

**2018 Washington State Energy Code – Residential  
Prescriptive Energy Code Compliance for All Climate Zones in Washington  
Multifamily (effective February 1, 2021)**

Version 1.0

**These requirements apply to Group R-2 buildings three stories or less in height above grade plane.  
Other Group R-2 buildings must comply with the commercial energy code.**

<b>Project Information</b>	<b>Contact Information</b>
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**Instructions:** This multifamily project will use the requirements of the Prescriptive Path below and incorporate the minimum values listed. Based on the size of the structure, the appropriate number of additional credits are checked as chosen by the permit applicant.

Provide all information from the following tables as building permit drawings: Table R402.1 - Insulation and Fenestration Requirements by Component, Table R406.2 - Fuel Normalization Credits and 406.3 - Energy Credits.

<b>Authorized Representative</b>		<b>Date</b>	
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<b>All Climate Zones (Table R402.1.1)</b>		
	<b>R-Value <sup>a</sup></b>	<b>U-Factor <sup>a</sup></b>
Fenestration U-Factor <sup>b</sup>	n/a	0.30
Skylight U-Factor <sup>b</sup>	n/a	0.50
Glazed Fenestration SHGC <sup>b,e</sup>	n/a	n/a
Ceiling <sup>e</sup>	49	0.026
Wood Frame Wall <sup>g,h</sup>	21 int	0.056
Floor	30	0.029
Below Grade Wall <sup>c,h</sup>	10/15/21 int + TB	0.042
Slab <sup>d,f</sup> R-Value & Depth	10, 2 ft	n/a
<p><b>a</b> R-values are minimums. U-factors and SHGC are maximums. When insulation is installed in a cavity that 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.</p> <p><b>b</b> The fenestration U-factor column excludes skylights.</p> <p><b>c</b> "10/15/21 +5TB" means R-10 continuous insulation on the exterior of the wall, or R-15 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 +5TB" 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. "5TB" means R-5 thermal break between floor slab and basement wall.</p> <p><b>d</b> R-10 continuous insulation is required under heated slab on grade floors. See Section R402.2.9.1.</p> <p><b>e</b> For single rafter- or joist-vaulted ceilings, the insulation may be reduced to R-38 if the full insulation depth extends over the top plate of the exterior wall.</p> <p><b>f</b> R-7.5 continuous insulation installed over an existing slab is deemed to be equivalent to the required perimeter slab insulation when applied to existing slabs complying with Section R503.1.1. If foam plastic is used, it shall meet the requirements for thermal barriers protecting foam plastics.</p> <p><b>g</b> For log structures developed in compliance with Standard ICC 400, log walls shall meet the requirements for climate zone 5 of ICC 400.</p> <p><b>h</b> Int. (intermediate framing) denotes framing and insulation as described in Section A103.2.2 including standard framing 16 inches on center, 78% of the wall cavity insulated and headers insulated with a minimum of R-10 insulation.</p>		

**PRMU20240286**

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Each dwelling unit *in a residential building* shall comply with sufficient options from Table R406.2 (fuel normalization credits) and Table 406.3 (energy credits) so as to achieve the following minimum number of credits:

- **Multifamily R2 Dwelling Unit: 4.5 credits**

Before selecting your credits on this Summary table, review the details in Table 406.3 (Multifamily), on page 3.

Summary (Table R406.2)				
Heating Options	Fuel Normalization Descriptions	Credits - select ONE heating option		User Notes
1	Combustion heating minimum NAECA <sup>b</sup>	0.0	<input type="checkbox"/>	
2	Heat pump <sup>c</sup>	1.0	<input 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	na	<input checked="" type="radio"/>	
5	All other heating systems	-0.5	<input type="checkbox"/>	
Energy Options	Energy Credit Option Descriptions	Credits - select ONE energy option from each category <sup>d</sup>		
1.1	Efficient Building Envelope	0.5	<input type="checkbox"/>	
1.2	Efficient Building Envelope	1.0	<input type="checkbox"/>	
1.4	Efficient Building Envelope	1.0	<input type="checkbox"/>	
1.5	Efficient Building Envelope	1.5	<input type="checkbox"/>	
1.6	Efficient Building Envelope	2.0	<input type="checkbox"/>	
1.7	Efficient Building Envelope <input type="checkbox"/>	0.5	<input type="checkbox"/>	
2.1	Air Leakage Control and Efficient Ventilation	1.0	<input checked="" type="radio"/>	
2.2	Air Leakage Control and Efficient Ventilation	1.5	<input type="checkbox"/>	
2.3	Air Leakage Control and Efficient Ventilation	2.0	<input type="checkbox"/>	
2.4	Air Leakage Control and Efficient Ventilation <input type="checkbox"/>	2.5	<input type="checkbox"/>	
3.1 <sup>a</sup>	High Efficiency HVAC	1.0	<input type="checkbox"/>	
3.3 <sup>a</sup>	High Efficiency HVAC	1.0	<input type="checkbox"/>	
3.4	High Efficiency HVAC	2.0	<input checked="" type="radio"/>	
3.6 <sup>a</sup>	High Efficiency HVAC <input type="checkbox"/>	3.0	<input type="checkbox"/>	
4.1	High Efficiency HVAC Distribution System	0.5	<input type="checkbox"/>	
5.1 <sup>d</sup>	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	2.0	<input type="checkbox"/>	
5.5	Efficient Water Heating	2.5	<input type="checkbox"/>	
5.6	Efficient Water Heating <input type="checkbox"/>	3.0	<input type="checkbox"/>	
6.1 <sup>e</sup>	Renewable Electric Energy (3 credits max)	1.0	<input type="checkbox"/>	
7.1	Appliance Package	1.5	<input checked="" type="checkbox"/>	
<b>Total Credits</b>			<b>4.5</b>	<input type="button" value="Calculate Total"/> <input type="button" value="Clear Form"/>

- An alternative heating source sized at a maximum of 0.5 W/sf (equivalent) of heated floor area or 500 W, whichever is bigger, may be installed in the dwelling unit.
- Equipment listed in Table C403.3.2(4) or C403.3.2(5)
- Equipment listed in Table C403.3.2(1) or C403.3.2(2)
- You cannot select more than one option from any category EXCEPT in category 5. Option 5.1 may be combined with options 5.2 through 5.6. See Table 406.3.**
- 1.0 credit for each 1,200 kWh of electrical generation provided annually, up to 3 credits max. See Table R406.2 for full requirements and complete option descriptions.
- Use the single radiobutton in the upper right of the second column to deselect radiobuttons in that group.

Please print only pages 1 and 2 of this worksheet for submission to your building official.