



# ENERGY STAR Homes Northwest Certification Requirements Single Family Homes

**BOP 1**  
Natural Gas Fired Furnaces &  
Electric Heat Pumps

Builder Option Packages (BOPs) are a prescriptive method for labeling new homes ENERGY STAR. All requirements of the BOP shall be met in order to qualify a home for ENERGY STAR Homes Northwest certification and verified by a ENERGY STAR Homes Northwest Verifier. Additional details are contained in the ENERGY STAR Homes Northwest Specification. Local code requirements apply where they are more stringent. Trade-off options are detailed in the ENERGY STAR Homes Northwest Technical Compliance Options.

Insulation			
Ceiling		R-38	Flat or vaulted.
Wall		R-21	R-19 is option with advanced framing techniques.
Floors Over Unconditioned Space		R-30	Insulation in floor joist cavity. Perimeter insulation not allowed.
Slab Floors	Unheated	R-10 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.
	Heated Radiant	R-10 Full Slab	
Basement Wall		R-19	Below grade walls can extend up to 24 inches above grade.
Windows & Doors			
Glazing	Windows	U-0.35	
	Skylights	U-0.50	Skylight area shall not exceed 5% of heated floor area.
	Max. Glazing Area	21% of Heated Floor Area	Combined window and skylight area. Up to 1% of heated floor area exempt.
Doors		R-5	One door up to 28 ft <sup>2</sup> exempt.
Ducts			
Insulation		R-8	Ducts inside heated space exempt
Sealing		Mastic	Cloth duct tapes not allowed.
Max. Leakage		<0.06 CFM per ft <sup>2</sup> Floor <b>OR</b> 75 CFM Total @ 50 Pa	All forced air heating and cooling system ducts shall be installed according to ENERGY STAR Homes Northwest Specifications for sizing and leakage. Performance testing is required.
Ventilation & Air sealing			
Ventilation System		Exhaust Ventilation	Local code requirements are deemed to satisfy this requirement.
Envelope tightness		7.0 ACH @ 50 Pa	Local code requirements for air sealing are deemed to satisfy this requirement.
Heating & Cooling Equipment			
Gas Furnace		90 AFUE	Installed according to ENERGY STAR Homes Northwest Specifications for sizing, controls, airflow and refrigerant charge. Performance testing is required.
Heat Pump		8.0 HSPF / SEER 13	
Air Conditioner		SEER 13	
Water Heating			
Natural Gas	? 60 gal	0.61	
	? 60 gal	0.60	
Electric	All sizes	0.93	
Appliances & Lighting			
Appliances		ENERGY STAR Qualified	Applies to built-in appliances only.
Lighting		ENERGY STAR Qualified	A minimum of 50% of sockets to be either ENERGY STAR bulbs, fixtures, or both