Section 3.3. Safety within Floor Areas

(See Note A-3.3.)

3.3.1. All Floor Areas

3.3.1.1. Separation of Suites

1) Except as permitted by Sentences (2) to (4), a *suite* shall be separated from adjoining *suites* by a *fire separation* having a *fire-resistance rating* not less than 1 h.

(See also Subsection 3.3.3. for *care*, *treatment* or *detention occupancies*, Article 3.3.4.2. for *residential occupancies*, and Article 3.1.8.7. for *fire dampers*.)

2) The *fire-resistance rating* of the *fire separation* required by Sentence (1) is permitted to be less than 1 h but not less than 45 min provided the *fire-resistance rating* required by Subsection 3.2.2. is permitted to be less than 1 h for

a) the floor assembly above the *floor area*, or

b) the floor assembly below the *floor area*, if there is no floor assembly above.

3) *Occupancies* that are served by *public corridors* conforming to Clause 3.3.1.4.(4)(b) in a *building* that is *sprinklered* throughout, are not required to be separated from one another by *fire separations* provided the *occupancies* are

a) *suites* of *business and personal services occupancy*,

b) fast food vending operations that do not provide seating for customers,

c) *suites* of *mercantile occupancy*, or

d) any combination of these occupancies.

4) No *fire separation* is required between *suites* of *business and personal services occupancy*.

5) Except as permitted by Sentence (6), each *suite* other than a residential *suite*, located at ground level and having direct access to the street shall be separated from horizontally and vertically adjoining *suites* by a *fire separation* having a *fire-resistance rating* not less than 2 h.

6) The *fire separation* required by Sentence (5) need not be provided to a *storage garage* (See Article 3.3.5.6.).

3.3.1.2. Hazardous Substances, Equipment and Processes

1) Except as provided in Subsections 3.3.5. and 3.3.6., the storage, handling and use of hazardous substances shall be in conformance with the applicable requirements of

a) the Fire By-law, and

b) provincial regulations or other regulatory enactments.

(See Note A-3.3.1.2.(1).)

2) Systems for the ventilation of cooking equipment that is not within a *dwelling unit* and is used in processes producing grease-laden vapours shall be designed and installed in conformance with Articles 3.6.3.5., 6.3.1.7. and 6.9.1.3. (See Note A-3.3.1.2.(2).)

3) A fuel-fired *appliance* shall not be installed in a corridor serving as an *access to exit*.

3.3.1.3. Means of Egress

1) *Access to exit* within *floor areas* shall conform to Subsections 3.3.2. to 3.3.5., in addition to the requirements of this Subsection.

2) If a podium, terrace, platform or contained open space is provided, egress requirements shall conform to the appropriate requirements of Sentence 3.3.1.5.(1) for rooms and *suites*.

3) *Means of egress* shall be provided from every roof which is intended for *occupancy*, and from every podium, terrace, platform or contained open space.

4) At least two separate *means of egress* shall be provided from a roof, used or intended for an *occupant load* more than 60, to stairs designed in conformance with the requirements regarding *exit* stairs stated in Section 3.4.

5) A roof-top enclosure shall be provided with an *access to exit* that leads to an *exit*

a) at the roof level, or

b) on the *storey* immediately below the roof.

6) A roof-top enclosure which is more than 200 m^2 in area shall be provided with at least 2 *means of egress*.

7) Two points of egress shall be provided for a *service space* referred to in Sentence 3.2.1.1.(8) if

a) the area is more than 200 m^2, or

b) the travel distance measured from any point in the *service space* to a point of egress is more than 25 m.

8) Except as permitted by Sentences 3.3.4.4.(5) and (6), each *suite* in a *floor area* that contains more than one *suite* shall have

a) an exterior *exit* doorway, or

b) a doorway

i) into a *public corridor*, or

ii) to an exterior passageway.

9) Except as permitted by this Section and by Sentence 3.4.2.1.(2), at the point where a doorway referred to in Sentence (8) opens onto a *public corridor* or exterior passageway, it shall be possible to go in opposite directions to each of 2 separate *exits*.

3.3.1.4. Public Corridor Separations

1) Except as otherwise required by this Part or as permitted by Sentence (4), a *public corridor* shall be separated from the remainder of the *storey* by a *fire separation*.

2) Except as permitted by Sentence (3) and Clauses (4)(a) and (b), the *fire separation* between a *public corridor* and the remainder of the *storey* shall have a *fire-resistance rating* not less than 45 min.

3) If a *storey* is *sprinklered* throughout, no *fire-resistance rating* is required for a *fire separation* between a *public corridor* and the remainder of the *storey*, provided the corridor does not serve a *care*, *treatment* or *detention occupancy* or a *residential occupancy*. (See Note A-3.1.8.1.(1)(b).)

4) No *fire separation* is required in a *sprinklered floor area* between a *public corridor* and

a) except as required by Sentences 3.3.3.5.(8) and 3.3.4.2.(1), and notwithstanding Sentence 3.4.2.4.(2), the remainder of a *storey*, provided the travel distance from any part of the *floor area* to an *exit* is not more than 45 m,

b) a room or a *suite*, provided the *public corridor* complies with Sentence 3.3.1.9.(6) and Clause 3.4.2.5.(1)(d), or

c) a space containing plumbing fixtures required by Subsection 3.7.2., provided the space and the *public corridor* are separated from the remainder of the *storey* by a *fire separation* having a *fire-resistance rating* not less than that required between the *public corridor* and the remainder of the *storey*.

3.3.1.5. Egress Doorways

1) Except for *dwelling units*, a minimum of 2 egress doorways located so that one doorway could provide egress from the room or *suite* as required by Article 3.3.1.3. if the other doorway becomes inaccessible to the occupants due to a fire which originates in the room or *suite*, shall be provided for every room and every *suite*

a) that is used for a *high-hazard industrial occupancy* and whose area is more than 15 m^2,

b) intended for an *occupant load* more than 60,

c) in a *floor area* that is not *sprinklered* throughout, and

i) the area of a room or *suite* is more than the value in Table 3.3.1.5.-A, or

ii) the travel distance within the room or *suite* to the nearest egress doorway is more than the value in Table 3.3.1.5.-A, or

d) in a *floor area* that is *sprinklered* throughout and does not contain a *high-hazard industrial occupancy* and

i) the travel distance to an egress doorway is more than 25 m, or

ii) the area of the room or *suite* is more than the value in Table 3.3.1.5.-B.

2) Where 2 egress doorways are required by Sentence (1), they shall be placed at a distance from one another equal to or greater than one third of the maximum overall diagonal dimension of the area to be served, measured as the shortest distance that smoke would have to travel between the nearest required egress doors.

Table 3.3.1.5.-A
Egress in Floor Area not Sprinklered Throughout
Forming Part of Sentence 3.3.1.5.(1)

Occupancy* of Room or *Suite	**Maximum Area of Room or *Suite*, m²**	**Maximum Distance to Egress Doorway, m**
Group A	150	15
Group C	100(1)	15(1)
Group D	200	25
Group E	150	15
Group F, Division 2	150	10
Group F, Division 3	200	15

Notes to Table 3.3.1.5.-A:

(1) See Article 3.3.4.4. for *dwelling units*.

Table 3.3.1.5.-B
Egress in Floor Area Sprinklered Throughout
Forming Part of Sentence 3.3.1.5.(1)

Occupancy* of Room or *Suite	**Maximum Area of Room or *Suite*, m²**
Group A	200
Group B, Division 1	100
Group B, Division 2	
sleeping rooms	100
other than sleeping rooms	200
Group B, Division 3	
sleeping rooms not in *suites*	100
individual *suites*	150
other than sleeping rooms	200
Group C	150(1)
Group D	300
Group E	200
Group F, Division 2	200
Group F, Division 3	300

Notes to Table 3.3.1.5.-B:

(1) See Article 3.3.4.4. for *dwelling units*.

3.3.1.6. Travel Distance

1) If more than one egress doorway is required from a room or *suite* referred to in Article 3.3.1.5., the travel distance within the room or *suite* to the nearest egress doorway shall not exceed the maximum travel distances specified in Clauses 3.4.2.5.(1)(a), (b), (c) and (f) for *exits*.

3.3.1.7. Deleted.

3.3.1.8. Headroom Clearance

1) Except within the *floor area* of a *storage garage*, the minimum headroom clearance in every *access to exit* shall conform to the requirements of Article 3.4.3.4. for *exits*. (See also Sentence 3.3.5.4.(5).)

3.3.1.9. Corridors

1) The minimum width of a *public corridor* shall be 1 100 mm.

2) Except as required by Sentence 3.3.3.3.(3), the minimum unobstructed width of a corridor used by the public or a corridor serving classrooms or patients' sleeping rooms shall be 1 100 mm.

3) Except as permitted by Sentence (4), obstructions located within 1 980 mm of the floor shall not project more than 100 mm horizontally into an *exit* passageway, a *public corridor*, a corridor used by the public or a corridor serving classrooms or patients' sleeping rooms in a manner that would create a hazard for a person with a visual disability traveling adjacent to the walls.

4) The horizontal projection of an obstruction referred to in Sentence (3) is permitted to be more than 100 mm provided the clearance between the obstruction and the floor is less than 680 mm. (See Note A-3.3.1.9.(4).)

5) If a corridor contains an *occupancy*, the *occupancy* shall not reduce the unobstructed width of the corridor to less than its required width.

6) If a *public corridor* conforming to Clause 3.4.2.5.(1)(d) contains an *occupancy*,

a) the *occupancy* shall be located so that for pedestrian travel there is an unobstructed width not less than 3 m at all times adjacent and parallel to all rooms and *suites* that front onto the *public corridor*, and

b) the combined area of all *occupancies* in the *public corridor* shall be not more than 15% of the area of the *public corridor*.

7) Except for a dead-end corridor that is entirely within a *suite* or as permitted by Sentences 3.3.3.3.(1) and 3.3.4.4.(6), a dead-end corridor is permitted provided it is not more than 6 m long.

3.3.1.10. Aisles

1) Except as otherwise stated in this Section, aisles shall be provided in conformance with the Fire By-law.

3.3.1.11. Door Swing

1) Except as permitted by Sentence (5) and Article 3.3.1.12., a door that opens into a corridor or other facility providing *access to exit* from a *suite* or room not located within a *suite* shall swing on a vertical axis.

2) Except as permitted by Article 3.3.1.12., a door that opens into a corridor or other facility providing *access to exit* from a room or *suite* that is used or intended for an *occupant load* more than 60 or for a *high-hazard industrial occupancy* shall swing in the direction of travel to the *exit*.

3) Every door that divides a corridor that is not wholly contained within a *suite* shall swing on a vertical axis in the direction of travel to the *exit*.

4) If a pair of doors is installed in a corridor that provides *access to exit* in both directions, the doors shall swing in opposite directions, with the door on the right hand side swinging in the direction of travel to the *exit*.

5) Doors that serve storage *suites* not more than 28 m^2 in area in warehousing *buildings* need not conform to Sentence (1).

3.3.1.12. Sliding Doors

1) Except as permitted by Sentences (2) and 3.3.1.11.(5), a sliding door provided in the locations described in Article 3.3.1.11. shall

a) be designed and installed to swing on the vertical axis in the direction of travel to the *exit* when pressure is applied, and

b) be identified as a swinging door by means of a label or decal affixed to it.

2) In a Group B, Division 1 *occupancy*, or in an *impeded egress zone* in other *occupancies*, sliding doors used in an *access to exit* need not conform to Sentence (1) and Article 3.3.1.11.

3) Movable *partitions* used to separate a *public corridor* from an adjacent *business and personal services occupancy* or a *mercantile occupancy* need not conform to Sentence (1) and Sentences 3.3.1.11.(1) and (2), provided the *partitions* are not located in the only *means of egress*. (See Note A-3.3.1.12.(3).)

3.3.1.13. Doors and Door Hardware

1) Except as required by Article 3.3.3.4., a door that opens into or is located within a *public corridor* or other facility that provides *access to exit* from a *suite* shall

a) provide a clear opening of not less than 800 mm if there is only one door leaf,

b) in a doorway with multiple leaves, have the active leaf providing a clear opening of not less than 800 mm,

c) not open onto a step, and

d) have a threshold conforming to Sentence (11), except where it

i) is used to confine the spillage of *flammable liquids* within a *service room* or within a room in an *industrial occupancy*, or

ii) provides access to an exterior balcony, unless the balcony is required by Clause 11.3.7.1.(1)(c).

2) Except as provided in Sentences (6) and (7), a door in an *access to exit* shall be readily openable in travelling to an *exit* without requiring keys, special devices or specialized knowledge of the door-opening mechanism.

3) Except as permitted by Sentence (4), door release hardware shall comply with Clause 3.8.3.8.(1)(c) and the door shall be openable with not more than one releasing operation. (See also Sentence 3.8.3.6.(4).)

4) An egress door from an individual *dwelling unit* or from a *suite* of *residential occupancy* is permitted to be provided with additional devices that require a releasing operation additional to the main door release hardware, provided the devices are readily operable from the inside without the use of keys, special devices or specialized knowledge. (See Note A-3.3.1.13.(4).)

5) Except as provided in Sentence 3.4.6.17.(9), door release hardware shall be installed between 900 mm and 1100 mm above the finished floor.

6) An egress door in an *access to exit* serving a *contained use area* or an *impeded egress zone* is permitted to be equipped with locking devices, provided they can be released either locally or remotely in conformance with Sentence (8) or (9). (See Note A-3.3.1.13.(6).)

7) A door in an *access to exit* is permitted to be equipped with an electromagnetic lock conforming to Sentence 3.4.6.16.(4) or (5). (See Note A-3.3.1.13.(7).)

8) Local locking devices permitted by Sentence (6) shall be operable by a key from both sides of the door.

9) Controls for the remote release of door locking devices permitted by Sentence (6) shall be located in an area readily available to security personnel.

10) Locking devices permitted by Sentence (6) that are electrically operated shall be

a) designed to operate on emergency power, and

b) capable of manual release by security personnel.

11) Except in locations described in Subclauses (1)(d)(i) and (ii), in doorways, where the threshold is not flush with the floor, the threshold shall be not more than 13 mm higher than the finished floor surface, and where it is higher than 6 mm, shall be beveled to a slope no steeper than 1 in 2.

12) Door assemblies providing *access* shall be designed in accordance with Subsection 3.8.3.

3.3.1.14. Ramps and Stairways

1) Except as permitted by Sentence (2), Article 3.3.1.16., Article 3.3.4.7. and Subsection 3.3.2., ramps and stairways that do not serve as *exits* shall conform to the requirements for *exit* ramps and stairways stated in Sentence 3.4.3.2.(8) and Articles 3.4.3.4., and 3.4.6.1. to 3.4.6.9.

2) Ramps and stairways that serve *service rooms*, *service spaces* or *industrial occupancies* need not comply with Sentence (1), provided

a) they are intended only for occasional use for servicing equipment and machinery, and

b) they do not serve as *exits*.

3.3.1.15. Exterior Passageways

1) An exterior passageway leading to a required *exit* shall conform to the requirements of Section 3.4. for exterior *exit* passageways.

3.3.1.16. Tapered Treads in a Curved Flight

1) *Flights* of stairs shall consist solely of

a) straight *flights*, or

b) curved *flights* complying with Sentence (2).

(See also Articles 3.3.1.14. and 3.4.6.9.)

2) *Tapered treads* in a curved *flight* that is not required as an *exit* shall have

a) a minimum *run* of 150 mm,

b) a *run* not less than 280 mm when measured at a point 300 mm from the centre line of the handrail at the narrow end of the tread, and

c) a riser conforming to Sentence 3.4.6.8.(2).

3) *Tapered treads* shall have a consistent angle and uniform *run* and rise dimensions in accordance with the construction tolerances stipulated in Article 3.4.6.8. when measured at a point 300 mm from the centre line of the handrail at the narrow end of the tread.

4) All *tapered treads* within a *flight* shall turn in the same direction.

3.3.1.17. Capacity of Access to Exits

(See Article 3.3.1.9. for minimum widths of corridors.)

1) The capacity of an *access to exit* shall be based on the *occupant load* of the portion of the *floor area* served.

2) In an *access to exit* the required width of ramps with a slope not more than 1 in 8, doorways, and corridors shall be based on not less than 6.1 mm per person.

3) In an *access to exit* the required width of a ramp with a slope more than 1 in 8 shall be based on not less than 9.2 mm per person.

4) In an *access to exit* from a *floor area* used or intended to be used for patients in a Group B, Division 2 *occupancy* or residents in a Group B, Division 3 *occupancy*, the required width of corridors, doorways, and ramps shall be based on not less than 18.4 mm per person.

5) The capacity of stairs in an *access to exit* shall conform to the requirements for stairs in Sentences 3.4.3.2.(1) to (3).

6) In a *building* that is not *sprinklered* throughout in accordance with Sentence 3.2.5.12.(1), an *access to exit* that is part of the principal entrance serving a dance hall or a licensed beverage establishment with an *occupant load* more than 250 shall provide at least one half of the required *exit* width.

3.3.1.18. Guards

1) Except as provided in Sentence (5) and Article 3.3.2.9., a *guard* not less than 1 070 mm high shall be provided

a) around any roof to which access is provided for purposes other than maintenance,

b) at openings into smoke shafts referred to in Subsection 3.2.6. that are less than 1 070 mm above the floor, and

c) at each raised floor, *mezzanine*, balcony, gallery, interior or exterior vehicular ramp, and at other locations where (See Note A-9.8.8.1.)

i) the difference in elevation is more than 600 mm between the walking surface and the adjacent surface, or

ii) the adjacent surface within 1.2 m of the walking surface has a slope of more than 1 in 2.

2) Except as provided in Sentence 3.3.2.9.(4) and Articles 3.3.4.7. and 3.3.5.10., openings through *guards* shall be of a size that prevents the passage of a spherical object whose diameter is more than 100 mm.

3) **Deleted.**

4) Except for *guards* conforming to Article 3.3.5.10., *guards* shall be designed so that no member, attachment or opening located between 140 mm and 900 mm above the level protected by the *guard* facilitates climbing. (See Note A-9.8.8.6.(1).)

5) Sentence (1) does not apply

a) to the front edges of *stages*,

b) to loading docks, or

c) where access is provided for maintenance purposes only.

6) Swimming pools greater than 450 mm deep shall be protected in conformance with Article 9.8.8.1.

3.3.1.19. Transparent Doors and Panels

1) Except as permitted by Sentence (5), a glass or transparent door shall be designed and constructed so that the existence and position of the door is readily apparent, by attaching visually contrasting hardware, bars or other permanent fixtures to it.

2) The visibility of fully glazed transparent doors, sidelights and panels shall be enhanced through the inclusion of mullions, markings or other elements that

a) are visually contrasting,

b) are at least 50 mm high,

c) extend the full width of the door, sidelight or panel, and

d) are located between 1 350 mm and 1 500 mm above the floor.

3) A glass door shall be constructed of

a) laminated or tempered safety glass conforming to CAN/CGSB-12.1-M, "Tempered or Laminated Safety Glass," or

b) wired glass conforming to CAN/CGSB-12.11-M, "Wired Safety Glass."

4) Except as permitted by Sentence (5), transparent panels used in an *access to exit* that, because of their physical configuration or design, could be mistaken as a *means of egress* shall be made inaccessible by barriers or railings.

5) Sliding glass *partitions* that separate a *public corridor* from an adjacent *occupancy* and that are open during normal working hours need not conform to Sentences (1) and (4), provided the *partitions* are suitably marked in conformance with Sentence (2) to indicate their existence and position.

6) Where vision glass is provided in doors or transparent sidelights, the lowest edge of the glass shall be no higher than 900 mm above floor level.

7) Glass in doors and in sidelights that could be mistaken for doors, within or at the entrances to *dwelling units* and in public areas, shall conform to the requirements of Article 9.6.1.4.

8) A window in a public area that extends to less than 1 000 mm above the floor and is located above the second *storey* in a *building* of *residential occupancy*, shall be protected by a barrier or railing to not less than 1 070 mm above the floor, or the window shall be non-openable and designed to withstand the lateral design loads for balcony *guards* required by Article 4.1.5.14.

9) An openable window which has a width of 380 mm or less, is located less than 1 070 mm above interior floor level, and which opens to a space more than 600 mm below the level of the interior floor, shall be protected by a *guard*, in conformance with Article 3.3.1.18.

10) An openable window which has a width greater than 380 mm, is located less than 1 070 mm above interior floor level, and which opens to a space more than 600 mm below the level of the interior floor, shall be protected by

a) an opening mechanism that limits the unobstructed opening to no more than 100 mm measured either vertically or horizontally, or

b) a guard in conformance with Article 3.3.1.18.

3.3.1.20. Exhaust Ventilation and Explosion Venting

1) Except as provided in Sentence (2), an exhaust ventilation system designed in conformance with the appropriate requirements of Part 6 shall be provided in a *building* or part of a *building* in which dust, fumes, gases, vapour or other impurities or contaminants have the potential to create a fire or explosion hazard. (See also Article 4.2.4.13.)

2) Where a *fire separation* required to have a *fire-resistance rating* is penetrated by a ventilation system required by Sentence (1) for power-ventilated enclosures in laboratories, the ducts shall be

a) continuously enclosed from the first penetrated *fire separation* to any subsequent *fire separations* or concealed spaces and all the way through to the outdoors so that the highest *fire-resistance rating* of all the penetrated *fire separations* is maintained, and

b) exempted from the requirement to be equipped with a *fire damper*, smoke damper and fire/smoke damper as stated in Article 3.1.8.7.

3) Explosion relief devices, vents or other protective measures conforming to Subsection 6.3.1. and Article 6.9.1.2. shall be provided for a space in which substances or conditions that have the potential to create an explosion hazard are present as a result of the principal use of a *building*.

3.3.1.21. Janitors' Rooms

1) Except as permitted by Sentences (2) and (3), a room or space within a *floor area* for the storage of janitorial supplies shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than 1 h.

2) The *fire-resistance rating* of the *fire separation* required by Sentence (1) is permitted to be less than 1 h but not less than 45 min provided the *fire-resistance rating* required by Subsection 3.2.2. is permitted to be less than 1 h for

a) the floor assembly above the *floor area*, or

b) the floor assembly below the *floor area*, if there is no floor assembly above.

3) The *fire separation* required by Sentence (1) is not required to have a *fire-resistance rating* if the *floor area* in which the room or space is located is *sprinklered* throughout.

3.3.1.22. Common Laundry Rooms

1) Except as permitted by Sentences (2) and (3), in a *building* of *residential occupancy*, a laundry room in a *floor area* that is not within a *dwelling unit* shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than 1 h.

2) The *fire-resistance rating* of the *fire separation* required by Sentence (1) is permitted to be less than 1 h but not less than 45 min provided the *fire-resistance rating* required by Subsection 3.2.2. is permitted to be less than 1 h for

a) the floor assembly above the *floor area*, or

b) the floor assembly below the *floor area*, if there is no floor assembly above.

3) The *fire separation* required by Sentence (1) is not required to have a *fire-resistance rating* if the *floor area* in which the laundry room is located is *sprinklered* throughout.

3.3.1.23. Obstructions

1) No obstruction shall be permitted in any *occupancy* that would restrict the width of a normal *means of egress* from any part of a *floor area* to less than 750 mm unless an alternative *means of egress* is provided adjacent to, accessible from, and plainly visible from the obstructed *means of egress*. (See Note A-3.3.1.23.(1).)

3.3.1.24. Signs in Service Spaces

1) Illuminated signs conforming to Sentences 3.4.5.1.(2) and (6) shall be provided to indicate the direction to egress points in a *service space* referred to in Sentence 3.2.1.1.(8).

3.3.1.25. Welding and Cutting

1) Except as provided in Sentence (2), welding and cutting operations shall be carried out in a room

a) separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than 1 h, or

b) protected by an automatic fire extinguishing system.

2) Sentence (1) shall not apply to *industrial occupancies* where the welding and cutting operations do not present a fire or explosion hazard to adjacent areas.

3.3.2. Assembly Occupancy

3.3.2.1. Scope

1) This Subsection applies to *assembly occupancies* and to outdoor places of assembly.

2) Except as required in Sentence (3), provisions 12.2.3.2, 12.2.3.3, 12.2.5.4, 12.2.5.5, 12.2.5.6, 12.2.11.1, 12.4.1 and 12.4.2 of Chapter 12 of NFPA 101, "Life Safety Code," are permitted to be used in lieu of Articles 3.3.2.4., 3.3.2.5., 3.3.2.9., 3.3.2.11. and 3.3.2.12. (See Note A-3.3.2.1.(2).)

3) The minimum clear width of aisle accessways between rows of seats shall be calculated according to provisions 12.2.5.5.2, 12.2.5.5.4.1 and 12.2.5.5.5.1 of Chapter 12 of NFPA 101, "Life Safety Code," except that in no case shall the width be less than 400 mm.

3.3.2.2. Fire Separations

1) Except as permitted by Sentence (2), the seating area of a Group A, Division 1 *occupancy* shall be separated from adjacent *occupancies* in the *floor area* by a *fire separation* having a *fire-resistance rating* not less than 1 h if the *occupant load* in the seating area exceeds 200.

2) The *fire-resistance rating* of the *fire separation* required by Sentence (1) is permitted to be less than 1 h but not less than 45 min provided the *fire-resistance rating* required by Subsection 3.2.2. is permitted to be less than 1 h for

a) the floor assembly above the *floor area*, or

b) the floor assembly below the *floor area*, if there is no floor assembly above.

3) If usable space exists under tiers of seats in arena-type *buildings*, a *fire separation* with a *fire-resistance rating* not less than 45 min shall be provided between the space and the seats or the space shall be *sprinklered*.

3.3.2.3. Non-fixed Seating

1) Non-fixed seating shall conform to the Fire By-law.

3.3.2.4. Fixed Seats

1) Except for the requirements of Article 3.3.2.8. for bench-type seats and except as required or permitted by Sentence (2) and Articles 3.3.2.11. and 3.3.2.12., fixed seats in places of assembly shall be

a) attached or secured to the floor, platform or platform riser,

b) provided with arms and back, and

c) arranged in rows having an unobstructed passage not less than 400 mm wide measured horizontally between plumb lines from the backs of the seats in one row and the edges of the furthest forward projection of the seats in the next row in the unoccupied position.

2) For fixed seats with backs and with folding tablet arms, the value of 400 mm required by Clause (1)(c) shall be measured when the tablet arms are in the use position, but is permitted to be measured in the stored position provided

a) there are not more than 7 seats between any seat and the nearest aisle,

b) the seats are located in a lecture hall or an auditorium used for instructional purposes, and

c) the tablet arm, when raised manually to a vertical position, falls by the force of gravity to the stored position.

(See Note A-3.3.2.4.(2).)

3) Except as permitted by Sentence (4), aisles shall be located so that there are not more than 7 seats with backs or 20 seats without backs between any seat and the nearest aisle.

4) The requirements of Sentence (3) do not apply if

a) egress doorways are provided to serve both ends of rows of seats,

b) each doorway referred to in Clause (a) serves not more than 3 rows of seats, and

c) each row contains not more than 100 seats.

3.3.2.5. Aisles

1) Except as required by Articles 3.3.2.11. and 3.3.2.12., aisles leading to exits shall be provided in conformance with Sentences (2) to (17) in places of assembly which contain fixed seats.

2) The minimum clear width of aisles shall be not less than 1 100 mm, except that the width is permitted to be reduced to not less than

a) 750 mm if serving not more than 60 seats, and

b) 900 mm if serving seats on one side only.

3) Except in the case of bleacher seats, the minimum clear width of aisles referred to in Sentence (2) shall be measured at the point farthest from an *exit*, cross aisle or foyer and shall be increased by 25 mm for each metre of distance toward the *exit*, cross aisle or foyer.

4) Aisles shall terminate in a cross aisle, foyer or *exit*, and the width of the cross aisle, foyer or *exit* shall be not less than the required width of the widest aisle plus 50% of the total required width of the remaining aisles that it serves.

5) Dead-end aisles shall be not more than 6 m long.

6) The length of travel to an *exit* door by any aisle shall be not more than 45 m.

7) Side aisles shall be not less than 1 100 mm wide if seating is provided in conformance with Sentence 3.3.2.4.(4).

8) An aisle that has a slope not more than 1 in 8 shall not be stepped.

9) An aisle that slopes more than 1 in 8 shall be stepped.

10) The passageway between rows of seats served by a stepped aisle shall be level at right angles to the line of travel.

11) The riser of a step in an aisle shall be

a) not less than 110 mm high, and

b) not more than 200 mm high.

12) Variations are permitted in riser height provided

a) the height of adjacent risers does not vary by more than 6 mm, and

b) the width of a tread or a platform in the direction of travel is not less than 430 mm.

13) Steps in an aisle shall

a) have a *run* not less than 230 mm exclusive of nosings,

b) have a tread width not less than 250 mm,

c) extend to the adjacent rows of seats in a manner that will not create a hazard from tripping, and

d) have a finish on the treads conforming to Sentence 3.4.6.1.(1).

14) The location of every riser in an aisle shall be made apparent from both directions of travel by strategically placed lighting or contrasting marking stripes.

15) A platform in an aisle shall be level, except that a slope not more than 1 in 50 is permitted for a platform that is not less than 430 mm wide in the direction of *exit* travel.

16) If a step is used at the entry to a row of seats from a stepped aisle, an unobstructed platform not less than 800 mm square shall be provided adjacent to the aisle.

17) The finish of the surface of a platform in or adjacent to a stepped aisle shall conform to Sentence 3.4.6.1.(1).

3.3.2.6. Corridors

1) Except as permitted by Sentences (2) to (4), a corridor used by the public in an *assembly occupancy* as an *access to exit* shall be separated from the remainder of the *floor area* by a *fire separation* having a *fire-resistance rating* not less than 1 h.

2) The *fire-resistance rating* of the *fire separation* required by Sentence (1) is permitted to be less than 1 h but not less than 45 min provided the *fire-resistance rating* required by Subsection 3.2.2. is permitted to be less than 1 h for

a) the floor assembly above the *floor area*, or

b) the floor assembly below the *floor area*, if there is no floor assembly above.

3) The *fire-resistance rating* required by Sentence (1) is permitted to be waived if the *floor area* in which the corridor is located is *sprinklered* throughout.

4) The requirement for a *fire separation* stated in Sentence (1) is permitted to be waived if the distance from any point in the *floor area* to an *exit* measured along the path of travel to the *exit* does not exceed the travel distance permitted by Article 3.4.2.5.

3.3.2.7. Doors

1) A door equipped with a latching mechanism in an *access to exit* from a room or *suite* of *assembly occupancy* containing an *occupant load* more than 100 shall be equipped with a device that will release the latch and allow the door to swing wide open when a force not more than that specified in Sentence 3.8.3.6.(8) is applied to the device in the direction of travel to the *exit*.

3.3.2.8. Fixed Bench-Type Seats without Arms

1) If fixed bench-type seats without arms are provided, the seat width per person shall be assumed to be 450 mm.

2) The centre-to-centre spacing between rows of bench-type seats shall be not less than 760 mm if back rests are provided, and not less than 550 mm if back rests are not provided.

3) A clear space of not less than 300 mm shall be provided between the back of each seat and the front of the seat immediately behind it.

3.3.2.9. Guards

1) Except as required by Sentences (2) to (4) for bleacher seats, *guards* shall be installed in outdoor and indoor places of assembly with fixed seats so that

a) at the fascia of every box, balcony or gallery where the seats extend to the edge, the height of *guards* is not less than

i) 760 mm in front of the seats, and

ii) 920 mm if located at the end of aisles or at the foot of steps,

b) the height of *guards* along every cross aisle other than those adjacent to the fascia of every box, balcony or gallery is not less than 660 mm, except that *guards* need not be provided if the backs of the seats along the front side of the aisle are not less than 600 mm above the floor of the aisle, and

c) where the seating is arranged in successive tiers and the height of rise between platforms is more than 450 mm, the height of *guards* is not less than 660 mm along the entire row of seats at the edge of the platform.

2) The backs and ends of bleacher seats more than 1 200 mm above the ground or floor that are not adjacent to a wall shall be protected with a *guard*

a) not less than 1 070 mm high above an adjacent aisle surface or foot rest, and

b) not less than 920 mm high above the centre of an adjacent seat board.

3) If the front of a bleacher is more than 600 mm above the ground or floor, it shall be protected with a *guard* not less than 840 mm high above the front foot rest.

4) The size of any opening in a *guard* required by Sentences (2) and (3) shall not allow the passage of a sphere whose diameter is more than 300 mm.

3.3.2.10. Handrails in Aisles with Steps

(See Note A-3.3.2.10.)

1) Handrails shall be provided in aisles with steps in conformance with Table 3.3.2.10.

Table 3.3.2.10.
Types and Location of Handrails in Aisles with Steps
Forming Part of Sentence 3.3.2.10.(1)

Aisle Width	Aisle Serving Seating on One Side	Aisle Serving Seating on Both Sides
	Handrail Requirements	
Less than 1 100 mm	a continuous handrail located on the side of the aisle opposite the seats that conforms to Sentences 3.4.6.5.(5) to (8), (11), (13) and (14)	a handrail located on one side at the end of each row of seats that conforms to Sentences 3.4.6.5.(5) to (8), (11), (13) and (14)
1 100 mm or more	a centre-line handrail that conforms to Sentence (2) or a continuous handrail located on the side of the aisle opposite the seats that conforms to Sentences 3.4.6.5.(5) to (8), (11), (13) and (14), plus a handrail located at the end of each row of seats that conforms to Sentences 3.4.6.5.(5) to (8), (11), (13) and (14)	a centre line handrail that conforms to Sentence (2)

2) Handrails installed along aisle centre lines as required by Table 3.3.2.10. shall

a) comply with Sentences 3.4.6.5.(5) to (7) and (14),

b) have gaps not less than 560 mm and not more than 915 mm wide, measured horizontally, at intervals not exceeding five rows,

c) comply with Sentence 3.4.6.5.(11) at terminations and required gaps, and

d) have an intermediate rail located 305 mm below the principal handrail.

3.3.2.11. Outdoor Places of Assembly

1) A Group A, Division 4 *occupancy* and each tier or balcony that has a capacity of more than

a) 1 000 persons shall have not less than 3 separate *exits*, or

b) 4 000 persons shall have not less than 4 separate *exits*.

2) In a Group A, Division 4 *occupancy*, every seat shall be located so that the travel distance is not more than 45 m measured along the path of travel from the seat to

a) the ground,

b) an *exit*,

c) an opening to a passageway leading from the seating area, or

d) a portal, a vomitory or any other opening through the seating deck structure.

3) *Exits* from outdoor stadia or grandstands shall be located not more than 25 m apart.

4) The capacity of a *means of egress* for a Group A, Division 4 *occupancy* shall conform to the requirements of Sentence 3.4.3.2.(3).

5) Aisles in a Group A, Division 4 *occupancy* shall

a) be located so that there are not more than 20 seats between any seat and the nearest aisle, and

b) be not less than 1 200 mm wide, except that an aisle serving less than 60 persons is permitted to be 750 mm wide.

3.3.2.12. Bleachers

1) Steps provided in aisles of bleachers of the telescopic type shall

a) have risers not more than 250 mm high, and

b) have treads with a *run* not less than 280 mm.

2) If the vertical distance between seating platforms in bleachers is more than 280 mm, an intermediate step shall be provided the full width of the aisle and proportioned to provide 2 equal risers between platforms.

3) If the vertical distance between seating platforms in bleachers is more than 450 mm, 2 intermediate steps shall be provided the full width of the aisle so that there are 3 equal risers between platforms.

4) If the passageway between rows of seats is not a closed deck, footboards shall be provided so that

a) the total width of the footboards shall be not less than three quarters of the centre-to-centre spacing between rows of seats, and

b) the spacing between footboard members shall be not more than 25 mm.

5) Openings above footboards and below the seats in rows of bleacher seats shall be provided with intermediate construction so that there is no opening that would permit the passage of a sphere of more than 100 mm in diameter.

3.3.2.13. Libraries

1) Except as permitted by Sentence (2), a library book storage room that is not normally accessible to the public shall be separated from the remainder of the *building* by a *fire separation* with a *fire-resistance rating* not less than 2 h if it

a) is more than 250 m^2 in area, or

b) contains book stacks that

i) are more than 10 m high, or

ii) penetrate more than one floor assembly.

2) The *fire separation* required by Sentence (1) is not required if the book storage room is *sprinklered*.

3) Open book shelves are permitted above and below a *mezzanine* floor in a library *building* provided the height of the shelves is not more than 2.1 m but not more than 75% of the floor-to-ceiling height of the space above or below the *mezzanine* floor assembly.

3.3.2.14. Stages for Theatrical Performances

1) A *stage* for theatrical performances and ancillary spaces, including workshops, dressing rooms and storage areas, shall be *sprinklered*.

2) A *fire separation* with a *fire-resistance rating* not less than 1 h shall be provided between a *stage* for theatrical performances and ancillary spaces, including workshops, dressing rooms and storage areas.

3) Except as permitted by Sentence (6), a *stage* for theatrical performances and ancillary spaces, including workshops, dressing rooms and storage areas, shall be separated from the seating area by a *fire separation* having a *fire-resistance rating* not less than 1 h, except for a proscenium opening protected with

a) a sprinkler deluge system conforming to the requirements of NFPA 13, "Installation of Sprinkler Systems,"

b) an unframed fire curtain if the opening is not more than 20 m wide, or

c) a semi-rigid fire curtain if the opening is more than 20 m wide.

4) A fire curtain required by Sentence (3) shall be of a type *acceptable* to the authority having jurisdiction and designed to close

a) automatically upon the actuation of the *sprinkler system*,

b) automatically upon actuation of the fire alarm system, and

c) manually by remote control devices located at the curtain control panel and at each side of the *stage*.

5) At least 2 vents for the purpose of venting fire and smoke to the outside of a *building* shall be provided above a *stage* designed for theatrical performances and shall

a) have an aggregate area not less than one eighth of the area of the *stage* behind the proscenium opening, and

b) be arranged to open automatically upon actuation of the *sprinkler system*.

6) The *fire separation* referred to in Sentence (3) is not required between a *stage* and a seating area in a *building* that is *sprinklered* throughout, provided a sprinkler deluge system is installed at the boundary between the *stage* and the seating area.

3.3.2.15. Risers for Stairs

1) In a Group A, Division 2 *occupancy* used for the serving of food and beverages, an interior *flight* of stairs with fewer than 3 risers is permitted provided it

a) is not less than 900 mm wide,

b) is illuminated at all times that occupants are on the premises, and

c) has a handrail on each side.

3.3.2.16. Storage Rooms

1) Where storage rooms are required by Part 4 of Division B of the Fire By-law for the storage of *flammable liquids* or *combustible liquids* in *assembly occupancies*, such rooms shall not be located above or below the *first storey*.

3.3.2.17. Deleted

(See Article 3.1.2.8.)

3.3.3. Care, Treatment or Detention Occupancies

3.3.3.1. Application

1) This Subsection applies to *care*, *treatment* and *detention occupancies*. (See Note A-3.3.3.1.(1).)

3.3.3.2. Separations between Care, Treatment or Detention Occupancies and Repair Garages

1) The *fire separation* required by Sentence 3.3.5.5.(1) between a *care*, *treatment* or *detention occupancy* and a *repair garage* shall have no openings.

3.3.3.3. Corridors

1) Except as provided in Sentence (2), a corridor used by the public or serving patients' or residents' sleeping rooms shall have no dead-end portion.

2) Corridors are permitted to have dead-portions, where

a) the area served by the dead-end portion has a second and separate *means of egress*, or

b) the corridor serves a *suite* of *care occupancy* and the dead-end portion does not exceed 6 m.

3) Corridors shall be not less than

a) 2 400 mm wide in *buildings* of *treatment occupancy* where the corridors may be used to move patients or residents in beds,

b) 1 650 mm wide

i) in *buildings* of *care* or *treatment occupancy* where the corridors will not be used to move patients or residents in beds, and

ii) in *buildings* of *care occupancy* with more than 10 residents and where the corridors serve the residents, or

c) 1 100 mm wide in *buildings* of *care occupancy* with not more than 10 residents.

4) Paired doors in a corridor referred to in Clause (3)(a) shall

a) swing in opposite directions, the right-hand door swinging in the direction of travel, and

b) be not less than 1 100 mm wide.

3.3.3.4. Doorway Width

1) Except as provided in Sentence (2) and within individual *suites* of *care occupancy*, the minimum clear width of a doorway shall be 850 mm where it opens into or is located within a *public corridor* or other facility that provides *access to exit* for patients or residents in *floor areas* containing *care* or *treatment occupancies*.

2) The minimum clear width of doorways through which it is necessary to move patients in bed shall be 1 050 mm. (See Note A-3.3.3.4.(2).)

3.3.3.5. Compartments and Fire Separations

1) *Floor areas* containing patients' or residents' sleeping rooms in a *care* or *treatment occupancy* where overnight sleeping accommodation is provided for more than a total of 10 patients or residents shall conform to Sentences (2) to (13).

2) Except as permitted by Sentence (3), a *floor area* described in Sentence (1) shall be divided into not less than 2 *fire compartments*, each not more than 1 000 m^2 in area.

3) The *floor area* on either side of a *horizontal exit conforming to* Article 3.4.6.10. is permitted to be considered as a *fire compartment* in applying the requirements of this Article.

4) Except as permitted by Sentence (5), *fire separations* separating *fire compartments* required by Sentence (2) shall have a *fire-resistance rating* not less than 1 h.

5) The *fire-resistance rating* of a *fire separation* referred to in Sentence (4) is permitted to be less than 1 h but not less than 45 min provided the *fire-resistance rating* required by Subsection 3.2.2. is permitted to be less than 1 h for

a) the floor assembly above the *floor area*, or

b) the floor assembly below the *floor area*, if there is no floor assembly above.

6) The travel distance from any point within each *fire compartment* referred to in Sentence (2) to a door to an adjoining *fire compartment* shall be not more than 45 m.

7) Each *fire compartment* referred to in Sentence (2) shall be capable of accommodating, in addition to its own occupants, the occupants of the largest adjacent *fire compartment* based on a clear floor space of 2.5 m^2 per patient in the adjacent *fire compartment*.

8) Except as provided in Sentences (9) to (13), walls between patients' or residents' sleeping rooms and the remainder of the *floor area* shall be constructed as *fire separations* but are not required to have a *fire-resistance rating* unless one is required by other provisions in this Part. (See Note A-3.1.8.1.(1)(b).)

9) The *fire separation* requirements of Sentence (8) do not apply to walls within a group of intercommunicating patients' or residents' sleeping rooms, provided the group of rooms does not

a) contain more than 5 patients or residents, or

b) include storage, bathing or toilet facilities serving persons not occupying the group of rooms.

(See Note A-3.3.3.5.(9).)

10) The *fire separation* requirements of Sentence (8) do not apply to walls within individual *suites* of *care occupancy*.

11) A door in a *fire separation* required by Sentence (8) is permitted to be equipped with a roller latch.

12) Except as permitted by Sentence (13), a *fire separation* required by Sentence (8) shall not have any grilles, louvres or other openings.

13) A door or wall separating a patient's or resident's sleeping room from an ensuite toilet room, shower room or similar ancillary space is permitted to incorporate grilles and louvres, provided

a) the adjacent rooms are not used to store flammable or *combustible* materials, and

b) the openings are located so that smoke cannot pass through these rooms to other parts of the *building*.

(See Note A-3.3.3.5.(13).)

14) Walls between individual *suites* of *care occupancy* and the remainder of the *floor area* in *buildings* of *care occupancy* shall be constructed as *fire separations* with a *fire-resistance rating* not less than that specified for *residential occupancies* in Sentences 3.3.4.2.(1) and (2).

15) Floor assemblies within individual *suites* of *care occupancy* need not be constructed as *fire separations*, provided the *suites* meet the conditions described in Clauses 3.3.4.2.(3)(a) and (b).

16) The *fire-resistance rating* of the *fire separation* required by Sentence 3.3.5.6.(1) is permitted to be waived if the *fire separation* is located between individual *suites* of *care occupancy* and an attached *storage garage* containing not more than 5 vehicles, provided the conditions described in Sentence 3.3.4.2.(4) are met.

17) *Fire dampers* in *fire separations* between *fire compartments* described in Sentence (2) shall be designed to close upon a signal from a *smoke detector* in either *fire compartment*. (See Note A-3.3.3.5.(17).)

3.3.3.6. Areas of Refuge

1) Compartments containing rooms such as operating rooms, recovery rooms, delivery rooms and intensive care units, from which it is impracticable to move patients in an emergency, shall be

a) separated from adjacent spaces by *fire separations* having a *fire-resistance rating* not less than 1 h, and

b) provided with a mechanical air supply so that during a period of 2 h after the start of a fire in another space, the compartments will not contain more than 1% by volume of contaminated air from the fire area.

3.3.3.7. Contained Use Areas

1) A *contained use area* shall conform to Sentences (2) to (5).

2) A *contained use area* shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than 1 h.

3) Except as permitted by Sentence (4), a *building* that includes a *contained use area* shall be *sprinklered* throughout.

4) A *contained use area*, in a *building* for which Articles 3.2.2.20. to 3.2.2.90. do not require the installation of an automatic *sprinkler system*, is not required to be *sprinklered* as required by Sentence (3) provided

a) the *building* is designed so that during a period of 2 h after the start of a fire in the *contained use area* other *fire compartments* will not contain more than 1% by volume of contaminated air from the *contained use area*,

b) the *building* is designed so that during a period of 2 h after the start of a fire in another part of the *building* the *contained use area* will not contain more than 1% by volume of contaminated air from the other part of the *building*,

c) all doors are designed to be remotely released in conformance with Sentence 3.3.1.13.(6), and

d) the *contained use area* does not contain any rooms lined with *combustible* padding.

5) A corridor serving a *contained use area* shall have no dead-end portion unless the area served by the dead-end portion has a second and separate *means of egress*.

3.3.4. Residential Occupancy

3.3.4.1. Scope

1) This Subsection applies to *residential occupancies*.

3.3.4.2. Fire Separations

1) Except as permitted by Sentences (2), 3.2.2.9.(2), and *ancillary residential units* complying with Section 9.37, *suites* of *residential occupancy*, shall be separated from each other and the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than 1 h.

2) The *fire-resistance rating* of the *fire separation* required by Sentence (1) is permitted to be less than 1 h but not less than 45 min provided the *fire-resistance rating* required by Subsection 3.2.2. is permitted to be less than 1 h for

a) the floor assembly above the *floor area*, or

b) the floor assembly below the *floor area*, if there is no floor assembly above.

3) Floor assemblies within a *dwelling unit* need not be constructed as *fire separations* provided

a) the distance between the lowest floor level and the uppermost floor level within the *dwelling unit* is not more than 6 m, and

b) the *dwelling unit* is separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than

i) 1 h if the *building* is not *sprinklered* throughout,

ii) 45 min if the *building* is *sprinklered* throughout and it is not more than 3 *storeys* in *building height*, or

iii) 1 h if the *building* is *sprinklered* throughout and it is more than 3 *storeys* in *building height*.

4) The *fire-resistance rating* of the *fire separation* required by Sentence 3.3.5.6.(1) is permitted to be waived if the *fire separation* is located between a *dwelling unit* and an attached *storage garage* containing not more than 5 vehicles, provided

a) the *dwelling unit* and the attached *storage garage* are *sprinklered*,

b) the *dwelling unit* and the attached *storage garage* are separated from the remainder of the *building* in conformance with Sentences (1), (2) and (3),

c) there are no air duct systems connecting the *storage garage* and the *dwelling unit*,

d) the construction between the *storage garage* and the *dwelling unit* provides an effective barrier to gas and exhaust fumes, and

e) every door between the *storage garage* and the *dwelling unit* is

i) tight fitting and weather-stripped to provide an effective barrier against the passage of gas and exhaust fumes,

ii) fitted with a self-closing device, and

iii) not located in a room intended for sleeping.

5) The *fire separation* required by Sentence 3.3.5.6.(1) is not required between a *dwelling unit* and an attached *storage garage*, serving that *dwelling unit* only, provided

a) the *dwelling unit* and its attached *storage garage* are separated from the remainder of the *building* in conformance with Sentences (1), (2) and (3),

b) there are no air duct systems connecting the *storage garage* and the *dwelling unit*,

c) the construction between the *storage garage* and the *dwelling unit* provides an effective barrier to gas and exhaust fumes, and

d) every door between the *storage garage* and the *dwelling unit* is

i) tight fitting and weather-stripped to provide an effective barrier against the passage of gas and exhaust fumes,

ii) fitted with a self-closing device, and

iii) not located in a room intended for sleeping.

3.3.4.3. Storage Rooms

1) Sprinklers shall be installed in a storage room provided for the use of tenants in a *residential occupancy* within a *floor area* but not contained within a *suite*.

2) Except as permitted by Sentence (3), a storage room referred to in Sentence (1) shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than 1 h.

3) The *fire-resistance rating* of the *fire separation* required by Sentence (2) is permitted to be less than 1 h but not less than 45 min provided the *fire-resistance rating* required by Subsection 3.2.2. is permitted to be less than 1 h for

a) the floor assembly above the *floor area*, or

b) the floor assembly below the *floor area*, if there is no floor assembly above.

4) Except for the storage of *flammable liquids* and *combustible liquids* inside a *building* containing not more than one principal *dwelling unit* and garages or sheds attached to these *dwelling units*, where storage rooms are required by Part 4 of Division B of the Fire By-law for the storage of *flammable liquids* or *combustible liquids* in *residential occupancies*, such rooms shall not be located above or below the *first storey*.

3.3.4.4. Egress from Dwelling Units

1) Single *storey dwelling units* in an apartment *building* need not lead to a *public corridor* or exterior passageway on the same *storey* provided the *dwelling units* are served by private stairways leading directly to a public *access to exit* on the *storey*

a) immediately above, and

b) immediately below.

(See Note A-3.3.4.4.(1).)

2) Except as permitted by Sentences (3), (4), and (7), a *dwelling unit* containing more than one *storey* shall have an *exit* door or an egress door opening directly into a public *access to exit* from the uppermost *storey* and from the lowest *storey* of the *dwelling unit* so that each of these *storeys* is served by an *exit* or egress door located not more than 1.5 m above or below its floor level.

3) A single *exit* is permitted from a *dwelling unit* provided the *exit* is an exterior doorway not more than 1.5m above adjacent ground level and

a) it is not necessary to travel up or down more than one *storey* to reach the *exit* door,

b) in a *sprinklered building*, it is not necessary to travel up or down more than two *storeys* to reach the *exit* door, provided the travel distance to a single *exit* door does not exceed 25 m, or

c) the uppermost floor level opens to a balcony not more than 6 m above adjacent ground level.

4) An egress door from either the uppermost storey or the lowest storey of a *dwelling unit*, as required by Sentence (2), need not be provided if that *storey* is served by a stairway that

a) leads to a public *access to exit*,

b) has no direct access to any other *storey* in the *dwelling unit*, and

c) is separated from the other *storeys* in the dwelling unit by a *fire separation* having a *fire-resistance rating* not less than 45 min.

5) In a *building* of *residential occupancy* not more than 3 *storeys* in *building height*, a doorway from a *dwelling unit* is permitted to open directly into an *exit* stairway provided the dwelling unit has a second and separate *means of egress*.

6) If a *dwelling unit* has a second and separate *means of egress*, one *means of egress* from a *dwelling unit* is permitted to pass through

a) an interior corridor served by a single *exit*,

b) an exterior balcony served by a single *exit* stairway, or

c) an exterior passageway served by a single *exit* stairway.

7) A single *means of egress* is permitted from a *dwelling unit* in a *sprinklered building* if it is not necessary to travel more than 18 m from the most remote point within the *dwelling unit*, and (See Note A-3.3.4.4.(7).)

a) one *storey* up or down, or

b) two *storeys* above the *first storey* of the *building*.

3.3.4.5. Automatic Locking Prohibition

1) Except for hotels and motels, a door opening onto a *public corridor* which provides *access to exit* from a *suite* shall be designed not to lock automatically. (See Note A-3.3.4.5.(1).)

3.3.4.6. Sound Transmission

1) Occupants of *dwelling units* shall be protected from airborne noise in conformance with Section 5.8.

3.3.4.7. Stairs, Ramps, Landings, Handrails and Guards for Dwelling Units

1) Except as required in Article 3.3.4.8., stairs, ramps, landings, handrails and *guards* within a *dwelling unit* shall conform to the appropriate requirements in Section 9.8.

2) Exterior stairs, ramps, landings, handrails and *guards* serving a single *dwelling unit*, and loads on *guards* serving not more than two *dwelling units*, shall conform to the appropriate requirements in Section 9.8.

3.3.4.8. Protection of Openable Windows

1) Except as provided in Sentence (2), openable windows in *suites* of *residential occupancy* shall be protected by

a) a *guard* with a minimum height of 1 070 mm constructed in accordance with Article 3.3.1.18., or

b) a mechanism capable of controlling the free swinging or sliding of the openable part of the window so as to limit any clear unobstructed opening to not more than 100 mm measured either vertically or horizontally where the other dimension is greater than 380 mm.

2) Windows need not be protected in accordance with Sentence (1) where

a) the only opening having greater dimensions than those allowed by Clause (1)(b) is located higher than 1 070 mm above the finished floor, or

b) the bottom edge of the openable portion of the window is located less than 1 800 mm above the floor or ground on the other side of the window.

3.3.4.9. Resistance to Forced Entry

1) *Dwelling units* shall conform to Article 9.7.2.1. and Subsection 9.7.5.

3.3.5. Industrial Occupancy

3.3.5.1. Scope

1) This Subsection applies to *industrial occupancies*.

3.3.5.2. Fire Extinguishing Systems

1) In addition to other requirements in this By-law for the installation of automatic fire extinguishing systems, an appropriate fire extinguishing system shall be installed in every *industrial occupancy floor area* to provide protection if required by

a) provincial or territorial regulations or other regulatory enactments, or

b) the Fire By-law, in the absence of the regulations or bylaws referred to in Clause (a).

3.3.5.3. Basements

1) A *basement* shall not be used for the storage, manufacture or handling of volatile solids, liquids or gases that generate explosive air-vapour mixtures or for processes that involve explosive dusts.

2) Entrances and *exits* to a *basement* and to rooms containing *building* services shall be separate from the remainder of the *building* in a *building* in which

a) the storage, manufacture or handling of volatile materials can generate explosive air-vapour mixtures, or

b) processes occur that produce explosive dusts.

3) *Basements* and rooms referred to in Sentence (2) shall be separated from the remainder of the *building* with a vapour-tight separation.

3.3.5.4. Repair and Storage Garages

1) If access is provided from a *storage garage* to a stair tower or elevator serving *occupancies* above the level of the *storage garage*, the access shall be through a vestibule conforming to Sentence 3.3.5.7.(4).

2) Treads and landings in interior stairs that extend to the roof of a *storage garage* shall be designed to be free of accumulations of ice and snow.

3) A mechanical *storage garage* not more than 4 *storeys* in *building height*, in which no persons other than parking attendants are permitted above the *street* floor level, need not have a *fire separation* between the *exits* and the remainder of the *building*.

4) A garage shall be provided with natural or mechanical ventilation in conformance with the requirements of Subsection 6.3.1. and Article 6.9.1.2. to prevent excessive accumulation of carbon monoxide, exhaust fumes or flammable and toxic vapours.

5) The clear height in a *storage garage* shall be not less than 2 m.

6) Where garage floors or ramps are 600 mm or more above the adjacent ground or floor level, every opening through such floors and the perimeter of floors and ramps shall be provided with

a) a continuous curb not less than 140 mm high, a *guard* not less than 1 070 mm high, and a vehicle guardrail not less than 500 mm high conforming to Sentence (7), or

b) a full-height wall conforming to Sentence (7).

7) Vehicle guardrails and full-height walls required in Sentence (6) shall be designed and constructed to withstand the loading values stipulated in Sentence 4.1.5.15.(1).

8) Deleted.

3.3.5.5. Repair Garage Separation

1) A *repair garage* and any ancillary spaces serving it, including waiting rooms, reception rooms, tool and parts storage areas and supervisory office space, shall be separated from other *occupancies* by a *fire separation* having a *fire-resistance rating* not less than 2 h.

3.3.5.6. Storage Garage Separation

1) Except as permitted by Sentences 3.3.4.2.(4) and (5), a *storage garage* shall be separated from other *occupancies* by a *fire separation* with a *fire-resistance rating* not less than 1.5 h.

3.3.5.7. Vestibules

1) Except as provided in Sentence (2), if access is provided through a *fire separation* between a *storage garage* and a Group A, Division 1 or Group B *occupancy*, the access shall be through a vestibule conforming to Sentence (4).

2) If access is provided through a *fire separation* between a *storage garage* and a Group B, Division 3 *occupancy* with not more than 10 occupants, access need not be through a vestibule, provided the *fire separation* complies with Clauses 3.3.4.2.(5)(b) to (d).

3) In a *building* more than 3 *storeys* in *building height*, access through a *fire separation* between a *storage garage* and a Group A, Division 2, 3 or 4, or a Group C *occupancy*, shall be through a vestibule conforming to Sentence (4).

4) If access is provided through a vestibule, as required by Sentences (1), (3) and 3.3.5.4.(1), the vestibule shall

a) be not less than 1.8 m long,

b) be ventilated

i) naturally to outside air by a vent that has an unobstructed area of not less than 0.1 m^2 for each door that opens into the vestibule but not less than 0.4 m^2, or

ii) mechanically at a rate of 14 m^3/h for each square metre of vestibule floor surface area, and

c) have openings between the vestibule and an adjoining *occupancy* provided with self-closing doors with no hold-open devices.

3.3.5.8. Dispensing of Fuel

1) Facilities for the dispensing of fuel having a *flash point* below 37.8°C shall not be installed above any space intended for *occupancy*.

2) Facilities for the dispensing of fuel having a *flash point* below 37.8°C shall not be installed in any *building*, except that this requirement does not apply to a canopy which is open on not less than 75% of its perimeter.

3.3.5.9. Multiple-Tenant Self-Storage Warehouses

1) Except where a *building* is *sprinklered* throughout, each individual tenancy in a multiple tenant self storage warehouse classified as an *industrial occupancy* shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than 45 min.

3.3.5.10. Guards

1) Except where they serve *storage garages*, *guards* in *industrial occupancies* are permitted to consist of

a) a top railing, and

b) one or more intermediate rails spaced such that openings through the *guard* are of a size that prevents the passage of a spherical object whose diameter is 535 mm.

3.3.6. Design of Hazardous Areas

3.3.6.1. Application

1) This Subsection applies to design and fire protection requirements for *buildings* or parts thereof used for the storage, handling, use and processing of *dangerous goods*, including *flammable liquids* and *combustible liquids*, in quantities in excess of those identified in Table 3.2.7.1. of Division B of the Fire By-law (See Note A-3.3.6.1.(1).)

3.3.6.2. Storage of Dangerous Goods

1) Solid and liquid *dangerous goods* classified as oxidizers or organic peroxides shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* of not less than 2 h.

2) Reactive materials shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* of not less than 2 h. (See Note A-3.3.6.2.(2).)

3) The design of *buildings* or parts thereof used for the storage of *dangerous goods* classified as explosives shall conform to the "Explosives Act" and its Regulations, published by Natural Resources Canada.

4) Where wiring or electrical equipment is located in areas in which flammable gases or vapours, *combustible dusts* or *combustible fibres* are present in quantities sufficient to create a hazard, such wiring and electrical equipment shall conform to the requirements for hazardous locations as required by the Electrical Safety Regulation.

3.3.6.3. Indoor Storage of Anhydrous Ammonia and Flammable, Toxic and Oxidizing Gases

1) Where required by the Fire By-law, cylinders of *dangerous goods* classified as flammable gases stored indoors shall be located in a room

a) that is separated from the remainder of the *building* by a gas-tight *fire separation* having a *fire-resistance rating* of at least 2 h,

b) that is located on an exterior wall of the *building*,

c) that can be entered from the exterior, and

d) whose *closures* leading to the interior of the *building* are

i) equipped with self-closing devices that keep the *closures* closed when not in use, and

ii) constructed so as to prevent the migration of gases from the room into other parts of the *building*.

2) Where required by the Fire By-law, cylinders of anhydrous ammonia or *dangerous goods* classified as toxic or oxidizing gases stored indoors shall be located in a room

a) that is separated from the remainder of the *building* by a gas-tight *fire separation* having a *fire-resistance rating* of at least 1 h,

b) that is located on an exterior wall of the *building*,

c) that can be entered from the exterior, and

d) whose *closures* leading to the interior of the *building* are

i) equipped with self-closing devices that keep the *closures* closed when not in use, and

ii) constructed so as to prevent the migration of gases from the room into other parts of the *building*.

3.3.6.4. Storage and Dispensing Rooms for Flammable Liquids and Combustible Liquids

1) *Fire separations* for rooms where *flammable liquids* and *combustible liquids* are stored are required to be constructed with a *fire-resistance rating* in conformance with Subsection 4.2.9. of Division B of the Fire By-law.

2) Where Class IA or IB liquids specified in Subsection 4.1.2. of Division B of the Fire By-law are dispensed within a storage room, the room shall be designed to prevent critical structural and mechanical damage from an internal explosion in conformance with good engineering practice such as that described in NFPA 68, "Explosion Protection by Deflagration Venting." (See Note A-3.3.6.4.(2).)

3.3.6.5. Tire Storage

1) A tire storage area designed to contain more than 375 m^3 of rubber tires shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* of not less than 2 h. (See Note A-3.3.6.5.(1).)

3.3.6.6. Ammonium Nitrate Storage

1) Where Article 3.2.9.1. of Division B of the Fire By-law applies due to the quantity and nature of the stored product, and as stipulated in Sentences (2) to (6), *buildings* used for the storage of ammonium nitrate shall be classified as *medium-hazard industrial occupancies* (Group F, Division 2).

2) *Buildings* intended for the storage of ammonium nitrate shall be not more than one *storey* in *building* height.

3) *Buildings* intended for the storage of ammonium nitrate shall not

a) have *basements* or crawl spaces, or

b) contain open floor drains, tunnels, elevator pits or other pockets that might trap molten ammonium nitrate.

4) *Buildings* intended for the storage of ammonium nitrate shall have not less than 0.007 m^2 of vent area for each square metre of storage area, unless mechanical ventilation is provided.

5) All flooring in storage areas described in Sentence (1) shall be constructed of *noncombustible* materials.

6) *Buildings* intended for the storage of ammonium nitrate shall be designed to prevent the ammonium nitrate from coming into contact with *building* materials that

a) will cause the ammonium nitrate to become unstable,

b) may corrode or deteriorate by reason of contact with the ammonium nitrate, or

c) will become impregnated with the ammonium nitrate.

(See Note A-3.3.6.6.(6).)

3.3.6.7. Flooring Materials

1) Floors in areas where *dangerous goods* are stored shall be constructed of impermeable materials to prevent the absorption of chemicals.

3.3.6.8. Fire Separations in Process Plants

1) In *process plants*, areas where unstable liquids are handled or where small-scale unit chemical processes occur shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* of not less than 2 h.

3.3.6.9. Basements and Pits

1) *Process plants* where Class I and II *flammable liquids* and *combustible liquids* are handled shall not be constructed with *basements* or covered pits.

3.3.7. Building Security

3.3.7.1. Scope

1) This Subsection is intended to address issues of life safety through the security of *buildings*.

3.3.7.2. Skylights

1) All openable skylights shall be designed to prevent opening from the outside when in the closed and locked position.

2) All exterior skylight fasteners shall be tamperproof.

3.3.7.3. Doors

1) All entrance and exterior doors to *dwelling units*, doors between *dwelling units* and attached garages, and doors which provide direct or indirect access from *storage garages* to *dwelling units* shall conform to Subsections 9.6.1. and 9.7.3.

3.3.7.4. Sidelights to Doors

1) All sidelights to doors and all windows adjacent to doors located within 915 mm of the door locks shall conform to Sentence 9.6.1.4.(1).

3.3.7.5. Exterior Sliding Windows

1) In *buildings* of *residential occupancy*, all exterior windows with a sliding sash located within 5 m of finished grade, shall be provided with a positive, automatically locking mechanism and installed so that the sliding sash cannot be removed from its frame when in the locked position.

3.3.7.6. Security Gates for Storage Garages

1) Security gates installed at vehicle entrances or at secured areas in *storage garages* shall comply with the following provisions.

a) Except as required in Clause (1)(b), a security gate shall be designed and installed with clearance between the moving parts and adjacent surfaces which is sufficient to prevent injury or entrapment and is no greater than 100 mm.

b) If a horizontally sliding security gate opens by sliding into a pocket guard enclosure constructed against a wall,

   i) the clearance between the pocket guard enclosure and the wall surface shall be no greater than 25 mm; and

   ii) the clearance between the pocket guard enclosure and the gate frame shall be no greater than 25 mm on each side of the gate frame.

c) A security gate shall be designed and installed with

   i) a load sensitive device designed to reverse the gate on contact with an obstruction,

   ii) a five second audible or visual warning device indicating the opening or closing of the gate, and

   iii) a maximum clearance between the gate frame and wall surface of no more than 25 mm.

3.3.7.7. Security for Storage Garage

1) The provisions of Sentences (2) to (7) shall apply to a *storage garage* with more than 19 parking spaces.

2) If access is provided from a *storage garage* to a stair tower or to an elevator through a vestibule, the vestibule shall be constructed

a) with *closures* glazed with clear wired glass in steel frames, which provide the greatest possible unobstructed view from the *storage garage* into the stair tower or vestibule,

b) as a *fire separation* with a *fire-resistance rating* of not less than 1 hr,

c) with full or half glazed *closures* with a *fire-protection rating* of not less than 45 min between the *storage garage* and the vestibule and between the vestibule and the stair tower, and

d) with a row of sprinkler heads running the full width of the glazing, installed on the garage side of the vestibule at a spacing of 1800 mm on centre parallel to the glass, located between 150 mm to 300 mm perpendicular to the glazing and vertically installed on the garage ceiling in conformance with NFPA requirements.

(See Note A-3.3.7.7.(2).)

3) A stair shaft serving a *storage garage* and which is connected to a *storey* containing an *occupancy* other than a *storage garage*, shall terminate at that *storey*.

4) Except for open-air *storage garages* and *buildings* of *residential occupancy*, a *storage garage* shall be provided with *exits* which only serve the *storage garage* and which exit directly outside the *building*.

5) Except as provided in Sentence 3.3.7.7.(6), an exterior stair shaft or elevator vestibule which serves as access to a *storage garage* shall be unenclosed.

6) An enclosed exterior stair shaft or elevator vestibule which serves as access to a *storage garage* shall conform to Clauses (2)(a) and (c) but need not conform to the *fire separation* and *fire-resistance rating* requirements.

7) Where the stair shaft or vestibule in Sentence (5) or (6) is required to have a *fire-resistance rating*, due to spatial separation requirements, the provisions of Clauses (2)(a), (b) and (c) shall apply.

8) Despite the provisions of Sentence 3.2.7.1.(2) and Table 9.34.2.7., *storage garages* shall meet the following average lighting levels measured at floor level

a) 550 lx in the first 15 m of entrance roadway,

b) 110 lx in traffic aisles, and

c) 220 lx in pedestrian access vestibules, stairwells and elevator lobbies.

3.3.7.8. Washrooms in Public Buildings

1) Public access to washrooms in a public *building* shall be located in areas which are open to the public and shall not be located in enclosed stairwells.

3.3.7.9. Mailbox Construction in Multi-Family Buildings

(See Note A-3.3.7.9.)

1) In a *multi-family building* or parts thereof, commonly accessible mailbox assembly serving at least 20 dwelling units shall

a) be constructed of heavy gauge metal,

b) designed to resist prying and tampering,

c) be well secured to framing members, blocking, or other solid construction,

d) have individual storage compartment access doors made of 16 gauge steel or 4.76 mm thick aluminum,

e) be hinged so that the hinge or hinge pin cannot be removed from the outside when the doors are closed, and

f) be provided with a 5 pin cylinder cam lock that when locked, the bolt will engage with the frame for each storage compartment.

3.3.8. Public Storage Facilities

3.3.8.1. Egress From Storage Lockers

1) Despite the provisions of this By-law, an egress door from a storage locker in a public storage facility is not required to swing on a vertical axis if

a) the storage locker is equipped with its own sprinkler head,

b) the *building* is fully *sprinklered* in conformance with NFPA 13,

c) the *building* is equipped with a fire alarm system in conformance with Subsection 3.2.4.,

d) each storage locker is separated from the remainder of the *floor area* by a solid wall assembly without openings,

e) the storage locker door is equipped with a failsafe locking mechanism,

f) the size of the storage locker does not exceed 50 m^2 and the travel distance to the egress door does not exceed 10 m,

g) the overhead door only serves a single storage locker, and

h) a continuous steel mesh is installed across the entire storage area and located no higher than 460 mm below the sprinkler head.