

3.1.2. Performance Compliance

3.1.2.1. Required Performance Level (See Appendix A.)

- (1) The performance level shall be measured based on the simulated annual energy use of the *building*.
- (2) For the purpose of this Subsection, reference *building* means a *building* that is identical to the proposed *building*, except that it is designed to meet the requirements and performance level of an applicable compliance package in Subsection 3.1.1. on the basis of
 - (a) zone location,
 - (b) energy source, and
 - (c) equipment efficiency.
- (3) The simulated annual energy use of the proposed *building* shall not be greater than the simulated annual energy use of the reference *building*.
- (4) The simulated annual energy use of the proposed *building* and the reference *building* shall be calculated in accordance with Table 3.1.2.1.
- (5) For the purpose of calculations required in Sentence (4),
 - (a) the simulation software used shall be a recognized annual energy use simulation software,
 - (b) the climatic data used shall be the local climatic data,
 - (c) the equivalent domestic water loads, appliance loads and other plug-in loads shall be assumed for both the proposed *building* and the reference *building*, and
 - (d) the same software and climatic conditions shall be used for both the proposed *building* and the reference *buildings*.
- (6) Where the overall thermal performance of the proposed *building* envelope is less than the envelope performance of the compliance package that is compared against it, the reduction in the performance level of the *building* envelope shall not be more than 25%.
- (7) The annual energy use simulation of the reference *building* shall be in accordance with Subsection 3.1.1. of this Supplementary Standard, Part 12 and other applicable parts of the *Building Code*.

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Table 3.1.2.1.
Specification for the Reference and Proposed Building Design
 Forming Part of Sentence 3.1.2.1.(4)

Building Component	Reference Building Design	Proposed Building Design
Building Envelope	<p>Dimensions and orientation: same as proposed design.</p> <p><i>Fenestration</i> to wall ratio: same as proposed up to 22%, (where $17\% < \text{ratio} \leq 22\%$, U-Value is required to be upgraded as per 3.1.1.1.(8)) where the proposed <i>fenestration</i> to wall ratio exceeds 22%, the <i>fenestration</i> area of the reference <i>building</i> shall be reduced proportionally along each exposure until the 22% is met.</p> <p>RSI Values or U-Values and ER values: as per applicable compliance package required in Subsection 3.1.1.</p>	As proposed (See Sentences 3.1.2.1.(5) to (8)).
Construction Type	<p>Above Grade:</p> <p>Wood Frame spacing: 406 mm o.c. for wall studs, 406 mm o.c. for exposed floors joists, roof joists, and roof rafters, and 610 mm o.c. for roof trusses.</p> <p>Below Grade: Concrete with interior insulation.</p>	As proposed.
Air Leakage Rate	<p>Detached dwelling: 3.0 ACH, NLA 2.12 cm²/m², or NLR 1.32 L/s/m²</p> <p>Attached dwellings: 3.5 ACH, NLA 2.27 cm²/m², or NLR 1.44 L/s/m²</p> <p>(See Appendix A).</p>	Same as reference, or tested air leakage rate, that is measured in accordance with Sentence 3.1.1.4.(2).
On-site Renewable Energy	None. ⁽¹⁾	As proposed.
Ventilation	HRV operating continuously at principle exhaust flow rate and with SRE as per applicable compliance package required in Subsection 3.1.1.	As proposed.
Drain Water Heat Recovery	Drain water heat recovery units as per Article 3.1.1.12.	As proposed.
Heating System and Service Water Heating	<p>Fuel or energy type: Same as proposed⁽²⁾</p> <p>Equipment: Furnace and water tank.</p> <p>Efficiency: As per applicable compliance package required in Subsection 3.1.1. Where it is not specified, as per applicable provincial regulations.</p>	As proposed.
Plumbing	Complies with Part 7 of the <i>Building Code</i> .	As proposed but must comply with Part 7 of the <i>Building Code</i> or exceed.
Cooling System, if proposed ⁽³⁾	<p>Energy type: Electric.</p> <p>Equipment: Same as proposed.</p> <p>Efficiency: As per applicable provincial regulations.</p>	As proposed.
Column 1	2	3

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Table 3.1.2.1. (Cont'd)
Specification for the Reference and Proposed Building Design
 Forming Part of Sentence 3.1.2.1.(4)

Building Component	Reference Building Design	Proposed Building Design
Operating Conditions / Default Values	Except as indicated in this Subsection and the <i>Building Code</i> , for the purpose of annual energy use simulations, the same operating conditions and default values shall be used for the reference <i>building</i> and the proposed <i>building</i> . ⁽⁴⁾	
All Components, Inputs for assemblies, workmanship, etc.	For both the reference <i>building</i> and the proposed <i>building</i> , input methodologies shall be the same and consistent with each other, e.g. use <ul style="list-style-type: none"> • Either user defined or build-up inputs for <i>building</i> envelope assemblies, • The same insulation installation quality; and • The same air tightness for the ductwork. 	
Internal gains, electrical loads, other components and characteristics that are not described in this Subsection and Subsection 3.1.1.	The same values or systems shall be used for both the reference <i>building</i> and the proposed <i>building</i> .	
Column 1	2	3

Notes to Table 3.1.2.1.:

- (1) Except where principle heating fuel is wood or wood products.
- (2) For the purpose of annual energy use simulations, where an air or water source heat pump, or an earth energy system is proposed, the fuel or energy source of the reference *building* system is permitted to be the same as the supplementary (back up) energy source of the proposed heat pump system.
- (3) Where cooling is proposed, annual energy use simulations shall include cooling system.
- (4) Operating conditions consistent with Section 4.6 of NRCan's EnerGuide Rating System Version 15.1 may be used.

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