



KITSAP COUNTY DEPARTMENT OF COMMUNITY DEVELOPMENT

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2006 RESIDENTIAL ENERGY AND VENTILATION CODE
PRESCRIPTIVE COMPLIANCE – Wood framed Construction

- New residences and additions to existing residences are required to be constructed in a manner that complies with the Washington State Energy Code and Ventilation and Indoor Air Quality Codes.
- Although designated department staff members will help you with general questions about completing this form, it is ultimately your responsibility to provide detailed information about heating systems, glazing, insulation and other requested building specifications. Since these forms will be evaluated for completeness and accuracy, you can avoid unnecessary permit delays by carefully providing all required information.
- The WSEC & VIAQ prescriptive compliance form must be completed in its entirety and submitted with the building permit application.
- Your construction drawings (plans) should reflect the insulation values and window U-values that have been selected on this form.
- Keep in mind that R-21 Fiberglass Batt insulation will need stud widths of at least 5-1/2 inches.
- Ventilation of the roof framing members is very important and required by the Uniform Building Code except where rigid insulation is placed on the roof deck. Failure to provide proper ventilation can cause framing members to become damp from heat and cause rotting or insect infestation or both. You will need to plan your construction so as to provide at least 1 inch of airspace above the insulation in vaulted ceiling locations. Vaulted Ceilings are those that have no attic space above, and the insulation lays in the rafter cavity between the ceiling covering and roof sheathing.

So as not to compress the insulation and allow for the proper air space in a **vaulted** ceiling, you will need to use these minimum rafter sizes with the following insulation values:

Insulation Type (Fiberglass Batt)	R-30 Normal Density	R-30 High Density	R-38 Normal Density	R-38 High Density
Nominal Rafter Depth Min.	12"	10"	14"	12"

Be sure to check you construction drawings (plans) to make sure your roof framing has been designed to accommodate the required insulation values.

- Please note that scissor truss roof system is not defined as a vaulted ceiling and requires insulation to be consistent with that of an attic roof system.
- All insulation (including floor) must be placed and if necessary held in place so that the insulation will remain in substantial contact with the surface closest to the heated space.

IF YOU ARE UNABLE TO COMPLY WITH THE PRESCRIPTIVE METHOD, YOU WILL NEED TO COMPLETE THE COMPONENT ANALYSIS FORM AVAILABLE FROM THE PERMIT CENTER, OR YOU MAY HIRE A PROFESSIONAL TO COMPLETE A "WATTSUN" (Washington State Computer Program).

General Requirements

The information here is provided to assist you in the construction process. Items listed here will, when applicable, be checked during the inspection process and are subject to field correction.

1. Radiant slab insulation shall be R-10 and extend under the entire slab. (WSEC 502.1.4.9)
2. Slab on Grade insulation, when installed inside the foundation wall, shall extend downward from the top of the slab for a minimum distance of 24 inches or downward and then horizontally beneath the slab for a minimum combined distance of 24 inches. Insulation installed outside the foundation shall extend downward to a minimum of 24 inches or to the frost-line. Above grade insulation shall be protected. *Exception:* For monolithic slabs, the insulation shall extend downward from the top of the slab to the bottom of the footing. (WSEC 502.1.4.8)
3. Thermal break(s): R-10 insulation shall be placed in the slab between heated and unheated spaces. (WSEC 502.1.4.8)
4. Exterior slab or wall insulation shall be approved for use below grade. (WSEC 502.1.4.10)
5. All structural panels such as plywood, oriented strand board, particle board, and wafer board shall be labeled "EXPOSURE I", "EXTERIOR", OR "HUD-APPROVED." (VIAQ 401.1)
6. Insulation baffles shall be placed in attic / ceilings to maintain at least 1" ventilation space and extend at least 6" vertically above Batts or 12" vertically above loose fill insulation. (WSEC 502.1.4.5 and UBC 1505.3)
7. Glazing efficiency: Maximum allowed glazing area shall be as calculated on Glazing Schedule and per Prescriptive or Component Calculation Form. (WSEC 502.1.5 & 602.7)
8. Skylight walls shall be insulated without compression to the required wall R-value. (WSEC 201, definition Wall & WSEC 502.1.4.6)
9. Doors shall meet U-Value as per the Prescriptive Options Form or Component Calculation Form. (WSEC 502 & 601)
10. Standard air leakage caulking shall be installed in the following locations (WSEC 502.4):
 - a) Wiring / plumbing / duct register penetrations
 - b) Rim joist / mud sill (heated lower floors)
 - c) Light fixture / flue penetrations
 - d) Around window and door frames
11. Recessed lighting fixtures shall comply with one or more of the following (WSEC 502.4.4):
 - a) IC rated, with no slots or holes in can, caulked or sealed between can and ceiling.
 - b) IC rated with label certifying an ASTM E283 tested air leakage ≤ 2.0 CFM.
 - c) IC rated fixture enclosed by a 1/2" gypsum board box or constructed from polymeric vapor barrier, or other air tight assembly for this purpose.
12. Exposed foam insulation shall comply as follows (WSEC 502.1.4.10):
 - a) Protected with metal or plastic flashing, or other suitable material that extends below grade.
 - b) Insulation is approved for sub-grade, exterior use and properly installed.
13. Airflow between fresh air ports OR openable screened windows and whole-house fan ensured by undercut door (minimum 1/2"), or grilles. (VIAQ 303.4.1.5)
14. Open-blown or loose-fill insulation may be used in attic spaces where the slope of the ceiling is not more than 3 in 12 and there is at least 30 inches of clear distance from the top of the bottom chord of the truss or ceiling joist to the underside of the sheathing at the roof ridge. When eave vents are installed, baffling of the vent openings shall be provided so as to deflect the incoming air above the surface of the insulation. (WSEC 502.1.4.5)
15. 6 mil black polyethylene ground cover shall be laid over the ground within crawl spaces and overlapped 12" minimum at joints & extend to foundation wall. (WSEC 502.1.6.7)
16. Where required, insulation shall be installed with clearances according to the manufacturer's specifications. (WSEC 502.1.4.3)

17. Attic hatch shall be insulated to required ceiling R-value and weather-stripped. If the attic hatch is located in the garage, the attic hatch will be required to have a 20-minute fire resistive rating and be self closing if it penetrates the one hour separation required between residences and garages. (WSEC 502.1.4.4 & UBC 302.4, exception 3)
18. Attic access shall have wood dam or equivalent to retain loose fill insulation in attic.(WSEC 502.1.4.4)
19. All exterior doors (except fire doors) shall be weather-stripped. (WSEC 502.4.3)
20. Heat pump thermostat shall have programmable capability. (WSEC 503.8.3.5)
21. Thermostat shall be provided for each HVAC system with a range of 55-75° F when used to control heating only, 70-85° F when used to control cooling only, and 55-85° F when used to control both heating and cooling. (WSEC 503.8)
22. Cold water piping in unheated spaces shall be insulated to minimum R-3. (WSEC 503.11 & WSA to UPC 313.6)
23. Hot water piping shall be insulated per Table 5-12 of the Washington State Energy Code in both heated and unheated portions of the building. This will typically be R-4 minimum for Domestic and Service Hot Water Supply Systems and Hot Water Heating Systems. (WSEC 503.11 & Table 5-12)
24. At least one thermostat for regulation of space temperature shall be provided for each separate system. In addition, a readily accessible, automatic, or manual means shall be provided to restrict or shut off heating input to each zone or floor during periods not requiring heat. (WSEC 503.8.3.1)
25. Mechanical ventilation system shall have proper timers, and/ or switches. (VIAQ 302.3.2)
26. Automatic or Manual Dampers shall be placed in ducts as required by the VIAQ. (WSEC 503.10.3)
27. HVAC and Heat Pump Duct Insulation supply, & return air ducts outside the conditioned space shall be minimum R-8 except that R-5 may be used when duct is placed in a cement slab or in the ground. (WSEC 503.10.4 and Table 5-11)
28. HVAC System design shall provide a means for balancing air and water systems (WSEC 503.6)
29. Hot water heater(s) shall have :
 - a) Separate power, or gas shut-off (WSEC 504.4)
 - b) 1987 NAECA Label on tank (WSEC 504.2.1)
 - c) Temperature setting $\leq 120^{\circ}$ F (WSEC 504.3)
 - d) Non-compressible R-10 pad (in unheated spaces or on concrete floors, electric only) (WSEC 504.2.1)
30. Swimming Pools shall have:
 - a) Readily accessible ON / OFF switch (pump, heater) (WSEC 504.5.1)
 - b) Pool cover (WSEC 504.5.2)
 - c) Piping insulated to Section 503.11 of WSEC (WSEC 504.7)
31. All fireplaces shall have (VIAQ 402.3):
 - a) 6 square inch outside combustion air supply duct w/ accessible damper directly connected to the firebox.
 - b) Tight-fitting glass or metal doors
 - c) Tight fitting flue damper
32. Solid fuel burning appliance(s) shall have (VIAQ 402.2):
 - a) Tight fitting metal or ceramic glass doors
 - b) A source from outside the structure of primary combustion air, connected to the appliance as per manufacturer's specification. The air inlet shall originate at a point below the firebox. The duct shall be four (4) inches or greater in diameter, not exceed 20 feet in length, and be installed as per manufacturer's instructions.
 - c) Approval of the Department of Ecology and certified and labeled in accordance with procedures and criteria specified in the UBC Standard 31-2.