BULLETIN

2014 Code Changes 9.32 & 9.36

(Plan submission criteria)



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The purpose of this bulletin is to identify what will be required to be shown on all plan submissions to verify compliance with the code changes effective December 19, 2014. The Code offers 3 methods for compliance; Prescriptive – which is what this bulletin address', Prescriptive with trade-offs – briefly mentioned and; Performance based which requires energy modeling and compliance with the National Energy Code – not covered in this document.

PRESCRIPTIVE REQUIRMENTS:

Details to be included on plan submissions;

- Beam entering exterior wall assembly. Code requires that an effective RSI value of 60% of the wall assembly's RSI value be maintained across the end of the beam to reduce thermal bridging.
- All landings are to be mounted to ledger boards to allow for a continuous air/vapour barrier installation.
- Slab edge showing insulation at RSI value to 50% of under slab RSI value. Insulation to be installed between slab edge and foundation wall.
- Slab on grade detail at top of foundation to slab connection. Detail to show reduced thickness of foundation wall to eliminate exposed top edge of foundation and RSI value to 50% of slab insulation.
- Showing services being run in exterior walls and how full RSI value is to be maintained (IE heat ducts, plumbing pipes, electrical panel, etc.).

Information to show on plans;

- Location of principle exhaust fan. If this is to be the main bath fan then it must be a two speed fan for continuous operation at low speed with wall switch in bathroom for second speed when used for moisture extraction.
 - NOTE: this fan is to have a labeled override off switch for fan maintenance purposes.
 It is recommended that this switch be located in the mechanical room above
 1.5 metres off the floor.
- Type of heating system to be used.
- If other than forced air or a combined forced air electrical/hydronic heating system then floor plans must show air outlet locations in each room as required by Section 9.32.
- HRV location if one is being installed (must be installed in conditioned area) is to be shown on the plans.
- Location of air barrier if other than the poly
- Assembly make-up. (Reference table attached).

General Notes;

 The following statement must occur on every page of permit drawings; "These drawings comply to the 2012 BCBC including Dec 2014 revisions"

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- O/H garage doors are to be weather stripped around their entire perimeter and have an R-Value of 6.2 when the garage is supplied with heat. For unheated garages only weather stripping is required
- All ducting running through unconditioned space to be insulated to R-16
- All non-gasket devices installed in insulated assemblies are to be provided with backing to allow sealing of sheet poly to poly boots.
- Attic access hatch to be insulated with ridgid insulation to a value of R-15.

PRESCRIPTIVE WITH TRADE-OFFS:

MAPLE RIDGE

This method of compliance will currently need to be used in areas of home renovations or additions where the work is significant but due to existing configurations it may not be practical to achieve code compliance through the prescriptive path. You may also want to consider this option where the majority of the wall assembly is glazed to improve the performance of the dwelling. In this method the code allows for the increase in RSI values of other wall assemblies to offset the lack of insulated value in the glazed wall assembly due to the framing occupying more than 23% of the opaque wall area.

In any of these cases the following is required:

Opaque building envelope assembly trade-off

- The plans are to identify the building envelope assemblies requiring the trade-off option and building envelope assemblies being used to off-set.
- Provide a table comparing the Code compliant referenced design.
- This trade-off assumes compliant RSI value of the glazing within the wall in question.

Fenestration trade-off

- The plans are to identify the windows (fenestrations) requiring the trade-off option and the windows being used to off-set.
- Identify the orientation of the windows in question. Windows involved in trade-off must be from the same orientation.
- Provide a table comparing the referenced design with the proposed trade-off option for the windows.

Fenestration area trade-off for reduced floor insulation or ceiling insulation for attics under sloped roofs in buildings that are one storey in building height

- The plans are to identify the floor or ceiling areas requiring the trade-off option and the windows being used to off-set.
- Provide a table comparing the referenced design with the proposed trade-offs.
- This trade off assumes compliant RSI value of the glazing within the wall in question.

Note: Reference table showing calculations attached.

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SOURCES OF INFORMATION:

For additional information to aid in determining code compliance consider the following documents:

- HPO's "Illustrated Guide Energy Efficiency Requirements for Houses in British Columbia" Zone 4. hpo.bc.ca
- BOABC's Energy Provisions Seminar material: "BCBC Energy Efficiency Requirements for Part 9 Buildings" boabc.org
- Canadian Wood Councils wall thermal design calculator. cwc.ca/resources/wall-thermaldesign
- City of North Vancouver Trade-off calculator: cnv.org and type in under the search line "Trade-off Spreadsheet Template" or click on the link Trade-off spread sheet and go to the related documents at the bottom of the web page.

BC Energy Advisors list from Natural Resources Canada (nrcan) for Performance path. Find Rev: 01/23/2015 **BC Energy Advisors**

(http://www2.nrcan.gc.ca/oee/nh-mn/f-t/index.cfm?fuseaction=s.ssr&lang=eng)

NOTE: It can be expected that as we work through the code changes some revisions to this document will occur.

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Wall Assembly Layout Sample:

	Envelope Construction		Component effective R-Value	
	Concrete Foundation Wall Dampproofing 8" Conc. Foundation Air Film 2x4 Studs @ 24"o.c. Insulation 6mil Poly V.B. ½" GWB Air Film	Total		
•	Exterior Framed Wall Air Film Vinyl Siding House Wrap ½" Plywood/OSB 2x6 Studs @ 16"o.c. Batt Insulation 6mil Poly V.B. ½" GWB Air Film	Total		
	Air Film Composite Siding 9.5mm Strapping Air Film House Wrap ½" Plywood/OSB 2x6 Studs @ 16"o.c. Batt Insulation 6mil Poly V.B. ½" GWB Air Film	Total		
2000000	Attic Roof Assembly Air Film Roofing membrane asphalt/fiberglass Roofing paper ½2" Plywood/OSB Trusses @ 24"o.c. Blown insulation 6mil Poly V.B. ½2" GWB Air Film	Total		

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Example of Trade-off calculation:

Assembly	Area	Reference design values		Proposed trade-o	
		RSI	A/RSI	RSI	A/RSI
Wall 1	170 m ²	2.78	61.15	2.86	59.44
Wall 2	30 m ²	2.78	10.79	2.19	13.69
		Total A/R:	71.94	Total A/R:	73.13
Increased A/	R that nee	ds to be comp	ensated:	•	
		73.13 -	71.94 = 1.19		
Subtract fron	n A/R value	e required for i	mproved wall:		
		59.44 -	1.19 = 58.25		
Increased R	value to co	mpensate			
		170 m ²	/58.25 = 2.91		
T.		Reference design values		Proposed tra	ide-offs
Wall 1	170 m ²	2.78	61.15	2.91	58.25
Wall 2	30 m ²	2.78	10.79	2.19	13.69
		Total A/R:	71.94		71.94

For the trade off to work the A/R value for the proposed design must be equal to or less than the Reference design A/R value.

	Reference Building		
	Area (m2)	Effective RSI	A/R
Wall 1	170	2.78	61.15
Wall 2	30	<mark>2.78</mark>	10.79
Cumulative			71.94

Proposed Building			
	Area (m2)	Effective RSI	A/R
Wall 1	170	2.86	59.44
Wall 2	30	2.19	13.70
Cumulative			73.14

Does Trade -off comply? NO

	Proposed Build	ding	
	Area (m2)	Effective RSI	A/R
Wall 1	170	2.92	58.24
Wall 2	30	2.19	13.70
Cumulative			71.94

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