

Prescriptive Energy Code Compliance for All Climate Zones in Washington

Project Information

Contact Information

Barth Residence
George Barth
164 Octopus Ave. NE Ocean Shores WA 98569

Medeek Engineering Inc.
Nathaniel P. Wilkerson (425) 420-5715
3050 SR 109, Copalis Beach WA 98535

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 as chosen by the permit applicant.

Authorized Representative _____ Date _____

All Climate Zones		
	R-Value ^a	U-Factor ^a
Fenestration U-Factor ^d	n/a	0.30
Skylight U-Factor	n/a	0.50
Glazed Fenestration SHGC ^{b,e}	n/a	n/a
Ceiling	49 ^f	0.026
Wood Frame Wall ^{g,k,l}	21 int	0.056
Mass Wall R-Value ⁱ	21/21 ^h	0.056
Floor	30 ^g	0.029
Below Grade Wall ^{c,k}	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 one and two-family dwellings and townhouses, as defined in Section 101.2 of the International Residential Code shall comply with sufficient options from Table R406.2 so as to achieve the following minimum number of credits:

1. Small Dwelling Unit: 0.5 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 less than 750 square feet of heated floor area.

2. Medium Dwelling Unit: 1.5 points
All dwelling units that are not included in #1 or #3, including additions over 750 square feet.

3. Large Dwelling Unit: 2.5 points
Dwelling units exceeding 5000 square feet of conditioned floor area.

4. Dwelling unit other than one and two-family dwellings and townhouses: Exempt
As defined in Section 101.2 of the International Residential Code

Table R406.2 Summary

Option	Description	Credit(s)		
1a	Efficient Building Envelope 1a	0.5	<input type="checkbox"/>	
1b	Efficient Building Envelope 1b	1.0	<input type="checkbox"/>	
1c	Efficient Building Envelope 1c	2.0	<input type="checkbox"/>	
2a	Air Leakage Control and Efficient Ventilation 2a	0.5	<input type="checkbox"/>	
2b	Air Leakage Control and Efficient Ventilation 2b	1.0	<input type="checkbox"/>	
2c	Air Leakage Control and Efficient Ventilation 2c	1.5	<input checked="" type="checkbox"/>	1.5
3a	High Efficiency HVAC 3a	0.5	<input type="checkbox"/>	
3b	High Efficiency HVAC 3b	1.0	<input type="checkbox"/>	
3c	High Efficiency HVAC 3c	2.0	<input type="checkbox"/>	
3d	High Efficiency HVAC 3d	1.0	<input type="checkbox"/>	
4	High Efficiency HVAC Distribution System	1.0	<input type="checkbox"/>	
5a	Efficient Water Heating	0.5	<input checked="" type="checkbox"/>	0.5
5b	Efficient Water Heating	1.5	<input type="checkbox"/>	
6	Renewable Electric Energy	0.5	<input type="checkbox"/>	0.0
				*1200 kwh
Total Credits				2.00

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

http://www.energy.wsu.edu/Documents/Table_406_2_Energy_Credits_2012_WSEC.pdf

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. Exception: Skylights may be excluded from glazed fenestration SHGC requirements in Climate Zones 1 through 3 where the SHGC for such skylights does not exceed 0.30.

^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 home or R-13 cavity insulation at the interior 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 Basement wall insulation is not required in warm-humid locations as defined by Figure R301.1 and Table R301.1.

^g Reserved.

^h First value is cavity insulation, second is continuous insulation or insulated siding, so "13.+5" means R-13 cavity insulation plus R-5 continuous insulation or insulated siding. If structural sheathing covers 40 percent or less of the exterior, continuous insulation R-value shall be permitted to be reduced by no more than R-3 in the locations where structural sheathing is used to maintain a consistent total sheathing thickness.

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

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

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

^l Log and solid timber walls with a minimum average thickness of 3.5 inches are exempt from this insulation requirement.

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.