



ICC-ES Evaluation Report ESR-3980

Reissued August 2023

This report is subject to renewal August 2025.

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION
Section: 07 25 00—Water-Resistive Barriers/Weather Barriers
Section: 07 27 00—Air Barriers

REPORT HOLDER:

MFM BUILDING PRODUCTS CORPORATION

EVALUATION SUBJECT:

SUBSEAL 40 AND SUBSEAL 60 WATER-RESISTIVE BARRIERS

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)
- 2021, 2018, 2015, 2012, 2009 and 2006 *International Energy Conservation Code*® (IECC)

For evaluation for compliance with codes adopted by Los Angeles Department of Building and Safety (LADBS), see [ESR-3980 LABC and LARC Supplement](#).

Properties evaluated:

- Physical properties
- Water resistance
- Air leakage

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

SubSeal 40 and SubSeal 60 are self-adhering water-resistive barriers used as alternatives to the water-resistive barrier specified in IBC Section 1404.2 and IRC Section R703.2. The water-resistive barriers are used on the exterior side of exterior walls on buildings of Type V-B construction (IBC), and construction permitted under the IRC. SubSeal 40 and SubSeal 60 may be used to provide an air barrier in accordance with IRC Section N1102.4.1 and 2015 IECC Sections C402.5.1 and R402.4.1 [(2012 IECC Sections C402.4.1 and R402.4.1) or (2009 and 2006 IECC Sections 402.4.1 and 502.4)].

The attributes of the SubSeal 40 and SubSeal 60 have been verified as conforming to the requirements of (i) CALGreen Section 5.407.1 for water-resistive barriers; (ii) 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; (iii) 2020 ASHRAE 18.1 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; (iv) ICC 700-2020 Sections 602.1.8, 11.602.1.8, 1202.6 and 13.104.1.4 (v) ICC 700-2015 Section 602.1.8, 11.602.1.8 and 12.6.602.1.8; (vi) ICC 700-2012 Section 602.1.8, 11.602.1.8 and 12.5.602.1.8; and (vii) 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 SubSeal 40:

SubSeal 40 is a self-adhering sheet-type membrane, consisting of a multilayer polyethylene film coated with formulated rubberized asphalt formed to a minimum total thickness of 40 mils [0.04 inch (1.0 mm)]. A silicone-coated release paper protects the adhesive surface, and is removed prior to installation. The membrane is available in 75-foot-long (22 860 mm) rolls having multiple widths.

3.2 SubSeal 60:

SubSeal 60 is a self-adhering sheet-type membrane, consisting of a multilayer polyethylene film coated with

formulated rubberized asphalt formed to a minimum total thickness of 60 mils inch [0.06 inch (1.5 mm)]. A silicone-coated release paper protects the adhesive surface, and is removed prior to installation. The membrane is available in 60-foot-long (18 288 mm) rolls having multiple widths.

3.3 Vapor Permeance:

SubSeal 40 and SubSeal 60 has a vapor permeance of less than 0.1 perm (5.7×10^{-12} kg/Pa-s-m²) and may be used where a Class I vapor retarder is required by the applicable code.

3.4 Air Leakage:

SubSeal 40 and SubSeal 60 have an air leakage rate of less than 0.020 L/(s-m²) @ 75 PA [0.004 cfm/ft² @ 0.3 inch w.g. (1.57 psf)] when tested in accordance with ASTM E2178.

4.0 INSTALLATION

SubSeal 40 and SubSeal 60 must be installed in accordance with the manufacturer's published installation instructions and this report. If requested by the code official, a copy of this report must be available at the jobsite during installation. In the event of a conflict between this report and the manufacturer's published installation instructions, this more restrictive governs.

The exterior wall surfaces must be dry and free of dirt, dust or other foreign matter that would inhibit proper adhesion. Installation is limited to plywood, OSB and aluminum substrates. SubSeal 40 and SubSeal 60 must be applied when the ambient air and surface temperatures are above 50°F (10°C) and below 176°F (80°C). The membrane is installed horizontally over the substrate in accordance with the applicable code. The membrane must be installed with 3-inch (76 mm) sidelaps and 6-inch (152 mm) headlaps. The membrane must not be installed where Grade D building paper is required by the IBC or IRC, as applicable.

At rough openings for doors and windows, the membranes are installed in accordance with the manufacturer's published installation instructions. The doors and windows must be installed in accordance with the respective manufacturer's published installation instructions and flashed in accordance with the requirements of the applicable code.

Damaged membrane sheets must be replaced or repaired by cutting out the damaged area and applying a patch of new material over the removed area. The patch material must overlap the existing membrane a minimum of 2 inches (51 mm) in all directions.

5.0 CONDITIONS OF USE

The SubSeal 40 and SubSeal 60 products 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 Installation must comply with this report, the manufacture's published installation instruction and the applicable code. In the event of a conflict between the manufacturer's published installation instructions and this report, this report governs.
- 5.2 Installation of SubSeal 40 and SubSeal 60 is limited to buildings of Type V-B construction (IBC) and construction permitted by the IRC.
- 5.3 This report provides air leakage rates for the product as an air barrier material. When used as a component of an air barrier assembly, the design and evaluation of the air barrier assembly of which this is a component must be provided to the satisfaction of the code official.
- 5.4 SubSeal 40 and SubSeal 60 must be covered with an exterior wall finish or covering complying with the applicable code or a current evaluation report.

6.0 EVIDENCE SUBMITTED

- 6.1 Data in accordance with the ICC-ES Acceptance Criteria for Water-resistive Barriers (AC308), dated January 2015 (editorially revised July 2021).
- 6.2 Report of testing for air leakage in accordance with ASTM E2178.

7.0 IDENTIFICATION

- 7.1 Each carton is identified with a label bearing the product name (SubSeal 40 or SubSeal 60), the production date, the MFM Building Products Corporation name and address, and the evaluation report number (ESR-3980).
- 7.2 The report holder's contact information is the following:

MFM BUILDING PRODUCTS CORPORATION
525 ORANGE STREET
COSHOCTON, OHIO 43812
(740) 622-2645
www.mfmbp.com

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION
Section: 07 25 00—Water-Resistive Barriers/Weather Barriers
Section: 07 27 00—Air Barriers

REPORT HOLDER:**MFM BUILDING PRODUCTS CORPORATION****EVALUATION SUBJECT:****SUBSEAL 40 AND SUBSEAL 60 WATER-RESISTIVE BARRIERS****1.0 REPORT PURPOSE AND SCOPE****Purpose:**

The purpose of this evaluation report supplement is to indicate that SubSeal 40 and SubSeal 60 water-resistive barriers, described in ICC-ES evaluation report [ESR-3980](#), have also been evaluated for compliance with the codes noted below as adopted by the Los Angeles Department of Building and Safety (LADBS).

Applicable code editions:

- 2020 *City of Los Angeles Building Code* (LABC)
- 2020 *City of Los Angeles Residential Code* (LARC)

2.0 CONCLUSIONS

The SubSeal 40 and SubSeal 60 water-resistive barriers, described in Sections 2.0 through 7.0 of the evaluation report [ESR-3980](#), comply with the LABC Chapter 14, and the LARC Section R703, and are subject to the conditions of use described in this supplement.

3.0 CONDITIONS OF USE

The SubSeal 40 and SubSeal 60 water-resistive barriers described in this evaluation report supplement must comply with all of the following conditions:

- All applicable sections in the evaluation report [ESR-3980](#).
- The design, installation, conditions of use and identification of the SubSeal 40 and SubSeal 60 water-resistive barriers are in accordance with the 2018 *International Building Code*® (IBC) provisions noted in the evaluation report [ESR-3980](#).
- The design, installation and inspection are in accordance with additional requirements of LABC Chapters 16 and 17 and LARC Section R703, as applicable.

This supplement expires concurrently with the evaluation report, reissued August 2023.

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION
Section: 07 25 00—Water-Resistive Barriers/Weather Barriers
Section: 07 27 00—Air Barriers

REPORT HOLDER:**MFM BUILDING PRODUCTS CORPORATION****EVALUATION SUBJECT:****SUBSEAL 40 AND SUBSEAL 60 WATER-RESISTIVE BARRIERS****1.0 REPORT PURPOSE AND SCOPE****Purpose:**

The purpose of this evaluation report supplement is to indicate that Subseal 40 and Subseal 60 water-resistive barriers, described in ICC-ES evaluation report ESR-3980, have 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) AKA: California Department of Health Care Access and Information (HCAI) and the Division of State Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

- 2019 *California Residential Code* (CRC)
- 2019 *California Energy Code* (CEC)

2.0 CONCLUSIONS**2.1 CBC:**

The Subseal 40 and Subseal 60 water-resistive barriers, described in Sections 2.0 through 7.0 of the evaluation report ESR-3980, comply 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 applicable provisions of the CBC. Use as an air barrier must be in accordance with the CEC.

2.1.1 OSHPD:

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

2.1.2 DSA:

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

2.2 CRC:

The Subseal 40 and Subseal 60 water-resistive barriers, described in Sections 2.0 through 7.0 of the evaluation report ESR-3980, comply 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 and the applicable provisions of the CRC. Use as an air barrier must be in accordance with the CEC.

This supplement expires concurrently with the evaluation report, reissued August 2023.