# Residential Energy Additional Measure Selection

**Department of Consumer and Business Services**
**Building Codes Division • Statewide Services**
1535 Edgewater St. NW, Salem, Oregon
Mailing address: P.O. Box 14470, Salem, OR 97309-0404
Phone: 503-378-4133 • Web: oregon.gov/bcd

| RESIDENTIAL INFORMATION | | |
|---|---|---|
| Date: | Building permit number: | |
| Owner's name: | | |
| Job address: | | |
| City: | State: | ZIP: |

## INSTRUCTIONS

Select the type of construction. If the project is an addition, select the applicable addition type and check the selected measures from the Tables N1101.1(2) and N1101.3(2) on Page 2 accordingly; print and sign your name. Submit this form with your permit application or your project will be placed on hold until the required information is provided.

☐ **New construction.** All conditioned spaces within residential buildings shall comply with Table N1101.1(1), and one additional measure from Table N1101.1(2).

**Note:** If using Exception 3 of Section N1105.3 for the installation of ducts and air handling equipment, two additional measures shall be selected for compliance from Table N1101.1(2).

*Check the selected measure(s) on Page 2. Depending on the additional measure you have selected, there may be sub-options that you will have to specify. Check the appropriate box if provided.*

☐ **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. Read ORSC Section N1101.3.

*Check the appropriate boxes below and the selected measures on Page 2. Depending on the additional measure you have selected, there may be sub-options that you will have to specify. Check the appropriate box if provided.*

- ☐ **Large additions.** Additions that are more than or equal to 600 square feet in area are required to select one measure from Table N1101.1(2).
- ☐ **Small additions.** Additions that are less than 600 square feet in area are required to select one measure from Table N1101.1(2) **or** select one measure from Table N1101.3.
  - ☐ Selected Table N1101.1(2) additional measure

    **or**

  - ☐ Selected Table N1101.3 additional measure
- ☐ **Exception:** Additions that are less than 225 square feet in area are not required to comply with Table N1101.1(2) or Table N1101.3.

Applicant's printed name:

Applicant's signature:

**TABLE N1101.1(2) – ADDITIONAL MEASURES**

| MEASURE NO. | MEASURE DESCRIPTION |
|---|---|
| ☐ 1 | **HIGH-EFFICIENCY HVAC SYSTEM[a]**<br>○ a. Gas-fired furnace or boiler AFUE 94 percent, or<br>○ b. Air source heat pump HSPF 10.0/16.0 SEER cooling or 8.5 HSPF2 / 15.0 SEER2, or<br>○ c. Ground-source heat pump COP 3.5 or ENERGY STAR rated |
| ☐ 2 | **HIGH-EFFICIENCY WATER HEATING SYSTEM**<br>⊙ a. Natural gas/propane water heater with minimum 0.90 UEF, or<br>○ b. Electric heat pump water heater with minimum 3.45 UEF, or<br>○ c. Natural gas/propane tankless/instantaneous heater with minimum 0.80 UEF and drain water heat recovery unit installed on minimum of one shower/tub-shower |
| ☐ 3 | **WALL INSULATION UPGRADE**<br>Exterior walls – U-0.045/R-21 conventional framing with R-5.0 continuous insulation |
| ☐ 4 | **ADVANCED ENVELOPE**<br>Windows – U-0.21 (Area-weighted average), and<br>Flat ceiling[b] – U-0.017/R-60, and<br>Framed floors – U-0.026/R-38 or slab edge insulation to F-0.48 or less (R-10 for 48"; R-15 for 36" or R-5 fully insulated slab) |
| ☐ 5 | **DUCTLESS HEAT PUMP (Dwelling units with all-electric heat)**<br>a. Provide ductless heat pump of minimum HSPF 10.0 or HSPF2 9.0 in primary zone replaces zonal electric heat sources, and<br>b. Provide programmable thermostat for all heaters in bedrooms |
| ☐ 6 | **HIGH-EFFICIENCY THERMAL ENVELOPE UA[c]**<br>Proposed UA is 8 percent lower than the code UA |
| ☐ 7 | **2.75 ACH AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION**<br>Achieve a maximum of ACH50 whole-house air leakage when third-party tested and provide a whole-house ventilation system, including 2.75 heat recovery with a minimum sensible heat recovery efficiency of not less than 66 percent and total fan efficacy of 1.6 CFM/Watt (combined input for supply and exhaust). |

*For SI: 1 square foot = 0.093 $m^2$, 1 watt per square foot = 10.8 $W/m^2$.*

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

b. 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 not greater than U-0.026.

c. In accordance with Table N1104.1(1), the Proposed UA total of the Proposed Alternative Design shall be a minimum 8 percent less than the Code UA total of the Standard Base Case.

**TABLE N1101.3.2 – SMALL ADDITION ADDITIONAL MEASURES**

| MEASURE NO. | MEASURE DESCRIPTION |
|---|---|
| ☐ 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 *U*-factor as specified in Table N1101.2 |
| ☐ 3 | Insulate the existing floor, crawl space or basement wall systems as specified in Table N1101.2 and install 100 percent of permanently installed lighting fixtures as CFL, LED or linear fluorescent, or a minimum efficacy of 40 lumens per watt as specified in Section N1107.2. |
| ☐ 4 | Test the entire dwelling with a blower door and exhibit not more than 4.5 air changes per hour @ 50 Pascals. |
| ☐ 5 | Seal and performance test the duct system. |
| ☐ 6 | Replace existing 80 percent AFUE or less gas furnace with a 94 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 or HSPF2 of 9.0. |
| ☐ 8 | Replace existing electric forced-air furnace with an air source heat pump with a minimum HSPF of 9.5 or HSPF2 of 8.1. |
| ☐ 9 | Replace existing water heater with one of the following:<br>a. Natural gas/propane water heater with minimum UEF 0.90, or<br>b. Electric heat pump water heater with minimum 3.45 UEF. |