

		INSULATION INSTALLATION Critical Details		GOOD ☺	BAD ☹
		Items in bold are a requirement of the ENERGY STAR Homes Northwest Program		✓	✗
PRE-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 shafts/chases are capped			
	5	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			
	6	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	Insulation is installed without gaps/voids or misalignments/compressions. Insulation material is in full contact with all sides of the cavity. Insulation is cut/split around blocking, plumbing, HVAC, and electrical components			
	2	Floor framing is completely filled with insulation or insulation is installed to maintain permanent contact with the sub-floor decking (e.g. bonus room floor, crawl space, cantilever)			
	3	Insulate any overhanging floor cavities before closing them in with rigid sheathing			
	4	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			
	5	Access panels to attic/kneewall or crawlspace, drop down stairs, and whole-house fans are weather stripped and insulated to the same R-value as the surrounding area when possible (min R-10)			
	6	Wind baffles are installed where soffit vents are present, including vaulted/cathedral ceilings			
	7	Double wall conditions are backed with a rigid material on the exterior side of the interior wall, or are entirely filled with insulation			
	8	Work site is broom cleaned after work is complete			
Installer Name _____ Date _____ <small>print name signature</small>					
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.					



ENERGY STAR[®] HOMES

NORTHWEST

CERTIFICATION REQUIREMENTS

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.

Insulation		NWBOP 1	NWBOP 2																	
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	<table border="1" style="font-size: small;"> <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													
	> 70 gal	EF ≥ 0.92																		
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.																