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Building Bulletin

BC Energy Efficiency Requirements for an SFD 2012 BC Building Code amendments

Purpose:

To inform staff, building contractors, designers and the general public of changes to the British Columbia Building Code regarding the Energy Efficiency of homes.

Background:

Effective December 19, 2014 all building permit applications must address the requirements of Section 9.36 Energy Efficiency of the BC Building Code. These changes will require additional information at time of permit application. Upon submission it will be necessary to outline:

- Proposed heating/cooling systems
- Building ventilation as per 9.32 (is a heat recovery ventilator (HRV) being used)
- Location and type of air barrier and vapour barrier
- Detailed wall/ceiling/floor assemblies including Effective Insulation Values of all components
- "U" ratings of proposed windows and doors

Previously, the BC Building Code has relied on nominal insulation values when considering thermal comfort. Section 9.36 has been introduced which will change this requirements to Effective Thermal Resistance (ETR). To achieve the required rating the entire cross-section of the wall/floor/ceiling will be used to calculate the RSI or R value. Each component of an assembly carries a rating. The ratings of Common Building Materials are set out in Table A-9.36.2.4.(1)D of the BCBC.

There are now three available options that can be used to attain the necessary compliance. Applicants can follow the prescriptive requirements of Section 9.36, follow the prescriptive requirements of Section 9.36 and use simple trade-offs as outlined in Article 9.36.2.11 or supply performance modeling completed by a Certified Energy Advisor (CEA). A list of Certified Energy Advisors are available on the Canadian Home Buildings Association website (<http://www.chbabc.org/energy-programs/certified-energy-advisors.html>)

Building Type	Compliance Options		
	Part 9 - Prescriptive	Part 9 - Performance	NECB
<ul style="list-style-type: none"> - Houses, houses with secondary suites, - Buildings containing only dwelling units with common spaces $\leq 20\%$ floor area 	✓	✓	✓
<ul style="list-style-type: none"> - Purely residential buildings - Any building, where all non-residential portions (not F2) have a floor area $\leq 300 \text{ m}^2$ 	✓		✓
<ul style="list-style-type: none"> - Any building where non-residential occupancies have a floor area $> 300 \text{ m}^2$ - Buildings containing F2 occupancies (any size) 			✓

Energy Efficiency Requirement for an SFD



Implementation:

The required ETR ratings from the BCBC for Zones 5 and 6 which includes the Peachland and surrounding areas are as follows:

Effective Thermal Resistance without a Heat Recovery Ventilator				
	Zone 5		Zone 6	
Assembly	RSI	R	RSI	R
Ceilings below attics	8.67	49.23	8.67	49.23
Cathedral ceilings and flat roof	4.67	26.52	4.67	26.52
Walls	3.08	17.49	3.08	17.49
Floors over unheated spaces	4.67	26.52	4.67	26.52
Foundation Walls	2.98	16.92	2.98	16.92
Above Frost Line	1.96	11.13	1.96	11.13
Heated Floors	2.32	13.17	2.32	13.17
Slabs-on-grade	1.96	11.13	1.96	11.13
Effective Thermal Resistance with a Heat Recovery Ventilator				
	Zone 5		Zone 6	
Assembly	RSI	R	RSI	R
Ceilings below attics	6.91	39.23	8.67	49.23
Cathedral ceilings and flat roof	4.67	26.52	4.67	26.52
Walls	2.97	16.86	2.97	16.86
Floors over unheated spaces	4.67	26.52	4.67	26.52
Foundation Walls	2.98	16.92	2.98	16.92
Above Frost Line	1.96	11.13	1.96	11.13
Heated Floors	2.32	13.17	2.32	13.17
Slabs-on-grade	1.96	11.13	1.96	11.13

Questions?

We're here to help. Please contact Building Services at 250-767-2647 for more information.

Please note: Building Bulletins are prepared to provide convenient information for customers, and should not be considered a replacement for reviewing the bylaw or associated legal documents. If there is any contradiction between the information in this bulletin and relevant bylaws and/or applicable codes, the bylaws and/or codes must be relied on for legal authority.