

ICC-ES Evaluation Report

ESR-4854

Reissued March 2024

This report also contains:

- CBC Supplement

Subject to renewal March 2026

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DIVISION: 07 00 00— THERMAL AND MOISTURE PROTECTION Section: 07 26 00— Vapor Retarders Section: 07 27 00—Air Barriers	REPORT HOLDER: PROCLIMA-MOLL BAUOEKOLOGISCHE PRODUKTE GMBH c/o 475 HIGH PERFORMANCE BUILDING SUPPLY	EVALUATION SUBJECT: INTELLO PLUS AND INTELLO X MEMBRANES	
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1.0 EVALUATION SCOPE

1.1 Compliance with the following codes:

- 2021 [International Building Code® \(IBC\)](#)
- 2021 [International Residential Code® \(IRC\)](#)
- 2021 [International Energy Conservation Code® \(IECC\)](#)

Properties evaluated:

- Vapor Permeance
- Surface-burning characteristics
- Humidity dependent vapor retarder properties
- Air leakage

2.0 USES

INTELLO PLUS and INTELLO X membranes are used as humidity-dependent vapor retarders installed on the interior side of external wall assemblies under IBC 1404.3 and IRC R702.7. The products may be used as air barrier materials under IECC Section C402.5.1 and IRC R402.4 or as components for an air barrier assembly under IECC Section C402.5.1.4.

3.0 DESCRIPTION

3.1 General:

The products described in this report are comprised of polypropylene nonwoven fabric with a vapor-variable polyethylene copolymer membrane and a polypropylene microfiber fleece cover. The INTELLO PLUS membranes come in roll widths of 59¹/₁₆ inches and 118 ¹/₈ inches (1.5 and 3 m) and lengths of 65.58 feet and 164.5 feet (20 and 50 m). The INTELLO X membranes come in a roll width of 59 inches (1.5 m) and length of 164 feet (50 m). The nominal weight of the INTELLO PLUS membrane is 0.36 oz/ft² (110 g/m²). The nominal weight of the INTELLO X membrane is 0.5 oz/ft² (150 g/m²).

The membranes have a flame spread index of less than 25 and a smoke-developed index of less than 450, when tested in accordance of ASTM E84.

The membranes are humidity dependant vapor retarders and must comply with Section 4.2 of this report.

The membranes are Class II vapor retarders in accordance with IBC Table 1404.3(1) and IRC Table R702.7(1).

The membranes have an air leakage rate not exceeding 0.02 L/s-m² [0.004 cfm/ft² at 75 Pa (1.57 psf)] when used as an air barrier material when tested in accordance with ASTM E2178.

The membranes have an air leakage rate not exceeding 0.2 L/s-m² [0.04 cfm/ft² at 75 Pa (1.57 psf)] when used as a component of an air barrier assembly as described in Section 4.4 and tested in accordance with ASTM E2357.

4.0 INSTALLATION

4.1 General:

The manufacturer's published installation instructions and this report must be strictly adhered to. If requested by the code official, a copy of this report must be available at the jobsite during installation.

The use of tape to seal seams and edges of the membranes must be conducted in accordance with the manufacturer's installation instructions.

4.2 Humidity-Dependent Vapor Retarder: The equivalent air layer thickness values shown in [Table 1](#) of this report are based on testing in accordance with ISO 12572 and must be used to conduct hygrothermal analysis as an alternate to the vapor retarder provisions in IBC Section 1404.3 and IRC R702.7. The hygrothermal analysis must be prepared by a registered design professional and is subject to approval by the code official.

4.3 Air Barrier Material: When used as an air barrier material, the membranes must be installed in accordance with the manufacturer's published installation instructions and this report.

4.4 Air Barrier Assembly: When installed in the interior side over open framing, the membranes may be used as a component of an air barrier assembly. The membrane seams and penetrations must be sealed with tape in accordance with the manufacturer's installation instructions. See [Figure 1](#) for installation details of the membranes.

5.0 CONDITIONS OF USE:

The INTELLO PLUS and INTELLO X membranes 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 membranes must be installed in accordance with the manufacturer's published installation instructions, the requirements of the applicable code and this report. In the event of a conflict between this report and the manufacturer's published installation instructions, this report governs.
- 5.2 The membranes must be installed on the interior side of external wall assemblies.
- 5.3 This report provides air leakage rates for the products as an air barrier material only. When used as a component of an air barrier assembly, the design and evaluation of the air barrier assembly of which they are a component must be provided to the satisfaction of the code official.
- 5.4 The membranes are produced under a quality control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

Data in accordance with the [ICC-ES Acceptance Criteria for Humidity-Dependent Vapor Retarder \(AC528\)](#), dated October 2021.

7.0 IDENTIFICATION

- 7.1 The ICC-ES mark of conformity, electronic labeling, or the evaluation report number (ICC-ES ESR-4854) along with the name, registered trademark, or registered logo of the report holder must be included in the product label.
- 7.2 In addition, the products described in this report are identified by a label on the container of each roll of membrane, and by printing on the product that includes the report holder's name, address, and telephone number; and the product name.
- 7.3 The report holder's contact information is the following:

PROCLIMA-MOLL BAUOEKOLOGISCHE PRODUKTE GMBH
c/o 475 HIGH PERFORMANCE BUILDING SUPPLY
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BROOKLYN, NEW YORK 11217
(718) 622-1600
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TABLE 1—Water Vapor Diffusion-Equivalent Air Layer Thickness, s_a (m) in accordance with ISO 12572

Climatic Conditions (Temperature, Dry Point/Wet Point)	Average Humidity	INTELLO X	INTELLO PLUS
23°C, 0/50% RH	25% relative humidity	39.4	42.3
23°C, 50/93% RH	71.5% relative humidity	2.05	1.84
23°C, 85/95% RH	90% relative humidity	0.49	0.43

For Imperial Units: $T(^{\circ}\text{F}) = T(^{\circ}\text{C}) \times 1.8 + 32$, $1 \text{ m} = 3.28/\text{equivalent air layer thickness of vapor permeance}$.

475 INTELLO® Installation Instructions - Wood Frame

This intelligent airtight system is installed inboard of the primary insulation layer in exterior walls and ceilings to optimize the building assembly and make a robust, vapor-variable, and airtight enclosure.

PLEASE NOTE

Assemblies using batt or rigid insulation should complete installation prior to INTELLO Plus membrane application. Blown-in insulation should be installed after INTELLO Plus membrane application. Insulation and membrane application should immediately follow one another when cold outside.

Check studs/framing for nails, splinters, and unnecessary protrusions - this prevents punctures and damage to the membrane.

Ensure the site and floor is dry, clean, and free of dust, silicones, adhesives, and grease. Remove loose materials and sweep prior to installation.

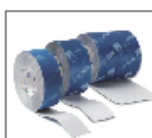
Equipment: Staple gun (if pneumatic, set compressor at appropriate pressure, so staples set flush with membrane), T50 staples (5/16" (8mm) legs with 3/8" (10mm) crown), tape measure, utility knife, caulk gun, marker, straight edge, brush, rag, ladder/scaffold.

Always follow site and construction safety procedures.

For Exposed Sites (high rise/coastal areas)

To support INTELLO against force from high air/wind pressures take the follow pre-cautions:

- use heavy duty T50 staples with 3/8" legs (10mm)
- space staples less than 2" apart
- service cavity battens should be located at 16" centers (400mm)



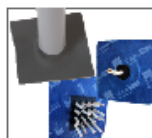
TESCON VANA

All-around interior and exterior vapor open (8 perms) air sealing for permanent airtight taped bonding of membranes, plywood, OSB, concrete, and a variety of airtight substrates. Tescon Vana tapes comes in a variety of widths: 2 3/8" (60 mm), 3" (75 mm), 4" (100 mm), 6" (150 mm), and 8" (200 mm).



CONTEGA HF

All-around adhesive for interior and exterior airtight connections between uneven substrates or difficult junctions. Exceptionally high adhesion properties while remaining elastic. Low VOC, meets stringent IAQ test. Available in 310ml cartridges and 600ml sausages.



ROFLEX / KAFLEX

These EPDM gaskets create quick, flush, adjustable, and durable air sealing for wires (KAFLEX) and pipes (ROFLEX). Available in a range of sizes that seal round penetrations securely from 1/4" to 12".



INTELLO PLUS

Intelligent vapor retarder for interior air sealing of walls and ceilings with an integrated reinforcement layer for use with dense-pack insulations. Offers high diffusion tightness (0.13 perm) when low relative humidity and maximum diffusion openness (13.20 perm) when high relative humidity.

OVERVIEW



Questions? info@foursevenfive.com | 800-995-6329

FIGURE 1—TYPICAL INSTALLATION OF INTELLO PLUS AND INTELLO X MEMBRANES

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The purpose of this evaluation report supplement is to indicate that INTELLO PLUS and INTELLO X membranes, described in ICC-ES evaluation report ESR-4854, have also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2022 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.

- 2022 California Residential Code (CRC)
- 2022 California Energy Code (CEC)

2.0 CONCLUSIONS**2.1 CBC:**

The INTELLO PLUS and INTELLO X membranes, described in Sections 2.0 through 7.0 of the evaluation report ESR-4854, comply with CBC Chapter 14, provided the design and installation are in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of the CBC, as applicable. 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 INTELLO PLUS and INTELLO X membranes, described in Sections 2.0 through 7.0 of the evaluation report ESR-4854, comply with CRC Chapter 7, provided the design and installation are in accordance with the 2021 *International Residential Code*® (IRC) provisions noted in the evaluation report and the additional requirements of CRC Chapter 4, as applicable. Use as an air barrier must be in accordance with the CEC.

This supplement expires concurrently with the evaluation report, reissued March 2024.