

# ICC-ES Evaluation Report

**ESR-2476**

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**DIVISION: 07 00 00—THERMAL AND MOISTURE  
PROTECTION****Section: 07 25 00—Water-Resistive Barriers/Weather  
Barriers****REPORT HOLDER:****RAVEN INDUSTRIES**  
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[www.fortresspro.com](http://www.fortresspro.com)**EVALUATION SUBJECT:****FORTRESS PRO AND FORTRESS WATER-RESISTIVE  
BARRIERS****1.0 EVALUATION SCOPE****Compliance with the following codes:**

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

**Properties evaluated**

- Water resistance
- Surface-burning characteristics

**2.0 USES**

Raven Industries' Fortress Pro and Fortress are used as water-resistive barriers on the exterior side of exterior walls of buildings of any construction type under the IBC and construction permitted under the IRC. The products are alternatives to the water-resistive barriers required in IBC Section 1404.2 and IRC Section R703.2. The products are also considered equivalent to a Grade D paper in accordance with IBC Section 2510.6 and IRC Section R703.6.3.

**3.0 DESCRIPTION****3.1 General:**

The Raven Industries Fortress Pro water-resistive barrier described in this evaluation report is made from a polyester fiber-reinforced polypropylene fabric with a white, breathable polymer coating. The Raven Industries Fortress water-resistive barrier described in this evaluation report is made from a coated woven polyolefin film with micro-pores. The Fortress Pro membrane has a nominal thickness of 0.015 inch (0.38 mm) and a basis weight of 3.15 oz/yd<sup>2</sup> (106.5 g/m<sup>2</sup>). The Fortress membrane has a nominal thickness of 0.0035 inch (0.09 mm) and a basis

weight of 2.5 oz/yd<sup>2</sup> (84.5 g/m<sup>2</sup>). The membranes are available in rolls of varying size.

**3.2 Surface-burning Characteristics:**

The membranes described in this report have a flame-spread index of 25 or less and a smoke-developed index of 450 or less, when tested in accordance with ASTM E 84.

**4.0 INSTALLATION**

The water-resistive barriers must be installed after wall framing is completed and before windows and doors are installed. The roll must be placed from left to right with the printed side to the outside and with at least 6 to 12 inches (152 to 305 mm) of the membrane extending around building corners. The membranes must be fastened to framing with 1-inch-long (25.4 mm), corrosion-resistant, plastic cap nails. The membrane is unrolled around the building and fastened with nails spaced between 12 and 18 inches (305 to 457 mm) at each vertical stud line. A minimum overlap of 6 inches (152 mm) must be provided for both vertical and horizontal seams. When use is over wood-based sheathing in exterior plaster applications, two layers of the product must be applied over sheathing in accordance with IBC Section 2510.6 or IRC Section R703.6.3, as applicable. For installation with exterior wall coverings of cementitious coatings or exterior insulation and finish systems, application must be in accordance with the ICC-ES evaluation report on the exterior wall covering.

**5.0 CONDITIONS OF USE**

The Raven Industries Fortress Pro and Fortress water-resistive barriers 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** The report holder's published installation instructions and this report must be strictly adhered to. In the event of conflict between this report and the report holder's published installation instructions, this report governs.
- 5.2** The membranes must be covered in accordance with the report holder's published installation instructions with an approved exterior wall covering complying with the applicable code.

**6.0 EVIDENCE SUBMITTED**

- 6.1** Data in accordance with the ICC-ES Acceptance Criteria for Water-resistive Barriers (AC38), dated February 2008.

6.2 Test reports of surface-burning characteristics in accordance with ASTM E 84.

## 7.0 IDENTIFICATION

The Raven Industries Fortress Pro and Fortress water-resistant barriers are identified by a label or stamp,

appearing on the membrane at regular intervals, bearing the report holder's name (Raven Industries) and address, the product name, the manufacturing location and the evaluation number (ESR-2476).