



City of Seattle
Department of Planning & Development

2006 SRC Code Solution

R806.1
Spray-foam Insulation
Release Date: **May 8, 2009**

The following interpretation, policy or code alternate is intended to provide guidance to staff for consistency of review and is subject to change without notice. Application of this interpretation, policy or code alternate to specific projects may vary.

Code Issue:

Does Seattle permit omission of roof ventilation and the minimum 1-inch airspace above roof insulation when using spray-foam insulation?

Modification/Alternate:

Yes, as a formal code modification per SRC 104.8 and conditional on the following:

1. A specific product, having a current ICC ES Report, shall be specified on the plans.
2. The application is consistent with the "Conditions of Use" section of the ES Report.
3. The application is limited to V-B construction unless specifically addressed and approved with the code modification.
4. The insulation shall meet requirements of 2009 WSBC text (eff. 7/1/2010), Sections R202 and R806.4 (see code section below).
5. Note on plans, "Must be applied by certified installers. A copy of the installer's certification must be on site for field inspector verification."
6. The designer/architect shall inform the owner of need for special care in inspecting and maintaining roof covering.

Approval Process:

- I. Code modification (SBC 104.9, SRC R104.8)
 - A. A code modification is required until the 2009 Seattle codes with State amendments are adopted.
 - B. Justification can include SBCC adoption of language, to be implemented in 2010.
 - C. Statement regarding findings (in [professional] opinion, the modification is in conformity with the intent and purpose of the code and provides a reasonable level of durability).
 1. By designer
 2. If designer is registered design professional, request & statement must be sealed
- II. Plan review requirements
 - A. Specific product to be used must be shown on plans, along with ICC-ES report number.
 - B. Applicant should provide ICC-ES report or equivalent for specific product to be used
 - C. Verify consistency with "Conditions of Use" in report
 1. Required thickness of insulation based on R-value per inch
 - a. Some products have maximum thicknesses that will not meet minimum required R value
 2. Permeability/Permeance. Use value in report to classify as "air-impermeable" or not (see 2009 WSBC definition below). Follow code requirements above, depending on classification.
 3. Thermal barrier requirement
 4. Note on plans, "Must be applied by certified installers. A copy of the installer's certification must be on site for field inspector verification."

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5. Address V-B construction issue, if installed in other types of construction (design professional statement in request)
 - D. Inform owner of need for special care in inspecting and maintaining roof covering.
- III. Inspection requirements. DPD inspector will check:
- A. Product on site matches product approved in plans
 - B. Installer certification
 - C. Insulation thickness

Washington State has adopted code language (WSBC and WSEC) that permits unvented attic space, effective July 1, 2010. Seattle will permit use of the WSBC code language immediately, as a code modification.

2009 WSBC:

R202 Definitions

AIR-IMPERMEABLE INSULATION. *An insulation having an air permeance equal to or less than 0.02 L/s-m² at 75 Pa pressure differential tested in accordance with ASTM E2178 or ASTM E283 [as modified in accordance with ICC-ES AC 377, eff. June 1, 2008].*

R806.4 *Conditioned **Unvented attic assemblies.** Unvented attic assemblies (spaces between the ceiling joists of the top story and the roof rafters) shall be permitted if all of the following conditions are met:*

1. The unvented attic space is completely contained within the building thermal envelope.
2. No interior vapor retarders are installed on the ceiling side (attic floor) of the unvented attic assembly.
3. Where wood shingles or shakes are used, a minimum ¼ inch (6mm) vented air space separates the shingles or shakes and the roofing underlayment above the structural sheathing.
4. Any air-impermeable insulation shall be a vapor retarder, or shall have a vapor retarder coating or covering in direct contact with the underside of the insulation.
5. Either items a, b, or c below shall be met, depending on the air permeability of the insulation directly under the structural roof sheathing.
 - a. Air-impermeable insulation only. Insulation shall be applied in direct contact to the underside of the structural roof sheathing.
 - b. Air-permeable insulation only. In addition to the air-permeable insulation installed directly below the structural sheathing, rigid board or sheet insulation shall be installed directly above the structural roof sheathing as specified per WA Climate Zone for condensation control.
 - i. Climate Zone #1 – R-10 minimum rigid board or air-impermeable insulation R-value. [Climate Zone #1 = Western Washington]
 - ii. Climate Zone #2 – R-25 minimum rigid board or air-impermeable insulation R-value. [Climate Zone #2 = Eastern Washington]
 - c. Air-impermeable and air-permeable insulation. The air-impermeable insulation shall be applied in direct contact to the underside of the structural roof sheathing as specified per WA Climate Zone for condensation control. The air-permeable insulation shall be installed directly under the air-impermeable insulation.
 - i. Climate Zone #1 – R-10 minimum rigid board or air-impermeable insulation R-value.
 - ii. Climate Zone #2 – R-25 minimum rigid board or air-impermeable insulation R-value.

For questions about whether this code solution applies to your project:

- If you have submitted a permit application, contact the Building Code plan reviewer assigned to your application
- If you have not submitted an application, contact DPD Building Code Technical Support at 206-684-4630 or in person at the Applicant Services Center. Visit the Applicant Services Center website for more information about hours and location http://www.seattle.gov/dpd/Permits/Process_Overview/Location_Hours/default.asp



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