Tillamook County	Til	lamook	Count	ty
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DEPARTMENT OF COMMUNITY DEVELOPMENT

2	 > 5	BUILDING, PLANNING	& ON-SITE SANIT	TATION SEC	TIONS
K.	A				1510-B Third Street Tillamook, Oregon 97141
		Land of Cheese, Trees and Ocean Breeze			Building (503)842-3407 Planning (503)842-3408 On-Site Sanitation (503)842-3409
		RESIDENTIAL	NFORMATION		FAX (503)842-1819 Toll Free 1 (800)488-8280
Date:	:		Building permit n	umber:	
Owne	er's na	me:			
Job a	ddress	:			1
City:			State:		ZIP:
		INSTRU	CTIONS		
meas	ures ac	ype of construction. If the project is an addition, secondingly; print and sign your name. Submit this old until the required information is provided.		• •	
		construction. All conditioned spaces within residential measure from Table N1101.1(2).	ential buildings sha	ll comply wi	th Table N1101.1(1) and one
		tions. Additions to existing buildings or structures ure comply if the new additions comply with the r			
		Large additions. Additions that are equal to or measure from Table N1101.1(2).	more than 600 squa	are feet in are	a are required to select one
		Enter the selected Table N1101.1(2) addition	onal measure	_	
		Small additions. Additions that are less than 60 Table N1101.1(2) or select one measure from T		a are required	d to select one measure from
		Selected Table N1101.1(2) additional 1	neasure		
		Selected Table N1101.3 additional mea	asure		
		Exception: Additions that are less than 225 squa N1101.1(2) or Table N1101.3.	are feet in area are	not required t	to comply with Table
	For r	eference Tables N1101.1(2) and N1101.3 are inclu	ided in this form be	elow.	
		nding on the additional measure you have selected ppropriate box, if provided.	d, there may be sub	-options that	you will have to specify.
Appl	icant's	printed name: Applica	nt's signature:		

TABLE N1101.1(2) – ADDITIONAL MEASURES				
		HIGH-EFFICIENCY HVAC SYSTEM ^a		
	1	a. Gas-fired furnace or boiler AFUE 94 percent, or		
		b. Air-source heat pump HSPF 10.0/14.0 SEER cooling, or		
		c. Ground-source heat pump COP 3.5 or Energy Star rated		
		HIGH-EFFICIENCY WATER HEATING SYSTEM		
		a. Natural gas/propane water heater with minimum UEF 0.90, or		
	2	b. Electric heat pump water heater with minimum 2.0 COP, or		
		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		
	3	Exterior walls—U-0.045/R-21 conventional framing with R-5.0 continuous insulation		
		ADVANCED ENVELOPE		
		Windows-U-0.21 (Area weighted average), and		
	4	Flat ceiling ^b —U-0.017/R-60, and		
		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		
		For dwelling units with all-electric heat, provide:		
		Ductless heat pump of minimum HSPF 10 in primary zone replaces zonal electric heat sources, and		
		programmable thermostat for all heaters in bedrooms		
	6			
	6	Proposed UA is 8 percent lower than the code UA		
	7	GLAZING AREA		
	7	Glazing area, measured as the total of framed openings is less than 12 percent of conditioned floor area		
		3 ACH AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION		
	8	Achieve a maximum of 3.0 ACH50 whole-house air leakage when third-party tested and provide a whole-house ventilation system including heat recovery with a minimum sensible heat recovery efficiency of not less than 66 percent.		
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				
fror	n the ou	rdoors.		

- 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 no 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 of 8 percent less than the Code UA total of the Standard Base Case.

	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 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 no 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 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: Natural gas/propane water heater with minimum UEF 0.90, or Electric heat pump water heater with minimum 2.0 COP.

TABLE N1101.1(1) PRESCRIPTIVE ENVELOPE REQUIREMENTS^a

BUILDING COMPONENT	STANDARD BASE CASE		LOG HOMES ONLY	
BUILDING COMPONENT	Required Performance	Equiv. Value ^b	Required Performance	Equiv. Value ^b
Wall insulation—above grade	U-0.059°	R-21 Intermediate ^c	Note d	Note d
Wall insulation—below grade ^e	C-0.063	R-15 c.i. / R-21	C-0.063	R-15/R-21
Flat ceilings ^f	U-0.021	R-49	U-0.020	$R-49 A^{h}$
Vaulted ceilings ^g	U-0.033	R-30 Rafter or R-30A ^{g, h} Scissor Truss	U-0.027	R-38A ^h
Underfloors	U-0.033	R-30	U-0.033	R-30
Slab-edge perimeter ^m	F-0.520	R-15	F-0.520	R-15
Heated slab interior ⁱ	n/a	R-10	n/a	R-10
Windows ^j	U-0.27	U-0.27	U-0.27	U-0.27
Skylights	U-0.50	U-0.50	U-0.50	U-0.50
Exterior doors ^k	U-0.20	U-0.20	U-0.54	U-0.54
Exterior doors with > 2.5 ft ² glazing ¹	U-0.40	U-0.40	U-0.40	U-0.40

For SI: 1 inch = 25.4 mm, 1 square foot = 0.0929 m^2 , 1 degree = 0.0175 rad, n/a = not applicable.

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-factor standards. Calculations to document equivalent heat loss shall be performed using the procedure and approved *U*-factors 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 timber wall thickness of 3.5 inches.

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 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 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-factor.

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. A = Advanced frame construction. See Section N1104.6.

i. 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.

j. 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.

k. A maximum of 28 square feet of exterior door area per dwelling unit can have a U-factor of 0.54 or less.

1. Glazing that is either double pane with low-e coating on one surface, or triple pane shall be deemed to comply with this requirement.

m. Minimum 24-inch horizontal or vertical below grade.