

# ICC-ES Evaluation Report

**ESR-2563**

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**DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION**
**Section: 07 24 00—Exterior Insulation and Finish Systems**
**REPORT HOLDER:**

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**EVALUATION SUBJECT:**
**PAREX STANDARD SYSTEM**
**1.0 EVALUATION SCOPE**
**Compliance with the following codes:**

- 2009 *International Building Code*® (IBC)
- 2009 *International Residential Code*® (IRC)

**Properties evaluated:**

PROPERTY	IBC CHAPTER	IRC CHAPTER
Exterior insulation and finish systems (EIFS)	14	R7
Fire-resistance-rated construction	7	R3
Weather resistance	14	R7
Special inspections	17	NA
Structural – transverse wind load resistance	16	R6
Types I – IV (noncombustible) construction	26	NA
Surface burning characteristics	26	R3
Ignition resistance	26	NA

**2.0 USES**

The Parex Standard system is an exterior insulation and finish system (EIFS) complying with IBC Section 1408 and IRC Section R703.9. The system may be used in fire-resistance-rated construction and any construction Type (IBC Types I through V), with the exception of Type V, framed walls in a Group R1, R2, R3 or R4 occupancy Group. Under the IRC, the system is limited to use on concrete or masonry walls.

**3.0 DESCRIPTION**
**3.1 System Components:**

See Table 1. The Standard System consists of an optional water-resistive barrier coating, adhesively applied EPS, reinforcing mesh, base coat and finish coat.

**3.2 Insulation Board:**

Insulation board must be one of the following:

- a. EPS insulation board must comply with ASTM C 578, Type I, and ASTM E 2430 and must be produced by a molder with a current evaluation report.
- b. EPS insulation board may be produced by a molder that participates in an approved third-party quality assurance program. The board must comply with ASTM C 578, Type I, and ASTM E 2430, have a flame spread index of 75 or less and a smoke developed index of 450 or less when tested in accordance with ASTM E 84 or UL723, and be labeled in accordance with the code.

**3.3 Substrates (see Table 2):**

- Gypsum sheathing complying with ASTM C 1396 or ASTM C 1177
- Fiber cement panels complying with the ICC-ES Acceptance Criteria for Fiber Cement Siding Used as Exterior Wall Siding (AC90), and ASTM C 1186
- Fiber cement panels complying with the ICC-ES Acceptance Criteria for Reinforced Cementitious Sheets Used as Wall and Ceiling Sheathing and Floor Underlayment (AC376), and ASTM C 1325
- Concrete-masonry complying with the code
- Concrete complying with the code
- Exterior plaster complying with the code
- Exposure 1 wood structural panels complying with DOC PS 1 or PS-2
- Brick masonry complying with the code

**3.4 Sealants:**

Sealants must comply with ASTM C 920, Type S or M, minimum Grade NS, minimum Class 25 and Use O.

**4.0 DESIGN AND INSTALLATION**
**4.1 General:**

The Parex Standard System must be installed in accordance with the manufacturer's installation instructions, specifications and details available at <http://www.parex.com/details.shtml>.

**4.2 Drainage Options:**

The Parex Standard System has not been qualified as an EIFS with drainage, as described in IBC Section 1408.4.1 and IRC Section R703.9.2.

**4.3 Wind Design:**

Table 3 describes specific assemblies for which test data has been submitted. Other assemblies may be considered for approval by local officials based on testing and/or calculations of a qualified design professional.

**4.4 Weather Protection:**

The Parex Standard System complies with IBC Section 1403.2 and IRC Section R703.1.1.

**4.5 Use in Types I through IV Construction:**

Table 4 describes the assemblies qualified for use in Types I through IV construction.

**4.6 Fire-resistance-rated Construction:**

Table 5 describes the assemblies qualified for use in nonload-bearing fire-resistance-rated construction (the assemblies are rated from both sides, therefore the exterior wall does not require a minimum fire separation distance from adjacent construction as specified in IBC Section 705.5). In addition, in Type V construction, the Parex Standard System may be attached to the surface of combustible exterior fire-resistance-rated assemblies described in IBC Table 720.1(2) without changing the assigned hourly rating of the assembly. The Type V exterior wall must have a minimum 10-foot (3048 mm) separation distance from adjacent construction.

**4.7 Special Inspections:**

For recognition under the IBC, special inspections must be conducted in accordance with Section 1704.14 of the code. Refer to the Parex USA, Inc., Third Party Inspection Guidelines for verifying field preparation of materials.

**5.0 CONDITIONS OF USE**

The Parex Standard System described in this report complies with, or is a suitable alternative 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 this report, the manufacturer’s published installation instructions and the applicable code. In the event of a conflict between the manufacturer’s instructions and this report, this report governs.

- 5.2 The insulation board must be separated from the building interior by a thermal barrier complying with the applicable code.
- 5.3 Use in Type V framed construction in Occupancy Groups R1, R2, R3 and R3 is not permitted.
- 5.4 Installation must be by applicators listed by Parex USA, Inc.
- 5.5 Termination of the systems must not be less than 6 inches (152 mm) above finished grade in accordance with IBC Section 2603.8 and IRC Section R320.5.

**6.0 EVIDENCE SUBMITTED**

- 6.1 Reports of tests in accordance with ASTM E 2568.
- 6.2 Data in accordance with the ICC-ES Acceptance Criteria for Exterior Insulation and Finish Systems (AC219), dated October 2009.
- 6.3 Data in accordance with the ICC-ES Acceptance Criteria for Foam Plastic Insulation (AC12), dated June 2009.

**7.0 IDENTIFICATION**

Each container or package of the coating or reinforcing mesh used as part of the Parex Standard System must be labeled with the Parex USA, Inc., name and address; the product name; lot or batch number; quantity of material; storage instructions; pot life; expiration date; and the evaluation report number (ESR-2563). Foam plastic insulation must be labeled in accordance with the current ICC-ES evaluation report in which it is recognized, or as described in Section 3.2.2.

**TABLE 1—SYSTEM COMPONENTS**

System	Water-Resistive Barrier (optional)	Adhesive	Base Coat	Reinforcing Mesh	Finish
Parex Standard	WeatherSeal Spray & Roll-On	Parex 121, or Parex 302ABC-N1, or Parex 303, or Parex 395 Keycoat	Parex 121, or Parex Base Coat and Adhesive 301, or Parex Base Coat and Adhesive 302 ABC-N1	Parex Standard Reinforcing Mesh, 4.5 oz/yd <sup>2</sup> , minimum <sup>1</sup>	DPR Acrylic Finish 300 Series DPR Acrylic Finish 500 Series DPR Optimum Finish

<sup>1</sup>Higher weight meshes are allowable.

**TABLE 2—SUBSTRATES**

Adhesive	Substrates
Parex 121	WeatherSeal Spray & Roll-On Water-resistive Barrier All substrates noted in Section 3.3 except Plywood and OSB
Parex Base Coat and Adhesive 302 ABC-N1	ASTM C 1396 Sheathing ASTM C1177 Sheathing
Parex 303 Adhesive	ASTM C 1396 Sheathing ASTM C1177 Sheathing Plywood & OSB
Parex 395 Keycoat	WeatherSeal Spray & Roll-On Water-resistive Barrier All substrates noted in Section 3.3

TABLE 3—WIND LOAD DESIGN

Framing <sup>3</sup>		Substrate		EPS		
Type	Max. Spacing (inch)			EPS Minimum Thickness (inch)	Coating	Allowable Wind Load (psf)
2x4 Wood <sup>1</sup>	16	Any substrate noted in Section 3.3; attached to wood framing with 1 1/4 inch, No. 6 bugle-head Type W screws at 6 inches on center along studs; or to steel framing with 1 1/4 inch, No. 8, wafer-head type S screws, spaced 8 inches on center along studs. Fastener length must be increased by the addition sheathing thickness for sheathing greater than 1/2 inch.		1	Parex Standard System described in Table 1	80 positive, 50 negative
3 5/8-inch-by-No. 20 gage-steel  Minimum f <sub>y</sub> = 33Ksi						
N/A	N/A	Concrete, or Concrete-masonry		1	Parex WaterMaster DB or Parex Standard WaterMaster system described in Table 1	Positive – see note 2, 50, negative

SI: 1 inch = 25.4 mm; 1 psf = 0.0479 kPa.

<sup>1</sup>Minimum 2x4 Wood Framing, minimum specific gravity 0.42.

<sup>2</sup>Maximum positive pressure is limited to the capacity of the concrete or concrete masonry substrate, determined in accordance with the applicable code.

<sup>3</sup>The framing members must be designed to resist all positive and negative transverse design loads with a maximum allowable deflection of 1/240 of the span.

TABLE 4—ASSEMBLIES FOR USE IN TYPES I THROUGH IV CONSTRUCTION

Framing Members			Interior Sheathing <sup>3,4</sup>			Exterior Sheathing <sup>3</sup>			Insulation Board Thickness Maximum (inches)	Assembly
Metal		Max. Spacing (inches)	Type	Min. Thickness (inch)	Max. Fastener Spacing (inches)	Type	Min. Thickness (inch)	Max. Fastener Spacing (inches)		
Min. Depth	Min. Gage									
3 5/8"	No. 18 (0.0428 inch)	16 o.c.	ASTM C36 or ASTM C 1396 Type X	5/8"	8 o.c. <sup>1</sup>	ASTM C 1396	1/2	8 o.c.	4	Water-resistant Barrier Coating: Optional Adhesive: Parex 121 / Parex 302 ABC-N1 Base Coat: Parex 121 Finish Coat: Any noted in Table 1
3 5/8"	No. 20 (0.0320 inch)	16 o.c.	ASTM C36 or ASTM C 1396 Type X	1/2"	8 o.c. <sup>2</sup>	ASTM C 1396	1/2	8 o.c.	13	Water-resistant Barrier Coating: Optional Adhesive: Parex 121 Base Coat: Parex 121 Finish Coat: Any noted in Table 1

<sup>1</sup>Fasteners are minimum No. 6, 1 1/4-in-long corrosion-resistant steel, Type S, self drilling buglehead screws.

<sup>2</sup>Fasteners are minimum No. 8, 1 1/4-in-long corrosion-resistant steel, Type S, self drilling buglehead screws.

<sup>3</sup>Where the sheathing exceeds 1/2 inch in thickness, the screw length must be increased by the additional sheathing thickness.

<sup>4</sup>All joints must be taped and treated with joint compound. Intermediate fastener heads are treated with joint compound in accordance with ASTM C 840 or GA216.

<sup>5</sup>Openings must be frame with minimum 0.0428-inch-thick steel framing.

<sup>6</sup>At floor levels, Thermafiber insulation batts (ER-2331) must be fitted between studs. Insulation density must be a nominal 4 pcf. Batts may be either friction-fitted or supported.

TABLE 5—FIRE-RESISTANCE-RATED ASSEMBLIES<sup>2,3</sup>

Framing Members			Sheathing (Interior and Exterior)				Insulation Board Thickness Maximum (inches)	Rating
Metal		Max. Spacing	Type	Min. Thickness	Max. Fastener Spacing	Fastener		
Min. Depth	Min. Gage							
3 5/8"	20 [0.0320 inch]	16" o.c.	Type X FR Gypsum Wallboard <sup>1</sup>	5/8"	8 inches (203 mm) on center along the perimeter and 12 inches (305 mm) on center on all intermediate studs.	No. 6 by 1 1/4-inch-long (32 mm), self-tapping, bugle Phillips head drywall screws	4	1 hour
3 5/8"	20 [0.0320 inch]	16" o.c.	Two layers of Type X FR gypsum board.	5/8"	Layer 1: 16 inches (406 mm) on center at the stud locations Layer 2 (interior): 16 inches (406 mm) on center: Layer 2 (exterior): 8 inches (203 mm) on center	Layer 1: 6 by 1 1/4-inch-long (32 mm), self-tapping, bugle Phillips head drywall screws Layer 2 (interior) ; No 6 by 1 7/8-inch-long (48 mm), self-tapping, bugle Phillips head drywall screws Layer 2 (exterior): g No. 6 by 1 7/8-inch-long (48 mm), self-tapping, bugle Phillips head drywall screws	4	2 hour
3 5/8"	20 [0.0320 inch]	16" o.c.	Three layers of Type X FR gypsum board.	5/8"	Layer 1: 24 inches (610 mm) on center along the perimeter and intermediate studs. Layer 2 (interior): Offset from first layer seams by 12 inches, spaced 24 inches (610 mm) on center Layer 3: oriented identically to the first layer; 12 inches (305 mm) on center.	Layer 1: 6 by 1 1/4-inch-long (32 mm), self-tapping, bugle Phillips head drywall screws Layer 2 ; No 6 by 1 7/8-inch-long (48 mm), self-tapping, bugle Phillips head drywall screws Layer 3 : No. 6 by 2 1/2-inch-long (64 mm), self-tapping, bugle Phillips head drywall screws	4	3 hour

<sup>1</sup>All joints are taped and treated with joint compound in accordance with ASTM C 840 or GA216. Intermediate fastener heads are treated with joint compound.

<sup>2</sup>EIFS Assembly: Water-resistant Barrier Coating: Optional, Adhesive: Parex 121, Base Coat: Parex 121, Finish Coat: Any.

<sup>3</sup>Rated from both sides.