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# ICC-ES Report

## ESR-3035

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Reissued 05/2015

This report is subject to renewal 05/2016

**DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION**

**SECTION: 07 30 05—ROOFING FELT AND UNDERLAYMENT**

**REPORT HOLDER:**

**HEAT BARRIER SYSTEMS, INC.**

4531 FM 1565

POST OFFICE BOX 840

CADDO MILLS, TEXAS 75135

**EVALUATION SUBJECT:**

**POLARALUM™ ROOFING UNDERLAYMENT**



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# ICC-ES Evaluation Report

**ESR-3035**

Reissued May 2015

*This report is subject to renewal May 2016.*[www.icc-es.org](http://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 30 05—Roofing Felt and Underlayment**

**REPORT HOLDER:**

**HEAT BARRIER SYSTEMS, INC.**  
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(866) 527-4972  
[www.heatbarriersystemsinc.com](http://www.heatbarriersystemsinc.com)

**EVALUATION SUBJECT:****POLARALUM™ ROOFING UNDERLAYMENT****1.0 EVALUATION SCOPE****Compliance with the following codes:**

- 2012, 2009 and 2006 *International Building Code*® (IBC)
- 2012, 2009 and 2006 *International Residential Code*® (IRC)
- 2013 *Abu Dhabi International Building Code* (ADIBC)<sup>†</sup>

<sup>†</sup>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:**

- Physical properties
- Fire classification

**2.0 USES**

Polaralum roofing underlayment is intended for use as an alternative to the ASTM D226, Type I and Type II, roofing underlayment specified in Chapter 15 of the IBC and Chapter 9 of the IRC. Polaralum roofing underlayment is also used as a component of classified roofing assemblies when installed as described in Section 4.4 of this report.

**3.0 DESCRIPTION**

Polaralum roofing underlayment is a nonwoven polyester with aluminum foil adhered to the underside. The underlayment is 0.0356 inch [35.6 mils (0.9 mm)] thick, weighs 5.36 pounds per 100 square feet (275 g/m<sup>2</sup>) and is available in 247-foot-long (75 m) rolls that are 40 inches (1016 mm) wide.

**4.0 INSTALLATION****4.1 General:**

Installation must comply with the requirements of the applicable code, this evaluation report and the manufacturer's published installation instructions. The installation instructions must be available at the jobsite at

all times during installation.

**4.2 Application:**

Prior to application of the underlayment, the deck surface must be free of dust and dirt, loose nails, and other protrusions. Damaged sheathing must be replaced.

In areas of the roof where one layer of underlayment is allowed under Chapter 15 of the IBC or Chapter 9 of the IRC, the underlayment is laid horizontally (parallel to the eave) starting at the lowest eave point, aluminum foil side down, with 4-inch (102 mm) horizontal (head) laps and 1-inch (25.4 mm) vertical (end) laps. Overlaps must run with the flow of water in a shingling manner. In areas subject to high winds, underlayment fastening must comply with the high-wind attachment requirements specified in IBC Section 1507 or IRC Section R905.

**4.3 Ice Barriers:**

In areas of the roof required to have an ice dam membrane under IBC Chapter 15 or an ice barrier under IRC Chapter 9, an approved membrane must be applied over the solid substrate in sufficient courses so that the underlayment extends up from the edge of the eave to a point at least 24 inches (610 mm) inside the exterior wall line. The roofing underlayment, in the field of the roof must overlap the ice barrier.

The minimum slope in the roof, and the minimum number of layers of underlayment, must comply with the applicable requirements set forth in IBC Chapter 15 or IRC Chapter 9, as applicable, based on the type of roof covering being installed over the underlayment.

In valley, hip and ridge areas, a single layer of full-width underlayment must be fastened in accordance with the manufacturer's published installation instructions and centered vertically at all valleys before the laying of underlayment in the field, and at all hips and ridges after the laying of underlayment in the field.

Installation of an approved roof covering can proceed immediately following application of the underlayment. The underlayment must be covered by the roof covering within the time period set forth in the manufacturer's published installation instructions.

For reroofing applications, the same procedures apply after removal of the existing roof covering and roofing felts to expose the roof deck.

**4.4 Roof Classification:**

The roofing underlayment may be used as a component of a classified roof assembly consisting of Class A or C glass fiber mat shingles or Class C asphalt organic felt shingles complying with the applicable code, when installed in

accordance with this report over a minimum  $\frac{3}{8}$ -inch-thick (9.5 mm) plywood deck.

The underlayment may be used in Class A or Class B roof assemblies that utilize the roof coverings specified in the exception to Sections 1505.2 and 1505.3 of the 2006 IBC. The underlayment may also be used as an alternate to the underlayment specified in the applicable code for roof coverings of brick, masonry, slate, clay or concrete roof tile, exposed concrete roof deck, ferrous or copper shingles or sheets, and metal sheets and shingles, where such roof coverings are permitted to be used in lieu of a Class A assembly under 2006 IRC Section R902.1.

#### 5.0 CONDITIONS OF USE

The Polaralum Roofing Underlayment 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 the applicable code, this report and the manufacturer's published installation instructions. In the event of a conflict between the manufacturer's published installation instructions and this report, this report governs.
- 5.2 Installation is limited to roofs with a minimum slope of 2:12 (16.67 percent slope) and installations where the roof covering does not involve hot asphalt or coal-tar pitch.

5.3 Installation is limited to solid substrates complying with the applicable code.

5.4 Installation is limited to use with approved roof coverings that are mechanically fastened through the underlayment to the sheathing or rafters.

5.5 Installation is limited to roofs with ventilated attic spaces in accordance with the requirements of the applicable code.

5.6 The product is manufactured in Mt. Bethel, Pennsylvania, under a quality control program with inspections by ICC-ES.

#### 6.0 EVIDENCE SUBMITTED

6.1 Data in accordance with the ICC-ES Acceptance Criteria for Roof Underlayments, (AC188), dated February 2012.

6.2 Data in accordance with ASTM E108.

#### 7.0 IDENTIFICATION

The Polaralum roof underlayment described in this report is identified by a label, on the container of each roll of membrane, bearing the Heat Barrier Systems, Inc., name, and address, the product name, the evaluation report number (ESR-3035).