

ICC-ES Evaluation Report


ESR-5320

Reissued November 2024

Subject to renewal November 2025

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<p>DIVISION: 07 00 00— THERMAL AND MOISTURE PROTECTION</p> <p>Section: 07 25 00— Water-Resistive Barriers/Weather Barriers</p> <p>Section: 07 27 00—Air Barriers</p>	<p>REPORT HOLDER:</p> <p>HENRY, A CARLISLE COMPANY</p>	<p>EVALUATION SUBJECT:</p> <p>WEATHERSMART® D DRAINABLE WRAP</p>	
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1.0 EVALUATION SCOPE

1.1 Compliance with the following codes:

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

Properties evaluated:

- Water resistance
- Surface-burning characteristics
- Air leakage
- Water Vapor Transmission
- 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
- 2024, 2021, 2018 and 2015 [International Green Construction Code® \(IgCC\)](#)
- 2023, 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, 2015, 2012 and 2008 ICC 700 [National Green Building Standard™](#) (ICC 700-2020, ICC 700-2015, ICC 700-2012 and ICC 700-2008)

Attribute verified:

- See Section 2.0

2.0 USES

WeatherSmart[®] D Drainable Wrap is used as a water-resistive barrier 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 barrier 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 2021 and 2018 IBC Section 1402.5, or 2015 IBC Section 1403.5, except as permitted in Exception 1 of the 2021 and 2018 IBC Section 1402.5 and 2015 IBC Section 1403.5. The water-resistive barrier has water resistance greater than that of a 60-minute Grade D paper and ASTM E2556 Type II, that is permitted by 2021 IBC Section 2510.6 and IRC R703.7.3.

The attributes of the water-resistive barriers have been verified as conforming to the requirements 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; (iii) ICC 700-2015 Sections 602.1.8, 11.602.1.8 and 12.6.602.1.8; (iv) ICC 700-2012 Sections 602.1.8, 11.602.1.8 and 12.5.602.1.8; and (v) ICC 700-2008 Section 602.9 for water-resistive barriers. (vi) 2024 and 2021 IgCC Section 701.3.1.2, 2018 IgCC Section 701.3.1.1 and 2015 and 2012 IgCC Section 605.1.2.1 for air barriers; (vii) 2023 and 2020 ASHRAE 189.1 Section 7.3.1.2, 2017 and 2014 ASHRAE 189.1 Section 7.3.1.1 and 2011 ASHRAE 189.1 Section 7.4.2.9 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 General:

WeatherSmart[®] D Drainable Wrap has a flame spread index of less than 25 and a smoke-developed index of less than 450, when tested in accordance with ASTM E84. The water-resistive barrier is supplied in rolls of varying sizes.

3.2 Weathersmart D Drainable Wrap:

WeatherSmart[®] D Drainable Wrap consists of a polypropylene non-woven fabric on the exterior side laminated to an air and water permeable polypropylene film on the interior side and has a total nominal weight of 2.36 oz/yd² (80.1 g/m²) [1.64 lbs/100 square feet].

3.3 Air Barrier Material:

WeatherSmart[®] D Drainable Wrap has an air leakage rate of less than 0.02 L/(s·m²) at 75 Pa [0.004 cfm/ft² at 0.3 inch w.g. (1.57 psf)] when tested in accordance with ASTM E2178.

3.4 Water Vapor Transmission:

The water vapor transmission (WVT) value of WeatherSmart[®] D Drainable Wrap, as determined in accordance with ASTM E96 Procedure A (Desiccant Method), is greater than 5 Perms [2.9×10^{-10} Kg/(Pa·s·m²)].

3.5 Drainage Efficiency:

When installed in accordance with Section 4.4, WeatherSmart[®] D Drainable Wrap has a drainage efficiency rating of 90 percent or more as determined in accordance with ASTM E2273.

4.0 DESIGN AND 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 report holder's published installation instructions and this report must be strictly adhered to, and a copy of the instructions must be available at all times on the jobsite during installation. In the event of a conflict between this report and the report holder's published installation instructions, this report governs.

4.2 Water-resistive Barrier:

The product 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 12 inches (305 mm) from the starting corner and fastened to the sheathing with corrosion-resistance staples, large-headed nails, or roofing nails with 1 inch (25.4 mm) plastic caps spaced at a maximum of 24 inches (610 mm) on center; and is then unrolled around the building and fastened, as specified in the report holder's published installation instructions, at top and bottom sill plates and at framing members. A minimum of 12 inches (305 mm) of overlap is required for vertical seams and 6 inches (152 mm) for horizontal seams, except where the report holder's installation instructions specify a greater overlap dimension.

When use is over wood-based sheathing in exterior plaster applications, one or two layers of WeatherSmart[®] D Drainable Wrap may be applied over sheathing in accordance with 2021 IBC Section 2510.6 or IRC Section R703.7.

When WeatherSmart[®] D Drainable Wrap is used over wood based sheathing in exterior plaster applications in accordance with 2021 IBC Section 2510.6 and 2021 IRC Section R703.7.3, installations must be as follows:

- For dry climate zones (B) in accordance with 2021 IBC Section 2510.6.1 or 2021 IRC Section R703.7.3.1, for the product must be applied in accordance with 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 2021 IBC Section 2510.6.2 or 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 2021 IBC Section 2510.6.2 Item 1 or 2 or 2021 IRC Section R703.7.3.2 Item 1 or 2, 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.

4.3 Air Barrier Material:

WeatherSmart[®] D Drainable Wrap, when used as an air barrier material in accordance with IECC Section C402.5.1.3, IECC Section R402.4.1 or IRC Section N1102.4.1, must be installed in accordance with the report holder's published installation instructions.

4.4 Wall Covering Assembly with Drainage:

WeatherSmart[®] D Drainable Wrap, when used with an exterior wall assembly of Type V construction consisting of minimum $7/16$ -inch-thick (11.1 mm) Exterior or Exposure I plywood or Exposure I oriented strand board (OSB) applied to woods 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 where vertical board edges butt over studs, the water-resistive barrier must be applied as described in Section 4.2. Minimum 1-inch-thick (25.4 mm) flat faced Type I 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[®] D Drainable Wrap and fastened to the sheathing along the edges of the EPS insulation boards and midway between the horizontal edges of the EPS insulation boards using Wind-Lock #7 x $1\frac{5}{8}$ -inch-long (41 mm) dual thread screws with Wind-Lock 2-inch (51 mm) diameter plastic washers (Part # GWLMT-1). The Wind-Lock fasteners must be spaced a maximum of 9 inches (229 mm) on center vertically starting 3 inches (76 mm) up from the bottom of the wall assembly and 16 inches (406 mm) on center horizontally starting 5 inches (127 mm) from one side of the wall assembly. 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 WeatherSmart[®] D Drainable Wrap 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** The product must be installed in accordance with the report holder's published installation instructions, the requirements of the applicable code and this report. In the event of a conflict between this report and the report holder's published installation instructions, this report governs.
- 5.2** The product must be covered by an exterior wall covering complying with the requirements of the applicable code.
- 5.3** The report provides air leakage rates for the product as an air barrier material only. The design and evaluation of the air barrier assembly, of which the product is a component, is outside the scope of this report.
- 5.4** When the product is used in an exterior wall covering assembly with drainage as described in Section 4.4, the assembly must be specifically described in the applicable code or current ICC-ES evaluation report for the exterior wall covering.
- 5.5** The product is 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 July 2021).
- 6.2 Report of surface burning characteristics testing in accordance with ASTM E84.
- 6.3 Report of air leakage testing in accordance with ASTM E2178.
- 6.4 Report of drainage efficiency testing 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-5320) 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 WeatherSmart® D Drainable Wrap is identified by a roll label that consists of the report holder's name (Henry, a Carlisle Company), product name, and evaluation report number (ESR-5320). The product name and ESR-5320 are printed at regular intervals on the outside face of the product.
- 7.3 The report holder's contact information is the following:

HENRY, A CARLISLE COMPANY
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