



**NORTHWEST ENERGY STAR® HOMES**  
**Certification Requirements**  
**Single Family Homes Oregon**

**NWBOP 2**  
**Zonal Electric Heating**

Builder Option Packages (BOPs) are prescriptive methods for labeling new homes as ENERGY STAR. All requirements of the NWBOP shall be met in order to qualify a home for Northwest ENERGY STAR Homes Certification in Oregon upon verification by a Northwest ENERGY STAR Homes Verifier.

Measure	Code Requirements	ENERGY STAR Requirements	Comments for meeting ENERGY STAR Requirements	
<b>Insulation</b>				
Ceiling	Flat	R-38	≥49 R-Value	Requires insulation inspection. Completed Thermal Bypass Inspection Checklist required.
	Rafter Vault	R-30	≥38 R-Value	Requires insulation inspection. Completed Thermal Bypass Inspection Checklist required.
	Scissor Truss	R-38	≥49 R-Value	Requires insulation inspection. Completed Thermal Bypass Inspection Checklist required.
Wall	R-21	≥21 R-Value; With R-4 Sheathing	Requires insulation inspection. Completed Thermal Bypass Inspection Checklist required.	
Below-Grade Wall	R-15	≥19 R-Value	Requires insulation inspection. Completed Thermal Bypass Inspection Checklist required.	
Floors Over Unconditioned Space	R-30	≥30 R-Value	Insulation in floor joist cavity. Perimeter insulation not allowed.	
Slab Floor	Unheated	R-15 Perimeter	≥15 R-Value; 4 foot depth	Applies to all concrete slab floors on or below grade. R-5 thermal break at slab edge. Perimeter insulation shall be installed for a distance of 2 feet vertical, horizontal or combined distance. In areas east of the Cascade Mountains, 4 feet is recommended.
<b>Doors &amp; Windows</b>				
Glazing	Max glazing area	no limit	≤15% of Window Area to Floor Area Ratio	
	Windows	U - 0.35	≤0.32 U-Value; > 0.42 SHGC	Combined window and skylight area. Up to 1% of heated floor area is exempt.
	Skylights	see code	code compliant Skylights, max area limited to 5% heated floor space	See code to determine rating requirements.
Doors	R-5	R-5		
<b>Ducts</b>				
Insulation	R-8	≥R-8 on ducts in unconditioned space		
Sealing	No requirement for non-heating ductwork	Mastic paste		Tape not allowed.
Max Leakage	No requirement for non-heating ductwork	≤ 0.06 CFM to outdoors / ft2 of conditioned floor area or 75 CFM total		Performance testing is required by a certified contractor.
Return Air provisions	designed to industry standards	Rooms with 2 or more supplies require dedicated return air path, rooms with single supplies may have door undercuts of at least 1" as a minimum.		Dedicated return air path options include transfer grills, jump-over ducts, or fully-ducted return for rooms with multiple supply ducts.
<b>Ventilation &amp; Air Sealing</b>				
Whole House Ventilation	Operable Windows	Central ventilation with ≥70% Heat Recovery		
Spot Ventilation	See code section 303.3	ENERGY STAR qualified or 2 sone or less Bath Fans		Applies only to bathing and spa areas.
Envelope Tightness	no requirement	2.5 ACH @ 50Pa		Blower Door Testing to be performed by a certified ENERGY STAR verifier.
<b>Heating &amp; Cooling Equipment</b>				
Zonal Electric Heating	no requirement			
Combustion Appliance Zone (CAZ)	no requirement	CAZ Pressure Test required		Whenever a non-sealed combustion appliance used for primary space or water heating is present within a building, a CAZ pressure test is required.



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<b>Water Heating</b>			
Natural Gas	≤60 gal	0.55	<b>&lt; 60 Gal = 0.62</b>
	> 60 gal	0.55	<b>&gt; 60 Gal = 0.61</b>
Electric	≤70 gal	0.87	<b>&lt; 70 Gal = 0.93</b>
	> 70 gal	0.87	<b>&gt; 70 Gal = 0.92</b>
Showerheads	no requirement	<b>Low-flow Showerhead Required</b>	
Pipe Insulation	no requirement	<b>R-4 Pipe Insulation Required</b>	
<b>Appliances &amp; Lighting</b>			
Dishwasher	no requirement	<b>ENERGY STAR Qualified</b>	
Lighting	50%	<b>75%</b>	Of permanent fixtures shall be fitted with either ENERGY STAR bulbs or ENERGY STAR fixtures.

**Additional Notes:**

Items in **BOLD** exceed Oregon Code Requirements.

Thermal Bypass Checklist/Critical Detail requirements defined in Northwest ENERGY STAR Specification for Oregon.

All insulation materials shall be installed according to the manufacturer's instructions to achieve proper densities, avoid compression and voids, and maintain uniform R-values. To the maximum extent possible, insulation shall extend over the full component area to the intended R-value. All R-values specified are nominal. Insulation inspection is required as outlined in the Northwest ENERGY STAR Specification for Oregon.

Reference the Northwest ENERGY STAR specifications Appendix B for requirements on placing ducts inside the conditioned space.