

# OREGON RESIDENTIAL ENERGY CHECKLIST

Table N1101.1(2)  
Additional Measures

Envelope Enhancement Measure (Select One)	1	<b>High efficiency walls:</b> Exterior walls – U-0.045/R-21cavity insulation +R-5 continuous
	2	<b>Upgraded features :</b> Exterior walls – U-0.057/ R-23 Intermediate or R-21 advanced, Frames floors – U-0.026/R-38, and Windows – U-0. 28 (average UA)
	3	<b>Upgraded features:</b> Exterior walls – U-0.055/ R-23 Intermediate or R-21 advanced Flat ceilings <sup>e</sup> – U-0.017/R-60, and Frames floors – U-0.026/R-38
	4	<b>Super Insulated Windows and Attic OR Framed Floors:</b> Windows- U-0.22 (Triple Pane Low-e) and Flat Ceiling <sup>e</sup> – U-0.017/R-60 OR Framed Floors – U-0.026/R-38
	5	<b>Air sealing home and ducts:</b> Mandatory air sealing of all wall coverings at top plate and air sealing check list <sup>f</sup> , and Mechanical whole-building ventilation system with rates meeting M1503 or ASHRAE 62.2, and All ducts and air handlers are contained within building envelope <sup>d</sup> OR All ducts are sealed with mastic <sup>b</sup>
	6	<b>High efficiency thermal envelope UA<sup>g</sup>:</b> Proposed UA is 8% lower than the code UA
Conservation Measure (Select One)	A	<b>High efficiency HVAC system<sup>a</sup>:</b> Gas-fired furnace or boiler with minimum AFUE of 94%, or Air-source heat pump HSPF of 9.5 / 15.0 SEER cooling, or Ground source heat pump COP 3.0 or Energy Star rated
	B	<b>Ducted HVAC systems within conditioned space:</b> All ducts and air handlers are contained within building envelope <sup>d</sup> <i>Cannot be combined with Measure 5</i>
	C	<b>Ductless heat pump:</b> Ductless heat pump HSPF 10.0 in primary zone of dwelling
	D	<b>High efficiency water heater<sup>c</sup>:</b> Natural gas/propane water heater with UEF of 0.8, or Electric heat pump water heater Tier 1 Northern Climate Specification Product

For SI: 1 square foot = 0.093 m<sup>2</sup>, 1 watt per square foot = 10.8 W/m<sup>2</sup>.

a. Appliances located within the building envelope shall have sealed combustion air installed. Combustion air shall be ducted directly from the outdoors.

b. 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 administrated by the Bonneville Power Administration (BPA).

c. Residential water heaters less than 55 gallon storage volume.

d. 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 of conditioned space shall have insulation installed as required in this code.

e. 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 greater than U-0.026.

f. Continuous air barrier. Additional requirements 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).

g. 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.

OREGON RESIDENTIAL ENERGY CODE CHECKLIST  
 Table N1101.3  
 SMALL ADDITION ADDITIONAL MEASURES  
 (Select one)

1	Increase the ceiling insulation of the existing portion of the home as specified in Table N1101.2
2	Replace all existing single-pane wood or aluminum windows to the <i>U</i> -factor as specified in Table N1101.2.
3	Insulated the floor system as specified in Table N1101.2 & install 100 percent of permanently installed lighting fixtures as CFL, LED, or linear fluorescent or a min. efficacy of 40 lumens per watt as specified in Section N1107.2.
4	Test the entire dwelling with a blower door and exhibit no more than 6.0 air changes per hour @ 50 Pascals.
5	Seal and performance test the duct system.
6	Replace existing 78 percent AFUE or less gas furnace with a 92 percent AFUE or greater system.
7	Replace existing electric radiant space heaters with a ductless mini-split system with a minimum HSPF of 10.0.
8	Replace existing electric forced air furnace with an air source heat pump with a minimum HSPF of 9.5
9	Replace existing water heater with a water heater meeting Conservation Measure D [Table N1101.1(2)]

Table N1101.2  
 Existing Building Component Requirements

Building Components	Required Performance	Equivalent Value
Wall insulation	U-0.083	R-15
Flat ceiling	U-0.025	R-49
Vaulted ceiling > 10 inches nominal rafter depth	U-0.040	R-25
Vaulted ceiling > 8 inches nominal rafter depth	U-0.047	R-21
Underfloor > 10 inches nominal joist depth	U-0.028	R-30
Underfloor > 8 inches nominal joist depth	U-0.039	R-25
Slab edge perimeter	F-0.52	R-15
Windows	U-0.30	U-0.30
Skylights	U-0.60	U-0.60
Exterior doors	U-0.20	R-5
Exterior doors w/>2.5 ft <sup>2</sup> glazing	U-0.40	R-2.5
Forced air ducts	n/a	R-8

**N1101.3 Additions.** Additions to existing buildings or structures may be made without making the entire building or structure comply if the new additions comply with the requirements of this chapter.

**N1101.3.1 Large Additions.** Additions that are equal to or more than 40 percent of the existing building heated floor area or 600 square feet (55 m<sup>2</sup>) in area, whichever is less, shall be required to comply with Table N1101.1(2).

**N1101.3.2 Small Additions.** Additions that are less than 40 percent of the existing building heated floor area or less than 600 square feet in area, whichever is less, shall be required to select one measure from Table N1101.1(2) or comply with Table N1101.3.

**Exception:** Additions that are less than 15 percent of existing building heated floor area or 200 square feet (18.58 m<sup>2</sup>) in area, whichever is less, shall not be required to comply with Table N1101.1(2) or Table N1101.3.