

		FRAMING INSTALLATION				
		Critical Details		✓	✗	
		Items in bold are a requirement of the Northwest ENERGY STAR Homes Program				
PRE-CHECK	1	Slab edge insulation is installed where required				
	2	Work site is broom cleaned and all safety precautions are taken prior to beginning work				
	*	Installer's Name _____ Date _____ <small>print signature</small>				
SELF-CHECK	1	Bottom plates of all exterior walls and party/common walls (ALL floors), and vertical members at foundation step downs are caulked, gasketed, or glued				
	2	There is both a top and bottom plate installed at every knee wall				
	3	All knee walls are backed with a rigid material (e.g. wall to attic, skylight shaft, wall to porch roof, staircase to attic)				
	4	All dropped ceilings/soffits are capped with a rigid material on the attic side and/or the exterior wall				
	5	All shafts/chases are capped				
	6	Insulation is installed behind showers, tubs, and fireplaces on exterior, attic, and party walls and rigid sheathing or other supporting material is installed to hold insulation in place				
	7	All floor system cavities between conditioned areas and unconditioned areas (e.g. floor/garages, bonus rooms/attic, cantilevers, porch/floor) are separated by blocking and air sealed				
	8	Overhanging floor cavities are insulated before being enclosed with rigid sheathing. Sheathing is attached to the underside of the cantilever. This can be the exterior finish material if it is continuous and air sealed				
	9	Gypsum shaft walls (e.g., common wall, area separation wall) are capped, closed, or sealed at all exterior boundaries (i.e. top and sides) (MULTIFAMILY ONLY)				
	10	Double wall conditions are backed with rigid material on the exterior side of the interior wall, or are entirely filled with insulation				
	11	Work site is broom cleaned after work is complete				

Installer Name _____ Date _____
print 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

NWBOP1 Natural Gas Fired Furnaces & Electric Heat Pumps
NWBOP2 Zonal Electric, Propane & Oil Furnaces

Single Family Homes

Builder Option Packages (BOP's) are a prescriptive method for labeling new homes ENERGY STAR. All requirements of the NWBOP shall be met in order to qualify a home for ENERGY STAR Homes Northwest certification and verification by an ENERGY STAR Homes Northwest Verifier. **HIGHLIGHTED** sections pertain to the Critical Details on the opposite side of this sheet.

		NWBOP 1	NWBOP 2																	
Insulation																				
Ceiling		R-38	R-38	Flat or vaulted.																
Wall		R-21	R-21 + 2.5 sheath	BOP 1: R-19 is optional with advanced framing techniques. BOP 2: R-21 is optional with advanced framing techniques.																
Floors Over Unconditioned Space		R-30	R-30	Insulation in floor joist cavity. Perimeter insulation is not allowed.																
Slab Floors	Unheated	R-10 Perimeter	R-10 Perimeter	Applies to all concrete slab floors above or below grade. R-5 thermal breaks 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	R-10 Full Slab																	
Basement Wall		R-19	R-19	Below grade walls can extend up to 24 inches above grade.																
Windows & Doors																				
Glazing	Windows	U-0.35	U-0.30	NFRC rated.																
	Skylights	U-0.50	U-0.50	Skylight area shall not exceed 5% of heated floor area.																
	Max. Glazing Area	21% of Heated Floor Area	21% of Heated Floor Area	Combined window and skylight area. Up to 1% of heated floor area exempt.																
Doors		R-5	R-5	One door up to 28 ft ² exempt.																
Ducts																				
Insulation		R-8	R-8	Ducts inside the heated space exempt.																
Sealing		Mastic	Mastic	Tapes not allowed.																
Max. Leakage		<0.06 CFM per ft ² 1.1.3. OR 75 CFM Total @ 50 Pa	<0.06 CFM per ft ² OR 75 CFM Total @50Pa	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	Central ventilation with 70% heat recovery	BOP 1 ONLY: Local code requirements are deemed to satisfy this requirement.																
Envelope tightness		7.0 ACH @ 50 Pa	2.5 ACH @ 50 Pa	BOP 1: Local code requirements for air sealing are deemed to satisfy this requirement. BOP 2: Air tightness in this path must be verified by blower door test before certification is granted.																
Heating & Cooling Equipment																				
Gas Furnace		90 AFUE		Installed according to ENERGY STAR Homes Northwest Specifications for sizing, controls, airflow and refrigerant charge (if applicable). Performance testing is required.																
Heat Pump		8.5 HSPF / SEER 13																		
Air Conditioner		SEER 13																		
Propane or Oil Furnace		≥ 80 AFUE																		
Water Heating																				
Natural Gas	≤ 60 gal	EF ≥ 0.61	EF ≥ 0.61	BOP 1 ONLY: Gas commercial tank water heaters may be used if they have standby losses that do not exceed the following (btu/hr):																
	> 60 gal	EF ≥ 0.60	EF ≥ 0.60																	
Electric	≤ 70 gal	EF ≥ 0.93	EF ≥ 0.93																	
	> 70 gal	EF ≥ 0.92																		
<table border="1" style="float: right; border-collapse: collapse; text-align: center;"> <tr> <td>Gallons</td> <td>70-74</td> <td>75-79</td> <td>80-84</td> <td>85-89</td> <td>90-94</td> <td>95-99</td> <td>100+</td> </tr> <tr> <td>Max Standby Loss</td> <td>930</td> <td>960</td> <td>980</td> <td>1010</td> <td>1030</td> <td>1060</td> <td>1080</td> </tr> </table>					Gallons	70-74	75-79	80-84	85-89	90-94	95-99	100+	Max Standby Loss	930	960	980	1010	1030	1060	1080
Gallons	70-74	75-79	80-84	85-89	90-94	95-99	100+													
Max Standby Loss	930	960	980	1010	1030	1060	1080													
Appliances & Lighting																				
Appliances		ENERGY STAR Qualified	ENERGY STAR Qualified	Applies to built-in appliances only.																
Lighting		ENERGY STAR Qualified	ENERGY STAR Qualified	A minimum of 50% of sockets to be either ENERGY STAR bulbs, fixtures, or both.																