



Community Development Department
51 Winburn Way, Ashland, OR 97520
541-488-5305 Fax 541-552-2050

Oregon Residential Energy Code Checklist - New Construction

Job Address _____ Permit # BD - _____

Contractor or Contact Name _____ Phone _____

Heating System Type: Electric _____ Gas _____ Other _____ Heated Floor Area: _____ Sq. Ft

Energy Star/Earth Advantage Home? Yes _____ No _____ (See handout for Energy Star minimum required values)

BUILDING COMPONENTS ^A	REQUIRED PERFORMANCE	EQUIVALANT VALUE ^b	BUILDER VALUES
Wall insulation-above grade	U-0.059 ^c	R-21 ^c intermediate	
Wall insulation-below grade	C-0.063	R-15/R-21	
Flat ceilings ^f	U-0.021	R-49	
Vaulted ceilings ^g	U-0.033	R-38 ^g R-30 Rafter or R-30g,h Scissor Truss	
Underfloors	U-0.033	R-30	
Slab edge perimeter	F-0.520	R-15	
Heated slab interior ⁱ	n/a	R-10	
Windows ^j	U-0.30	U-0.30	
Window area limitation ^{i,k}	n/a	n/a	
Skylights ^l	U-0.50	U-0.50	
Exterior doors ^m	U-0.20	U-0.20	
Exterior doors w/>2.5 ft ² glazing ⁿ	U-0.40	U-0.40	
Forced air duct insulation	n/a	R-8	
Two additional measures from table on back of this form	1,2,3,4,5,or 6 and A,B,C,D,E,F or G		

- a. As allowed in Section N1104.1, thermal performance of a component may be adjusted provided that overall heat loss does not exceed the total resulting from conformance to the required U-value standards. Calculations to document equivalent heat loss shall be performed using the procedure and approved U-values contained in Table N1104.1(1).
- b. R-Values used in this table are nominal for the insulation only in standard wood framed construction and not for the entire assembly.
- c. Wall insulation requirements apply to all exterior wood framed, concrete or masonry walls that are above grade. This includes cripple walls and rim joist areas. Nominal compliance with R-21 insulation and intermediate framing (N1104.5.2) with insulated headers.
- d. The wall component shall be a minimum solid log or timer wall thickness of 3.5 inches (90 mm).
- e. Below-grade wood, concrete, or masonry walls include all walls that are below grade and do not include those portions of such wall that extend more than 24 inches (609.6 mm) above grade. R-21 for insulation in framed cavity; R-15 continuous insulation.
- f. Insulation levels for ceilings that have limited attic/rafter depth such as dormers, bay windows or similar architectural features totaling not more than 150 square feet (13.9 m²) in area may be reduced to not less than R-21. When reduced, the cavity shall be filled (except for required ventilation spaces). R-49 insulation installed to minimum 6 inches depth at top plate at exterior of structure to achieve U-val.
- g. Vaulted ceiling surface area exceeding 50 percent of the total heated space floor area shall have a U-factor no greater than U-0.026 (equivalent to R-38 rafter or scissor truss with R-38 advanced framing).
- h. Heated slab interior applies to concrete slab floors (both on and below grade) that incorporate a radiant heating system within the slab. Insulation shall be installed underneath the entire slab.
- i. Sliding glass doors shall comply with window performance requirements. Windows exempt from testing in accordance with Section NF1111.2, Item 3 shall comply with window performance requirements if constructed with thermal break aluminum or wood, or vinyl, or fiberglass frames and double-pane glazing with low-emissivity coatings of 0.10 or less. Buildings designed to incorporate passive solar elements may include glazing with a U-factor greater than 0.35 by using Table N1104.1(1) to demonstrate equivalence to building envelope requirements.
- j. Reduced window area may not be used as a trade-off criterion for thermal performance of any component.
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Exception: Table N1101.1(2), Envelope Measure 6: calculation allows baseline case 15 percent of total wall area as window when design case utilizes window area of less than 15 percent.
- l. A maximum of 28 square feet (2.6 m²) of exterior door area per dwelling unit can have a U-factor of 0.54 or less.
- m. Glazing that is either double pane with low-e coating on one surface, or triple pane shall be deemed to comply with this U-0.40 requirement.

I certify that I will comply with all applicable requirements of the energy code prior to the final inspection and/or Certificate of Occupancy being approved.

Applicant or Owner Signature _____

Date _____

TABLE N1101.1(2)
ADDITIONAL MEASURES

Envelope Enhancement Measures (Select One)	1	High efficiency walls Exterior walls—U-0.045/R-21 cavity insulation + R-5 continuous
	2	Upgraded features Exterior walls—U-0.057/R-23 intermediate or R-21 advanced, Framed floors—U-0.026/R-38, and Windows—U-0.28 (average UA)
	3	Upgraded features Exterior walls—U-0.055/R-23 intermediate or R-21 advanced, Flat ceiling ^e —U-0.017/R-60, and Framed floors—U-0.026/R-38
	4	Super Insulated Windows and Attic OR Framed Floors Windows—U-0.22 (Triple Pane Low-e), and Flat ceiling ^e —U-0.017/R-60 or Framed floors—U-0.026/R-38
	5	Air sealing home and ducts Mandatory air sealing of all wall coverings at top plate and air sealing checklist ^f , and Mechanical whole-building ventilation system with rates meeting M1503 or ASHRAE 62.2, and All ducts and air handlers contained within building envelope ^d or All ducts sealed with mastic ^b
	6	High efficiency thermal envelope UA^g Proposed UA is 8% lower than the code UA
Conservation Measure (Select One)	A	High efficiency HVAC system^a Gas-fired furnace or boiler AFUE 94%, or Air source heat pump HSPF 9.5/15.0 SEER cooling, or Ground source heat pump COP 3.5 or Energy Star rated
	B	Ducted HVAC systems within conditioned space All ducts and air handlers contained within building envelope ^d ; <i>Cannot be combined with Measure 5</i>
	C	Ductless heat pump Ductless heat pump HSPF 10.0 in primary zone of dwelling
	D	High efficiency water heater^c Natural gas/propane water heater with UEF 0.85 OR Electric heat pump water heater Tier 1 Northern Climate Specification Product

For SI: 1 square foot = 0.093 m², 1 watt per square foot = 10.8 W/m².

- Appliances located within the building thermal envelope shall have sealed combustion air installed. Combustion air shall be ducted directly from the outdoors.
- All duct joints and seams sealed with listed mastic; tape is only allowed at appliance or equipment connections (for service and replacement). Meet sealing criteria of Performance Tested Comfort Systems program administered by the Bonneville Power Administration (BPA).
- Residential water heaters less than 55 gallon storage volume.
- A total of 5 percent of an HVAC system's ductwork shall be permitted to be located outside of the conditioned space. Ducts located outside the conditioned space shall have insulation installed as required in this code.
- The maximum vaulted ceiling surface area shall not be greater than 50 percent of the total heated space floor area unless vaulted area has a *U*-factor no greater than U-0.026.
- Continuous air barrier. Additional requirement for sealing of all interior vertical wall covering to top plate framing. Sealing with foam gasket, caulk or other approved sealant listed for sealing wall covering material to structural material (example: gypsum board to wood stud framing).
- Table N1104.1(1) Standard base case design, Code UA shall be at least 8 percent less than the Proposed UA. Buildings with fenestration less than 15 percent of the total vertical wall area may adjust the Code UA to have 15 percent of the wall area as fenestration.