

ICC-ES Evaluation Report

ESR-2658

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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>JAMES HARDIE BUILDING PRODUCTS, INC.</p>	<p>EVALUATION SUBJECT:</p> <p>HARDIE™ WEATHER BARRIER WATER- RESISTIVE BARRIER</p>	
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1.0 EVALUATION SCOPE

1.1 Compliance with the following codes:

- 2021, 2018, 2015, 2012, and 2009 [International Building Code® \(IBC\)](#)
- 2021, 2018, 2015, 2012, and 2009 [International Residential Code® \(IRC\)](#)
- 2021, 2018, 2015, 2012 and 2009 [International Energy Conservation Code® \(IECC\)](#)
- 2013 *Abu Dhabi International Building Code (ADIBC)*[†]

[†]The ADIBC is based on the 2009 IBC. 2009 IBC code sections referenced in this report are the same sections in the ADIBC.

- Other Codes (see Section 8.0)

Properties evaluated:

- Water resistance
- Surface burning characteristics
- Air leakage

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

- 2019 [California Green Building Standards Code \(CALGreen\)](#), Title 24, Part 11
- 2018, 2015 and 2012 [International Green Construction Code® \(IgCC\)](#)
- 2017, 2014 and 2011 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)

Attributes verified:

- See Section 2.0

2.0 USES

Hardie™ Weather Barrier 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 2021, 2018, 2015 and 2012 IBC, the water-resistive barrier may be used on buildings of Types I, II, III, or IV construction that are not greater than 40 feet (12.2 m) in height above grade plane in accordance with 2021 and 2018 IBC Section 1402.5 [2015 and 2012 IBC Section 1403.5], except as permitted under Exception 1 of the 2021 and 2018 IBC Section 1402.5 (2015 IBC Section 1403.5).

The product is an alternative to the water-resistive barrier specified in 2021 and 2018 IBC Section 1403.2 (2015, 2012 and 2009 IBC Section 1404.2) and IRC Section R703.2. The product complies, when installed in two layers, as a water-resistive barrier specified in the 2021, 2012 and 2009 IBC Section 2510.6 and 2021, 2018 and 2015 IRC Section R703.7.3 (2012 and 2009 IRC Section R703.6.3).

Hardie™ Weather Barrier is considered equivalent to a 60-minute Grade D paper as described in 2021, 2012 and 2009 Section 2510.6 and 2021, 2018 and 2015 IRC Section R703.7.3 (2012 and 2009 IRC Section R703.6.3).

Hardie™ Weather Barrier may be used as an air barrier material in accordance with IRC Section N1102.4.1 and 2021, 2018, and 2015 IECC Sections C402.5 and R402.4 (2012 IECC Sections C402.4 and R402.4 and 2009 IECC Sections 402.4 and 502.4).

The attributes of the Hardie™ Weather Barrier have been verified as conforming to the requirements of (i) CALGreen Section 5.407.1 for water-resistive barriers and Section A4.407.5 for air barriers; (ii) 2018 IgCC Section 701.3.1.1 and 2015 and 2012 IgCC Section 605.1.2.1 for air barriers; (iii) 2017 and 2014 ASHRAE 189.1 Section 7.3.1.1 and 2011 ASHRAE 189.1 Section 7.4.2.9 for air barriers; (iv) ICC 700-2020 Sections 602.1.8, 11.602.1.8, 1202.6 and 13.104.1.4 and ICC 700-2015 Section 602.1.8, 11.602.1.8 and 12.6.602.1.8; (v) ICC 700-2012 Sections 602.1.8, 11.602.1.8 and 12.5.602.1.8; and (vi) ICC 700-2008 Section 602.9 for water-resistive 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:

Hardie™ Weather Barrier consists of a nonperforated, nonwoven, polyolefin fabric. Sheets are available in rolls of varying size. Hardie™ Weather Barrier has an air leakage rate not exceeding 0.02 L/s/m² at 75 Pa [0.004 cfm/ft² at 0.3 inch w.g (1.57 psf)] when used as an air barrier material in accordance with IRC Section N1102.4.1 and 2021, 2018 and 2015 IECC Sections C402.5 and R402.4 (2012 IECC Sections C402.4 and R402.4 or 2009 IECC Sections 402.4 and 502.4).

3.2 Surface Burning Characteristics:

Hardie™ Weather Barrier has a flame-spread index of less than 25 and smoke-developed index of less than 450, when tested in accordance with ASTM E84.

4.0 DESIGN AND INSTALLATION

4.1 General:

Hardie™ Weather Barrier must be installed on the exterior side of exterior walls over exterior sheathing or insulation. The printed side must be installed facing the 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. The instructions within this report govern if there are any conflicts between the report holder's published installation instructions and this report.

4.2 Application:

Hardie™ Weather Barrier must be installed after wall framing is completed. The start of the roll must be placed approximately 2 to 3 feet (0.6 to 0.9 m) from the corner, and fastened using staples, large-headed nails, or roofing nails spaced a maximum of 18 inches (457 mm) on center. The wrap is then unrolled around the building and fastened with large-headed nails, roofing nails or staples spaced a maximum of

32 inches (813 mm) on center, vertically and horizontally. A minimum of 2 inches (51 mm) of overlap is required for the sheets in the horizontal direction, while 6 inches (152 mm) is required in the vertical direction.

When used over foam insulation boards, the sheet must be fastened with roofing nails or other large-headed nails long enough to penetrate through the insulation into the framing studs.

When use is over wood-based sheathing in exterior plaster applications two layers of Hardie™ Weather Barrier must be applied over sheathing in accordance with the 2012 and 2009 IBC Section 2510.6 or 2018 and 2015 IRC Section R703.7.3 (2012 and 2009 IRC Section R703.6.3), as applicable.

The Hardie™ Weather Barrier is equivalent to a 60-minute Grade D paper and may be installed in accordance with the exception to the 2012 and 2009 IBC Section 2510.6 or the exception to the 2018 and 2015 IRC Section R703.7.3 (2012 and 2009 IRC Section R703.6.3), as applicable.

When Hardie™ Weather Barrier 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, 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 with the dry climate zone (B) provisions noted above and with the additional requirements noted in 2021 IBC Section 2510.6.2 Item 1 or 2021 IRC Section R703.7.3.2 Item 1, as applicable.

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

4.3 Air Barrier Material:

When Hardie™ Weather Barrier is used as an air barrier, the material must be installed in accordance with the report holder's installation instructions and this report.

5.0 CONDITIONS OF USE:

The Hardie™ Weather 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 The water-resistive barrier listed in this report must be covered by an exterior wall covering complying with the requirements of the applicable code.
- 5.2 The product must not be used where ASTM E2556 Type I or II building paper is required.
- 5.3 This report is based on air leakage rate for the product as an air barrier 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 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 July 2021).
- 6.2 Reports of tests in accordance with ASTM E84.
- 6.3 Test report on air leakage in accordance with ASTM E2178.

7.0 IDENTIFICATION

- 7.1 Sheets are identified with the James Hardie Building Products name and address, the product name and the evaluation report number (ESR-2658).
- 7.2 The report holder's contact information is the following:

JAMES HARDIE BUILDING PRODUCTS, INC.
10901 ELM AVENUE
FONTANA, CALIFORNIA 92337
(909) 942-7343
www.jameshardie.com
info@jameshardie.com

8.0 OTHER CODES

8.1 Evaluation Scope:

In addition to the codes referenced in Section 1.0, the products covered in this report were also evaluated for compliance with the requirements of the following codes:

- 2006 *International Building Code*[®] (2006 IBC)
- 2006 *International Residential Code*[®] (2006 IRC)
- BOCA[®] *National Building Code/1999* (BNBC)
- 1999 *Standard Building Code*[©] (SBC)
- 1997 *Uniform Building Code*[™] (UBC)

8.2 Uses:

See Section 2.0, with the following modification:

The products are also alternatives to the Type 15 felt specified in BNBC Section 1406.3.6, Type 15 felt specified in SBC Section 2303.3 and Grade D building paper as described in UBC Standard 14-1.

The water-resistive barrier recognized in this report is limited to Type 5 construction under the BNBC, Type VI under the SBC and Type V under the UBC.

8.3 Description:

See Section 3.0.

8.4 Installation:

See Section 4.0, except for the following modification for the UBC: In areas enforcing the UBC, either two layers of the membrane or one layer of the membrane and one layer of an approved water-resistive barrier must be installed in accordance with UBC Section 2506.4.

8.5 Conditions of Use:

See Section 5.0.

8.6 Evidence Submitted:

See Section 6.0.

8.7 Identification:

See Section 7.0