



www.icc-es.org | (800) 423-6587 | (562) 699-0543

A Subsidiary of the International Code Council®

ICC-ES Evaluation Report ESR-2119

DIVISION: 07 00 00—THERMAL AND MOISTURE

PROTECTION

Section: 07 32 26—Plastic Roof Tiles

REPORT HOLDER:

WESTLAKE DaVINCI ROOFSCAPES, LLC

EVALUATION SUBJECT:

DaVINCI SLATE, DaVINCI SHAKE, DaVINCI SELECT SHAKE, BELLAFORTÉ SHAKE, BELLAFORTÉ SLATE AND PROVINCE SLATE ROOF SHINGLES

1.0 EVALUATION SCOPE

1.1 Compliance with the following codes:

- 2021, 2018 and 2015 International Building Code® (IBC)
- 2021, 2018 and 2015 International Residential Code® (IRC)
- 2013 Abu Dhabi International Building Code (ADIBC)†

[†]The ADIBC is based on the 2009 IBC. 2009 IBC code sections referenced in this report are the same sections in the ADIBC.

Properties evaluated:

- Weather resistance
- Fire classification
- Wind resistance

1.2 Evaluation to the following green code:

2022 California Green Building Standards Code (CALGreen), Title 24, Part 11

Attributes verified:

See Section 3.1

2.0 USES

The DaVinci Slate, DaVinci Shake, DaVinci Select Shake, Bellaforté Shake, Bellaforté Slate and Province Slate roof shingles are used as roof covering materials and are classified as a Class A or B roof covering when installed in accordance with Table 1 of this report.

3.0 DESCRIPTION

3.1 General:

The DaVinci Slate, DaVinci Shake, DaVinci Select Shake, Bellaforté Shake, Bellaforté Slate and Province Slate roof shingles are engineered polymeric-based roof shingles designed to provide the look of natural slate or shake,

Reissued August 2023

This report is subject to renewal August 2024.

respectively. The shingles are manufactured with a proprietary formulation using both high-density and low-density polyethylene polymers and other additives.

The attributes of the roof tiles have been verified as conforming to the provisions of CALGreen Section A5.406.1.2 for reduced maintenance. Note that decisions on compliance for those areas rest with the user of this report. The user is advised of the project-specific provisions that may be contingent upon meeting specific conditions, and the verification of those conditions is outside the scope of this report. These codes or standards often provide supplemental information as guidance.

3.2 DaVinci Slate Roof Shingle:

The DaVinci Slate roof shingle is available in various colors and in widths of 6, 7, 9, 10 and 12 inches (152, 178, 229, 254 and 305 mm) with a length of 18 inches (457 mm). Exposure is 6 to 8 inches (152 to 203 mm), resulting in an installed weight of 351 to 264 pounds, respectively, per 100 square feet (17.1 to 12.9 kg/m²). See Figure 1.

3.3 DaVinci Shake and DaVinci Select Shake Roof Shingle:

The DaVinci Shake roof shingle is available in various colors and in widths of 4, 6, 7, 8, 9 and 10 inches (102, 152, 178, 203, 229 and 254 mm) with a length of 22 inches (559 mm). Exposure is 9 to 10 inches (229 to 254 mm), resulting in an installed weight of 377 to 300 pounds, respectively, per 100 square feet (18.4 to 14.6 kg/m²). See Figure 1.

3.4 Bellaforté Shake:

The Bellaforté Shake roof shingle is available in various colors and in a width of 12³/₄ inches (324 mm) and a length of 16¹/₄ inches (413 mm). Exposure is 12 inches (305 mm), resulting in an installed weight of 194 pounds per 100 square feet (9.5 kg/m²). See Figure 2.

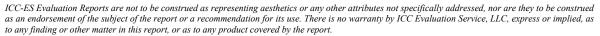
3.5 Bellaforté Slate:

The Bellaforté Slate roof shingle is available in various colors and in a width of $12^{3}/_{4}$ inches (324mm) and a length of $15^{1}/_{2}$ inches (394 mm). Exposure is 12 inches (305 mm), resulting in an installed weight of 162 pounds per 100 square feet (8.0 kg/m²). See Figure 3.

3.6 Province Slate:

The Province Slate roof shingle is available in various colors and in a width of $12^{1}/_{2}$ inches (318 mm) and a length of $11^{1}/_{2}$ inches (292 mm). Exposure is 8 inches (203 mm), resulting in an installed weight of 194 pounds per 100 square feet (9.5 kg/m²). See Figure 4.





3.7 Underlayment:

Underlayment must be a minimum of two layers of ASTM D226 Type I (No. 15) asphalt-saturated organic felt, one layer of ASTM D226 Type II (No. 30) asphalt-saturated organic felt or one layer of ASTM D1970 self-adhered roof underlayment, unless otherwise noted in Table 1 of this report. Where an ice barrier is required, the membrane must be as noted in the second paragraph of Section 4.2 of this report.

3.8 Flashing:

Flashing must be minimum 16-oz/ft² (No. 23 gage) copper or other corrosion-resistant metal with a thickness of not less than 0.019 inch (0.483 mm). See Section 4.5 for valley flashing.

3.9 Fasteners:

Fasteners used to secure DaVinci roof shingles to the sheathing must be $^{1}/_{8}$ -inch-diameter-shank (3.18 mm) hot-dipped galvanized roofing nails complying with ASTM F1667, with $^{3}/_{8}$ -inch-diameter (9.5 mm) heads, unless otherwise noted in Table 2. Fasteners must be of sufficient length to penetrate through the sheathing a minimum of $^{3}/_{16}$ inch (12.7 mm).

4.0 INSTALLATION

4.1 General:

The roof shingles must be installed in accordance with this report, the applicable code and the manufacturer's published installation instructions. The manufacturer's installation instructions must be available at the jobsite at all times during installation.

The shingles must be installed on roofs with solid sheathing and a minimum slope of 3:12 (25 percent slope). Solid sheathing must be minimum ¹⁵/₃₂-inchthick (11.9 mm) exterior-grade plywood, ⁷/₁₆-inch-thick (11.1 mm) oriented strand board (OSB), or nominally 1-inch-thick (25.4 mm) lumber. The sheathing must be structurally adequate and fastened to resist the wind loads as specified by IBC Section 1609, or IRC Section R301.2, for components and cladding.

4.2 Underlayment:

Underlayment as described in Section 3.6 and Table 1, must be installed in accordance with IBC Section 1507.7.3 or IRC Section R905.6.3, as applicable. The underlayment must be installed parallel to the roof eave with a 6-inch (152 mm) lap on the ends, a 6-inch (152.4 mm) side lap and a minimum 6-inch (152 mm) lap over eaves. The underlayment is fastened, only as necessary to hold in place.

In areas where the average daily temperature in January is 25°F (-4°C) or less, or where there is a possibility of ice forming along the eaves and causing a backup of water, an ice barrier that consists of at least two layers of underlayment cemented together, or a self-adhering underlayment complying with ASTM D1970 or currently recognized in an ICC-ES evaluation report as complying with the ICC-ES Acceptance Criteria for Self-adhered Underlayments for Use as Ice Barriers (AC48), must extend from the eave's edge to a point 24 inches (610 mm) inside the exterior wall line of the building.

4.3 Roof Shingles:

4.3.1 DaVinci Slate, DaVinci Shake and DaVinci Select Shake Roof Shingles: Starting with a row of 12-inch-wide (305 mm) DaVinci Starter Slates or Shakes, the shingles must extend approximately 1 inch (25.4 mm) over the eaves and $^{3}/_{4}$ inch (19 mm) over the rakes. The shingles are secured to the sheathing using two or four fasteners, driven through the premolded nail markers.

Fasteners are as described in Section 3.8. See Table 2 for additional fastening details.

The field shingles must be installed flush with the starter slate or shake shingles on the outer and lower edges. A maximum gap of $^{3}/_{8}$ inch (9.5 mm) is recommended between shingles, with a minimum $^{1}/_{4}$ -inch (6.4 mm) gap required. The gaps between shakes at adjacent courses must be offset a minimum of $1^{1}/_{2}$ inches (38 mm). The maximum allowable exposure is 8 inches (203 mm) for DaVinci Slate roof shingles, and 10 inches (254 mm) for DaVinci Shake and DaVinci Select Shake roof shingles.

4.3.2 Bellaforté Shake and Bellaforté Slate Roof Shingles: Bellaforté Shake or Bellaforté Slate (12³/₄ inches wide [324 mm]) must be installed on top of starter tiles and must extend approximately 1 inch (25.4 mm) over the eaves. The shingles are secured to the sheathing using three fasteners, two through the premolded nail markers and one through the tab; or five fasteners, four through the premolded nail markers and one through the tab. Fasteners are as described in Section 3.8. See Table 2 for additional fastening details.

The field shingles must be installed flush with the starter slate or shake shingles on the lower edges.

4.3.3 Province Slate Roof Shingles: Province Slate $(12^{1}/_{2})$ inches wide [318 mm]) must be installed on top of starter tiles and must extend approximately 1 inch (25.4 mm) over the eaves. The shingles are secured to the sheathing using two or four fasteners driven through the premolded nail makers. Fasteners are as described in Section 3.9. See Table 2 for additional fastening details

The field shingles must be installed flush with the starter slate or shake shingles on the lower edges.

4.4 Hips and Ridges:

- **4.4.1 General:** The top of hips and ridges must be covered with a minimum 6-inch-wide (152 mm) flashing as noted in Section 3.7. Flashing must be attached to the sheathing using No. 12 gage, ring-shank, corrosion-resistant nails. Nails must be compatible with the flashing material, and have sufficient length to penetrate the sheathing ³/₄ inch (19 mm) or through the sheathing, whichever is less.
- **4.4.2 DaVinci Slate Roof Shingles:** On top of the flashing, 6-inch-wide (1930 mm) or 7-inch-wide (178 mm) DaVinci Slate roof shingles are installed on each side of hips and ridges, with the shingles butting at the top. Both hip and ridge shingles must be installed with a 6-inch (152 mm) exposure. Shingles must be secured with the fasteners described in Section 3.8.
- **4.4.3 DaVinci Shake and DaVinci Select Shake Roof Shingles:** On top of the flashing, 6-inch-wide (152 mm) DaVinci Shake and DaVinci Select Shake roof shingles are installed on each side of hips and ridges, with the shingles butting at the top. Both hip and ridge shingles must be installed with a 10-inch (254 mm) exposure. Shingles must be secured with the fasteners described in Section 3.8.
- **4.4.4** Bellaforté Shake, Bellaforté Slate and Province Slate: Bellaforté Shake, Bellaforté Slate or Province Slate one-piece hip and ridge tiles are installed at a 12-inch (305 mm) exposure. The tiles are nailed once on each side approximately ³/₄ inch (19 mm) from the outside edge and 12¹/₂ inches (305 mm) from the butt of the tile. Shingles must be secured with the fasteners described in Section 3.8.

4.5 Valleys:

Valleys must be flashed in accordance with 2015 IBC Section 1507.7.7 or IRC Section R905.6.6, as applicable, and the manufacturer's published installation instructions, using the flashing described in Section 3.7.

4.6 Fire Classification:

The DaVinci roof shingles, when installed as a system described in Table 1, comply with IBC Section 1505.2 and IRC Section R902.1 as a classified Class A or B roof covering.

4.7 Wind Resistance:

The allowable wind uplift pressures for the DaVinci roof shingles described in this report are as noted in Table 2. The allowable design wind uplift pressures must be determined in accordance with the requirements of Chapter 16 of the IBC or Section R301.2.1, as applicable, by a registered design professional and must not exceed the allowable wind uplift pressures in Table 2.

Tables 3 and 4 provide maximum design wind speeds on low-rise buildings with a mean roof height of 60 feet or less based on ASCE 7. If the building does not meet the criteria in Tables 3 and 4, or is constructed on an isolated hill, ridge, or escarpment constituting an abrupt change in the general topography ($K_{zt} > 1.0$), the maximum design wind speeds and mean roof height must be determined in accordance with the Chapter 16 of the IBC or Section R301.2.1, as applicable.

4.8 Reroofing:

Prior to application of the shingles, the existing roof covering and underlayment must be completely removed. Any damaged sheathing must be replaced. The installation of the shingles must then proceed as described in Sections 4.1 through 4.5. An existing self-adhered ice barrier membrane may remain in place if covered with a new ice barrier membrane in accordance with the applicable code. The roof classification is as noted in Section 4.6 and Table 1.

5.0 CONDITIONS OF USE

The DaVinci Slate, DaVinci Shake, DaVinci Select Shake, Bellaforté Shake, Bellaforté Slate and Province Slate roof shingles described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 Installation must comply with the applicable code, the manufacturer's published installation instructions and this report. In the event of a conflict between this report and the manufacturer's published installation instructions, this report governs.
- 5.2 The roof shingles are manufactured in Lenexa, Kansas, under a quality-control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Special Roofing Systems (AC07), dated February 2014 (editorially revised January 2021).

7.0 IDENTIFICATION

- 7.1 Each roof shingle is labeled with the report holder's name (Westlake DaVinci Roofscapes, LLC) and address, the product name, the shingle width, a production date code, and the ICC-ES evaluation report number (ESR-2119).
- **7.2** The report holder's contact information is the following:

WESTLAKE DAVINCI ROOFSCAPES, LLC 13890 WEST 101ST STREET LENEXA, KANSAS 66215 (800) 328-4264 www.davinciroofscapes.com

TABLE 1—FIRE CLASSIFICATIONS

SYSTEM ROOF		ROOF	MIN.		DaVINCI ROOF SHINGLE				
NO.	CLASS	DECK	SLOPE	UNDERLAYMENT ¹	Roof Shingle	Exposure (in.)			
1	А	Min. ¹⁵ / ₃₂ - inch plywood	3:12	One layer ASTM D226 Type II (No. 30) or two layers of ASTM D226 Type I (No. 15) asphalt-saturated organic felt ²	DaVinci Slate	6			
2	А	Min. ¹⁵ / ₃₂ - inch plywood	3:12	One layer GAF VersaShield [®] Fire-Resistant Roof Deck Protection (<u>ESR-2053</u>) ²	DaVinci Slate DaVinci Shake DaVinci Select Shake	6 to 7 ¹ / ₂ 9 to 10 9 to 10			
3	А	Min. ¹⁵ / ₃₂ - inch plywood	3:12	One layer ASTM D226 Type II (No. 30) asphalt- saturated organic felt plus one layer of ASTM D3909 mineral-surfaced cap sheet ²	DaVinci Slate DaVinci Shake DaVinci Select Shake Bellaforté Shake Province Slate	6 to 8 9 to 10 9 to 10 12 8			
4	В	Min. ¹⁵ / ₃₂ - inch plywood	3:12	Two layers ASTM D226 Type II (No. 30) asphalt- coated glass-fiber-mat ²	DaVinci Slate DaVinci Shake DaVinci Select Shake Bellaforté Shake Bellaforté Slate Province Slate	6 to 8 9 to 10 9 to 10 12 12 8			
5	А	Min. ¹⁵ / ₃₂ - inch plywood	3:12	One layer Eco Chief Products SolarHide™-SRW (<u>ESR-4035</u>)	DaVinci Slate DaVinci Shake DaVinci Select Shake Bellaforté Shake Bellaforté Slate Province Slate	6 to 8 9 to 10 9 to 10 12 12 8			
6	А	Min. ⁷ / ₁₆ -inch OSB	3:12	One layer Eco Chief Products SolarHide™-SRW (<u>ESR-4035</u>)	DaVinci Slate	6 to 8			
7	В	Min. ⁷ / ₁₆ -inch OSB	3:12	One layer Eco Chief Products SolarHide™-SRW (<u>ESR-4035</u>)	DaVinci Slate DaVinci Shake DaVinci Select Shake Bellaforté Shake Bellaforte Slate Province Slate	6 to 8 9 to 10 9 to 10 12 12 8			
8	А	Min. ¹⁵ / ₃₂ - inch plywood	3:12	Two layers of MB Technology Layfast TU35 (ESR-2799)	DaVinci Slate DaVinci Shake DaVinci Select Shake	6 to 7 9 to 10 9 to 10			
9	А	Min. ⁷ / ₁₆ -inch OSB	3:12	Two layers of Polyglass XFR (<u>ESR-1697</u>)	DaVinci Slate DaVinci Shake DaVinci Select Shake	6 to 8 9 to 10 9 to 10			

For **SI**: 1-inch =25.4 mm; 1ft = 0.305m

¹ASTM D226 Type I (No. 15), ASTM D226 Type II (No. 30) underlayment and ASTM D3909 cap sheet must be installed in accordance with the applicable building code. GAF Versashield® Fire-Resistant Roof Deck Protection underlayment must be installed in accordance with <u>ESR-2053</u>. Eco Chief Products SolarHide™-SRW underlayment must be installed in accordance with <u>ESR-2799</u>. Polystick XFR must be installed in accordance with <u>ESR-1697</u>.

²One layer of self-adhered roofing underlayment, specified in an ICC-ES evaluation report as complying with AC48 and AC188, may be installed directly over the plywood and beneath the ASTM D226 complying underlayment in System Nos. 1, 3 and 4 or over the plywood and beneath the GAF VersaShield[®] Fire-Resistance Roof Deck Protection (ESR-2053) in System No. 2.

TABLE 2—ALLOWABLE WIND UPLIFT PRESSURE VALUES

OVOTEM				DaVINICI ROOF SHINGLE	ALLOWABLE
SYSTEM NO.	ROOF DECK ³	Roofing Shingle	Exposure (inches)	Shingle Fastening⁴	UPLIFT PRESSURE (ASD) ^{1,2} (psf)
1	Min. ¹⁵ / ₃₂ -inch plywood	DaVinci Shake	10	Four per shingle, Fastener Type 1, into premolded nail markers	169
2	Min. ¹⁵ / ₃₂ -inch plywood	DaVinci Shake	9	Two per shingle, Fastener Type 1, into premolded nail markers	93.5
3	Min. ¹⁵ / ₃₂ -inch plywood	DaVinci Shake	10	Two per shingle, Fastener Type 1, into premolded nail markers	86
4	Min. ⁷ / ₁₆ -inch OSB	DaVinci Shake	9	Two per shingle, Fastener Type 1, into premolded nail markers	70
5	Min. ⁷ / ₁₆ -inch OSB	DaVinci Shake	10	Two per shingle, Fastener Type 1,1 into premolded nail markers	64.5
6	Min. ¹⁵ / ₃₂ -inch plywood	DaVinci Select Shake	10	Four per shingle, Fastener Type 1, into premolded nail markers	150
7	Min. ¹⁵ / ₃₂ -inch plywood	DaVinci Select Shake	10	Two per shingle, Fastener Type 1, into premolded nail markers	80
8	Min. ⁷ / ₁₆ -inch OSB	DaVinci Select Shake	10	Two per shingle, Fastener Type 1, premolded nail markers	60
9	Min. ¹⁵ / ₃₂ -inch plywood	DaVinci Slate	8	Four per shingle, Fastener Type 1, into premolded nail markers	146
10	Min. ¹⁵ / ₃₂ -inch plywood	DaVinci Slate	6	Two per shingle, Fastener Type 1, into premolded nail markers	118.5
11	Min. ¹⁵ / ₃₂ -inch plywood	DaVinci Slate	8	Two per shingle, Fastener Type 1, into premolded nail markers	71
12	Min. ⁷ / ₁₆ -inch OSB	DaVinci Slate	8	Two per shingle, Fastener Type 1, into premolded nail markers	53
13	Min. ¹⁵ / ₃₂ -inch plywood	Bellaforte Slate Bellaforte Shake	12	Three per shingle, Fastener Type 3 two through premolded nail markers and one through the tab	121
14	Min. ¹⁵ / ₃₂ -inch plywood	Bellaforte Slate Bellaforte Shake	12	Three per shingle, Fastener Type 2, two through premolded nail markers and one through the tab	73
15	Min. ⁷ / ₁₆ -inch OSB	Bellaforte Slate Bellaforte Shake	12	Three per shingle, Fastener Type 2, two through premolded nail markers and one through the tab	55
16	Min. ¹⁵ / ₃₂ -inch plywood	Province Slate	8	Four per shingle, Fastener Type 2, into premolded nail markers	155
17	Min. ¹⁵ / ₃₂ -inch plywood	Province Slate	8	Two per shingle, Fastener Type 3, into premolded nail markers	126
18	Min. ⁷ / ₁₆ -inch OSB	Province Slate	8	Four per shingle, Fastener Type 2, into premolded nail markers	116
19	Min. 7/ ₁₆ -inch OSB	Province Slate	8	Two per shingle, Fastener Type 3, into premolded nail markers	94.5
20	Min. 15/32-inch plywood	Province Slate	8	Two per shingle, Fastener Type 2, into premolded nail markers	83
21	Min. 7/16-inch OSB	Province Slate	8	Two per shingle, Fastener Type 2, into premolded nail markers	62

For **SI**: 1-inch = 25.4 mm; 1 ft = 0.305 m; 1 psf = 47.88 Pa

¹To convert to Factored Design Resistance Pressure (psf) (LRFD), multiply Allowable Pressure (psf) (ASD) by 1.67.

²Allowable pressure (psf) (ASD) represents tested assembly ultimate pressure divided by safety factor of 2.

³Solid plywood structural sheathing complying with DOC PS-1 or Exposure 1 oriented strand board (OSB) sheathing complying with DOC PS-2 having a minimum specific gravity of 0.42. In lieu of wood sheathing, may be substituted with thicker profile of up to the roof deck may be nominal 1-inch-thick lumber.

⁴Fastener Type 1: 1³/₄-inch-long by ¹/₈-inch diameter ring-shank hot-dipped galvanized roofing nails with ³/₈-inch nominal diameter heads. Fastener Type 2: 1¹/₂-inch long by ¹/₈-inch diameter ring-shank hot-dipped galvanized roofing nails with ³/₈-inch nominal diameter heads. Fastener Type 3: No. 10 by 2-inch-long wafer-head galvanized screws.

Gable Roofs (Slope 3:12 - 4.4:12)

Hip Roofs (Slope 3:12 - 4.5:12)

TABLE 3—2021 and 2018 IBC and IRC WIND SPEED & MAXIMUM MEAN ROOF HEIGHT¹

		70 1100						136		I		·					
System	Exposure	Mean Roof Height (ft) ³		System	Exposure	Maximum Basic Wind Speed, Vult (mph) ^{3,6} Mean Roof Height (ft) ⁵											
No. ²	Category		N	llean R	oof He	ight (ft)	5		No. ²	Category			Mean R	oof Hei	ight (ft)	5	
	Category	15	20	25	30	40	50	60		Category	15	20	25	30	40	50	60
1, 6, 9,	В	203	195	189	183	176	170	166	1, 6, 9,	В	210	210	210	210	205	199	194
10, 13, 16, 17	С	166	162	158	155	150	147	145	10, 13, 16, 17 &	С	194	188	184	181	175	171	169
& 18	D	151	148	145	142	139	136	134	18	D	176	172	169	166	162	159	156
	В	182	175	169	165	158	153	149		В	210	204	198	192	184	178	174
2 & 19	С	149	145	142	139	135	132	130	2 & 19	С	174	169	166	162	157	154	152
	D	136	132	130	128	125	122	120		D	158	154	152	149	145	142	140
	В	169	162	157	152	146	141	138		В	197	189	183	177	170	165	161
3, 7 &	С	138	134	131	129	125	122	120	3, 7 &	С	161	156	153	150	146	142	140
20	D	125	123	120	118	115	113	111	20	D	146	143	140	138	134	132	130
	В			147	142	137		129	_	В	184	176	171	166	159		151
4, 11 &		158	151				132		4, 11 &							154	
14	С	129	126	123	120	117	114	113	14	С	151	146	143	140	136	133	131
	D	117	115	113	111	108	106	104	⊢	D	137	134	131	129	126	123	121
	В	151	145	141	137	131	127	124		В	177	169	164	159	153	148	145
5	С	124	121	118	115	112	110	108	5	С	145	141	137	135	131	128	126
	D	113	110	108	106	NA	NA	NA		D	131	128	126	124	121	118	116
	В	146	140	136	132	126	123	120		В	170	163	158	154	147	143	139
8 & 21	С	120	116	114	111	108	106	104	8 & 21	С	139	136	133	130	126	123	121
	D	109	106	104	NA	NA	NA	NA		D	127	124	121	119	116	114	112
	В	137	132	128	124	119	115	112		В	160	153	149	144	139	134	131
12 & 15	С	112	109	107	105	NA	NA	NA	12 & 15	С	131	127	125	122	118	116	114
	D	NA	NA	NA	NA	NA	NA	NA		D	119	116	114	112	109	107	106
	•														-		
Gable Roofs (Slope 4.5:12 – 6.1:12)																	
	Gabl	e Roofs	S (Slope	e 4.5:12	2 – 6.1:	12)		\neg		Hip	Roofs	(Slope	4.5:12	– 6.1:12	2)		
Constant.			S (Slope				_{ult} (mpl	1) ^{3,6}	Sunta ra					– 6.1:12 Wind S	-	_{ult} (mph) ^{3,6}
System	Exposure		ximum		Wind S	peed V		1) ^{3,6}	System	Exposure		ximum	Basic		peed V) ^{3,6}
System No. ²			ximum	Basic '	Wind S	peed V		1) ^{3,6}	System No. ²			ximum	Basic	Wind S	peed V) ^{3,6}
No. ²	Exposure	Ma	ximum N	Basic Ilean R	Wind S oof He	peed V ight (ft)	5		No. ²	Exposure	Ма	ximum I	Basic Mean R	Wind S oof He	peed V ight (ft)	5	
No. ² 1, 6, 9, 10, 13,	Exposure Category	15	ximum N	Basic Mean R 25	Wind S oof He	peed V ight (ft) 40	5 50	60	No. ² 1, 6, 9, 10, 13,	Exposure Category	15	ximum I 20	Basic Mean R 25	Wind S oof Hei	peed V ght (ft) 40	50	60
No. ²	Exposure Category	Ma 15 210	20 210	Basic Mean R 25 210	Wind Soof Hei	peed Vight (ft)	5 50 194	60 190	No. ²	Exposure Category	15 210	20 210	Basic Vlean R 25 210	Wind S coof Hei 30 210	peed V ght (ft) 40 210	50 210	60 210
No. ² 1, 6, 9, 10, 13, 16, 17	Exposure Category	15 210 190	20 210 184	Basic Mean R 25 210 180	Wind S oof He 30 209 177	peed V ight (ft) 40 201 171	50 194 168	60 190 165	No. ² 1, 6, 9, 10, 13, 16, 17	Exposure Category	15 210 210	20 210 210	Basic Wean R 25 210 208	Wind S coof Hei 30 210 204	peed V ght (ft) 40 210 198	50 210 193	60 210 191
No. ² 1, 6, 9, 10, 13, 16, 17	Exposure Category B C D	15 210 190 172	20 210 184 168	Basic Mean R 25 210 180 165	Wind S oof He 30 209 177 162	peed Vight (ft) 40 201 171 158	50 194 168 155	60 190 165 153	No. ² 1, 6, 9, 10, 13, 16, 17	Exposure Category B C	15 210 210 199	20 210 210 194	Basic Wean R 25 210 208 191	Wind Stoof Hei 30 210 204 187	peed V ght (ft) 40 210 198 183	50 210 193 179	60 210 191 176
No. ² 1, 6, 9, 10, 13, 16, 17 & 18	Exposure Category B C D B	15 210 190 172 208	20 210 184 168 199	Basic Mean R 25 210 180 165	Wind S oof He 30 209 177 162	peed V ight (ft) 40 201 171 158 180	50 194 168 155 174	60 190 165 153 170	No. ² 1, 6, 9, 10, 13, 16, 17 & 18	Exposure Category B C D B	15 210 210 199 210	210 210 210 210 210	Basic Wean R 25 210 208 191 210	Wind S coof Hei 30 210 204 187 210	peed V ght (ft) 40 210 198 183 208	50 210 193 179 201	60 210 191 176 197
No. ² 1, 6, 9, 10, 13, 16, 17 & 18	Exposure Category B C D B C C	15 210 190 172 208 170 155	20 210 184 168 199	Basic Mean R 25 210 180 165 193	Wind S oof Hei 30 209 177 162 188 159	peed Vight (ft) 40 201 171 158 180 154	50 194 168 155 174 150	60 190 165 153 170 148	No. 2 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19	Exposure Category B C D B C	15 210 210 199 210 197 179	210 210 210 210 194 210	Basic Wean R 25 210 208 191 210 187	Wind Stoof Hei 30 210 204 187 210 183	peed V ght (ft) 40 210 198 183 208 178	50 210 193 179 201 174	60 210 191 176 197 171
No. ² 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19	Exposure Category B C D B C D D	15 210 190 172 208 170	20 210 184 168 199 166 151	Basic Mean R 25 210 180 165 193 162 148	wind S oof Hei 30 209 177 162 188 159 146	peed V ight (ft) 40 201 171 158 180 154 142	50 194 168 155 174 150 139	190 165 153 170 148 137	No. 2 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 &	Exposure Category B C D C D D	15 210 210 199 210 197	210 210 210 210 194 210 191 174	Basic Wean R 25 210 208 191 210 187 171	Wind S coof Hei 30 210 204 187 210 183 168	peed V ght (ft) 40 210 198 183 208 178	50 210 193 179 201 174 161	60 210 191 176 197 171 158
No. ² 1, 6, 9, 10, 13, 16, 17 & 18	Exposure Category B C D B C D B C D B B	15 210 190 172 208 170 155 192	20 210 184 168 199 166 151	Mean R 25 210 180 165 193 162 148	wind S oof Hei 30 209 177 162 188 159 146 174	peed V ight (ft) 40 201 171 158 180 154 142 167	50 194 168 155 174 150 139	190 165 153 170 148 137 158	No. 2 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19	Exposure Category B C D B C D B C	15 210 210 199 210 197 179 210	20 210 210 194 210 191 174 210	### Description ### Descript	Wind S coof Hei 30 210 204 187 210 183 168 200	peed V ght (ft) 40 210 198 183 208 178 164 192	50 210 193 179 201 174 161 186	60 210 191 176 197 171 158 182
No. ² 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19	Exposure Category B C D B C D B C C C C	15 210 190 172 208 170 155 192 158	20 210 184 168 199 166 151 184 153	Basic Mean R 25 210 180 165 193 162 148 179	wind S oof Hei 30 209 177 162 188 159 146 174	142 142 142 149 140 158 180 154 142	5 50 194 168 155 174 150 139 161	190 165 153 170 148 137 158 137	No. 2 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 &	Exposure Category B C D B C D B C C C	15 210 210 199 210 197 179 210 182	20 210 210 194 210 191 174 210	25 210 208 191 210 187 171 206 173	Wind S oof Hei 30 210 204 187 210 183 168 200 169	peed V ght (ft) 40 210 198 183 208 178 164 192 164	50 210 193 179 201 174 161 186	191 176 197 171 158 182 158
No. ² 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20 4, 11 &	Exposure Category B C D B C D B C D B C D B B C B B C	15 210 190 172 208 170 155 192 158 143 180	210 184 168 199 166 151 184 153 140	### Description ### Descript	Wind S oof Hei 30 209 177 162 188 159 146 174 147 135	peed V ight (ft) 40 201 171 158 180 154 142 167 142 131	5 50 194 168 155 174 150 139 161 139 129 151	190 165 153 170 148 137 158 137 127 147	No. ² 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20 4, 11 &	Exposure Category B C D B C D B C D B C D B B C	15 210 210 199 210 197 179 210 182 165 208	210 210 210 194 210 191 174 210 177 161 199	### Pasic Wean R	Wind Stoof Heil 30 210 204 187 210 183 168 200 169 156 187	peed V ght (ft) 40 210 198 183 208 178 164 192 164 152 180	5 50 210 193 179 201 174 161 186 161 149	210 210 191 176 197 171 158 182 158 146 170
No. ² 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20	Exposure Category B C D B C D B C D B C C D C C C C C C	15 210 190 172 208 170 155 192 158 143 180	210 184 168 199 166 151 184 153 140 173 143	### Description ### Descript	Wind S oof Hei 30 209 177 162 188 159 146 174 147 135 162 137	peed V ight (ft) 40 201 171 158 180 154 142 167 142 131 156 133	5 50 194 168 155 174 150 139 161 139 129 151 130	190 165 153 170 148 137 158 137 127 147 128	No. 2 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20	Exposure Category B C D B C D B C D B C C D B C C C C C	15 210 210 199 210 197 179 210 182 165 208 170	210 210 210 194 210 191 174 210 177 161 199 165	9 Pasic Wean R 25 210 208 191 210 187 171 206 173 158 193 162	Wind Stoof Heil 30 210 204 187 210 183 168 200 169 156 187 158	peed V ght (ft) 40 210 198 183 208 178 164 192 164 152 180 154	50 210 193 179 201 174 161 186 161 149 174	210 191 176 197 171 158 182 158 146 170 148
No. ² 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20 4, 11 &	Exposure Category B C D B C D B C D B C D B C D D D D D	15 210 190 172 208 170 155 192 158 143 180 147	20 210 184 168 199 166 151 184 153 140 173 143 131	Mean R 25 210 180 165 193 162 148 179 150 137 167 140 128	Wind S oof Hei 30 209 177 162 188 159 146 174 147 135 162 137	peed V ght (ft) 40 201 171 158 180 154 142 167 142 131 156 133 123	5 50 194 168 155 174 150 139 161 139 129 151 130 121	190 165 153 170 148 137 158 137 127 147 128 119	No. ² 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20 4, 11 &	Exposure Category B C D B C D B C D B C D B C D D D D D	15 210 210 199 210 197 179 210 182 165 208 170	210 210 210 194 210 191 174 210 177 161 199 165 151	Basic Wean R 25 210 208 191 210 187 171 206 173 158 193 162 148	Wind Stoof Hei 30 210 204 187 210 183 168 200 169 156 187 158 146	peed V ght (ft)' 40 210 198 183 208 178 164 192 164 152 180 154	5 50 210 193 179 201 174 161 186 161 149 174 150 139	191 176 197 171 158 182 158 146 170 148 137
No. ² 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20 4, 11 & 14	Exposure Category B C D B C D B C D B C D B C D B C D B C D B B C	15 210 190 172 208 170 155 192 158 143 180 147 134	20 210 184 168 199 166 151 184 153 140 173 143 131	Mean R 25 210 180 165 193 162 148 179 150 137 167 140 128	Wind S oof Hei 30 209 177 162 188 159 146 174 147 135 162 137 126 156	150 peed V ght (ft) 40 201 171 158 180 154 142 167 142 131 156 133 123 150	5 50 194 168 155 174 150 139 161 139 129 151 130 121	190 165 153 170 148 137 158 137 127 147 128 119	No. ² 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20 4, 11 & 14	Exposure Category B C D B C D B C D B C D B C D B C D B C D B B C	15 210 210 199 210 197 179 210 182 165 208 170 155	210 210 210 194 210 191 174 210 177 161 199 165 151	### Description ### Descript	Wind Stoof Hei 30 210 204 187 210 183 168 200 169 156 187 158 146	peed V ght (ft)' 40 210 198 183 208 178 164 192 164 152 180 154 142 173	5 50 210 193 179 201 174 161 186 161 149 174 150 139	191 176 197 171 158 182 158 146 170 148 137
No. ² 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20 4, 11 &	Exposure Category B C D B C D B C D B C D B C D B C C D B C C C C	15 210 190 172 208 170 155 192 158 143 180 147 134 173	20 210 184 168 199 166 151 184 153 140 173 143 131 166 137	Mean R 25 210 180 165 193 162 148 179 150 137 167 140 128 161 135	wind S oof Hei 30 209 177 162 188 159 146 174 147 135 162 137 126 156 132	128 peed V ght (ft) 40 201 171 158 180 154 142 167 142 131 156 133 123 150 128	5 50 194 168 155 174 150 139 161 139 129 151 130 121 145	190 165 153 170 148 137 158 137 127 147 128 119 141 123	No. ² 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20 4, 11 &	Exposure Category B C D B C D B C D B C D B C D B C C D B C C C C	15 210 210 199 210 197 179 210 182 165 208 170 155 199	210 210 210 194 210 191 174 210 177 161 199 165 151 191	### Description ### Descript	Wind Stoof Hei 30 210 204 187 210 183 168 200 169 156 187 158 146 180 152	peed V ght (ft) 40 210 198 183 208 178 164 192 164 152 180 154 142 173	5 50 210 193 179 201 174 161 186 161 149 174 150 139 167	197 176 197 171 158 182 158 146 170 148 137 163 142
No. ² 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20 4, 11 & 14	Exposure Category B C D B C D B C D B C D B C D B C D D B C D D D D	15 210 190 172 208 170 155 192 158 143 180 147 134 173 141	20 210 184 168 199 166 151 184 153 140 173 143 131 166 137	Mean R 25 210 180 165 193 162 148 179 150 137 167 140 128 161 135 123	wind S oof Hei 30 209 177 162 188 159 146 174 147 135 162 137 126 156 132 121	158 180 142 167 142 131 156 133 123 150 128 118	5 50 194 168 155 174 150 139 161 139 129 151 130 121 145 125 116	60 190 165 153 170 148 137 158 137 127 147 128 119 141 123 114	No. ² 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20 4, 11 & 14	Exposure Category B C D B C D B C D B C D B C D B C D D B C D D D D	15 210 210 199 210 197 179 210 182 165 208 170 155 199 163	210 210 210 194 210 191 174 210 177 161 199 165 151 191 159 145	Basic Wean R 25 210 208 191 210 187 171 206 173 158 193 162 148 185 155 142	Wind Stoof Hei 30 210 204 187 210 183 168 200 169 156 187 158 146 180 152 140	peed V ght (ft)' 40 210 198 183 208 178 164 192 164 152 180 154 142 173 148	5 50 210 193 179 201 174 161 186 161 149 174 150 139 167 144	197 176 197 171 158 182 158 146 170 148 137 163 142 132
No. ² 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20 4, 11 & 14	Exposure Category B C D B C D B C D B C D B C D B C D B C D B C D B C D B B C D B B C D B B C D B B C D B B C D B B B C D B B B C D B B B C D B B B B	15 210 190 172 208 170 155 192 158 143 180 147 134 173 141 128	20 210 184 168 199 166 151 184 153 140 173 143 131 166 137 125	Mean R 25 210 180 165 193 162 148 179 150 137 167 140 128 161 135 123	Wind S oof Hei 30 209 177 162 188 159 146 174 147 135 162 137 126 156 132 121	158 180 154 142 167 142 131 156 133 123 150 128 144	5 50 194 168 155 174 150 139 161 139 129 151 130 121 145 125 116	60 190 165 153 170 148 137 158 137 127 147 128 119 141 123 114	No. ² 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20 4, 11 & 14	Exposure Category B C D B C D B C D B C D B C D B C D B C D B C D B B B C D B B C D B B B C D B B B C D B B B C D B B B C D B B B C D B B B C D B B B B	15 210 210 199 210 197 179 210 182 165 208 170 155 199 163 148	210 210 210 194 210 191 174 210 177 161 199 165 151 191 159 145	9 Pasic Wean R 25 210 208 191 210 187 171 206 173 158 193 162 148 185 155 142 179	Wind Stoof Heil 30 210 204 187 210 183 168 200 169 156 187 158 146 180 152 140 174	peed V ght (ft) 40 210 198 183 208 178 164 192 164 152 180 154 142 173 148 136	5 50 210 193 179 201 174 161 186 161 149 174 150 139 167 144 134	191 176 197 171 158 182 158 146 170 148 137 163 142 132
No. ² 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20 4, 11 & 14	Exposure Category B C D B C D B C D B C D B C D B C D B C D B C D B C C D B C C D B C C C D B C C C D C C C C	15 210 190 172 208 170 155 192 158 143 180 147 134 173 141 128 167	ximum 20 210 184 168 199 166 151 184 153 140 173 143 131 166 137 125 160 133	Mean R 25 210 180 165 193 162 148 179 150 137 167 140 128 161 135 123 155 130	wind S oof Hei 30 209 177 162 188 159 146 174 147 135 162 137 126 156 132 121 150 127	128 128 129 120 120 171 158 180 154 142 167 142 131 156 133 123 150 128 118	5 50 194 168 155 174 150 139 161 139 129 151 130 121 145 125 116 140	60 190 165 153 170 148 137 158 137 127 147 128 119 141 123 114 136 119	No. ² 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20 4, 11 & 14	Exposure Category B C D B C D B C D B C D B C D B C D B C D B C D B C D B C C D B C C D C D	15 210 210 199 210 197 179 210 182 165 208 170 155 199 163 148 192	210 210 194 210 197 177 161 199 165 151 191 159 145 184 153	Pasic Wean R 25 210 208 191 210 187 171 206 173 158 193 162 148 185 155 142 179 150	Wind Stoof Hei 30 210 204 187 210 183 168 200 169 156 187 158 146 180 152 140 174	peed V ght (ft)' 40 210 198 183 208 178 164 192 164 152 180 154 142 173 148 136 167	5 50 210 193 179 201 174 161 186 161 149 174 150 139 167 144 134 161 139	191 176 197 171 158 182 158 146 170 148 137 163 142 132 157
No. ² 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20 4, 11 & 14	Exposure Category B C D B C D B C D B C D B C D B C D B C D B C D D B C D D D D	15 210 190 172 208 170 155 192 158 143 180 147 134 173 141 128 167 136 124	210 184 168 199 166 151 184 153 140 173 143 131 166 137 125 160 133 121	Mean R 25 210 180 165 193 162 148 179 150 137 167 140 128 161 135 123 155 130 119	wind S oof Hei 30 209 177 162 188 159 146 174 147 135 162 137 126 156 132 121 150 127	100 peed V ght (ft) 40 201 171 158 180 154 142 167 142 131 156 133 123 150 128 118 144 123 114	5 50 194 168 155 174 150 139 161 139 129 151 130 121 145 125 116 140 120	190 165 153 170 148 137 158 137 127 147 128 119 141 123 114 136 119 110	No. ² 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20 4, 11 & 14	Exposure Category B C D B C D B C D B C D B C D B C D B C D B C D D B C D D D D	15 210 210 199 210 197 179 210 182 165 208 170 155 199 163 148 192 157	210 210 210 194 210 191 174 210 177 161 199 165 151 191 159 145 184 153 140	Pasic Wean R 25 210 208 191 210 187 171 206 173 158 193 162 148 185 155 142 179 150 137	Wind Stoof Hei 30 210 204 187 210 183 168 200 169 156 187 158 146 180 152 140 174 135	peed V ght (ft)' 40 210 198 183 208 178 164 192 164 152 180 154 142 173 148 136 167 142 131	5 50 210 193 179 201 174 161 186 161 149 174 150 139 167 144 134 161 139 129	191 176 197 171 158 182 158 146 170 148 137 163 142 132 157 137
No. ² 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20 4, 11 & 14 5 8 & 21	Exposure Category B C D B C D B C D B C D B C D B C D B C D B C D B C D B C D B C D B C D B C D B C D B C D B C D B C D B C D B B C D B B C D B B C D B B C D B B C D B B B C D B B B C D B B B C D B B B B	15 210 190 172 208 170 155 192 158 143 180 147 134 173 141 128 167 136 124	210 184 168 199 166 151 184 153 140 173 143 131 166 137 125 160 133 121 150	Mean R 25 210 180 165 193 162 148 179 150 137 167 140 128 161 135 123 155 130 119	wind S oof Hei 30 209 177 162 188 159 146 174 147 135 162 137 126 156 132 121 150 127 141	158 180 154 142 167 142 131 156 133 123 150 128 118 144 123 114	5 50 194 168 155 174 150 139 161 139 129 151 130 121 145 125 116 140 120 112	60 190 165 153 170 148 137 158 137 127 147 128 119 141 123 114 136 119 110	No. ² 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20 4, 11 & 14 5 8 & 21	Exposure Category B C D B B C D B B C D B B C D B B C D B B C D B B C D B B C D B B C D B B C D B B B C D B B B C D B B B C D B B B C D B B B C D B B B C D B B B C D B B B C D B B B C D B B B C D B B B C D B B B B	15 210 210 199 210 197 179 210 182 165 208 170 155 199 163 148 192 157	210 210 194 210 197 177 161 199 165 151 191 159 145 184 153 140 173	Name	Wind Stoof Hei 30 210 204 187 210 183 168 200 169 156 187 158 146 180 152 140 174 147 135	peed V ght (ft)' 40 210 198 183 208 178 164 192 164 152 180 154 142 173 148 136 167 142 131	5 50 210 193 179 201 174 161 186 161 149 174 150 139 167 144 134 161 139 129	191 176 197 171 158 182 158 146 170 148 137 163 142 132 157 137 127
No. ² 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20 4, 11 & 14	Exposure Category B C D B C D B C D B C D B C D B C D B C D B C D D B C D D D D	15 210 190 172 208 170 155 192 158 143 180 147 134 173 141 128 167 136 124	210 184 168 199 166 151 184 153 140 173 143 131 166 137 125 160 133 121	Mean R 25 210 180 165 193 162 148 179 150 137 167 140 128 161 135 123 155 130 119	wind S oof Hei 30 209 177 162 188 159 146 174 147 135 162 137 126 156 132 121 150 127	100 peed V ght (ft) 40 201 171 158 180 154 142 167 142 131 156 133 123 150 128 118 144 123 114	5 50 194 168 155 174 150 139 161 139 129 151 130 121 145 125 116 140 120	190 165 153 170 148 137 158 137 127 147 128 119 141 123 114 136 119 110	No. ² 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20 4, 11 & 14	Exposure Category B C D B C D B C D B C D B C D B C D B C D B C D D B C D D D D	15 210 210 199 210 197 179 210 182 165 208 170 155 199 163 148 192 157	210 210 210 194 210 191 174 210 177 161 199 165 151 191 159 145 184 153 140	Pasic Wean R 25 210 208 191 210 187 171 206 173 158 193 162 148 185 155 142 179 150 137	Wind Stoof Hei 30 210 204 187 210 183 168 200 169 156 187 158 146 180 152 140 174 135	peed V ght (ft)' 40 210 198 183 208 178 164 192 164 152 180 154 142 173 148 136 167 142 131	5 50 210 193 179 201 174 161 186 161 149 174 150 139 167 144 134 161 139 129	191 176 197 171 158 182 158 146 170 148 137 163 142 132 157 137

For SI: 1ft = 25.4 m, 1mph = 0.44m/s NA - Not Applicable

 $^{^{1}}$ Table limiting heights and wind velocity values are for low-rise buildings of maximum 60 ft height, developed in accordance with ASCE 7-16, Table 30.3-1. Design input values: $GC_p = ASCE7-16$ Figs 30.3-2A-I, $GC_{pi} = 0.18$, $K_{zt} = 1$, $K_d = 0.85$, $K_e = 1$, $I_w = 1.0$.

²System numbers as specified in Table 2. See Table 2 for Davinci product, installation parameters and assembly component details.

³Wind speed conversion corresponds to the maximum Zone 2/3 pressure with effective area of 10 ft². Table 3 wind speeds are only valid under the design conditions stated. For other site conditions and/or building dimensions, designers can use the published Allowable Uplift Pressure (psf) (ASD) in Table 2 to determine allowable wind speeds with IRC Table R301.2(2) or calculations in accordance with IBC Chapter 16.

⁴Wind exposure categories as defined in ASCE 7-16, Section 26.7.

⁵Interpolation not permitted. For heights in between those specified, use next highest height column.

⁶NA indicates that the installation condition is not acceptable within the design limits of the table.

TABLE 3—2021 and 2018 IBC and IRC WIND SPEED & MAXIMUM MEAN ROOF HEIGHT¹ (Continued)

Gable Roofs (Slope 6.2:12 – 12:12) Maximum Basic Wind Speed, V _{ult} (mph) ^{3,6}										Hip Roofs (Slope 6.2:12 – 12:12)									
System	Exposure	Ma	ximum	Basic	Wind S	Speed, \	V _{ult} (mpl	h) ^{3,6}	System	Exposure	Maximum Basic Wind Speed, V _{ult} (mph) ^{3,6}								
No. ² Catego	Category			Mean F	Roof He	eight (ft)5		No. 2	Category	Mean Roof Height (ft)⁵								
	outogory	15	20	25	30	40	50	60		outogo.y	15	20	25	30	40	50	60		
1, 6, 9, 10, 13,	В	210	210	210	210	209	202	197	1, 6, 9, 10, 13,	В	210	210	210	210	210	204	199		
16, 13,	С	197	192	188	184	179	174	172	16, 17 &	С	199	194	190	186	180	176	174		
& 18	D	179	175	172	169	165	162	159	18	D	181	177	174	171	166	163	161		
	В	210	208	201	195	188	182	177		В	210	210	203	197	189	183	179		
2 & 19	С	177	172	169	165	160	157	154	2 & 19	С	179	174	170	167	162	158	156		
	D	161	157	154	152	148	145	143		D	163	159	156	153	149	146	144		
0.70	В	200	192	186	181	173	168	164	0.70	В	202	194	188	182	175	170	166		
3, 7 & 20	С	164	159	156	153	148	145	143	3, 7 & 20	С	166	161	157	154	150	146	144		
20	D	149	145	143	140	137	134	132		D	150	147	144	142	138	135	133		
4 44 0	В	187	180	174	169	162	157	153		В	189	181	176	171	164	159	155		
4, 11 & 14	С	153	149	146	143	139	135	134	4, 11 & 14	С	155	151	147	144	140	137	135		
	D	139	136	134	131	128	126	124		D	141	137	135	133	129	127	125		
	В	180	172	167	162	156	151	147		В	182	174	169	164	157	152	149		
5	С	147	143	140	137	133	130	128	5	С	149	144	141	138	134	131	130		
	D	134	131	128	126	123	120	119		D	135	132	130	127	124	122	120		
	В	173	166	161	157	150	145	142		В	175	168	163	158	152	147	143		
8 & 21	С	142	138	135	132	128	125	124	8 & 21	С	143	139	136	134	130	127	125		
	D	129	126	124	122	119	116	114		D	130	127	125	123	120	117	115		
	В	163	156	151	147	141	137	133		В	165	158	153	148	143	138	135		
12 & 15	С	133	130	127	124	121	118	116	12 & 15	С	135	131	128	125	122	119	117		
	D	121	118	116	114	111	109	108		D	122	120	117	115	112	110	109		

For SI: 1ft = 25.4 m, 1mph = 0.44 m/s NA - Not Applicable

¹Table limiting heights and wind velocity values are for low-rise buildings of maximum 60 ft height, developed in accordance with ASCE 7-16, Table 30.3-1. Design input values: GC_p = ASCE 7-16 Figures 30.3-2A-I, GC_{pi} = 0.18, K_{zt} = 1, K_d = 0.85, K_e = 1, I_w = 1.0.

²System numbers as specified in Table 2. See Table 2 for Davinci product, installation parameters and assembly component details.

³Wind speed conversion corresponds to the maximum Zone 2/3 pressure with effective area of 10 ft². Table 3 wind speeds are only valid under the design conditions stated. For other site conditions and/or building dimensions, designers can use the published Allowable Uplift Pressure (psf) (ASD) in Table 2 to determine allowable wind speeds with IRC Table R301.2(2) or calculations in accordance with IBC Chapter 16.

⁴Wind exposure categories as defined in ASCE 7-16, Section 26.7.

⁵Interpolation not permitted. For heights in between those specified, use next highest height column.

⁶NA indicates that the installation condition is not acceptable within the design limits of the table.

TABLE 4—2015 IBC and IRC WIND SPEED & MAXIMUM MEAN ROOF HEIGHT¹

	Gak	lo Poo	fs (Slo	no 3·12	- 6 1 - 1	12)				IUW WEAN R	Poofs	(Slope	3.12 _	5 5:5:13	٥١				
	Gal					peed, V	/ (mpl	1) ^{3,6}		П	Hip Roofs (Slope 3:12 – 5.5:5:12) Maximum Basic Wind Speed, V _{ult} (mph) ^{3,6}								
System	Exposure					ight (ft)		.,	System	Exposure	Mean Roof Height (ft) ⁵								
No. ²	Category	15	20	25	30	40	50	60	No. ²	Category	15	20	25	30	40	50	60		
1, 6, 9,	В	210	210	210	210	205	199	194	1, 6, 9,	В	210	210	210	210	210	210	210		
10, 13, 16, 17	С	194	188	184	181	175	171	168	10, 13, 16, 17 &	С	210	210	210	210	210	208	205		
& 18	D	176	172	169	166	162	159	156	18	D	210	209	205	202	197	193	190		
	В	192	192	192	192	184	178	174		В	210	210	210	210	210	210	210		
2 & 19	С	174	169	166	162	157	154	151	2 & 19	С	210	206	201	197	191	187	184		
	D	158	154	152	149	145	142	140		D	192	188	184	181	177	173	171		
	В	177	177	177	177	170	165	161		В	210	210	210	210	207	201	196		
3, 7 & 20	С	161	156	153	150	146	142	140	3, 7 & 20	С	196	190	186	182	177	173	170		
20	D	146	143	140	138	134	132	130	20	D	178	174	171	168	163	160	158		
	В	166	166	166	166	159	154	151		В	202	202	202	202	194	188	183		
4, 11 & 14	С	151	146	143	140	136	133	131	4, 11 & 14	С	183	178	174	171	166	162	159		
14	D	137	134	131	129	126	123	121	14	D	166	162	160	157	153	150	148		
	В	159	159	159	159	153	148	145		В	194	194	194	194	186	180	176		
5	С	145	141	137	135	131	128	125	5	С	176	171	167	164	159	155	152		
	D	131	128	126	124	121	118	116		D	160	156	153	151	147	144	142		
	В	154	154	154	154	147	143	139		В	187	187	187	187	179	174	170		
8 & 21	С	139	136	133	130	126	123	121	8 & 21	С	170	165	161	158	153	150	147		
	D	127	124	121	119	116	114	112		D	154	150	148	145	142	139	137		
	В	144	144	144	144	139	134	131		В	176	176	176	176	169	163	159		
12 & 15	С	131	127	125	122	118	116	114	12 & 15	С	159	155	152	148	144	141	138		
	D	119	116	114	112	109	107	106		D	145	141	139	136	133	130	128		
					·														
	Gab		fs (Slop							Hip		(Slope							
System	Gab Exposure		ximum	Basic	Wind S	peed V		1)3,6	System	Hip Exposure		aximum	Basic	Wind S	peed V	_{ult} (mph) ^{3,6}		
System No. ²		Ма	ximum	Basic Mean R	Wind S loof He	peed V ight (ft)	5		System No. ²		Ma	aximum	Basic Mean R	Wind S	peed V ight (ft)	5			
No. ²	Exposure Category	Ma	ximum 20	Basic Mean R 25	Wind Stoof He	peed V ight (ft) 40	50	60	No. ²	Exposure Category	15	eximum 20	Basic Mean R 25	Wind S oof Hei 30	peed V ight (ft) 40	50	60		
No. ² 1, 6, 9, 10, 13,	Exposure	Ma 15 210	20 210	Basic Mean R 25 210	Wind Stoof He 30 210	ight (ft) 40 210	5 50 210	60 210	No. ² 1, 6, 9, 10, 13,	Exposure Category	15 210	20 210	Basic Mean R 25 210	Wind S oof Hei 30 210	peed V ght (ft) 40 205	50 199	60 194		
No. ² 1, 6, 9, 10, 13, 16, 17	Exposure Category	15 210 210	20 210 210	Basic Mean R 25 210 210	Wind Stoof He 30 210 210	ight (ft) 40 210 210	5 50 210 210	60 210 210	No. ² 1, 6, 9, 10, 13, 16, 17	Exposure Category B C	15 210 194	20 210 188	Basic Mean R 25 210 184	Wind S oof Hei 30 210 181	peed V ght (ft) 40 205 175	50 199 171	60 194 168		
No. ² 1, 6, 9, 10, 13,	Exposure Category B C	15 210 210 210	20 210 210 210	Basic Mean R 25 210 210 210	Wind Stoof He 30 210 210 210	speed V ight (ft) 40 210 210 210	50 210 210 210 210	60 210 210 210	No. ² 1, 6, 9, 10, 13,	Exposure Category B C	15 210 194 176	20 210 188 172	Basic Mean R 25 210 184 169	Wind S coof Hei 30 210 181 166	peed V ight (ft) 40 205 175 162	50 199 171 159	60 194 168 156		
No. ² 1, 6, 9, 10, 13, 16, 17 & 18	Exposure Category B C D B	15 210 210 210 210	20 210 210 210 210 210	Basic Mean R 25 210 210 210 210	Wind Stoof He 30 210 210 210 210	ight (ft) 40 210 210 210 210	5 50 210 210 210 210 210	60 210 210 210 210	No. ² 1, 6, 9, 10, 13, 16, 17 & 18	Exposure Category B C D B	15 210 194 176 192	20 210 188 172 192	Basic Mean R 25 210 184 169 192	Wind S coof Hei 30 210 181 166 192	peed V ght (ft) 40 205 175 162 184	50 199 171 159 178	60 194 168 156 174		
No. ² 1, 6, 9, 10, 13, 16, 17	Exposure Category B C D B C C	15 210 210 210 210 210	20 210 210 210 210 210 210	Basic Mean R 25 210 210 210 210 210 210	Wind Stoof He 30 210 210 210 210 210 210	speed V ight (ft) 40 210 210 210 210 210	5 50 210 210 210 210 210 210	60 210 210 210 210 210 210	No. ² 1, 6, 9, 10, 13, 16, 17	Exposure Category B C D B C C	15 210 194 176 192 174	20 210 188 172 192	Basic Wean R 25 210 184 169 192 166	Wind S oof Hei 30 210 181 166 192 162	peed V ght (ft) 40 205 175 162 184 157	50 199 171 159 178 154	194 168 156 174 151		
No. ² 1, 6, 9, 10, 13, 16, 17 & 18	Exposure Category B C D B C D D	15 210 210 210 210 210 210 210	20 210 210 210 210 210 210 210	Basic Mean R 25 210	Wind Stoof He 30 210 210 210 210 210 210 210 210 210	speed V ight (ft) 40 210 210 210 210 210 210 210	50 210 210 210 210 210 210 210 202	60 210 210 210 210 210 210 199	No. ² 1, 6, 9, 10, 13, 16, 17 & 18	Exposure Category B C D B C D D	15 210 194 176 192 174 158	20 210 188 172 192 169	Mean R 25 210 184 169 192 166 152	Wind S oof Hei 30 210 181 166 192 162 149	peed V ght (ft) 40 205 175 162 184 157 145	50 199 171 159 178 154 142	60 194 168 156 174 151 140		
No. 2 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19	Exposure Category B C D B C D B C B B C	15 210 210 210 210 210 210 210 210 210	20 210 210 210 210 210 210 210 210 210	Basic Mean R 25 210	Wind S Roof He 30 210	Speed V ight (ft) 40 210 210 210 210 210 210 206 210 210 206 210 2	5 50 210 210 210 210 210 210 210 202 210	210 210 210 210 210 210 210 210	No. 2 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19	Exposure Category B C D B C D B C B B C	15 210 194 176 192 174 158 177	20 210 188 172 192 169 154	Mean R 25 210 184 169 192 166 152	Wind S 30 210 181 166 192 162 149 177	9 peed V 19 peed V 205 175 162 184 157 145 170	50 199 171 159 178 154 142 165	194 168 156 174 151 140		
No. 2 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19	Exposure Category B C D B C D B C C C	15 210 210 210 210 210 210 210 210 210	20 210 210 210 210 210 210 210 210 210 2	Basic Mean R 25 210	Wind S Roof He 30 210	Speed V ight (ft) 40 210 210 210 210 210 210 210 206 210 207	5 50 210 210 210 210 210 210 210 202 210 202	210 210 210 210 210 210 210 199 210 198	No. 2 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19	Exposure Category B C D B C D B C C C C	15 210 194 176 192 174 158 177	20 210 188 172 192 169 154 177	Mean R 25 210 184 169 192 166 152 177	Wind S oof Hei 30 210 181 166 192 162 149 177	9 peed V ght (ft) 40 205 175 162 184 157 145 170 146	5 50 199 171 159 178 154 142 165 142	194 168 156 174 151 140 161 140		
No. 2 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19	B C D B C C D D	15 210 210 210 210 210 210 210 210 210 210	20 210 210 210 210 210 210 210 210 210 2	Basic Mean R 25 210 210 210 210 210 210 210 210 210 210 210 210 199	Wind S Roof He 30 210 210 210 210 210 210 210 210 210 210 210 210 210 196	Speed V ight (ft) 40 210 210 210 210 210 210 210 206 210 207 191 191	5 50 210 210 210 210 210 210 202 210 202 187	210 210 210 210 210 210 210 199 210 198 184	No. 2 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19	Exposure Category B C D B C D B C D D D D D D D D D D D	15 210 194 176 192 174 158 177 161	20 210 188 172 192 169 154 177 156	184 169 192 166 152 177 153	Wind S oof Hei 30 210 181 166 192 162 149 177 150 138	9 peed V ght (ft) 40 205 175 162 184 157 145 170 146 134	5 50 199 171 159 178 154 142 165 142 132	194 168 156 174 151 140 161 140 130		
No. 2 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20 4, 11 &	Exposure Category B C D B C D B C D B C D B B C B B C B B C D B	15 210 210 210 210 210 210 210 210 210 210	20 210 210 210 210 210 210 210 210 210 2	Basic Mean R 25 210 210 210 210 210 210 210 210 210 210 199 210	Wind S coof He 30 210 210 210 210 210 210 210 210 210 21	Speed V ight (ft) 40 210 210 210 210 210 210 206 210 207 191 210 210 210 207 191 210 2	5 50 210 210 210 210 210 210 202 210 202 187 210	210 210 210 210 210 210 210 199 210 198 184 210	No. 2 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20 4, 11 &	Exposure Category B C D B C D B C D B C D B B C B B C	15 210 194 176 192 174 158 177 161 146	20 210 188 172 192 169 154 177 156 143	Mean R 25 210 184 169 192 166 152 177 153 140	Wind S oof Hei 30 210 181 166 192 162 149 177 150 138	9 peed V ght (ft) 40 205 175 162 184 157 145 170 146 134 159	5 50 199 171 159 178 154 142 165 142 132 154	194 168 156 174 151 140 161 140 130		
No. 2 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20	Exposure Category B C D B C D B C D B C D B C C C C C C	15 210 210 210 210 210 210 210 210 210 210	20 210 210 210 210 210 210 210 210 210 2	Basic Mean R 25 210 210 210 210 210 210 210 210 210 210 210 210 210 210 203	Wind State State	Speed V ight (ft) 40 210 210 210 210 210 206 210 207 191 210 193	5 50 210 210 210 210 210 202 210 202 187 210 189	210 210 210 210 210 210 210 199 210 198 184 210 185	No. 2 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20	Exposure Category B C D B C D B C D B C D B C C C C C C	15 210 194 176 192 174 158 177 161 146 166	20 210 188 172 192 169 154 177 156 143 166	184 169 192 166 152 177 153 140 166 143	Wind S oof Hei 30 210 181 166 192 162 149 177 150 138 166 140	136 136 140 205 175 162 184 157 145 170 146 134 159 136	50 199 171 159 178 154 142 165 142 132 154 133	194 168 156 174 151 140 161 140 130 151		
No. 2 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20 4, 11 &	Exposure Category B C D B C D B C D B C D B C D D D D D	15 210 210 210 210 210 210 210 210 210 210	20 210 210 210 210 210 210 210 210 210 2	Basic Mean R 25 210 210 210 210 210 210 210 210 210 210 210 210 210 210 203 186	Wind State 30 210 210 210 210 210 210 210 210 210 210 210 210 196 210 199 183	Speed V ight (ft) 40 210 210 210 210 210 206 210 207 191 210 193 178 1	5 50 210 210 210 210 210 202 210 202 187 210 189 175	210 210 210 210 210 210 210 199 210 198 184 210 185 172	No. 2 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20 4, 11 &	Exposure Category B C D B C D B C D B C D B C D D D D D	15 210 194 176 192 174 158 177 161 146 166 151	20 210 188 172 192 169 154 177 156 143 166 146	Mean R 25 210 184 169 192 166 152 177 153 140 166 143	Wind S oof Hei 30 210 181 166 192 162 149 177 150 138 166 140 129	126 126 126 127 162 184 157 145 170 146 134 159 136	5 50 199 171 159 178 154 142 165 142 132 154 133 123	194 168 156 174 151 140 161 140 130 151 131		
No. 2 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20 4, 11 & 14	Exposure Category B C D B C D B C D B C D B C D B C D B C D B B C	15 210 210 210 210 210 210 210 210 210 210	20 210 210 210 210 210 210 210 210 210 2	Basic Mean R 25 210 210 210 210 210 210 210 210 210 210 210 210 210 203 186 210 210	Wind Stoof He 30	Speed V ight (ft) 40 210 210 210 210 210 210 206 210 207 191 210 193 178 210 2	5 50 210 210 210 210 210 210 202 210 202 187 210 189 175 210	210 210 210 210 210 210 210 199 210 198 184 210 185 172	No. 2 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20 4, 11 & 14	Exposure Category B C D B C D B C D B C D B C D B C D B B C D B B C	15 210 194 176 192 174 158 177 161 146 166 151 137	20 210 188 172 192 169 154 177 156 143 166 146 134	Mean R 25 210 184 169 192 166 152 177 153 140 166 143 131 159	Wind S oof Hei 30 210 181 166 192 162 149 177 150 138 166 140 129	153 peed V ght (ft) 40 205 175 162 184 157 145 170 146 134 159 136 126 153	5 50 199 171 159 178 154 142 165 142 132 154 133 123 148	194 168 156 174 151 140 161 140 130 151 131 121		
No. 2 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20 4, 11 &	Exposure Category B C D B C D B C D B C D B C D B C C D B C C C C	210 210 210 210 210 210 210 210 210 210	20 210 210 210 210 210 210 210 210 210 2	Basic Mean R 25 210 210 210 210 210 210 210 210 210 210 210 210 203 186 210 195	Wind Stoof He 30 210 210 210 210 210 210 210 210 210 210 196 210 199 183 210 191	Speed V ight (ft) 40 210 210 210 210 210 210 206 210 207 191 210 193 178 210 186 186	5 50 210 210 210 210 210 210 202 210 202 187 210 189 175 210 181	210 210 210 210 210 210 210 199 210 198 184 210 185 172 205	No. 2 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20 4, 11 &	Exposure Category B C D B C D B C D B C D B C D B C C D B C C C C	15 210 194 176 192 174 158 177 161 146 166 151 137 159	20 210 188 172 192 169 154 177 156 143 166 146 134 159	Mean R 25 210 184 169 192 166 152 177 153 140 166 143 131 159	Wind S oof Hei 30 210 181 166 192 162 149 177 150 138 166 140 129 159	153 131 131	5 50 199 171 159 178 154 142 165 142 132 154 133 123 148 128	194 168 156 174 151 140 161 140 130 151 131 121 145		
No. 2 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20 4, 11 & 14	B C D B C D B C D B C D B C D B C D B C D D B C D D D D	210 210 210 210 210 210 210 210 210 210	20 210 210 210 210 210 210 210 210 210 210 203 210 208 190 210 199 182	Basic Mean R 25 210 210 210 210 210 210 210 210 210 210 210 210 203 186 210 195 179	Wind S	Speed V ight (ft) 40 210 210 210 210 210 210 206 210 207 191 210 193 178 210 186 171 186 171 186 171 198 178 178 178 178 178 178 171 186 186 1	5 50 210 210 210 210 210 202 210 202 187 210 189 175 210 181 168	210 210 210 210 210 210 210 199 210 198 184 210 185 172 205 178 165	No. 2 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20 4, 11 & 14	Exposure Category B C D B C D B C D B C D B C D B C D D B C D D D D	15 210 194 176 192 174 158 177 161 146 166 151 137 159 145	20 210 188 172 192 169 154 177 156 143 166 146 134 159 141	Mean R 25 210 184 169 192 166 152 177 153 140 166 143 131 159 137	Wind S oof Hei 30 210 181 166 192 162 149 177 150 138 166 140 129 159 135 124	175 162 184 157 145 170 146 134 159 136 126 153 131	5 50 199 171 159 178 154 142 165 142 132 154 133 123 148 128 118	194 168 156 174 151 140 161 140 130 151 131 121 145 125 116		
No. ² 1, 6, 9, 10, 13, 16, 17, & 18 2 & 19 3, 7 & 20 4, 11 & 14	Exposure Category B C D B C D B C D B C D B C D B C D B C D B C D B C D B B C D B B C D B B C D B B C D B B C D B B B C D B B B C D B B B C D B B B C D B B B C D B B B C D B B B C D B B B C D B B B C D B B B C D B B B C D B B B C D B B B C D B B B C D B B B C D B B B B	210 210 210 210 210 210 210 210 210 210	20 210 210 210 210 210 210 210 210 210 2	Basic Mean R 25 210 210 210 210 210 210 210 210 210 210 210 210 203 186 210 195 179 210	Wind S Coof He 30 210 210 210 210 210 210 210 210 210 196 210 199 183 210 191 176 210 210 191 176 210 210 210 191 176 210	Speed V ight (ft) 40 210 210 210 210 210 210 206 210 207 191 210 193 178 210 186 171 209	5 50 210 210 210 210 210 210 202 210 202 187 210 189 175 210 181 168 203	210 210 210 210 210 210 210 199 210 198 184 210 185 172 205 178 165	No. ² 1, 6, 9, 10, 13, 16, 17, & 18 2 & 19 3, 7 & 20 4, 11 & 14	Exposure Category B C D B C D B C D B C D B C D B C D B C D B C D B C D B B C D B B C D B B C D B B C D B B C D B B B C D B B B C D B B B B	15 210 194 176 192 174 158 177 161 146 166 151 137 159 145 131	20 210 188 172 192 169 154 177 156 143 166 146 134 159 141 128	Mean R 25 210 184 169 192 166 152 177 153 140 166 143 131 159 137 126	Wind S oof Hei 30 210 181 166 192 162 149 177 150 138 166 140 129 159 135 124	146 153 131 147 147	5 50 199 171 159 178 154 142 165 142 132 154 133 123 148 128 118	194 168 156 174 151 140 161 140 130 151 131 121 145 125 116		
No. 2 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20 4, 11 & 14	Exposure Category B C D B C D B C D B C D B C D B C D B C D B C D B C D B C C D B C C D C D	15 210 210 210 210 210 210 210 210 210 210	20 210 210 210 210 210 210 210 210 210 2	Basic Mean R 25 210 210 210 210 210 210 210 210 210 210 210 203 186 210 195 179 210 188	Wind State State	Speed V ight (ft) 40 210 210 210 210 210 206 210 207 191 210 193 178 210 186 171 209 170 170 1	5 50 210 210 210 210 210 210 202 210 202 187 210 189 175 210 181 168 203 175	210 210 210 210 210 210 199 210 198 184 210 185 172 205 178 165 198	No. 2 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20 4, 11 & 14	Exposure Category B C D B C D B C D B C D B C D B C D B C D B C D B C D B C C D B C C D C D	15 210 194 176 192 174 158 177 161 146 166 151 137 159 145 131	20 210 188 172 192 169 154 177 156 143 166 146 134 159 141 128 154 136	184 169 192 166 152 177 153 140 166 143 131 159 137 126 154 133	Wind S oof Hei 30 210 181 166 192 162 149 177 150 138 166 140 129 159 135 124 154 130	126 126 147 162 184 157 145 170 146 134 159 136 126 153 131 121 147	5 50 199 171 159 178 154 142 165 142 132 154 133 123 148 128 118 143	194 168 156 174 151 140 161 140 130 151 131 121 145 125 116 139		
No. ² 1, 6, 9, 10, 13, 16, 17, & 18 2 & 19 3, 7 & 20 4, 11 & 14	Exposure Category B C D B C D B C D B C D B C D B C D B C D B C D D B C D D D D	15 210 210 210 210 210 210 210 210 210 210	20 210 210 210 210 210 210 210 210 210 2	Basic Mean R 25 210 210 210 210 210 210 210 210 210 210 210 210 203 186 210 195 179 210 188 172 188 172	Wind Stoof He 30	Speed V ight (ft) 40 210 210 210 210 210 210 206 210 207 191 210 193 178 210 186 171 209 179 165 165	5 50 210 210 210 210 210 202 210 202 187 210 181 168 203 175 162	210 210 210 210 210 210 210 199 210 198 184 210 185 172 205 178 165 198 172	No. ² 1, 6, 9, 10, 13, 16, 17, & 18 2 & 19 3, 7 & 20 4, 11 & 14	Exposure Category B C D B C D B C D B C D B C D B C D B C D B C D D B C D D D B C D D D D	15 210 194 176 192 174 158 177 161 146 166 151 137 159 145 131 154 139	20 210 188 172 192 169 154 177 156 143 166 146 134 159 141 128 154 136	184 169 192 166 152 177 153 140 166 143 131 159 137 126 154 133	Wind S oof Hei 30 210 181 166 192 162 149 177 150 138 166 140 129 159 135 124 154 130 119	10 peed V	5 50 199 171 159 178 154 142 165 142 132 154 133 123 148 128 118 143 123	60 194 168 156 174 151 140 161 140 130 151 131 121 145 125 116 139 121		
No. 2 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20 4, 11 & 14 5 8 & 21	Exposure Category B C D B C D B C D B C D B C D B C D B C D B C D B C D B C D B C D B C D B C D B C D B C D B C D B C D B C D B B C D B B C D B B C D B B C D B B C D B B B C D B B B C D B B B C D B B B B	210 210 210 210 210 210 210 210 210 210	20 210 210 210 210 210 210 210 210 210 210 210 210 210 210 210 210 210 210 199 182 210 192 176 205	Basic Mean R 25 210 210 210 210 210 210 210 210 210 210 210 210 210 210 210 210 210 210 195 179 210 188 172 205	Wind Stoof He 30 210 210 210 210 210 210 210 210 210 196 210 199 183 210 191 176 210 184 169 205 205	Speed V ight (ft) 40 210 210 210 210 210 210 206 210 207 191 210 178 210 186 171 209 179 165 197 197	5 50 210 210 210 210 210 210 202 210 202 187 210 189 175 210 181 168 203 175 162	210 210 210 210 210 210 210 199 210 198 184 210 185 172 205 178 165 198 172 159	No. 2 1, 6, 9, 10, 13, 16, 17 & 18 2 & 19 3, 7 & 20 4, 11 & 14 5 8 & 21	Exposure Category B C D B C D B C D B C D B C D B C D B C D B C D B C D B C D B C D B C D B C D B C D B C D B C D B C D B C D B B C D B B C D B B C D B B C D B B C D B B B C D B B B C D B B B B	15 210 194 176 192 174 158 177 161 146 166 151 137 159 145 131 154 139 127	20 210 188 172 192 169 154 177 156 143 166 146 134 159 141 128 154 136 124	184 169 192 166 152 177 153 140 166 143 131 159 137 126 154 133 121	Wind S oof Hei 30 210 181 166 192 162 149 177 150 138 166 140 129 159 135 124 154 130 119	100 peed V peed	5 50 199 171 159 178 154 142 165 142 132 154 133 123 148 128 118 143 123 114	60 194 168 156 174 151 140 161 140 130 151 131 121 145 125 116 139 121 112		
No. ² 1, 6, 9, 10, 13, 16, 17, & 18 2 & 19 3, 7 & 20 4, 11 & 14	Exposure Category B C D B C D B C D B C D B C D B C D B C D B C D D B C D D D D	15 210 210 210 210 210 210 210 210 210 210	20 210 210 210 210 210 210 210 210 210 2	Basic Mean R 25 210 210 210 210 210 210 210 210 210 210 210 210 203 186 210 195 179 210 188 172 188 172	Wind Stoof He 30	Speed V ight (ft) 40 210 210 210 210 210 210 206 210 207 191 210 193 178 210 186 171 209 179 165 165	5 50 210 210 210 210 210 202 210 202 187 210 181 168 203 175 162	210 210 210 210 210 210 210 199 210 198 184 210 185 172 205 178 165 198 172	No. ² 1, 6, 9, 10, 13, 16, 17, & 18 2 & 19 3, 7 & 20 4, 11 & 14	Exposure Category B C D B C D B C D B C D B C D B C D B C D B C D D B C D D D B C D D D D	15 210 194 176 192 174 158 177 161 146 166 151 137 159 145 131 154 139	20 210 188 172 192 169 154 177 156 143 166 146 134 159 141 128 154 136	184 169 192 166 152 177 153 140 166 143 131 159 137 126 154 133	Wind S oof Hei 30 210 181 166 192 162 149 177 150 138 166 140 129 159 135 124 154 130 119	10 peed V	5 50 199 171 159 178 154 142 165 142 132 154 133 123 148 128 118 143 123	60 194 168 156 174 151 140 161 140 130 151 131 121 145 125 116 139 121		

For **SI**: 1ft = 25.4 m, 1mph = 0.44m/s NA – Not Applicable

¹Table limiting heights and wind velocity values are for low-rise buildings of maximum 60 ft height, developed in accordance with ASCE 7-10, Table 30.4-1. Design input values: GC_p = ASCE 7-10 Figures 30.4-2B-2C, GC_p = 0.18, K_{zt} = 1.0, K_d = 0.85, K_e = 1, I_w = 1.0.

²System numbers as specified in Table 2. See Table 2 for Davinci product, installation parameters and assembly component details.

³Wind speed conversion corresponds to the maximum Zone 2/3 pressure with effective area of 10 ft². Table 4 wind speeds are only valid under the design conditions stated. For other site conditions and/or building dimensions, designers can use the published Allowable Uplift Pressure (psf) (ASD) in Table 2 to determine allowable wind speeds with IRC Table R301.2(2) or calculations in accordance with IBC Chapter 16.

⁴Wind exposure categories as defined in ASCE 7-10, Section 26.7.

⁵Interpolation not permitted. For heights in between those specified, use next highest height column.

⁶NA indicates that the installation condition is not acceptable within the design limits of the table.

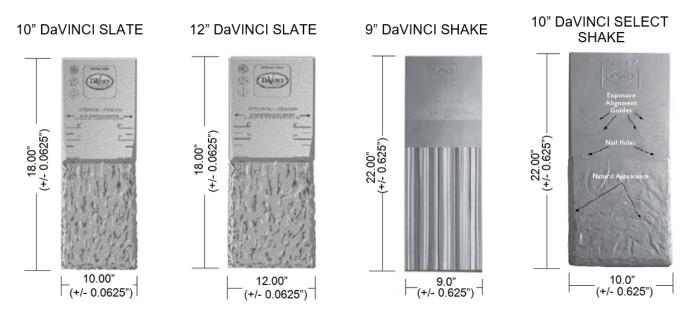


FIGURE 1—DaVINCI SLATE, DaVINCI SHAKE AND DaVINCI SELECT SHAKE SHAKE ROOF SHINGLES





ICC-ES Evaluation Report

ESR-2119 CBC and CRC Supplement

Issued August 2023

This report is subject to renewal August 2024.

www.icc-es.org | (800) 423-6587 | (562) 699-0543

A Subsidiary of the International Code Council®

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION

Section: 07 32 26—Plastic Roof Tiles

REPORT HOLDER:

DaVINCI ROOFSCAPES, LLC

EVALUATION SUBJECT:

DAVINCI SLATE, DAVINCI SHAKE, DAVINCI SELECT SHAKE, BELLAFORTÉ SHAKE, BELLAFORTÉ SLATE AND PROVINCE SLATE ROOF SHINGLES

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that DaVinci Slate, DaVinci Shake, DaVinci Select Shake, Bellaforté Shake, Bellaforté Slate and Province Slate Roof Shingles, described in ICC-ES evaluation report ESR-2119, have also been evaluated for compliance with the codes noted below.

Applicable code editions:

■ 2019 California Building Code (CBC)

For evaluation of applicable chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) and Division of State Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

■ 2019 California Residential Code (CRC)

2.0 CONCLUSIONS

2.1 CBC:

The DaVinci Slate, DaVinci Shake, DaVinci Select Shake, Bellaforté Shake, Bellaforté Slate and Province Slate Roof Shingles, described in Sections 2.0 through 7.0 of the evaluation report ESR-2119, comply with CBC Chapter 15, provided the design and installation are in accordance with the 2018 *International Building Code*[®] (IBC) provisions noted in the evaluation and the additional requirements of CBC Section 1505.1.1 for a Class A roof covering, Section 1505.1.2 for a Class B roof covering or Section 1505.1.3 for a Class C roof covering, as applicable.

The products have not been evaluated under Chapter 7A for use in the exterior design and construction of new buildings located in any Fire Hazard Severity Zone within State Responsibility Areas or any Wildland–Urban Interface Fire Area.

2.1.1 OSHPD:

The applicable OSHPD Sections and Chapters of the CBC are beyond the scope of this supplement.

2.1.2 DSA:

The applicable DSA Sections and Chapters of the CBC are beyond the scope of this supplement.

2.2 CRC:

The DaVinci Slate, DaVinci Shake, DaVinci Select Shake, Bellaforté Shake, Bellaforté Slate and Province Slate Roof Shingles, described in Sections 2.0 through 7.0 of the evaluation report ESR-2119, complies with CRC Chapter 9, provided the design and installation are in accordance with the 2018 *International Residential Code*® (IRC) provisions noted in the evaluation report and the additional requirements of CRC Section R902.1.1 for a Class A roof covering, Section R902.1.2 for a Class B roof covering or Section R902.1.3 for a Class C roof covering and Section R905.10.

The products have not been evaluated under CRC Section R337 for use in the exterior design and construction of new buildings located in any Fire Hazard Severity Zone within State Responsibility Areas or any Wildland–Urban Interface Fire

This supplement expires concurrently with the evaluation report, reissued August 2023.

