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ROYAL BUILDING PRODUCTS (USA), INC. 2801 Post Oak Boulevard Houston, Texas 77056 (855) 769-2585

www.royalbuildingproducts.com

VINYL SIDING AND INSULATED VINYL SIDING

CSI Section: 07 46 33 Plastic Siding

1.0 RECOGNITION

Royal Building Products Vinyl Siding and Insulated Vinyl Siding described in this report were evaluated for use as exterior covering materials as part of the weather-resistant exterior wall envelope.

The exterior veneer, wind resistance, surface burning, fireresistance, combustibility, thermal resistance, and installation properties of the siding were evaluated for compliance with the following codes:

- 2018, 2015, and 2012 International Building Code[®] (IBC)
- 2018, 2015, and 2012 International Residential Code[®] (IRC)
- 2018, 2015, and 2012International Energy Conservation Code® (IECC)
- 2020 and 2017 Florida Building Code, Building, and Florida Building Code, Residential (FBC, Building, and FBC, Residential) – (attached supplement)

The Vinyl Siding complies with the requirements for vinyl siding in 2018 IBC Section 1404.14 or 2015 and 2012 IBC Section 1405.14. The Insulated Vinyl Siding is recognized as an alternative product under 2018 IBC Section 1404, or 2015 and 2012 IBC Section 1405. The Vinyl Siding meets the requirements of IRC Section R703.11. The Insulated Vinyl Siding meets the requirements of 2018 and 2015 IRC Section R703.13.

2.0 LIMITATIONS

Use of the Royal Building Products siding recognized in this report is subject to the following limitations:

- **2.1** The siding shall be installed in accordance with the applicable code, ASTM D4756, the manufacturer's published installation instructions, and this report. Where there is a conflict, the most restrictive requirements shall govern.
- **2.2** Flashing and a water-resistive barrier shall be installed as required by the applicable code.

2.3 The siding is manufactured in Woodbridge, Ontario, Canada and Columbus, Ohio.

3.0 PRODUCT USE

Royal Building Products Vinyl Siding and Insulated Vinyl Siding are for use in Type V Construction and buildings constructed in accordance with the IRC. The siding does not exhibit sustained flaming when tested in accordance with NFPA 268 and may be used at a fire separation distance of 5 feet (1.52 m) or less in Construction Types I, II, III, and IV in accordance with 2018 IBC Section 1405, or 2015 and 2012 IBC Section 1406.2.

Royal Brand and Exterior Portfolio Brand Vinyl Siding and Insulated Vinyl Siding was tested in accordance with ASTM E119 as part of a 1-hour fire-resistance-rated assembly and does not reduce the fire-resistance rating of code prescribed 1-hour fire-resistance-rated wall assemblies. The siding has a flame spread index of 25 or less and a smoke developed index of 450 or less when tested in accordance with ASTM E84.

3.1 Design: Building design wind pressures shall be determined in accordance with IBC Section 1609, or IRC Table R301.2(2) and modified for height and exposure in accordance with Table R301.2(3), using an effective wind area of 10 ft² (1 m²) as applicable. The allowable negative wind pressures for the Royal Brand Vinyl Siding, Exterior Portfolio Brand Vinyl Siding, Royal Brand Insulated Vinyl Siding, and Exterior Portfolio Brand Insulated Vinyl Siding are shown in Tables 1, 2, and 3 of this report. The allowable negative wind pressure for the model of siding selected shall exceed the components and cladding design wind pressures for the building on which it is used. The tabulated allowable pressures for the siding are applicable where the siding is applied over sheathing in accordance with IBC Section 2304.6 and substrates capable of independently resisting the full design wind pressures, both positive and negative, and fastened as described in the tables in this report.

The allowable pressures in this report shall not be used as tabulated when vinyl siding is installed solely over foam plastic sheathing as described in 2018 IRC Section R703.11.2, or 2015 and 2012 IRC Sections R703.11.2.1 and R703.11.2.2. Vinyl Siding and Insulated Vinyl Siding may be used over foam plastic sheathing provided the allowable pressures are adjusted and the siding is installed in accordance with the conditions described in Section 3.2.1 of this report.

3.2 Installation: Installation of Royal Building Products Vinyl Siding and Insulated Vinyl Siding shall be in accordance with the manufacturer's published installation instructions, the applicable code, and this report. The



The product described in this Uniform Evaluation Service (UES) Report has been evaluated as an alternative material, design or method of construction in order to satisfy and comply with the intent of the provision of the code, as noted in this report, and for at least equivalence to that prescribed in the code in quality, strength, effectiveness, fire resistance, durability and safety, as applicable, in accordance with IBC Section 104.11. This document shall only be reproduced in its entirety.

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installation instructions and this report shall be available on the jobsite for quality control purposes during installation. Where installed over an approved backing capable of independently resisting the design wind pressure, the siding shall be installed in accordance with 2018 IBC Section 1404.14; 2015 or 2012 IBC Section 1405.14; IRC Section R703.3, R703.3.3, R703.11, and Table R703.3(1) (2012 IRC Table R703.4), as applicable; and the manufacturer's instructions, using the fastening specifications in Tables 1, 2, or 3 of this report.

The siding shall be installed over an approved water resistive barrier on walls flashed to prevent moisture intrusion and redirect it to the exterior. The siding joints shall overlap in accordance with the installation instructions to provide weather protection for the exterior walls. Protection against condensation in the wall assembly shall be provided in accordance with the applicable code. The siding shall be installed to allow movement of the siding panels due to temperature changes. The panels shall be fastened using corrosion-resistant fasteners at the maximum on-center spacing given in Tables 1, 2, or 3 of this report, as applicable, to minimum 0.42-specific-gravity wood substrate or equivalent.

3.2.1 Installation of Vinyl Siding over foam plastic sheathing:

3.2.1.1 Installation in accordance with 2018 IRC: Allowable wind pressure resistance for Vinyl Siding or Insulated Vinyl Siding installed solely over foam plastic sheathing shall not exceed the values tabulated in 2018 IRC Table R703.11.2 for the corresponding wind speed and exposure category. The siding shall be installed in accordance with 2018 IRC Section R703.11.

3.2.1.2 Installation of Vinyl Siding in accordance with 2015 or 2012 IRC:

3.2.1.2.1 Prescriptive installation for wind speeds not exceeding 115 mph (V_{ult}): Under the 2015 IRC where the wind speeds do not exceed 115 mph, Exposure B (90 mph, Exposure B under the 2012 IRC), Royal Building Products Vinyl Siding may be installed over foam plastic sheathing in accordance with IRC Section R703.11.2.1. Half-inchthick (12.7 mm) gypsum wallboard shall be installed on the inside of the wall, and fastened using minimum 0.120-inchshank-diameter (3.05 mm) nails with minimum 0.313-inchdiameter (7.95 mm) heads spaced at maximum 16-inches on center (406 mm) to penetrate minimum 1¹/₄ inches (31.8 mm) into wood substrate.

3.2.1.2.2 Pressure reductions for wind speeds exceeding 115 mph (Vult): For wind speeds exceeding 115 mph, Exposure B under the 2015 IRC (90 mph, Exposure B under the 2012 IRC), Royal Building Products Vinyl Siding may be installed over foam plastic sheathing in accordance with IRC Section R703.11.2.2. Fastening shall remain as specified in Tables 1 and 2 of this report for the model of

siding selected, and the allowable wind pressures for the siding shall be reduced in accordance with 2015 or 2012 IRC Section R703.11.2.2 based on the wall assembly conditions listed therein.

4.0 PRODUCT DESCRIPTION

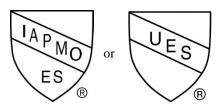
Royal Building Products Vinyl Siding is polyvinyl chloride (PVC) siding meeting ASTM D3679 as required by 2018 IBC Section 1403.9, 2015 and 2012 IBC Section 1404.9, and IRC Section R703.11.

Royal Building Products Insulated Vinyl Siding is polyvinyl chloride (PVC) siding with a foam plastic backer meeting ASTM D7793 as required by 2018 and 2015 IRC Section R703.13. The Vinyl Siding with foam plastic backer provides a minimum R-value of 2.0.

The siding is available in various profiles for both horizontal and vertical installation and for use as soffit. The siding Brands, Product Families and Styles are described in Tables 1, 2, and 3 of this report. Various accessories such as flashing, corner moldings, and window trim are available for use with the siding products.

5.0 IDENTIFICATION

A label is affixed to the packaging and includes the Royal Building Products name or trademark, the manufacturer's address, and the product model number. The packaging for the Vinyl Siding includes the words "Conforms to ASTM D3679"; the packaging for the Insulated Vinyl Siding includes the words "Conforms to ASTM D7793". The label also includes the Evaluation Report Number (ER-432) and the IAPMO Uniform ES Mark of Conformity. Either Mark of Conformity may be used as shown below:



IAPMO UES ER-432

6.0 SUBSTANTIATING DATA

- **6.1** Reports of testing in accordance with ASTM D3679 and ASTM D7793 as required by ICC-ES Acceptance Criteria for Vinyl Siding (AC37). Approved February 2014, editorially revised October 2017.
- **6.2** Reports of testing in accordance with Section 3.3 of ICC-ES AC37 Approved February 2014, editorially revised October 2017 to determine an alternative pressure equalization factor for the insulated vinyl siding.

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- **6.3** Reports of Surface Burning Characteristics testing in accordance with ASTM E84.
- **6.4** Reports of fire-resistance testing in accordance with ASTM E119.
- **6.5** Reports of ignitability testing in accordance with NFPA 268.
- **6.6** The manufacturer's quality control documentation.
- **6.7** Test reports are from laboratories in compliance with ISO/IEC 17025

7.0 STATEMENT OF RECOGNITION

This evaluation report describes the results of research carried out by IAPMO Uniform Evaluation Service on Royal Building Products Vinyl Siding and Insulated Vinyl Siding to assess conformance to the codes shown in Section 1.0 of this report, and serves as documentation of the product certification. The siding is produced at locations noted in Section 2.3 of this report under a quality control program with periodic inspection under the supervision of IAPMO UES.

Brian Gerber, P.E., S.E. Vice President, Technical Operations Uniform Evaluation Service

Brian Derber

Richard Beck, PE, CBO, MCP
Vice President, Uniform Evaluation Service

GP Russ Chaney CEO, The IAPMO Group

For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org



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TABLE 1 — ROYAL BRAND VINYL SIDING

Product Family	Product Code	Product Style	Orientation	Exposure (in)	Thickness (in)	Installation Method	Allowable Negative Wind Load (psf) 2018, 2015, 2012 IBC/IRC
	RWD45	Double 4.5" Traditional	Horizontal	9	0.046	Standard ¹ /Staples ²	102
Woodland	RWD45D	Double 4.5" Designer	Horizontal	9	0.046	Standard¹/Staples²	111
	RWBB	Board and Batten	Vertical	7	0.046	Standard¹/Staples²	83
	ESTD4	Double 4" Traditional	Horizontal	8	0.044	Standard ¹ /Staples ²	111
Fatata	ESTD45D	Double 4.5" Designer	Horizontal	9	0.044	Standard ¹ /Staples ²	111
Estate	ESTD5D	Double 5" Designer	Horizontal	10	0.044	Standard¹/Staples²	72
	RCCOL6	Single 6" Beaded	Horizontal	6.5	0.044	Standard ¹ /Staples ²	130
	RED4	Double 4" Traditional	Horizontal	8	0.042	Standard ¹ /Staples ²	65
	RED45	Double 4.5" Traditional	Horizontal	9	0.042	Standard ¹ /Staples ²	89
Residential	RED45D	Double 4.5" Designer	Horizontal	9	0.042	Standard¹/Staples²	89
	RED5	Double 5" Traditional	Horizontal	10	0.042	Standard¹/Staples²	65
	RET3D	Triple 3" Traditional	Horizontal	9	0.042	Standard¹/Staples²	89
	RCD4	Double 4" Traditional	Horizontal	8	0.040	Standard¹/Staples²	81
	RCD4D	Double 4" Designer	Horizontal	8	0.040	Standard ¹ /Staples ²	81
	RCD45D	Double 4.5" Designer	Horizontal	9	0.040	Standard¹/Staples²	74
Crest	RCD5	Double 5" Traditional	Horizontal	10	0.040	Standard ¹ /Staples ²	65
	RCD5D2	Double 5" Designer	Horizontal	10	0.040	Standard¹/Staples²	65
	RCD4V10	Vertical Double 4"	Vertical	8	0.040	Standard¹/Staples²	56
	RC8	Single 8" Traditional	Horizontal	8	0.040	Standard¹/Staples²	65
Soffit as Siding	RSD5VSBF	Vertical Double 5"	Vertical	10	0.042	Standard ¹ /Staples ²	40
Genesis (Crest)	GEND45	Double 4.5" Traditional	Horizontal	9	0.040	Standard¹/Staples²	74
	GEND45D	Double 4.5" Designer	Horizontal	9	0.040	Standard¹/Staples²	74
	GENT3	Triple 3" Traditional	Horizontal	9	0.040	Standard¹/Staples²	74

S.I. Units: 1 inch = 25.4 mm, 1 psf = 47.9 Pa

^{1.} For horizontal siding- Standard fastening shall be minimum 0.120-inch diameter, smooth-shank roofing nails with 0.438-inch diameter heads. The fasteners shall be minimum 1 1/2 inches in length and penetrate minimum 1 1/4 inches into wood substrate at maximum 16 inches on-center.

For vertical siding- Standard fastening shall be minimum 0.120-inch diameter, smooth-shank roofing nails with 0.438-inch diameter heads. The fasteners shall penetrate minimum 1/2-inch into wood substrate at maximum 12 inches on-center.

^{2.} For horizontal siding- Staple fastening shall be minimum 16 gauge, 7/16" crown staple. The staples shall be minimum 1 1/2 inches in length and penetrate minimum 1 1/4 inches into wood substrate at maximum 16 inches on-center.

For vertical siding- Staple fastening shall be minimum 16 gauge, 7/16" crown staple. The staples shall be minimum 1 1/2 inches in length and penetrate minimum 1 1/4 inches into wood substrate at maximum 16 inches on-center.

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TABLE 2 — EXTERIOR PORTFOLIO BRAND VINYL SIDING

Product Family	Product Code	Product Style	Orientation	Exposure (in)	Thickness (in)	Installation Method	Allowable Negative Wind Load (psf) 2018, 2015, 2012 IBC/IRC
	D4PPTM	Double 4" Traditional	Horizontal	8	0.046	Standard¹/Staple²	170
			Horizontal			Ring Nail with Washer ³	246
Premium Point	DAEDDINA	Double 4.5" Dutchlap	Horizontal		0.046	Standard ¹ /Staple ²	93
360	D45PPTM		Horizontal	9	0.046	Ring Nail with Washer ³	159
	S55PPBB	Board and Batten	Vertical	7	0.046	Standard¹/Staple²	83
	D4STD	Double 4" Traditional	Horizontal			Standard¹/Staple²	83
			Horizontal	8	0.044	Ring Nail with Washer ³	117
	D45DLSTD	Double 4.5" Dutchlap	Horizontal	9	0.044	Standard¹/Staple²	114
Market Square			Horizontal			Ring Nail with Washer ³	154
	D5STD	Double 5" Traditional	Horizontal	10	0.044	Standard¹/Staple²	76
			Horizontal			Ring Nail with Washer ³	117
	S65B	Single 6" Beaded	Horizontal	6.5	0.044	Standard¹/Staple²	68
Carolina Sands			Horizontal			Ring Nail with Washer ³	123
	D4CEDAR	Double 4" Traditional	Horizontal	_	0.042	Standard¹/Staple²	86
			Horizontal	8		Ring Nail with Washer ³	77
	D4DCG	Double 4" Dutchlap	Horizontal	8	0.042	Standard¹/Staple²	86
			Horizontal			Ring Nail with Washer	77
Parkview	D5CEDAR	Double 5" Traditional	Horizontal	10	0.042	Standard ¹ /Staple ²	79
			Horizontal			Ring Nail with Washer ³	77
	D5DCG	Double 5" Dutchlap	Horizontal	10	0.042	Standard¹/Staple²	79
			Horizontal			Ring Nail with Washer ³	77
Elm Grove	D4EG	Double 4"	Horizontal	8	0.040	Standard¹/Staple²	109
	D4DLEG	Double 4" Dutchlap	Horizontal	8	0.040	Standard¹/Staple²	111
	D5DLEG	Double 5" Dutchlap	Horizontal	10	0.040	Standard¹/Staple²	109

(notes to Table 2 are on the next page)



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TABLE 2 — EXTERIOR PORTFOLIO BRAND VINYL SIDING (CONT')

Product Family	Product Code	Product Style	Orientation	Exposure (in)	Thickness (in)	Installation Method	Allowable Negative Wind Load (psf) 2018, 2015, 2012 IBC/IRC
	D4	Double 4" Traditional	Horizontal	8	0.040	Standard¹/Staple²	111
	D4DL	Double 4" Dutchlap	Horizontal	8	0.040	Standard¹/Staple²	108
American Dream Edge			Horizontal			Ring Nail with Washer ³	111
	D5DL	Double 5" Dutchlap	Horizontal	10	0.040	Standard¹/Staple²	93
			Horizontal			Ring Nail with Washer ³	111
	D4DLRO	Double 4" Dutchlap	Horizontal	8	0.038	Standard¹/Staple²	93
	D5DLRO	Double 5" Dutchlap	Horizontal	10	0.038	Standard¹/Staple²	111
Soffit as Siding	T4SS	Vertical Triple 4"	Vertical	12	0.040	Standard¹/Staple²	49
	PPSS	Vertical Triple 3 1/3"	Vertical	10	0.044	Standard¹/Staple²	49
	D5SA	Double 5"	Vertical	10	0.038	Standard¹/Staple²	74

S.I. Units: 1 inch = 25.4 mm, 1 psf = 47.9 Pa

^{1.} For horizontal siding- Standard fastening shall be minimum 0.120-inch diameter, smooth-shank roofing nails with 0.438-inch diameter heads. The fasteners shall be minimum 1 1/2 inches in length and penetrate minimum 1 1/4 inches into wood substrate at maximum 16 inches on-center.

^{2.} For vertical siding- Standard fastening shall be minimum 0.120-inch diameter, smooth-shank roofing nails with 0.438-inch diameter heads. The fasteners shall penetrate minimum 1/2-inch into wood substrate at maximum 12 inches on-center.

^{3.} For horizontal siding- Staple fastening shall be minimum 16 gauge, 7/16" crown staple. The staples shall be minimum 1 1/2 inches in length and penetrate minimum 1 1/4 inches into wood substrate at maximum 16 inches on-center.

^{4.} The Ring Nail with Washer is a 1 1/2" long, 1/8-inch shank diameter, 3/8" head diameter, ring-shank roofing nail with a 1/8 inch by 3/4-inch diameter fender washer. The fasteners shall be minimum 1 1/2 inches in length and penetrate minimum 1 1/4 inches into wood substrate at maximum 16 inches on-center.



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TABLE 3 — INSULATED VINYL SIDING

Brand	Product Family	Product Code	Product Style	Orientation	Exposure (in)	Thickness (in)	Installation Method	Allowable Negative Wind Load (psf) 2018, 2015, 2012 IBC/IRC	. R Value
	Haven	HAVD6	Double 6" Traditional	Horizontal	12	1.125	Standard ¹ /Staples ²	67	2.21
Royal		HAVBB10	Double 10" Board & Batten	Vertical	20	1.125	Standard ¹ /Staples ²	35	2.08
		TMD7IP	Double 7" Traditional	Horizontal	14	1.125	Standard ¹ /Staples ²	56	2.42
Exterior Portfolio	CraneBoard	TMT6IP	Triple 6" Traditional	Horizontal	18	1.125	Standard ¹ /Staples ²	46	2.21
		TMD7IP	Double 7" Traditional	Horizontal	14	1.125	Standard ¹ /Staples ²	60	2.41
		D10BBIP	Double 10" Board & Batten	Vertical	20	1.125	Standard ¹ /Staples ²	35	2.14
		TMQ4IP Quad 4" Tradit:	Ouad 4" Traditional	Horizontal Horizontal	16	1.125	Standard ¹ /Staples ²	49	2.57
		TMQ4IP	Quad 4 Traditional				Ring Nail with Washer ³	66	
		TMQ45IP Quad 4.5" Dutchlap	Horizontal	10	1 105	Standard ¹ /Staples ²	49	2.74	
			Quad 4.5" Dutchlap	Horizontal	18	1.125	Ring Nail with Washer ³	66	2.74

S.I. Units: 1 inch = 25.4 mm, 1 psf = 47.9 Pa

For horizontal siding- Standard fastening shall be minimum 0.120-inch diameter, smooth-shank roofing nails with 0.438-inch diameter heads. The fasteners shall be minimum 2 1/2 inches in length and penetrate

minimum 1 1/4 inches into wood substrate at maximum 16 inches on-center.

For vertical siding- Standard fastening shall be minimum 0.120-inch diameter, smooth-shank roofing nails with 0.438-inch diameter heads. The fasteners shall penetrate minimum 1/2-inch into wood substrate at

The Ring Nail with Washer is a 2 1/2" long, 1/8-inch shank diameter, 3/8" head diameter, ring-shank roofing nail with a 1/8 inch by ¼-inch diameter fender washer. The fasteners shall be minimum 1 1/2 inches in length and penetrate minimum 1 1/4 inches into wood substrate at maximum 16 inches on-center.

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FLORIDA SUPPLEMENT

ROYAL BUILDING PRODUCTS (USA), INC. 2801 Post Oak Boulevard Houston, Texas 77056 (855) 769-2585

www.rovalbuildingproducts.com

VINYL SIDING AND INSULATED VINYL SIDING

CSI Section:

07 46 33 Plastic Siding

1.0 RECOGNITION

Royal Building Products Vinyl Siding and Insulated Vinyl Siding described in IAPMO UES Evaluation Report ER-432 are satisfactory alternatives to the cladding systems prescribed in the following codes:

- 2020 and 2017 Florida Building Code, Building (FBC, Building)
- 2020 and 2017 Florida Building Code, Residential (FBC, Residential)

2.0 LIMITATIONS

Use of the Royal Building Products siding recognized in this report supplement is subject to the following limitations:

- **2.1** Installation shall be in accordance with ER-432, the manufacturer's published installation instructions, and Section 1405 of the FBC, Building or Section R703 of the FBC, Residential, as applicable. Flashing shall comply with Section 1405.4 of the FBC, Building.
- **2.2** For buildings built in accordance with the FBC, Residential, design wind loads for cladding shall be determined in accordance with Tables R301.2(2) and R301.2(3), as required by Section R301.2.1 of the FBC, Residential; when required, conversion between V_{ult} (Ultimate Design Wind Speed) and V_{asd} (Nominal Design Wind Speed) shall be in accordance with R301.2.1.3 of the FBC, Residential. For buildings built in accordance with the FBC, Building, design wind loads for cladding shall be determined in accordance with Section 1609.1.1 of the FBC, Building; when required, conversion between V_{ult} and V_{asd} shall be in accordance with 1609.3.1 of the FBC, Building. Allowable design pressures determined in accordance with the FBC shall not exceed those in Tables 1, 2, or 3 of ER-432, as applicable.

- **2.3** Use of the Royal Building Products Vinyl Siding and Insulated Vinyl Siding for compliance with the high-velocity hurricane zone provisions of the FBC, Building and FBC, Residential has not been evaluated and is outside the scope of this evaluation report.
- **2.4** For products falling under Florida Rule 61G20-3.008, verification is required that the report holder's quality assurance program is audited by a quality assurance entity, approved by the Florida Building Commission (or the building official when the report holder does not possess an approval by the Commission), to provide oversight and determine that the products are being manufactured as described in this evaluation report to establish continual product performance.

For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org