
Draft Regulations

Draft Regulation

Building Act
(R.S.Q., c. B-1.1)

Construction Code — Amendment

Notice is hereby given, in accordance with sections 10 and 11 of the Regulations Act (R.S.Q., c. R-18.1), that the Regulation to amend the Construction Code, appearing below, may be approved by the Government, with or without amendment, on the expiry of 45 days following this publication.

The draft Regulation establishes, for the whole territory of Québec, the standards to be complied with by designers and builders in order to improve energy efficiency of new dwelling constructions. The standards are made under section 173 of the Building Act (R.S.Q., c. B-1.1). The draft Regulation defines the buildings concerned and also limits the scope of application of the new “energy efficiency” chapter of the Construction Code.

The standards constitute Part 11 of the Construction Code – Building Chapter, administered by the Board. The draft Regulation replaces, for the buildings concerned, the requirements contained in the Regulation respecting energy conservation in new buildings that is more than 25 years old. The new requirements are inspired by the Novoclimat voluntary standard for individual dwellings and residential immovables. The new regulation improves the energy performance of buildings by 20 to 25%. The Board relied on the recommendations of the Agence de l’efficacité énergétique in updating the energy efficiency standards.

The draft Regulation represents costs that could be close to \$247 M, over a 5-year period. The measures represent an additional amount of approximately \$2,000 to be paid by consumers, for the construction of a standard bungalow. The cost is amortized over a period of 3 to 4 years by energy savings generated.

The draft Regulation also repeats in section 1 the existing provisions on the exemptions from the application of the Construction Code – Building Chapter, previously contained in the Regulation respecting the application of the Building Act.

Further information may be obtained by contacting Nathalie Lessard, Régie du bâtiment du Québec, 545, boulevard Crémazie Est, 7^e étage, Montréal (Québec) H2M 2V2; telephone: 514 873-5935; fax: 514 873-1939.

Any person wishing to comment on the draft Regulation is requested to submit written comments within the 45-day period to Michel Beaudoin, President and Chief Executive Officer, Régie du bâtiment du Québec, 545, boulevard Crémazie Est, 3^e étage, Montréal (Québec) H2M 2V2.

LISE THÉRIAULT,
Minister of Labour

Regulation to amend the Construction Code to promote energy efficiency¹

Building Act

(R.S.Q., c. B-1.1, ss. 10, 173, 176, 176.1, 178, 185, 1st par., subpars. 0.1, 0.2 and 0.3)

1. Division II of Chapter I Building of the Construction Code is replaced by the following:

“DIVISION II APPLICATION

1.02. Subject to the exemptions in section 1.022, this Chapter applies to all construction work that is performed on a building to which the Building Act (R.S.Q., c. B-1.1) applies and to any facility intended for use by the public designated in section 1.021 and to the vicinity of that building or facility.

For the purposes of this Division, the definitions set out in the Code apply, unless otherwise provided.

1.021. The following facilities are intended for use by the public for the purposes of section 10 of the Act:

(1) bleachers, grandstands or exterior terraces whose highest point, above the ground, is more than 1.2 m and whose load capacity is more than 60 persons;

(2) tents or exterior inflatable structures to which Chapter I of the Building Code (O.C. 953-2000) applies and used

(a) as *dwelling* or *care or detention occupancies* whose floor area is 100 m² or more; or

(b) as *assembly occupancies* or *mercantile occupancies* whose floor area is more than 150 m² and whose load capacity is more than 60 persons; and

(3) belvederes built with materials other than backfill and constituted of horizontal platforms linked by their construction elements whose total area is more than 100 m² or whose load capacity is more than 60 persons including access facilities.

1.022. The following buildings, if used solely for one of the main purposes provided for in the Code, are exempted from the application of this Chapter:

(1) an assembly occupancy not covered by paragraph 6 that accommodates not more than 9 persons;

(2) a *care or detention occupancy* which constitutes

(a) a prison;

(b) a supervised education centre with or without detention facilities used to shelter or accommodate not more than 9 persons; or

(c) a convalescence home, a *care* or assistance *occupancy* or a rehabilitation centre used to shelter or accommodate not more than 9 persons;

(3) a *dwelling* which constitutes

¹ The Construction Code, approved by Order in Council 953-2000 dated 26 July 2000 (2000, G.O. 2, 4203), was last amended by the regulation approved by Order in Council 838-2011 dated 11 August 2011 (2011, G.O. 2, 2487). For previous amendments, refer to the *Tableau des modifications et Index sommaire*, Québec Official Publisher, 2011, updated to 1 April 2011.

- (a) a rooming house or an outfitter offering no lodgings that has not more than 9 rooms;
- (b) a single-family dwelling in which a bed and breakfast is operated by a natural person, which is also used as the person's residence, having not more than 5 bedrooms offered for rent;
- (c) a single-family dwelling in which a school that accommodates less than 15 students at a time is operated by a natural person, which is also used as the person's residence;
- (d) a monastery, a convent or a novitiate whose owner is a religious corporation incorporated under a special Act of Québec or the Religious Corporations Act (R.S.Q., c. C-71), where that building or part of the building divided by a *firewall* is occupied by not more than 30 persons and has not more than 3 storeys;
- (e) a shelter used to shelter or accommodate not more than 9 persons; or
- (f) a building used as a *dwelling unit* having
 - i. not more than 2 storeys; or
 - ii. not more than 8 dwelling units;
- (4) a *business and personal services occupancy* having not more than 2 storeys;
- (5) a *mercantile occupancy* having a total floor area of not more than 300 m²;
- (6) a day care centre used to shelter or accommodate not more than 9 persons;
- (7) a subway station;
- (8) an agricultural facility; and
- (9) an *industrial occupancy*.

Despite the exemption provided for in the first paragraph, the energy efficiency requirements contained in Part 11 of the Code apply to the construction work performed on every *building*

- (1) having a building area of not more than 600 m²;
- (2) having a building height of not more than 3 storeys; and
- (3) housing only dwelling units and their subsidiary occupancies.”.

2. Section 1.04. is amended by replacing Sentence (1) by the following:

“(1) by adding the following in the Table of Contents of Volume 1 after Part 9, Division B:

Part 10 Existing Buildings under Alteration, Maintenance or Repair

Part 11 Energy Efficiency”.

3. Section 1.05. is amended

- (1) by replacing Article 1.3.3.1 in Sentence (4) by the following:

“1.3.3.1. Application of Parts 1, 7, 8, 10 and 11

(1) Parts 1, 7 and 8 of Division B apply to all *buildings* covered by the NBC (see Article 1.1.1.1.1).

(2) Part 10 of Division B applies to every *building* under *alteration*, maintenance or repair that has been built for not less than 5 years, in accordance with section 1.02 of Chapter I of the Construction Code made pursuant to the Building Act.

(3) Part 11 of Division B on energy efficiency applies to the construction and enlargement work of all *buildings* covered by the NBC (see Article 1.1.1.1. and Appendix A)

(a) having a *building area not more than 600 m²*;

(b) having a *building height of not more than 3 storeys*; and

(c) having a Group C *major occupancy* and housing only *dwelling units* and their subsidiary *occupancies*.”;

(2) by adding the following after Sentence (4):

“(4.1) by replacing “9” in Sentence (3) of Article 1.4.1.1. by “11””;

(3) in Sentence (5)

(a) by inserting the following after Clause (d):

“(d.1) by inserting the following in alphabetical order:

Thermal bridge means a conductive member that results in a reduction of the *total thermal resistance* of the insulated separation.”;

(b) by inserting the following after Clause (f):

“(f.1) by inserting the following in alphabetical order:

Effective thermal resistance (RSIE value) means the *thermal resistance* of a separation calculated as equal to the weighted average of the *total thermal resistance RSIT* values of each of the separation surfaces having a separate *total thermal resistance RSIT* value, so as to allow for the effect of thermal bridges.

Thermal resistance (RSI value) means the inverse of the overall coefficient of heat transfer.

Total thermal resistance (RSIT value) means the *thermal resistance* of a separation equal to the sum of the *thermal resistance* of all the layers of material or little or unventilated air composing the separation, calculated through the insulated portion of the separation.”.

4. Section 1.06. is amended

(1) by inserting the following before Sentence (1):

“(0.1) by replacing “9” in Sentence (3) of Article 1.2.1.1. by “11””;

(2) in Sentence (1)

(a) by inserting the following after Clause (a):

“(a.1) by inserting the following reference:

ANSI/ARI	1060-2005	Performance Rating of Air-to-Air Exchangers for Energy Recovery Ventilation	6.2.2.8.(7)
			”;

(b) by inserting the following after Clause (b):

“(b.1) by inserting the following reference:

CAN/CSA	A-440.2-09	Fenestration energy performance/User guide to CSA A440.2-09, Fenestration energy performance	11.2.2.4.(1)
			”;

(c) by inserting the following after Clause (d):

“(d.1) by replacing the reference

CAN/CSA	C439-00	Standard laboratory methods of test for rating the performance of heat/energy-recovery ventilators	9.32.3.10.(4) 9.32.3.10.(5)
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by the following:

CAN/CSA	C439-09	Standard laboratory methods of test for rating the performance of heat/energy-recovery ventilators	6.2.2.8.(7) 9.32.3.3.(2) 9.32.3.10.(4) 9.32.3.10.(5)
			”;

(3) by replacing Sentence (7) of paragraph 82 by the following:

“(7) The main ventilation system of *dwelling units* must include

(a) an exhaust air outlet located inside the *dwelling unit*;

(b) air outlets that allow the supply of outdoor air to the *dwelling unit*; and

(c) for *buildings* having a *building area* not more than 600 m², a *building height* not more than 3 *storeys*, and whose *major occupancy* is Group C, housing *dwelling units* and their subsidiary *occupancies* only, a ventilator that is a heat recovery ventilator (HRV)

i. having sensible heat recovery efficiency certified by the Air Conditioning and Refrigeration Institute (ARI) according to ANSI Standard ANSI/ARI-1060, Rating Air-to-Air Heat Exchangers for Energy Recovery Ventilation Equipment, or by the Home Ventilating Institute (HVI) according to CSA Standard CAN/CSA-C439, Standard laboratory methods of test for rating the performance of heat/energy-recovery ventilators;

ii. having sensible heat recovery efficiency (SRE) of at least 54% determined at a dry temperature of 1.7°C for *appliances* certified by the ARI, or 25°C for appliances certified by the HVI; and

iii. whose operating and de-icing cycles do not generate air circulation between the *dwelling units*.”;

(4) by inserting the following after paragraph 92:

“(92.1) by revoking Sentence (2) in Article 9.7.2.1.”;

(5) by adding the following after paragraph 114:

“(114.1) by replacing Sentence (2) in Article 9.32.3.3. by the following:

(2) The main ventilation fan must

(a) be capable of operating at an exhaust capacity indicated in Table 9.32.3.3., referred to hereinafter as the “normal operating exhaust capacity” (see Appendix A);

(b) include, in *buildings* whose *major occupancy* is Group C, housing *dwelling units* and their subsidiary *occupancies* only, a heat recovery ventilator (HRV)

i. having sensible heat recovery efficiency certified by the Home Ventilating Institute (HVI) according to CSA Standard CAN/CSA-C439, Standard laboratory methods of test for rating the performance of heat/energy-recovery ventilators; and

ii. having sensible heat recovery efficiency (SRE) of at least 54% determined at a dry temperature of 25°C.”;

(6) by adding the following after paragraph 121:

“(122) by adding the following after Part 10:

PART 11

Energy Efficiency

11.1. General

11.1.1. Scope and Definitions

11.2. Thermal Insulation

11.2.1. General

11.2.2. Thermal Resistance

11.2.3. Thermal Bridges

Part 11

Energy efficiency

Section 11.1. General

11.1.1. Purpose and Definitions

11.1.1.1. Purpose

(1) The purpose of this Part is as described in Subsection 1.3.3 of Division A.

11.1.1.2. Defined Terms

(1) Terms that appear in italics are defined in Article 1.4.1.2 of Division A.

Section 11.2. Thermal Insulation

11.2.1. General

11.2.1.1. Scope of Application

(1) This Section applies to all walls, floors, ceilings, windows, doors and skylights separating heated space from unheated space, the exterior air or soil of a *building* that is to be heated during the winter.

11.2.1.2. General Requirements

(1) Windows and skylights must conform to Section 9.7.

(2) Foamed plastic must be protected in accordance with Article 9.10.17.10.

(3) Walls, floors and roofs in contact with the soil must conform to Subsections 9.13.2. and 9.13.3.

(4) Crawl spaces must conform to Section 9.18.

(5) Roof spaces must conform to Section 9.19.

(6) Thermal insulation and measures to control heat transfer, air leakage and condensation must conform to Section 9.25.

(7) Ventilation must conform to Section 9.32.

11.2.2. Thermal Resistance

11.2.2.1. Thermal Resistance of Building Components

(1) Subject to Sentences (2) to (4) of Articles 11.2.2.2. to 11.2.2.4. and Subsection 11.2.3., the *total thermal resistance* of a *building* component must have a value

(a) at least equal to those in Table 11.2.2.1. A for a *building* located in a municipality whose number of degree-days below 18°C is not more than 6,200; or

(b) at least equal to those indicated in Table 11.2.2.1. B for a *building* located in a municipality whose number of degree-days below 18°C is more than 6,200.

(See Appendix A.)

Table 11.2.2.1. A
Total thermal resistance of buildings located in a municipality whose number of
degree-days below 18°C is not more than 6,200
 Forming part of Sentence 11.2.2.1.(1)

<i>Building component</i>	<i>Total thermal resistance (RSIT)</i>
roof or ceiling separating heated space from unheated space or exterior air	7.22
wall above ground level, other than a <i>foundation</i> wall, separating heated space from unheated space or exterior air	4.31
<i>foundation</i> wall ¹ separating heated space from unheated space, exterior air or adjacent soil	2.99
floor separating heated space from unheated space or exterior air	5.20

- (1) A *foundation* wall having more than 50% of its surface exposed to exterior air, and the portion of a *foundation* wall that incorporates wood stud framing elements must have a *total thermal resistance* equal to or greater than that required for a wall above ground level.

Table 11.2.2.1.B
Total thermal resistance of buildings located in a municipality whose number of
degree-days below 18°C is more than 6,200
 Forming part of Sentence 11.2.2.1.(1)

<i>Building component</i>	<i>Total thermal resistance (RSIT)</i>
roof or ceiling separating heated space from unheated space or exterior air	9.00
wall above ground level, other than a <i>foundation</i> wall, separating heated space from unheated space or exterior air	5.11
<i>foundation</i> wall ¹ separating heated space from unheated space, exterior air or adjacent soil	2.99
floor separating heated space from unheated space or exterior air	5.20

- (1) A *foundation* wall having more than 50% of its surface exposed to exterior air, and the portion of a *foundation* wall that incorporates wood stud framing elements must have a *total thermal resistance* equal to or greater than that required for a wall above ground level.

(2) The *total thermal resistance* required by Sentence (1) for flat roofs may be reduced by not more than 20% at its lowest point if the drainage slopes are created by insulating materials, provided that the *total thermal resistance* of the roof is increased so that the heat loss calculated through the roof is not greater than the heat loss that would result if the *thermal resistance* of the roof were conform to Sentence (1) (See Appendix A).

(3) The *total thermal resistance* required for roofs, ceilings and walls above ground level, other than foundation walls, indicated in Tables 11.2.2.1. A and 11.2.2.1. B may be reduced if

(a) the energy consumption of a *building*, obtained in accordance with the EnerGuide rating system, is equivalent to the energy consumption of a *building* of the same design and conform to Part 11 by upgrading the total thermal resistance of another *building* component; or

(b) the only components the *total thermal resistance* of which may be upgraded are roofs, ceilings, walls, windows, doors and skylights.

(See Appendix A.)

(4) The *total thermal resistance* of heated garages must have a value of not less than

(a) 5.2 for the floors and ceilings adjacent to the *dwelling unit*;

(b) 3.5 for the walls adjacent to the *dwelling unit*; or

(c) 2.99 over the entire vertical surface of the *foundation* wall between the garage and the *dwelling unit*.

(See Appendix A.)

11.2.2.2. Thermal Resistance of Slabs-on-ground

(See Appendix A.)

(1) The *thermal resistance* of material insulating a slab-on-ground must have a value of not less than

(a) 1.32 for a slab-on-ground located above the ground or not more than 600 mm below the level of the adjacent soil;

(b) for a slab-on-ground located more than 600 mm below the level of the adjacent soil,

i. 0.88 (see Figure A-11.2.2.2.-A); or

ii. 1.32 and installed around the slab-on-ground over a width of at least 1.2 m (see Figure A-11.2.2.2.-B); or

(c) 1.76 in the following situations:

i. heating pipes, tubes, ducts or cables are buried under the slab-on-ground and the insulating material is installed under the heating pipes, tubes, ducts or cables (see Figure A-11.2.2.2.-C); and

ii. heating pipes, tubes, ducts or cables are contained in the slab-on-ground and the insulating material is installed under the slab-on-ground (see Figure A-11.2.2.2.-D).

11.2.2.3. Thermal Resistance near Eaves

(See Appendix A.)

(1) The *total thermal resistance* indicated in Table 11.2.2.1. A or 11.2.2.1. B for a roof or ceiling may be reduced near eaves if the roof slope and necessary ventilation clearances so require, provided that the value is not less than the value required by Table 11.2.2.1. A or 11.2.2.1. B for a wall above ground level.

11.2.2.4. Thermal Performance of Windows, Doors and Skylights

(1) The maximum overall coefficient of heat transfer and the minimum energy rating of windows, doors and skylights, as defined in CSA Standard CAN/CSA-A440.2, Fenestration energy performance/User guide to CSA A440.2-09, Fenestration energy performance, must conform to the values indicated in Table 11.2.2.4. A.

Table 11.2.2.4. A
Maximum overall coefficient of heat transfer (U) and minimum energy rating (ER) of windows, doors and skylights

Forming part of Sentence 11.2.2.4.(1)

<i>Building</i> component	<i>Building</i> located in a municipality whose number of degree-days below 18°C is not more than 6,200	<i>Building</i> located in a municipality whose number of degree-days below 18°C is more than 6,200
Maximum overall coefficient of heat transfer (U) of doors	0.9	0.8
Maximum overall coefficient of heat transfer (U) / Minimum energy rating (ER) of glazed windows and doors	2.0 / 21 or 1.8 / 13	2.0 / 25 or 1.6 / 17
Maximum overall coefficient of heat transfer (U) of skylights	2.85	2.7

(2) Windows and skylights including glazed doors must have a minimum airtightness rating of A2 under the standard described in Sentence (1).

(3) The total area of rough openings in building components, planned to receive windows, doors, skylights and other similar components, must not be greater than 20% of the *floor area* (see Appendix A).

11.2.3. Thermal Bridges

11.2.3.1. Thermal Bridges in Walls

(1) *Building* components constituting a *thermal bridge* must be covered in seamless insulation material having a *thermal resistance*

(a) for a wood frame, of

- i. at least 0.7 if the frame members are spaced not more than 600 mm c/c; or
- ii. at least 0.53 in all other cases; and

(b) for a metal or concrete frame, high enough to ensure *effective thermal resistance* equivalent to a similar wood composition.

(2) The insulating material must fully cover the *building* components constituting the *thermal bridge*, on the outside, on the inside or a combination of both.

(3) A wall between two *dwelling units* that incorporates a *thermal bridge* must be covered with insulating material to obtain a *total thermal resistance* of not less than 2.20 on each side of the wall over a minimum distance of 1.2 m from the exterior side of the exterior wall (See Appendix A).

11.2.3.2. Thermal Bridges in Floors

(1) The *thermal resistance* of insulating material covering *thermal bridges* in floors must have a minimum value of 1.32 in the following areas:

- (a) cantilevered above-ground floors; and
- (b) floors above unheated spaces.

11.2.3.3. Thermal Breaks in a Foundation Wall in Contact with a Slab-on-Ground

(See Appendix A)

(1) The insulation material between the *foundation* wall and the slab-on-ground must have a *thermal resistance*

(a) of not less than 1.32 for a slab-on-ground located above ground level or not more than 600 mm below ground level to a depth of 600 mm below ground level (see Figure A-11.3.3.3.); or

(b) for a slab-on-ground located more than 600 mm below ground level of not less than

- i. 1.76 if heating pipes, tubes, ducts or cables are buried under or are contained in the slab-on-ground (see Figures A-11.2.2.2.-C and A-11.2.2.2.-D); or
- ii. 0.7 for other slabs-on-ground (see Figures A-11.2.2.2.-A and A-11.2.2.2.-B).

5. Section 1.07. is amended by inserting the following before Sentence (1):

“(0.1) by replacing “9” in Sentence (3) of Article 1.2.1.1. by “11””.

6. Section 1.08. is amended by inserting the following after Sentence (1):

“(1.1) by inserting the following after Note A-1.2.1.1.(1)(b):

A-1.3.3.1.(3) Application of Part 11. Part 11 applies to the construction of new buildings having a building area not more than 600 m², a building height not more than 3 storeys and housing dwelling units and their subsidiary occupancies only.

Part 11 also applies to the enlargement work of existing buildings to the extent where the floor area, after the enlargement work, is not more than 600 m², the building height is not more than 3 storeys and the building houses dwelling units and their subsidiary occupancies only.

Part 11 does not apply to the installation of new ventilation appliances in existing buildings or to opening replacements. It does not apply to existing building renovation.”.

7. Section 1.09. is amended by replacing paragraph 19 by the following:

“(19) by adding the following after Note A-9.34.2.:

A-10.2.2.2.(3) Major or Minor Alteration. The concepts of major or minor alteration are used for retrofitting. The term “retrofitting” means all the alteration work carried out in view of a different occupancy of the altered part. Alteration types, such as the enlargement, change of major occupancy, alteration of the envelope or exterior elements, increase in occupant load, construction of or modification to a mezzanine or interconnected floor space, or the addition or modification of a vertical transportation facility are not governed by this type of alteration since they are already governed by other requirements of Part 10.

A-10.3.4.1.(1)(a) Capacity of Exits Serving an Altered Part. Even if the exits must have a minimum width of 760 mm, the exits must comply, for the altered part they serve, with the minimum capacity prescribed by Article 3.4.3.4., calculated according to the occupant load under Subsection 3.1.17. of this Code.

If the calculation of the capacity results in the exits having a width larger than 760 mm, they should be modified or another exit should be added.

This provision refers to an alteration, other than a minor alteration, that does not include an exit.

A-11.2.2.1.(1) Climatic Zones: The municipalities of Québec are classified in 6 climatic zones in the Regulation respecting energy conservation in new buildings, made by Order in Council 89-83 dated 19 January 1983 (RECNB), that is zones A to F. The requirements of Part 11 apply to municipalities whose number of degree-days below 18°C is not more than 6,200 or is more than 6,200. The municipalities classified in zones A to D of the RECNB are those whose number of degree-days below 18°C is not more than 6,200. The municipalities classified in zones E and F of the RECNB are those whose number of degree-days below 18°C is more than 6,200.

A-11.2.2.1.(2) Thermal Resistance of a Roof. This Sentence allows for reduction of the thermal resistance of a roof provided that compensatory measures are taken to prevent any increase in the calculated heat loss. Such compensation is only allowed for inverted flat roofs directing water to a drain if the slope is composed solely of insulating material. It does not apply to walls, ceilings, floors, doors or windows or to other roof types.

For example, this Sentence allows the total thermal resistance value around a flat roof drain to be reduced to 80%, provided that the roof dimensions and slope are sufficient to compensate for the additional heat loss in the part that does not conform to Sentence 11.2.2.1.(1). This application is shown in Figures A-11.2.2.1.(2)-A and A-11.2.2.1.(2)-B for a building situated in a municipality whose number of degree-days below 18°C is not more than 6,200.

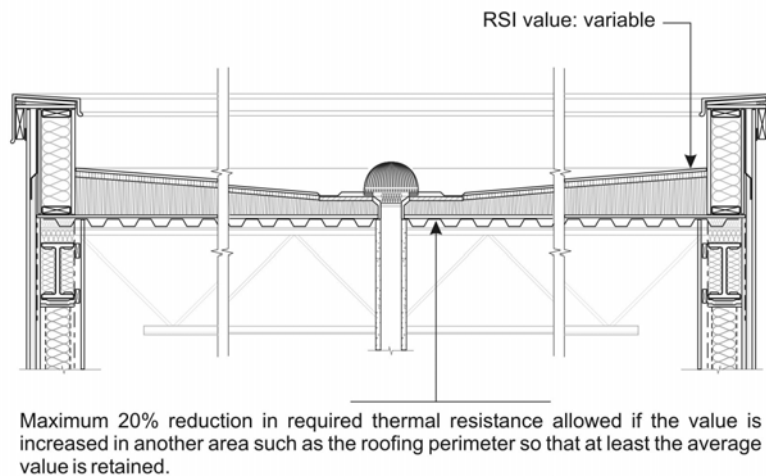


Figure A-11.2.2.1.(2)-A
Flat roof insulation –sectional view of a building in a municipality whose number of degree-days below 18°C is not more than 6,200

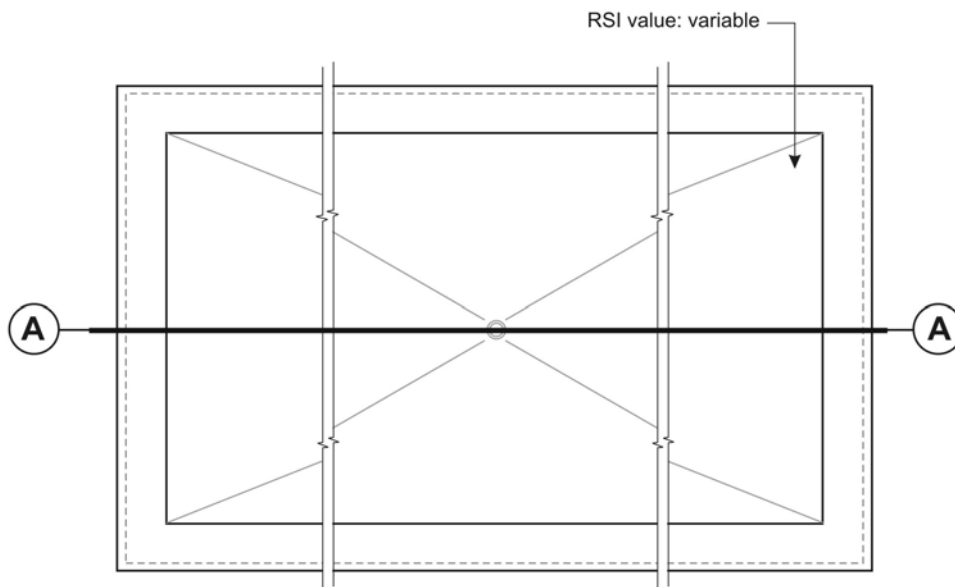


Figure A-11.2.2.1.(2)-B
Flat roof insulation – plan view of a building in a municipality whose number of degree-days below 18°C is not more than 6,200

A-11.2.2.1.(3) Energy Consumption. The energy consumption of a building is evaluated from an energy modeling carried out in accordance with the requirements of the EnerGuide rating system by an energy efficiency advisor-evaluator, accredited by Natural Resources Canada (NRCan). The advisor-evaluator analyzes the plans of the new construction and takes note of the elements that will have an incidence on energy consumption. The advisor-evaluator enters the data in NRCan's energy modeling software to determine the estimated annual energy consumption of a building according to the plans. It is possible at the design stage to make any rectifications, if necessary, to a building to obtain an energy consumption equivalent to that of a building that conforms to the prescriptions of Part 11 for the same design, by upgrading the thermal resistance of the envelope components including windows, doors and skylights. The advisor-evaluator must submit a comparison report "according to plan". The comparison report must be available on request.

A-11.2.2.1.(4) Thermal Resistance of Garages. This Sentence seeks to mitigate discomfort in spaces adjacent to a garage. Despite the presence of a heating system in the garage, the temperature is sometimes lowered to save on heating costs because the garage is seldom used or the garage door does not close tightly or is left open for extended periods. This causes discomfort in the rooms above, below or adjacent to the garage. Figure A-11.2.2.1.(4) shows conformance with Sentence 11.2.2.1.(4).

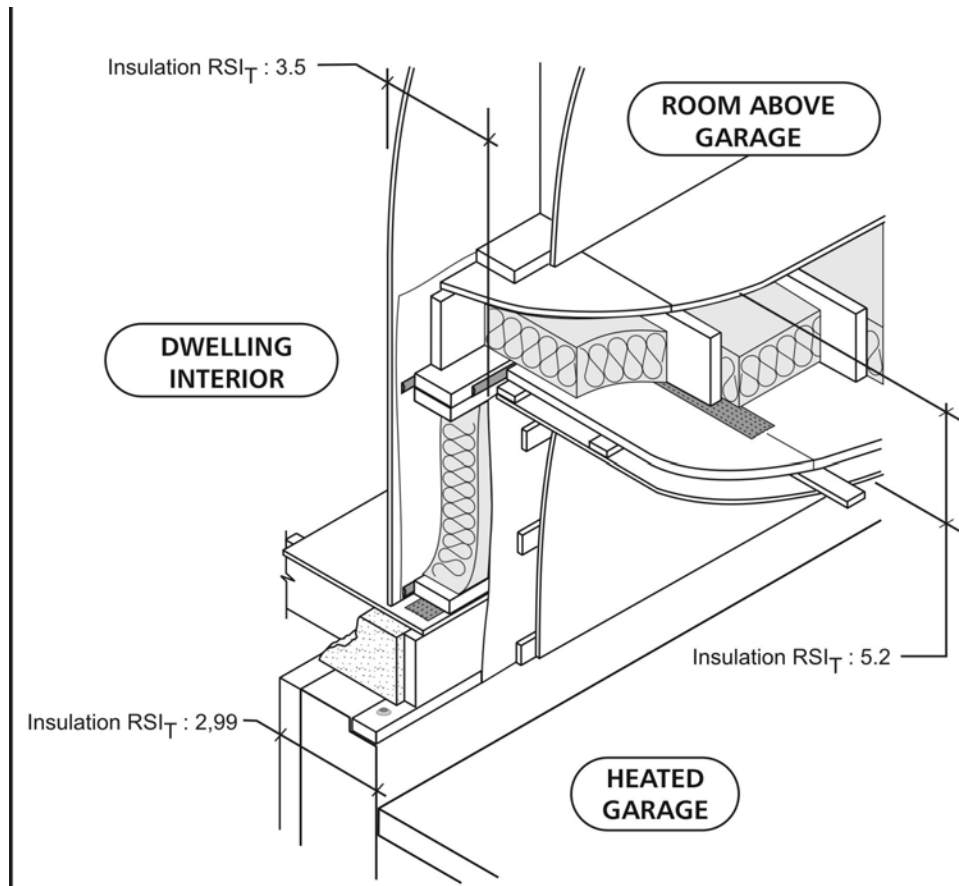


Figure A-11.2.2.1.(4)
Insulation of the floor and wall adjacent to a heated garage

A-11.2.2.2. Thermal resistance of slabs-on-ground. Figures A-11.2.2.2.-A, A-11.2.2.2.-B, A-11.2.2.2.-C and A-11.2.2.2.-D show the thermal resistance required for a slab-on-ground depending on whether the insulating material is installed over the entire surface or around the slab-on-ground, or whether heating pipes, tubes, ducts or cables are contained under or in the slab-on-ground. The figures also show the thermal resistance of the thermal break required in a foundation wall in contact with a slab-on-ground (See Article 11.2.3.3. for the requirements for thermal breaks required in a foundation wall in contact with a slab-on-ground).

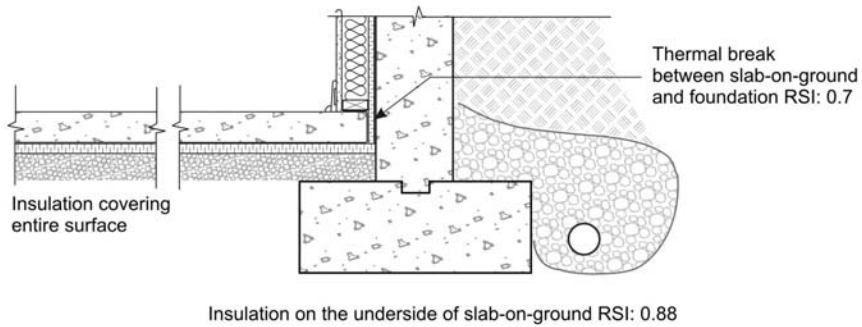


Figure A-11.2.2.2.-A
Insulation of a slab-on-ground located more than 600 mm below ground level, covering the entire surface of the slab-on-ground

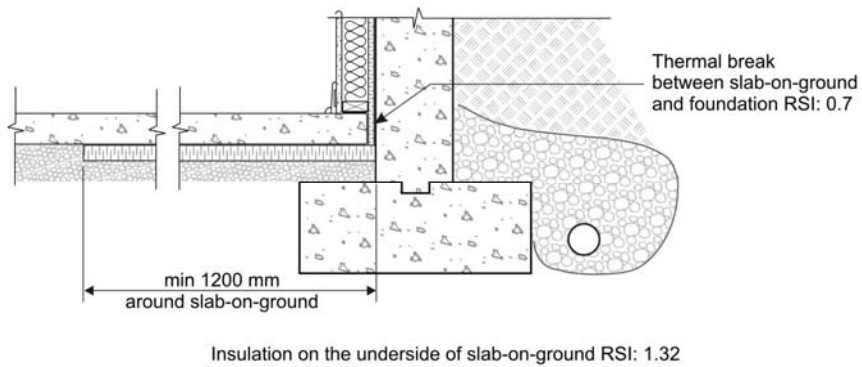


Figure A-11.2.2.2.-B
Insulation of a slab-on-ground located more than 600 mm below ground level, installed around the slab-on-ground over a width of 1.2 m

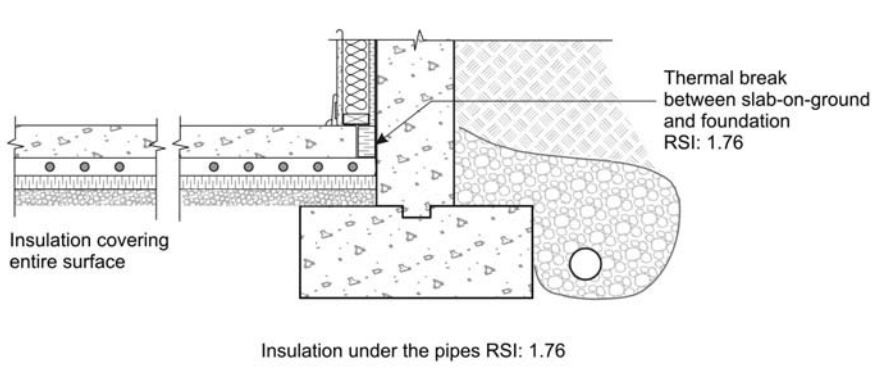


Figure A-11.2.2.2.-C
Slab-on-ground insulation where there are heating pipes, tubes, ducts or cables under the slab-on-ground

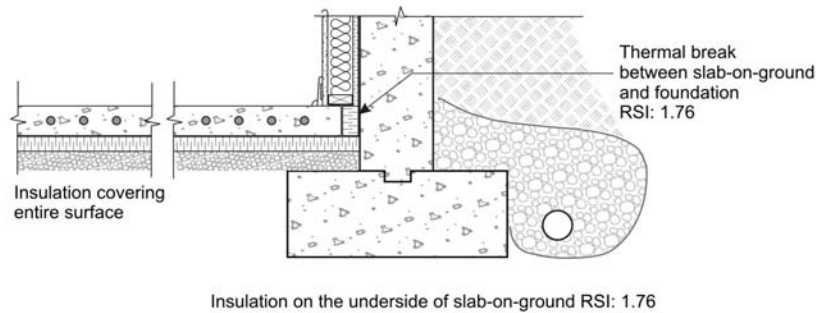


Figure A-11.2.2.2-D
Slab-on-ground insulation where there are heating pipes, tubes, ducts or cables buried in the slab-on-ground

A-11.2.2.3. Thermal Resistance near Eaves. The roof slope sometimes leaves little space for insulation of the roof perimeter. The thermal resistance must not be reduced to a value less than that required for walls above ground level unless the trusses are raised to provide the space necessary so that the insulation does not block intake ventilation of the attic. Figure A-11.2.2.3. shows a way to conform with Article 11.2.2.3.

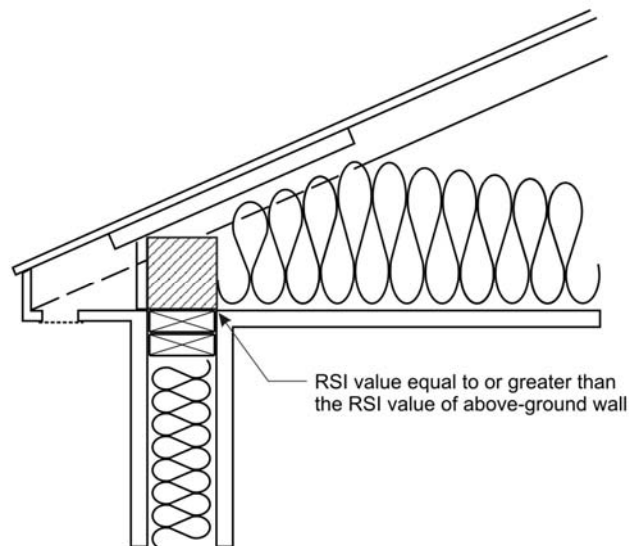


Figure A-11.2.2.3.
Insulation near eaves

A-11.2.2.4.(3) Rough opening. The area of rough openings includes the area occupied by frame openings. The term “opening” means windows, doors, skylights and other similar components such as glass blocks.

A-11.2.3.1.(3) Thermal Bridge in a Wall between Two Dwelling Units. A portion of a wall between two *dwelling units* incorporating a thermal bridge must be covered with insulating material to obtain a *total thermal resistance* of not less than 2.20 on each side of the wall over a minimum distance of 1.2 m from the exterior side of the exterior wall. Figure A-11.2.3.1. illustrates that requirement.

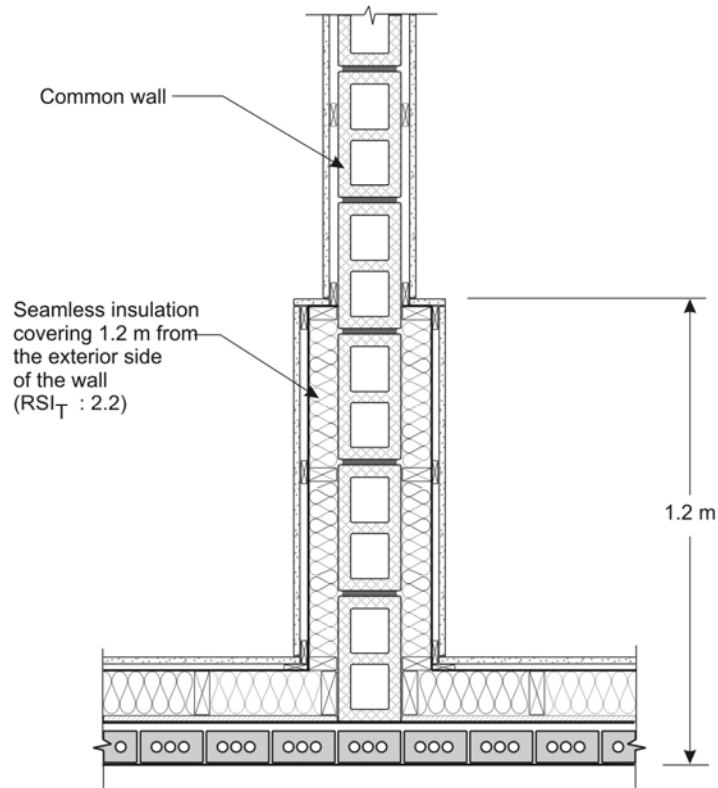


Figure A-11.2.3.1.
Insulation of a common wall separating two dwelling units

A-11.2.3.3. Thermal Break in a Foundation Wall in Contact with a Slab-on-Ground. Figure A-11.2.3.3. shows the depth to which the insulating material is to be installed on the interior side of the foundation wall in relation to the adjacent ground level where a slab-on-ground is located.

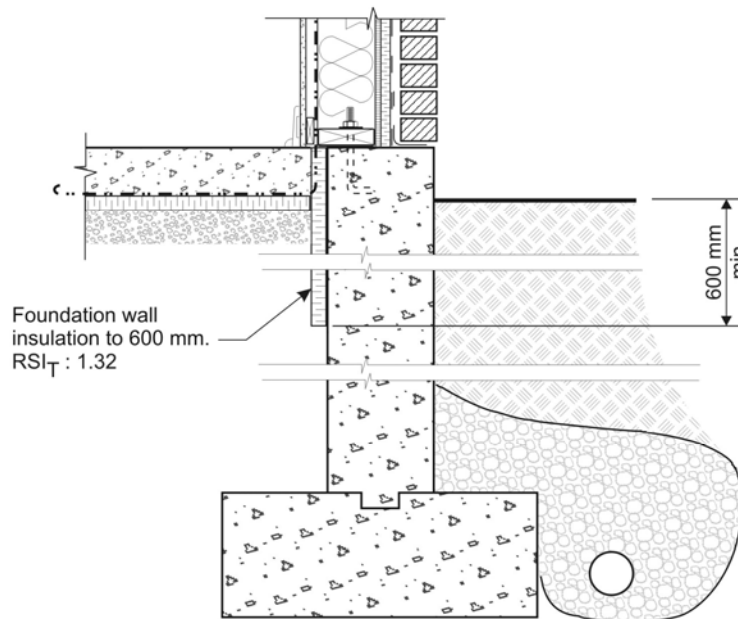


Figure A-11.2.3.3.
Insulation of foundation wall around a slab-on-ground located above ground or not more than 600 mm below the adjacent ground level

8. Sections 3.3 and 3.4(1), (2) and (3) of the Regulation respecting the application of the Building Act, made by Order in Council 375-95 dated 22 March 1995, are struck out.

9. This Regulation comes into force on 1 July 2012.

The provisions of the Regulation respecting energy conservation in new buildings may be applied to the construction and enlargement of a *building* having a *building area* not more than 600 m², a *building height* not more than 3 *storeys* and whose major occupancy is Group C and housing only *dwelling*s and their *subsidiary occupancies*, on the following conditions:

(a) the plans and specifications are filed with a municipality for the purpose of obtaining a construction permit before 1 July 2012; and

(b) *work begins before 1 October 2012.*