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## Miscellaneous Revisions to the 2012 BC Building Code

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Revision 12 to the BC Building Code (BCBC) came into effect on January 31, 2018. This Bulletin describes miscellaneous changes to the BCBC that are not included in Bulletin B18-01.

Changes include:

- removing a relaxation for guards or opening restrictions for windows in dwelling units that are not above other dwelling units;
- a permission for passive supply air ventilation for secondary suites in buildings conforming to the BC Energy Step Code; and,
- editorial changes primarily related to the BC Energy Step Code, including clarification of the term “floor area” for energy modelling.

Miscellaneous items not listed above are minor editorial revisions or re-formatting of tables. The full list of changes is included in Ministerial Order (M013-2018) found [here](#). Paragraphs 2, 5, 7, 8, 11, 16, 17, 18, 20 and 23 in the Ministerial Order are minor, editorial changes and are not described in detail in this Bulletin.

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*In this Bulletin, the previous language in the 2012 BC Building Code is shown below in black text and the updated language is shown in red.*

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## Changes to Part 9 of Division B

### Required Guards

Clause 9.8.8.1.(6)(a) is amended by striking out “the window serves a *dwelling unit* that is not located above another *suite*,” and substituting “**Reserved**.”:

- 6) Windows need not be protected in accordance with Sentence (5), where  
a) ~~the window serves a *dwelling unit* that is not located above another *suite*,~~ **Reserved**.

**Rationale:** This change removes a relaxation for required guards or other protections for opening windows in single dwelling units that are not located above another suite, based on available research related to falls from windows.

## Ventilation Supply Air in Houses with a Secondary Suite

Clause 9.32.3.4.(6)(a) is amended by adding “**except for a secondary suite,**” at the beginning of Subclause (iv).

- 6) A principal ventilation system need not conform to Sentence (1) if the principal ventilation system
  - a) services a *dwelling unit* that [...]
  - iv) **except for a secondary suite,** is not located in a *building* conforming to Subsection 9.36.6. or 10.2.3., and [...]

**Rationale:** The change permits passive ventilation supply air for secondary suites in residential buildings designed to BC Energy Step Code requirements. The amendment is intended to balance the goals of energy efficiency with affordability by providing a low-cost ventilation option for secondary suites. This does not apply to primary dwelling units, or other dwelling units within the scope of Clause 9.32.3.4.(6)(a).

## BC Energy Step Code Energy Modelling Definitions

Article 9.36.6.2. of Division B is amended by adding Appendix A below the heading, and substituting language in sentences 1), 3) and 4):

### 9.36.6.2. Definitions

(see Appendix A).

- 1) For the purpose of this Subsection, the term “mechanical energy use intensity” shall mean a metric of the energy used over a year **by the building,** estimated by using an energy model in accordance with Article 9.36.6.4., normalized per square metre of **floor** area of *conditioned space*, expressed in kWh/(m<sup>2</sup>·year), for all of the following combined: [...]
- 2) [...]
- 3) For the purpose of this Subsection, the term “thermal energy demand intensity” shall mean a metric of the annual heating required by the *building* for space conditioning and for conditioning of ventilation air, estimated by using an energy model in accordance with Article 9.36.6.4., normalized per square metre of **floor** area of *conditioned space* and expressed in kWh/(m<sup>2</sup>·year), taking into account all of the following: [...]
  - d) air leakage through the ~~air barrier system~~ **air barrier system,**
  - e) [...]
- 4) For the purpose of this Subsection, the term “peak thermal load” shall mean a metric of the maximum heating energy required by the *building* for space conditioning and for conditioning of ventilation air, estimated by using an energy model in accordance with Article 9.36.6.4., at a 2.5% January design temperature ~~and expressed in watts per square metre of area (W/m<sup>2</sup>)~~

*of conditioned space, normalized per square metre of floor area of conditioned space and expressed in W/m<sup>2</sup>, taking into account all of the items referred to in Clauses (3)(a) through (f).*

5) [...]

**Rationale:** The article is amended to create consistent wording throughout the BC Energy Step Code, and to clarify that “air barrier system” is intended to refer to the defined term in Article 1.4.1.2. of Division A of the BCBC.

### Compliance Paths Under Section 9.36.

Appendix Note A-9.36.1.3. of Division of B is amended:

#### A-9.36.1.3. Compliance Options According to Building Type and Size

Table A-9.36.1.3. describes the types and sizes of Part 9 buildings to which *the various compliance paths within Section 9.36. and the NECB* apply.

Table A-9.36.1.3. Energy Efficiency Compliance Options for Part 9 Buildings				
Building Types and Sizes	Energy Efficiency Compliance Options			
	9.36.2. to 9.36.4. (Prescriptive)	9.36.5. (Performance)	9.36.6. (Energy Step Code)	NECB
<ul style="list-style-type: none"> <li>houses with or without a secondary suite</li> <li>buildings containing only dwelling units with common spaces ≤ 20% of building's total floor area<sup>(1)</sup></li> </ul>	✓	✓	✓	✓
<ul style="list-style-type: none"> <li>buildings containing Group D, E or F3 occupancies whose combined total floor area ≤ 300 m<sup>2</sup> (excluding parking garages that serve residential occupancies)</li> <li>buildings with a mix of Group C and Group D, E or F3 occupancies where the non-residential portion's combined total floor area ≤ 300 m<sup>2</sup> (excluding parking garages that serve residential occupancies)</li> </ul>	✓	X	X	✓
<ul style="list-style-type: none"> <li>buildings containing Group D, E or F3 occupancies whose combined total floor area &gt; 300 m<sup>2</sup></li> <li>buildings containing F2 occupancies of any size</li> </ul>	X	X	X	✓

*Notes to Table A-9.36.1.3.:*

(1) The walls that enclose a common space are excluded from the calculation of floor area of that common space.

**Rationale:** The Table is changed to clarify the Part 9 building types for which BC Energy Step Code requirements are currently available.

## Definition of Floor Area

Appendix Note A-9.36.6.2., related to the use of “floor area” in the BC Energy Step Code, is added.

### A-9.36.6.2. Floor Area in the Energy Step Code

The words floor area, as used in Sentences 9.36.6.2.(1), 9.36.6.2.(3), 9.36.6.2.(4), 10.2.3.2.(1), and 10.2.3.2.(2), are not italicized, to differentiate them from the defined term floor area in Article 1.4.1.2. of Division A.

Different modelling approaches identify the applicable floor area in various ways (e.g. modelled floor area, heated floor area, treated floor area, etc) and the use of the words floor area in Sentences 9.36.6.2.(1), 9.36.6.2.(3), 9.36.6.2.(4), 10.2.3.2.(2) is intended to accommodate the various modelling approaches.

**Rationale:** This Appendix Note was added to clarify that “floor area” in the context of energy modelling does not carry the same meaning as the defined term *floor area* in the rest of the BCBC, as different energy modelling approaches require determining floor area in ways that do not align with the defined term in Article 1.4.1.2. of Division A. This enables energy modellers to use the definition of floor area appropriate to their modelling path.

## Airtightness Testing for Step 1

Appendix Note A-9.36.6.3.(2) is amended:

### A-9.36.6.3.(2) Airtightness Testing for Step 1

[...]

Buildings conforming to the requirements of Step 1 ~~must~~ may also conform to Subsection 9.36.5. Although Sentence 9.36.5.10.(9) provides the option of using the airtightness as tested in the energy modelling, using the result in the energy model is not required.

**Rationale:** As the Appendices of the BCBC have no legal effect, with only some exceptions, the word “must” has been replaced with “may”.

## Energy Compliance for Mixed-Use Buildings with where some major occupancies can conform to the BC Energy Step Code and some cannot

Sentence 10.2.2.1.(2) of Division B is amended:

- 2) Where a building contains one or more major occupancies that conform to Subsection 10.2.3., the ~~remaining~~ major occupancies that do not conform to Subsection 10.2.3. shall comply with Clause (1)(a) or (b).

**Rationale:** This change clarifies that if the BC Energy Step Code can apply and is required by the authority having jurisdiction, Group C (residential), Group D (business and personal services) or Group E (mercantile) major occupancies are expected to comply with the BC Energy Step Code, while other occupancies are expected to comply with ANSI/ASHRAE/IESNA 90.1. or the National Energy Code of Canada for Buildings (NECB).

## Area for Assumed Air Leakage

Sentence 10.2.3.4.(3) is amended:

- a. Energy modelling is permitted to account for an air leakage value of 0.25 L/(s·m<sup>2</sup>) from total gross above-ground wall and roof areas until the air leakage rate determined by Sentence (2) is available.

**Rationale:** This change is to clarify that the air leakage is only measured against above-ground wall and roof areas, and not below-ground walls or floor areas, and to enhance consistency with the NECB.

## Headers for A-10.2.3.4.(3)

There were initially three Appendix notes titled A-10.2.3.4.(3). These have been consolidated into one note with three headings (“Air Leakage Rate in Energy Model Calculations”, “Air Leakage Rate in Energy Model Calculations for Step 1”, and “Air Leakage Rate”).

**Rationale:** This change is to enhance consistency with other parts of the BCBC, where several points related to one sentence or clause in the BCBC are consolidated under a single heading.

## Changes to Division C

### House Performance Compliance Calculation Report Updates

Article 2.2.8.3. of Division C is amended by changing Clause (2)(e) and adding Sentence (4):

- 2) In addition to the drawings and specifications required in Article 2.2.8.2., the house performance compliance calculation report shall include [...]
- e) a statement that the calculation was performed in compliance with ~~Subsection 9.36.5. of Division B.~~
  - i) Subsection 9.36.5. of Division B
  - ii) Sentence 9.36.6.3.(3) of Division B, or
  - iii) Sentence 9.36.6.4.(2) of Division B. [...]
- 4) The mechanical energy use intensity in Clause (3)(a), the thermal energy demand intensity in Clause (3)(b), the peak thermal load in Clause (3)(c), and the EnerGuide Rating % lower than EnerGuide Reference House in Clause 3(d) shall account for the airtightness referenced in Clauses (3)(e) or (f), as applicable.

**Rationale:** Subclauses (2)(e)(i), (ii) and (iii) were added to provide all of the modelling options that are available for BC Energy Step Code buildings in 9.36.6.4.(2). Sentence (4) was added to establish consistency with Article 2.2.9.2., to ensure that the values for airtightness testing are used in the energy modelling outputs, specifically stating the requirements for Steps 2 to 4.