TIP DOES NOT EXTEND PAST THE BUTT OF SECOND COURSE. ROOFING THAT MAKES UP A HIP AND RIDGE UNIT SHOULD BE 6" SHAKES OR 7: SLATES AND INSTALLED WITH A TEN-INCH EXPOSURE. USING A CHALK LINE TO ASSURE STRAIGHTNESS, HIP AND RIDGE SHOULD BE INSTALLED ONE PIECE AT A TIME SO THAT THE BUTTS OF TWO SHINGLES ARE ADJACENT AND THE INSIDE EDGES TOUCH.

VALLEYS

WHETHER INSTALLING AN OPEN OR A CLOSED VALLEY SYSTEM, VALLEY METAL SHOULD BE MADE FROM 24" STOCK OF COPPER, MINIMUM .019 ALUMINUM, OR MINIMUM 28-GAUGE CLAD STEEL. DAVINCI REQUIRES SELF-ADHERED MEMBRANE BE USED IN ALL VALLEYS.

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 ROOFING ENGINEERING  
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