Prescriptive Energy Code Compliance for All Climate Zones in Washington

Project Information

9785 41ST ST - ADU

Contact Information

Chris Luthi

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

Authorized Representative			Date
All C	Climate Zones		
	R-Value ^a	U-Factor ^a	
Fenestration U-Factor ^b	n/a	0.30	
Skylight U-Factor	n/a	0.50	
Glazed Fenestration SHGC ^{b,e}	n/a	n/a	
Ceiling ^k	49 ^j	0.026	
Wood Frame Wall ^{g,m,n}	21 int	0.056	
Mass Wall R-Value ⁱ	21/21 ^h	0.056	
Floor	30 ^g	0.029	
Below Grade Wall ^{c,m}	10/15/21 int + TB	0.042	
Slab ^d R-Value & Depth	10, 2 ft	n/a	

*Table R402.1.1 and Table R402.1.3 Footnotes included on Page 2.

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: 1.5 credits \checkmark

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: 3.5 credits

All dwelling units that are not included in #1 or #3. Exception: Dwelling units serving R-2 occupancies shall require 2.5 credits.

□ 3. Large Dwelling Unit: 4.5 credits

Dwelling units exceeding 5000 square feet of conditioned floor area.

□ 4. Additions less than 500 square feet: .5 credits

Table R406.2 Summary

Option	Description	Credit(s)		
1a	Efficient Building Envelope 1a	0.5		
1b	Efficient Building Envelope 1b	1.0		
1c	Efficient Building Envelope 1c	2.0		
1d	Efficient Building Envelope 1d	0.5		
2a	Air Leakage Control and Efficient Ventilation 2a	0.5		
2b	Air Leakage Control and Efficient Ventilation 2b	1.0		
2c	Air Leakage Control and Efficient Ventilation 2c	1.5		
3a	High Efficiency HVAC 3a	1.0		
3b	High Efficiency HVAC 3b	1.0		
3c	High Efficiency HVAC 3c	1.5		
3d	High Efficiency HVAC 3d	1.0	\checkmark	1.0
4	High Efficiency HVAC Distribution System	1.0		
5a	Efficient Water Heating 5a	0.5	\checkmark	0.5
5b	Efficient Water Heating 5b	1.0		
5c	Efficient Water Heating 5c	1.5		
5d	Efficient Water Heating 5d	0.5		
6	Renewable Electric Energy	0.5	*1200 kwh	0.0
Total Cre	dits			1.50

Total Credits

*Please refer to Table R406.2 for complete option descriptions

Table R402.1.1 Footnotes

For SI: 1 foot .= 304.8 mm, ci .= continuous insulation, int .= intermediate framing.

^a R-values are minimums. U-factors and SHGC are maximums. When insulation is installed in a cavity which is less than the label or design thickness of the insulation, the compressed R-value of the insulation from Appendix Table A101.4 shall not be less than the R-value specified in the table.

^b The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration.

^c "10/15/21.+TB" means R-10 continuous insulation on the exterior of the wall, or R-15 on the continuous insulation on the interior of the wall, or R-21 cavity insulation plus a thermal break between the slab and the basement wall at the interior of the basement wall. "10/15/21.+TB" shall be permitted to be met with R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the wall. "10/13" means R-10 continuous insulation on the interior or exterior of the basement wall. "TB" means thermal break between floor slab and basement wall.

^d R-10 continuous insulation is required under heated slab on grade floors. See R402.2.9.1.

^e There are no SHGC requirements in the Marine Zone.

- ^f Reserved.
- ^g Reserved.
- ^h Reserved.

The second R-value applies when more than half the insulation is on the interior of the mass wall.

Reserved.

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

Reserved.

^m Int. (intermediate framing) denotes standard framing 16 inches on center with headers insulated with a minimum of R-10 insulation.

Table R402.1.3 Footnote

^a Nonfenestration U-factors shall be obtained from measurement, calculation or an approved source or as specified in Section R402.1.3.

Window, Skylight and Door Schedule											
Project Information		-	Contact		tion						
9785 41st ST - ADU			Chris L	uthi							
				.	Wid		Hei				
	Ref.	U-factor	7	Qt.	Fee	t ""	' Fee	et ""	1	Area	UA
Exempt Swinging Door (24 sq. ft. max.)			-							0.0	0.00
Exempt Glazed Fenestration (15 sq. ft. max.)			l							0.0	0.00
Vertical Fenestration (Windows and doors)											
Component					Wid		Hei				
Description	Ref.	U-factor	T	Qt.	Fee			et men	I	Area	UA
adu living		0.30		1	9	0	8	0		72.0	21.60
adu kitchen		0.30	l	1	3	0	3	9.5		11.4	3.41
adu bath		0.30		1	2	0	1	4		2.7	0.80
adu br		0.30		1	5	0	5	4		26.7	8.00
										0.0	0.00
			I							0.0	0.00
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			1							0.0	0.00
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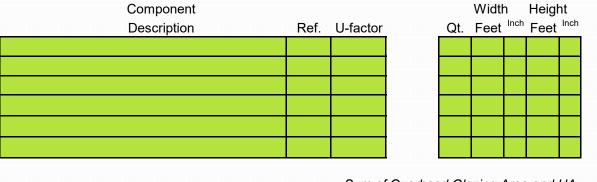
33.81

0.30

112.7

Sum of Vertical Fenestration Area and UA Vertical Fenestration Area Weighted U = UA/Area

Overhead Glazing (Skylights)



Sum of Overhead Glazing Area and UA Overhead Glazing Area Weighted U = UA/Area

Area	UA
0.0	0.00
0.0	0.00
0.0	0.00
0.0	0.00
0.0	0.00
0.0	0.00

0.0	0.00
	0.00

33.81

112.7

Total Sum of Fenestration Area and UA (for heating system sizing calculations)

Simple Heating System Size: Washington State

Zes 4134 ST MI - ADU Incating System Type: O All Other Systems Incating System Type: O all Other Systems Instructions for each section, place your cursor on the word 'Instructions'. Design Temperature Difference (AT) 45 Area of Building Instructions Conditioned Floor Area Design Temperature Difference (AT) 45 Average Ceiling Height One of the system State (Sq. ft) OBS Conditioned Volume 6, 192 Instructions Conditioned Floor Area O, 300 113 33.81 U-Factor X Area = UA 0.300 113 33.81 U-Factor X Area = UA 0.50 Instructions U-So V-Factor X Area = UA No selection U-Factor X Area UA No selection U-Factor X Area UA No selection U-Factor X Area UA No selection U-Factor X Area UA No selection U-Factor X Area UA No selection U-Factor X Area	Project Information	Contact Information
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		Air Leakage Heat Load 3,009 Btu / Ho Volume X 0.6 X △T X .018 9,899 Btu / Ho

Building and Duct Heat Load 9 Ducts in unconditioned space: Sum of Building Heat Loss X 1.10 Ducts in conditioned space: Sum of Building Heat Loss X 1 Maximum Heat Equipment Output Building and Duct Heat Loss X 1.40 for Forced Air Furnace Building and Duct Heat Loss X 1.25 for Heat Pump 12,374 Btu / Hour

9,899 Btu / Hour