

# ICC-ES Evaluation Report


ESR-5458

Issued September 2024

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<p><b>DIVISION: 07 00 00— THERMAL AND MOISTURE PROTECTION</b></p> <p><b>Section: 07 25 00— Water-Resistive Barriers/Weather Barriers</b></p>	<p><b>REPORT HOLDER:</b></p> <p><b>KINGWILLS ADVANCED MATERIALS CO., LTD.</b></p>	<p><b>EVALUATION SUBJECT:</b></p> <p><b>HYPAK™ HB1060K and HYPAK™ HB1090K</b></p>	
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## 1.0 EVALUATION SCOPE

### 1.1 Compliance with the following codes:

- 2024 and 2021 [International Building Code® \(IBC\)](#)
- 2024 and 2021 [International Residential Code® \(IRC\)](#)

### Properties evaluated:

- Water resistance
- Surface-burning characteristics

## 2.0 USES

Hypak™ HB1060K and Hypak™ HB1090K 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. Under the IBC, the water-resistive barriers may be used on buildings of Type I, II, III and IV construction that are not greater than 40 feet (12.2 m) in height above grade in accordance with 2024 and 2021 Section 1402.5, except as permitted in Exception 1 of the 2024 IBC Section 1402.6 and 2021 IBC Section 1402.5. Hypak™ HB1060K and Hypak™ HB1090K are an alternative to the water-resistive barriers specified in the 2024 and 2021 IBC Section 1403.2 and IRC Section R703.2.

Hypak™ HB1060K is considered equivalent to 60-minute Grade D paper as described in 2024 and 2021 IBC Section 2510.6 and 2024 and 2021 IRC Section R703.7.3. Hypak™ HB1060K is also classified as an ASTM E2556 Type II water-resistive barrier as specified in 2024 and 2021 IBC Section 2510.6 and 2024 and 2021 IRC Section R703.7.3.

Hypak™ HB1090K is considered equivalent to 10-minute Grade D paper as described in 2024 and 2021 IBC Section 2510.6 and 2024 and 2021 IRC Section R703.7.3. Hypak™ HB1090K is also classified as an ASTM E2556 Type I water-resistive barrier as specified in 2024 and 2021 IBC Section 2510.6 and 2024 and 2021 IRC Section R703.7.3.

## 3.0 DESCRIPTION

### 3.1 General:

Hypak™ HB1060K and Hypak™ HB1090K have a flame spread index of less than 25 and a smoke-developed index of less than 450, when tested in accordance with ASTM E84.

### 3.2 Hypak™ HB1060K:

Hypak™ HB1060K consists of a non-perforated, non-woven, vapor permeable film of spun bond high-density polyethylene (HDPE). The membrane has a nominal weight of 12.3 pounds per 1000 square feet (60 g/m<sup>2</sup>) and is produced in rolls of varying size.

### 3.3 Hypak™ HB1090K:

Hypak™ HB1090K consists of a non-perforated, non-woven, vapor permeable film of spun bond high-density polyethylene (HDPE). The membrane has a nominal weight of 18.4 pounds per 1000 square feet (90 g/m<sup>2</sup>) and is produced in rolls of varying size.

### 3.4 Water Vapor Transmission:

The water vapor transmission (WVT) value of Hypak™ HB1060K and Hypak™ HB1090K, as determined in accordance with ASTM E96 Procedure A (Desiccant Method), is greater than 5 Perms [ $2.9 \times 10^{-10}$  Kg/(Pa·s·m<sup>2</sup>)].

## 4.0 INSTALLATION

**4.1 General:** The water-resistive barrier must be installed on the exterior side of exterior walls over exterior sheathing or insulation. The printed side must be installed facing outside. The product must be installed in accordance with the manufacturer's published installation instructions, this report, and the applicable code. If requested by the code official, a copy of this report must be available at the jobsite during installation. In the event of a conflict between this report and the manufacturer's published installation instructions, this report governs.

### 4.2 Water-resistive Barrier:

Hypak™ HB1060K and Hypak™ HB1090K are installed after wall framing is completed and before windows and doors are installed. The roll is placed a minimum of 12 inches (305 mm) from the starting corner and fastened to the sheathing with corrosion-resistant nails having minimum 1-inch-diameter (25.4 mm) plastic washer heads or cap heads, spaced at a maximum of 40 inches (1016 mm) on center, or corrosion-resistant staples with minimum 1-inch (25.4 mm) crowns, spaced a maximum of 40 inches (1016 mm) on center; and are then unrolled around the building and fastened with nails spaced at a maximum of 40 inches (1016 mm) on center or staples spaced a maximum of 40 inches (1016 mm) on center. The printed side of the wrap is installed facing the outside. A minimum of 6 inches (152 mm) of overlap must be provided for vertical seams and 2 inches (51 mm) for horizontal seams, except where the manufacturer's installation instructions specify a greater overlap. When required, seams are to be taped in accordance with the report holder's installation instructions.

#### 4.2.1 Hypak™ HB1060K:

When use is over wood-based sheathing in exterior plaster applications, one or two layers of Hypak™ HB1060K may be applied over sheathing in accordance with 2024 and 2021 IBC Section 2510.6 or 2024 and 2021 IRC Section R703.7, as applicable.

When used over wood-based sheathing in exterior plaster applications in accordance with 2024 and 2021 IBC Section 2510.6 and 2024 and 2021 IRC Section R703.7.3 installations must be as follows:

- For dry climate zones (B) in accordance with 2024 and 2021 IBC Section 2510.6.1 or 2024 and 2021 IRC Section R703.7.3.1, the product must be applied in accordance with 2024 and 2021 IBC Section 2510.6.1 Item 1 or 2 or 2024 and 2021 IRC Section R703.7.3.1 Item 1 or 2, as applicable.
- For moist climate zones (A) or marine climate zones (C) in accordance with 2024 and 2021 IBC Section 2510.6.2 or 2024 and 2021 IRC Section R703.7.3.2, the product must be applied in accordance the dry climate zone (B) provisions noted above and with the additional requirements noted in 2024 and 2021 IBC Section 2510.6.2 Item 1 or 2024 and 2021 IRC Section R703.7.3.2 Item 1, as applicable.

For cementitious coatings or exterior insulation and finish systems, application must be in accordance with the evaluation report on the exterior coating.

#### 4.2.2 Hypak™ HB1090K:

When use is over wood-based sheathing in exterior plaster applications, two layers of Hypak™ HB1090K may be applied over sheathing in accordance with 2024 and 2021 IBC Section 2510.6 or 2024 and 2021 IRC Section R703.7, as applicable.

When used over wood-based sheathing in exterior plaster applications in accordance with 2024 and 2021 IBC Section 2510.6 and 2024 and 2021 IRC Section R703.7.3 installations must be as follows:

- For dry climate zones (B) in accordance with 2024 and 2021 IBC Section 2510.6.1 or 2024 and 2021 IRC Section R703.7.3.1, the product must be applied in accordance with 2024 and 2021 IBC Section 2510.6.1 Item 1 or 2024 and 2021 IRC Section R703.7.3.1 Item 1, as applicable.
- For moist climate zones (A) or marine climate zones (C) in accordance with 2024 and 2021 IBC Section 2510.6.2 or 2024 and 2021 IRC Section R703.7.3.2, the product must be applied in accordance the dry climate zone (B) provisions noted above and with the additional requirements noted in 2024 and 2021 IBC Section 2510.6.2 Item 1 or 2024 and 2021 IRC Section R703.7.3.2 Item 1, as applicable.

For cementitious coatings or exterior insulation and finish systems, application must be in accordance with the evaluation report on the exterior coating.

## 5.0 CONDITIONS OF USE:

The Hypak™ HB1060K and Hypak™ HB1090K water-resistive barriers described in this report comply with, or are 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 The product must be installed in accordance with the manufacturer's published installation instructions, this report, and the applicable code. In the event of a conflict between this report and the manufacturer's published installation instructions, this report governs.
- 5.2 The membrane must be covered in accordance with the manufacturer's installation instructions with an approved exterior wall covering complying with the applicable code.
- 5.3 The product is manufactured under a quality control program with inspections by ICC-ES.

## 6.0 EVIDENCE SUBMITTED

- 6.1 Data in accordance with [ICC-ES Acceptance Criteria for Water-resistive Barriers \(AC38\)](#), dated August 2016 (Editorially revised June 2024).
- 6.2 Reports of surface burning characteristics testing in accordance with ASTM E84.

## 7.0 IDENTIFICATION

- 7.1 The ICC-ES mark of conformity, electronic labeling, or the evaluation report number (ICC-ES ESR-5458) along with the name, registered trademark, or registered logo of the report holder must be included in the product label.
- 7.2 In addition, the Hypak™ HB1060K and Hypak™ HB1090K products are identified by a label on the container bearing the report holder's name (Kingwills Advanced Materials Co., Ltd.), the product name (Hypak™ HB1060K or Hypak™ HB1090K), and the evaluation report number (ESR-5458). The product name (Hypak™ HB1060K or Hypak™ HB1090K), and the evaluation report number (ESR-5458) are printed, at regular intervals, on the outside face of the product.
- 7.3 The report holder's contact information is the following:

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