

Fire Protection and Prevention Act, 1997
Loi de 1997 sur la prévention de la protection contre l'incendie

ONTARIO REGULATION 388/97

Amended to O. Reg. 315/01

FIRE CODE

Notice of Currency:* This document is up to date – 11.19.2003.

This Regulation is made in English only.

SECTION 9.5 BUILDINGS UP TO AND INCLUDING SIX STOREYS IN BUILDING HEIGHT WITH RESIDENTIAL OCCUPANCIES

Subsection 9.5.1. Application

Application

9.5.1.1. (1) This Section applies to **buildings** up to and including six **storeys** in **building height** with **residential occupancies** and containing

(a) more than two **dwelling units** where

(i) at least two **dwelling units** share common **exit** facilities and have interior access to one another,

(ii) there is at least one **dwelling unit** located above another with interior access to one another, or

(iii) there is at least one **dwelling unit** located above another and the **dwelling units** share common **exit** facilities,

(b) sleeping accommodation for more than ten persons, in one or more dormitories,

(c) boarding, lodging or rooming accommodation for more than three persons where Sections 9.3 and 9.4. do not apply, or

(d) one or two **dwelling units** in combination with boarding, lodging or rooming accommodation for two or three persons, excluding the operator's residence.

(2) Despite Sentence (1), if the **building** contains other **occupancies**, this Section does not apply to the fire safety systems, devices and structural elements of the other **occupancies** that do not affect the life safety of the **residential occupancy**.

(3) If a **building** contains areas that are governed by this Section and by another Section in this Part, the fire safety systems, devices and structural elements applicable to those areas shall comply with the requirements of this Section and the other Section that provide the greatest protection for life safety.

(4) For the purposes of this Section,

(a) "1990 Building Code" means O. Reg. 413/90, and

(b) "existing" means in existence on October 9, 1992.

Exemptions

9.5.1.2. Convents and monasteries are exempt from this Section.

Subsection 9.5.2. Containment

Construction

9.5.2.1. (1) Existing **buildings** shall comply with the applicable construction requirements of Articles 9.5.2.2. to 9.5.2.5.

(2) **Fire separations** required by this Section to have a **fire-resistance rating** shall be in accordance with Subsection 3.1.7. and Articles 3.1.8.1., 3.1.8.2., 3.1.8.3. and 3.5.4.2. of the 1990 Building Code.

(3) Where a 45-min or less **fire-resistance rating** is required, existing wall assemblies, floor assemblies, ceilings and their supporting assemblies, consisting of membranes of lath and plaster or gypsum board, shall be deemed to be in compliance with Sentence (2).

(4) **Heavy timber construction** conforming to Article 3.1.4.6. of the 1990 Building Code shall be deemed to have a 45-min **fire-resistance rating**.

(5) **Buildings** with limited combustible components may be **approved** as **noncombustible construction**.

(6) Floor assemblies shall be **fire separations** with **fire-resistance ratings** as required by Articles 9.5.2.2. to 9.5.2.5.

(7) Sentence (6) does not apply to floor assemblies between different levels of the same multi-level **dwelling unit**.

Buildings up to three storeys

9.5.2.2. (1) **Buildings** shall be in compliance with the requirements of Sentence (2) where the **building** is

- (a) not more than one **storey** in **building height** and not greater than 1200 m² in **building area**,
- (b) not more than two **storeys** in **building height** and not greater than 900 m² in **building area**,
or
- (c) not more than three **storeys** in **building height** and not greater than 600 m² in **building area**.

(2) Floor assemblies and walls, columns and arches supporting floor assemblies shall have a 30-min **fire-resistance rating**.

(3) Where sleeping accommodation, recreation rooms, meeting rooms or hobby rooms are not provided in the **basement**, an existing **fire separation** between the **first storey** and **basement** shall be deemed to be in compliance with Sentence (2) where

- (a) the **basement** is **sprinklered**, or
- (b) the **building** contains not more than four **dwelling units** and provides sleeping accommodation for not more than ten persons, and
 - (i) interconnected **smoke alarms** are installed in accordance with Article 9.5.4.4.,
 - (ii) doors connecting the **basement** and **first storey** are in compliance with Sentence 9.5.2.8.(4), and
 - (iii) **fire stopping** of the wall space at the **basement** level is in accordance with Article 9.10.15.3. of the 1990 Building Code.

(4) The water supply for the sprinklers referred to in Clause (3)(a) may be taken from the domestic supply where the supply provides sufficient density for the largest **fire compartment** and where the supply is **approved**.

Deemed compliance

9.5.2.3. (1) **Buildings** shall be deemed to be in compliance with Sentence 9.5.2.2.(2) where

- (a) the **building** is **sprinklered**, or
- (b) the **building** is one **storey** in **building height** and is not greater than 600 m² in **building area**.

Buildings up to four storeys

9.5.2.4. (1) **Buildings** to which Sentence 9.5.2.2.(1) does not apply and which are not more than four **storeys** in **building height** shall comply with Sentences (2) and (3).

(2) Floor assemblies and walls, columns and arches supporting floor assemblies shall have a 45-min **fire-resistance rating**.

(3) **Smoke detectors** shall be provided as **fire detectors** in **public corridors** serving **dwelling units** in **buildings** of **combustible construction**.

(4) A **building** that is **sprinklered** shall be deemed to be in compliance with Sentences (2) and (3).

Buildings over four storeys

9.5.2.5. (1) **Buildings** that are more than four **storeys** in **building height** shall

(a) have a 45-min **fire-resistance rating** for floor assemblies and walls, columns and arches supporting floor assemblies, and

(b) be **sprinklered**, where the **building** is of **combustible construction**.

(2) Where only the roof assembly is of **combustible construction**, the **building** shall be deemed to be in compliance with Clause (1)(b) where

(a) the ceiling membrane has a 45-min **fire-resistance rating** and the **attic space** is **fire stopped** in accordance with Article 3.1.11.5. of the 1990 Building Code,

(b) the roof assembly is of **heavy timber construction** in accordance with Article 3.1.4.6. of the 1990 Building Code, or

(c) the top **storey** and **attic space** are **sprinklered**.

(3) Where **smoke detectors** are provided in **public corridors**, a **building** of **heavy timber construction** conforming to Article 3.1.4.6. of the 1990 Building Code shall be deemed to be in compliance with Sentence (1).

Fire separations between occupancies

9.5.2.6. (1) **Fire separations** having a 1-hr **fire-resistance rating** shall be provided between **residential occupancies** and other **major occupancies**.

(2) Existing **fire separations** having a 30-min **fire-resistance rating** shall be deemed to be in compliance with Sentence (1) where

(a) the **building** is **sprinklered** and the sprinkler system complies with Article 9.5.5.3., or

(b) the part of the **building** containing the other **major occupancy** is equipped with **heat detectors** and connecting corridors are equipped with **smoke detectors** as part of the fire alarm system of the **building**.

(3) Existing **fire separations** consisting of membranes of lath and plaster or gypsum board shall be deemed to be in compliance with Sentence (1).

Fire separations between dwelling units and corridors

9.5.2.7. (1) Each **dwelling unit** and sleeping room not within a **dwelling unit** shall be separated from adjacent rooms and areas by **fire separations** having a 30-min **fire-resistance rating**.

(2) **Public corridors** shall be separated from adjacent rooms and areas by **fire separations** having a 30-min **fire-resistance rating**.

(3) Where the **floor area** is **sprinklered**, existing **fire separations** having less than a 30-min **fire-resistance rating** shall be deemed to be in compliance with Sentences (1) and (2).

Protection of openings in fire separations

9.5.2.8. (1) **Closures** in **fire separations** shall be in accordance with Sentences 3.1.8.4.(2), 3.1.8.10.(1) and 3.1.8.11.(1) and Article 3.1.8.13. of the 1990 Building Code.

(2) Openings in a **fire separation** having a 30-min **fire-resistance rating** shall be protected with **closures** having a 20-min **fire-protection rating**.

Doors and screens

(3) Where a 45-min **fire-protection rating** is required, existing **closures** consisting of

(a) hollow metal or kalamein doors in hollow metal frames, with openings, if any, protected by wired glass, and equipped with self-closing devices, or

(b) wired glass screens set in fixed steel frames

shall be deemed to be in compliance with Sentence (1).

(4) Where a 20-min **fire-protection rating** is required, existing **closures** consisting of 45 mm (1 3/4-in) solid core wood doors installed in solid wood or hollow metal frames and equipped with self-closing devices shall be deemed to be in compliance with Sentences (1) and (2).

(5) Existing **closures** in **fire separations** to which Article 9.5.2.7. applies shall be deemed to be in compliance with Sentences (1) and (2) where

(a) the **floor area** is **sprinklered**, or

(b) interconnected **smoke alarms** are installed in accordance with Article 9.5.4.4., the **building** has not more than four **dwelling units** and the **building** provides sleeping accommodation for not more than ten persons.

(6) Despite Sentence (1), **closures in fire separations** to which Article 9.5.2.7. applies do not require self-closing devices, except as required in Sentences 9.5.3.1.(2) and 9.5.3.3.(3).

(7) Existing operable transoms and glass lights shall be fixed shut and shall meet the **fire-protection rating** requirements of Sentences (1) and (2).

(8) Despite Sentences (1) and (2), **fire dampers** or **fire-stop flaps** are not required in existing noncombustible ducts at penetrations of **fire separations**.

Storage rooms

9.5.2.9. (1) Storage rooms for the use of occupants, not contained within a **dwelling unit** or **suite**,

(a) shall be separated from the remainder of the **building** by a **fire separation** having a 45-min **fire-resistance rating**, and

(b) shall be

(i) **sprinklered**, or

(ii) subdivided into areas not exceeding 150 m² by **fire separations** having a 45-min **fire-resistance rating** and equipped with **fire detectors** connected to the fire alarm system.

(2) Existing storage rooms shall be deemed to be in compliance with Clause (1)(b) where the **building** contains not more than four **dwelling units** and provides sleeping accommodation for not more than ten persons.

(3) Existing storage rooms shall be deemed to be in compliance with Sentence (1) where

(a) the **building** contains not more than four **dwelling units** and provides sleeping accommodation for not more than ten persons, and

(b) sleeping rooms are not located on the same floor as storage rooms.

Fuel-fired appliance service rooms

9.5.2.10. (1) Fuel-fired **appliances** shall be enclosed in a **service room** separated from the remainder of the **building** by a **fire separation** having a 45-min **fire-resistance rating** where the **building height** is greater than two **storeys** or the **building area** is greater than 400 m².

(2) Sentence (1) does not apply to fireplaces within a **dwelling unit** or **suite**.

(3) Despite Sentence (1), the **fire-resistance rating** of the **fire separation** above the **service room** is not required where

(a) the required vertical **fire separation** to a **service room** is provided, and

(b) the **service room** area is **sprinklered**, with a spacing not exceeding 9.5 m² per sprinkler head, or providing a minimum average density of 6.5 L/min/m² over the room area.

Combustion air

9.5.2.11. Where a **service room** is separated in accordance with Article 9.5.2.10., sufficient combustion air shall be brought directly from the outside for the proper combustion and safe operation of the **appliances**.

Incinerator and refuse storage rooms

9.5.2.12. (1) Incinerator rooms and refuse storage rooms shall be separated from the remainder of the **building** by a **fire separation** having a 45-min **fire-resistance rating**.

(2) Refuse storage rooms shall be **sprinklered** with a spacing not exceeding 9.5 m² per sprinkler head or providing a minimum average density of 6.5 L/min/m² over the room area.

Vertical service spaces

9.5.2.13. (1) **Vertical service spaces** shall be separated from the remainder of the **building** by a **fire separation** having a **fire-resistance rating** equivalent to that required for the floor assemblies within the **building** in accordance with Articles 9.5.2.2. to 9.5.2.5.

(2) Where openings in the **vertical service space**, including the top and bottom, are sealed with noncombustible materials having the same **fire-resistance rating** as the existing construction, the **vertical service space** shall be deemed to be in compliance with Sentence (1).

Refuse and linen chutes

9.5.2.14. (1) Each room into which a linen or refuse chute discharges shall be separated from the remainder of the **building** by a **fire separation** having a 1-hr **fire-resistance rating**.

(2) Automatic sprinklers shall be installed in each linen or refuse chute

(a) at the top,

(b) at alternate floor levels, and

(c) in the room or bin into which the chute discharges.

(3) Where the room into which the chute discharges is **sprinklered** and at least one sprinkler head is installed at the top of the chute, an existing chute installation shall be deemed to be in compliance with Sentence (2).

(4) Despite Sentence 9.5.2.1.(2), a **closure** is not required at the opening between the chute and the room into which it discharges.

Storage garages

9.5.2.15. A storage garage shall be separated from the remainder of the **building** by a **fire separation** having a 45-min **fire-resistance rating**.

Subsection 9.5.3. Means of Egress

Access to exits

9.5.3.1. (1) Each **dwelling unit** or **suite** in a **floor area** shall have a doorway leading to

- (a) the outside at or near **grade**,
- (b) an outside passageway where it is possible to go in opposite directions to separate **exits**, or
- (c) a **public corridor** where it is possible to go in opposite directions to separate **exits**.

Dead end corridors

(2) **Access to exits** through a dead end **public corridor** shall be deemed to be in compliance with Clause (1)(c) where

- (a) the travel distance does not exceed 6 m plus the width of the corridor, measured from any door along the corridor to a point where a choice of two directions of **exit** travel is available, and
- (b) self-closing devices are provided on **suite** entrance doors opening onto the dead end portion of the corridor.

(3) **Access to exits** through a dead end corridor in boarding, lodging or rooming accommodation shall be deemed to be in compliance with Clause (1)(c) where

- (a) the **building** is not more than 3 **storeys** in **building height**,
- (b) sleeping accommodation is provided for not more than ten persons,
- (c) not more than two persons require assistance to evacuate the **building** in a fire emergency,

(d) **smoke alarms** are installed in the **means of egress** in accordance with Sentence 9.5.4.1.(2), and

(e) the building complies with the requirements of Section 2.8.

(4) Existing dead end **public corridors** shall be deemed to be in compliance with Clause (2)(a) where additional fire protection measures are **approved** that, in the opinion of the **Chief Fire Official**, will provide protection for life safety similar to the protection provided by compliance with Clause (2)(a).

(5) Despite Sentence (1), a doorway from a **dwelling unit** or **suite** may open onto

(a) an **exit** stairway,

(b) a fire escape,

(c) a **public corridor** served by a single **exit**, or

(d) an outside passageway served by a single **exit** stairway,

if the **dwelling unit** or **suite** has access to a second and separate **exit** or the **building** is in compliance with Sentence 9.5.3.2.(2) or (3).

Number of exits

9.5.3.2. (1) Each **floor area** shall be served by a minimum of two **exits**.

(2) A single **exit** from a **basement**, first or second floor shall be deemed to be in compliance with Sentence (1) where the **exit** does not serve more than four **dwelling units**, the **exit** does not serve more than ten persons and the **building** is not more than three **storeys** in **building height** and is not greater than 600 m² in **building area**.

(3) Where a **building** is not more than three **storeys** in **building height** and not greater than 600 m² in **building area**, alternative measures to Sentence (1) may be used if they are **approved**, and in the opinion of the **Chief Fire Official**, will provide protection for life safety similar to the protection provided by compliance with Sentence (1).

Stairway separations

9.5.3.3. (1) Each **exit** stairway shall be separated from the remainder of the **building** by a **fire separation** having a 45-min **fire-resistance rating**.

(2) Where the **building** is not more than three **storeys** in **building height**, a **fire separation** having a 30-min **fire-resistance rating** shall be deemed to be in compliance with Sentence (1).

(3) **Closures** in stairway **fire separations** referred to in Sentences (1) and (2) shall be equipped with self-closing devices.

Door swing

9.5.3.4. Where the **occupant load** in a **building** exceeds twenty-four persons or there are more than ten **dwelling units**, each **exit** door, except those serving a single **dwelling unit**, shall open in the direction of **exit** travel and swing on its vertical axis.

Exit signs

9.5.3.5. (1) Each **exit** door, except for the main entrance to a **building, dwelling unit** or **suite**, shall have an **exit** sign when the **exit** serves

(a) a **building** exceeding two **storeys** in **building height**,

(b) a **building** having an **occupant load** greater than 150 persons, or

(c) a **floor area** other than a single **dwelling unit** with a fire escape as part of a **means of egress**.

(2) Where **exit** signs are not visible throughout the corridors and passageways, additional **exit** signs shall be installed in **approved** locations to indicate the direction of egress.

(3) **Exit** signs required in Sentences (1) and (2) shall have

(a) the word "EXIT" or the words "EXIT/SORTIE" in red letters on a contrasting background or white letters on a red background,

(b) letters with strokes at least 19 mm wide,

(c) letters at least 150 mm high when the signs are externally illuminated, and

(d) letters at least 114 mm high when the signs are internally illuminated.

Interior finishes

9.5.3.6. (1) **Flame-spread ratings** of interior wall and ceiling finishes within a **means of egress** shall not exceed 150.

(2) Despite Sentence (1), existing interior wall and ceiling finishes within an **access to exit** may be **approved** if, in the opinion of the **Chief Fire Official**, they will provide protection for life safety similar to the protection provided by compliance with Sentence (1).

Fire escapes

9.5.3.7. (1) Each fire escape used as an **exit** shall be in accordance with Articles 3.4.7.2., 3.4.7.3., 3.4.7.5. and 3.4.7.6. of the 1990 Building Code.

(2) Where a fire escape serves any **storey** above the second floor, doorway openings located within 3 m horizontally of, 3 **storeys** or 10 m below, or 1.8 m above, any balcony, platform or stairway of the fire escape, shall be protected by

(a) **closures** having a 20-min **fire-protection rating** and equipped with self-closing devices, or

(b) existing **closures** consisting of 45 mm (1 ¾-in) solid core wood doors installed in solid wood frames and equipped with self-closing devices.

Lighting

9.5.3.8. **Public corridors** and stairways that form part of a **means of egress** shall be adequately illuminated to allow for the safe evacuation of occupants.

Emergency lighting

9.5.3.9. (1) Emergency lighting shall be provided in **exit** stairways, **public corridors** and other principal **access to exits** where the **occupant load** in a **building** exceeds twenty-four persons or there are more than ten **dwelling units**.

(2) Emergency lighting required in Sentence (1) shall be

(a) designed to provide illumination for a duration of at least 30 min,

(b) supplied by a source of energy separate from the primary electrical supply for the **building**, and

(c) designed to be automatically actuated when the power to the **building** is interrupted.

(3) Illumination from emergency lighting shall be an average of at least 10 lx at floor or tread level, or 1 watt/m² of floor space.

Subsection 9.5.4. Fire Alarm and Detection

Fire alarm requirements

9.5.4.1. (1) A fire alarm system shall be installed in accordance with Articles 3.2.4.2. to 3.2.4.6., 3.2.4.8., 3.2.4.9. and 3.2.4.17. and Sentences 3.2.7.8.(1) to (4) of the 1990 Building Code, where

(a) the **building** is greater than three **storeys** in **building height**, or

(b) sleeping accommodation is provided for more than ten persons.

(2) A **building** not greater than three **storeys** in **building height** that contains not more than ten **dwelling units** and provides sleeping accommodation for not more than twenty-four persons shall be deemed to be in compliance with Sentence (1) where the **building** is equipped with

(a) **smoke alarms** in accordance with Article 9.5.4.4., installed and interconnected so that the actuation of any **smoke alarm** will sound a similar signal in each of the interconnected devices, and

(b) a manual pull station at each exterior **exit** door for the actuation of the **smoke alarms** in Clause (a).

(3) A **building** shall be deemed to be in compliance with Sentence (1) where

(a) each **exit** and **public corridor** is shared by not more than four **dwelling units** or not more than ten persons in boarding, lodging, rooming or dormitory accommodation, or

(b) each **dwelling unit** and **suite** has direct access to outdoors by a door near ground level.

Non-electric fire alarm systems

9.5.4.2. (1) Existing manually operated, non-electric alarm systems employing mechanical gongs shall be deemed to be in compliance with Sentence 9.5.4.1.(1), where

(a) the **building** is not more than 2 **storeys** in **building height**,

(b) not more than 2 manual fire alarm stations are required in the **building**, and

(c) each gong is audible in every location in the **building**.

Automatic detection

9.5.4.3. (1) Automatic detection devices referred to in Sentences (2) and (3) shall be installed and connected to the fire alarm system required in Sentence 9.5.4.1.(1).

(2) **Fire detectors** shall be installed in storage rooms, locker rooms, **service rooms**, machinery rooms, heating rooms, incinerator rooms, linen and refuse chute intake compartments, janitors' closets and refuse storage rooms, at the tops of elevator shafts and in any room or area where hazardous or combustible materials may be used or stored.

(3) Rooms or areas that are **sprinklered** in accordance with Article 3.2.4.16. of the 1990 Building Code shall be deemed to be in compliance with Sentence (2).

Interconnected smoke alarms

9.5.4.4. (1) Interconnected **smoke alarms** required in Sentence 9.5.4.1.(2), Subclause 9.5.2.2.(3)(b)(i) or Clause 9.5.2.8.(5)(b) shall be

- (a) installed on or near the ceiling in **public corridors** of each **floor area**, adjacent to each stairway serving the **public corridor** and on or near the ceiling in the **basement**, adjacent to each stairway,
- (b) audible throughout the **suites**,
- (c) connected to an electrical circuit with no disconnect switch between the overcurrent device and the **smoke alarms**, and
- (d) **listed** for use in an interconnected installation.

Smoke alarms

- 9.5.4.5. (1) **Smoke alarms** shall be installed in each **dwelling unit** and in each sleeping room not within a **dwelling unit** in accordance with Article 3.2.4.21. of the 1990 Building Code.
- (2) Battery operated **smoke alarms** shall be deemed to be in compliance with Sentence 3.2.4.21.(4) of the 1990 Building Code.
- (3) **Smoke alarms** required in Sentence (1) shall be in accordance with CAN/ULC-S531, "Smoke Alarms", and CAN/ULC-S553, "Installation of Smoke Alarms".
- (4) Existing **smoke alarms** meeting the requirements of ULC-S531-1978, "Smoke Alarms", shall be deemed to be in compliance with Sentence (3).

Existing fire alarm systems

9.5.4.6. Despite Articles 9.5.4.1. to 9.5.4.4., where the performance and reliability of an existing fire alarm system will provide an adequate early warning level, the existing system may remain, be modified or be extended, if compatibility of the components is maintained and the system is **approved**.

Subsection 9.5.5. Suppression

Access for fire fighting

- 9.5.5.1. (1) Access routes for fire fighting shall be provided in accordance with the requirements of Articles 3.2.5.5. to 3.2.5.7. of the 1990 Building Code.
- (2) Sentence (1) does not apply where the **building** is **sprinklered**.

Standpipe systems

9.5.5.2. (1) A standpipe and hose system in accordance with Articles 3.2.9.1. to 3.2.9.7. of the 1990 Building Code shall be installed in **buildings** more than four **storeys** in **building height** where the fifth or sixth **storey** is used for a **residential occupancy**.

(2) A wet or dry standpipe system shall be deemed to be in compliance with Sentence (1) where it includes

(a) a 50 mm riser and 50 mm extensions,

(b) capped 38 mm hose valves located so that any point on the **floor area** may be reached by 30 m of hose plus 3 m of hose stream from at least one hose valve,

(c) a **fire department** connection in accordance with Sentences 3.2.9.5.(2) to (9) of the 1990 Building Code, and

(d) a water supply in accordance with Sentences 3.2.9.3.(1) to (3) of the 1990 Building Code.

(3) Despite Sentences (1) and (2), existing standpipe systems and water supplies may be used if the systems or measures will provide sufficient fire suppression capability in the circumstances and if the systems or measures are **approved**.

Sprinkler systems

9.5.5.3. (1) Where a **building** or portion thereof is required to be **sprinklered**, the sprinkler system shall be designed and constructed in accordance with Articles 3.2.5.13. to 3.2.5.16. of the 1990 Building Code.

(2) Existing sprinkler systems shall be deemed to be in compliance with Sentence (1) if the average sprinkler discharge density over the design area is at least equal to the minimum density corresponding to the area for light hazard classification as defined in NFPA 13, "Installation of Sprinkler Systems", or NFPA 13R, "Installation of Sprinkler Systems in Residential Occupancies Up to and Including Four Stories in Height", whichever is applicable.

(3) Despite Sentences (1) and (2), existing sprinkler systems providing adequate protection that will control or extinguish fire and that are **approved** may be used.