

City of Portland, Oregon - Bureau of Development Services



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2011 Energy Efficiency Additional Measures Requirements

New dwellings shall meet the envelope requirements of ORSC Table N1101.1(1) and a minimum of 50% of permanently installed lighting fixtures shall have high efficacy lamps. Additionally, new heated buildings and additions of more than 600 SF or more than 40% of the original heated floor area shall have at least two of the Additional Measures from ORSC Table N1101.1(2), one from Envelope Enhancement and one from Conservation (see below). All Energy Efficiency components must be reflected on the plans.

Envelope Enhancement Measure (Select One)	
	 High efficiency walls & windows: Exterior walls – R-19+5 (insulation sheathing)/SIPS, and one of the following options: Windows – Max 15% of conditioned area, or Windows – U-0.30
	 High efficiency envelope: Exterior walls – R-21 Intermediate framing, and Vaulted ceilings – R-30 Advanced framing, and Flat ceilings – R-49, and Framed floors – R-38, and Windows – U-0.30, and Doors – All doors U-0.20, or Additional 15% of permanently installed lighting fixtures as high-efficacy lamps or Conservation Measure D and E
	 High efficiency ceiling, windows and duct sealing: (Cannot be used with Conservation Measure E) Vaulted ceilings – R-30 Advanced framing (not more than 50% of the heated floor area), and Flat ceilings – R-49, and Windows – U-0.30, and Performance tested duct systems (ODOE documentation to be submitted to building inspector prior to final inspection)
	 4 High efficiency thermal envelope UA: □ Proposed UA is 15% lower than the Code UA when calculated in Table N1104.1(1)
	 Building tightness testing, ventilation and duct sealing: Mechanical system providing whole-building ventilation per Table N1101.1(3), or ASHRAE 62.2, and Performance tested duct systems (ODOE documentation to be submitted to building inspector prior to final inspection), and Blower door test report submitted to building inspector prior to final inspection showing ≤ 6.0 air changes per hour, or ≤ 5.0 air changes per hour when used with Conservation Measure E
	6 Ducted HVAC systems within conditioned space: (Cannot be used with Conservation Measure B or C)

All ducts and air handler are contained within heated building envelope

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Conservation Measure (Select One)

A High efficiency HVAC system:
☐ Gas-fired furnace or boiler with 90% minimum AFUE (sealed combustion air ducted directly from outdoors if furnace or boiler is within conditioned space), or
☐ Air-source heat pump 8.5 minimum HSPF, or
☐ Closed-loop ground source heat pump with 3.0 minimum COP
B Ducted HVAC systems within conditioned space:
☐ All ducts and air handlers are within heated building envelope
C Ductless heat pump:
Replace electric resistance heating in at least the primary zone with at least on ductless mini-split heat pump with 8.5 minimum HSPF
D High efficiency water heating and lighting:
☐ Natural gas/propane, on-demand water heating with 0.80 minimum EF, and
■ Minimum 75% of permanently installed lighting fixtures as CFL or linear fluorescent or minimum 40 lumens per watt
E Energy management device & duct sealing:
☐ Whole building energy management device capable of monitoring or controlling energy consumption, and
Performance tested duct systems (ODOE documentation to be submitted to building inspector prior to final inspection), and
☐ 75% of permanently installed lighting fixtures as high-efficacy lamps
F Solar voltaic:
☐ Minimum 1 watt per square foot of conditioned floor space with Total Solar Resource Fraction ≤ 75%
G Solar water heating:
☐ 40 square feet minimum gross collector area with Total Solar Resource Fraction ≤ 75%