

PRESCRIPTIVE ENERGY CODE COMPLIANCE

This project will use the requirements of the Prescriptive Path below and incorporate the minimum values listed. In addition, based on the size of the structure, the appropriate number of additional credits are checked.

CLIMATE ZONE 5 AND MARINE 4

	R-Value ^a	U-Factor ^a	
Fenestration U-Factor ^b	n/a	0.30	
Skylight U-Factor ^b	n/a	0.50	
Ceiling	49	0.026	
Wood Frame Wall ^{g,h}	21 int	0.056	
Floor	30	0.029	
Below Grade Wall ^{c,h}	10/15/21 int + 5TB	0.042	
Slab ^{d,f} R-Value & Depth	10, 2 ft	n/a	

For single rafter- or joist-vaulted ceilings, the insulation may be reduced to R-38.

Table R402.1.1 footnotes included on Sheet A1.

Each dwelling unit in a residential building shall comply with sufficient options from Table R406.2 so as to achieve the following minimum number of credits:

- 1. Small Dwelling Unit: 3.0 points**
 Dwelling units less than 1500 square feet in conditioned floor area with less than 300 square feet of fenestration area. Additions to existing building that are greater than 500 square feet of heated floor area but less than 1500 square feet.
- 2. Medium Dwelling Unit: 6.0 points**
 All dwelling units that are not included in #1 or #3.
- 3. Large Dwelling Unit: 7.0 points**
 Dwelling units exceeding 5000 square feet of conditioned floor area.
- 4. Additions less than 500 square feet: 1.5 credits**

ENERGY CREDIT SUMMARY TABLES

Heating Options	Fuel Normalization Descriptions	Credits	
1	Combustion heating minimum NAECA	0.0	<input type="checkbox"/>
2	Heat pump	1.0	<input checked="" type="checkbox"/>
3	Electric resistance heat only - furnace or zonal	-1.0	<input type="checkbox"/>
4	DHP with zonal electric resistance per option 3.4	0.5	<input type="checkbox"/>
5	All other heating systems	-1.0	<input type="checkbox"/>
Energy Options	Energy Credit Option Descriptions	Credits	
1.1	Efficient Building Envelope	0.5	<input type="checkbox"/>
1.2	Efficient Building Envelope	1.0	<input type="checkbox"/>
1.3	Efficient Building Envelope	0.5	<input checked="" type="checkbox"/>
1.4	Efficient Building Envelope	1.0	<input type="checkbox"/>
1.5	Efficient Building Envelope	2.0	<input type="checkbox"/>
1.6	Efficient Building Envelope	3.0	<input type="checkbox"/>
1.7	Efficient Building Envelope	0.5	<input type="checkbox"/>
2.1	Air Leakage Control and Efficient Ventilation	0.5	<input type="checkbox"/>
2.2	Air Leakage Control and Efficient Ventilation	1.0	<input checked="" type="checkbox"/>
2.3	Air Leakage Control and Efficient Ventilation	1.5	<input type="checkbox"/>
2.4	Air Leakage Control and Efficient Ventilation	2.0	<input type="checkbox"/>
3.1	High Efficiency HVAC	1.0	<input type="checkbox"/>
3.2	High Efficiency HVAC	1.0	<input type="checkbox"/>
3.3	High Efficiency HVAC	1.5	<input type="checkbox"/>
3.4	High Efficiency HVAC	1.5	<input type="checkbox"/>
3.5	High Efficiency HVAC	1.5	<input checked="" type="checkbox"/>
3.6	High Efficiency HVAC	2.0	<input type="checkbox"/>
4.1	High Efficiency HVAC Distribution System	0.5	<input checked="" type="checkbox"/>
4.2	High Efficiency HVAC Distribution System	1.0	<input type="checkbox"/>
5.1	Efficient Water Heating	0.5	<input type="checkbox"/>
5.2	Efficient Water Heating	0.5	<input type="checkbox"/>
5.3	Efficient Water Heating	1.0	<input type="checkbox"/>
5.4	Efficient Water Heating	1.5	<input type="checkbox"/>
5.5	Efficient Water Heating	2.0	<input checked="" type="checkbox"/>
5.6	Efficient Water Heating	2.5	<input type="checkbox"/>
6.1	Renewable Electric Energy (3 credits max)	0 *1200 kwh	<input type="checkbox"/>
7.1	Appliance Package	0.5	<input checked="" type="checkbox"/>
Total Credits		7.0	

SIMPLE HEATING SYSTEM SIZE

This heating system sizing is based on the Prescriptive Requirements of the 2018 Washington State Energy Code. This is for heating only. ACCA procedures for sizing cooling systems should be used to determine cooling.

Indoor Design Temperature		70
Outdoor Design Temperature		24
Design Temperature Difference		
Indoor - Outdoor Design Temp		46
Conditioned Floor Area		5762
Conditioned Volume		53759.46
Glazing		
Sum of UA from Glazing Schedule		379.2
Attic	U-Factor X Area = UA	
R-49	0.026	2496
Other:		
		64.90
Single Rafter or Joist Vaulted Ceilings		
	U-Factor X Area = UA	
R-38	0.027	
Other:		
Above Grade Walls		
	U-Factor X Area = UA	
R-21 + R-10 HEADERS	0.056	4535
Other:		
		253.96
Floors		
	U-Factor X Area = UA	
R-30	0.029	
Other: R-38	0.025	907
		22.68
Below Grade Walls		
	U-Factor X Area = UA	
R-21 Interior	0.042	1151
R-10 Continuous exterior	0.064	
Other:		
Slab Below Grade		
	F-factor X Length = UA	
R-5 Thermal brk sl edge	0.57	
Other: R-10 full insul	0.303	192
		58.18
Slab on Grade		
	F-factor X Length = UA	
R-10 2' perimeter	0.54	
R-10 Fully insulated	0.36	
Other:		
Sum of UA		827.25
Envelope Heat Load		38054 Btu / Hour
Sum of UA X Design Temperature Difference		
Air Leakage Heat Load		26708 Btu / Hour
((Volume X 0.6) X Design Outdoor Temp) X .018)		
Building Design Heat Load		64761 Btu / Hour
Air Leakage + Envelope Heat Loss		
Building and Duct Heat Load	1	64761 Btu / Hour
Use 1.1 if ducts are located in unconditioned space: Sum of Building Heat Loss X 1.1		
Use 1 if ducts are located in conditioned space: Sum of Building Heat Loss X 1		
Maximum Heat Equipment Output	1.25	80952 Btu / Hour
Use 1.4 for forced air furnace: Building & Duct Heat Loss x 1.4		
Use 1.25 for heat pump: Building & Duct Heat Loss x 1.25		