





		FRESH AIR INTAKE VENTILATION	 GOOD	 BAD
		Critical Details		
		Items in bold are a requirement of the Northwest ENERGY STAR Homes Program		
PRE-CHECK	1	All chases are capped prior to installing wiring or duct work		
	2	All floor system cavities between conditioned areas and unconditioned areas (e.g. attics/garages, bonus rooms, cantilevers) are separated by blocking and air sealed		
	3	All HVAC supply and return ducts, air handlers, and plenums inside and outside the heated space are sealed at all joints and corners, including prefabricated joints, with approved mastic. Tape of any kind is not allowed except for use on cabinet doors		
	4	Work site is broom cleaned and all safety precautions are taken prior to beginning work		
	*	Installer's Name _____ Date _____ <small>print name signature</small>		
SELF-CHECK	1	Fresh air intake is integrated into the return air stream and has been sized to meet the required ventilation rate		
	2	Fresh air ventilation intake is installed at least 10 feet from any exhaust vent/stack, chimney, street, or driveway (roof deck intakes are not allowed)		
	3	Fresh air ventilation intake is installed at least 2 feet above the ground, vegetation, or roofline (roof deck intakes are not allowed)		
	4	Fresh air ventilation intake is covered with a protective screen, louver, or grille and is filtered before entering the air handler		
	5	Fresh air intake has an electronically controlled mechanical damper or other flow regulator installed		
	6	Straight runs are used for fresh air intake whenever possible.		
	7	Work site is broom cleaned after work is complete		

Installer Name _____ Date _____
print name signature

Builder Name _____ Builder's Job #: _____

This Verification form should be signed and filled out by the Installer. Signing this form certifies that all Critical Details are correct and are as designated.



NORTHWEST ENERGY STAR® HOMES
Certification Requirements
Single Family Homes Oregon

NWBOP 1
Ducted Natural Gas Fired Furnaces or Heat Pumps

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	
		Envelope Upgrade	On Demand/ Tankless Hot Water Heater	Wall Upgrade		Ducts & HVAC Equipment Inside
Insulation						
Ceiling	Flat	R-38	R-38	R-49	R-38	Requires insulation inspection.
	Rafter Vault	R-30		R-30		Requires insulation inspection.
	Scissor Truss	R-38		R-38		Requires insulation inspection.
Wall		R-21	R-21	R-21 + R-3 Sheathing	R-21	Requires intermediate framing techniques and insulation inspection.
Below-Grade Wall		R-19		R-19		Requires insulation inspection.
Floors Over Unconditioned Space		R-30		R-30		Insulation in floor joist cavity. Perimeter insulation not allowed.
Slab Floor	Unheated	R-15 Perimeter	R-15 Perimeter	R-15 Perimeter with R-21 Wall + R-5 Sheathing	R-15 Perimeter	Applies to all concrete slab floors above 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.
Doors & Windows						
Glazing	Max glazing area	no limit				Combined window and skylight area. Up to 1% of heated floor area is exempt.
	Windows	U - 0.35	U - 0.35 Max	U - 0.32 Max	U - 0.35 Max	
	Skylights	see code				See code to determine rating requirements.
Doors		R-5		R-5		
Ducts						
Insulation		R-8			exempt	
Sealing	Option 2: Mastic or inside envelope OR no requirement		Mastic paste			Tape not allowed.
Max Leakage	Option 1: ≤0.06 CFM/ft² or 75 CFM Total @ 50Pa OR no requirement		≤0.06 CFM/ft² or 75 CFM Total @ 50Pa		No duct testing required.	All forced air heating and cooling system ducts shall be installed according to Northwest ENERGY STAR Homes Specifications for sizing and leakage. Performance testing is required by a certified contractor.
Return Air provisions	designed to industry standards					Dedicated return air path options include transfer grills, jump-over ducts, or fully-ducted return for rooms with multiple supply ducts.
Ventilation & Air Sealing						
Whole House Ventilation	Operable Windows			Mechanical Ventilation		Meets Oregon Code Section 303.1 mechanical ventilation provisions
Spot Ventilation	See code section 303.3			ENERGY STAR qualified or 2 zone or less Bath Fans		Applies only to bathing and spa areas.
Envelope Tightness	no requirement			7.0 ACH @ 50Pa		Blower Door Testing to be performed by a certified ENERGY STAR verifier.
Heating & Cooling Equipment						
Gas Furnace or Gas Heat Source	Option 1: 90 AFUE OR 78 AFUE			90 AFUE		
Heat Pump	Option 1: 8.5 HSPF OR 6.8 HSPF			8.5 HSPF/SEER 13		Heat Pumps must be installed according to ENERGY STAR Homes Specifications for sizing, controls, airflow and refrigerant charge. Must pass approved heat pump commissioning method and be performed by a certified contractor.
Air Conditioner	SEER 13			SEER 13		
Combustion Appliance Zone (CAZ)	no requirement			CAZ Pressure Test required		Whenever a combustion appliance used for primary space or water heating is present within a building, a CAZ pressure test is required.
Water Heating						
Natural Gas	≤60 gal	0.55	On Demand Water Heater	0.62	0.62	Commercial Water Heater Requirements
	> 60 gal	0.55	EF 0.82	0.62	0.62	Rated Capacity (Gallons) 70-74 75-79 80-84 85-89 90-94 95-99 100+
Electric	≤70 gal	0.87	N/A	0.93	0.93	Max Standby Loss (Btu/hr) 900 930 950 980 1000 1030 1050
	> 70 gal	0.87	N/A	0.92	0.92	
Appliances & Lighting						
Dishwasher	no requirement			ENERGY STAR Qualified		
Lighting	50%			75%		Of permanent fixtures shall be fitted with either ENERGY STAR bulbs or ENERGY STAR fixtures.

Items in **BOLD** exceed Oregon Code Requirements. Intermediate framing requires at a minimum insulated headers. Thermal Bypass Checklist/Critical Detail requirements defined in Northwest ENERGY STAR Specification for Oregon.