

ICC-ES Evaluation Report


ESR-1197

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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: BARRICADE BUILDING PRODUCTS, DIVISION OF SPECIALTY COATING AND LAMINATING LLC</p>	<p>EVALUATION SUBJECT: R-WRAP® PROTECTIVE HOUSE WRAP, BARRICADE® BUILDING WRAP, MARVELGUARD® HOUSE WRAP, BARRICADE PLUS® PROTECTIVE HOUSE WRAP AND WATER- RESISTIVE BARRIERS</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 (R-Wrap® Protective House and Barricade Plus Wrap)

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, 2015 and 2012 [International Green Construction Code® \(IgCC\)](#)
- 2020, 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

R-Wrap® Protective House Wrap, Barricade® Building Wrap, MarvelGuard® House Wrap, and Barricade Plus® Protective House Wrap 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 2021, 2018, 2015 and 2012 IBC, the water-resistive barriers 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 Exceptions 1 of the 2021 and 2018 IBC Section 1402.5 (2015 IBC Section 1403.5).

The products are alternatives to the water-resistive barrier specified in 2021 IBC Section 1403.2 (2015, 2012 and 2009 IBC Section 1404.2) and IRC Section R703.2. The products comply, 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).

R-Wrap® Protective House Wrap and Barricade Plus® Protective House Wrap are considered equivalent to a 60-minute Grade D paper as described in 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).

Barricade Plus® and R-Wrap® Protective House Wrap 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 or 2009 IECC Sections 402.4 and 502.4).

Barricade Plus® Protective House Wrap is used to laminate the exterior side of the NEOPOR® ThermaPlus™ rigid foam insulation boards described in [ESR-4431](#). For installation and evaluation of the Barricade Plus® Protective House Wrap in this application, see [ESR-4431](#).

The attributes of the R-Wrap® Protective House Wrap, Barricade® Building Wrap, MarvelGuard® House Wrap, and Barricade Plus® Protective House Wrap 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 ICC 700-2015 Sections 602.1.8, 11.602.1.8 and 12.6.602.1.8 for water-resistive barriers; (iii) ICC 700-2012 Sections 602.1.8, 11.602.1.8 and 12.5.602.1.8 for water-resistive barriers; and (iv) ICC 700-2008 Section 602.9 for water-resistive barriers.

The attributes of the Barricade Plus® and R-Wrap® Protective House Wrap have been verified as conforming to the provisions of (i) 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; and (ii) 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:

3.1.1 R-Wrap® Protective House Wrap: R-Wrap® Protective House Wrap consists of a nonwoven polyolefin fabric. Sheets are available in rolls of varying size.

R-Wrap® Protective House Wrap 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).

3.1.2 Barricade® Building Wrap: Barricade® Building Wrap consists of a perforated, micro-porous, woven polyolefin fabric, with an additional polyolefin coating. Sheets are available in rolls of varying size.

3.1.3 MarvelGuard® House Wrap: MarvelGuard® House Wrap consists of a perforated, woven polyolefin fabric with an additional polyolefin coating. Sheets are available in rolls of varying size.

3.1.4 Barricade Plus® Protective House Wrap: Barricade Plus® Protective House Wrap consists of a nonperforated, nonwoven polyolefin fabric. Sheets are available in rolls of varying size.

Barricade Plus® House Wrap 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:

The water-resistive barriers listed in this report 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.

4.0 INSTALLATION

4.1 General:

The water-resistive barriers listed in this report 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:

The water-resistive barriers listed in this report must be installed after wall framing is completed. The start of the roll must be placed a distance from the corner of approximately 1 foot (0.3 m) for R-Wrap® Protective House Wrap and 2 to 3 feet (0.6 to 0.9 m) for Barricade® Building Wrap, MarvelGuard® House Wrap and Barricade Plus® Protective House Wrap, 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 nails or staples spaced a maximum of 32 inches (813 mm) on center, vertical and horizontal. A minimum of 2 inches (51 mm) of overlap is required for the sheet in the horizontal dimension, while 6 inches (152 mm) is required in the vertical dimension.

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 R-Wrap® Protective House Wrap, Barricade® Building Wrap, MarvelGuard® House Wrap, and Barricade Plus® Protective House Wrap 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.

When Barricade® Building Wrap or MarvelGuard® House Wrap are 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 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 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 2021 IRC Section R703.7.3.2 Item 1, as applicable.

The R-Wrap® and Barricade Plus® barriers are 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, 2015 IRC Section R703.7.3 (2012 and 2009 IRC Section R703.6.3), as applicable.

When R-Wrap® or Barricade Plus® barriers are 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 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 R-Wrap[®] Protective House Wrap and Barricade Plus[®] Wrap are used as an air barrier, the materials must be installed in accordance with the report holder's installation instructions and this report.

5.0 CONDITIONS OF USE:

The R-Wrap[®] Protective House Wrap, Barricade[®] Building Wrap, MarvelGuard[®] House Wrap, and Barricade Plus[®] Protective House Wrap 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 water-resistive barriers listed in this report must be covered by an exterior wall covering complying with the requirements of the applicable code.
- 5.2 The products must not be installed where ASTM E2556 Type I or II building paper is required.
- 5.3 This report is based on air leakage rates for the products as an air barrier only. The design and evaluation of the air barrier assembly, of which the products are 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 [ICC-ES Acceptance Criteria for Water-resistive Barriers \(AC38\)](#), dated August 2016 (editorially revised July 2021).
- 6.2 Test reports in accordance with ASTM E84.
- 6.3 Test reports on air leakage in accordance with ASTM E2178.

7.0 IDENTIFICATION

- 7.1 Sheets shall be identified with the report holder's trade name (Barricade Building Products) and address, the product trade name, and the evaluation report number (ESR-1197).
- 7.2 The report holder's contact information is the following:

**BARRICADE BUILDING PRODUCTS, DIVISION OF
SPECIALTY COATING AND LAMINATING LLC**
10351 VERDON ROAD
DOSWELL, VIRGINIA 23047
(804) 876-3135
www.barricadebp.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 modifications:

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

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