

PorterSIPs and the use of Water Resistive Barriers

Porter Corp recommends that a water-resistive barrier, as recognized by the ICC, be installed over PorterSIPs used as exterior walls. The definition of a water-resistive barrier, from the International Residential Code (IRC) and the International Building Code (IBC) is:

WATER-RESISTIVE BARRIER: A material behind an exterior wall covering that is intended to resist liquid water that has penetrated behind the exterior covering from further intruding into the exterior wall assembly.

Unlike with conventional construction, SIPs do not require using a water-resistive barrier to stop air infiltration. The *water-resistive barrier* is strictly necessary as a drainage plane behind siding and flashing to protect the exterior OSB skin from liquid water damage.

Current ICC-ES Report holders for water-resistive barriers can be obtained by visiting the ICC-ES website at www.icc-es.org and navigating to Evaluation Reports Program, Reports Directory, Reports arranged by CSI, Division 07 00 00 Thermal and Moisture Protection, Section 07 25 00 Water-Resistive Barriers and Weather Barriers.

The 2021 International Residential Code (IRC) requires the following:

SECTION R703 - EXTERIOR COVERING

R703.1 General: Exterior walls shall provide the building with a weather-resistant exterior wall envelope. The exterior wall envelope shall include flashing as described in Section R703.4.

R703.1.1 Water resistance: The exterior wall envelope shall be constructed in a manner that prevents the accumulation of water within the wall assembly by providing a water-resistant barrier behind the exterior cladding as required by Section R703.2 and a means of draining to the exterior water that penetrates the exterior cladding.

R703.2 Water-resistive barrier: Not fewer than one layer of water-resistive barrier shall be applied over studs or sheathing of all exterior walls with flashing as indicated in Section R703.4, in such a manner as to provide a continuous water-resistive barrier behind the exterior wall veneer. The water-resistive barrier material shall be continuous to the top of walls and terminated at penetrations and building appendages in a manner to meet the requirements of the exterior wall envelope as described in Section R703.1.

Water-resistive barrier materials shall comply with one of the following:

1. No. 15 felt complying with ASTM D226, Type 1.
2. ASTM E2556, Type 1 or 2.
3. ASTM E331 in accordance with Section R703.1.1
4. Other approved materials in accordance with the manufacturer's installation instructions.

No. 15 asphalt felt and water-resistive barriers complying with ASTM E2556 shall be applied horizontally, with upper layer lapped over the lower layer not less than 2 inches, and where joints occur, shall be lapped not less than 6 inches.

The 2021 International Building Code (IBC) requires the following:

SECTION 1402 - PERFORMANCE REQUIREMENTS

1402.2 Weather protection: Exterior walls shall provide the building with a weather-resistant exterior wall envelope. The exterior wall envelope shall include flashing, as described in Section 1404.4. The exterior wall envelope shall be designed and constructed in such a manner as to prevent the accumulation of water within the wall assembly by providing a water-resistive barrier behind the exterior veneer, as described in Section 1403.2, and a means for draining water that enters the assembly to the exterior.

1403.2 Water-resistive barrier: Not fewer than one layer of water-resistive barrier material shall be attached to the studs or sheathing, with flashing as describe in Section 1404.4, in such a manner as to provide a continuous water-resistive barrier behind the exterior wall veneer.

Water-resistive barrier materials shall comply with one of the following:

1. No. 15 felt complying with ASTM D226, Type 1.
2. ASTM E2556, Type 1 or 2.
3. ASTM E331 in accordance with Section R703.1.1
4. Other approved materials in accordance with the manufacturer's installation instructions.