ICC-ES Evaluation Report

ESR-1713

Reissued March 2024

This report also contains:

- CBC Supplement

Subject to renewal March 2026

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION Section: 07 52 00—Modified Bituminous Sheet Roofing	REPORT HOLDER: SIPLAST, INC.	EVALUATION SUBJECT: PARADIENE AND VERAL MODIFIED BITUMEN ROOFING MEMBRANES	

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2021, 2018, 2015, 2012, 2009 and 2006 *International Building Code*® (IBC)
- 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 uplift resistance
- Impact resistance

2.0 USES

The Paradiene and Veral modified bitumen roofing membranes are used as roof coverings in Class A or B membrane roof covering systems.

3.0 DESCRIPTION

3.1 General:

The Paradiene modified bitumen roofing membranes consist of fibrous glass and glass scrim mat reinforcement, impregnated and coated with styrene butadiene styrene (SBS) modified bitumen. The Veral fiberglass-reinforced SBS modified bitumen membranes incorporate a factory-applied metal surface on the top ply. Roof covering systems utilizing Siplast roofing membranes consist of single-ply membranes, base and/or ply sheets, with or without insulation, flashing, asphalts, and adhesives and/or mechanical fasteners that are installed on a combustible or noncombustible deck.

3.2 Roofing Membranes:

3.2.1 Paradiene 20: Paradiene 20 product series membranes consist of a fibrous glass mat impregnated and coated with styrene-butadiene-styrene (SBS) modified bitumen.

Paradiene 20, 20 HV, 20 HV TG, 20 TG and 20 SA comply with ASTM D6163 Type I, Grade S and have a nominal thickness of 87 mils, 126 mils, 134 mils, 110 mils and 98 mils [0.087 inch, 0.126 inch, 0.134 inch, 0.110 inch and 0.098 inch (2.2 mm, 3.2 mm, 3.4 mm, 2.8 mm and 2.5 mm)], respectively.

Paradiene 20 EG, 20 EG TG, 20 HT and 20 HT TG comply with ASTM D6163, Type II, Grade S and have a nominal thickness of 114 mils, 134 mils, 87 mils and 110 mils [0.114 inch, 0.134 inch, 0.087 inch, and 0.110 inch (2.9 mm, 3.4 mm, 2.2 mm and 2.8 mm)], respectively.

3.2.2 Paradiene 20 TS: Paradiene 20 TS consists of a fibrous glass mat impregnated and coated with styrene-butadiene-styrene (SBS) modified bitumen and complies with ASTM D6163, Type I, Grade S. The membrane has factory-applied, heat-activated adhesive strips on the back surface of the sheet, covering 50 percent of the membrane surface area and has a nominal thickness of 87 mils [0.087 inch (2.2 mm)].

3.2.3 Paradiene 30: Paradiene 30 product series membranes consist of a fibrous glass mat impregnated and coated with SBS modified bitumen. The sheet is surfaced with ceramic granules. Paradiene 30 FR and 30 FR TG comply with ASTM D6163 Type I, Grade G and have a nominal thickness of 130 mils and 138 mils [0.130 inch and 0.138 inch (3.3 mm and 3.5 mm)], respectively. Paradiene 30 HT FR and 30 HT FR TG comply with ASTM D6163 Type II, Grade G and have a nominal thickness of 130 mils and 138 mils [0.130 inch and 0.138 inch (3.3 mm and 3.5 mm)], respectively.

3.2.4 Paradiene 40 FR: Paradiene 40 FR is a multi-layer modified bitumen membrane that consists of a fiberglass mat composite impregnated and coated with an SBS modified bitumen, surfaced with ceramic granules complying with ASTM D6163 Type II, Grade G. The membrane has a nominal thickness of 154 mils [0.154 inch (3.9 mm)]. Paradiene 40 FR must be installed over Parabase or Parabase Plus base sheets.

3.2.5 Veral Membranes: Veral Aluminum membrane is a fiberglass-reinforced, SBS modified bituminous sheet with a factory-applied metal surface complying with ASTM D6298. Veral Aluminum has a nominal thickness of 150 mils [0.150 inch (3.8 mm)].

3.2.6 Irex Base Sheets: Irex 40 and Irex HT are asphalt-coated fiberglass sheets and are used as the base sheet for the Veral systems. Irex 40 complies with ASTM D6163 Type I, Grade S and has a nominal thickness of 110 mils [0.110 inch (2.8 mm)]. Irex HT complies with ASTM D6163 Type II, Grade S and has a nominal thickness of 110 mils [0.110 inch (2.8 mm)].

3.2.7 Parabase and Parabase Plus: Parabase and Parabase Plus are asphalt-coated fiberglass sheets complying with ASTM D4061, Type II.

3.3 Insulation:

See Table 2 for insulations for use with specific roofing systems. Foam plastic insulation, where used, must have a flame-spread index of not more than 75, when tested at the maximum thickness intended for use in accordance with ASTM E84. Polyisocyanurate and polystyrene foam plastic insulation boards must comply with ASTM C1289 and ASTM C578, respectively. Wood fiberboard insulation boards must comply with ASTM C208.

3.4 Fasteners:

3.4.1 Parafast Roofing Fastener: A general-purpose steel roofing screw, precoated with CR-10 corrosion-resistant coating, is used in combination with the Parafast 3-inch Metal Plate to secure insulation and base sheets to the roof deck. Fastener length must be sufficient to penetrate through steel and wood decks a minimum of $^3/_4$ inch (19.1 mm). The fasteners must penetrate a minimum of $^1/_2$ inch (12.7 mm) beyond the underside of the plywood. For concrete decks, $^3/_{16}$-inch-diameter (5 mm) holes must be predrilled and at least 1-inch (25.4 mm) of the screw must penetrate into the concrete deck.

3.4.2 Parafast CD-10 Concrete Fastener: A nonthreaded, hammer-in fastener, precoated with CR-10 corrosion-resistant coating, used in combination with the Parafast 3-inch Metal Plate to secure insulation and base sheets to concrete deck. Fastener length must be sufficient to penetrate into the concrete deck a minimum of 1-inch (25.4 mm).

3.4.3 Parafast 3-Inch Metal Plate: A 3-inch-diameter (76.2 mm), galvalume-coated steel plate is used in combination with Parafast fasteners to secure insulation and base sheets to the roof deck.

3.5 Siplast PA-311, PA-311M and PA-311R Adhesives:

The PA-311, PA-311M and PA-311R adhesives are used with specific roofing systems as described in Tables 1 and 2. The adhesives are applied by brush, roller, or squeegee, or by spraying at a rate of $1^1/_2$ gallons per 100 square feet (0.61 L/m^2). During application, the adhesive must be maintained at temperatures above 50°F (10°C).

3.6 Siplast SFT Adhesive:

Siplast SFT Adhesive is used with specific roofing systems as descried in Tables 1 and 2. The adhesive is applied using a squeegee. During application, the adhesive must be maintained at temperatures above 70°F (21°C).

3.7 Asphalt:

The asphalt primer must meet ASTM D41 specifications. The asphalt must meet ASTM D312, Type III or IV, specifications

3.8 Impact Resistance:

The Paradiene and Veral modified bitumen roofing membranes described in this report meet requirements for impact resistance based on testing in accordance with Section 4.6 of FM 4470.

4.0 INSTALLATION

4.1 General:

Installation of the Paradiene and Veral modified bitumen roofing membranes must comply with the IBC, the manufacturer's published installation instructions and this report. The manufacturer's published installation instructions must be available on the jobsite at all times during installation.

The slope of the roof must be a minimum of $^1/_4$:12 (2 percent slope) and must not be more than the maximum slope indicated for the particular system as listed in Table 1.

Penetrations and terminations of the roof covering must be flashed and made weathertight in accordance with the requirements of the membrane manufacturer and IBC Section 1503.2.

4.2 Fire Classification:

4.2.1 New Construction: Roof covering systems described in Table 1, when installed in accordance with this report, are classified as Class A or B roof covering systems based on testing in accordance with ASTM E 108 or UL 790.

4.2.2 Reroofing: The existing deck must be inspected to verify that the structure to be reroofed is structurally sound and adequate to support and secure the roofing membrane.

Class A, B, or C roof covering systems may be installed over existing classified roof covering systems under the following conditions without additional roof classification tests, provided the resulting classification is the lower of the new and existing roofing classification:

- New uninsulated systems installed only over existing uninsulated assemblies.
- New insulated systems installed over existing uninsulated systems only.

4.3 Wind Uplift Resistance:

4.3.1 New Construction: The allowable wind uplift pressures for the Siplast membrane roof covering systems described in the report are noted in Table 2. Metal edge securement systems must be listed in accordance with ANSI/SPRI/FM4435- ES-1 (dated 2003, 2011 or 2017, as applicable), and designed and installed in accordance with 2021 IBC Section 1504.6 (2018, 2015, 2012, 2009 and 2006 IBC Section 1504.5), as applicable, and IBC Chapter 16.

4.3.2 Reroofing: Prior to installation of new roof coverings, inspection in accordance with 2021 IBC Section 1512 [2018 and 2015 IBC Section 1511 or (2012, 2009 and 2006 IBC Section 1510)] is required. Roof covering systems employing mechanical fasteners must be qualified, to the satisfaction of the code official, as to the adequacy of fasteners penetrating through existing roof coverings into structural substrates.

Since the composition and/or condition of any particular underlying existing roofing material may vary widely, reroofing with adhered systems is outside the scope of this report.

5.0 CONDITIONS OF USE:

The modified bitumen roofing membrane roof covering systems 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 of the roofing systems must comply with the IBC, the manufacturer's published installation instructions and this report. The instructions within this report govern if there are any conflicts between the manufacturer's published installation instructions and this report.

5.2 The roof covering systems must be installed only by applicators approved by Siplast, Inc.

5.3 Foam plastic insulation must be separated from the interior of the building by an approved thermal barrier in accordance with IBC Section 2603.4.1.5, except when specifically listed in an ICC-ES evaluation report as outlined in Footnote 2 to Table 1.

5.4 Foam plastic insulation, where used, must bear the label of an approved agency indicating that the foam plastic has a flame-spread index of not more than 75 when tested at the maximum thickness intended for use in accordance with ASTM E 84, subject to the approval of the code official.

5.5 Above-deck thermal insulation board must comply with the applicable standards listed in Table 1508.2 of the IBC.

5.6 Design wind-uplift pressure on any roof area, including edge and corner zones, must not exceed the allowable wind pressure for the system installed in that particular area. Refer to the allowable wind uplift pressure for roof coverings as listed in Table 2.

5.7 The allowable wind uplift pressures listed in Table 2 are for the roof covering only. The deck and framing to which the roof covering is attached must be designed for the applicable components and cladding wind loads in accordance with the IBC.

5.8 Calculations demonstrating that the required wind resistance is less than the allowable wind resistance must be submitted to the code official.

5.9 When application is over existing roofs, documentation of the wind uplift resistance of the composite roof construction must be submitted to the code official at the time of permit application.

5.10 The membranes are manufactured in Arkadelphia, Arkansas, under a quality control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

Data in accordance with ICC-ES Acceptance Criteria for Membrane Roof-covering Systems (AC75), dated July 2010 (editorially revised April 2021).

7.0 IDENTIFICATION

7.1 Each roll of the membranes, base sheets and ply sheets described in this report is identified with a label noting the product name; the manufacturer's name (Siplast, Inc.) and address; and the evaluation report number (ESR-1713).

7.2 The report holder's contact information is the following:

SIPLAST, INC.
1111 HIGHWAY 67 SOUTH
ARKADELPHIA, ARKANSAS 71923
(870) 246-8094
www.siplast.com

TABLE 1—SIPLAST ROOFING SYSTEMS AND FIRE CLASSIFICATIONS

SYSTEM NO.	ROOF CLASS	ROOF DECK[1,2]	MAX SLOPE	INSULATION[3,4,5]		ROOF COVERING APPLICATION[6,7,8]		
				Type	Attachment	Base Sheet	Ply Sheet	Membrane
1	A	Minimum $^{15}/_{32}$-inch-thick plywood	$^{1}/_{2}$:12	Minimum 1-inch-thick Polyisocyanurate	Adhered[4]	Paradiene 20. Paradiene 20 TG, Paradiene 20 HT, Paradiene 20 HT TG, Paradiene 20 EG, Paradiene 20 EG TG, Paradiene 20 HV, Paradiene 20 HV TG or Paradiene 20 TS[5] adhered[6]	---	Paradiene 30 FR, Paradiene 30 FR TG, Paradiene HT FR or Paradiene HT FR TG adhered[6]
		Noncombustible		(Optional) Minimum 1-inch-thick Polyisocyanurate	Mechanically fastened or adhered[4]		---	
2	B	Noncombustible	$2^{1}/_{2}$:12	(Optional) Minimum 1.4-inch-thick Polyisocyanurate	Mechanically fastened or hot-asphalt applied	Paradiene 20, Paradiene 20 TG, Paradiene 20 HT, Paradiene 20 HT TG, Paradiene 20 EG, Paradiene 20 EG TG, Paradiene 20 HV or Paradiene 20 HV TG or Paradiene 20 TS[8] mechanically fastened or hot-asphalt applied	----	Paradiene 30 FR, Paradiene 30 FR TG, Paradiene 30 HT FR or Paradiene 30 HT FR TG hot-asphalt applied
3	B	Minimum $^{15}/_{32}$-inch-thick plywood	$2^{1}/_{2}$:12	---	---	Parabase or Parabase Plus mechanically fastened or hot-asphalt applied	Paradiene 20, Paradiene 20 TG, Paradiene 20 HT or Paradiene 20 HT TG hot-asphalt applied	Paradiene 30 FR, Paradiene 30 FR TG, Paradiene 30 HT FR or Paradiene 30 HT FR TG hot-asphalt applied
4	A	Minimum $^{15}/_{32}$-inch-thick plywood	1:12	Minimum $1^{1}/_{4}$-inch minimum thick, Polyisocyanurate, with joints offset 6 inches from joints in deck	Adhered[4]	Parabase or Parabase Plus adhered[6]	---	Paradiene 40 FR adhered[8]
		Noncombustible		(Optional) Minimum $1^{1}/_{4}$-inch Polyisocyanurate	Mechanically fastened or hot-asphalt applied	Parabase or Parabase Plus mechanically fastened or adhered[6]	---	

TABLE 1—SIPLAST ROOFING SYSTEMS AND FIRE CLASSIFICATIONS (Continued)

SYSTEM NO..	ROOF CLASS	ROOF DECK[1,2]	MAX SLOPE	INSULATION[3,4,5]		ROOF COVERING APPLICATION[6,7,8]		
				Type	Attachment	Base Sheet	Ply Sheet	Membrane
5	A	Noncombustible	2:12	Minimum 1-inch-thick Expanded polystyrene or extruded polystyrene, with a shelf-adhered slip sheet and vapor barrier	Mechanically fastened	Paradiene 20 or Paradiene 20 TG or Paradiene 20 TS[8] hot-asphalt applied	---	Paradiene 20 hot-asphalt applied Topped with crushed stone ($^1/_2$-1$^1/_2$ inch) or river bottom stone ($^3/_4$-1$^1/_2$ inch) loose laid at a rate of 600 pounds per 100 square feet.
6	A	Noncombustible	Unlimited	Maximum 3-inch-thick Polyisocyanurate	Mechanically fastened	Irex 40 or Irex HT hot-asphalt applied	---	Veral Aluminum hot-asphalt applied
7	B	Minimum $^{15}/_{32}$-inch-thick plywood	Unlimited	Minimum $^3/_4$-inch-thick to 3-inch-thick max. Polyisocyanurate	Mechanically fastened	Irex 40 or Irex HT hot-asphalt applied	---	Veral Aluminum hot-asphalt applied
8	B	Minimum $^{15}/_{32}$-inch-thick plywood	Unlimited	None	---	One layer of Irex 40 or Irex HT and one layer of Parabase mechanically fastened	---	Veral Aluminum hot-asphalt applied
9	B	Minimum $^{15}/_{32}$-inch-thick plywood	Unlimited	None	---	Irex 40 or Irex HT mechanically fastened	---	Veral Aluminum adhered

For **SI:** 1 inch = 25.4 mm; 1 lb. = 0.45 kg; 1 square foot = 0.0920 m^2.

[1]Systems for use over a noncombustible deck may be installed use over a combustible deck (min. $^{15}/_{32}$-inch-thick plywood), when minimum 1/2-inch-thick Type X gypsum board or minimum $^1/_4$-inch-thick Georgia-Pacific Building Products "DensDeck® Roof Board or DensDeck® Prime Roofboard" or USG "SECUROCK®" Gypsum-Fiber Roof Board is installed directly over the combustible deck with all joints staggered a minimum of 6 inches from plywood joints.

[2]Noncombustible includes concrete and minimum No. 22 gage steel. Combustible wood decks must be minimum $^{15}/_{32}$-inch-thick (11.9 mm) plywood, $^7/_{16}$-inch-thick (11.1 mm) nonveneer, APA-rated oriented strand board or $^3/_4$-inch-thick (19 mm) sheathing boards.

[3]Foam plastic insulation is permitted to be installed over a steel deck without a thermal barrier when there is an ICC-ES evaluation report on the specific foam plastic for direct-to-deck applications. See Section 5.3 and 5.4 for conditions of use.

[4]Polyisocyanurate foam plastic insulation board must comply with ASTM C 1289. Extruded polystyrene (XPS) and expanded polystyrene (EPS) foam plastic insulation boards must comply with ASTM C 578.

[5]All foam plastic insulation must be UL-classified foam plastic and must be limited to the maximum thickness in accordance with Sections 5.4 of this report or the maximum thickness in accordance with this table, whichever is less.

[6]Materials may be adhered with Type IV roofing asphalt, Siplast PA-311, PA-311M or PA-311R cold-applied adhesive. See Section 3.5.

[7]Product designations including "TG" (torch grade) may be applied by torch in lieu of adhesive for base sheets and membranes only.

[8]When adhering Paradiene 20, concrete must be primed.

TABLE 2—SIPLAST ROOF COVERINGS AND WIND UPLIFT PRESSURE VALUES

SYSTEM No.	DECK[3]	INSULATION[1, 2, 5]		COVER BOARD		ROOF COVER		ALLOWABLE WIND UPLIFT PRESSURE (psf)
		Type	Attachmnet[1]	Type	Attachment	Base Sheet	Cap Membrane	
1W	Concrete	Minimum 1 3/8-inch-thick Johns Manville "E'NRGY 3"	Hot-asphalt applied[6(a)]	Minimum 1/2 -inch-thick perlite board	Hot-asphalt applied[6(a)]	Paradiene 20 adhered[6(b)]	Paradiene 30 adhered[6(b)]	75
2W	Concrete	Minimum 1 3/8 -inch-thick Johns Manville "E'NRGY 3"	Hot-asphalt applied[6(a)]	Minimum 1/2 -inch-thick wood fiber board	Hot-asphalt applied[6(a)]	Paradiene 20 EG adhered[6(b)]	Paradiene 30 adhered[6(b)]	60
3W	Concrete	Minimum 1 3/8 -inch-thick Johns Manville "E'NRGY 3" or Atlas Roofing "AC Foam II"	Hot-asphalt applied[6(a)]	---	---	Paradiene 20, Paradiene 20 HT, Paradiene 20 EG or Paradiene 20 HV adhered[6(b)]	Paradiene 30, Paradiene 30 FR, or Paradiene 30 HT FR adhered[6(b)]	90
7W	Concrete	---	---	---	---	Paradiene 20 TS torch-applied	Paradiene 30 FR TG, Paradiene 30 HT FR TG torch-applied	120
8W	Concrete	Minimum 3/4-inch-thick perlite	Hot-asphalt applied[6(a)]	---	---	Irex 40 or Irex HT hot-asphalt applied[6(a)]	Veral Aluminum torch-applied	45
9W	Concrete	Minimum 1 3/8-inch-thick Atlas Roofing "AC Foam II"	Hot-asphalt applied[6(a)]	---	---	Irex 40 or Irex HT[4] hot-asphalt applied[6(a)]	Veral Aluminum [4] torch-applied	45
10W	Concrete	Minimum 15/16-inch-thick fiberglass	Hot-asphalt applied[6(a)]	---	---	Irex 40 or Irex HT[4] hot-asphalt applied[6(a)]	Veral Aluminum [4] torch-applied	45
11W	Concrete	Minimum 1-inch-thick wood fiber	Hot-asphalt applied.	---	---	Irex 40 or Irex HT[4] hot-asphalt applied[6(a)]	Veral Aluminum torch-applied	45

TABLE 2—SIPLAST ROOF COVERINGS AND WIND UPLIFT PRESSURE VALUES (Continued)

SYSTEM NO.	DECK[3]	BARRIER BOARD AND/OR INSULATION[1, 2, 5]		COVER BOARD		ROOF COVER		ALLOWABLE WIND UPLIFT PRESSURE (psf)
		Type	Attachmnet[1]	Type	Attachment	Base Sheet	Cap Membrane	
12W	Steel	***Barrier Board:*** Minimum 1/2-inch-thick USG "SECUROCK Gypsum-Fiber Roof Board" or Georgia Pacific "DensDeck Prime" primed with ASTM D-41 primer ***Vapor Retarder:*** Paradiene 20 SA self-adhered ***Insulation:*** Minimum 1 1/2-inch-thick to maximum 12-inch-thick Polyisocyanurate	**Barrier Board:** Siplast Parafast pre-assembled fasteners or Parafast 3-inch metal plates and Parafast roofing fasteners applied at 1 per 4ft² ***Insulation:*** Para-Stik Adhesive[6(c)]	Minimum 1/4-inch-thick Georgia Pacific "DensDeck Prime"	Para-Stik Adhesive[6(c)]	Paradiene 20 TG, Paradiene 20 HT TG, or Paradiene 20 EG TG torched-applied	Paradiene 30 FR TG, or Paradiene 30 HT FR TG torched-applied	45
13W	Minimum 22-gauge, Type B Grade 33 steel	Minimum 1 1/2-inch-thick to maximum 12-inch-thick Polyisocyanurate	Loose laid	Minimum 1/2-inch-thick USG "SECUROCK Gypsum-Fiber Roof Board"	Siplast Parafast Pre-Assembled Fasteners or Parafast 3-inch Metal Plates and board 1 per 1ft²	Paradiene 20, Paradiene 20 HT, Paradiene 20 EG or Paradiene HV adhered[6(d)]	Paradiene 30 FR, Paradiene 30 HT FR adhered[6(d)]	82.5
	Minimum 22-gauge, Type B Grade 80 steel							120
14W	Minimum 22-gauge, Type B Grade 33 steel	Minimum 1 1/2-inch-thick to maximum 12-inch-thick Polyisocyanurate	Loose laid	Minimum 1/2-inch-thick Georgia Pacific "DensDeck Prime"	Siplast Parafast Pre-Assembled Fasteners or Parafast 3-inch Metal Plates and board 1 per 1ft²	Paradiene 20, Paradiene 20 HT, Paradiene 20 EG or Paradiene HV adhered[6(d)]	Paradiene 30 FR, Paradiene 30 HT FR fully adhered[6(d)]	82.5
	Minimum 22-gauge Type B, Grade 80 steel							90

TABLE 2—SIPLAST ROOF COVERINGS AND WIND UPLIFT PRESSURE VALUES (Continued)

SYSTEM NO.	DECK[3]	BARRIER BOARD AND/OR INSULATION[1, 2, 5]		COVER BOARD		ROOF COVER		ALLOWABLE WIND UPLIFT PRESSURE (psf)
		Type	Attachmnet[1]	Type	Attachment	Base Sheet	Cap Membrane	
15W	Minimum 22-gauge, Type B Grade 33 steel	Minimum 1 1/2-inch-thick Polyisocyanurate	Loose laid	Minimum 1/2-inch-thick Georgia Pacific "DensDeck Prime"	OMG XHD Fasteners or Parafast XHD roofing fasteners and 3-inch ribbed galvalume plates or Parafast 125 Tri Rib Plates primed with ASTM D41 asphalt primer 1 per 1 ft²	Paradiene 20 SA self-adhered	Paradiene 30 FR TG torch-applied	97.5
16W	Concrete	Minimum 1 1/2-inch-thick to maximum 12-inch-thick Polyisocyanurate	Para-Stik Adhesive[6(c)]	Minimum 1/4-inch-thick Georgia Pacific "DensDeck Prime"	Para-Stik Adhesive[6(c]	Paradiene 20, Paradiene 20 HT, Paradiene 20 EG or Paradiene HV adhered[6(d)]	Paradiene 30 FR, Paradiene 30 HT FR adhered[6(d)]	150
17W	Concrete	Minimum 1 1/2-inch-thick to maximum 12-inch-thick Polyisocyanurate	Para-Stik Adhesive[6(c)]	Minimum 1/4-inch-thick USG "SECUROCK Gypsum-Fiber Roof Board"	Para-Stik Adhesive[6(c]	Paradiene 20, Paradiene 20 HT, Paradiene 20 EG or Paradiene HV adhered[6(d)]	Paradiene 30 FR, Paradiene 30 HT FR adhered[6(d)]	210
18W	Concrete	Minimum 1 1/2-inch-thick to maximum 12-inch-thick Polyisocyanurate	Para-Stik Adhesive[6(c)]	Minimum 1/4-inch-thick USG "SECUROCK Gypsum-Fiber Roof Board"	Para-Stik Adhesive[6(c)]	Paradiene 20, Paradiene 20 HT, Paradiene 20 EG or Paradiene HV adhered[6(b)]	Paradiene 30 FR, Paradiene 30 HT FR adhered[6(b)]	180
19W	Concrete	***Vapor Retarder:*** Paradiene 20, fully adhered with Siplast SFT Adhesive ***Insulation:*** Minimum 1 1/2-inch-thick to maximum 12-inch-thick Polyisocyanurate	Para-Stik Adhesive[6(c)]	Minimum 1/4-inch-thick USG "SECUROCK Gypsum-Fiber Roof Board"	Para-Stik Adhesive[6(c)]	Paradiene 20, Paradiene 20 HT, Paradiene 20 EG or Paradiene HV adhered[6(d)]	Paradiene 30 FR, Paradiene 30 HT FR adhered[6(d)]	232.5

TABLE 2—SIPLAST ROOF COVERINGS AND WIND UPLIFT PRESSURE VALUES (Continued)

SYSTEM NO.	DECK[3]	INSULATION[1, 2, 5]		COVER BOARD		ROOF COVER		ALLOWABLE WIND UPLIFT PRESSURE (psf)
		Type	Attachmnet[1]	Type	Attachment	Base Sheet	Cap Membrane	
20W	Concrete, primed with asphalt primer	***Vapor Retarder:*** Paradiene 20 SA self-adhered ***Insulation:*** Minimum 1 1/2-inch-thick to maximum 12-inch-thick Polyisocyanurate	Para-Stik Adhesive[6(c)]	Minimum 1/4-inch-thick Georgia Pacific "DensDeck Prime"	Para-Stik Adhesive[6(c)]	Paradiene 20, Paradiene 20 HT, Paradiene 20 EG or Paradiene HV adhered[6(b)]	Paradiene 30 FR, Paradiene 30 HT FR adhered[6(b)]	67.5
21W	Concrete, primed with asphalt primer	---	---	---	---	Paradiene 20 TS torch applied	Paradiene 30 FR TG torch applied or Paradiene 30 FR or Paradiene HT FR hot-asphalt applied[6(a)]	352.5
22W	Concrete, primed with asphalt prime	---	---	---	---	Paradiene 20 TG torch-applied	Paradiene 30 FR TG torch-applied or Paradiene 30 FR TG or Paradiene 30 HT FR hot-asphalt applied[6(a)]	367.5

For SI: 1 inch = 25.4 mm, 1 ft = 0.305 m; 1 lb= 0.454 kg; 1 psf = 47.88 Pa; 1 pcf = 16.02 kg; 1 square = 0.29 m^2

[1]Insulation, fasteners, adhesives, base sheets, ply sheets and membranes must be FM-approved.
[2]See Section 5.8
[3]Steel deck must be minimum No. 22 gauge galvanized steel [base-metal thickness 0.030 inch (0.76 mm)]. Concrete must have a minimum compressive strength (fc) of 2500 psi [minimum of 24 MPa is required under ADIBC Appendix L, Section 5.1]. See Section 5.8 of this report.
[4]All foam plastic insulation must be limited to the maximum thickness in accordance with Section 5.4 of this report or maximum thickness in accordance with this table, whichever is less.
[5]Unless otherwise specified, steel decks must be minimum No. 22 gauge galvanized steel [0.030 inch (0.76 mm)]. Unless otherwise specified, concrete decks must have a minimum compressive strength (f_c) of 2500 psi.
[6]Insulation adhesive application rates are as follows (Consult adhesive manufacturer's published installation instructions for further details):

a. Hot asphalt full adhered at a rate of 25 lbs/square.
b. Siplast PA-311, PA-311M or PA-311R Adhesive applied in full coverage at a rate of 1.5 to 2.5 gallons per square.
c. Siplast Para-Stik Adhesive applied in continuous 3/4-inch to 1-inch-wide ribbons spaced maximum 12 inches o.c.
d. Siplast SFT Adhesive applied in full coverage at a rate of 2.0 gallons per square.

ICC-ES Evaluation Report

ESR-1713 CBC Supplement

Issued March 2024

This report is subject to renewal March 2026.

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 52 00—Modified Bituminous Sheet Roofing

REPORT HOLDER:

SIPLAST, INC.

EVALUATION SUBJECT:

PARADIENE AND VERAL MODIFIED BITUMEN ROOFING MEMBRANES

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that Paradiene and Veral modified bitumen roofing membranes, described in ICC-ES evaluation report ESR-1713, have also been evaluated for compliance with the code noted below.

Applicable code edition:

- 2022 *California Building Code* (CBC)

For evaluation of applicable Chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) AKA: California Department of Health Care Access and Information (HCAI) and the Division of State Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

2.0 CONCLUSIONS

2.1 CBC:

The Paradiene and Veral modified bitumen roofing membranes, described in Sections 2.0 through 7.0 of the evaluation report ESR-1713, comply with CBC Chapter 15, provided the design and installation are in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of CBC Chapters 15 and 16, as applicable.

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.

This supplement expires concurrently with the evaluation report, reissued March 2024.