Using Foam Sheathing as a Water Resistive Barrier (WRB)

Installation Instructions
Revised August 31, 2018
Applied Building Technology Group (ABTG) is committed to using sound science and generally accepted engineering practice to develop research supporting the reliable design and installation of foam sheathing. ABTG’s educational program work with respect to foam sheathing is provided through a grant by the Foam Sheathing Committee (FSC) of the American Chemistry Council.

ABTG is a professional engineering firm, an approved source as defined in Chapter 2 and independent as defined in Chapter 17 of the IBC.

Foam sheathing research reports, code compliance documents, educational programs and best practices can be found at www.continuousinsulation.org.
Step 1: Verify Code Compliance

- Check the manufacturer’s code evaluation report for approved use as a WRB. The report should include:
  - Installation requirements
  - Approved joint treatments (tapes and/or sealants)
  - Details for flashing openings and penetrations
Step 2: Verify Framing

- Ensure wall is square and true.
- Verify stud spacing, blocking, and bracing requirements with manufacturer.
- Provide framing or blocking for attachment of siding and trim at transitions
Step 3: Install Insulation Boards

- Align boards with bottom edge of wall
- Vertical joints should be aligned with framing members
- Seams should not be visible from interior unless allowed by manufacturer.
Step 3: Install Insulation Boards

- Space fasteners per manufacturer’s instructions
  - Around edges of panel
  - Through panels and into interior members

![Diagram of insulation boards with edge and interior spacing indicated.]
Step 3: Install Insulation Boards

- Drive nails flush and snug
- Do not overdrive nails
- Do not underdrive nails
Step 4: Trim Boards at Openings

- Trim boards at all window and door openings
- Cover all framing with FPIS
- Fit joints tightly
Step 5: Apply WRB Tape

- Ensure clean and dry surface for proper adhesion
- Apply tape in shingle fashion, working upward from the bottom of the assembly
Step 5: Apply WRB Tape

- Center tape over vertical joints to cover fasteners
- Tape horizontal joints using one of the options shown at right
- Avoid “fish mouths”, wrinkles, or interruption by fasteners along top edge of tape
- Install windows and flashing using standard industry details
- See DRR 1304-01 for guidance on window installation over FPIS

Source: DOE Building America

Good:
- 3-4 in. acrylic tape

Better:
- 4-6 in. wide butyl tape with 2 in. acrylic termination tape (recommended for thicker tapes)

Best:
- Butyl Z-flashing with 2 in. acrylic termination tape (recommended for joints subject to high amounts of water or pressure)
Step 6: Seal Penetrations

- At pipe and other small penetrations, seal gaps with silicone or expanding spray foam sealant
- Seal joints and openings with joint tape per manufacturer’s instructions

Source: DOE Building America
Step 6: Seal Penetrations

- Repair damaged areas per manufacturer’s instructions
Step 7: Apply Cladding

- Inspect WRB installation and flashing details to verify code compliance prior to cladding installation.
- Install cladding as soon as is practical or per manufacturer’s instructions.
- See ABTG RR 1503-02, DRR 1303-04, and DRR 1707-02 for additional guidance.
Suggested Resources

- Water Resistive Barrier - ContinuousInsulation.org
- Water Resistive Barrier Applications - ContinuousInsulation.org