

**ICC-ES Evaluation Report****ESR-3035**

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**DIVISION: 07—THERMAL AND MOISTURE PROTECTION**  
**Section: 07305—Roofing Felt and Underlayment****REPORT HOLDER:****HEAT BARRIER SYSTEMS, INC.**  
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[www.heatbarriersystemsinc.com](http://www.heatbarriersystemsinc.com)**EVALUATION SUBJECT:****POLARALUM™ ROOFING UNDERLAYMENT****1.0 EVALUATION SCOPE****Compliance with the following codes:**

- 2006 *International Building Code*® (IBC)
- 2006 *International Residential Code*® (IRC)

**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 4.2 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 DESIGN AND INSTALLATION****4.1 Design:**

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.

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. Underlayment applied in areas subject to high winds [greater than 110 miles per hour (49 m/s)] must be applied with 6-inch (152 mm) head and end laps and fastened using corrosion-resistant metal caps and corrosion-resistant fasteners in accordance with the applicable code.

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.

**4.2 Roof Classification:**

The Polaralum roofing underlayment may 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. The noted roof coverings may be used as indicated in the exceptions to IBC Sections 1505.2 and 1505.3 or IRC Section R902.1, wherever a Class A, B, or C roof covering assembly is required.

**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 Cleveland, Ohio, under a quality control program with inspections by Intertek Testing Services NA, Inc. (AA-690).

**6.0 EVIDENCE SUBMITTED**

**6.1** Data in accordance with the ICC-ES Acceptance Criteria for Roof Underlayments, (AC188), dated July 2007.

**6.2** Data in accordance with ASTM E 108.

**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, the product name, the manufacturing location, the evaluation report number (ESR-3035) and the name and mark of the inspection agency (Intertek Testing Services, NA, Inc.).