

SUBJECT: VAPOR RETARDERS WITH EXTREME SIPS

Questions about using vapor retarders in conjunction with Extreme SIPS are frequently asked. Extreme SIPS installation requires the proper application of Extreme's SIP Sealant and SIP Tape over SIP joints. The function of the SIP Sealant and SIP Tape is to provide a seal against water vapor transmission and air passing through the SIP joint.

The purpose of this technical bulletin is to provide guidelines for the use of vapor retarders with Extreme SIPS in residential applications.

THE INTERNATIONAL RESIDENTIAL CODE (IRC) REQUIRES:

SECTION R318 - MOISTURE VAPOR RETARDERS

R318.1 Moisture control: In all framed walls, floors, and roof/ceilings comprising elements of the building thermal envelope, a vapor retarder shall be installed on the warm-in-winter side of the insulation.

Exceptions:

- a. In construction where moisture or freezing will not damage the materials.
- b. Where the framed cavity or space is ventilated to allow moisture to escape.
- c. In counties identified as climate zones 1 through 4 in Table N1101.2.

THE IRC DEFINITION OF A VAPOR RETARDER IS:

VAPOR RETARDER: A vapor-resistant material, membrane, or covering such as foil, plastic sheeting, or insulation facing having a permeance rating of 1 perm or less, when tested in accordance with the desiccant method using Procedure A of ASTM E96. Vapor retarders limit the amount of moisture vapor that passes through a material or wall assembly.

TECHNICAL BULLETIN

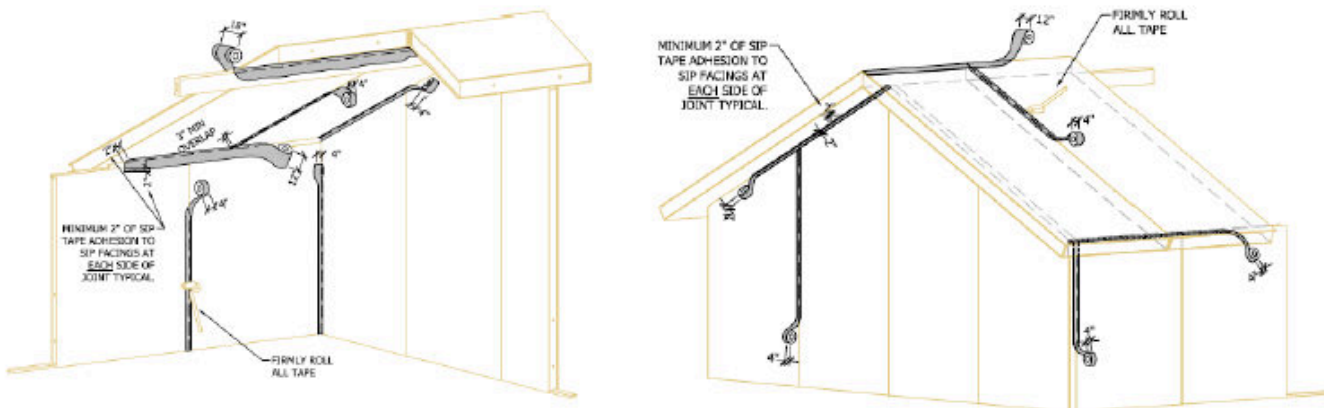
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The APA has determined that OSB has a perm rating of less than 1 when relative humidity is under 40%. With the OSB skins of SIPs having a water vapor permeance rating of less than 1, the panel joints and boundaries become the primary areas of concern for water vapor transfer.

As mentioned earlier, Extreme Panels requires that SIP Sealant be used in all SIP joints. After the SIP Sealant step is completed (see Extreme Panel Details #EPT-103 & EPT-104), Extreme recommends the use of Extreme's SIP Tape over SIP joints (see Extreme Panel Details #EPT-105, 105A, and 105B). Extreme's SIP Tape has a water vapor permeance of less than 1. Therefore, the combination of the field coverage of OSB skins that SIPs provide and the addition of Extreme's SIP Tape over the SIP joints meets the building code requirements for a vapor retarder.

SIP roofs with joints occurring on support beams require 18" wide SIP Tape draped over the support beam and tacked in place. A ridge beam is an example of this condition. See Extreme Panel Detail #EPT-105A.



The use of a complete wall and/or roof surface coverage vapor retarder, such as polyethylene sheeting, may be warranted based on the structure's exposure to interior high humidity, local building code, or climatic conditions. It is up to the design professional to make this determination. If an additional vapor retarder is utilized, it must be installed in compliance with the appropriate local building code.

Refer to the Extreme Panel's Construction Detail Manual, and Instructional Videos demonstrating Extreme's SIP Sealant and SIP Tape installation. These can be found at www.extremepanel.com.