

502.1.6.3 Roof/Ceilings: Roof/ceiling assemblies where the ventilation space above the insulation is less than an average of 12 inches shall be provided with a vapor retarder. Faced batt insulation where used as a vapor retarder shall be face stapled. Single rafter joist vaulted ceiling cavities shall be of sufficient depth to allow a minimum one inch vented air space above the insulation.

EXCEPTION: Unvented attic assemblies (spaces between the ceiling joists of the top story and the roof rafters) shall be permitted if all 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 1/4 inch (6 mm) 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 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.
    - ii. Climate Zone #2 - R-25 minimum rigid board or air-impermeable insulation R-value.
  - 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.