

Additional Energy Credit Summary

2021



WSEC Compliance Checklist

(New Home Construction & Additions)

PERMIT NUMBER _____

ADDITIONAL NOTES

- ① An alternate heating source sized @ 0.5 Watts/ft² (equiv.) of heated floor area or 500 Watts, whichever is larger, may be installed in the dwelling unit.
- ② Equipment listed in Table C403.3.2(5) or C403.3.2(6)
- ③ Equip. in Table C403.3.2(2) + supplemental system per C403.3.2(5)b for comb. furn.
- ④ You may not select more than (1) option from this category.
- ⑤ 0.5 credits for each 600 kWh of electrical generation provided annually, up to 4.5 credits max. See complete Table R406.2 for all req. and option descriptions.
- ⑥ To qualify to claim this credit, the building permit drawings shall spec the option being selected & shall spec the max tested bldg air leakage & show the HRV sys.
- ⑧ To qualify to claim this credit, the bldg permit drawings shall spec the option being selected & spec the heating equipment type & the min. equipment efficiency.
- ⑨ For mech. equip. outside conditioned space, max 10' return duct & 5' supply duct connections to equipment may be outside deeply buried insul. All metallic ducts outside cond. space must have both transverse & longitudinal joints sealed w/ mastic. If flex ducts are used, they cannot contain splices.
- ⑩ Bldg permit drawings shall spec option selected & spec heating equipment type & show the location of the heating & cooling equipment & all ductwork.
- ⑪ To qualify to claim this credit, the bldg permit drawings shall spec the option being selected and shall spec the water heater equip. type & min. equip. efficiency
- ⑫ Min. efficiency of 40% if installed for equal flow or a min. efficiency of 54% if installed for unequal flow. Such units shall be rated in accordance w/ CSA B55.1 or IAPMO IGC 346-2017 & be labeled. (must collect from 2+ showers/tubs). To qualify to claim this credit, the bldg permit drawings shall include a plumbing diagram that specs drain water HRU & plumbing layout needed to install it. Labels or other documentation shall be provided that demonstrates that the unit complies w/ the standard.
- ⑬ Generation calculated via: For solar electric systems, the design shall be demonstrated to meet this requirement using the National Renewable Energy Laboratory calculator PVWATTS or approved alternate by the B.O. Documentation noting solar access shall be included on the plans. For wind generation, project design shall document annual power generations based on the following factors: the wind turbine power curve, average annual wind speed at site, frequency distribution of the wind speed at the site & height of the tower.
- ⑭ To qualify to claim this credit, the bldg permit drawings shall spec the option being selected & shall show the photovoltaic or wind turbine equipment type, provide documentation of soar & win access, & include a calculation of the min. annual energy power production.
- ⑮ To qualify to claim this credit, the bldg permit drawings shall spec the option being selected & shall show the appliance type & provide documentation of Energy Star compliance. At the time of inspection, all appliances shall be installed & connected to utilities. Dryer ducts & exterior dryer vent caps are not permitted to be installed in the dwelling unit.
- ⑯ HEATING and COOLING EQUIPMENT SHALL BE SIZED and EFFICIENCY MEASURED IN ACCORDANCE WITH R403.7.
- ⑰ Const. Documents shall show ounces of water in piping between the hot water source and the termination of the fixture.
- ⑱ Per Table C403.3.2.(2), C403.3.2(9), or Air-H2O HP (heating/cooling) rated AHRI 550/590

HVAC SUMMARY

HVAC Summary Per WSEC Heating Sizing Worksheet & Mandatory Equipment Sizing with Efficiency Rating in Accordance with ACCA Manuals J, S, & D. ⑯	CFM	BTUS	Efficiency Rating	H R V		OSA Duct Size	Duct size to be ≥ 6" (unless engineered)
				YES	NO		
⑰		⑱		⑲		⑳	

2021 Washington State Energy Code Insulation Requirements

Component	WSEC MIN.	Adjusted R/U Values per Credit Selections or Calculations
WINDOWS	U-0.30	
SKYLIGHTS	U-0.50	
CEILING W/ ATTIC	R-60	
CEILING W/ VAULTED CEILING	R-38 (full depth insul. Extend over ext. wall top plate)	
EXT. WALLS	R-20 + R-5ci or R-13 + R-10ci	
FLOOR	R-30	
BELOW-GRADE WALL	R-10/15/21 (int) + 5TB	
SLAB	R-10, 4ft down perimeter	
BLDG. Components	WSEC MIN.	

REQUIRED CREDITS	
Very Small Additions (additions 150-500 sf)	2
Small Additions (additions ≥500-1500 sf)	5
Small Dwelling (dwellings <1500 and <300 sf of glazing)	5
Medium Dwelling (dwellings and additions ≥1500-5000 sf, sm dwellings with >300 sf of glazing)	8
Large Dwelling (dwelling >5000 sf)	9
Heating System Options ④ Credits	
1 Comb. Heating min. NAECA ②	0.0
2 Heat pump (w/ supplemental elec. resist. or gas heat) ③	1.5
3 Elec. Res. Heat only (forced-air or zonal)	0.5
4 Heat pump (w/o supplemental heat) ⑱	3.0
5 Inverter-driven mini-split (largest zone) OR Elec. Resistance heating (combined sys. shall not exceed 2kW installed heating capacity)	2.0
BLDG Envelope Improvements ④ Credits	
1.1 Glazing: U-0.22	0.5
1.2 Glazing: U-0.25 Floor: R-38 OR Reduce the Total target UA by 15% Basement Wall: R-21 + R-5ci ALL Ceilings: R-60 (adv.) Slab: R-10 edge + entire slab	1.0
1.3 Glazing: U-0.18 Ceiling: (flat/rafter/vault): R-60 (adv.) Floor: R-38 OR Reduce the Total target UA by 22.5% Basement Wall: R-21 + R-12ci Slab: R-10 edge + entire slab	1.5
1.4 Glazing: U-0.18 Ceiling: (flat/rafter/vault): R-60 (adv.) Walls: R-21 + R-16ci Floor: R-48 OR Reduce the Total target UA by 30% Basement Wall: R-21 + R-16ci Slab: R-20 edge + entire slab	2.5
Air Leakage Control & Efficient Ventilation ④ Credits	
2.1 Reduce air leakage to 2 ACH AND whole house ventiation (M1505.4) w/ HRV min. 0.65 ⑥	1.0
2.2 Reduce air leakage to 1.5 ACH AND whole house ventiation (M1505.4) w/ HRV min. 0.75 ⑥	1.5
2.3 Reduce air leakage to 0.6 ACH AND whole house ventiation (M1505.4) w/ HRV min. 0.80 ⑥	2.0
HE HVAC Distribution System ④ Credits	
4.1 ALL HVAC/Duct equip. located in conditioned space (R403.3.2). Electric. Resist., hydronic, and ductless HP heating are NOT permitted with this option.	0.5

High Efficiency HVAC		HSPF x 0.85 = HSPF2 HSPF2 / 0.85 = HSPF	Credits
3.1 ① Min. 95% AFUE fuel-fired furnace OR Min. 90% AFUE fuel-fired boiler ⑧	Chosen with Heat System 1		1.0
3.2 ① Min. 95% AFUE fuel-fired furnace OR Min. 90% AFUE fuel-fired boiler ⑧	Chosen with Heat System 2		0.5
3.3 ① Air-source centrally ducted heat pump (min. HSPF 9.5 & must be rated for cold climate) ⑧	Chosen with Heat System 4		0.5
3.4 ① Closed-loop ground heat pump (min. COP 3.3) OR Open-loop water heat pump (min. COP 3.6) ⑧	Chosen with Heat System 4		1.5
3.5 Ductless mini-split (in zonal elec. heated houses) of HSPF 10.0+ shall give heat to largest zone in house.	Chosen with Heat System 5		1.5
3.6 Air-source, centrally ducted heat pump (HSPF 11+) OR Centrally ducted cold climate variable capacity heat pump (cc VCHP), found on the NEEP cc VCHP qualified product list, with an HSPF 10+.	Chosen with Heat System 4		1.0
3.7 ⑧ Ductless mini-split with no elec. resist. heating in primary living areas shall be HSPF 10.0+ OR HSPF 9.0+ if total heating loads do not exceed 24k BTUs.	Chosen with Heat System 5		2.0
3.8 Air-to-water heat pump with COP 3.2+ @ 47° F. (AHRI 550/590 rated)	Chosen with Heat System 4		1.0
3.9 Gas-fired HP w/ ANSI Z21.40.2 & Z21.40.4 or CSA w/ UEF 1.15+			1.5
3.10 Combination water heating & space heating system shall include gas-fired heat pump water heaters meeting Tier II NEEA for Gas-Fueled Res. Storage Water Heaters (version 1.0)	May only be taken with 5.1 or 5.2		2.5
3.11 Smart thermostat (energy star certified).	Chosen with 3.1 or 3.2 ONLY		0.5
Efficient Water Heating			Credits
5.1 Drain water HRU captures only shower waste water heat ⑫			0.5
5.2 ⑰ Compact Hot Water Distribution system, the volume stored shall not exceed 16 oz. of water between nearest source of heated water & termination of fixture supply pipe (calculated via R403.5.2). When hot water source is nearest primed plumbing loop or trunk, this must be primed with On Demand recirculation pump and must run a dedicated ambient return line from the furthest fixture or end of loop to water heater.	5.1 & 5.2 may be combine with others		0.5
5.3 Energy Star rated gas/propane water heater (UEF 0.80+) ⑪			0.5
5.4 Choose from one of the following: ⑱ - Gas or propane water heater w/ UEF ≥ 0.91 - Solar water heating w/ rated min. savings of 2000kWh (SRCC) - Water heated by ground-source heat pump meeting req. of 3.4			1.0
5.5 Gas-fired Heat Pump water heater (Tier II NEEA) ⑪			1.5
5.6 Electric heat pump water heater meeting Tier III NEEA standards. ⑪			2.0
5.7 Elec. heat pump water heater w/ a min. UEF of 2.9 & utilizing split-system config. w/ air-to-refrigerant heat exchanger located outdoors. Equipment shall meet Section 4, requirements for all units, of the NEEA standard Advance water Heating Spec w/ the UEF noted above ⑪			2.5
5.8 Credit selection 3.10 earns this. (See R403.7, R403.5.7 & Manu. Sizing)			2.5
Renewable Electric Energy ⑤			Credits
6.1 0.5 credit/600 kWh generated per housing unit ⑤ ⑬ ⑭			1.0
Appliance Package			Credits
7.1 Dishwasher, fridge, washing machine, & dryer meet Energy Star requirements ⑮			0.5