

Building Code

Extracts from the National Building Code of Canada - 2005



3.2.6. Additional Requirements for High Buildings (see Appendix B)

3.2.6.1. Application

- 1) This Subsection applies to a building
 - a) of Group A, D, E or F major occupancy classification that is more than
 - (i) 36 m high, measured between grade and the floor level of the top storey,
or
 - (ii) 18 m high, measured between grade and the floor level of the top storey, and in which the cumulative or total occupant load on or above any storey above grade, other than the first storey, divided by 1.8 times the width in metres of all exit stairs at that storey, exceeds 300,
 - b) containing a Group B major occupancy in which the floor level of the highest storey of that major occupancy is more than 18 m above grade,
 - c) containing a floor area or part of a floor area located above the third storey designed or intended as a Group B, Division 2 occupancy, and
 - d) containing a Group C major occupancy whose floor level is more than 18 m above grade.

3.2.7. Lighting and Emergency Power Systems

3.2.7.3. Emergency Lighting

- 1) Emergency lighting shall be provided to an average level of illumination not less than 10 lx at floor or tread level in
 - a) exits,
 - b) principal routes providing access to exit in open floor areas and in service rooms,
 - c) corridors used by the public,
 - d) corridors serving patients' sleeping rooms,
 - e) corridors serving classrooms,
 - f) underground walkways,
 - g) public corridors,
 - h) floor areas or parts thereof where the public may congregate
 - i) in Group A, Division 1 occupancies, or
 - ii) in Group A, Division 2 and 3 occupancies having an occupant load of 60 or more,
 - i) floor areas or parts thereof of daycare centres where persons are cared for, and
 - j) food preparation areas in commercial kitchens.
- 2) Emergency lighting to provide an average level of illumination of not less than 10 lx at floor or catwalk level shall be included in a service space referred to in Sentence 3.2.1.1.(8).
- 3) The minimum value of the illumination required by Sentences (1) and (2) shall be not less than 1 lx.
- 4) In addition to the requirements of Sentences (1) to (3), the installation of battery-operated emergency lighting in health care facilities shall conform to the appropriate requirements of CSA Z32, "Electrical Safety and Essential Electrical Systems in Health Care Facilities."

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3.2.7.4. Emergency Power for Lighting

- 1) An emergency power supply shall be
 - a) provided to maintain the emergency lighting required by this Subsection from a power source such as batteries or generators that will continue to supply power in the event that the regular power supply to the building is interrupted, and
 - b) so designed and installed that upon failure of the regular power it will assume the electrical load automatically for a period of
 - i) 2 h for a building within the scope of Subsection 3.2.6.,
 - ii) 1 h for a building of Group B major occupancy classification that is not within the scope of Subsection 3.2.6., and
 - iii) 30 min for a building of any other occupancy. (See Appendix A.)
- 2) If self-contained emergency lighting units are used, they shall conform to CSA C22.2 No. 141, "Unit Equipment for Emergency Lighting."

3.4.5. Exits

3.4.5.1. Exit Signs

- 1) Every exit door shall have an exit sign placed over or adjacent to it if the exit serves
 - a) a building more than 2 storeys in building height,
 - b) a building having an occupant load of more than 150, or
 - c) a room or floor area that has a fire escape as part of a required means of egress.
- 2) Every exit sign shall
 - a) be visible from the exit approach,
 - b) have the word EXIT or SORTIE displayed in plain legible letters, and
 - c) be illuminated continuously while the building is occupied.
- 3) Exit signs shall consist of
 - a) red letters on a contrasting background or contrasting letters on a red background, with the letters not less than 114 mm high and having a 19 mm stroke, if the sign is internally illuminated, and
 - b) white letters on a red background or red letters on a contrasting background that is white or a light tint, with letters not less than 150 mm high and having a 19 mm stroke, if the sign is externally illuminated.
- 4) If illumination of an exit sign is provided from an electrical circuit, that circuit shall
 - a) serve no equipment other than emergency equipment, and
 - b) be connected to an emergency power supply as described in Sentence 3.2.7.4.(1).
- 5) If necessary, the direction of egress in public corridors and passageways shall be indicated by a sign conforming to Sentence (3) with a suitable arrow or pointer indicating the direction of egress.
- 6) Except for egress doorways described in Sentence 3.3.2.4.(4), an exit sign conforming to Sentences (2), (3) and (4) shall be placed over or adjacent to every egress doorway from rooms with an occupant load of more than 60 in Group A, Division 1 occupancies, dance halls, licensed beverage establishments, and other similar occupancies that, when occupied, have lighting levels below that which would provide easy identification of the egress doorway.

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3.4.5.2. Signs for Stairs and Ramps at Exit Level

- 1) In a building more than 2 storeys in building height, any part of an exit ramp or stairway that continues up or down past the lowest exit level shall have a posted sign clearly indicating that it does not lead to an exit.

9.9.10. Signage

9.9.10.1. Application

- 1) This Subsection applies to all exits except those serving not more than one dwelling unit.

9.9.10.2. Visibility of Exits

- 1) Exits shall be located so as to be clearly visible or their locations shall be clearly indicated.

9.9.10.3. Required Exit Signs

- 1) Every exit door in a building that is 3 storeys in building height or in a building having an occupant load greater than 150 shall have an exit sign over it or adjacent to it.

9.9.10.4. Exit Direction Signs

- 1) Exit direction signs shall be placed in corridors and passageways where necessary to indicate the direction of exit travel.

9.9.10.5. Visibility of Exit Signs

- 1) Exit signs shall be installed so as to be visible from the exit approach and shall be illuminated continuously while the building is occupied.

9.9.10.6. Lettering

- 1) Exit signs shall have the word EXIT or SORTIE in red letters on a contrasting background or a red background with contrasting letters when the sign is internally lighted, and white letters on a red background or red letters on a white background when the sign is externally lighted.
- 2) Lettering referred to in Sentence (1) shall be made with not less than 19 mm wide strokes and be not less than 150 mm high when the sign is externally lighted, and not less than 114 mm high when the sign is internally lighted.

9.9.10.7. Illumination

- 1) Illumination of exit signs required in Article 9.9.10.3. shall conform to Sentences 9.9.11.3.(2) and (3).
- 2) Where illumination of exit signs required in Article 9.9.10.3. is provided by an electrical circuit, that circuit shall serve no equipment other than emergency equipment.

9.9.10.8. Signs for Stairs and Ramps at Exit Level

- 1) In buildings that are 3 storeys in building height, any part of an exit ramp or stairway that continues up or down past the lowest exit level shall be clearly marked to indicate that it does not lead to an exit, if the portion beyond the exit level may be mistaken as the direction of exit travel.

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9.9.11. Lighting

9.9.11.3. Emergency Lighting

- 1) Emergency lighting shall be provided in
 - a) exits,
 - b) principal routes providing access to exit in an open floor area,
 - c) corridors used by the public,
 - d) underground walkways, and
 - e) public corridors.
- 2) Emergency lighting required in Sentence (1) shall be provided from a source of energy separate from the electrical supply for the building.
- 3) Lighting required in Sentence (1) shall be designed to be automatically actuated for a period of at least 30 min when the electric lighting in the affected area is interrupted.
- 4) Illumination from lighting required in Sentence (1) shall be provided to average levels of not less than 10 lx at floor or tread level.
- 5) Where incandescent lighting is provided, lighting equal to 1 W/m² of floor area shall be considered to meet the requirement in Sentence (4).
- 6) Where self-contained emergency lighting units are used, they shall conform to CSA C22.2 No. 141, "Unit Equipment for Emergency Lighting."

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Classification by Group

Examples	Group	Group
Motion picture theatres	A	1
Opera houses		
Art Galleries	A	2
Auditoria		
Bowling alleys		
Churches and similar places of worship		
Club, non-residential		
Community halls		
Court rooms		
Dance halls		
Exhibition halls (other than classified in Group E)		
Gymnasias		
Arenas	A	3
Rinks	A	4
Amusement park structures (not elsewhere classified)		
Bleachers	B	1
Jails		
Penitentiaries	B	2
Police stations with detention quarters		
Children's custodial homes	B	2
Convalescent homes		
Hospitals	C	
Infirmaries		
Orphanages		
Apartment Hotels		
Boarding houses		
Clubs, residential		
Colleges, residential		
Convents		
Dormitories		
Banks		
Barber and hairdressing shops		
Beauty parlors		
Dental offices		
Dry Cleaning establishments		
Self-service, not using flammable or explosive solvents or cleaners		
Department stores		
Exhibition halls		
Markets		
Bulk plants for flammable liquids	E	
Bulk storage warehouses for hazardous substances		
Lacquer factories		

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Examples

	Group	Group
Cereal mills		
Chemicals manufacturing or processing plants		
Distilleries		
Dry Cleaning plants		
Feed Mills		
Aircraft hangars		
Box factories		
Candy plants		
Cold storage plants		
Dry Cleaning establishments not using flammable or explosive solvents for cleaners		
Electrical substations		
Factories		
Freight depots		
Helicopter landing areas on roofs		
Laboratories Workshops		
Creameries		
Factories		
Laboratories		
Power plants		
Salesrooms Workshops		
Mattress factories		
Paint, varnish and pyroxylin product factories	F	1
Rubber processing plants		
Spray painting operations		
Waste paper processing plants		
Mattress factories		
Planning mills		
Printing plants		
Repair garages		
Salesroom		
Services stations	F	2
Storage rooms		
Television studios admitting a viewing audience		
Warehouses		
Wholesale rooms		
Woodworking factories		
Laundries except self-service		
Storage garages including open air		
Parking garages		
Storage rooms	F	3
Warehouses		
Samples display rooms		