

# ICC-ES Evaluation Report


ESR-5332

Issued December 2024

Subject to renewal December 2025

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<b>DIVISION: 07 00 00 - THERMAL AND MOISTURE PROTECTION</b>  <b>Section: 07 25 00—Water-Resistive Barriers/Weather</b>  <b>Barriers 07 27 00—Air Barriers</b>	<b>REPORT HOLDER:</b>  <b>HENRY, A CARLISLE COMPANY</b>	<b>EVALUATION SUBJECT:</b>  <b>WEATHERSMART® HEXDRAIN™ WATER-RESISTIVE BARRIER</b>	
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## 1.0 EVALUATION SCOPE

### 1.1 Compliance with the following codes:

- 2024, 2021, 2018 and 2015 [International Building Code® \(IBC\)](#)
- 2024, 2021, 2018 and 2015 [International Residential Code® \(IRC\)](#)
- 2024, 2021, 2018 and 2015 [International Energy Conservation Code® \(IECC\)](#)

### Properties evaluated:

- Physical properties
- Air barrier
- Surface-burning characteristics
- Drainage efficiency

### 1.2 Evaluation to the following green code(s) and/or standards:

- 2022 [California Green Building Standards Code \(CALGreen\)](#), Title 24, Part 11
- 2021, 2018 and 2015 [International Green Construction Code® \(IgCC\)](#)
- 2020, 2017 and 2014 [ANSI/ASHRAE/USGBC/IES Standard 189.1](#)—Standard for the Design of High-Performance Green Buildings, Except Low-Rise Residential Buildings
- 2020 and 2015 ICC 700 [National Green Building Standard™](#) (ICC 700-2020 and ICC 700-2015)

### Attributes verified:

- See Section 2.0

## 2.0 USES

WeatherSmart® HexDrain™ is used as a water-resistive barrier on the exterior side of exterior walls of buildings of Type V construction under the IBC and construction permitted under the IRC. The water-resistive barrier complies with ASTM E2556 Type II in accordance with IBC Section 2510.6 and 2024 and 2021 IRC Section R703.7.3 and are equivalent to Grade D paper with a 60-minute water resistance rating as described in the exception to 2018 and 2015 IRC Section R703.7.3.

WeatherSmart<sup>®</sup> HexDrain<sup>™</sup> may be used as an air barrier material in accordance with 2024 IRC Section N1102.5.1 (2021, 2018 and 2015 IRC Section N1102.4.1), or 2024 IECC Sections C402.6 and R402.5 (2021, 2018 and 2015 IECC Sections C402.5 and R402.4).

The attributes of the water-resistive barriers have been verified as conforming to the provisions of (i) CALGreen Section 5.407.1 for water-resistive barriers; (ii) ICC 700-2020 Sections 602.1.8, 11.602.1.8, 1202.6 and 13.104.1.4; and (iii) ICC 700-2015 Section 602.1.8, 11.602.1.8 and 12.5.602.1.8 for water-resistive barriers.

The attributes of WeatherSmart<sup>®</sup> HexDrain<sup>™</sup> have been verified as conforming to the provisions of (i) CALGreen Section A4.407.5 for air barriers; (ii) 2021 IgCC Section 701.3.1.2, 2018 IgCC Section 701.3.1.1 and 2015 IgCC Section 605.1.2.1 for air barriers; and (iii) 2020 ASHRAE 189.1 Section 7.3.1.2, 2017 and 2014 ASHRAE 189.1 Section 7.3.1.1 for air barriers. Note that decisions on compliance for those areas rest with the user of this report. The user is advised of the project-specific provisions that may be contingent upon meeting specific conditions, and the verification of those conditions is outside the scope of this report. These codes or standards often provide supplemental information as guidance.

## 3.0 DESCRIPTION

### 3.1 WeatherSmart<sup>®</sup> HexDrain<sup>™</sup>:

WeatherSmart<sup>®</sup> HexDrain<sup>™</sup> is a 60-minute Grade D and ASTM E2556, Type II, nonwoven, polypropylene fabric with a polyolefin blend coating on one side, and has a 60-minute water-resistance rating. WeatherSmart HexDrain<sup>™</sup> weighs a nominal 2.15 pounds per 100 square feet (105 g/m<sup>2</sup>) and is manufactured in rolls of varying sizes. When used as an air barrier material, the product has an air permeance not exceeding 0.02 L/(s m<sup>2</sup>) @ 75 Pa [0.004 cfm.ft<sup>2</sup> at 0.3 w.g. (1.57 psf)].

### 3.2 Surface Burning Characteristics:

The water-resistive barrier has a flame spread index of less than 100 and a smoke-developed index of less than 450, when tested in accordance with ASTM E84.

### 3.3 Drainage Efficiency:

When installed in accordance with Section 4.3 WeatherSmart<sup>®</sup> HexDrain<sup>™</sup> has a drainage efficiency rating of 90 percent or more as determined in accordance with ASTM E2773.

## 4.0 INSTALLATION

### 4.1 General:

The WeatherSmart<sup>®</sup> HexDrain<sup>™</sup> water-resistive barrier must be installed in accordance with 2024, 2021 and 2018 IBC Section 1403.2 and (2015 IBC Section 1404.2) or IRC Section R703.2, as applicable, on the exterior side of exterior wall framing, sheathing or insulation, with the printed side installed facing outward.

The water-resistive barrier described in this report is installed after wall framing is completed and before or after windows and doors are installed. The roll is placed approximately 6 inches (152 mm) from the starting corner, except where the manufacturer's installation instructions specify a greater dimension, and is fastened with corrosion-resistant staples, corrosion-resistant nails, or corrosion nails or staples having plastic washer heads. The water-resistive barrier is then unrolled horizontally around the building and fastened in accordance with the manufacturer's published installation instructions. A minimum of 6 inches (152 mm) of overlap is to be provided for vertical seams and 2 inches (51 mm) for horizontal seams, except where the manufacturer's published installation instructions specify a greater overlap.

When the water-resistive barrier is installed over wood-based sheathing in exterior plaster applications, the water-resistive barrier must be applied in two layers over the sheathing, in accordance with 2018 and 2015 IBC Section 2510.6 and 2018 or 2015 IRC Section R703.7.3, as applicable. As an alternative, the water-resistive barrier may be installed in a single layer in accordance with the exception to 2018 and 2015 IBC Section 2510.6 and 2018 and 2015 IRC Section R703.7.3.

When WeatherSmart<sup>®</sup> HexDrain<sup>™</sup> is 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 products must be applied in accordance with 2024 and 2021 IBC Section 2510.6.1 Item 1 or 2 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 2 or 2024 and 2021 IRC Section R703.7.3.2 Item 1, as applicable.

For cementitious coatings or exterior insulation and finish systems, application is to be in accordance with the ICC-ES evaluation report on the exterior coating system.

#### 4.2 Air Barrier:

WeatherSmart® HexDrain™, when used as an air barrier material, must be installed in accordance with the manufacturer's published installation instructions and this report.

#### 4.3 Wall Covering Assembly with Drainage Systems

##### 4.3.1 WeatherSmart® HexDrain™ (System 1):

WeatherSmart® HexDrain™ has drainage efficiency rating of 90 percent or more as determined in accordance with ASTM E2273 when installed in an exterior wall assembly that consists of minimum  $1\frac{5}{32}$ -inch-thick (11.9 mm) Exposure 1 oriented strand board (OSB) sheathing applied to wood studs spaced a maximum of 16 inches (406 mm) on center and fastened in accordance with the requirements of IBC Chapter 23 or IRC Chapter 6. Vertical OSB edges must butt over studs. WeatherSmart® HexDrain™ must be applied as described in Section 4.1. One layer of Henry, a Carlisle Company Super JumboTex 60 Minute Weather-Resistive Barrier ([ESR-1027](#)) must be applied as described in Section 4.1 of [ESR-1027](#) over the WeatherSmart® HexDrain™. STRUCTALATH III™, measuring  $1\frac{1}{2} \times 1\frac{1}{2}$  inch, self-furring wire lath must be installed over the Super JumboTex 60 Minute Weather-Resistive Barrier and attached to the OSB sheathing with  $1\frac{1}{2}$ -inch-long (38.1 mm) galvanized ring-shank roofing nails. The water-resistive barrier must be covered with a minimum  $\frac{3}{8}$ -inch-thick (9.5 mm) one-coat stucco system recognized in a current ICC-ES evaluation report.

##### 4.3.2 WeatherSmart® HexDrain™ (System 2):

WeatherSmart® HexDrain™ has drainage efficiency rating of 90 percent or more as determined in accordance with ASTM E2273 when installed in an exterior wall assembly that consists of  $1\frac{5}{32}$ -inch (11.9 mm) thick Exposure 1 oriented strand board (OSB) sheathing applied to wood studs spaced a maximum of 16 inches (406 mm) on center and fastened in accordance with the requirements of IBC Chapter 23 or IRC Chapter 6. Vertical OSB edges must butt over studs. WeatherSmart® HexDrain™ must be applied as described in Section 4.1. Minimum 1-inch-thick (25.4 mm) flat faced Type 1 expanded polystyrene (EPS) foam plastic insulation boards, described in a current ICC-ES evaluation report as complying with ASTM C578, must be positioned over the WeatherSmart® HexDrain™ and fastened 12 inches (305 mm) on center vertically at each framing member using No. 8 by  $1\frac{5}{8}$ -inch exterior bugle head screws with  $1\frac{3}{4}$ -inch diameter plastic washers. The exterior wall covering must be applied over the EPS foam plastic insulation boards as specified in the applicable code or current ICC-ES evaluation report for the exterior wall covering.

## 5.0 CONDITIONS OF USE:

The water-resistive barrier 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 conflict between the manufacturer's published installation instructions and this report, this report governs.
- 5.2 The water-resistive barrier must be covered with an approved exterior wall covering.
- 5.3 The air permeance noted in Section 4.2 is for WeatherSmart® HexDrain™ used as an air barrier material only. The design and evaluation of an air barrier assembly, with WeatherSmart® HexDrain™ as a component, is outside the scope of this report.
- 5.4 The products are manufactured 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 Water-resistive Barriers \(AC38\)](#), dated August 2016 (editorially revised June 2024).
- 6.2 Reports of testing in accordance with ASTM E84.
- 6.3 Reports of testing in accordance with ASTM E2178.
- 6.4 Report of testing for in accordance with ASTM E2273.

## 7.0 IDENTIFICATION

- 7.1 The ICC-ES mark of conformity, electronic labeling, or the evaluation report number (ICC-ES ESR-5332) 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 water-resistive barriers described in this report are identified on one side, at regular intervals, with the product name, the Henry, a Carlisle Company name and website address, and the evaluation report number (ESR-5332).
- 7.3 The report holder's contact information is the following:

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