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ESR-3966

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DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION
SECTION: 07 25 00—WATER-RESISTIVE BARRIERS/WEATHER BARRIERS
SECTION: 07 27 00—AIR BARRIERS
SECTION: 07 65 00—FLEXIBLE FLASHING

REPORT HOLDER:

SOPREMA, INC.

310 QUADRAL DRIVE
WADSWORTH, OHIO 44281

EVALUATION SUBJECT:

SOPRASEAL®LM 203 VAPOR RETARDER, AIR AND WATER-RESISTIVE BARRIER AND FLEXIBLE FLASHING

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REPORT HOLDER:

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http://soprema.us/

EVALUATION SUBJECT:

SOPRASEAL®LM 203 VAPOR RETARDER, AIR AND WATER-RESISTIVE BARRIER AND FLEXIBLE FLASHING

1.0 EVALUATION SCOPE

1.1 Compliance with the following codes:

- 2009 *International Building Code*® (IBC)
- 2009 *International Residential Code*® (IRC)
- 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.

Properties evaluated:

- Physical properties
- Surface-burning characteristics
- Air permeability
- Water-resistive barrier
- Water vapor transmission
- Fire-resistance-rated construction

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

- 2016 California Green Building Standards Code (CALGreen), Title 24, Part 11
- 2015 and 2012 *International Green Construction Code*® (IgCC)
- 2014 and 2011 ANSI/ASHRAE/USGBC/IES Standard 189.1–Standard for the Design of High-Performance Green Buildings, Except Low-Rise Residential Buildings
- 2015, 2012 and 2008 ICC 700 *National Green Building Standard*™ (ICC 700-2015, ICC 700-2012 and ICC 700-2008)

Attributes verified:

- See Section 3.1

2.0 USES

SOPRASEAL®LM 203 coating is used as an alternative to the water-resistive barrier specified in IBC Section 1404.2 and IRC Section R703.2.

SOPRASEAL®LM 203 combined with SOPREMA Mesh may be used as a self-adhering flexible flashing under Section 1405.4 of the IBC and Section R703.8 of the IRC, when installed in accordance with Section 4.4.1. Use as a self-adhering flexible flashing material is recognized for Type V construction under the IBC and construction under the-IRC.

SOPRASEAL®LM 203 may be used as an air barrier material under IRC Section N1102.4.1 and IECC Sections 402.4 and 502.4.

When installed at a maximum thickness of 26 wet mils [0.026 inch (0.66 mm)], SOPRASEAL®LM 203 may be used in fire-resistance-rated exterior wall assemblies recognized in IBC Table 720.1(2), that specify use of building paper, without changing the assigned hourly rating of the assembly.

SOPRASEAL®LM 203 installed as a water-resistive barrier or an air barrier material, is recognized for use on Types I, II, III, IV and Type V construction.

3.0 DESCRIPTION

3.1 General:

SOPRASEAL®LM 203 coating is a factory-mixed, liquid-applied air and water-resistive barrier that can be applied over substrates described in Section 4.2. The coating is available in 5-gallon (19L) pails, weighing 60 pounds (27.2 kg). The product has a shelf life of two years when stored at temperatures above 40°F (4.5°C). At a minimum thickness of 26 wet mils [0.026 inch (0.66 mm)], the membrane has a vapor permeance of less than 0.1 perm [5.7×10^{-12} kg/(Pa-s-m^2)], when tested in accordance with the ASTM E96, and qualifies as a Class I vapor retarder. SOPRASEAL®LM 203 has an air leakage rate not exceeding 0.004 cfm/ft^2 at 0.3 inch w.g. (1.57 psf) (0.02 L/s-m^2 at 75 Pa). The coating, at a maximum thickness of 0.04 inch (1.0 mm) has a flame-spread index of 25 or less and a smoke-developed index of 450 or less when tested in accordance with ASTM E84.

The attributes of the SOPRASEAL®LM 203 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) 2015 and 2012 IgCC Section 605.1.2.1 for air barriers; (iii) 2014 ASHRAE 189.1 Section 7.3.1.1 and 2011 ASHRAE 189.1 Section 7.4.2.9 for air barriers; (iv) ICC 700-2015 Section 602.1.8, 11.602.1.8 and 12.6.602.1.8; (v) ICC 700-2012 Section 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.

3.2 SOPREMA Mesh:

SOPREMA Mesh is a balanced mesh of twisted multi-end glass-fiber that is used with SOPRASEAL®LM 203 as a treatment for substrate joints and wrapping of rough openings for windows, doors and through-wall penetrations. The fabric is supplied in 4-inch or 9-inch-widths (102 mm and 229 mm) and must be stored in a dry location at temperatures above 40°F (4.5°C).

4.0 INSTALLATION

4.1 General:

Installation of SOPRASEAL®LM 203 must comply with this report, the manufacturer's published installation instructions and the applicable code. The manufacturer's published installation instructions must be available at the job site at all times during installation.

4.2 Substrate:

4.2.1 Use as Flexible Flashing: When used as a flashing material, installation of the SOPRASEAL®LM 203 is limited to the following substrates:

- Glass-mat faced gypsum sheathing complying with ASTM C1177 and having a minimum $^1/_2$-inch thickness (13 mm);
- Exposure 1 plywood complying with U.S. DOC PS-1 or PS-2; or Exposure 1 oriented strand board (OSB) complying with U.S. DOC PS-2, having a minimum $^7/_{16}$-inch (11 mm) thickness;
- Uncoated aluminum;
- Polyvinyl chloride (PVC) complying with ASTM D1784; and
- Concrete and concrete masonry complying with the applicable code.

4.2.2 Use as Water-resistive Barrier and Air Barrier: When used as a water-resistive barrier and air barrier, installation of the SOPRASEAL®LM 203 is limited to the following substrates:

- Exterior-grade water-resistant core gypsum sheathing complying with ASTM C79 or ASTM C1396 and having a minimum $^1/_2$-inch (13 mm) thickness;
- Glass-mat faced gypsum sheathing complying with ASTM C1177 and having a minimum $^1/_2$-inch thickness (13 mm);
- Cement board sheathing complying with ASTM C1325 and having a minimum $^1/_2$-inch (13 mm) thickness;
- Exposure 1 plywood complying with U.S. DOC PS-1 or PS-2; or Exposure 1 oriented strand board (OSB) complying with U.S. DOC PS-2, having a minimum $^7/_{16}$-inch (11 mm) thickness; and
- Concrete and concrete masonry complying with the applicable code.

4.3 Substrate Preparation:

Surfaces must be dry, clean and free of releasing agents, paints or other residue or coatings. Substrates must be flat and free of fins or planar irregularities greater than $^1/_4$ inch (6.4 mm) in 10 feet (3 m).

4.4 Coating Application:

4.4.1 Flexible Flashing: Rough openings must be wrapped with SOPREMA Mesh by applying pre-mixed SOPRASEAL®LM 203 coating to all surfaces and immediately embedding 4-inch- or 9-inch-width (102 mm and 228 mm) SOPREMA Mesh in accordance with the manufacturer's published installation instructions. A second coat of SOPRASEAL®LM 203 must be applied over the SOPREMA Mesh to ensure a continuous, void- and wrinkle-free membrane. All fasteners must be spotted and sheathing joints, termination, and inside and outside corners must be precoated with SOPRASEAL®LM 203 using spray, brush or a 4-inch-wide-by-$^3/_4$-inch (102 mm by 19 mm) nap roller. SOPREMA Mesh must be placed immediately and centered over wet SOPRASEAL®LM 203 coating at all sheathing joints, terminations and inside and outside corner, as well as over knot holes and cracks that may exist in plywood or OSB. SOPREMA Mesh must be lapped a minimum of $2^1/_2$ inches (63.5 mm) at intersections. For roller or brush applications, the material must be dry to touch before application of SOPRASEAL®LM 203 membrane to the surface.

4.4.2 Water-resistive Barrier: A minimum of two coatings of SOPRASEAL®LM 203 must be applied at 13 wet mils [0.013 inch (0.33 mm)] per coat over any substrates in accordance with SOPREMA, Incorporated's published product bulletin for different substrates. The coating may be applied with a $^3/_4$-inch (19 mm) nap roller or brush. Prior to application of the second 13-mil [0.013 inch (0.33 mm)] coat of SOPRASEAL®LM 203, a visual inspection must be done to assure the sheathing surface is blister-free and the coating is free of voids or pinholes. The sheathing and/or coating must be repaired, if needed, and then a second coat of SOPRASEAL®LM 203 must be applied after the initial coating is dry to touch or dried for a minimum of 2 hours. The minimum drying time may have to be increased in accordance with the manufacturer's recommendations. SOPRASEAL®LM 203 may be sprayed, using the manufacturer's recommended spray equipment, in one wet application, to a minimum 26-wet-mil [0.026-inch (0.66 mm)] thickness over all substrates.

4.5 Curing and Drying:

The SOPRASEAL®LM 203 coating must be allowed to dry for at least two to ten hours before installation of the approved exterior wall finish or covering. Drying time varies depending on temperature/humidity and surface conditions. After application, surfaces must be protected from rain and from temperatures below 40°F (4.5°C) for a minimum of 24 hours. Once the coating is dry, it can be exposed to lower temperatures or rain.

4.6 Air Barrier:

When used as an air barrier material, the SOPRASEAL®LM 203 coating must be installed in accordance with the SOPREMA, Incorporated's published installation instructions and this report.

5.0 CONDITIONS OF USE

The SOPRASEAL®LM 203 vapor retarder, air and water-resistive barrier and flexible flashing 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 manufacturer's published installation instructions 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 must be by applicators approved by SOPREMA, Incorporated.

5.3 Special inspection of the water-resistive barrier coating is required at the jobsite in accordance with the Section 1704.14.1 of the IBC.

5.4 The SOPRASEAL®LM 203 must be covered with an exterior wall finish or covering complying with the applicable code or a current evaluation report. A slip sheet consisting of a single layer of Grade D building paper or other acceptable material is required when the coating is used behind cement plaster (stucco).

5.5 Use of the SOPRASEAL®LM 203 to repair joints and cracks wider than $^{1}/_{8}$ inch (3.2 mm) is outside the scope of this report.

6.0 EVIDENCE SUBMITTED

6.1 Data in accordance with ICC-ES Acceptance Criteria for Water-resistive Coatings Used as Water-resistive Barriers over Exterior Sheathing (AC212), dated November 2012.

6.2 Data in accordance with ICC-ES Acceptance Criteria for Flexible Flashing Materials (AC148), dated February 2011 (editorially revised February 2014).

6.3 Report of testing in accordance with ASTM E84.

6.4 Report of testing in accordance with ASTM E2178.

7.0 IDENTIFICATION

Each container of SOPRASEAL®LM 203 coating and package of SOPREMA Mesh is identified by the manufacturer's name (SOPREMA, Incorporated); the product name (SOPRASEAL®LM 203); the production date, batch number; shelf life and the ICC-ES evaluation report number (ESR-3966).

ICC-ES Evaluation Report

ESR-3966 FBC Supplement

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1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that SOPRASEAL®LM 203 vapor retarder, air and water-resistive barrier and flexible flashing, recognized in ICC-ES master evaluation report ESR-3966, has also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2010 *Florida Building Code—Building*
- 2010 *Florida Building Code—Residential*

2.0 CONCLUSIONS

SOPRASEAL®LM 203, as described in Sections 2.0 through 7.0 of the master evaluation report ESR-3966, complies with the 2010 *Florida Building Code—Building* and the 2010 *Florida Building Code—Residential*, provided the design and installation are in accordance with the *International Building Code®* (IBC) provisions noted in the master report.

Use of the SOPRASEAL®LM 203 for compliance with the High-Velocity Hurricane Zone provisions of the 2010 *Florida Building Code* has not been evaluated and is outside the scope of this evaluation report.

For products falling under Florida Rule 9N-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).

This supplement expires concurrently with the master report, reissued July 2017.