Quebec Construction Code, Chapter I – Building, and National Building Code of Canada 2005 (amended)

Revisions

Published by NRC in collaboration with the Régie du bâtiment du Québec

The table that follows identifies revisions to the Quebec Construction Code, Chapter I – Building, and National Building Code of Canada 2005 (amended) (the Code).

The revisions have been approved by the Régie du bâtiment du Québec and are subject to the Regulation on Energy Efficiency (Order in Council 858-2012) that came into force on August 30, 2012. They are included in the table of revisions and are indicated in the Code with heavy vertical lines in the margin.

For your convenience, replacement pages for some of the revisions are provided following the table. You simply have to substitute the pages in your document with the updated pages provided.

REVISIONS

Revisions — Quebec Construction Code, Chapter I – Building, and National Building Code of Canada 2005 (amended)

Provision	Revision	Date of Issue
DIVISION I		
Section I, Volume 1		
1.01	Article 1.01 was amended.	Nov. 30, 2012
Section II, Volume 1		
1.02	Article 1.02 was amended.	Nov. 30, 2012
1.021	Paragraph 1.021 was added.	Nov. 30, 2012
1.022	Paragraph 1.022 was added.	Nov. 30, 2012
Section III, Volume 1		
1.06	Article 1.06 was amended.	Nov. 30, 2012
Section V, Volume 1		
3	Article 3 was amended.	Nov. 30, 2012
DIVISION II		
Division A, Volume 1		
1.3.3.1.	Title was amended to read “Application of Parts 1, 7, 8, 10 and 11.”	Nov. 30, 2012

	Last part of Sentence (2) was changed to read "…in accordance with section 1.02 of Division I."	
	The following Sentence was added after Sentence (2): **3)** Part 11 of Division B on energy efficiency applies to the construction and addition 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 m^2, (b) having a *building height* of not more than 3 *storeys*, and (c) having a Group C *major occupancy* and housing only *dwelling units*.	
1.4.1.1.(3)	Last part of Sentence was changed to read "…stated in Parts 3 to 11 of Division B."	Nov. 30, 2012
1.4.1.2.	The following terms and their definitions were added: *Effective thermal resistance (RSI_E value)* *Overall thermal transmittance (U-value)* *Thermal bridge* *Thermal resistance (RSI value)* *Total thermal resistance (RSI_T value)*	Nov. 30, 2012
2.1.1.2.(1)(a)	Clause 2.1.1.2.(1)(a) was replaced with the following: (a) to all *buildings* covered in this Code except those that are intended to meet the requirements of Part 11 for the purposes of that Part only (see Article 1.1.1.1.), and	Nov. 30, 2012
3.1.1.2.(1)(a)	Clause 3.1.1.2.(1)(a) was replaced with the following: (a) to all *buildings* covered in this Code except those that are intended to meet the requirements of Part 11 for the purposes of that Part only (see Article 1.1.1.1.), and	Nov. 30, 2012
Division B, Volume 1		
1.2.1.1.(3)	Last part of Sentence was changed to read "…stated in Parts 3 to 11."	Nov. 30, 2012
Table 1.3.1.2.	The following entry was added: ANSI/AHRI 1060-2011, Performance Rating of Air-to-Air Exchangers for Energy Recovery Ventilation Equipment, 6.2.2.8.(7)	Nov. 30, 2012
	The Code reference 9.7.2.1.(2) was deleted from the entry for CAN/CSA-A440-00. The Code reference 11.2.2.4.(2) was added to the entry for CAN/CSA-A440-00.	
	The following entry was added after CSA CAN/CSA-A440.1-00: CSA CAN/CSA-A440.2-09/A440.3-09, Fenestration Energy Performance/User Guide to CSA A-440.2-09, Fenestration Energy Performance, 11.2.2.4.(1)	

	Standard designation was corrected to read "CSA CAN/CSA-C439-09," and the following references were added: 6.2.2.8.(7) and 9.32.3.3.(2).	
1.3.2.1.	The following was added to the list of organizations: AHRI…..Air-Conditioning, Heating and Refrigeration Institute (2111 Wilson Boulevard, Suite 500, Arlington, Virginia 22201, U.S.A.; www.ahrinet.org)	Nov. 30, 2012
6.2.2.8.(7)	At the end of Clause 6.2.2.8.(7)(b), the period was replaced with a comma, followed by "and"	Nov. 30, 2012
	The following Clause was added after Clause 6.2.2.8.(7)(b): (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* only, a ventilator that is a heat recovery ventilator (HRV) i) having sensible heat recovery efficiency certified by AHRI according to ANSI/AHRI-1060, "Rating Air-to-Air Heat Exchangers for Energy Recovery Ventilation Equipment," or by HVI according to CAN/CSA-C439, "Rating the Performance of Heat/Energy-Recovery Ventilators," ii) having sensible heat recovery efficiency of at least 54% for a *building* located in a municipality whose number of degree-days below 18°C is less than 6000 and of 60% for a *building* located in another municipality, iii) having sensible heat recovery efficiency determined at a dry temperature of 1.7°C for *appliances* certified by AHRI, or -25°C for *appliances* certified by HVI (see Appendix A), and iv) whose operating and de-icing cycles do not generate air circulation between the *dwelling units*.	
9.7.2.1.	At the beginning of Sentence 9.7.2.1.(1), "Except as provided in Sentence (2)," was deleted.	Nov. 30, 2012
	Sentence 9.7.2.1.(2) was deleted.	
9.32.3.3.(2)	Sentence 9.32.3.3.(2) was divided in two Clauses and a Clause (b) was added, as follows: b) include, in *buildings* whose *major occupancy* is Group C, housing *dwelling units* only, a heat recovery ventilator (HRV) i) having sensible heat recovery efficiency certified by HVI according to CAN/CSA-C439, "Rating the Performance of Heat/Energy-Recovery Ventilators," and ii) having sensible heat recovery efficiency of at least 54% for a *building* located in a municipality whose number of degree-days below 18°C is less than 6000 and of 60% for a *building* located in another municipality and determined at a dry temperature of -25°C. (See A-6.2.2.8.(7)(c)(iii) in Appendix A.)	Nov. 30, 2012
Part 11	Part 11, "Energy Efficiency," was added.	Nov. 30, 2012

Division C, Volume 1		
1.2.1.1.(3)	Last part of Sentence was changed to read "…stated in Parts 3 to 11 of Division B."	Nov. 30, 2012
Division A, Appendix A, Volume 2		
A-1.3.3.1.(3)	The following Appendix Note was added after 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 only. Part 11 also applies to the addition work of existing buildings to the extent where the building area, after the addition work, is not more than 600 m², the building height is not more than 3 storeys and the building houses dwelling units 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 renovation of existing buildings.	Nov. 30, 2012
A-1.4.1.2.(1)	The following entries were added after the entry "Suites": **Thermal Resistance.** To convert RSI value (metric unit) into R value (imperial unit), the RSI value is multiplied by 5.678263. **Total Thermal Resistance.** The method for calculating the total thermal resistance of a component of the building envelope having a wood frame, for example, consists in determining the thermal resistance of the various materials as part of the component along a line crossing the insulated part and in adding the values obtained. The interior and exterior surface air film of the envelope are part of the building assembly.	Nov. 30, 2012
Division B, Appendix A, Volume 2		
Table A-1.3.1.2.(1)	The following entry was added after ANSI/ASHRAE 62.1-2004: ASHRAE 140-2007, Test for the Evaluation of Building Energy Analysis Computer Programs, A-11.2.2.1.(3)	Nov. 30, 2012
	The following entry was added after CAN/CGSB-93.2 M91: CAN/CGSB-149.10-M86, Determination of the Airtightness of Building Envelopes by the Fan Depressurization Method, A-11.2.1.2.(6)	
A-6.2.2.8.(7)(c)(iii)	The following Appendix Note was added after A-6.2.2.7.(1): **A-6.2.2.8.(7)(c)(iii) Heat Recovery Ventilation.** For the purpose of Part 11, sensible heat recovery efficiency from the heat recovery ventilator (HRV) must be determined with a flow rate equal to or greater than the expected flow rate for the normal operation at low speed of the HRV.	Nov. 30, 2012

	The following Appendix Notes pertaining to Part 11 were added:	
A-11.2.1.1.(1)	A-11.2.1.1.(1) Exemptions.	
A-11.2.1.2.(6)	A-11.2.1.2.(6) Air Barrier Systems.	
A-11.2.1.2.(8)	A-11.2.1.2.(8) Ventilation Requirements.	
A-11.2.2.1.(1)	A-11.2.2.1.(1) Building Components.	
A-11.2.2.1.(3)	A-11.2.2.1.(3) Performance Benchmark by Comparison of the Annual Energy Consumption.	
A-11.2.2.1.(4)	A-11.2.2.1.(4) Thermal Resistance of Garages.	Nov. 30, 2012
A-11.2.2.4.(1)	A-11.2.2.4.(1) Windows.	
A-11.2.2.4.(3)	A-11.2.2.4.(3) Rough Openings.	
A-11.2.3.1.	A-11.2.3.1. Thermal Bridges.	
A-11.2.3.1. (1)(b)	A-11.2.3.1.(1)(b) Thermal Bridge of Metal Frame Walls.	
A-11.2.3.1.(3)	A-11.2.3.1.(3) Thermal Bridge in a Wall Between Two Heated Spaces.	

FOREWORD

The Régie du bâtiment du Québec and the National Research Council of Canada present this document, prepared to facilitate the application of the Construction Code adopted under the Building Act (Order in Council 293-2008, 19 March 2008, 2008, G.O. 2. 1435) throughout Quebec. Entitled *Quebec Construction Code, Chapter I – Building, and National Building Code of Canada 2005 (amended)*, the document has two divisions.

Division I in Volume 1 contains Chapter I, Building, except for the amendments to the National Building Code of Canada 2005 adopted by Quebec and mentioned in subparagraphs 1.04 to 1.10 of section 1 of Chapter I, Building. These amendments can be found rather in Division II of Volume 1: they have been incorporated into the National Building Code of Canada (NBC) 2005. The reader should note that the Quebec amendments are indicated with heavy vertical lines in the margin. Reproduction of Chapter I, Building, including the Quebec amendments, is authorized by Les Publications du Québec.

The edition of the NBC reproduced in Division II of Volume 1 contains the first two series of revisions and errata approved by the Canadian Commission on Building and Fire Codes respectively in December 2007 and June 2008. Provisions affected by the errata and revisions are indicated by the symbols ◊ and ★ respectively. The NBC also contains the series of revisions approved by the Régie du bâtiment du Québec on August 30, 2012. They are indicated with heavy vertical lines in the margin.

The public are invited to submit their questions and comments concerning the amendments to the NBC adopted by Quebec to the following address:

La directrice du bâtiment, direction règlementation et expertise technique
Régie du bâtiment du Québec
545 East Crémazie Boulevard
7th floor
Montréal, Quebec
H2M 2V2

CONSTRUCTION CODE

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. The Construction Code is amended by replacing Chapter I by the following Chapter:

CHAPTER I

BUILDING

DIVISION I

INTERPRETATION

1.01 In this Chapter, unless the context indicates otherwise, "Code" means the "National Building Code of Canada 2005" (NRCC 47666) and the "Code national du bâtiment - Canada 2005" (CNRC 47666F), published by the Canadian Commission on Building and Fire Codes, National Research Council of Canada, as well as all subsequent amendments that may be published by that organization.

Notwithstanding the foregoing, amendments published after 17 May 2008 apply to construction work only as of the date that is the last day of the sixth month following the month of publication of the French text of the amendments.

DIVISION II

APPLICATION OF THE NATIONAL BUILDING CODE

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) stands, 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 *air-supported structures* to which Chapter I of the Code applies and used

(a) as dwellings or *care* or *detention occupancies* whose floor area is 100 m^2 or more,

(b) as *assembly occupancies* or *mercantile occupancies* whose *floor area* is more than 150 m^2 or 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 m^2 or whose load capacity is more than 60 persons including access facilities.

1.022 The following *buildings*, if used solely for one of the *major occupancy* 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 occupancy* or assistance occupancy or a rehabilitation centre used to shelter or accommodate not more than 9 persons,

(3) a *residential occupancy* which constitutes

(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* in *building height*,

(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* in *building height*, or

(ii) not more than 8 *dwelling units*;

(4) a *business and personal services occupancy* having not more than 2 *storeys* in *building height*,

(5) a *mercantile occupancy* having a total *floor area* of not more than 300 m^2,

(6) a daycare centre used to shelter or accommodate not more than 9 persons,

(7) a subway station,

(8) an agricultural facility,

(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 m^2,

(2) having a *building height* of not more than 3 *storeys*, and

(3) of Group C *major occupancy* and housing only *dwelling units*.

DIVISION III

AMENDMENTS TO THE CODE

1.03 A reference in this Chapter to a standard or code is a reference to the standard or code as adopted by the Chapter of the Construction Code that refers to it.

1.04 (Publisher's note: Amendment made by Quebec to the Table of Contents of the National Building Code of Canada 2005 are incorporated in the Code reproduced in Division II of Volume 1.)

1.05 (Publisher's note: Amendments No. 1 to 5 made by Quebec to Division A of Volume 1 of the National Building Code of Canada 2005 are incorporated in the Code reproduced in Division II of Volume 1.)

1.06 (Publisher's note: Amendments No. 1 to 122 made by Quebec to Division B of Volume 1 of the National Building Code of Canada 2005 are incorporated in the Code reproduced in Division II of Volume 1.)

1.07 (Publisher's note: Amendments No. 1 to 8 made by Quebec to Division C of Volume 1 of the National Building Code of Canada 2005 are incorporated in the Code reproduced in Division II of Volume 1.)

1.08 (Publisher's note: Amendments No. 1 and 2 made by Quebec to Division A of Volume 2 of the National Building Code of Canada 2005 are incorporated in the Code reproduced in Division II of Volume 2.)

1.09 (Publisher's note: Amendments No. 1 to 20 made by Quebec to Division B of Volume 2 of the National Building Code of Canada 2005 are incorporated in the Code reproduced in Division II of Volume 2.)

1.10 (Publisher's note: Amendments made by Quebec to Division C of Volume 2 of the National Building Code of Canada 2005 are incorporated in the Code reproduced in Division II of Volume 2.)

DIVISION IV

OFFENCE PROVISION

1.11 Every contravention against a provision of this Chapter constitutes an offence.

DIVISION V

TRANSITIONAL AND FINAL

2. Notwithstanding section 1.02, the provisions of Chapter I of the Construction Code made by Order in Council 953-2000 dated 26 July 2000 may be applied to the construction of a building or its alteration, as defined in that Chapter, provided that

(a) the preliminary plans and specifications received written confirmation of compliance with the program established before 15 August 2008 under section 25 of the Regulation respecting building construction by establishments, regional councils and the Corporation d'hébergement du Québec, approved by Conseil du trésor Decision 148183 dated 10 January 1984, or

(b) the plans and specifications are submitted to a municipality for the purpose of obtaining the building permit before 13 November 2008.

The work, however, must begin before 17 November 2009.

3. This Regulation comes into force on 17 May 2008.

The Regulation on Energy Efficiency, Order in Council 858-2012, comes into force on 30 August 2012.

Despite the foregoing, the provisions of the Regulation respecting energy conservation in new buildings (c. E-1.1, r. 1) may be applied to the construction and enlargement of a *building* having a *building area* not more than 600 m^2, a *building height* not more than 3 *storeys* and whose *major occupancy* is Group C and housing only *dwelling units*, on the following conditions:

(a) the plans and specifications are filed with a municipality for the purpose of obtaining a construction permit before 30 August 2012, and

(b) work begins before 28 November 2012.

REVISIONS

Published by NRC in collaboration with the Régie du bâtiment du Québec

The table that follows identifies revisions that apply to the Quebec Construction Code, Chapter I – Building, and National Building Code of Canada 2005 (amended) (the Code).

The revisions have been approved by the Régie du bâtiment du Québec and are subject to the Regulation on Energy Efficiency (Order in Council 858-2012) that came into force on August 30, 2012. They are included in the table of revisions and are indicated in the Code with heavy vertical lines in the margin.

REVISIONS

Revisions — Quebec Construction Code, Chapter I – Building, and National Building Code of Canada 2005 (amended)

Provision	Revision	Date of Issue
DIVISION I		
Section I, Volume 1		
1.01	Article 1.01 was amended.	Nov. 30, 2012
Section II, Volume 1		
1.02	Article 1.02 was amended.	Nov. 30, 2012
1.021	Paragraph 1.021 was added.	Nov. 30, 2012
1.022	Paragraph 1.022 was added.	Nov. 30, 2012
Section III, Volume 1		
1.06	Article 1.06 was amended.	Nov. 30, 2012
Section V, Volume 1		
3	Article 3 was amended.	Nov. 30, 2012
DIVISION II		
Division A, Volume 1		
1.3.3.1.	Title was amended to read "Application of Parts 1, 7, 8, 10 and 11."	Nov. 30, 2012
	Last part of Sentence (2) was changed to read "…in accordance with section 1.02 of Division I."	
	The following Sentence was added after Sentence (2): **3)** Part 11 of Division B on energy efficiency applies to the construction and addition 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 m^2, (b) having a *building height* of not more than 3 *storeys*, and	

Provision	Revision	Date of Issue
	(c) having a Group C *major occupancy* and housing only *dwelling units*.	
1.4.1.1.(3)	Last part of Sentence was changed to read "…stated in Parts 3 to 11 of Division B."	Nov. 30, 2012
1.4.1.2.	The following terms and their definitions were added: *Effective thermal resistance (RSI_E value)* *Overall thermal transmittance (U-value)* *Thermal bridge* *Thermal resistance (RSI value)* *Total thermal resistance (RSI_T value)*	Nov. 30, 2012
2.1.1.2.(1)(a)	Clause 2.1.1.2.(1)(a) was replaced with the following: (a) to all *buildings* covered in this Code except those that are intended to meet the requirements of Part 11 for the purposes of that Part only (see Article 1.1.1.1.), and	Nov. 30, 2012
3.1.1.2.(1)(a)	Clause 3.1.1.2.(1)(a) was replaced with the following: (a) to all *buildings* covered in this Code except those that are intended to meet the requirements of Part 11 for the purposes of that Part only (see Article 1.1.1.1.), and	Nov. 30, 2012
Division B, Volume 1		
1.2.1.1.(3)	Last part of Sentence was changed to read "…stated in Parts 3 to 11."	Nov. 30, 2012
Table 1.3.1.2.	The following entry was added: ANSI/AHRI 1060-2011, Performance Rating of Air-to-Air Exchangers for Energy Recovery Ventilation Equipment, 6.2.2.8.(7)	Nov. 30, 2012
	The Code reference 9.7.2.1.(2) was deleted from the entry for CAN/CSA-A440-00. The Code reference 11.2.2.4.(2) was added to the entry for CAN/CSA-A440-00.	
	The following entry was added after CSA CAN/CSA-A440.1-00: CSA CAN/CSA-A440.2-09/A440.3-09, Fenestration Energy Performance/User Guide to CSA A-440.2-09, Fenestration Energy Performance, 11.2.2.4.(1)	
	Standard designation was corrected to read "CSA CAN/CSA-C439-09," and the following references were added: 6.2.2.8.(7) and 9.32.3.3.(2).	
1.3.2.1.	The following was added to the list of organizations: AHRI…..Air-Conditioning, Heating and Refrigeration Institute (2111 Wilson Boulevard, Suite 500, Arlington, Virginia 22201, U.S.A.; www.ahrinet.org)	Nov. 30, 2012
6.2.2.8.(7)	At the end of Clause 6.2.2.8.(7)(b), the period was replaced with a comma, followed by "and"	Nov. 30, 2012
	The following Clause was added after Clause 6.2.2.8.(7)(b): (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* only, a ventilator that is a heat recovery ventilator (HRV) i) having sensible heat recovery efficiency certified by AHRI according to ANSI/AHRI-1060, "Rating Air-to-Air Heat Exchangers for Energy	

Provision	Revision	Date of Issue
	Recovery Ventilation Equipment," or by HVI according to CAN/CSA-C439, "Rating the Performance of Heat/Energy-Recovery Ventilators," ii) having sensible heat recovery efficiency of at least 54% for a *building* located in a municipality whose number of degree-days below 18°C is less than 6000 and of 60% for a *building* located in another municipality, iii) having sensible heat recovery efficiency determined at a dry temperature of 1.7°C for *appliances* certified by AHRI, or -25°C for *appliances* certified by HVI (see Appendix A), and iv) whose operating and de-icing cycles do not generate air circulation between the *dwelling units*.	
9.7.2.1.	At the beginning of Sentence 9.7.2.1.(1), "Except as provided in Sentence (2)," was deleted.	Nov. 30, 2012
	Sentence 9.7.2.1.(2) was deleted.	
9.32.3.3.(2)	Sentence 9.32.3.3.(2) was divided in two Clauses and a Clause (b) was added, as follows: b) include, in *buildings* whose *major occupancy* is Group C, housing *dwelling units* only, a heat recovery ventilator (HRV) i) having sensible heat recovery efficiency certified by HVI according to CAN/CSA-C439, "Rating the Performance of Heat/Energy-Recovery Ventilators," and ii) having sensible heat recovery efficiency of at least 54% for a *building* located in a municipality whose number of degree-days below 18°C is less than 6000 and of 60% for a *building* located in another municipality and determined at a dry temperature of -25°C. (See A-6.2.2.8.(7)(c)(iii) in Appendix A.)	Nov. 30, 2012
Part 11	Part 11, "Energy Efficiency," was added.	Nov. 30, 2012
Division C, Volume 1		
1.2.1.1.(3)	Last part of Sentence was changed to read "…stated in Parts 3 to 11 of Division B."	Nov. 30, 2012
Division A, Appendix A, Volume 2		
A-1.3.3.1.(3)	The following Appendix Note was added after 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 only. Part 11 also applies to the addition work of existing buildings to the extent where the building area, after the addition work, is not more than 600 m², the building height is not more than 3 storeys and the building houses dwelling units 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 renovation of existing buildings.	Nov. 30, 2012

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Division B, Appendix A, Volume 2		
Table A-1.3.1.2.(1)	The following entry was added after ANSI/ASHRAE 62.1-2004: ASHRAE 140-2007, Test for the Evaluation of Building Energy Analysis Computer Programs, A-11.2.2.1.(3)	Nov. 30, 2012
	The following entry was added after CAN/CGSB-93.2 M91: CAN/CGSB-149.10-M86, Determination of the Airtightness of Building Envelopes by the Fan Depressurization Method, A-11.2.1.2.(6)	
A-6.2.2.8.(7)(c)(iii)	The following Appendix Note was added after A-6.2.2.7.(1): **A-6.2.2.8.(7)(c)(iii) Heat Recovery Ventilation.** For the purpose of Part 11, sensible heat recovery efficiency from the heat recovery ventilator (HRV) must be determined with a flow rate equal to or greater than the expected flow rate for the normal operation at low speed of the HRV.	Nov. 30, 2012
	The following Appendix Notes pertaining to Part 11 were added:	Nov. 30, 2012
A-11.2.1.1.(1)	A-11.2.1.1.(1) Exemptions.	
A-11.2.1.2.(6)	A-11.2.1.2.(6) Air Barrier Systems.	
A-11.2.1.2.(8)	A-11.2.1.2.(8) Ventilation Requirements.	
A-11.2.2.1.(1)	A-11.2.2.1.(1) Building Components.	
A-11.2.2.1.(3)	A-11.2.2.1.(3) Performance Benchmark by Comparison of the Annual Energy Consumption.	
A-11.2.2.1.(4)	A-11.2.2.1.(4) Thermal Resistance of Garages.	
A-11.2.2.4.(1)	A-11.2.2.4.(1) Windows.	
A-11.2.2.4.(3)	A-11.2.2.4.(3) Rough Openings.	
A-11.2.3.1.	A-11.2.3.1. Thermal Bridges.	
A-11.2.3.1.(1)(b)	A-11.2.3.1.(1)(b) Thermal Bridge of Metal Frame Walls.	
A-11.2.3.1.(3)	A-11.2.3.1.(3) Thermal Bridge in a Wall Between Two Heated Spaces.	

Part 1
Compliance

Section 1.1. General

1.1.1. Application of this Code

1.1.1.1. Application of this Code

1) The NBC applies to the construction work performed on every *building* and facility intended for use by the public as provided in section 1.02 of Chapter I of the Construction Code made pursuant to the Building Act (R.S.Q., c. B-1.1). (See Appendix A.)

Section 1.2. Compliance

1.2.1. Compliance with this Code

1.2.1.1. Compliance with this Code

1) Compliance with this Code shall be achieved by
a) complying with the applicable acceptable solutions in Division B (see Appendix A), or
b) using alternative solutions that will achieve at least the minimum level of performance required by Division B in the areas defined by the objectives and functional statements attributed to the applicable acceptable solutions approved by the Régie (see Appendix A).

2) For the purposes of compliance with this Code as required in Clause 1.2.1.1.(1)(b), the objectives and functional statements attributed to the acceptable solutions in Division B shall be the objectives and functional statements referred to in Subsection 1.1.2. of Division B.

1.2.2. Materials, Appliances, Systems and Equipment

1.2.2.1. Characteristics of Materials, Appliances, Systems and Equipment

1) All materials, *appliances*, systems and equipment installed to meet the requirements of this Code shall possess the necessary characteristics to perform their intended functions when installed in a *building*.

1.2.2.2. Storage on the Building Site

1) All *building* materials, *appliances* and equipment on the *building* site shall be stored in such a way as to prevent the deterioration or impairment of their essential properties.

1.2.2.3. Used Materials, Appliances and Equipment

1) Unless otherwise specified, used materials, *appliances* and equipment are permitted to be reused when they meet the requirements of this Code for new materials and are satisfactory for the intended use.

1.2.2.4. Lightning Protection

1) Every lightning protection system shall comply with CAN/CSA-B72-M, "Installation Code for Lightning Protection Systems."

Section 1.3. Divisions A, B and C of this Code

1.3.1. General

1.3.1.1. Scope of Division A

1) Division A contains the compliance and application provisions, objectives and functional statements of this Code.

1.3.1.2. Scope of Division B

1) Division B contains the acceptable solutions of this Code.

1.3.1.3. Scope of Division C

1) Division C contains the administrative provisions of this Code.

1.3.1.4. Internal Cross-references

1) Where the Division of a referenced provision is not specified in this Code, it shall mean that the referenced provision is in the same Division as the referencing provision.

1.3.2. Application of Division A

1.3.2.1. Application of Parts 1, 2 and 3

1) Parts 1, 2 and 3 of Division A apply to all *buildings* covered in this Code. (See Article 1.1.1.1.)

1.3.3. Application of Division B

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 in this Code. (See Article 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 Division I.

3) Part 11 of Division B on energy efficiency applies to the construction and addition 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 m^2,
b) having a *building height* of not more than 3 *storeys*, and
c) having a Group C *major occupancy* and housing only *dwelling units*.

1.3.3.2. Application of Parts 3, 4, 5 and 6

1) Parts 3, 4, 5, and 6 of Division B apply to all *buildings* described in Article 1.1.1.1. and

a) classified as *post-disaster buildings*,

b) used for *major occupancies* classified as
   i) Group A, *assembly occupancies*,
   ii) Group B, *care or detention occupancies*, or
   iii) Group F, Division 1, *high-hazard industrial occupancies*, or
c) exceeding 600 m² in *building area* or exceeding 3 *storeys* in *building height* used for *major occupancies* classified as
   i) Group C, *residential occupancies*,
   ii) Group D, *business and personal services occupancies*,
   iii) Group E, *mercantile occupancies*, or
   iv) Group F, Divisions 2 and 3, *medium-* and *low-hazard industrial occupancies*.

1.3.3.3. Application of Part 9

1) Part 9 of Division B applies to all *buildings* described in Article 1.1.1.1. of 3 *storeys* or less in *building height*, having a *building area* not exceeding 600 m², and used for *major occupancies* classified as
a) Group C, *residential occupancies* (see Appendix Note A-9.1.1.1.(1) of Division B),
b) Group D, *business and personal services occupancies*,
c) Group E, *mercantile occupancies*, or
d) Group F, Divisions 2 and 3, *medium-* and *low-hazard industrial occupancies*.

1.3.3.4. Building Size Determination

1) Where a *firewall* divides a *building*, each portion of the *building* so divided shall be considered as a separate *building*, except when this requirement is specifically modified in other parts of this Code. (See Appendix A.)

2) Except as permitted in Sentence (3), where portions of a *building* are completely separated by a vertical *fire separation* that has a *fire-resistance rating* of not less than 1 h and extends through all *storeys* and *service spaces* of the separated portions, each separated portion is permitted to be considered as a separate *building* for the purpose of determining *building height*, provided
a) each separated portion is not more than 3 *storeys* in *building height* and is used only for *residential occupancies*, and
b) the unobstructed path of travel for a firefighter from the nearest *street* to one entrance of each separated portion is not more than 45 m.

(See Appendix A.)

3) The vertical *fire separation* referred to in Sentence (2) may terminate at the floor assembly immediately above a *basement* provided the *basement* conforms to Article 3.2.1.2. of Division B.

1.3.4. Application of Division C

1.3.4.1. Application of Parts 1 and 2

1) Parts 1 and 2 of Division C apply to all *buildings* covered in this Code. (See Article 1.1.1.1.)

Section 1.4. Terms and Abbreviations

1.4.1. Definitions of Words and Phrases

1.4.1.1. Non-defined Terms

1) Words and phrases used in this Code that are not included in the list of definitions in Article 1.4.1.2. shall have the meanings that are commonly assigned to them in the context in which they are used, taking into account the specialized use of terms by the various trades and professions to which the terminology applies.

2) Where objectives and functional statements are referred to in this Code, they shall be the objectives and functional statements described in Parts 2 and 3.

3) Where acceptable solutions are referred to in this Code, they shall be the provisions stated in Parts 3 to 11 of Division B.

4) Where alternative solutions are referred to in this Code, they shall be the alternative solutions mentioned in Clause 1.2.1.1.(1)(b).

1.4.1.2. Defined Terms

1) The words and terms in italics in this Code have the following meanings:

Access to exit means that part of a *means of egress* within a *floor area* that provides access to an *exit* serving the *floor area*.

Adfreezing means the adhesion of *soil* to a *foundation unit* resulting from the freezing of *soil* water. (Also referred to as "frost grip.")

Air barrier system means the assembly installed to provide a continuous barrier to the movement of air.

Air-supported structure means a structure consisting of a pliable membrane which achieves and maintains its shape and support by internal air pressure.

Alarm signal means an audible signal transmitted throughout a zone or zones or throughout a *building* to advise occupants that a fire emergency exists.

Alert signal means an audible signal to advise designated persons of a fire emergency.

Alteration means a change or extension to any matter or thing or to any *occupancy* regulated by this Code. (See Appendix A.)

Appliance means a device to convert fuel into energy and includes all components, controls, wiring and piping required to be part of the device by the applicable standard referred to in this Code.

Artesian groundwater means a confined body of water under pressure in the ground.

Assembly occupancy means the *occupancy* or the use of a *building*, or part thereof, by a gathering of persons for civic, political, travel, religious, social, educational, recreational or like purposes, or for the consumption of food or drink.

Attic or roof space means the space between the roof and the ceiling of the top *storey* or between a dwarf wall and a sloping roof.

Authority having jurisdiction means the Régie du bâtiment du Québec.

Barrier-free means that a *building* and its facilities can be approached, entered, and used by persons with physical or sensory disabilities.

Basement means a *storey* or *storeys* of a *building* located below the *first storey*.

Bearing surface means the contact surface between a *foundation unit* and the *soil* or *rock* upon which it bears.

Boiler means an appliance, other than a direct-fired *service water heater*, for heating a liquid or transforming it into steam.

Breeching means a *flue pipe* or chamber for receiving *flue* gases from one or more *flue* connections and for discharging these gases through a single *flue* connection.

Building means any structure used or intended for supporting or sheltering any use or *occupancy*.

Building area means the greatest horizontal area of a *building* above *grade* within the outside surface of exterior walls or within the outside surface of exterior walls and the centre line of *firewalls*.

Building height (in *storeys*) means the number of *storeys* contained between the roof and the floor of the *first storey*.

Business and personal services occupancy means the *occupancy* or use of a *building* or part thereof for the transaction of business or the rendering or receiving of professional or personal services.

Caisson (see *Pile*).

Care or detention occupancy means the *occupancy* or use of a *building* or part thereof by persons who require special care or treatment because of cognitive or physical limitations or by persons who are restrained from, or are incapable of, self-preservation because of security measures not under their control.

Cavity wall means a construction of masonry units laid with a cavity between the wythes. The wythes are tied together with metal ties or bonding units, and are relied on to act together in resisting lateral loads.

Chimney means a primarily vertical shaft enclosing at least one *flue* for conducting *flue* gases to the outdoors.

Chimney liner means a conduit containing a *chimney flue* used as a lining of a *masonry or concrete chimney*.

Closure means a device or assembly for closing an opening through a *fire separation* or an exterior wall, such as a door, a shutter, wired glass or glass block, and includes all components such as hardware, closing devices, frames and anchors.

Combustible means that a material fails to meet the acceptance criteria of CAN/ULC-S114, "Test for Determination of Non-Combustibility in Building Materials."

Combustible construction means that type of construction that does not meet the requirements for *noncombustible construction*.

Combustible liquid means a liquid having a *flash point* at or above 37.8°C and below 93.3°C.

Conditioned space means any space within a *building* the temperature of which is controlled to limit variation in response to the exterior ambient temperature by the provision, either directly or indirectly, of heating or cooling over substantial portions of the year.

Contained use area means a supervised area containing one or more rooms in which occupant movement is restricted to a single room by security measures not under the control of the occupant.

Dead load means the weight of all permanent structural and non-structural components of a *building*.

Deep foundation means a *foundation unit* that provides support for a *building* by transferring loads either by end-bearing to *soil* or *rock* at considerable depth below the *building*, or by adhesion or friction, or both, in the *soil* or *rock* in which it is placed. *Piles* are the most common type of *deep foundation*.

Designer means the person responsible for the design.

Direct-vented (as applying to a fuel-fired space- or water-heating *appliance*) means an *appliance* and its venting system in which all the combustion air is supplied directly from the outdoors and the products of combustion are vented directly to the outdoors via independent, totally enclosed passageways connected directly to the *appliance*.

Dwelling unit means a *suite* operated as a housekeeping unit, used or intended to be used as a domicile by one or more persons and usually containing cooking, eating, living, sleeping and sanitary facilities.

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

Excavation means the space created by the removal of *soil*, *rock* or *fill* for the purposes of construction.

Exhaust duct means a duct through which air is conveyed from a room or space to the outdoors.

Exit means that part of a *means of egress*, including doorways, that leads from the *floor area* it serves to a separate *building*, an open public thoroughfare, or an exterior open

space protected from fire exposure from the *building* and having access to an open public thoroughfare. (See Appendix A.)

Exit level means the level of an *exit* stairway at which an exterior *exit* door or *exit* passageway leads to the exterior.

Exit storey (as applying to Subsection 3.2.6. of Division B) means a *storey* having an exterior *exit* door.

Exposing building face means that part of the exterior wall of a *building* that faces one direction and is located between ground level and the ceiling of its top *storey* or, where a *building* is divided into *fire compartments*, the exterior wall of a *fire compartment* that faces one direction.

Factory-built chimney means a *chimney* consisting entirely of factory-made parts, each designed to be assembled with the other without requiring fabrication on site.

Farm building means a *building* or part thereof that does not contain a *residential occupancy* and that is associated with and located on land devoted to the practice of farming, and used essentially for the housing of equipment or livestock, or the production, storage or processing of agricultural and horticultural produce or feeds. (See Appendix A.)

Fill means *soil*, *rock*, rubble, industrial waste such as slag, organic material or a combination of these that is transported and placed on the natural surface of *soil* or *rock* or organic terrain. It may or may not be compacted.

Fire compartment means an enclosed space in a *building* that is separated from all other parts of the *building* by enclosing construction providing a *fire separation* having a required *fire-resistance rating*.

Fire damper means a *closure* consisting of a damper that is installed in an air distribution system or a wall or floor assembly and that is normally held open but designed to close automatically in the event of a fire in order to maintain the integrity of the *fire separation*.

Fire detector means a device that detects a fire condition and automatically initiates an electrical signal to actuate an *alert signal* or *alarm signal* and includes *heat detectors* and *smoke detectors*.

Fire load (as applying to an *occupancy*) means the *combustible* contents of a room or *floor area* expressed in terms of the average weight of *combustible* materials per unit area, from which the potential heat liberation may be calculated based on the calorific value of the materials, and includes the furnishings, finished floor, wall and ceiling finishes, trim and temporary and movable *partitions*.

Fire-protection rating means the time in minutes or hours that a *closure* will withstand the passage of flame when exposed to fire under specified conditions of test and performance criteria, or as otherwise prescribed in this Code.

Fire-resistance rating means the time in minutes or hours that a material or assembly of materials will withstand the passage of flame and the transmission of heat when exposed to fire under specified conditions of test and performance criteria, or as determined by extension or interpretation of information derived therefrom as prescribed in this Code. (See Appendix Note D-1.2.1.(2) of Division B.)

Fire-retardant-treated wood means wood or a wood product that has had its surface-burning characteristics, such as flame spread, rate of fuel contribution and density of smoke developed, reduced by impregnation with fire-retardant chemicals.

Fire separation means a construction assembly that acts as a barrier against the spread of fire. (See Appendix A.)

Fire stop flap means a device intended for use in horizontal assemblies required to have a *fire-resistance rating* and incorporating protective ceiling membranes, which operates to close off a duct opening through the membrane in the event of a fire.

Firewall means a type of *fire separation* of *noncombustible construction* that subdivides a *building* or separates adjoining *buildings* to resist the spread of fire and that has a *fire-resistance rating* as prescribed in this Code and has structural stability to remain intact under fire conditions for the required fire-rated time.

First storey means the uppermost *storey* having its floor level not more than 2 m above *grade*.

Flame-spread rating means an index or classification indicating the extent of spread-of-flame on the surface of a material or an assembly of materials as determined in a standard fire test as prescribed in this Code.

Flammable liquid means a liquid having a *flash point* below 37.8°C and having a vapour pressure not more than 275.8 kPa (absolute) at 37.8°C as determined by ASTM D 323, "Vapor Pressure of Petroleum Products (Reid Method)."

Flash point means the minimum temperature at which a liquid within a container gives off vapour in sufficient concentration to form an ignitable mixture with air near the surface of the liquid.

Floor area means the space on any *storey* of a *building* between exterior walls and required *firewalls*, including the space occupied by interior walls and *partitions*, but not including *exits*, *vertical service spaces*, and their enclosing assemblies.

Flue means an enclosed passageway for conveying *flue* gases.

Flue collar means the portion of a fuel-fired *appliance* designed for the attachment of the *flue pipe* or *breeching*.

Flue pipe means the pipe connecting the *flue collar* of an *appliance* to a *chimney*.

Forced-air furnace means a *furnace* equipped with a fan that provides the primary means for the circulation of air.

Foundation means a system or arrangement of *foundation units* through which the loads from a *building* are transferred to supporting *soil* or *rock*.

Foundation unit means one of the structural members of the *foundation* of a *building* such as a footing, raft or *pile*.

Frost action means the phenomenon that occurs when water in *soil* is subjected to freezing which, because of the water/ice phase change or ice lens growth, results in a total volume increase or the build-up of expansive forces under confined conditions or both, and the subsequent thawing that leads to loss of *soil* strength and increased compressibility.

Furnace means a *space-heating appliance* using warm air as the heating medium and usually having provision for the attachment of ducts.

Gas vent means that portion of a venting system designed to convey vent gases to the outdoors from the *vent connector* of a gas-fired *appliance* or directly from the *appliance* when a *vent connector* is not used.

Grade (as applying to the determination of *building height*) means the lowest of the average levels of finished ground when these levels are measured along each exterior wall of a *building*, within 3 m from the wall, based on surveys that include any differences in level other than those providing access to the entrance door of the *building* for vehicles or pedestrians. (See *First storey*.)

Groundwater means a free standing body of water in the ground.

Groundwater level (groundwater table) means the top surface of a free standing body of water in the ground.

Guard means a protective barrier around openings in floors or at the open sides of stairs, landings, balconies, *mezzanines*, galleries, raised *walkways* or other locations to prevent accidental falls from one level to another. Such a barrier may or may not have openings through it.

Heat detector means a *fire detector* designed to operate at a predetermined temperature or rate of temperature rise.

Heavy timber construction means that type of *combustible construction* in which a degree of fire safety is attained by placing limitations on the sizes of wood structural members and on the thickness and composition of wood floors and roofs and by the avoidance of concealed spaces under floors and roofs.

High-hazard industrial occupancy (Group F, Division 1) means an *industrial occupancy* containing sufficient quantities of highly *combustible* and flammable or explosive

materials which, because of their inherent characteristics, constitute a special fire hazard.

Horizontal exit means an *exit* from one *building* to another by means of a doorway, vestibule, *walkway*, bridge or balcony.

Horizontal service space means a space such as an attic, duct, ceiling, roof or crawl space oriented essentially in a horizontal plane, concealed and generally inaccessible, through which *building* service facilities such as pipes, ducts and wiring may pass.

Impeded egress zone means a supervised area in which occupants have free movement but require the release, by security personnel, of security doors at the boundary before they are able to leave the area, but does not include a *contained use area*.

Indirect service water heater means a *service water heater* that derives its heat from a heating medium such as warm air, steam or hot water.

Industrial occupancy means the *occupancy* or use of a *building* or part thereof for the assembling, fabricating, manufacturing, processing, repairing or storing of goods and materials.

Interconnected floor space means superimposed *floor areas* or parts of *floor areas* in which floor assemblies that are required to be *fire separations* are penetrated by openings that are not provided with *closures*.

Limiting distance means the distance from an *exposing building face* to a property line, the centre line of a *street*, lane or public thoroughfare, or to an imaginary line between 2 *buildings* or *fire compartments* on the same property, measured at right angles to the *exposing building face*.

Live load means a variable load due to the intended use and *occupancy* that is to be assumed in the design of the structural members of a *building*. It includes loads due to cranes and the pressure of liquids in containers.

Loadbearing (as applying to a *building* element) means subjected to or designed to carry loads in addition to its own *dead load*, excepting a wall element subjected only to wind or earthquake loads in addition to its own *dead load*.

Low-hazard industrial occupancy (Group F, Division 3) means an *industrial occupancy* in which the *combustible* content is not more than 50 kg/m^2 or 1 200 MJ/m^2 of *floor area*.

Major occupancy means the principal *occupancy* for which a *building* or part thereof is used or intended to be used, and shall be deemed to include the subsidiary *occupancies* that are an integral part of the principal *occupancy*. The *major occupancy* classifications used in this Code are as follows:

- A1 – *Assembly occupancies* intended for the production and viewing of the performing arts
- A2 – *Assembly occupancies* not elsewhere classified in Group A
- A3 – *Assembly occupancies* of the arena type
- A4 – *Assembly occupancies* in which the occupants are gathered in the open air
- B1 – *Care or detention occupancies* in which persons are under restraint or are incapable of self-preservation because of security measures not under their control
- B2 – *Care or detention occupancies* in which persons having cognitive or physical limitations require special care or treatment
- C – *Residential occupancies*
- D – *Business and personal services occupancies*
- E – *Mercantile occupancies*
- F1 – *High-hazard industrial occupancies*
- F2 – *Medium-hazard industrial occupancies*
- F3 – *Low-hazard industrial occupancies*

Masonry or concrete chimney means a *chimney* of brick, stone, concrete or masonry units constructed on site.

Means of egress means a continuous path of travel provided for the escape of persons from any point in a *building* or contained open space to a separate *building*, an open public thoroughfare, or an exterior open space protected from fire exposure from the *building* and having access to an open public thoroughfare. *Means of egress* includes *exits* and *access to exits*.

Mechanically vented (as applying to a fuel-fired space- or water-heating *appliance*) means an *appliance* and its venting system in which the products of combustion are entirely exhausted to the outdoors by a mechanical device, such as a fan, blower or aspirator, upstream or downstream from the combustion zone of the *appliance*, via independent, totally enclosed passageways connected directly to the *appliance*. (See Appendix A.)

Medium-hazard industrial occupancy (Group F, Division 2) means an *industrial occupancy* in which the *combustible* content is more than 50 kg/m^2 or 1 200 MJ/m^2 of *floor area* and not classified as a *high-hazard industrial occupancy*.

Mercantile occupancy means the *occupancy* or use of a *building* or part thereof for the displaying or selling of retail goods, wares or merchandise.

Mezzanine means an intermediate floor assembly between the floor and ceiling of any room or *storey* and includes an interior balcony.

Noncombustible means that a material meets the acceptance criteria of CAN/ULC-S114, "Test for Determination of Non-Combustibility in Building Materials."

Noncombustible construction means that type of construction in which a degree of fire safety is attained by the use of *noncombustible* materials for structural members and other *building* assemblies.

Occupancy means the use or intended use of a *building* or part thereof.

Occupant load means the number of persons for which a *building* or part thereof is designed.

Open air storey means a *storey* in which at least 25% of the total area of its perimeter walls is open to the outdoors in a manner that will provide cross-ventilation to the entire *storey*.

Overall thermal transmittance (U-value) means the rate at which heat is transferred through a *building* assembly that is subject to a temperature difference. It represents the amount of heat transferred through a unit area in a unit of time induced under steady-state conditions by a unit temperature difference between the environments on its two faces. The U-value reflects the capacity of all elements to transfer heat through the thickness of the assembly, as well as, for instance, through air films on both faces for above-ground components.

Partition means an interior wall 1 *storey* or part-*storey* in height that is not *loadbearing*.

Party wall means a wall jointly owned and jointly used by 2 parties under easement agreement or by right in law, and erected at or upon a line separating 2 parcels of land each of which is, or is capable of being, a separate real-estate entity.

Perched groundwater means a free standing body of water in the ground extending to a limited depth.

Pile means a slender *deep foundation unit* made of materials such as wood, steel or concrete or a combination thereof, that is either premanufactured and placed by driving, jacking, jetting or screwing, or cast-in-place in a hole formed by driving, excavating or boring. (Cast-in-place bored *piles* are often referred to as *caissons* in Canada.)

Plenum means a chamber forming part of an air duct system.

Plumbing system means a drainage system, a venting system and a water system or parts thereof.

Post-disaster building means a *building* that is essential to the provision of services in the event of a disaster, and includes

- hospitals, emergency treatment facilities and blood banks,
- telephone exchanges,
- power generating stations and electrical substations,

- control centres for air, land and marine transportation,
- public water treatment and storage facilities, and pumping stations,
- sewage treatment facilities and *buildings* having critical national defence functions, and
- *buildings* of the following types, unless exempted from this designation by the *authority having jurisdiction*:
  - emergency response facilities,
  - fire, rescue and police stations and housing for vehicles, aircraft or boats used for such purposes, and
  - communications facilities, including radio and television stations.

(See Appendix A.)

Private sewage disposal system means a privately owned plant for the treatment and disposal of sewage (such as a septic tank with an absorption field).

Protected floor space means that part of a *floor area* protected from the effects of fire and used as part of a *means of egress* from an *interconnected floor space*.

Public corridor means a corridor that provides *access to exit* from more than one *suite*. (See Appendix A.)

Public way means a sidewalk, *street*, highway, square or other open space to which the public has access, as of right or by invitation, expressed or implied.

Range means a cooking *appliance* equipped with a cooking surface and one or more ovens.

Repair garage means a *building* or part thereof where facilities are provided for the repair or servicing of motor vehicles.

Residential board and care occupancy means a *care or detention occupancy* classified as Group B, Division 2, other than a hospital, an infirmary, a rehabilitation centre or a nursing home that lodges persons requiring personal-support services and needing assistance for their evacuation. (See Appendix A.)

Residential occupancy means the *occupancy* or use of a *building* or part thereof by persons for whom sleeping accommodation is provided but who are not harboured or detained to receive medical care or treatment or are not involuntarily detained.

Return duct means a duct for conveying air from a space being heated, ventilated or air-conditioned back to the heating, ventilating or air-conditioning *appliance*.

Rock means that portion of the earth's crust that is consolidated, coherent and relatively hard and is a naturally formed, solidly bonded, mass of mineral matter that cannot readily be broken by hand.

Sanitary drainage system means a drainage system that conducts sewage.

Service room means a room provided in a *building* to contain equipment associated with *building* services. (See Appendix A.)

Service space means space provided in a *building* to facilitate or conceal the installation of *building* service facilities such as chutes, ducts, pipes, shafts or wires.

Service water heater means a device for heating water for plumbing services.

Shallow foundation means a *foundation unit* that derives its support from *soil* or *rock* located close to the lowest part of the *building* that it supports.

Smoke alarm means a combined *smoke detector* and audible alarm device designed to sound an alarm within the room or *suite* in which it is located upon the detection of smoke within that room or *suite*.

Smoke detector means a *fire detector* designed to operate when the concentration of airborne combustion products exceeds a predetermined level.

Soil means that portion of the earth's crust that is fragmentary, or such that some individual particles of a dried sample may be readily separated by agitation in water; it includes boulders, cobbles, gravel, sand, silt, clay and organic matter.

Space heater means a *space-heating appliance* for heating the room or space within which it is located, without the use of ducts.

Space-heating appliance means an *appliance* intended for the supplying of heat to a room or space directly, such as a *space heater*, fireplace or *unit heater*, or to rooms or spaces of a *building* through a heating system such as a central *furnace* or *boiler*.

Sprinklered (as applying to a *building* or part thereof) means that the *building* or part thereof is equipped with a system of automatic sprinklers.

Stage means a space that is designed primarily for public performances with provision for quick change scenery and overhead lighting, including environmental control for a wide range of lighting and sound effects and that is traditionally, but not necessarily, separated from the audience by a proscenium wall and curtain opening.

Storage garage means a *building* or part thereof intended for the storage or parking of motor vehicles and containing no provision for the repair or servicing of such vehicles. (See Appendix A.)

Storage-type service water heater means a *service water heater* with an integral hot water storage tank.

Storey means that portion of a *building* that is situated between the top of any floor and the top of the floor next above it, and if there is no floor above it, that portion between the top of such floor and the ceiling above it.

Stove means an *appliance* intended for cooking and space heating.

Street means any highway, road, boulevard, square or other improved thoroughfare 9 m or more in width, that has been dedicated or deeded for public use and is accessible to fire department vehicles and equipment.

Subsurface investigation means the appraisal of the general subsurface conditions at a *building* site by analysis of information gained by such methods as geological surveys, in situ testing, sampling, visual inspection, laboratory testing of samples of the subsurface materials and *groundwater* observations and measurements.

Suite means a single room or series of rooms of complementary use, operated under a single tenancy, and includes *dwelling units*, individual guest rooms in motels, hotels, rooming houses and boarding houses, dormitories, single-family dwellings as well as individual stores and individual or complementary rooms for *business and personal services occupancies*. (See Appendix A.)

Supply duct means a duct for conveying air from a heating, ventilating or air-conditioning *appliance* to a space to be heated, ventilated or air-conditioned.

Theatre means a place of assembly intended for public performances or the viewing of plays, operas, cinematographic works or other similar performances or viewing consisting of an auditorium with permanently fixed seats intended solely for a viewing audience.

Thermal bridge means a heat conductive member that results in a reduction of the *total thermal resistance* of a separation or as part of the *building* envelope.

Thermal resistance (RSI value) means the inverse of the *overall thermal transmittance*. (See Appendix A.)

Total thermal resistance (RSI_T 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. (See Appendix A.)

Unit heater means a suspended *space heater* with an integral air-circulating fan.

Unprotected opening (as applying to *exposing building face*) means a doorway, window or opening other than one equipped with a *closure* having the required *fire-protection rating*, or any part of a wall forming part of the *exposing building face* that has a *fire-resistance rating* less than that required for the *exposing building face*.

Unsafe condition means any condition that could cause undue hazard to the life, limb or health of any person authorized or expected to be on or about the premises.

Vapour barrier means the elements installed to control the diffusion of water vapour.

Vent connector (as applying to heating or cooling systems) means the part of a venting system that conducts the *flue* gases or vent gases from the *flue collar* of a gas *appliance* to the *chimney* or *gas vent*, and may include a draft control device.

Vertical service space means a shaft oriented essentially vertically that is provided in a *building* to facilitate the installation of *building* services including mechanical, electrical and plumbing installations and facilities such as elevators, refuse chutes and linen chutes.

Walkway means a covered or roofed pedestrian thoroughfare used to connect 2 or more *buildings*.

1.4.2. Symbols and Other Abbreviations

1.4.2.1. Symbols and Other Abbreviations

1) The symbols and other abbreviations in this Code shall have the meanings assigned to them in this Article and Article 1.3.2.1. of Division B.

1 in 2	slope of 1 vertical to 2 horizontal
cm	centimetre(s)
°	degree(s)
°C	degree(s) Celsius
dB(A)	A-weighted sound level
diam	diameter
g	gram(s)
ga	gauge
h	hour(s)
Hz	hertz
Inc.	Incorporated
J	joule(s)
kg	kilogram(s)
kN	kilonewton(s)
kPa	kilopascal(s)
kW	kilowatt(s)
L	litre(s)
lx	lux
m	metre(s)
M	metric nomenclature for reinforcing bars
max.	maximum
min.	minimum
min	minute(s)
MJ	megajoule(s)
mm	millimetre(s)
MPa	megapascal(s)
N	newton
n/a	not applicable
ng	nanogram(s)
No.	number(s)
nom.	nominal
o.c.	on centre
OSB	oriented strandboard

s ..... second(s)

temp. ..... temperature

T&G ..... tongue and groove

W ..... watt(s)

wt ..... weight

% ..... percent

Section 1.5. Referenced Documents and Organizations

1.5.1. Referenced Documents

1.5.1.1. Application of Referenced Documents

1) The provisions of documents referenced in this Code, and of any documents referenced within those documents, apply only to the extent that they relate to

a) *buildings*, and

b) the objectives and functional statements attributed to the applicable acceptable solutions in Division B where the documents are referenced.

(See Appendix A.)

1.5.1.2. Conflicting Requirements

1) In case of conflict between the provisions of this Code and those of a referenced document, the provisions of this Code shall govern.

1.5.1.3. Applicable Editions

1) Where documents are referenced in this Code, they shall be the editions designated in Subsection 1.3.1. of Division B.

1.5.2. Organizations

1.5.2.1. Abbreviations of Proper Names

1) The abbreviations of proper names in this Code shall have the meanings assigned to them in Article 1.3.2.1. of Division B.

Part 2
Objectives

Section 2.1. Application

2.1.1. Application

2.1.1.1. Application

1) This Part applies to all *buildings* covered in this Code. (See Article 1.1.1.1.)

2.1.1.2. Application of Objectives

1) Except as provided in Sentences (2) to (5), the objectives described in this Part apply
- a) to all *buildings* covered in this Code except those that are intended to meet the requirements of Part 11 for the purposes of that Part only (see Article 1.1.1.1.), and
- b) only to the extent that they relate to compliance with this Code as required in Article 1.2.1.1.

2) Objective OS4, Resistance to Unwanted Entry, applies only to *dwelling units* in *buildings* covered in Part 9 of Division B. (See Article 1.3.3.3.)

3) Objective OH3, Noise Protection, applies only to *dwelling units*.

4) Objective OH5, Hazardous Substances Containment, applies only to the extent defined in
- a) the National Plumbing Code of Canada 2005, and
- b) the National Fire Code of Canada 2005.

5) Objective OA, Accessibility (including Objectives OA1, Barrier-Free Path of Travel, and OA2, Barrier-Free Facilities), does not apply to
- a) houses, including semi-detached houses, duplexes, triplexes, townhouses, row houses and boarding houses,
- b) *buildings* of Group F, Division 1 *major occupancy*, and
- c) *buildings* that are not intended to be occupied on a daily or full-time basis, including automatic telephone exchanges, pumphouses and substations.

Section 2.2. Objectives

2.2.1. Objectives

2.2.1.1. Objectives

1) The objectives of this Code are as follows (see Appendix A):

OS Safety
An objective of this Code is to limit the probability that, as a result of the design, construction or demolition of the *building*, a person in or adjacent to the *building* will be exposed to an unacceptable risk of injury.

OS1 Fire Safety

An objective of this Code is to limit the probability that, as a result of the design or construction of the *building*, a person in or adjacent to the *building* will be exposed to an unacceptable risk of injury due to fire. The risks of injury due to fire addressed in this Code are those caused by—

OS1.1 – fire or explosion occurring
OS1.2 – fire or explosion impacting areas beyond its point of origin
OS1.3 – collapse of physical elements due to a fire or explosion
OS1.4 – fire safety systems failing to function as expected
OS1.5 – persons being delayed in or impeded from moving to a safe place during a fire emergency

OS2 Structural Safety

An objective of this Code is to limit the probability that, as a result of the design or construction of the *building*, a person in or adjacent to the *building* will be exposed to an unacceptable risk of injury due to structural failure. The risks of injury due to structural failure addressed in this Code are those caused by—

OS2.1 – loads bearing on the *building* elements that exceed their *loadbearing* capacity
OS2.2 – loads bearing on the *building* that exceed the *loadbearing* properties of the supporting medium
OS2.3 – damage to or deterioration of *building* elements
OS2.4 – vibration or deflection of *building* elements
OS2.5 – instability of the *building* or part thereof
OS2.6 – collapse of the *excavation*

OS3 Safety in Use

An objective of this Code is to limit the probability that, as a result of the design or construction of the *building*, a person in or adjacent to the *building* will be exposed to an unacceptable risk of injury due to hazards. The risks of injury due to hazards addressed in this Code are those caused by—

OS3.1 – tripping, slipping, falling, contact, drowning or collision
OS3.2 – contact with hot surfaces or substances
OS3.3 – contact with energized equipment
OS3.4 – exposure to hazardous substances
OS3.5 – exposure to high levels of sound from fire alarm systems
OS3.6 – persons becoming trapped in confined spaces
OS3.7 – persons being delayed in or impeded from moving to a safe place during an emergency (see Appendix A)

OS4 Resistance to Unwanted Entry

An objective of this Code is to limit the probability that, as a result of the design or construction of the *building*, a person in the *building* will be exposed to an unacceptable risk of injury due to the *building's* low level of resistance to unwanted entry (see Sentence 2.1.1.2.(2) for application limitation). The risks of injury due to unwanted entry addressed in this Code are those caused by—

OS4.1 – intruders being able to force their way through locked doors or windows
OS4.2 – occupants being unable to identify potential intruders as such

Part 3
Functional Statements

Section 3.1. Application

3.1.1. Application

3.1.1.1. Application

1) This Part applies to all *buildings* covered in this Code. (See Article 1.1.1.1.)

3.1.1.2. Application of Functional Statements

1) Except as provided in Sentences (2) and (3), the functional statements described in this Part apply

a) to all *buildings* covered in this Code except those that are intended to meet the requirements of Part 11 for the purposes of that Part only (see Article 1.1.1.1.), and
b) only to the extent that they relate to compliance with this Code as required in Article 1.2.1.1.

2) Functional Statement F56 applies only to *dwelling units*.

3) Functional Statements F73 and F74 do not apply to

a) houses, including semi-detached houses, duplexes, triplexes, townhouses, row houses and boarding houses,
b) *buildings* of Group F, Division 1 *major occupancy*, and
c) *buildings* that are not intended to be occupied on a daily or full-time basis, including automatic telephone exchanges, pumphouses and substations.

Section 3.2. Functional Statements

3.2.1. Functional Statements

3.2.1.1. Functional Statements

1) The objectives of this Code are achieved by measures, such as those described in the acceptable solutions in Division B, that are intended to allow the *building* or its elements to perform the following functions (see Appendix A):

F01 To minimize the risk of accidental ignition.

F02 To limit the severity and effects of fire or explosions.

F03 To retard the effects of fire on areas beyond its point of origin.

F04 To retard failure or collapse due to the effects of fire.

F05 To retard the effects of fire on emergency egress facilities.

F06 To retard the effects of fire on facilities for notification, suppression and emergency response.

F10 To facilitate the timely movement of persons to a safe place in an emergency.

F11 To notify persons, in a timely manner, of the need to take action in an emergency.

F12 To facilitate emergency response.

F13 To notify emergency responders, in a timely manner, of the need to take action in an emergency.

F20 To support and withstand expected loads and forces.

F21 To limit or accommodate dimensional change.

F22 To limit movement under expected loads and forces.

F23 To maintain equipment in place during structural movement.

F30 To minimize the risk of injury to persons as a result of tripping, slipping, falling, contact, drowning or collision.

F31 To minimize the risk of injury to persons as a result of contact with hot surfaces or substances.

F32 To minimize the risk of injury to persons as a result of contact with energized equipment.

F33 To limit the level of sound of a fire alarm system.

F34 To resist or discourage unwanted access or entry.

F35 To facilitate the identification of potential intruders.

F36 To minimize the risk that persons will be trapped in confined spaces.

F40 To limit the level of contaminants.

F41 To minimize the risk of generation of contaminants.

F42 To resist the entry of vermin and insects.

F43 To minimize the risk of release of hazardous substances.

F44 To limit the spread of hazardous substances beyond their point of release.

F46 To minimize the risk of contamination of potable water.

F50 To provide air suitable for breathing.

F51 To maintain appropriate air and surface temperatures.

F52 To maintain appropriate relative humidity.

F53 To maintain appropriate indoor/outdoor air pressure differences.

F54 To limit drafts.

F55 To resist the transfer of air through environmental separators.

F56 To limit the transmission of airborne sound into a *dwelling unit* from spaces elsewhere in the *building* (see Sentence 3.1.1.2.(2) for application limitation).

F60 To control the accumulation and pressure of water on and in the ground.

F61 To resist the ingress of precipitation, water or moisture from the exterior or from the ground.

F62 To facilitate the dissipation of water and moisture from the *building*.

F63 To limit moisture condensation.

F70 To provide potable water.

F71 To provide facilities for personal hygiene.

F72 To provide facilities for the sanitary disposal of human and domestic wastes.

F73 To facilitate access to and circulation in the *building* and its facilities by persons with physical or sensory limitations (see Sentence 3.1.1.2.(3) for application limitation).

F74 To facilitate the use of the *building*'s facilities by persons with physical or sensory limitations (see Sentence 3.1.1.2.(3) for application limitation).

F80 To resist deterioration resulting from expected service conditions.

F81 To minimize the risk of malfunction, interference, damage, tampering, lack of use or misuse.

F82 To minimize the risk of inadequate performance due to improper maintenance or lack of maintenance.

Part 1
General

Section 1.1. General

1.1.1. Application

1.1.1.1. Application

1) This Part applies to all *buildings* covered in this Code. (See Article 1.1.1.1. of Division A.)

1.1.2. Objectives and Functional Statements

1.1.2.1. Attribution to Acceptable Solutions

1) For the purposes of compliance with this Code as required in Clause 1.2.1.1.(1)(b) of Division A, the objectives and functional statements attributed to the acceptable solutions in Division B shall be the objectives and functional statements identified in Sections 3.9., 4.5., 5.11., 6.4., 7.2., 8.3. and 9.36. (See Appendix A.)

1.1.3. Climatic and Seismic Data

1.1.3.1. Climatic and Seismic Values

1) The climatic and seismic values required for the design of *buildings* under this Code shall be in conformance with the values established by the *authority having jurisdiction* or, in the absence of such data, with Sentence (2) and the climatic and seismic values in Appendix C. (See Appendix A.)

2) The outside winter design temperatures determined from Appendix C shall be those listed for the January 2.5% values. (See Appendix A.)

1.1.3.2. Depth of Frost Penetration

1) Depth of frost penetration shall be established on the basis of local experience.

1.1.4. Fire Safety Plan

1.1.4.1. Fire Safety Plan

1) Where a fire safety plan is required, it shall conform to Section 2.8. of Division B of the NFC.

Section 1.2. Terms and Abbreviations

1.2.1. Definitions of Words and Phrases

1.2.1.1. Non-defined Terms

1) Words and phrases used in Division B that are not included in the list of definitions in Article 1.4.1.2. of Division A shall have the meanings that are commonly assigned to them in the context in which they are used, taking into account the

specialized use of terms by the various trades and professions to which the terminology applies.

2) Where objectives and functional statements are referred to in Division B, they shall be the objectives and functional statements described in Parts 2 and 3 of Division A.

3) Where acceptable solutions are referred to in Division B, they shall be the provisions stated in Parts 3 to 11.

1.2.1.2. Defined Terms

1) The words and terms in italics in Division B shall have the meanings assigned to them in Article 1.4.1.2. of Division A.

1.2.2. Symbols and Other Abbreviations

1.2.2.1. Symbols and Other Abbreviations

1) The symbols and other abbreviations in Division B shall have the meanings assigned to them in Article 1.4.2.1. of Division A and Article 1.3.2.1.

Section 1.3. Referenced Documents and Organizations

1.3.1. Referenced Documents

1.3.1.1. Effective Date

1) Unless otherwise specified herein, the documents referenced in this Code shall include all amendments, revisions and supplements effective to 30 June 2004.

1.3.1.2. Applicable Editions

1) Where documents are referenced in this Code, they shall be the editions designated in Table 1.3.1.2. (See Appendix A.)

Table 1.3.1.2.
Documents Referenced in the National Building Code of Canada 2005 ★
Forming Part of Sentence 1.3.1.2.(1)

Issuing Agency	Document Number	Title of Document	Code Reference
AHRI	ANSI/AHRI 1060-2011	Performance Rating of Air-to-Air Exchangers for Energy Recovery Ventilation Equipment	6.2.2.8.(7)
ANSI	A208.1-1999	Particleboard, Mat-Formed Wood	Table 5.10.1.1. 9.23.14.2.(3) 9.29.9.1.(1) 9.30.2.2.(1)
ANSI/ ASHRAE	62.1-2004	Ventilation for Acceptable Indoor Air Quality	6.2.2.1.(2)
ANSI/ ASME	B18.6.1-1981	Wood Screws (Inch Series)	Table 5.10.1.1. 9.23.3.1.(2)
ASME/ CSA	ASME A17.1-2007/CSA B44-07(1)	Safety Code for Elevators and Escalators	3.2.6.7.(2) 3.5.2.1.(1) 3.5.2.1.(2) 3.5.2.1.(3) 3.5.2.1.(4) 3.5.4.1.(3)3.5.4.2.(1) Table 4.1.5.12.
ASTM	A 123/A 123M-02	Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products	Table 5.10.1.1. Table 9.20.16.1.
ASTM	A 153/A 153M-05	Zinc Coating (Hot-Dip) on Iron and Steel Hardware	Table 5.10.1.1. Table 9.20.16.1.
ASTM	A 252-98	Welded and Seamless Steel Pipe Piles	4.2.3.8.(1)
ASTM	A 283/A 283M-03	Low and Intermediate Tensile Strength Carbon Steel Plates	4.2.3.8.(1)
ASTM	A 653/A 653M-06a	Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process	Table 5.10.1.1. 9.3.3.2.(1)
ASTM	A 792/A 792M-06a	Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process	9.3.3.2.(1)
ASTM	A 1008/A 1008M-07	Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardenable	4.2.3.8.(1)
ASTM	A 1011/A 1011M-06b	Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength	4.2.3.8.(1)
ASTM	C 4-04e1	Clay Drain Tile and Perforated Clay Drain Tile	Table 5.10.1.1. 9.14.3.1.(1)
ASTM	C 27-98	Classification of Fireclay and High-Alumina Refractory Brick	9.21.3.4.(1)
ASTM	C 126-99	Ceramic Glazed Structural Clay Facing Tile, Facing Brick, and Solid Masonry Units	Table 5.10.1.1. 9.20.2.1.(1)
ASTM	C 212-00	Structural Clay Facing Tile	Table 5.10.1.1. 9.20.2.1.(1)
ASTM	C 260-06	Air-Entraining Admixtures for Concrete	9.3.1.8.(1)
ASTM	C 411-05	Hot-Surface Performance of High-Temperature Thermal Insulation	3.6.5.4.(4) 3.6.5.5.(1) 9.33.6.4.(4) 9.33.8.2.(2)
ASTM	C 412M-05a	Concrete Drain Tile (Metric)	Table 5.10.1.1. 9.14.3.1.(1)
ASTM	C 444M-03	Perforated Concrete Pipe (Metric)	Table 5.10.1.1. 9.14.3.1.(1)

Table 1.3.1.2. (Continued)

Issuing Agency	Document Number	Title of Document	Code Reference
ASTM	C 494/C 494M-05a	Chemical Admixtures for Concrete	9.3.1.8.(1)
ASTM	C 700-07	Vitrified Clay Pipe, Extra Strength, Standard Strength, and Perforated	Table 5.10.1.1. 9.14.3.1.(1)
ASTM	C 1002-04	Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs	Table 5.10.1.1. 9.24.1.4.(1) 9.29.5.7.(1)
ASTM	C 1177/C 1177M-06	Glass Mat Gypsum Substrate for Use as Sheathing	Table 5.10.1.1. Table 9.23.16.2.A.
ASTM	C 1178/C 1178M-06	Coated Glass Mat Water-Resistant Gypsum Backing Panel	Table 5.10.1.1. 9.29.5.2.(1)
ASTM	C 1396/C 1396M-06a	Gypsum Board	3.1.5.12.(4) Table 5.10.1.1. Table 9.23.16.2.A. 9.29.5.2.(1) Table 9.29.5.3.
ASTM	D 323-06	Vapor Pressure of Petroleum Products (Reid Method)	1.4.1.2.(1)(2)
ASTM	D 2178-04	Asphalt Glass Felt Used in Roofing and Waterproofing	Table 5.10.1.1.
ASTM	D 2898-07	Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing	3.1.5.5.(4) 3.1.5.21.(1)
ASTM	E 90-04	Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements	5.9.1.1.(1) 9.11.1.1.(1)
ASTM	E 96/E 96M-05	Water Vapor Transmission of Materials	5.5.1.2.(3) 9.25.1.2.(1) 9.25.4.2.(1) 9.30.1.2.(1)
ASTM	E 336-05	Measurement of Airborne Sound Attenuation between Rooms in Buildings	5.9.1.1.(1) 9.11.1.1.(1)
ASTM	E 413-04	Classification for Rating Sound Insulation	5.9.1.1.(1) 9.11.1.1.(1)
ASTM	E 2190-02	Insulating Glass Unit Performance and Evaluation	Table 5.10.1.1. 9.7.3.1.(1)
ASTM	F 476-84	Security of Swinging Door Assemblies	9.6.8.10.(1)
AWPA	M4-06	Care of Preservative-Treated Wood Products	4.2.3.2.(2) Table 5.10.1.1.
BNQ	BNQ 3624-115/2007	Polyethylene (PE) Pipe and Fittings – Flexible Pipes for Drainage – Characteristics and Test Methods	Table 5.10.1.1. 9.14.3.1.(1)
BNQ	NQ 5710-500-2000	Gaz médicaux ininflammables – Réseaux de distribution des établissements fournissant des services de santé – caractéristiques et méthodes d'essais	3.7.3.1.(1)

Table 1.3.1.2. (Continued)

Issuing Agency	Document Number	Title of Document	Code Reference
CCBFC	NRCC 47667	National Fire Code of Canada 2005	1.1.4.1.(1) 2.1.1.2.(4)(2) 3.1.13.1.(1) 3.2.3.21.(1) 3.2.5.17.(1) 3.3.1.2.(1) 3.3.1.10.(1) 3.3.2.3.(1) 3.3.5.2.(1) 6.2.2.5.(1) 8.1.1.1.(3) 8.1.1.3.(1) 9.10.20.4.(1) 9.10.21.8.(1)
CCBFC	NRCC 47668	National Plumbing Code of Canada 2005	2.1.1.2.(4)(2) 5.6.2.2.(2) 7.1.2.1.(1) 9.31.6.2.(1)
CGSB	CAN/CGSB-1.501-M89	Method for Permeance of Coated Wallboard	5.5.1.2.(2) 9.25.4.2.(6)
CGSB	CAN/CGSB-7.1-98	Lightweight Steel Wall Framing Components	9.24.1.2.(1)
CGSB	CAN/CGSB-7.2-97	Adjustable Steel Columns	9.17.3.4.(1)
CGSB	CAN/CGSB-10.3-92	Air Setting Refractory Mortar	9.21.3.4.(2) 9.21.3.9.(1) 9.22.2.2.(2)
CGSB	CAN/CGSB-11.3-M87	Hardboard	Table 5.10.1.1. 9.27.10.1.(2) 9.29.7.1.(1) 9.30.2.2.(1)
CGSB	CAN/CGSB-11.5-M87	Hardboard, Precoated, Factory Finished, for Exterior Cladding	Table 5.10.1.1. 9.27.10.1.(1)
CGSB	CAN/CGSB-12.1-M90	Tempered or Laminated Safety Glass	3.3.1.19.(2) 3.4.6.14.(1) 3.4.6.14.(3) Table 5.10.1.1. 9.6.6.2.(2) 9.7.3.1.(1) 9.8.8.7.(1)
CGSB	CAN/CGSB-12.2-M91	Flat, Clear Sheet Glass	Table 5.10.1.1. 9.7.3.1.(1)
CGSB	CAN/CGSB-12.3-M91	Flat, Clear Float Glass	Table 5.10.1.1. 9.7.3.1.(1)
CGSB	CAN/CGSB-12.4-M91	Heat Absorbing Glass	Table 5.10.1.1. 9.7.3.1.(1)
CGSB	CAN/CGSB-12.8-97	Insulating Glass Units	Table 5.10.1.1. 9.7.3.1.(1)
CGSB	CAN/CGSB-12.10-M76	Glass, Light and Heat Reflecting	Table 5.10.1.1. 9.7.3.1.(1)

Table 1.3.1.2. (Continued)

Issuing Agency	Document Number	Title of Document	Code Reference
CGSB	CAN/CGSB-12.11-M90	Wired Safety Glass	3.3.1.19.(2) 3.4.6.14.(1) 3.4.6.14.(3) Table 5.10.1.1. 9.6.6.2.(2) 9.7.3.1.(1) 9.8.8.7.(1)
CGSB	CAN/CGSB-12.20-M89	Structural Design of Glass for Buildings	4.3.6.1.(1) 9.7.3.2.(1)
CGSB	19-GP-5M-1984	Sealing Compound, One Component, Acrylic Base, Solvent Curing	Table 5.10.1.1. 9.27.4.2.(2)
CGSB	CAN/CGSB-19.13-M87	Sealing Compound, One-Component, Elastomeric, Chemical Curing	Table 5.10.1.1. 9.27.4.2.(2)
CGSB	19-GP-14M-1984	Sealing Compound, One Component, Butyl-Polyisobutylene Polymer Base, Solvent Curing	Table 5.10.1.1. 9.27.4.2.(2)
CGSB	CAN/CGSB-19.22-M89	Mildew-Resistant Sealing Compound for Tubs and Tiles	9.29.10.5.(1)
CGSB	CAN/CGSB-19.24-M90	Multicomponent, Chemical-Curing Sealing Compound	Table 5.10.1.1. 9.27.4.2.(2)
CGSB	CAN/CGSB-34.4-M89	Siding, Asbestos-Cement, Shingles and Clapboards	Table 5.10.1.1. 9.27.8.1.(1)
CGSB	CAN/CGSB-34.5-M89	Sheets, Asbestos-Cement, Corrugated	Table 5.10.1.1. 9.27.8.1.(1)
CGSB	CAN/CGSB-34.14-M89	Sheets, Asbestos-Cement, Decorative	Table 5.10.1.1. 9.27.8.1.(1)
CGSB	CAN/CGSB-34.16-M89	Sheets, Asbestos-Cement, Flat, Fully Compressed	Table 5.10.1.1. 9.27.8.1.(1)
CGSB	CAN/CGSB-34.17-M89	Sheets, Asbestos-Cement, Flat, Semicompressed	Table 5.10.1.1. 9.27.8.1.(1)
CGSB	CAN/CGSB-34.21-M89	Panels, Sandwich, Asbestos-Cement with Insulating Cores	Table 5.10.1.1. 9.27.8.1.(1)
CGSB	CAN/CGSB-34.22-94	Asbestos-Cement Drain Pipe	Table 5.10.1.1. 9.14.3.1.(1)
CGSB	CAN/CGSB-37.1-M89	Chemical Emulsifier Type, Emulsified Asphalt for Dampproofing	Table 5.10.1.1. 9.13.2.2.(1)
CGSB	CAN/CGSB-37.2-M88	Emulsified Asphalt, Mineral-Colloid Type, Unfilled, for Dampproofing and Waterproofing and for Roof Coatings	Table 5.10.1.1. 9.13.2.2.(1) 9.13.3.2.(1)
CGSB	CAN/CGSB-37.3-M89	Application of Emulsified Asphalts for Dampproofing or Waterproofing	5.8.2.3.(1) Table 5.10.1.1. 9.13.2.3.(1) 9.13.3.3.(1)
CGSB	CAN/CGSB-37.4-M89	Fibrated, Cutback Asphalt, Lap Cement for Asphalt Roofing	Table 5.10.1.1. 9.26.2.1.(1)
CGSB	CAN/CGSB-37.5-M89	Cutback Asphalt Plastic, Cement	Table 5.10.1.1. 9.26.2.1.(1)
CGSB	37-GP-6Ma-1983	Asphalt, Cutback, Unfilled, for Dampproofing	5.8.2.2.(6) 5.8.2.2.(7) Table 5.10.1.1. 9.13.2.2.(1)
CGSB	CAN/CGSB-37.8-M88	Asphalt, Cutback, Filled, for Roof Coating	Table 5.10.1.1. 9.26.2.1.(1)

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CGSB	37-GP-9Ma-1983	Primer, Asphalt, Unfilled, for Asphalt Roofing, Dampproofing and Waterproofing	Table 5.10.1.1. 9.26.2.1.(1)
CGSB	37-GP-12Ma-1984	Application of Unfilled Cutback Asphalt for Dampproofing	5.8.2.3.(2) Table 5.10.1.1. 9.13.2.3.(1)
CGSB	CAN/CGSB-37.16-M89	Filled, Cutback Asphalt for Dampproofing and Waterproofing	Table 5.10.1.1. 9.13.2.2.(1) 9.13.3.2.(1)
CGSB	37-GP-18Ma-1985	Tar, Cutback, Unfilled, for Dampproofing	5.8.2.2.(6) 5.8.2.2.(7) Table 5.10.1.1. 9.13.2.2.(1)
CGSB	37-GP-21M-1985	Tar, Cutback, Fibrated, for Roof Coating	Table 5.10.1.1. 9.26.2.1.(1)
CGSB	CAN/CGSB-37.22-M89	Application of Unfilled, Cutback Tar Foundation Coating for Dampproofing	5.8.2.3.(2) Table 5.10.1.1. 9.13.2.3.(1)
CGSB	37-GP-36M-1976	Application of Filled Cutback Asphalts for Dampproofing and Waterproofing	5.8.2.3.(1) Table 5.10.1.1.
CGSB	37-GP-37M-1977	Application of Hot Asphalt for Dampproofing or Waterproofing	5.8.2.3.(1) Table 5.10.1.1.
CGSB	CAN/CGSB-37.50-M89	Hot-Applied, Rubberized Asphalt for Roofing and Waterproofing	Table 5.10.1.1. 9.26.2.1.(1)
CGSB	CAN/CGSB-37.51-M90	Application for Hot-Applied Rubberized Asphalt for Roofing and Waterproofing	5.6.1.3.(1) 5.8.2.3.(1) Table 5.10.1.1. 9.26.15.1.(1)
CGSB	37-GP-52M-1984	Roofing and Waterproofing Membrane, Sheet Applied, Elastomeric	Table 5.10.1.1. 9.26.2.1.(1)
CGSB	CAN/CGSB-37.54-95	Polyvinyl Chloride Roofing and Waterproofing Membrane	Table 5.10.1.1. 9.26.2.1.(1)
CGSB	37-GP-55M-1979	Application of Sheet Applied Flexible Polyvinyl Chloride Roofing Membrane	5.6.1.3.(1) Table 5.10.1.1. 9.26.16.1.(1)
CGSB	37-GP-56M-1985	Membrane, Modified, Bituminous, Prefabricated, and Reinforced for Roofing	Table 5.10.1.1. 9.26.2.1.(1)
CGSB	37-GP-64M-1977	Mat Reinforcing, Fibrous Glass, for Membrane Waterproofing Systems and Built-Up Roofing	Table 5.10.1.1.
CGSB	41-GP-6M-1983	Sheets, Thermosetting Polyester Plastics, Glass Fiber Reinforced	Table 5.10.1.1. 9.26.2.1.(1)
CGSB	CAN/CGSB-41.24-95	Rigid Vinyl Siding, Soffits and Fascia	Table 5.10.1.1. 9.27.13.1.(1)
CGSB	CAN/CGSB-51.25-M87	Thermal Insulation, Phenolic, Faced	Table 5.10.1.1. Table 9.23.16.2.A. 9.25.2.2.(1)
CGSB	51-GP-27M-1979	Thermal Insulation, Polystyrene, Loose Fill	Table 5.10.1.1. 9.25.2.2.(1)
CGSB	CAN/CGSB-51.32-M77	Sheathing, Membrane, Breather Type	Table 5.10.1.1. 9.20.13.9.(1) 9.26.2.1.(1) 9.27.3.2.(1)

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Issuing Agency	Document Number	Title of Document	Code Reference
CGSB	CAN/CGSB-51.33-M89	Vapour Barrier Sheet, Excluding Polyethylene, for Use in Building Construction	Table 5.10.1.1. 9.25.4.2.(5)
CGSB	CAN/CGSB-51.34-M86 (Amended 1988)	Vapour Barrier, Polyethylene Sheet for Use in Building Construction	Table 5.10.1.1. 9.13.2.2.(1) 9.13.4.2.(1) 9.18.6.2.(1) 9.25.3.2.(2) 9.25.4.2.(4)
CGSB	CAN/CGSB-51.71-95	The Spillage Test: Method to Determine the Potential for Pressure-Induced Spillage from Vented, Fuel-Fired, Space Heating Appliances, Water Heaters and Fireplaces	9.32.3.8.(9)
CGSB	CAN/CGSB-63.14-M89	Plastic Skylights	5.10.1.1.(4) Table 5.10.1.1. 9.7.7.1.(1) 9.7.7.2.(1)
CGSB	CAN/CGSB-82.1-M89	Sliding Doors	Table 5.10.1.1. 9.6.5.2.(1)
CGSB	CAN/CGSB-82.5-M88	Insulated Steel Doors	Table 5.10.1.1. 9.6.5.3.(1)
CGSB	CAN/CGSB-82.6-M86	Doors, Mirrored Glass, Sliding or Folding, Wardrobe	9.6.6.3.(1)
CGSB	CAN/CGSB-93.1-M85	Sheet, Aluminum Alloy, Prefinished, Residential	Table 5.10.1.1. 9.27.12.1.(4)
CGSB	CAN/CGSB-93.2-M91	Prefinished Aluminum Siding, Soffits and Fascia, for Residential Use	Table 5.10.1.1. 9.27.12.1.(3)
CGSB	CAN/CGSB-93.3-M91	Prefinished Galvanized and Aluminum-Zinc Alloy Steel Sheet for Residential Use	Table 5.10.1.1. 9.27.12.1.(2)
CGSB	CAN/CGSB-93.4-92	Galvanized Steel and Aluminum-Zinc Alloy Coated Steel Siding, Soffits and Fascia, Prefinished, Residential	Table 5.10.1.1. 9.27.12.1.(1)
CSA	CAN/CSA-6.19-01	Residential Carbon Monoxide Alarming Devices	6.2.4.1.(2) 9.32.3.8.(6) 9.32.3.9.(2)
CSA	CAN/CSA-A23.1-04	Concrete Materials and Methods of Concrete Construction	4.2.3.6.(1) 4.2.3.9.(1) Table 5.10.1.1. 9.3.1.1.(4) 9.3.1.3.(1) 9.3.1.4.(1)
CSA	A23.3-04	Design of Concrete Structures	Table 4.1.8.9. 4.3.3.1.(1)
CSA	CAN/CSA-A82.1-M87	Burned Clay Brick (Solid Masonry Units Made from Clay or Shale)	Table 5.10.1.1. 9.20.2.1.(1)
CSA	A82.3-M1978	Calcium Silicate (Sand-Lime) Building Brick	Table 5.10.1.1. 9.20.2.1.(1)
CSA	A82.4-M1978	Structural Clay Load-Bearing Wall Tile	Table 5.10.1.1. 9.20.2.1.(1)
CSA	A82.5-M1978	Structural Clay Non-Load-Bearing Tile	Table 5.10.1.1. 9.20.2.1.(1)
CSA	CAN3-A82.8-M78	Hollow Clay Brick	Table 5.10.1.1. 9.20.2.1.(1)

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Issuing Agency	Document Number	Title of Document	Code Reference
CSA	CAN/CSA-A82.27-M91	Gypsum Board	3.1.5.12.(4) Table 5.10.1.1. Table 9.23.16.2.A. 9.29.5.2.(1)
CSA	A82.30-M1980	Interior Furring, Lathing and Gypsum Plastering	Table 5.10.1.1. 9.29.4.1.(1)
CSA	A82.31-M1980	Gypsum Board Application	Table 5.10.1.1. 9.10.12.4.(3) 9.29.5.1.(2)
CSA	CAN3-A93-M82	Natural Airflow Ventilators for Buildings	Table 5.10.1.1. 9.19.1.2.(5)
CSA	A123.1-05/A123.5-05	Asphalt Shingles Made From Organic Felt and Surfaced with Mineral Granules/Asphalt Shingles Made From Glass Felt and Surfaced with Mineral Granules	Table 5.10.1.1. 9.26.2.1.(1)
CSA	CAN/CSA-A123.2-03	Asphalt-Coated Roofing Sheets	Table 5.10.1.1. 9.26.2.1.(1)
CSA	A123.3-05	Asphalt Saturated Organic Roofing Felt	Table 5.10.1.1. 9.26.2.1.(1)
CSA	CAN/CSA-A123.4-04	Asphalt for Constructing Built-Up Roof Coverings and Waterproofing Systems	Table 5.10.1.1. 9.13.2.2.(1) 9.13.3.2.(1) 9.26.2.1.(1)
CSA	A123.17-05	Asphalt Glass Felt Used in Roofing and Waterproofing	Table 5.10.1.1. 9.26.2.1.(1)
CSA	CAN3-A123.51-M85	Asphalt Shingle Application on Roof Slopes 1:3 and Steeper	5.6.1.3.(1) Table 5.10.1.1. 9.26.1.2.(1)
CSA	CAN3-A123.52-M85	Asphalt Shingle Application on Roof Slopes 1:6 to Less Than 1:3	5.6.1.3.(1) Table 5.10.1.1. 9.26.1.2.(1)
CSA	A165.1-04	Concrete Block Masonry Units	Table 5.10.1.1. 9.15.2.2.(1) 9.17.5.1.(1) 9.20.2.1.(1) 9.20.2.6.(1)
CSA	A165.2-04	Concrete Brick Masonry Units	Table 5.10.1.1. 9.20.2.1.(1)
CSA	A165.3-04	Prefaced Concrete Masonry Units	Table 5.10.1.1. 9.20.2.1.(1)
CSA	CAN3-A165.4-M85	Autoclaved Cellular Units	Table 5.10.1.1. 9.20.2.1.(1)
CSA	A179-04	Mortar and Grout for Unit Masonry	Table 5.10.1.1. 9.15.2.2.(3) 9.20.3.1.(1)
CSA	CAN/CSA-A220.0-06	Performance of Concrete Roof Tiles	Table 5.10.1.1. 9.26.2.1.(1)
CSA	CAN/CSA-A220.1-06	Installation of Concrete Roof Tiles	Table 5.10.1.1. 9.26.17.1.(1)
CSA	CAN/CSA-A324-M88	Clay Flue Liners	9.21.3.3.(1)

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CSA	CAN/CSA-A371-04	Masonry Construction for Buildings	5.6.1.3.(2) Table 5.10.1.1. 9.15.2.2.(3) 9.20.3.2.(7) 9.20.15.2.(1)
CSA	CAN/CSA-A405-M87	Design and Construction of Masonry Chimneys and Fireplaces	9.21.3.5.(1) 9.22.1.4.(1) 9.22.5.2.(2)
CSA	CAN/CSA-A438-00	Concrete Construction for Housing and Small Buildings	9.3.1.1.(1)
CSA	CAN/CSA-A440-00	Windows	5.10.1.1.(3) Table 5.10.1.1. 9.7.2.1.(1) 9.7.6.1.(1) 11.2.2.4.(2)
CSA	CAN/CSA-A440.1-00	User Selection Guide to CSA Standard CAN/CSA-A440-00, Windows	5.10.1.1.(3) Table 5.10.1.1. 9.7.2.1.(1)
CSA	CAN/CSA-A440.2-09/ A440.3-09	Fenestration Energy Performance/User Guide to CSA A440.2-09, Fenestration Energy Performance	11.2.2.4.(1)
CSA	CAN/CSA-A660-04	Certification of Manufacturers of Steel Building Systems	4.3.4.3.(1)
CSA	CAN/CSA-A3001-03	Cementitious Materials for Use in Concrete	Table 5.10.1.1. 9.3.1.2.(1) 9.28.2.1.(1)
CSA	B51-03	Boiler, Pressure Vessel, and Pressure Piping Code	6.2.1.4.(1) 9.31.6.2.(2) 9.33.5.2.(1)
CSA	B52-05	Mechanical Refrigeration Code	6.2.1.4.(1) 9.33.5.2.(1)
CSA	CAN/CSA-B72-M87	Installation Code for Lightning Protection Systems	1.2.2.4.(1)(2)
CSA	B111-1974	Wire Nails, Spikes and Staples	9.23.3.1.(1) 9.26.2.2.(1) 9.29.5.6.(1)
CSA	B139-04	Installation Code for Oil-Burning Equipment	6.2.1.4.(1) 9.31.6.2.(2) 9.33.5.2.(1)
CSA	CAN/CSA-B149.1-05	Natural Gas and Propane Installation Code	6.2.1.4.(1) 9.10.22.1.(1) 9.31.6.2.(2) 9.33.5.2.(1)
CSA	B182.1-06	Plastic Drain and Sewer Pipe and Pipe Fittings	Table 5.10.1.1. 9.14.3.1.(1)
CSA	CAN/CSA-B214-07	Installation Code for Hydronic Heating Systems	6.2.1.1.(1)
CSA	CAN/CSA-B355-00	Lifts for Persons with Physical Disabilities	3.8.3.5.(1)
CSA	CAN/CSA-B365-01	Installation Code for Solid-Fuel-Burning Appliances and Equipment	6.2.1.4.(1) 9.22.10.2.(1) 9.31.6.2.(2) 9.33.5.3.(1)

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Issuing Agency	Document Number	Title of Document	Code Reference
CSA	C22.1-06	Canadian Electrical Code, Part I	3.6.1.2.(1) 3.6.2.1.(6) 3.6.2.7.(1) 6.2.1.4.(1) 9.31.6.2.(2) 9.33.5.2.(1) 9.34.1.1.(1)
CSA	C22.2 No. 0.3-01	Test Methods for Electrical Wires and Cables	3.1.4.3.(1) 3.1.5.18.(1) 3.6.4.3.(1)
CSA	C22.2 No.113-M1984	Fans and Ventilators	9.32.3.10.(7)
CSA	C22.2 No.141-02	Unit Equipment for Emergency Lighting	3.2.7.4.(2) 9.9.11.3.(6)
CSA	C22.2 No. 211.0-03	General Requirements and Methods of Testing for Nonmetallic Conduit	3.1.5.20.(1)
CSA	CAN/CSA-C260-M90	Rating the Performance of Residential Mechanical Ventilating Equipment	9.32.3.10.(1) 9.32.3.10.(2) Table 9.32.3.10.B.
CSA	CAN/CSA-C282-05	Emergency Electrical Power Supply for Buildings	3.2.7.5.(1)
CSA	CAN/CSA-C439-09	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)
CSA	CAN/CSA-C448 Series-02	Design and Installation of Earth Energy Systems	9.33.5.2.(1)
CSA	CAN/CSA-F280-M90	Determining the Required Capacity of Residential Space Heating and Cooling Appliances	9.33.5.1.(1)
CSA	CAN/CSA-F326-M91	Residential Mechanical Ventilation Systems	9.32.3.1.(1)
CSA	CAN/CSA-G30.18-M92	Billet-Steel Bars for Concrete Reinforcement	9.3.1.1.(4)
CSA	CAN/CSA-G40.21-04	Structural Quality Steel	4.2.3.8.(1) Table 5.10.1.1. 9.23.4.3.(2)
CSA	G401-01	Corrugated Steel Pipe Products	Table 5.10.1.1. 9.14.3.1.(1)
CSA	O80 Series-97	Wood Preservation	3.1.4.4.(1) 4.2.3.2.(1) 4.2.3.2.(2) Table 5.10.1.1.
CSA	O80.1-97	Preservative Treatment of All Timber Products by Pressure Processes	Table 5.10.1.1. 9.3.2.9.(5)
CSA	O80.2-97	Preservative Treatment of Lumber, Timber, Bridge Ties, and Mine Ties by Pressure Processes	4.2.3.2.(1) Table 5.10.1.1. 9.3.2.9.(5)
CSA	O80.3-97	Preservative Treatment of Piles by Pressure Processes	4.2.3.2.(1)
CSA	O80.9-97	Preservative Treatment of Plywood by Pressure Processes	Table 5.10.1.1. 9.3.2.9.(5)
CSA	O80.15-97	Preservative Treatment of Wood for Building Foundation Systems, Basements, and Crawl Spaces by Pressure Processes	4.2.3.2.(1) Table 5.10.1.1. 9.3.2.9.(5)
CSA	O80.34-97	Pressure Preservative Treatment of Lumber and Timbers with Borates for Use Out of Ground Contact and Continuously Protected from Liquid Water	Table 5.10.1.1. 9.3.2.9.(5) 9.3.2.9.(6)

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Issuing Agency	Document Number	Title of Document	Code Reference
CSA	O80.36-05	Preservative Treatment of Wood Products for Light-Duty Above-ground Residential Uses by Pressure Processes	9.3.2.9.(5)
CSA	CAN/CSA-O86-01 (Including Supplement CAN/CSA-O86S1-05)	Engineering Design in Wood	Table 4.1.8.9. 4.3.1.1.(1)
CSA	O115-M1982	Hardwood and Decorative Plywood	Table 5.10.1.1. 9.27.9.1.(1) 9.30.2.2.(1)
CSA	O118.1-97	Western Cedars Shakes and Shingles	Table 5.10.1.1. 9.26.2.1.(1) 9.27.7.1.(1)
CSA	O118.2-M1981	Eastern White Cedar Shingles	Table 5.10.1.1. 9.26.2.1.(1) 9.27.7.1.(1)
CSA	O121-M1978	Douglas Fir Plywood	Table 5.10.1.1. 9.23.14.2.(1) 9.23.15.2.(1) Table 9.23.16.2.A. 9.27.9.1.(1) 9.30.2.2.(1) Table A-13 Table A-14 Table A-15
CSA	CAN/CSA-O122-06	Structural Glued-Laminated Timber	Table A-11 Table A-16
CSA	CAN/CSA-O132.2 Series-90	Wood Flush Doors	Table 5.10.1.1. 9.6.5.1.(1)
CSA	CAN/CSA-O141-05	Softwood Lumber	Table 5.10.1.1. 9.3.2.6.(1)
CSA	O151-04	Canadian Softwood Plywood	Table 5.10.1.1. 9.23.14.2.(1) 9.23.15.2.(1) Table 9.23.16.2.A. 9.27.9.1.(1) 9.30.2.2.(1) Table A-13 Table A-14 Table A-15
CSA	O153-M1980	Poplar Plywood	Table 5.10.1.1. 9.23.14.2.(1) 9.23.15.2.(1) Table 9.23.16.2.A. 9.27.9.1.(1) 9.30.2.2.(1)
CSA	CAN/CSA-O177-06	Qualification Code for Manufacturers of Structural Glued-Laminated Timber	4.3.1.2.(1) Table A-11 Table A-16

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CSA	CAN/CSA-O325.0-92	Construction Sheathing	Table 5.10.1.1. 9.23.14.2.(1) 9.23.14.4.(2) Table 9.23.14.5.B. 9.23.15.2.(1) 9.23.15.3.(2) Table 9.23.15.7.B. Table 9.23.16.2.B. 9.29.9.1.(2) 9.29.9.2.(5) Table A-13 Table A-14 Table A-15
CSA	O437.0-93	OSB and Waferboard	Table 5.10.1.1. 9.23.14.2.(1) 9.23.14.4.(2) 9.23.15.2.(1) 9.23.15.3.(2) Table 9.23.16.2.A. 9.27.11.1.(1) 9.29.9.1.(2) 9.30.2.2.(1) Table A-13 Table A-14 Table A-15
CSA	CAN/CSA-S16-01 CONSOLIDATION	Limit States Design of Steel Structures	Table 4.1.8.9. 4.3.4.1.(1)
CSA	CAN/CSA-S136-01 (Including Supplement CAN/CSA-S136S1-04)	North American Specification for the Design of Cold-Formed Steel Structural Members (using the Appendix B provisions applicable to Canada)	4.3.4.2.(1)
CSA	CAN/CSA-S157-05/ S157.1-05	Strength Design in Aluminum/Commentary on CSA S157-05, Strength Design in Aluminum	4.3.5.1.(1)
CSA	S269.1-1975	Falsework for Construction Purposes	4.1.1.3.(4)
CSA	CAN/CSA-S269.2-M87	Access Scaffolding for Construction Purposes	4.1.1.3.(4)
CSA	CAN/CSA-S269.3-M92	Concrete Formwork	4.1.1.3.(4)
CSA	S304.1-04	Design of Masonry Structures	Table 4.1.8.9. 4.3.2.1.(1)
CSA	S307-M1980	Load Test Procedure for Wood Roof Trusses for Houses and Small Buildings	9.23.13.11.(5)
CSA	S350-M1980	Code of Practice for Safety in Demolition of Structures	8.1.1.3.(1)
CSA	CAN3-S367-M81	Air-Supported Structures	4.4.1.1.(1)
CSA	CAN/CSA-S406-92	Construction of Preserved Wood Foundations	9.15.2.4.(1) 9.16.5.1.(1)
CSA	S413-07	Parking Structures	4.4.2.1.(1)
CSA	Z32-04	Electrical Safety and Essential Electrical Systems in Health Care Facilities	3.2.7.3.(4) 3.2.7.6.(1)
CSA	CAN/CSA-Z91-02	Health and Safety Code for Suspended Equipment	3.5.5.1.(1)
CSA	CAN/CSA-Z240.2.1-92	Structural Requirements for Mobile Homes	9.12.2.2.(6) 9.15.1.3.(1)
CSA	Z240.10.1-94	Site Preparation, Foundation, and Anchorage of Mobile Homes	9.15.1.3.(1) 9.23.6.3.(1)
CSA	CAN/CSA-Z271-98	Safety Code for Suspended Elevating Platforms	3.5.5.1.(1)

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Issuing Agency	Document Number	Title of Document	Code Reference
CSA	CAN/CSA-Z317.2-01	Special Requirements for Heating, Ventilation, and Air Conditioning (HVAC) Systems in Health Care Facilities	6.2.1.1.(1)
CSA	Z7396.1-06	Medical Gas Pipeline Systems – Part 1: Pipelines for Medical Gases and Vacuum	3.7.3.1.(1)
CWC	2004	Engineering Guide for Wood Frame Construction	9.4.1.1.(1)
EPA	EPA 402-R-93-003	Protocols for Radon and Radon Decay Product Measurements in Homes	9.13.4.6.(6)
HC	H46-2/90-156E	Exposure Guidelines for Residential Indoor Air Quality	9.13.4.6.(9)
HVI	HVI 915	Procedure for Loudness Rating of Residential Fan Products	9.32.3.10.(2)
HVI	HVI 916	Airflow Test Standard	9.32.3.10.(1)
ISO	8201:1987(E)	Acoustics – Audible emergency evacuation signal	3.2.4.18.(2)
NFPA	13-2007	Installation of Sprinkler Systems	3.2.4.8.(2) 3.2.4.15.(1) 3.2.5.13.(1) 3.3.2.13.(3) 10.3.2.1.(3) 10.3.2.5.(1)
NFPA	13D-2007	Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes	3.2.5.13.(3)
NFPA	13R-2007	Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height	3.2.5.13.(2)
NFPA	14-2007	Installation of Standpipe and Hose Systems	3.2.5.9.(1) 3.2.5.10.(1) 10.3.2.5.(2)
NFPA	20-2007	Installation of Stationary Pumps for Fire Protection	3.2.5.19.(1)
NFPA	80-2007	Fire Doors and Other Opening Protectives	3.1.8.5.(2) 3.1.8.10.(2) 3.1.8.12.(2) 3.1.8.12.(3) 3.1.8.14.(1) 9.10.13.1.(1)
NFPA	82-2004	Incinerators and Waste and Linen Handling Systems and Equipment	6.2.6.1.(1) 9.10.10.5.(2)
NFPA	96-2004	Ventilation Control and Fire Protection of Commercial Cooking Operations	6.2.2.6.(1)
NFPA	211-2006	Chimneys, Fireplaces, Vents, and Solid Fuel-Burning Appliances	6.3.1.2.(2) 6.3.1.3.(1)
NFPA	214-2005	Water-Cooling Towers	6.2.3.14.(3)
NLGA	2007	Standard Grading Rules for Canadian Lumber	9.3.2.1.(1)
SMACNA	ANSI/SMACNA 006-2006	HVAC Duct Construction Standards – Metal and Flexible, 3rd Edition	9.33.6.5.(2)
TC		Canadian Aviation Regulations – Part III	4.1.5.14.(1)
TPIC	2007	Truss Design Procedures and Specifications for Light Metal Plate Connected Wood Trusses	9.23.13.11.(6)
UL	ANSI/UL 300-2005	Fire Testing of Fire Extinguishing Systems for Protection of Commercial Cooking Equipment	6.2.2.6.(2)

Table 1.3.1.2. (Continued)

Issuing Agency	Document Number	Title of Document	Code Reference
ULC	CAN/ULC-S101-04	Fire Endurance Tests of Building Construction and Materials	3.1.5.12.(3) 3.1.5.12.(4) 3.1.5.12.(6) 3.1.7.1.(1) 3.1.11.7.(1) 3.2.3.8.(1) 3.2.6.5.(6) 3.2.6.9.(3)
ULC	CAN/ULC-S102-03	Test for Surface Burning Characteristics of Building Materials and Assemblies	3.1.5.21.(1) 3.1.12.1.(1)
ULC	CAN/ULC-S102.2-03	Test for Surface Burning Characteristics of Flooring, Floor Coverings, and Miscellaneous Materials and Assemblies	3.1.12.1.(2) 3.1.13.4.(1)
ULC	ULC-S102.3-M82	Fire Test of Light Diffusers and Lenses	3.1.13.4.(1)
ULC	CAN4-S104-M80	Fire Tests of Door Assemblies	3.1.8.4.(1) 3.2.6.5.(3)
ULC	CAN4-S105-M85	Fire Door Frames Meeting the Performance Required by CAN4-S104	9.10.13.6.(1)
ULC	CAN4-S106-M80	Fire Tests of Window and Glass Block Assemblies	3.1.8.4.(1)
ULC	CAN/ULC-S107-03	Fire Tests of Roof Coverings	3.1.15.1.(1)
ULC	CAN/ULC-S109-03	Flame Tests of Flame-Resistant Fabrics and Films	3.1.6.5.(1) 3.1.16.1.(1) 3.6.5.2.(2) 3.6.5.3.(1) 9.33.6.3.(1)
ULC	CAN/ULC-S110-M86	Test for Air Ducts	3.6.5.1.(2) 3.6.5.1.(5) 9.33.6.2.(2) 9.33.6.2.(4)
ULC	ULC-S111-95	Fire Tests for Air Filter Units	6.2.3.13.(1) 9.33.6.15.(1)
ULC	CAN/ULC-S112-M90	Fire Test of Fire-Damper Assemblies	3.1.8.4.(1)
ULC	CAN/ULC-S112.1-M90	Leakage Rated Dampers for Use in Smoke Control Systems	6.2.3.9.(3)
ULC	CAN/ULC-S113-07	Wood Core Doors Meeting the Performance Required by CAN/ULC-S104 for Twenty Minute Fire Rated Closure Assemblies	9.10.13.2.(1)
ULC	CAN/ULC-S114-05	Test for Determination of Non-Combustibility in Building Materials	1.4.1.2.(1)[(2)]
ULC	CAN/ULC-S115-05	Fire Tests of Firestop Systems	3.1.5.16.(3) 3.1.9.1.(1) 3.1.9.1.(2) 3.1.9.4.(4) 9.10.9.7.(3)
ULC	CAN/ULC-S124-06	Test for the Evaluation of Protective Coverings for Foamed Plastic	3.1.5.12.(2)
ULC	CAN/ULC-S126-06	Test for Fire Spread Under Roof-Deck Assemblies	3.1.14.1.(1) 3.1.14.2.(1)
ULC	CAN/ULC-S134-92	Fire Test of Exterior Wall Assemblies	3.1.5.5.(1)
ULC	ULC-S135-04	Test Method for the Determination of Combustibility Parameters of Building Materials Using an Oxygen Consumption Calorimeter (Cone Calorimeter)	3.1.5.1.(2)

Table 1.3.1.2. (Continued)

Issuing Agency	Document Number	Title of Document	Code Reference
ULC	CAN/ULC-S138-06	Test for Fire Growth of Insulated Building Panels in a Full-Scale Room Configuration	3.1.5.12.(7)
ULC	ULC-S505-1974	Fusible Links for Fire Protection Service	3.1.8.9.(1)
ULC	CAN/ULC-S524-06	Installation of Fire Alarm Systems	3.2.4.5.(1)
ULC	CAN/ULC-S531-02	Smoke-Alarms	3.2.4.20.(1) 9.10.19.1.(1)
ULC	CAN/ULC-S537-04	Verification of Fire Alarm Systems	3.2.4.5.(2)
ULC	CAN/ULC-S553-02	Installation of Smoke-Alarms	3.2.4.20.(7)
ULC	CAN/ULC-S561-03	Installation and Services for Fire Signal Receiving Centres and Systems	3.2.4.7.(4)
ULC	CAN/ULC-S610-M87	Factory-Built Fireplaces	9.22.8.1.(1)
ULC	ULC-S628-93	Fireplace Inserts	9.22.10.1.(1)
ULC	CAN/ULC-S629-M87	650°C Factory-Built Chimneys	9.33.10.2.(1)
ULC	CAN/ULC-S639-M87	Steel Liner Assemblies for Solid-Fuel Burning Masonry Fireplaces	9.22.2.3.(1)
ULC	CAN/ULC-S701-05	Thermal Insulation, Polystyrene, Boards and Pipe Covering	Table 5.10.1.1. 9.15.4.1.(1) Table 9.23.16.2.A. 9.25.2.2.(1)
ULC	CAN/ULC-S702-97	Mineral Fibre Thermal Insulation for Buildings	Table 5.10.1.1. Table 9.23.16.2.A. 9.25.2.2.(1)
ULC	CAN/ULC-S703-01	Cellulose Fibre Insulation (CFI) for Buildings	Table 5.10.1.1. 9.25.2.2.(1)
ULC	CAN/ULC-S704-03	Thermal Insulation, Polyurethane and Polyisocyanurate, Boards, Faced	Table 5.10.1.1. Table 9.23.16.2.A. 9.25.2.2.(1)
ULC	CAN/ULC-S705.1-01	Thermal Insulation – Spray Applied Rigid Polyurethane Foam, Medium Density – Material - Specification	Table 5.10.1.1. 9.25.2.2.(1)
ULC	CAN/ULC-S705.2-98	Thermal Insulation – Spray-Applied Rigid Polyurethane Foam, Medium Density, Installer's Responsibilities – Specification	5.3.1.3.(3) Table 5.10.1.1. 9.25.2.5.(1)
ULC	CAN/ULC-S706-02	Wood Fibre Thermal Insulation for Buildings	Table 5.10.1.1. 9.23.15.7.(3) Table 9.23.16.2.A. 9.25.2.2.(1) 9.29.8.1.(1)
ULC	ULC/ORD-C199P-2002	Combustible Piping for Sprinkler Systems	3.2.5.14.(2) 3.2.5.14.(5)
ULC	ULC/ORD-C1254.6-1995	Fire Testing of Restaurant Cooking Area Fire Extinguishing System Units	6.2.2.6.(2)

Notes to Table 1.3.1.2.:

(1) Reference to the edition in force under Chapter IV.

(2) Code reference is in Division A.

1.3.2. Organizations

1.3.2.1. Abbreviations of Proper Names

1) The abbreviations of proper names in this Code shall have the meanings assigned to them in this Article (the appropriate addresses of the organizations are shown in brackets).

ACGIH ..... American Conference of Governmental Industrial Hygienists (1330 Kemper Meadow Drive, Cincinnati, Ohio 45240-1634 U.S.A.; www.acgih.org)

AHRI ..... Air-Conditioning, Heating and Refrigeration Institute (2111 Wilson Boulevard, Suite 500, Arlington, Virginia 22201 U.S.A.; www.ahrinet.org)

ANSI ..... American National Standards Institute (25 West 43rd Street, 4th Floor, New York, New York 10036 U.S.A.; www.ansi.org)

ASCE ..... American Society of Civil Engineers (1801 Alexander Bell Drive, Reston, Virginia 20191-4400 U.S.A.; www.asce.org)

ASHRAE ..... American Society of Heating, Refrigerating and Air-Conditioning Engineers (1791 Tullie Circle, N.E., Atlanta, Georgia 30329-2305 U.S.A.; www.ashrae.org)

ASME ..... American Society of Mechanical Engineers (22 Law Drive, P.O. Box 2900, Fairfield, New Jersey 07007-2900 U.S.A.; www.asme.org)

ASTM ..... American Society for Testing and Materials International (100 Barr Harbor Drive, West Conshohocken, Pennsylvania 19428–2959 U.S.A.; www.astm.org)

AWPA ..... American Wood-Preservers' Association (P.O. Box 388, Selma, Alabama 36702-0388 U.S.A.; www.awpa.com)

BIA ..... Brick Industry Association (11490 Commerce Park Drive, Reston, Virginia 20191-1525 U.S.A.; www.bia.org)

BNQ ..... Bureau de normalisation du Québec (333, rue Franquet, Sainte-Foy (Québec) G1P 4C7; www.bnq.qc.ca)

CAN ..... National Standard of Canada designation. (The number or name following the CAN designation represents the agency under whose auspices the standard is issued.
CAN1 designates CGA,
CAN2 designates CGSB,
CAN3 designates CSA, and
CAN4 designates ULC.)

CCBFC ..... Canadian Commission on Building and Fire Codes (National Research Council of Canada, Ottawa, Ontario K1A 0R6; www.nationalcodes.ca)

CGSB ..... Canadian General Standards Board (Place du Portage III, 6B1 11 Laurier Street, Gatineau, Quebec K1A 1G6; www.pwgsc.gc.ca/cgsb)

CMHC ..... Canada Mortgage and Housing Corporation (700 Montreal Road, Ottawa, Ontario K1A 0P7; www.cmhc.ca)

CRCA ..... Canadian Roofing Contractors' Association (2430 Don Reid Drive, Suite 100, Ottawa, Ontario K1H 1E1; www.roofingcanada.com)

CSA ..... Canadian Standards Association (5060 Spectrum Way, Suite 100, Mississauga, Ontario L4W 5N6; www.csa.ca)

CWC ..... Canadian Wood Council (99 Bank Street, Suite 400, Ottawa, Ontario K1P 6B9; www.cwc.ca)

EPA ..... Environmental Protection Agency (Office of Radiation and Indoor Air, 1200 Pennsylvania Avenue, NW, 6609G, Washington, D.C. 20460 U.S.A.; www.epa.gov)

FCC ..... Forintek Canada Corporation (319, rue Franquet, Sainte-Foy (Québec) G1P 4R4; www.forintek.ca)

FM Global ... FM Global (1151 Boston-Providence Turnpike, P.O. Box 9102, Norwood, Massachusetts 02062 U.S.A.; www.fmglobal.com)

HC ..... Health Canada (Communications Directorate, Ottawa, Ontario K1A 0K9; www.hc-sc.gc.ca)

HI ..... Hydronics Institute (35 Russo Place, Berkley Heights, New Jersey 07922 U.S.A.; www.gamanet.org)

HRAI ..... Heating, Refrigeration and Air Conditioning Institute of Canada (5045 Orbitor Drive, Building 11, Suite 300, Mississauga, Ontario L4W 4Y4; www.hrai.ca)

HVI ..... Home Ventilating Institute (1000 N. Rand Road, Suite 214, Wauconda, Illinois 60084 U.S.A.; www.hvi.org)

IRC ..... Institute for Research in Construction (National Research Council of Canada, Ottawa, Ontario K1A 0R6; irc.nrc-cnrc.gc.ca)

ISO ..... International Organization for Standardization (Standards Council of Canada, 270 Albert Street, Suite 200, Ottawa, Ontario K1P 6N7; www.iso.org)

NBC ..... National Building Code of Canada 2005 (see CCBFC)

NCMA ..... National Concrete Masonry Association (13750 Sunrise Valley Drive, Herndon, Virginia 20171-4662 U.S.A.; www.ncma.org)

NFC ..... National Fire Code of Canada 2005 (see CCBFC)

NFPA ..... National Fire Protection Association (1 Batterymarch Park, Quincy, Massachusetts 02169-7471 U.S.A.; www.nfpa.org)

NLGA ..... National Lumber Grades Authority (406 - First Capital Place, 960 Quayside Drive, New Westminster, British Columbia V3M 6G2; www.nlga.org)

NRC ..... National Research Council of Canada (Ottawa, Ontario K1A 0R6; www.nrc-cnrc.gc.ca)

NRCA ..... National Roofing Contractors Association (10255 W. Higgins Road, Suite 600, Rosemont, Illinois 60018-5607 U.S.A.; www.nrca.net)

NYCDH ..... New York City Department of Health and Mental Hygiene (Environmental and Occupational Disease Epidemiology, 253 Broadway, Suite 402, CN-34C, New York, New York 10007-2333 U.S.A.; www.nyc.gov/html/doh)

OMMAH ..... Ontario Ministry of Municipal Affairs and Housing (777 Bay Street, 2nd Floor, Toronto, Ontario M5G 2E5; www.obc.mah.gov.on.ca)

ONHWP ..... Ontario New Home Warranty Program (now Tarion Warranty Corporation, 5150 Yonge Street, Concourse Level, Toronto, Ontario M2N 6L8; www.tarion.com)

SFPE ..... Society of Fire Protection Engineers (7315 Wisconsin Avenue, Suite 620E, Bethesda, Maryland 20814 U.S.A.; www.sfpe.org)

SMACNA .... Sheet Metal and Air Conditioning Contractors' National Association (4201 Lafayette Center Drive, Chantilly, Virginia 20151-1209 U.S.A.; www.smacna.org)

TC ..... Transport Canada (Public Affairs, Tower C, Place de Ville, 330 Sparks Street, Area B, 19th Floor, Ottawa, Ontario K1A 0N5; www.tc.gc.ca)

TPIC ..... Truss Plate Institute of Canada (% 16 Nixon Road, Bolton, Ontario L7E 1K3, Attn: Kenneth Koo; www.tpic.ca)

UL ..... Underwriters Laboratories Inc. (333 Pfingsten Road, Northbrook, Illinois 60062-2096 U.S.A.; www.ul.com)

ULC ..... Underwriters' Laboratories of Canada (7 Underwriters Road, Toronto, Ontario M1R 3B4; www.ulc.ca)

WCLIB ..... West Coast Lumber Inspection Bureau (P.O. Box 23145, Portland, Oregon 97281 U.S.A.; www.wclib.org)

WWPA ..... Western Wood Products Association (522 SW Fifth Avenue, Suite 500, Portland, Oregon 97204-2122 U.S.A.; www.wwpa.org)

3) Self-contained mechanical ventilation systems that serve only one *dwelling unit* and that conform to Subsection 9.32.3. are deemed to conform to this Article.

4) *Dwelling units* and corridors serving the *dwelling units* shall be mechanically ventilated.

5) Stair shafts serving *dwelling units* need not be ventilated unless such ventilation is required by other parts of this Code.

6) Mechanical ventilation systems of *dwelling units* shall incorporate the following components:
- a) a principal ventilation system, and
- b) supplemental exhaust fans.

7) The principal ventilation system of *dwelling units* shall include the following components:
- a) an exhaust air outlet located inside the *dwelling unit*,
- b) air outlets that allow the introduction 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* only, a ventilator that is a heat recovery ventilator (HRV)
  - i) having sensible heat recovery efficiency certified by AHRI according to ANSI/AHRI-1060, "Rating Air-to-Air Heat Exchangers for Energy Recovery Ventilation Equipment," or by HVI according to CAN/CSA-C439, "Rating the Performance of Heat/Energy-Recovery Ventilators,"
  - ii) having sensible heat recovery efficiency of at least 54% for a *building* located in a municipality whose number of degree-days below 18°C is less than 6000 and of 60% for a *building* located in another municipality,
  - iii) having sensible heat recovery efficiency determined at a dry temperature of 1.7°C for *appliances* certified by AHRI, or -25°C for *appliances* certified by HVI (see Appendix A), and
  - iv) whose operating and de-icing cycles do not generate air circulation between the *dwelling units*.

8) The principal ventilation system of the *dwelling unit* shall be controlled by a manual switch located within the living area of the *dwelling unit* and marked **"VENTILATION FAN"**.

9) The principal ventilation system of the *dwelling unit* shall not operate if all the manual controls are in the "off" position.

10) The principal ventilation system of the *dwelling unit* shall have the exhaust capacity indicated in Table 9.32.3.3.

11) The outdoor air supply ventilation system shall have a rated capacity equal to plus or minus 10% of the actual normal operating exhaust capacity of the exhaust ventilation system.

12) The air intake and air supply outlets of the principal ventilation system of a *dwelling unit* shall be located in the ceiling or in a wall, not less than 2 m above the floor, and be designed and installed to promote diffusion across the ceiling.

13) Outdoor air admitted shall be tempered to at least 12°C before being circulated to habitable spaces.

14) Outdoor air shall be supplied to the *dwelling units* by a system of trunk and branch *supply ducts* that conform to the requirements of Sentences 9.32.3.5.(10) and (11).

15) Provision shall be made for the free flow of air to or from all rooms by leaving gaps beneath doors, using louvred doors or installing grilles in doors.

16) A *range* hood with a rated capacity not less than 50 L/s shall be installed in the kitchen.

17) An exhaust fan with a rated capacity not less than 25 L/s shall be installed in a bathroom or water-closet room.

18) Article 9.32.3.8. applies to all *dwelling units* that
a) contain a *space-heating appliance* or a fuel-fired *storage-type service water heater* of a type other than *direct-vented* or *mechanically vented*, and
b) are located in regions where *soil* gas is deemed to be a problem and that do not incorporate an active *soil* gas mitigation system.

19) Corridors serving *dwelling units* shall be ventilated mechanically with an outdoor air supply system at an air change rate of 0.3 per hour.

6.2.3. Air Duct Systems

6.2.3.1. Application

1) This Subsection applies to the design, construction and installation of air duct distribution systems serving heating, ventilating and air-conditioning systems other than those in *dwelling units* covered by Part 9.

6.2.3.2. Materials in Air Duct Systems

1) All ducts, duct connectors, associated fittings and *plenums* used in air duct systems shall be constructed of materials as described in Article 3.6.5.1.

2) Ducts that are used in a location where they may be subjected to excessive moisture shall have no appreciable loss of strength when wet and shall be resistant to moisture-induced corrosion.

3) All ductwork and fittings shall be constructed and installed as recommended in SMACNA Manuals and ASHRAE Standards.

4) All duct materials shall be suitable for exposure to the temperature and humidity of the air being carried and shall be resistant to corrosion caused by contaminants in the air being conveyed in the duct.

6.2.3.3. Connections and Openings in Air Duct Systems

1) Air duct systems shall have
a) tight-fitting connections throughout, and
b) no openings other than those required for the proper operation and maintenance of the system.

2) Access openings shall be provided in duct systems to allow the removal of material that may accumulate in *plenums* and ducts.

6.2.3.4. Duct Coverings and Linings

1) Coverings, linings and associated adhesives and insulation used in air ducts, *plenums* and other parts of air duct systems shall comply with Article 3.6.5.4.

2) Insulation and coverings on piping used in heating systems shall comply with Article 3.6.5.5.

3) Duct linings shall be installed so that they will not interfere with the operation of volume or balancing dampers or of *fire dampers*, *fire stop flaps* and other *closures*.

6.2.3.5. Underground Ducts

1) Underground ducts shall
a) be constructed and installed to provide interior drainage from and access to all low points,
b) not be connected directly to a sewer, and
c) be installed and constructed of materials recommended by ASHRAE and SMACNA Standards and HRAI Manuals.

2) A clean-out or pump-out connection shall be provided in an underground duct system at every low point of the duct system.

6.2.3.6. Fire Dampers

1) *Fire dampers* shall conform to Article 3.1.8.9.

6.2.3.7. Smoke Detectors

1) Air handling systems shall incorporate *smoke detectors* where and as required by Article 3.2.4.12.

6.2.3.8. Exhaust Ducts and Outlets

1) Except as provided in Sentence (2), *exhaust ducts* of non-mechanical ventilating systems serving separate rooms or spaces shall not be combined.

2) *Exhaust ducts* of non-mechanical ventilating systems serving similar *occupancies* may be combined immediately below the point of final delivery to the outside, such as at the base of a roof ventilator.

3) *Exhaust ducts* of ventilating systems shall have provision for the removal of condensation where this may be a problem.

9.32.2.3. Non-Heating-Season Mechanical Ventilation

1) Where a habitable room or space is not provided with natural ventilation as described in Article 9.32.2.2. and is mechanically cooled, its non-heating-season mechanical ventilation system shall

a) have the capacity to exhaust air from inside the room or space, or to introduce outside air into that room or space, at a rate conforming with Table 9.32.2.3., or
b) comply with Subsection 9.32.3.

2) In applying Clause (1)(a),

a) at least one bedroom in each *dwelling unit* shall be designated as the master bedroom,
b) air change rates for any combined living/dining or family/dining space shall be determined as if the spaces were individual rooms,
c) where a *basement* incorporates rooms of the types designated in Table 9.32.2.3., the assigned air change rate for each room shall be as specified for those types of rooms,
d) *basement* areas used for other purposes that exceed 2/3 of the total *basement floor area* shall be assigned an air change rate of 10 L/s,
e) *basement* areas used for other purposes that are 2/3 of the total *basement floor area* or less shall be assigned an air change rate of 5 L/s, and
f) other habitable rooms, other than spaces intended solely for access, egress, storage, or service equipment, shall be assigned an air change rate of 5 L/s.

Table 9.32.2.3.
Air Change Rate
Forming Part of Clause 9.32.2.3.(1)(a)

Room or Space	Rate, L/s
Master bedroom	10
Other bedrooms	5
Living room	5
Dining room	5
Family room	5
Recreation room	5
Basement	10
Kitchen	5
Bathroom or water-closet room	5
Laundry room	5
Utility room	5
Other habitable rooms	5

3) Where a habitable room or space is not provided with natural ventilation as described in Article 9.32.2.2. and is not mechanically cooled, the non-heating-season mechanical ventilation system shall have the capacity to exhaust inside air from the room or space or to introduce outside air to that room or space at a rate of one air change per hour.

4) A non-heating-season mechanical ventilation system shall be designed and installed in conformance with good practice such as that described in the ASHRAE Handbooks and Standards, the HRAI Digest, the Hydronics Institute Manuals and the SMACNA manuals.

9.32.3. Heating-Season Mechanical Ventilation

(See Appendix A.)

9.32.3.1. Required Ventilation

1) The heating-season ventilation required by Clause 9.32.1.2.(1)(b) shall be provided by a mechanical ventilation system complying with

a) good practice such as that described in CAN/CSA-F326-M, "Residential Mechanical Ventilation Systems," or
b) for *dwelling units* with 5 or fewer bedrooms, the balance of this Subsection.

(See Appendix A.)

2) Mechanical ventilation systems complying with the balance of this Subsection shall incorporate at least the following components:

a) a principal ventilation system complying with Article 9.32.3.3.,
b) supplemental exhaust fans complying with Article 9.32.3.7., and
c) protection against depressurization in accordance with Article 9.32.3.8.

9.32.3.2. Design and Installation

1) Aspects of mechanical ventilation systems not specifically described in this Subsection shall be designed, constructed and installed in accordance with good practice such as that described in the ASHRAE Handbooks and Standards, the HRAI Digest, the HRAI Residential Mechanical Ventilation Manual, the Hydronics Institute Manuals and the SMACNA manuals.

2) Ventilation system equipment installed to meet the requirements of this Section shall be installed in accordance with the manufacturers' instructions and recommendations except that, where such instructions and recommendations are in

conflict with the requirements of this Subsection, the requirements of this Subsection shall govern.

3) Except where mounted on concrete foundations, fans and heat recovery ventilators shall be isolated from structural components by resilient mountings to minimize the transmission of noise and vibration to occupied spaces.

4) Where flow-regulating dampers are required,
a) they shall be adjustable and accessible without requiring the removal of fans, motors or insulating materials, or the use of specialized tools, and
b) a device on the outside of the duct or device in which they are installed shall indicate the position of the damper.

5) Ventilation equipment shall be accessible for inspection, maintenance, repair and cleaning.

6) Ventilation equipment installed in unheated spaces shall be installed so as to avoid condensation of moisture on fans and motors, in accordance with the manufacturers' instructions.

9.32.3.3. Principal Ventilation System

(See Appendix A.)

1) The principal ventilation system shall incorporate the following components:
a) a principal ventilation fan complying with this Article, and
b) provision for the introduction of outdoor air to the *dwelling unit*, in conformance with Article 9.32.3.4. or 9.32.3.5.

2) The principal ventilation fan shall
a) be capable of operating at an exhaust capacity complying with Table 9.32.3.3., referred to hereinafter as the "normal operating exhaust capacity" (see Appendix A), and
b) include, in *buildings* whose *major occupancy* is Group C, housing *dwelling units* only, a heat recovery ventilator (HRV)
   i) having sensible heat recovery efficiency certified by HVI according to CAN/CSA-C439, "Rating the Performance of Heat/Energy-Recovery Ventilators," and
   ii) having sensible heat recovery efficiency of at least 54% for a *building* located in a municipality whose number of degree-days below 18°C is less than 6000 and of 60% for a *building* located in another municipality and determined at a dry temperature of -25°C. (See A-6.2.2.8.(7)(c)(iii) in Appendix A.)

Part 11
Energy efficiency

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 ground of a *building* that is to be heated during the winter. (See Appendix A.)

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 ground 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. (See Appendix A.)

7) Cladding must conform to Section 9.27.

8) Ventilation must conform to Section 9.32. (See Appendix A.)

11.2.2. Thermal Resistance

11.2.2.1. Thermal Resistance of Building Components

1) Subject to Sentences (2) to (4), 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 less than 6000, 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 at least 6000.

(See Appendix A.)

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 complied with Sentence (1).

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

a) the annual energy consumption of the proposed construction does not exceed that of the reference construction that complies with the requirements of Part 11, and
b) the only components the *total thermal resistance* of which may be upgraded are roofs, walls above ground level, doors, windows 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.)

Table 11.2.2.1.A.
Total Thermal Resistance of Buildings Located in a Municipality Whose Number of Degree-days Below 18°C Is Less Than 6000
Forming Part of Sentence 11.2.2.1.(1)

Building Component	*Total Thermal Resistance* (RSI_T)
Roof or ceiling separating heated space from unheated space or exterior air	7.22
Wall above ground level, other than a *foundation* wall, separating heated space from unheated space or exterior air	4.31
Foundation wall(1) separating heated space from unheated space, exterior air or adjacent ground	2.99
Floor separating heated space from unheated space or exterior air	5.20

Notes to Table 11.2.2.1.A.:

(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 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 At Least 6000
Forming Part of Sentence 11.2.2.1.(1)

Building Component	*Total Thermal Resistance* (RSI_T)
Roof or ceiling separating heated space from unheated space or exterior air	9.00
Wall above ground level, other than a *foundation* wall, separating heated space from unheated space or exterior air	5.11
Foundation wall(1) separating heated space from unheated space, exterior air or adjacent ground	2.99
Floor separating heated space from unheated space or exterior air	5.20

Notes to Table 11.2.2.1.B.:

(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 that required for a wall above ground level.

11.2.2.2. Thermal Resistance of Slabs-on-Ground Other Than a Garage Floor

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 adjacent ground level,
b) for a slab-on-ground located more than 600 mm below the adjacent ground level,
   i) 0.88, or
   ii) 1.32 and installed around the slab-on-ground over a width of at least 1.2 m,
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, or
   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.

11.2.2.3. Thermal Resistance Near Eaves

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 thermal characteristics of windows, doors and skylights must

a) be determined in accordance with CAN/CSA-A440.2/A440.3, "Fenestration energy performance/User guide to CSA A440.2-09, Fenestration energy performance," and
b) conform to the values indicated in Table 11.2.2.4.

(See Appendix A.)

2) Windows and skylights including glazed doors must have a minimum airtightness rating of A2 according to Section 10.2 of CAN/CSA A440, "Windows."

3) The total area of rough openings in *building* components, that is to receive windows, doors, skylights and other similar components, must not be greater than 30% of the area of walls above ground level. (See Appendix A.)

4) The thermal performance required in Sentence (1) and the maximum area described in Sentence (3) may be different from the following conditions:

a) the annual energy consumption of the proposed construction does not exceed that of the reference construction that is conform to the requirements of Part 11, and
b) the only components that may be altered in addition to those referred to in Sentence (4) are those described in Sentence 11.2.2.1.(3).

(See A-11.2.2.1.(3) in Appendix A.)

Table 11.2.2.4.
Maximum Overall Thermal Transmittance (U) and Minimum Energy Rating (ER) of Windows, Doors and Skylights
Forming Part of Sentence 11.2.2.4.(1)

Building Component	*Building* Located in a Municipality Whose Number of Degree-days Below 18°C Is Less Than 6000	*Building* Located in a Municipality Whose Number of Degree-days Below 18°C Is Of At Least 6000
Maximum *overall thermal transmittance* (U) of doors without glazing	0.9	0.8
Maximum *overall thermal transmittance* (U) or minimum energy rating (ER) of glazed doors	1.8 or 21	1.6 or 25
Maximum *overall thermal transmittance* (U)/Minimum energy rating (ER) of windows	2.0 / 21 or 1.8 / 13	2.0 / 25 or 1.6 / 17
Maximum *overall thermal transmittance* (U) of skylights	2.85	2.7

11.2.3. Thermal Bridges

11.2.3.1. Thermal Bridges in Walls

(See Appendix A.)

1) *Building* components constituting a *thermal bridge* must be covered in insulating material having a *thermal resistance*
- a) for a wood frame, of
  - i) at least 0.7 if the frame members are spaced less than 600 mm o.c., or
  - ii) at least 0.53 in all other cases,
- b) for a metal frame (see Appendix A), of
  - i) at least 1.76 if the frame members are spaced less than 600 mm o.c., or
  - ii) at least 1.32 in all other cases,
- c) for a concrete frame, of
  - i) at least 0.88 in all cases.

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

3) A wall between two heated spaces 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.)

4) Subject to Sentence (5), the header must be insulated so as to have a *total thermal resistance* value equivalent to that required for a wall above ground level.

5) In the case of a concrete construction where the header may only be insulated on the outside, the *total thermal resistance* value may be lower than that required in Sentence (4) as long as the insulating material covering that component has a *thermal resistance* of at least 1.76.

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 Other Than a Garage Floor

1) The insulating 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,

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

   i) 1.32 if heating pipes, tubes, ducts or cables are buried under or are contained in the slab-on-ground, or

   ii) 0.7 for other slabs-on-ground.

11.2.3.4. Insulation of the Foundation Wall of a Heated Garage

1) The insulating material installed on the *foundation* wall of a heated garage must have a *thermal resistance* of not less than 1.76 and be installed not more than 600 mm below ground level.

Applicable Acceptable Solutions

In demonstrating that an alternative solution will perform as well as a design that would satisfy the applicable acceptable solutions in Division B, its evaluation should not be limited to comparison with the acceptable solutions to which an alternative is proposed. It is possible that acceptable solutions elsewhere in the Code also apply. The proposed alternative solution may be shown to perform as well as the most apparent acceptable solution which it is replacing but may not perform as well as other relevant acceptable solutions. For example, an innovative sheathing material may perform adequately as sheathing in a wall system that is braced by other means but may not perform adequately as sheathing in a wall system where the sheathing must provide the structural bracing. All applicable acceptable solutions should be taken into consideration in demonstrating the compliance of an alternative solution.

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 m^2, a building height not more than 3 storeys and housing dwelling units only.

Part 11 also applies to the addition work of existing buildings to the extent where the building area, after the addition work, is not more than 600 m^2, the building height is not more than 3 storeys and the building houses dwelling units 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 renovation of existing buildings.

A-1.3.3.4.(1) Buildings Divided by Firewalls. This concept relates to the provisions directly regulated by this Code and does not apply to electrical service entrance requirements, which are regulated by other documents.

A-1.3.3.4.(2) Buildings on Sloping Sites. Application of the definition of grade to stepped buildings on sloping sites often results in such buildings being designated as being greater than 3 storeys in building height even though there may be only 2 or 3 storeys at any one location. The diagrams below illustrate this application compared to a similar building on a flat site.

Under this Sentence, Building A can be considered as being 3 storeys in building height instead of 6 storeys in building height. Both Building A and B are comparable with regard to fire safety and egress.

This relaxation applies to the determination of building height only. All other requirements continue to apply as appropriate.

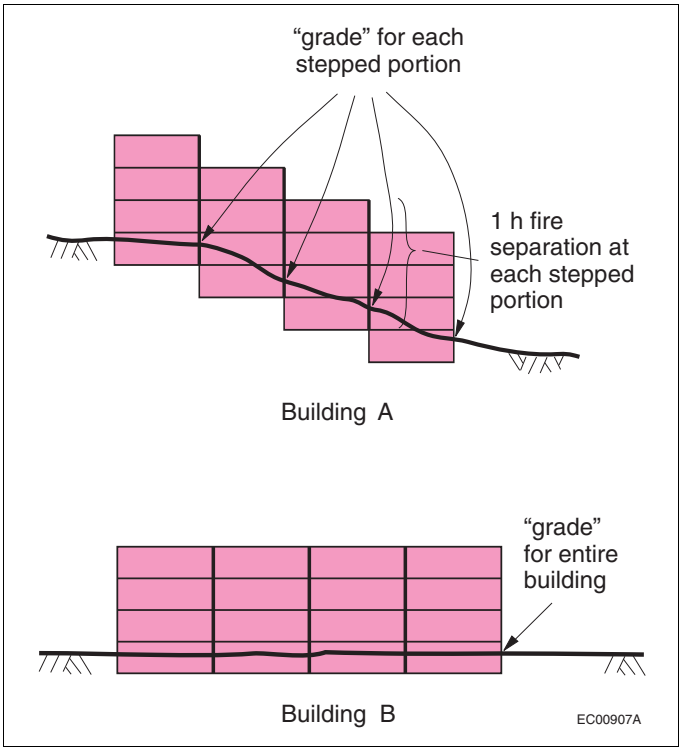

Figure A-1.3.3.4.(2)
Application of the definition of grade

A-1.4.1.2.(1) Defined Terms.

Alteration

An alteration does not include types of work such as work required to bring the building into conformance with the regulations in force and the maintenance and repairs that do not affect the characteristics and functions of the elements involved. It does, however, include the following types of intervention:

(1) a change of occupancy without modification, including a change in the same Group or Division and resulting in
  (a) an increase in occupant load,
  (b) a new occupancy other than the occupancies in Groups D and F, Division 3, or
  (c) a change from building to a high building,

(2) a change such as an addition, restoration, rehabilitation, renovation or retrofitting related to
  (a) an increase in building height,
  (b) an increase in building area,
  (c) an increase in floor area,
  (d) the creation of an interconnected floor space,
  (e) the installation of a barrier-free access to a building or a barrier-free path of travel in the building,
  (f) a modification of the provisions for firefighting, or
  (g) a modification or addition affecting the safety and health conditions of a building or part of a building.

Exit

Exits include doors or doorways leading directly into an exit stair or directly to the outside. In the case of an exit leading to a separate building, exits also include vestibules, walkways, bridges or balconies.

Farm Building

Farm buildings as defined in Article 1.4.1.2. include, but are not limited to, produce storage and packing facilities, livestock and poultry housing, milking centres, manure storage facilities, grain bins, silos, feed preparation centres, farm workshops, greenhouses, farm retail centres, and horse riding, exercise and training facilities. Farm buildings may be classed as low or high human occupancy, depending on the occupant load.

Examples of farm buildings likely to be classed as low human occupancy as defined in Article 1.2.1.2. of the National Farm Building Code of Canada are livestock and poultry housing, manure and machinery storage facilities and horse exercise and training facilities where no bleachers or viewing area are provided.

Examples of farm buildings that would be classed as other than low human occupancy include farm retail centres for feeds, horticultural and livestock produce, auction barns and show areas where bleachers or other public facilities are provided. Farm work centres where the number of workers frequently exceeds the limit for low human occupancy will also be in this category.

It is possible to have areas of both high and low human occupancy in the same building provided that the structural safety and fire separation requirements for high human occupancy are met in the part thus designated.

Fire Separation

A fire separation may or may not have a fire-resistance rating.

Mechanically Vented

The definition of this term is intended to include all types of appliances and venting systems that rely entirely on fans to evacuate the products of combustion. Systems variously referred to as “forced draft,” “power vented” and “induced draft” in standards and industry terminology may be covered by this definition. The key characteristic of such systems is that they are more resistant to depressurization-induced spillage of combustion products into the building in which they are housed because the combustion venting system downstream of the fan is “sealed,” i.e. includes no draft hood or draft control device.

Post-disaster Building

There may be circumstances where the authority having jurisdiction would choose to exempt certain types of buildings or parts thereof from being designated as post-disaster buildings in order to permit them to be governed by Part 9 rather than by the rest of the Code. Such is the case in the following examples: an ambulance that is stored at a volunteer's residence or a police station that is housed in a small shopping mall. The circumstances where such exemptions are permitted are intentionally limited by the definition of post-disaster building.

Public Corridor

A covered mall is considered to be a public corridor and, as such, is subject to the same requirements as a public corridor.

Residential Board and Care Occupancy

In this Code,

(a) “be assisted” means direct support to a person physically or mentally unable to move or direct himself or herself in case of evacuation;
(b) “lodge persons” means residence and other services provided to persons by a care occupancy;
(c) “personal-support services” means services to compensate a temporary or permanent disability related to hygiene, food, maintenance, use of personal goods, movement of a person or rehabilitation and services for supervising medication or managing a possible crisis, emergency or evacuation of the building;
(d) “rest home,” “rehabilitation centre” or “residential and long-term care centre” means a residential and long-term care centre (CHSLD) within the meaning of section 83 of the Act respecting health services and social services (R.S.Q., c. S-4.2).

Note: A building or part of building is considered to be a residential board and care occupancy when the occupancy occupies more than 10% of the floor area and becomes, as provided in Article 3.2.2.8., a major occupancy.

Service Room

Typical examples of service rooms include boiler rooms, furnace rooms, incinerator rooms, garbage handling rooms and rooms to accommodate air-conditioning or heating appliances, pumps, compressors and electrical equipment. Rooms such as elevator machine rooms and common laundry rooms are not considered to be service rooms.

Storage Garage

Entrances at which vehicles stop for a short time beneath an unenclosed canopy to pick up and drop off passengers are not considered as storage garages.

Suite

Tenancy in the context of the term "suite" applies to both rental and ownership tenure. In a condominium arrangement, for example, dwelling units are considered separate suites even though they are individually owned. In order to be of complementary use, a series of rooms that constitute a suite must be in reasonably close proximity to each other and have access to each other either directly by means of a common doorway or indirectly by a corridor, vestibule or other similar arrangement.

The term "suite" does not apply to rooms such as service rooms, common laundry rooms and common recreational rooms that are not leased or under a separate tenure in the context of the Code. Similarly, the term "suite" is not normally applied in the context of buildings such as schools and hospitals, since the entire building is under a single tenure. However, a room that is individually rented is considered a suite. A warehousing unit in a mini-warehouse is a suite. A rented room in a nursing home could be considered as a suite if the room was under a separate tenure. A hospital bedroom on the other hand is not considered to be under a separate tenure, since the patient has little control of that space, even though he pays the hospital a per diem rate for the privilege of using the hospital facilities, which include the sleeping areas.

For certain requirements in the Code, the expression "room or suite" is used (e.g., travel distance). This means that the requirement applies within the rooms of suites as well as to the suite itself and to rooms that may be located outside the suite. In other places the expression "suite, and rooms not located within a suite" is used (e.g., for the installation of smoke and heat detectors). This means that the requirement applies to individual suites as defined, but not to each room within the suite. The rooms "not within a suite" would include common laundry rooms, common recreational rooms and service rooms, which are not considered as tenant-occupied space.

Thermal Resistance

To convert RSI value (metric unit) into R value (imperial unit), the RSI value is multiplied by 5.678263.

Total Thermal Resistance

The method for calculating the total thermal resistance of a component of the building envelope having a wood frame, for example, consists in determining the thermal resistance of the various materials as part of the component along a line crossing the insulated part and in adding the values obtained. The interior and exterior surface air film of the envelope are part of the building assembly.

A-1.5.1.1.(1) Application of Referenced Documents. Documents referenced in the NBC may contain provisions covering a wide range of issues, including issues that are unrelated to the objectives and functional statements stated in Parts 2 and 3 of Division A respectively; e.g. aesthetic issues such as colour-fastness or uniformity. Sentence 1.5.1.1.(1) is intended to make it clear that, whereas referencing a document in the NBC generally has the effect of making the provisions of that document part of the Code, provisions that are unrelated to buildings or to the objectives and functional statements attributed to the provisions in Division B where the document is referenced are excluded.

Furthermore, many documents referenced in the NBC contain references to other documents, which may also, in turn, refer to other documents. These secondary and tertiary referenced documents may contain provisions that are unrelated to buildings or to the objectives and functional statements of the NBC: such provisions—no matter how far down the chain of references they occur—are not included in the intent of Sentence 1.5.1.1.(1) of Division A.

A-2.2.1.1.(1) Objectives.

Listing of objectives

Any gaps in the numbering sequence of the objectives are due to the fact that there is a master list of objectives covering the three principal National Code Documents—the National Building Code, the National Fire Code and the National Plumbing Code—but not all objectives are pertinent to all Codes.

The building

Where the term "the building" is used in the wording of the objectives, it refers to the building for which compliance with the National Building Code is being assessed.

Emergency

The term "emergency"—in the context of safety in buildings—is often equated to the term "fire emergency;" however, the wording of objectives OS3.7 and OS5.9 makes it clear that the Code addresses any type of emergency that would require the rapid evacuation of the building, such as a bomb threat or the presence of intruders.

A-3.2.1.1.(1) Functional Statements.

Listing of functional statements

The numbered functional statements are grouped according to functions that deal with closely related subjects. For example, the first group deals with fire risks, the second group deals with emergency egress and response, etc. There may be gaps in the numbering sequence for the following reasons:

- Each group has unused numbers which allows for the possible future creation of additional functional statements within any one group.
- There is a master list of functional statements covering the three principal National Code Documents—the National Building Code, the National Fire Code and the National Plumbing Code—but not all functional statements are pertinent to all Codes.

Appendix A
Explanatory Material

A-1.1.2.1.(1) Objectives and Functional Statements Attributed to Acceptable Solutions. The objectives and functional statements attributed to each Code provision are shown in Tables at the end of each Part in Division B.

Many provisions in Division B serve as modifiers of or pointers to other provisions, or serve other clarification or explanatory purposes. In most cases, no objectives and functional statements have been attributed to such provisions, which therefore do not appear in the above-mentioned tables.

For provisions that serve as modifiers of or pointers to other referenced provisions and that do not have any objectives and functional statements attributed to them, the objectives and functional statements that should be used are those attributed to the provisions they reference.

A-1.1.3.1.(1) Climatic and Seismic Values. Climatic values for municipalities not listed in Appendix C may be obtained by writing to the Meteorological Service of Canada, Environment Canada, 4905 Dufferin Street, Toronto, Ontario M3H 5T4.

Seismic values for municipalities not listed in Appendix C may be obtained through the Natural Resources Canada Web site at www.EarthquakesCanada.ca, or by writing to the Geological Survey of Canada at 7 Observatory Crescent, Ottawa, Ontario K1A 0Y3, or at P.O. Box 6000, Sidney, B.C. V8L 4B2.

A-1.1.3.1.(2) Winter Design Temperatures. The 2.5% values referred to in Sentence 1.1.3.1.(2) are the least restrictive temperatures that can be used. A designer may choose to use the 1% values given in Appendix C, which are in excess of the Code minimums but are considered acceptable.

A-1.3.1.2.(1) Applicable Editions. Where documents are referenced in Appendices A, B and C of this Code, they shall be the editions designated in Table A-1.3.1.2.(1).

Table A-1.3.1.2.(1)
Documents Referenced in Appendices A, B and C of the National Building Code of Canada 2005 ◊ ★

Issuing Agency	Document Number	Title of Document	Code Reference
ANSI/ ASHRAE	62.1-2004	Ventilation for Acceptable Indoor Air Quality	A-9.25.1.2.
ANSI/ ASHRAE	ANSI/ASHRAE 140-2007	Test for the Evaluation of Building Energy Analysis Computer Programs	A-11.2.2.1.(3)
ANSI/ BHMA	A156.10-2005	Power Operated Pedestrian Doors	A-3.8.3.3.(5)
ASCE	SEI/ASCE 8-02	Design of Cold-Formed Stainless Steel Structural Members	A-4.3.4.2.(1)
ASME	ANSI/ASME B18.6.1-1981	Wood Screws (Inch Series)	A-9.23.3.1.(2)
ASME/ CSA	ASME A17.1-2007/CSA B44-07	Safety Code for Elevators and Escalators	A-3.5.2.1.(1)
ASTM	C 516-02	Vermiculite Loose Fill Thermal Insulation	A-9.25.2.4.(5)

This Appendix is included for explanatory purposes only and does not form part of the requirements. The numbers that introduce each Appendix Note correspond to the applicable requirements in this Division.

Table A-1.3.1.2.(1) (Continued)

Issuing Agency	Document Number	Title of Document	Code Reference
ASTM	D 1037-06a	Evaluating Properties of Wood-Base Fiber and Particle Panel Materials	A-9.23.14.2.(4)
ASTM	D 1143/D 1143M-07	Deep Foundations Under Static Axial Compressive Load	A-4.2.7.2.(2)
ASTM	E 336-05	Measurement of Airborne Sound Attenuation between Rooms in Buildings	A-9.11.1.1.(1)
ASTM	E 492-04	Laboratory Measurement of Impact Sound Transmission Through Floor-Ceiling Assemblies Using The Tapping Machine	A-9.11.1.1.(1)
ASTM	E 597-95	Determining a Single Number Rating of Airborne Sound Insulation for Use in Multi-Unit Building Specifications	A-9.11.1.1.(1)
ASTM	E 1007-04e1	Field Measurement of Tapping Machine Impact Sound Transmission Through Floor-Ceiling Assemblies and Associated Support Structures	A-9.11.1.1.(1)
ASTM	F 476-84	Security of Swinging Door Assemblies	A-9.6.8.10.(1)
BNQ	NQ 2560-500-2003	Granulats - Détermination de l'indice pétrographique du potentiel de gonflement sulfatique des matériaux granulaires – Méthode d'essai pour l'évaluation de l'IPPG	A-4.2.5.8.(2)
BNQ	NQ 2560-510-2003	Granulats - Guide d'application de la méthode d'essai pour la caractérisation du potentiel de gonflement sulfatique des matériaux granulaires	A-4.2.5.8.(2)
CCBFC	NRCC 30629	Supplement to the National Building Code of Canada 1990	Appendix C
CCBFC	NRCC 35951	Guidelines for Application of Part 3 of the National Building Code of Canada to Existing Buildings	A-1.1.1.1.(1)[(1)]
CCBFC	NRCC 47667	National Fire Code of Canada 2005	A-1.1.1.1.(1)[(1)] A-3.1.2.3.(1) A-3.2.4.6.(2) A-3.2.7.8.(3) A-3.3. A-3.3.1.2.(1) A-3.3.1.7.(1) A-3.3.3.1.(1) B-3.2.6.
CCBFC	NRCC 47668	National Plumbing Code of Canada 2005	A-4.1.6.4.(3) Appendix C
CCBFC	NRCC 38732	National Farm Building Code of Canada 1995	A-1.4.1.2.(1)[(1)] A-Table 4.1.2.1. A-5.1.2.1.(1)
CCBFC	NRCC 40383	User's Guide – NBC 1995, Fire Protection, Occupant Safety and Accessibility (Part 3)	A-1.1.1.1.(1)[(1)]

Table A-1.3.1.2.(1) (Continued)

Issuing Agency	Document Number	Title of Document	Code Reference
CCBFC	NRCC 48192	User's Guide – NBC 2005, Structural Commentaries (Part 4 of Division B)	A-1.1.1.1.(1)[(1)] A-4.1.1.3.(1) A-4.1.1.3.(2) A-4.1.2.1. A-4.1.2.1.(1) A-4.1.3. A-4.1.3.2.(2) A-4.1.3.2.(3) A-4.1.3.2.(4) A-4.1.3.3.(2) A-4.1.3.4.(1) A-4.1.3.5.(1) A-4.1.3.5.(3) A-4.1.3.6.(1) A-4.1.3.6.(2) A-4.1.3.6.(3) A-4.1.5.9. A-4.1.5.18. A-4.1.6.2. A-4.1.6.2.(4)(b) A-4.1.6.3.(2) A-4.1.6.4.(1) A-4.1.7.1.(1) to (3)

Table A-1.3.1.2.(1) (Continued)

Issuing Agency	Document Number	Title of Document	Code Reference
CCBFC	NRCC 48192 (continued)	User's Guide – NBC 2005, Structural Commentaries (Part 4 of Division B)	A-4.1.7.1.(5)(a) to (c) A-4.1.7.1.(5)(d) A-4.1.7.1.(6)(a) A-4.1.7.1.(6)(c) A-4.1.7.1.(6)(d) and 4.1.7.2.(1)(b) A-4.1.7.3.(1) A-4.1.8.2.(1) A-4.1.8.3.(4) A-4.1.8.3.(6) A-4.1.8.3.(7)(b) and (c) A-4.1.8.3.(8) A-4.1.8.4.(3) and Table 4.1.8.4.A. A-Table 4.1.8.5. A-Table 4.1.8.6. A-4.1.8.7.(1) A-4.1.8.9.(4) A-4.1.8.9.(5) A-4.1.8.11.(3) A-4.1.8.12.(1)(a) A-4.1.8.12.(1)(b) A-4.1.8.12.(3) A-4.1.8.12.(4)(a) A-4.1.8.13.(4) A-4.1.8.15.(1) A-4.1.8.15.(2) A-4.1.8.15.(3) A-4.1.8.15.(4) A-4.1.8.15.(5) A-4.1.8.16.(1) A-4.1.8.16.(3)(a) A-4.1.8.16.(4) A-4.1.8.16.(5)(a) A-4.1.8.16.(7) A-4.1.8.17.(8)(f) A-4.2.4.1.(3) A-4.2.4.1.(5) A-4.2.5.1.(1) A-4.2.6.1.(1) A-4.2.7.2.(1) A-5.1.4.2. Appendix C
CCBFC	NRCC 43963	User's Guide – NBC 1995, Application of Part 9 to Existing Buildings	A-1.1.1.1.(1)[(1)]
CGSB	CAN/CGSB-7.2-97	Adjustable Steel Columns	A-9.17.3.4.
CGSB	CAN/CGSB-12.20-M89	Structural Design of Glass for Buildings	A-9.7.3.2.(1)
CGSB	CAN/CGSB-71.26-M88	Adhesive for Field-Gluing Plywood to Lumber Framing for Floor Systems	Table A-9.23.4.2.(2)C.
CGSB	CAN/CGSB-82.6-M86	Doors, Mirrored Glass, Sliding or Folding, Wardrobe	A-9.6.6.3.(1)
CGSB	CAN/CGSB-93.1-M85	Sheet, Aluminum Alloy, Prefinished, Residential	A-9.27.12.1.(3) and (4)
CGSB	CAN/CGSB-93.2-M91	Prefinished Aluminum Siding, Soffits, and Fascia, for Residential Use	A-9.27.12.1.(3) and (4)
CGSB	CAN/CGSB-149.10-M86	Determination of the Airtightness of Building Envelopes by the Fan Depressurization Method	A-11.2.1.2.(6)

Table A-1.3.1.2.(1) (Continued)

Issuing Agency	Document Number	Title of Document	Code Reference
CMHC	1993	Testing of Fresh Air Mixing Devices	A-9.32.3.4.
CMHC	1988	Air Permeance of Building Materials	A-5.4.1.2.(1) and (2) Table A-9.25.1.2.B.
CSA	A23.3-04	Design of Concrete Structures	A-4.1.3.2.(3) A-4.3.3.1.(1)
CSA	A23.4-05	Precast Concrete – Materials and Construction	A-4.3.3.1.(1)
CSA	A82.31-M1980	Gypsum Board Application	Table A-9.10.3.1.A. Table A-9.10.3.1.B.
CSA	CAN/CSA-A370-04	Connectors for Masonry	A-9.21.4.5.(2)
CSA	CAN/CSA-A440-00	Windows	A-9.7.2.1.(1)
CSA	CAN/CSA-A440.1-00	User Selection Guide to CSA Standard CAN/CSA-A440-00, Windows	A-9.7.2.1.(1)
CSA	CAN/CSA-B149.1-05	Natural Gas and Propane Installation Code	A-9.10.22.
CSA	CAN/CSA-B365-01	Installation Code for Solid-Fuel-Burning Appliances and Equipment	A-9.33.1.1.(2) A-9.33.5.3.
CSA	C22.1-06	Canadian Electrical Code, Part I	A-3.1.4.3.(1)(b)(i) A-9.10.22.
CSA	CAN/CSA-C282-05	Emergency Electrical Power Supply for Buildings	A-3.2.7.6.(1)
CSA	CAN/CSA-F326-M91	Residential Mechanical Ventilation Systems	A-6.2.2.2.(1) A-9.32.3.1.(1) A-9.32.3.5. A-9.32.3.7. A-9.32.3.8. A-9.33.6.14.
CSA	CAN/CSA-O86-01 (Including Supplement CAN/CSA-O86S1-05)	Engineering Design in Wood	A-9.15.2.4.(1) A-9.23.4.2.
CSA	O141-05	Softwood Lumber	A-9.3.2.1.(1)
CSA	O437.0-93	OSB and Waferboard	A-9.23.14.4.(2)
CSA	CAN/CSA-S6-06	Canadian Highway Bridge Design Code	A-Table 4.1.5.10.
CSA	CAN/CSA-S16-01 CONSOLIDATION	Limit States Design of Steel Structures	A-4.1.5.12. A-4.3.4.1.(1)
CSA	S304.1-04	Design of Masonry Structures	A-5.1.4.1.(5)(b) and (c)
CSA	CAN/CSA-S406-92	Construction of Preserved Wood Foundations	A-9.13.4.1.(4) A-9.15.2.4.(1)
CSA	Z32-04	Electrical Safety and Essential Electrical Systems in Health Care Facilities	A-3.2.7.6.(1)
CWC	2004	The Span Book	A-9.23.4.2.
CWC	2004	Engineering Guide for Wood Frame Construction	A-9.4.1.1. A-9.4.1.1.(3)
FCC	Project 43-10C-024 (1988)	Deflection Serviceability Criteria for Residential Floors	A-9.23.4.2.(2)
FM Global	FM 2-2 (2002)	Installation Rules for Suppression Mode Automatic Sprinklers	A-3.2.5.13.(7)
HC	H46-2/90-156E	Exposure Guidelines for Residential Indoor Air Quality	A-9.13.4.6. Table A-9.25.1.2.B.
HC	1995	Fungal Contamination in Public Buildings: A Guide to Recognition and Management	A-5.5.1.1.

Table A-1.3.1.2.(1) (Continued)

Issuing Agency	Document Number	Title of Document	Code Reference
IRC	BPN 61	Shear Resistance of Wood Frame Walls	A-9.23.10.2.
IRC	CBD 222	Airtight Houses and Carbon Monoxide Poisoning	A-9.33.1.1.(2)
IRC	CBD 230	Applying Building Codes to Existing Buildings	A-1.1.1.1.(1)[(1)]
IRC	CBD 231	Moisture Problems in Houses	A-9.25.3.1.(1)
IRC	1988	Performance and Acceptability of Wood Floors – Forintek Studies	A-9.23.4.2.(2)
ISO	7731:2003 (E)	Ergonomics – Danger signals for public and work areas – Auditory danger signals	A-3.2.4.21.(1)(b)
ISO	8201:1987 (E)	Acoustics – Audible emergency evacuation signal	A-3.2.4.18.(2)
NFPA	2001 Edition	Fire Protection Guide to Hazardous Materials	A-6.2.2.5.(1)
NFPA	FPH1903-2003	Fire Protection Handbook, Nineteenth Edition	A-3.2.2.2.(1) A-3.6.2.7.(5)
NFPA	13-2007	Installation of Sprinkler Systems	A-3.2.4.9.(2)(f) A-3.2.5.13.(1) A-3.2.5.13.(6) A-3.2.5.13.(7) A-3.2.5.14.(1) A-3.2.8.2.(3)
NFPA	13D-2007	Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes	A-3.2.5.13.(6) A-3.2.5.13.(7) A-3.2.5.14.(1)
NFPA	13R-2007	Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height	A-3.2.5.13.(6) A-3.2.5.13.(7) A-3.2.5.14.(1)
NFPA	20-2007	Installation of Stationary Pumps for Fire Protection	A-3.2.4.9.(2)(f) A-3.2.5.19.(1)
NFPA	30-2003	Flammable and Combustible Liquids Code	A-6.2.2.5.(1)
NFPA	30A-2003	Motor Fuel Dispensing Facilities and Repair Garages	A-6.2.2.5.(1)
NFPA	32-2007	Drycleaning Plants	A-6.2.2.5.(1)
NFPA	33-2007	Spray Application Using Flammable or Combustible Materials	A-6.2.2.5.(1)
NFPA	34-2007	Dipping and Coating Processes Using Flammable or Combustible Liquids	A-6.2.2.5.(1)
NFPA	35-2005	Manufacture of Organic Coatings	A-6.2.2.5.(1)
NFPA	36-2004	Solvent Extraction Plants	A-6.2.2.5.(1)
NFPA	40-2007	Storage and Handling of Cellulose Nitrate Film	A-6.2.2.5.(1)
NFPA	51-2007	Design and Installation of Oxygen-Fuel Gas Systems for Welding, Cutting, and Allied Processes	A-6.2.2.5.(1)
NFPA	51A-2006	Acetylene Cylinder Charging Plants	A-6.2.2.5.(1)
NFPA	55-2005	Storage, Use, and Handling of Compressed Gases and Cryogenic Fluids in Portable and Stationary Containers, Cylinders, and Tanks	A-6.2.2.5.(1)
NFPA	61-2002	Prevention of Fires and Dust Explosions in Agricultural and Food Products Facilities	A-6.2.2.5.(1)
NFPA	68-2007	Explosion Protection by Deflagration Venting	A-3.6.2.7.(5) A-6.2.2.5.(1)
NFPA	69-2002	Explosion Prevention Systems	A-3.6.2.7.(5) A-6.2.2.5.(1)

Table A-1.3.1.2.(1) (Continued)

Issuing Agency	Document Number	Title of Document	Code Reference
NFPA	80-2007	Fire Doors and Other Opening Protectives	A-3.1.8.1.(2) A-3.2.8.2.(3)
NFPA	80A-2007	Protection of Buildings from Exterior Fire Exposures	A-3
NFPA	85-2007	Boiler and Combustion Systems Hazards Code	A-6.2.2.5.(1)
NFPA	86-2007	Ovens and Furnaces	A-6.2.2.5.(1)
NFPA	88A-2007	Parking Structures	A-6.2.2.5.(1)
NFPA	91-2004	Exhaust Systems for Air Conveying of Vapors, Gases, Mists, and Noncombustible Particulate Solids	A-6.2.2.5.(1)
NFPA	92A-2006	Recommended Practice for Smoke-Control Systems	B-3.2.6.2.(3)
NFPA	96-2004	Ventilation Control and Fire Protection of Commercial Cooking Operations	A-3.3.1.2.(2) A-6.2.2.5.(1) A-9.10.1.3.(1)
NFPA	204-2007	Smoke and Heat Venting	A-6.2.2.5.(1)
NFPA	303-2006	Marinas and Boatyards	A-6.2.2.5.(1)
NFPA	307-2006	Construction and Fire Protection of Marine Terminals, Piers, and Wharves	A-6.2.2.5.(1)
NFPA	409-2004	Aircraft Hangars	A-6.2.2.5.(1)
NFPA	415-2002	Airport Terminal Buildings, Fueling, Ramp Drainage, Loading Walkways	A-6.2.2.5.(1)
NFPA	484-2006	Combustible Metals	A-6.2.2.5.(1)
NFPA	654-2006	Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids	A-6.2.2.5.(1)
NFPA	655-2007	Prevention of Sulfur Fires and Explosions	A-6.2.2.5.(1)
NFPA	664-2007	Prevention of Fires and Explosions in Wood Processing and Woodworking Facilities	A-6.2.2.5.(1)
NLGA	2007	Standard Grading Rules for Canadian Lumber	A-9.3.2.1.(1) Table A-9.3.2.1.(1)A. A-9.3.2.8.(1) A-9.23.10.4.(1)
NLGA	SPS-1-2003	Fingerjoined Structural Lumber	A-9.23.10.4.(1)
NLGA	SPS-3-2003	Fingerjoined “Vertical Stud Use Only” Lumber	A-9.23.10.4.(1)
NRCA	2005	Waterproofing Manual	A-5.6.2.1.
NRCA	2007	Roofing Manual: Membrane Roof Systems	A-5.6.2.1.
OMMAH	2006	2006 Building Code Compendium, Volume 2, Supplementary Standard SB-7, Guards for Housing and Small Buildings	A-9.8.8.2.
ONHWP	1993	Details of Air Barrier Systems for Houses	Table A-9.25.1.2.B.
ONHWP	1995	High-Rise Residential Construction Guide	A-5.6.2.1.
SMACNA	6th Edition	Architectural Sheet Metal Manual	A-5.6.2.1.
TC	SOR/2001-286	Transportation of Dangerous Goods Regulations	A-3.3.1.2.(1)
UL	ANSI/UL 199-2005	Automatic Sprinklers for Fire-Protection Service	A-3.2.5.13.(7)
UL	ANSI/UL 1626-2003	Residential Sprinklers for Fire-Protection Service	A-3.2.5.13.(7)
ULC	CAN/ULC-S101-04	Fire Endurance Tests of Building Construction and Materials	A-3.1.5.12.(2)(e) B-3.2.6.5.(6)(b)
ULC	CAN/ULC-S112-M90	Fire Test of Fire-Damper Assemblies	Table B-3.2.6.6.C.

Table A-1.3.1.2.(1) (Continued)

Issuing Agency	Document Number	Title of Document	Code Reference
ULC	CAN/ULC-S113-07	Wood Core Doors Meeting the Performance Required by CAN/ULC-S104 for Twenty Minute Fire Rated Closure Assemblies	A-9.10.13.2.(1)
ULC	CAN/ULC-S124-06	Test for the Evaluation of Protective Coverings for Foamed Plastic	A-3.1.5.12.(2)(e)
ULC	ULC-S332-93	Burglary Resisting Glazing Material	A-9.6.8.1.
ULC	CAN/ULC-S524-06	Installation of Fire Alarm Systems	A-3.2.4.18.(10)
ULC	CAN/ULC-S526-07	Visible Signal Devices for Fire Alarm Systems, Including Accessories	A-3.2.4.19.(1)
ULC	CAN/ULC-S702-97	Mineral Fibre Thermal Insulation for Buildings	A-5.10.1.1.(1)
WCLIB	No. 17 (2004)	Standard Grading Rules	A-Table 9.3.2.1.
WWPA	2005	Western Lumber Grading Rules	A-Table 9.3.2.1.

Notes to Table A-1.3.1.2.(1):

(1) Code reference is in Division A.

A-3 Application of Part 3. In applying the requirements of this Part, it is intended that they be applied with discretion to buildings of unusual configuration that do not clearly conform to the specific requirements, or to buildings in which processes are carried out which make compliance with particular requirements in this Part impracticable. The definition of "building" as it applies to this Code is general and encompasses most structures, including those which would not normally be considered as buildings in the layman's sense. This occurs more often in industrial uses, particularly those involving manufacturing facilities and equipment that require specialized design that may make it impracticable to follow the specific requirements of this Part. Steel mills, aluminum plants, refining, power generation and liquid storage facilities are examples. A water tank or an oil refinery, for example, has no floor area, so it is obvious that requirements for exits from floor areas would not apply. Requirements for structural fire protection in large steel mills and pulp and paper mills, particularly in certain portions, may not be practicable to achieve in terms of the construction normally used and the operations for which the space is to be used. In other portions of the same building, however, it may be quite reasonable to require that the provisions of this Part be applied (e.g., the office portions). Similarly, areas of industrial occupancy which may be occupied only periodically by service staff, such as equipment penthouses, normally would not need to have the same type of exit facility as floor areas occupied on a continuing basis. It is expected that judgment will be exercised in evaluating the application of a requirement in those cases when extenuating circumstances require special consideration, provided the occupants' safety is not endangered.

The provisions in this Part for fire protection features installed in buildings are intended to provide a minimum acceptable level of public safety. It is intended that all fire protection features of a building, whether required or not, will be designed in conformance with good fire protection engineering practice and will meet the appropriate installation requirements in relevant standards. Good design is necessary to ensure that the level of public safety established by the Code requirements will not be reduced by a voluntary installation.

Firefighting Assumptions

The requirements of this Part are based on the assumption that firefighting capabilities are available in the event of a fire emergency. These firefighting capabilities may take the form of a paid or volunteer public fire department or in some cases a private fire brigade. If these firefighting capabilities are not available, additional fire safety measures may be required.

Firefighting capability can vary from municipality to municipality. Generally, larger municipalities have greater firefighting capability than smaller ones. Similarly, older, well established municipalities may have better firefighting facilities than newly formed or rapidly growing ones. The level of municipal fire protection considered to be adequate will normally depend on both the size of the municipality (i.e., the number of buildings to be protected) and the size of buildings within that municipality. Since larger buildings tend to be located in larger municipalities, they are generally, but not always, favoured with a higher level of municipal protection.

Ducts to deliver air from the central corridor's ventilation system directly to each apartment can be effective. Alternatively, outdoor air can be mechanically introduced directly into each apartment by an ensuite ventilation system.

Within each apartment, all rooms and spaces must be mechanically ventilated. Effective ventilation may be achieved by making use of fan-coil systems to deliver ventilation air via the forced-air space conditioning system. Alternatively, ventilation air may be ducted independently to each room via a dedicated ventilation system. In bathrooms and kitchens, it has not been considered necessary to both supply and exhaust ventilation air; typically, air is exhausted from these rooms.

For more guidance on the design of mechanical ventilation systems for residential spaces, refer to CAN/CSA-F326-M, "Residential Mechanical Ventilation Systems."

Mechanical ventilation systems designed and installed in accordance with Section 9.32. comply with the requirements of Article 6.2.2.2., provided that they serve only one dwelling unit (apartment or suite).

A-6.2.2.3.(2) Ventilation of Storage Garages. Storage garages are ventilated to protect occupants from exposure to carbon monoxide and other vehicular exhaust fumes. In certain cases, such as small two- or three-bay storage garages that are used for occasional vehicle storage, and where occupants are not present, carbon monoxide or nitrogen dioxide monitoring devices may be omitted if the ventilation system is interlocked with a local light switch or other controls to ensure continuous system operation whenever the area is occupied. In any event, the ventilation system capacity must be designed to limit the concentrations of carbon monoxide or nitrogen dioxide at or below the prescribed values.

A-6.2.2.4.(3) Minimizing Growth of Micro-organisms. Sources for microbial growth causing hypersensitivity, pneumonitis and humidifier fever include drain pans, spray-water air-washers, contaminated filters, poorly maintained cooling coils, water incursion into ductwork, cafeteria dishwasher drainage leaks, high humidity and stagnant water. Some of the control measures are as follows:

(a) Drain pans should be pitched toward the drain outlet and the outlet bottom should be flush with the drain pan bottom, otherwise there will be standing water in the pan, exposed to the supply air passing through the cooling section of the air-handling unit.

(b) Access into air-handling equipment should be provided for maintenance of filters, cooling coils and condensate drain pans located below the cooling coils. Access doors should be large and easy to open to facilitate thorough and regular maintenance. Hinged access doors are preferable to bolted access panels.

(c) If moisture is added to commercial building ventilation air (such as in hospital operating rooms and dedicated computer rooms) to maintain humidity levels in a designated range (for example, 40% to 50% relative humidity), humidifiers that inject steam or water vapour into central air-handling units or main supply ducts are normally used. Injection nozzles should not be located in air-handling unit plenums or ductwork that is insulated with internal fibrous lining. If the lining becomes wet, conditions conducive to microbial growth will result.

The above only addresses built-in features of an HVAC system that can help to minimize growth of micro-organisms. Even more important than the built-in features is a program of regular maintenance and cleaning of those portions of the system where such growth is likely to occur.

A-6.2.2.5.(1) NFPA Publications Pertaining to the Heating, Ventilating and Air-Conditioning of Spaces Containing Hazardous Gases, Dusts or Liquids.

NFPA 30, "Flammable and Combustible Liquids Code"
NFPA 30A, "Motor Fuel Dispensing Facilities and Repair Garages"
NFPA 32, "Drycleaning Plants"
NFPA 33, "Spray Application Using Flammable or Combustible Materials"
NFPA 34, "Dipping and Coating Processes Using Flammable or Combustible Liquids "
NFPA 35, "Manufacture of Organic Coatings"
NFPA 36, "Solvent Extraction Plants"
NFPA 40, "Storage and Handling of Cellulose Nitrate Film"
NFPA 51, "Design and Installation of Oxygen-Fuel Gas Systems for Welding, Cutting, and Allied Processes"
NFPA 51A, "Acetylene Cylinder Charging Plants"
NFPA 55, "Storage, Use, and Handling of Compressed Gases and Cryogenic Fluids in Portable and Stationary Containers, Cylinders, and Tanks"
NFPA 61, "Prevention of Fires and Dust Explosions in Agricultural and Food Products Facilities"
NFPA 68, "Explosion Protection by Deflagration Venting"
NFPA 69, "Explosion Prevention Systems"

NFPA 85, "Boiler and Combustion Systems Hazards Code"
NFPA 86, "Ovens and Furnaces"
NFPA 88A, "Parking Structures"
NFPA 91, "Exhaust Systems for Air Conveying of Vapors, Gases, Mists, and Noncombustible Particulate Solids"
NFPA 96, "Ventilation Control and Fire Protection of Commercial Cooking Operations "
NFPA 204, "Smoke and Heat Venting"
NFPA 303, "Marinas and Boatyards"
NFPA 307, "Construction and Fire Protection of Marine Terminals, Piers, and Wharves"
NFPA 409, "Aircraft Hangars"
NFPA 415, "Airport Terminal Buildings, Fueling, Ramp Drainage, Loading Walkways"
NFPA 484, "Combustible Metals"
NFPA 654, "Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids"
NFPA 655, "Prevention of Sulfur Fires and Explosions"
NFPA 664, "Prevention of Fires and Explosions in Wood Processing and Woodworking Facilities"
NFPA, "Fire Protection Guide to Hazardous Materials"

A-6.2.2.7.(1) Ventilation and Venting of Crawl Spaces and Attic or Roof Spaces. The cross-reference to Part 5 pertains to unconditioned and unoccupied crawl spaces, and attic or roof spaces, which are effectively within the building envelope. That is, unconditioned and unoccupied attic or roof spaces are located between the roof deck and roofing above, and the insulation, air barrier system and vapour barrier below. Unconditioned and unoccupied crawl spaces are located between the ground cover below and the insulation, air barrier system and vapour barrier above. Venting of these spaces has implications for the performance of the building envelope rather than having direct effects on indoor conditions. The ventilation of conditioned or occupied crawl spaces and attic or roof spaces must comply with Part 6.

The requirements in Part 5 are stated in terms of loads that must be resisted rather than in terms of building elements. Thus, the Code user will not find explicit references in Part 5 to crawl spaces, or attic or roof spaces. Part 5 makes reference to the need for venting environmental separators, i.e., the dissipation of heat or moisture.

Sentence 6.2.2.7.(1) requires that crawl spaces be ventilated either by natural (above-grade only) or mechanical means. High moisture levels within the crawl space can lead to problems such as the formation of mould, lifting of flooring or long-term damage to structural components.

Crawl space ventilation cannot be expected to correct moisture-related problems caused by other factors like inadequate surface drainage from the foundation walls or improper protection against moisture from the ground. These conditions must be properly addressed so that crawl space ventilation can meet its intended objectives.

Several factors favour the use of mechanical ventilation rather than reliance on natural drafts. Local conditions, such as areas with high water tables, may dictate the need for mechanical ventilation to remove excessive moisture.

Crawl spaces should be maintained at a negative pressure relative to the conditioned area above to prevent the migration of moisture into occupied areas. This can be achieved through the use of an exhaust fan and relying on air transfer through floor penetrations, such as pipes.

A-6.2.2.8.(7)(c)(iii) Heat Recovery Ventilation. For the purposes of Part 11, sensible heat recovery efficiency from the heat recovery ventilator (HRV) must be determined with a flow rate equal to or greater than the expected flow rate for the normal operation at low speed of the HRV.

A-6.2.3.8.(5) and (6) Exhausting to Garages. A frequent practice in the design of ventilation systems serving buildings which have associated parking garages is to discharge exhaust air from the building to the garage in order to reduce the cost of heating the garage or reduce the length of the exhaust ducts. However, this practice entails a certain amount of risk since, when the exhaust system is not running, stack effect may turn the exhaust outlets into intakes and exhaust fumes (including carbon monoxide) can be drawn from the garage into the building. Incorporating a backdraft damper at the exhaust outlet provides some additional protection but backdraft dampers are generally not regarded as being very reliable. Therefore this practice is only permitted in very limited circumstances.

A-6.2.3.8.(6)(b) Air Contaminants. For the purpose of Clause 6.2.3.8.(6)(b), washroom exhaust air is not considered to contain contaminants that would adversely affect the air quality in the storage garage.

A-6.2.3.8.(10)(b) Operation Diversity Factor. The operation diversity factor has to be assessed for each specific application. Good engineering practice (see Article 6.2.1.1.) design guidelines can provide information on the subject. Figure A-6.2.3.8.(10)(b), which originates from ASHRAE handbooks, provides an example of factors that can be used for general applications.

A-9.34.2. Lighting Outlets. The Canadian Electrical Code contains requirements relating to lighting that are similar to those in the NBC. The Electrical Code requirements, however, apply only to residential occupancies, whereas many of the requirements in the NBC apply to all Part 9 buildings. Code users must therefore be careful to ensure that all applicable provisions of the NBC are followed, irrespective of the limitations in the Electrical Code.

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 with a view to a different use of the altered part. Alteration types, such as additions, 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 in 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 in Article 3.4.3.2., 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-11.2.1.1.(1) Exemptions. Buildings that are not intended to be heated are exempt from the energy efficiency requirements. This could apply to storage and parking garages as well as small service buildings or service rooms and areas in larger buildings, where those buildings or spaces are not heated.

A-11.2.1.2.(6) Air Barrier Systems. To measure the air infiltration rate of a construction, it is recommended that it be determined in accordance with CAN/CGSB-149.10, "Determination of the Airtightness of Building Envelopes by the Fan Depressurization Method."

A-11.2.1.2.(8) Ventilation Requirements. The ventilation requirements with which new constructions must comply also include the requirements of Article 9.32.3.9. on carbon monoxide alarms.

A-11.2.2.1.(1) Building Components. For the purposes of Part 11, wall assemblies inclined less than 60° from horizontal are considered to be roof assemblies, and roof assemblies inclined 60° or more from horizontal are considered to be wall assemblies.

Except for tubular daylighting devices, the effective thermal resistance for walls required in Table 11.2.2.1.A. or 11.2.2.1.B. also applies to shafts for skylights.

A-11.2.2.1.(3) Performance Benchmark by Comparison of the Annual Energy Consumption. The concept of measuring performance by comparing the annual energy consumption of a reference construction to a proposed construction is one way to benchmark the performance of a proposed construction to Part 11 requirements. The performance requirements of this Code are consistent with an objective-based code of demonstrating a similar level of performance regardless of the path used.

The term "reference construction" means a hypothetical replica of the proposed construction design using the same energy sources for the same functions and having the same environmental requirements, occupancy and climate data, but made to comply with all applicable prescriptive requirements of Part 11.

The term "construction energy target" means the annual energy consumption of the reference construction.

The term "annual energy consumption" means the annual sum of heating energy consumption and space conditioning energy consumption of the proposed construction design. It must be noted that the annual energy consumption is not the real consumption but rather that provided by energy simulation.

The calculation procedure must determine the annual energy consumption for the proposed construction and a construction energy target for a reference construction. The annual energy consumption of the proposed construction must not exceed the construction energy target of the reference construction. Proof of those results must be available on request.

If a computer program is used to carry out the compliance calculations, the calculation methods shall be computed for both the referenced and the proposed construction models, and be tested according to ASHRAE 140, "Test for the Evaluation of Building Energy Analysis Computer Programs," and variations of the computer program from the recommended different values must be calculated.

Where construction techniques or components used for construction are more energy efficient than those prescribed by the prescriptive requirements, performance compliance calculations are permitted to take this increased performance level in the determination of the annual energy consumption, provided it can be quantified and is not dependent on occupant interaction.

The energy model calculations must account for the annual energy consumption of facilities and equipment required for space heating and conditioning and for ventilation. The energy model calculations must account for heat transfer through wall assemblies, roof-ceiling assemblies and exposed floor assemblies due to thermal characteristics of the particular assembly and thermal bridging. The roof-ceiling assembly includes the attic. The building envelope assemblies and components required to be addressed are assemblies above and not in contact with the ground (walls and roof-ceiling assembly), assemblies in contact with the ground (floors and walls), and doors, windows and skylights.

Where the energy model calculations account for the effect of thermal mass, that thermal mass must exclude the contents of the construction.

Where skylights are installed in the roof, the gross roof area does not exclude the gross roof area of skylights.

The calculation procedure for the reference construction must include the same values as those used for the proposed construction with regards to the floor area, the heated volume, and the number and type of rooms.

The calculation procedure for the proposed construction must be consistent with the proposed construction specifications with regards to fenestration and opaque envelope assembly type, effective thermal resistance and areas but more specifically to

(a) the area of above ground portion of basement walls,
(b) thermal resistance of walls, below ground walls, ceiling below attics, roof assemblies and header joists,
(c) maximum overall thermal transmittance for doors,
(d) total thermal resistance of below ground walls and floors on ground,
(e) exterior walls, roof-ceiling assemblies, exposed floors, doors, walls and floors in contact with the ground,
(f) configuration of insulation in assemblies in contact with the ground, and
(g) thermal resistance of foundation walls.

The drawings and specifications provided for the proposed construction must include information to analyze construction compliance with regulations. It is suggested to include the following information:

(a) the values of thermal resistance and their respective areas for all opaque building envelope assemblies which includes all roof/ceiling, wall, and floor assemblies, above and below ground,
(b) the overall thermal transmittance of all fenestration and door components and their respective areas,
(c) the ratio of total fenestration and door area to exterior wall area,
(d) the design basis for the ventilation rates, and
(e) any additional features used in the compliance calculation that account for a significant difference in the proposed construction energy performance.

A proposed construction energy performance compliance calculation report must be provided for each proposed construction design that does not comply with the requirements of Part 11. In addition to the information of the drawings and specifications, the registration of which is suggested, the proposed construction performance compliance calculation report must contain

(a) project information section consisting of
    - project description,
    - project address,
    - name and version of the calculation tool,
    - geographic region in which the proposed construction is to be built;
(b) a summary of the proposed construction envelope, HVAC characteristics,
(c) an energy performance data summary containing
    - the annual energy consumption of all energy sources calculated for the proposed construction,
    - the energy target of all energy sources calculated for the reference construction, and
(d) where a software program is used for compliance calculations
    - the software program used.

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.

A-11.2.2.4.(1) Windows. For the purposes of Part 11, sliding doors must comply with the requirements on windows.

Not more than 1.85 m^2 of glass block may be installed in the same construction where glass block has a maximum overall thermal transmittance equivalent to that of skylights as indicated in Table 11.2.2.4.

The overall thermal transmittance of doors may be obtained by the door or door assembly / storm door or door assembly / unheated vestibule enclosure panels.

A garage door giving access to vehicles need not comply with the values indicated in Table 11.2.2.4. even if that door has windows.

To minimize surface condensation on the warm side of windows, doors or skylights, it is recommended to install those components inside the insulation or near the vertical axis of the centre of the RSI value of insulating material. That recommendation does not apply to openings in foundation walls.

A-11.2.2.4.(3) Rough Openings. The area of rough openings includes the area occupied by frame openings. The term "opening" means windows, doors and other similar components such as glass blocks, clerestories, skylights, translucent wall panels, transoms or sidelights. Despite the foregoing, openings occupied by garage doors giving access to vehicles even if those doors have windows may be excluded in calculating the total area of openings.

Despite the fact that Part 11 does not contain requirements to minimize overheating that may be caused by translucent openings according to their size and direction, it is recommended to take it into consideration in order to minimize the energy load that would be needed to condition certain spaces.

A-11.2.3.1. Thermal Bridges. Minor penetrations such as ties, shims or any similar fastener such as members that may constitute a thermal bridge need not be taken into account.

Insulation of thermal bridges excludes the interior and exterior finishes of all construction and surface air films behind those finishes.

A-11.2.3.1.(1)(b) Thermal Bridge of Metal Frame Walls. In the case of a metal frame, the thermal resistance of insulating material covering a thermal bridge may be less than that set out in Sentence 11.2.3.1.(1) as long as it is high enough to ensure efficient thermal resistance value equivalent to similar composition made of wood.

A-11.2.3.1.(3) Thermal Bridge in a Wall Between Two Heated Spaces. A portion of a wall between two heated spaces 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.