



ICC-ES Evaluation Report

Reissued May 2022

ESR-3079

This report is subject to renewal May 2023.

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION

Section: 07 25 00—Water-Resistive Barriers/Weather Barriers

REPORT HOLDER:

ENVIRONMENTALLY SAFE PRODUCTS INC.

EVALUATION SUBJECT:

ESP LOW-E HOUSEWRAP

1.0 EVALUATION SCOPE

1.1 Compliance with the following codes:

- 2021, 2018, 2015, 2012, 2009 and 2006 *International Building Code*® (IBC)
- 2021, 2018, 2015, 2012, 2009 and 2006 *International Residential Code*® (IRC)
- 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.

Properties evaluated:

- Water resistance
- Vapor permeability
- Surface-burning characteristics

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

- 2019 California Green Building Standards Code (CALGreen), Title 24, Part 11
- 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 3.0.

2.0 USES

ESP Low-E Housewrap 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 product is an alternative to the water-resistive barrier specified in 2021 and 2018 IBC Section 1403.2 (2015, 2012, 2009 and 2006 IBC Section 1404.2) and IRC Section 703.2. The product is also considered equivalent to a 60-minute Grade D building paper as described in 2021, 2012, 2009 and 2006 IBC Section 2510.6 and 2021, 2018 and 2015 IRC Section R703.7.3 (2012, 2009 and 2006 IRC Section 703.6.3).

3.0 DESCRIPTION

ESP Low-E Housewrap is comprised of a nominally ³/₁₆-inch-thick [0.22 inch actual (5.6 mm)] closed cell polyethylene core having a 1.5-pound-per-cubic-foot (24.0 kg/m³) nominal density, flame laminated to a 99-percent pure aluminum foil facer which is then perforated. ESP Low-E Housewrap weighs approximately 0.64 ounce per square foot (195 g/m²). ESP Low-E Housewrap is packaged in rolls, available in widths of 4, 5 and 6 feet (1219, 1524 and 1829 mm). ESP Low-E Housewrap has a flame-spread index of not more than 25 and a smoke-developed index of not more than 450 when tested in accordance with ASTM E84 (UL 723).

The attributes of the ESP Low-E Housewrap used as an alternative water-resistive barrier have been verified as conforming to the provisions of (i) CALGreen Section 5.407.1 and (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. 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.

4.0 INSTALLATION

ESP Low-E Housewrap is installed over exterior wall sheathing prior to or after the installation of windows and/or doors. If doors and windows have been installed, the ESP Low-E Housewrap must be trimmed as close to the window or door opening as possible and sealed with approved adhesive tape. The Low-E Housewrap roll is placed

approximately 6 inches (152 mm) from the start of a corner and is fastened to sheathing with corrosion-resistant staples having minimum 1-inch-wide (25.4 mm) crowns, corrosion-resistant nails having minimum $\frac{3}{8}$ -inch-diameter (9.5 mm) heads or corrosion-resistant nails having minimum 1-inch-diameter (25.4 mm) plastic heads. Fasteners must be spaced a maximum of 16 inches (406 mm) on center both vertically and horizontally.

The Low-E Housewrap must be installed with the foil facing visible from the exterior. Product overlaps are 2.5 inches (63 mm) for horizontal seams. Upper courses are to overlap lower courses in a shingle-like manner. Horizontal seams must be taped with approved foil tape. Vertical overlaps must be a minimum of 6 inches (152 mm).

When Low-E Housewrap is used over foam sheathing, it must be attached with roofing nails or approved fasteners whose length exceeds the foam thickness by a minimum of $\frac{1}{2}$ inch (12.7 mm).

When used over wood-based sheathing in an exterior stucco application in accordance with 2012, 2009 and 2006 IBC Section 2510.6 or 2018 and 2015 IRC Section R703.7.3 (2012, 2009 and 2006 IRC Section R703.6.3), the Low-E Housewrap must be applied in conjunction with one layer of Grade D water-resistive barrier with a 60-minute water resistive rating, applied over sheathing, or it may be installed in one layer where it is separated from the stucco by an intervening, substantially nonwater-absorbing layer or designed drainage space.

When used over wood-based sheathing in exterior plaster applications in accordance with 2021 IBC Section 2510.6 and 2021 IRC Section R703.7.3 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 the dry climate zone (B) provisions noted above and with the additional requirements noted in 2021 IBC Section 2510.6.2 note 1 or 2021 IRC Section R703.7.3.2 Item 1, as applicable.

5.0 CONDITIONS OF USE

The Low-E Housewrap 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 Low-E Housewrap must be manufactured, identified and installed in accordance with this report and the manufacturer's published installation instructions. In the event of a conflict between the manufacturer's published installation instructions and this report, this report governs.
- 5.2 The interior of the building must be separated from the Low-E Housewrap using an approved thermal barrier in accordance with IBC Section 2603.4, or Section R316.4 of the 2021, 2018, 2015, 2012 and 2009 IRC or Section R314.4 of the 2006 IRC, as applicable.
- 5.3 Low-E Housewrap is manufactured in New Oxford, Pennsylvania, and Carson City, Nevada, 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 Reports of testing in accordance with ASTM E84 (UL 723).

7.0 IDENTIFICATION

- 7.1 ESP Low-E Housewrap is identified by a label attached to each roll which includes the manufacturer's address and phone number, traceability information, and the evaluation report number (ESR-3079). Labeling includes a statement noting the flame-spread index of 25 or less and the smoke-developed index of 450 or less. "ESR-3079" is printed on each roll at regular intervals.
- 7.2 The report holder's contact information is the following:

ENVIRONMENTALLY SAFE PRODUCTS INC.
313 WEST GOLDEN LANE
NEW OXFORD, PENNSYLVANIA 17350
(800) 289-5693
www.low-e.com

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION
Section: 07 25 00—Water-Resistive Barriers/Weather Barriers

REPORT HOLDER:

ENVIRONMENTALLY SAFE PRODUCTS INC.

EVALUATION SUBJECT:

ESP LOW-E HOUSEWRAP

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that ESP Low-E Housewrap, described in ICC-ES evaluation report ESR-3079, has also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2019 *California Building Code*® (CBC)

For evaluation of applicable chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) and Division of State Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

- 2019 *California Residential Code*® (CRC)

2.0 CONCLUSIONS

2.1 CBC:

The ESP Low-E Housewrap, described in Sections 2.0 through 7.0 of the evaluation report ESR-3079, complies with CBC Chapter 14, provided the design and installation are in accordance with the 2018 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of CBC Chapter 14, as applicable.

2.1.1 OSHPD:

The applicable OSHPD Sections of the CBC are beyond the scope of this supplement.

2.1.2 DSA:

The applicable DSA Sections of the CBC are beyond the scope of this supplement.

2.2 CRC:

The ESP Low-E Housewrap, described in Sections 2.0 through 7.0 of the evaluation report ESR-3079, complies with CRC Chapter 7, provided the design and installation are in accordance with the 2018 *International Residential Code*® (IRC) provisions noted in the evaluation report.

This supplement expires concurrently with the evaluation report, reissued May 2022.

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Purpose:

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Applicable code editions:

- 2020 *Florida Building Code—Building*
- 2020 *Florida Building Code—Residential*

2.0 CONCLUSIONS

The ESP Low-E Housewrap, described in Sections 2.0 through 7.0 of ICC-ES evaluation report ESR-3079, complies with the 2020 *Florida Building Code—Building* or the *Florida Building Code—Residential*, provided the design requirements are determined in accordance with the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable. The installation requirements noted in ICC-ES evaluation report ESR-3079 for the 2018 *International Building Code*® and 2018 *International Residential Code*® meet the requirements of the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable.

Use of the Low-E Housewrap for compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code—Building* or the *Florida Building Code—Residential* has not been evaluated and is outside the scope of this evaluation report.

For products falling under Florida Rule 61G20-3, verification that the report holder's quality assurance program is audited by a quality assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official when the report holder does not possess an approval by the Commission).

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