

11.3.2. Energy Retrofit Design Building Classification

11.3.2.1. Application to Existing Buildings

- 1) Except as permitted by Sentences (2) and (8), *alterations* to a *building* shall be in conformance with this Subsection for the purposes of energy and emissions performance.
- 2) A structure that cannot be identified by the characteristics of a *building* in this Subsection shall comply with the requirements of Article 11.3.2.2., or as deemed *acceptable* to the *Chief Building Official*.
- 3) Except as permitted in Sentence (5) and Articles 11.3.2.2 through 11.3.2.4, *alterations* to a *building* shall comply with
 - a) alterations clauses within ANSI/ASHRAE/IES 90.1, "Energy Standard for Buildings Except Low-Rise Residential Buildings", and Sentence 10.2.2.2.(2), or
 - b) the "*Alteration Language Supporting NECB 2020*" (See Note A-11.3.2.1.(3)(b)).
- 4) Where a *building* contains one or more *major occupancies* that conform to Article 10.2.2.5., the remaining *major occupancies* shall comply with Clause (3)(a) or (b).
- 5) Spaces never previously occupied, shall be designed and constructed to new *building* requirements, in compliance with
 - a) Article 10.2.2.3, if the *building* was designed or upgraded to NECB, or
 - b) Article 10.2.2.2.,(See Note A-11.3.2.1.(5).)
- 6) The design requirements of Subsection 10.2.2. shall form an integral part of this Subsection, except where otherwise indicated.
- 7) Compliance with the requirements of this Subsection does not exempt upgrades that are otherwise required by this Part.
- 8) In a *building* where components have been formally recognized by a federal, provincial, territorial, or municipal *authority having jurisdiction*, as having either Heritage or Character value, the alteration of these components need not comply with this subsection.

11.3.2.2. Buildings Without Residential or Commercial Components

- 1) Alterations to energy systems or components of a *building*, except those included in Articles 11.3.2.3 and 11.3.2.4, shall comply with
 - a) the *alteration* requirements of
 - i) Clause 11.3.2.1.(3)(a) except as required by Clause (ii), or
 - ii) Clause 11.3.2.1.(3)(b) where the building was designed or upgraded to NECB, and,
 - b) Articles 10.2.2.8 through 10.2.2.20. as applicable,
 - c) the *airtightness performance requirements* of Article 10.2.2.21. for reconstruction projects, and
 - d) the *commissioning requirements* of Article 10.2.2.22 for new equipment and new systems including controls, meters, submeters. (See Note A-11.3.2.2.(1)(d).)

11.3.2.3. Residential Buildings of 4 Storeys or More, and Commercial Buildings (including Hotels and Motels)

- 1) Alterations to energy systems or components of a *building* containing Group C, D, or E *Major Occupancies*, except those included in Articles 11.3.2.4 shall comply with
 - a) the *alteration* requirements of Clause 11.3.2.1.(3)(b),
 - b) Articles 10.2.2.8 through 10.2.2.20. as applicable,
 - c) the *airtightness performance requirements* of Article 10.2.2.21. for reconstruction projects, and
 - d) the *commissioning requirements* of Article 10.2.2.22 for new equipment and new systems including controls, meters, submeters, (See Note A-11.3.2.2.(1)(d).)

11.3.2.4. Residential Buildings of 1 to 3 Storeys, and Houses (excluding Hotels/Motels)

1) Except as otherwise required by Sentence (3), *alterations* to energy systems or components of a building, described in Sentence 10.2.1.4.(1), shall comply with

- a) the *building envelope opaque elements* with thermal performance requirements of Article 10.2.2.6, except:
 - i) for albedo (SRI) and emissivity requirements of Sentence 10.2.2.6.(3), and
 - ii) as permitted by Sentence (2),
- b) the *exterior closures* and fenestration performance requirements of Article 10.2.2.7., except as permitted by Sentence (2),
- c) Articles 10.2.2.8 through 10.2.2.11. as applicable;
- d) domestic hot water requirements of Article 10.2.2.12. except the system may be gas-fired with a uniform energy factor of not less than 0.78 or a thermal efficiency of not less than 90%;
- e) space-heating appliance performance requirements of Articles 10.2.2.13. and 10.2.2.14, except a system may be gas-fired with an Annual Fuel Utilization Efficiency (AFUE) rating of not less than 92%,
- f) the domestic fireplace performance requirements of Articles 10.2.2.15. and 10.2.2.16.,
- g) the heat recovery ventilator requirements of Article 10.2.2.17., except *that projects* may provide continuous exhaust ventilation in accordance with Section 9.32.,
- h) Article 10.2.2.19. as applicable, and
- i) the City of Vancouver's *alterations* documentation acceptable to the *Chief Building Official*.

2) Where it is deemed prohibitive by the *Chief Building Official*, an alteration or upgrade to a building may

- a) achieve the applicable standard of performance in Table 11.3.2.4 or as otherwise permitted by the *Chief Building Official*, and
- b) trade-off the remaining emissions-reduction outcomes with other building systems or components, acceptable to the *Chief Building Official*.

Table 11.3.2.4. – Permitted minimum standards (with equivalent emissions reduction trade-offs selected and approved) Forming part of Clause 11.3.2.4.(2)(a)	
10.2.2.6. Wall assemblies	Shall achieve a minimum nominal RSI of 2.5 m ² K/W in the affected assemblies with heat transfer, air leakage and condensation control per Section 9.25.
10.2.2.6. Roof assemblies	Shall achieve a minimum nominal RSI of 3.8 m ² K/W in the affected assemblies with heat transfer, air leakage and condensation control per Section 9.25.
10.2.2.7. Windows, Curtainwall, Sliding or Folding Doors with Glazing	Shall achieve a maximum nominal USI of 1.44 W/m ² K

3) *Alterations* designated as reconstruction (see Note A-11.2.1.2.), shall comply with

- a) the energy and emissions requirements in either the Performance Path in Sentence 10.2.1.4.(2) or the Prescriptive Path in Sentence 10.2.1.4.(3), and
- b) the applicable airtightness requirements of Article 10.2.2.21. except an airtightness performance of 3.5 ACH may be achieved.

A-11.3.2.1.(3)(b) Alteration Language Supporting NECB 2020

(content by PDF) and to include revised Exception (a) of Article 1.2.1.2. (below) for new “Alterations Language Supporting NECB 2020”.

“a.) In a *building* where components have been formally recognized by a federal, provincial, territorial, or municipal *authority having jurisdiction*, as having either Heritage or Character value, the alteration of these components need not comply with these requirements.”.

A-11.3.2.2.(1)(d) Commissioning (Cx) Requirements and Scope

These new commissioning requirements are not meant to include the Re-commissioning or Retro-commissioning of existing equipment or existing systems unless they are part of a new system, or dependent upon or interlocked with, the operation of new equipment.