Section 3.2. Building Fire Safety

3.2.1. General

3.2.1.1. Exceptions in Determining Building Height

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1) A roof-top enclosure shall not be considered as a *storey* in calculating the *building height* if it is provided for

a) elevator machinery,

b) a *service room*,

c) a stairway used for no purpose other than for access or egress,

d) an elevator lobby used for no purpose other than for access or egress, or

e) a combination thereof.

(See Note A-3.2.1.1.(1).)

2) Space under tiers of seats in a *building* of the arena type shall not be considered as adding to the *building height* provided the space is used only for dressing rooms, concession stands and similar purposes incidental to the *major occupancy* of the *building*.

3) Except as required by Sentence (5), the space above a *mezzanine* need not be considered as a *storey* in calculating the *building height*, provided

a) not less than 60% of the horizontal plane separating the *mezzanine* from the room or floor space in which it is located is open, and

b) except as permitted in Sentences (7) and 3.3.2.13.(3), the space above the *mezzanine* is used as an open area without *partitions* or subdividing walls higher than 1 070 mm above the *mezzanine* floor.

(See Note A-3.2.1.1.(3).)

4) Except as required by Sentence (5), the space above a *mezzanine* need not be considered as a *storey* in calculating the *building height*, provided

a) the aggregate area of *mezzanines* that are not superimposed and do not meet the conditions of Sentence (3) does not exceed 10% of the *floor area* in which they are located, and

b) the area of a *mezzanine* in a *suite* does not exceed 10% of the area of that *suite*.

(See Note A-3.2.1.1.(4).)

5) Except as permitted by Sentence (6), each level of *mezzanine* that is partly or wholly superimposed above the first level of *mezzanine* shall be considered as a *storey* in calculating the *building height*.

6) Platforms intended solely for periodic inspection and elevated maintenance catwalks need not be considered as floor assemblies or *mezzanines* for the purpose of calculating *building height*, provided

a) they are not used for storage, and

b) they are constructed with *noncombustible* materials, unless the *building* is permitted to be of *combustible construction*.

7) The space above a *mezzanine* conforming to Sentence (3) is permitted to include an enclosed space whose area does not exceed 10% of the horizontal plane separating the *mezzanine* from the room or floor space in which the *mezzanine* is located, provided the enclosed space does not obstruct visual communication between the open space above the *mezzanine* and the room in which it is located. (See Figure A-3.2.1.1.(3)-D.)

8) A *service space* in which facilities are included to permit a person to enter and to undertake maintenance and other operations pertaining to *building* services from within the *service space* need not be considered a *storey* if it conforms to Articles 3.2.5.14. and 3.3.1.24., and Sentences 3.2.4.18.(10), 3.2.7.3.(2), 3.3.1.3.(7), 3.4.2.4.(3) and 3.4.4.4.(9). (See Note A-3.2.1.1.(8).)

3.2.1.2. Storage Garage Considered as a Separate Building

1) A *basement* used primarily as a *storage garage* is permitted to be considered as a separate *building* for the purposes of Subsection 3.2.2. and Sentences 3.2.5.12.(2) and (3), provided the floor and roof assemblies above the *basement* and the exterior walls of the *basement* above the adjoining ground level are constructed as *fire separations* of *noncombustible construction* having a *fire-resistance rating* not less than 2 h and protected in conformance with Clause 3.1.10.2.(4)(a), except as permitted by Sentence (2). (See Notes A-3.1.10.2.(4) and A-3.2.5.12.(2).)

2) The exterior wall of a *basement* that is required to be a *fire separation* with a *fire-resistance rating* in accordance with Sentence (1) is permitted to be penetrated by openings that are not protected by *closures* provided

a) the *storage garage* is *sprinklered* throughout,

b) every opening in the exterior wall is separated from *storeys* above the opening by a projection of the floor or roof assembly above the *basement*, extending not less than

i) 1 m beyond the exterior face of the *storage garage* if the upper *storeys* are required to be of *noncombustible construction*, or

ii) 2 m beyond the exterior face of the *storage garage* if the upper *storeys* are permitted to be of *combustible construction* or *encapsulated mass timber construction*, or Rev. 12715

c) the exterior walls of any *storeys* located above the floor or roof assembly referred to in Sentence (1) are recessed behind the outer edge of the assembly by not less than

i) 1 m if the upper *storeys* are required to be of *noncombustible construction*, or

ii) 2 m if the upper *storeys* are permitted to be of *combustible construction* or *encapsulated mass timber construction*. Rev. 12715

3) The floor or roof assembly projection referred to in Clause (2)(b) shall have a *fire-resistance rating* not less than 2 h and shall have no openings within the projection.

3.2.1.3. Roof Considered as a Wall

1) For the purposes of this Section any part of a roof that is pitched at an angle of 60° or more to the horizontal and is adjacent to a space intended for *occupancy* within a *building* shall be considered as part of an exterior wall of the *building*.

3.2.1.4. Floor Assembly over Basement

1) Except as permitted by Sentence 3.2.2.47.(3), 3.2.2.48.(3), 3.2.2.49.(3), 3.2.2.50.(3), 3.2.2.51.(3), 3.2.2.52.(3), 3.2.2.53.(3) or 3.2.2.54.(3), a floor assembly immediately above a *basement* shall be constructed as a *fire separation* having a *fire-resistance rating* conforming to the requirements of Articles 3.2.2.20. to 3.2.2.90. for a floor assembly, but not less than 45 min.

2) All *loadbearing* walls, columns and arches supporting a floor assembly immediately above a *basement* shall have a *fire-resistance rating* not less than that required by Sentence (1) for the floor assembly.

3.2.1.5. Fire Containment in Basements

1) In a *building* in which an automatic is not required to be installed by Article 3.2.2.18., every *basement* shall

a) be *sprinklered* throughout, or

b) be subdivided into *fire compartments* not more than 600 m^2 in area by a *fire separation* having a *fire-resistance rating* not less than that required for the floor assembly immediately above the *basement*.

2) **Deleted.**

3.2.1.6. Mezzanines

1) The floor assembly of a *mezzanine* that is required to be considered as a *storey* in calculating the *building height* shall be constructed in conformance with the *fire separation* requirements for floor assemblies stated in Articles 3.2.2.20. to 3.2.2.90.

3.2.1.7. Fire Containment in Combustible Buildings

1) All Group C *major occupancies* in a *building* of *combustible construction* greater than 2 *storeys* in *building height* shall be separated from all other *major occupancies* except as prohibited in Article 3.1.3.2. and except as permitted in Sentence (2) and (3), by a *fire separation* with at least a 2 h *fire-resistance rating* constructed of

a) concrete,

b) masonry, or

c) in a *sprinklered building, encapsulated mass timber construction* complying with Subsection 3.1.18. Rev. 12715, 12997

2) The *fire-resistance rating* required in Sentence (1) is permitted to be 1.5 h for a *storage garage*.

3) The *fire separation* of every *exit*, elevator and vertical service shaft that penetrates a concrete, masonry,

or *encapsulated mass timber constructionv* floor assembly as required in Sentence (1) shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* determined by Sentences (1) or (2) for Rev. 12997

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

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

4) Where a *building* of *combustible construction* greater than 2*storeys* in *building height* contains an *occupancy* other than Group C or Group D on the second or third *storey* that is required to be constructed in accordance with Sentences 3.2.2.50.(5) or 3.2.2.58.(4), the *building* shall

a) be *sprinklered*,

b) be divided into at least two horizontal *fire compartments* on each *storey* containing a *major occupancy* other than Group C or Group D which

i) are not more than 1000 m^2 in area, and Rev. 12997

ii) are constructed as *fire separations* with at least a 2 h *fire-resistance rating* or of *encapsulated mass timber construction*,

c) *exit* stairs serving *storeys* above the third *storey* constructed as *fire separations* with at least a 2 h *fire-resistance rating* on levels containing a Group A or Group E *major occupancy* constructed in accordance with Sentences 3.2.2.48EMTC.(4), 3.2.2.50.(5), 3.2.2.57EMTC.(3), or 3.2.2.58.(4), and

d) have each *fire compartment* required by Clause (b) served by at least one *exit* stair.

(See Note A-3.2.1.7.(4))

3.2.2. Building Size and Construction Relative to Occupancy

3.2.2.1. Application

1) Except as permitted by Article 3.2.2.3., a *building* shall be constructed in conformance with this Subsection to prevent fire spread and collapse caused by the effects of fire. (See Subsection 3.1.3. for *fire separations* between *major occupancies*.)

3.2.2.2. Special and Unusual Structures

1) A structure that cannot be identified with the characteristics of a *building* in Articles 3.2.2.20. to 3.2.2.90. shall be protected against fire spread and collapse in conformance with good fire protection engineering practice. (See Note A-3.2.2.2.(1).) (See also Notes A-3 and A-3.2.5.12.(1).)

3.2.2.3. Exceptions to Structural Fire Protection

1) Fire protection is not required for

a) steel lintels above openings not more than 2 m wide in *loadbearing* walls and not more than 3 m wide in non-*loadbearing* walls,

b) steel lintels above openings more than 2 m wide in *loadbearing* walls and more than 3 m wide in non-*loadbearing* walls provided the lintels are supported at intervals of not more than 2 m by structural members with the required *fire-resistance rating*,

c) the bottom flanges of shelf angles and plates that are not a part of the structural frame,

d) steel members for framework around elevator hoistway doorways, steel for the support of elevator and dumbwaiter guides, counterweights and other similar equipment, that are entirely enclosed in a hoistway and are not a part of the structural frame of the *building*,

e) steel members of stairways and escalators that are not a part of the structural frame of a *building*,

f) steel members of porches, exterior balconies, exterior stairways, fire escapes, cornices, marquees and other similar appurtenances, provided they are outside an exterior wall of a *building*, and

g) *loadbearing* steel or concrete members wholly or partly outside a *building* face in a *building* not more than 4 *storeys* in *building height* and classified as Group A, B, C, D or F, Division 3 *major occupancy* provided the members are

i) not less than 1 m away from any *unprotected opening* in an exterior wall, or

ii) shielded from heat radiation in the event of a fire within the *building* by construction that will provide the same degree of protection that would be necessary if the member was located inside the *building*, with the protection extending on either side of the member a distance equal to the projection of the member from the face of the wall.

(See also Article 3.2.3.9.)

3.2.2.4. Buildings with Multiple Major Occupancies

1) The requirements restricting fire spread and collapse for a *building* of a single *major occupancy* classification are provided in this Subsection according to its *building height* and *building area*.

2) If a *building* contains more than one *major occupancy*, classified in more than one Group or Division, the requirements of this Subsection concerning *building* size and construction relative to *major occupancy* shall apply according to Articles 3.2.2.5. to 3.2.2.8.

3.2.2.5. Applicable Building Height and Area

1) In determining the fire safety requirements of a *building* in relation to each of the *major occupancies* contained therein, the *building height* and *building area* of the entire *building* shall be used.

3.2.2.6. Multiple Major Occupancies

1) Except as permitted by Articles 3.2.2.7. and 3.2.2.8., and Sentences 3.2.2.48EMTC.(4), 3.2.2.50.(5), 3.2.2.57EMTC.(3) and 3.2.2.58.(4) in a *building* containing more than one *major occupancy*, the requirements of this Subsection for the most restricted *major occupancy* contained shall apply to the whole *building*. Rev. 12715

3.2.2.7. Superimposed Major Occupancies

1) Except as provided in Article 3.2.2.8., Sentence 3.2.2.18.(2), and Sentences 3.2.2.48EMTC.(4), 3.2.2.50.(5), 3.2.2.57EMTC.(3) and 3.2.2.58.(4), in a *building* in which one *major occupancy* is located entirely above another *major occupancy*, the requirements in this Subsection for each portion of the *building* containing a *major occupancy* shall apply to that portion as if the entire *building* were of that *major occupancy*. Rev. 12715

2) If one *major occupancy* is located above another *major occupancy*, the *fire-resistance rating* of the floor assembly between the *major occupancies* shall be determined on the basis of the requirements of this Subsection for the lower *major occupancy*. (See also Article 3.1.3.1.) (See Note A-3.2.2.7.(2).)

3) Reserved.

4) Reserved.

3.2.2.8. Exceptions for Major Occupancies

1) In a *building* in which the aggregate area of all *major occupancies* in a particular Group or Division is not more than 10% of the *floor area* of the *storey* in which they are located, these *major occupancies* need not be considered as *major occupancies* for the purposes of this Subsection, provided they are not classified as Group F, Division 1 or 2 *occupancies*.

3.2.2.9. Crawl Spaces

1) For the purposes of Articles 3.1.11.6., 3.2.1.4. and 3.2.1.5., a crawl space shall be considered as a *basement* if it is

a) more than 1.8 m high between the lowest part of the floor assembly and the ground or other surface below,

b) used for any *occupancy*,

c) used for the passage of *flue pipes*, or

d) used as a *plenum* in *combustible construction*.

2) A floor assembly immediately above a crawl space is not required to be constructed as a *fire separation* and is not required to have a *fire-resistance rating* provided the crawl space is not required to be considered as a *basement* by Sentence (1).

3.2.2.10. Streets

1) Every *building* shall face a *street* located in conformance with the requirements of Articles 3.2.5.4. and 3.2.5.5. for access routes.

2) For the purposes of Subsections 3.2.2. and 3.2.5. an access route conforming to Subsection 3.2.5. is permitted to be considered as a *street*.

3) A *building* conforming to Article 3.2.2.50. or 3.2.2.58. is considered to face 1 *street* where not less than 10% of the *building* perimeter is located within 15 m of a *street* or *streets*.

4) A *building* is considered to face 2 *streets* provided not less than 50% of the *building* perimeter is located within 15 m of the *street* or *streets*.

5) A *building* is considered to face 3 *streets* provided not less than 75% of the *building* perimeter is located within 15 m of the *street* or *streets*.

6) Enclosed spaces, tunnels, bridges and similar structures, even though used for vehicular or pedestrian traffic, are not considered as *streets* for the purpose of this Part.

3.2.2.11. Exterior Balconies

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1) Except as provided in Sentence (2), an exterior balcony shall be constructed in accordance with the type of construction required by Articles 3.2.2.20. to 3.2.2.90., as applicable to the *occupancy* classification of the *building*.

2) The floor assembly of an exterior balcony in a *building* or part of a *building* conforming to Article 3.2.2.48EMTC. or 3.2.2.57EMTC. shall

a) be of *noncombustible construction*, or

b) be constructed in accordance with Article 3.1.18.3., but need not comply with Sentence 3.1.18.4.(1).

3.2.2.12. Exterior Passageways

1) An elevated exterior passageway used as part of a *means of egress* shall conform to the requirements of Articles 3.2.2.20. to 3.2.2.90. for *mezzanines*.

3.2.2.13. Occupancy on Roof

1) A portion of a roof that supports an *occupancy* shall be constructed in conformance with the *fire separation* requirements of Articles 3.2.2.20. to 3.2.2.90. for floor assemblies, and not the *fire-resistance rating* for roof assemblies.

3.2.2.14. Roof-Top Enclosures

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1) A roof-top enclosure for elevator machinery, an elevator lobby or for a *service room* shall be constructed in accordance with the type of construction required by Articles 3.2.2.20. to 3.2.2.90.

2) A roof-top enclosure for elevator machinery, an elevator lobby or for a *service room*, not more than one *storey* high and that does not serve as part of a means of *egress* for an *occupancy* on a roof in accordance with Sentences 3.3.1.3.(4) to (6), is not required to have a *fire-resistance rating*.

3) A roof-top enclosure for a stairway shall be constructed in accordance with the type of construction required by Articles 3.2.2.20. to 3.2.2.90.

4) A roof-top enclosure for a stairway or an elevator lobby serving an *occupancy* on a roof that serves only one *dwelling unit* need not have a *fire-resistance rating* nor be constructed as a *fire separation*.

3.2.2.15. Storeys below Ground

1) If a *building* is erected entirely below the adjoining finished ground level and does not extend more than one *storey* below that ground level, the minimum precautions against fire spread and collapse shall be the same as are required for *basements* under a *building* of 1 *storey* in *building height* having the same *occupancy* and *building area*.

2) If any portion of a *building* is erected entirely below the adjoining finished ground level and extends more than one *storey* below that ground level, the following minimum precautions against fire spread and collapse shall be taken (See Note A-3.2.2.15.(2).)

a) the *basements* shall be *sprinklered* throughout,

b) a floor assembly below the ground level shall be constructed as a *fire separation* with a *fire-resistance rating* not less than

i) 3 h if the *basements* are used as Group E or Group F, Division 1 or 2 *occupancies*, or

ii) 2 h if the *basements* are not used as Group E or Group F, Division 1 or 2 *occupancies*, and

c) all *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the

construction that they support.

3) Deleted.

3.2.2.16. Heavy Timber Roof Permitted

1) Unless otherwise permitted by Articles 3.2.2.20. to 3.2.2.90., a roof assembly in a *building* up to 2 *storeys* in *building height* is permitted to be of *heavy timber construction* regardless of *building area* or type of construction required, provided the *building* is *sprinklered* throughout.

2) If Sentence (1) permits a roof assembly to be of *heavy timber construction*, structural members in the *storey* immediately below the roof assembly are permitted to be of *heavy timber construction*.

3.2.2.17. Arena-Type Building Roof Assembly

1) The requirements for a roof assembly to have a *fire-resistance rating* are permitted to be waived for a gymnasium, a swimming pool, an arena, or a rink if no part of the roof assembly is less than 6 m above the main floor or balcony and the roof carries no loads other than normal roof loads, including permanent access walks, and ventilating, sound and lighting equipment, except that the restriction concerning minimum distance shall not apply to

a) an inclined and stepped floor ascending from the main floor which is used for seating purposes only, or

b) a balcony used for seating purposes only.

3.2.2.18. Automatic Sprinkler System Required

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1) Except as required by Sentence (2) and (3), an automatic *sprinkler system* conforming to the requirements of Articles 3.2.4.7., 3.2.4.8., 3.2.4.9. and 3.2.5.12. shall be installed throughout a *building* regulated by one or more of Articles 3.2.2.20., 3.2.2.21., 3.2.2.22., 3.2.2.23., 3.2.2.24., 3.2.2.26., 3.2.2.27., 3.2.2.29., 3.2.2.31., 3.2.2.33., 3.2.2.36., 3.2.2.37., 3.2.2.38., 3.2.2.39., 3.2.2.40., 3.2.2.41., 3.2.2.42., 3.2.2.43., 3.2.2.44., 3.2.2.45., 3.2.2.46., 3.2.2.47., 3.2.2.48., 3.2.2.48EMTC., 3.2.2.50., 3.2.2.51., 3.2.2.54., 3.2.2.55., 3.2.2.57., 3.2.2.57EMTC., 3.2.2.58., 3.2.2.59., 3.2.2.61., 3.2.2.63., 3.2.2.64., 3.2.2.65., 3.2.2.67., 3.2.2.69., 3.2.2.70., 3.2.2.71., 3.2.2.72., 3.2.2.74., 3.2.2.75., 3.2.2.77., 3.2.2.79., 3.2.2.80., 3.2.2.82., 3.2.2.84., 3.2.2.86. and 3.2.2.88.

2) If a *storey* in a *building* or a *floor area* is required to have an automatic *sprinkler system* installed throughout in accordance with one or more of Articles 3.2.2.20. to 3.2.2.90. or Section 3.3., the automatic *sprinkler system* shall also be installed throughout all lower *storeys* in the *building* notwithstanding permission in Articles 3.2.2.20. to 3.2.2.90. to construct one or more of those *storeys* without installing automatic sprinkler protection.

(See Note A-3.2.2.18.(2).)

3) Except for *buildings* described in Sentence 1.3.3.6.(2) of Division A, all newly constructed *buildings* shall be provided with an automatic *sprinkler system* designed and installed in accordance with Article 3.2.5.12.

4) Where an *assembly occupancy* is located in a *basement*, the *basement* shall be *sprinklered* throughout.

3.2.2.19. Buildings Containing Impeded Egress Zones

1) A *building* containing an *impeded egress zone* and conforming to the appropriate requirements of Articles 3.2.2.20. to 3.2.2.90. is not required to conform to the requirements of Articles 3.2.2.36. and 3.2.2.37. for a Group B, Division 1 *major occupancy* provided

a) the *building* is *sprinklered* throughout,

b) it is not more than 1 *storey* in *building height*,

c) it does not include

i) a *contained use area*,

ii) sleeping accommodation,

iii) a *high-hazard industrial occupancy*, or

iv) a *mercantile occupancy*,

d) the *building area* is not more than 6 400 m^2 if the *building* includes a *medium-hazard industrial occupancy*,

e) the *impeded egress zone* does not extend beyond the boundaries of the *fire compartment* in which it is located, and

f) the *occupant load* of the *impeded egress zone* is not more than 100.

3.2.2.20. Group A, Division 1, Any Height, Any Area, Sprinklered

1) Except as permitted by Articles 3.2.2.21. and 3.2.2.22., a *building* classified as Group A, Division 1 shall conform to Sentence (2).

2) Except as permitted by Article 3.2.2.16., the *building* referred to in Sentence (1) shall be of *noncombustible construction*, and

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* shall be *sprinklered* throughout,

b) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 2 h,

c) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

d) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.21. Group A, Division 1, One Storey, Limited Area, Sprinklered

1) A *building* classified as Group A, Division 1 is permitted to conform to Sentence (2) provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

b) it is not more than 1 *storey* in *building height*,

c) it has less than 40% of the area of the *building* as 2 *storeys* for the purpose of

i) development of productions, including preparation of scenery and costumes and rehearsal of performers,

ii) organization of performers, scenery and sound equipment,

iii) preparation by performers for a performance,

iv) managerial functions, or

v) toilets, rest rooms and similar public facilities,

d) it has no *occupancy* above or below the auditorium other than one which serves it or is dependent on it,

e) it is not more than 600 m^2 in *building area*, and

f) the *occupant load* is not more than 600.

2) The *building* referred to in Sentence (1) is permitted to be of *heavy timber construction* or *noncombustible construction* used singly or in combination, and

a) floor assemblies shall be *fire separations*

i) with a *fire-resistance rating* not less than 45 min, or

ii) of *heavy timber construction*, and

b) *loadbearing* walls, columns and arches shall

i) have a *fire-resistance rating* not less than that required for the supported assembly, or

ii) be of *heavy timber construction*.

3.2.2.22. Group A, Division 1, One Storey, Sprinklered

1) A *building* classified as Group A, Division 1 is permitted to conform to Sentence (2) provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

b) it is not more than 1 *storey* in *building height*,

c) no part of an auditorium floor is more than 5 m above or below *grade*,

d) no *occupancy* is above or below the auditorium other than one which serves it or is dependent on it, and

e) the *occupant load* of the auditorium floor is not more than 300.

2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly, or in combination, and

a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 45 min,

b) *mezzanines* shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min,

c) *loadbearing* walls, columns and arches supporting an assembly required to have a *fire-resistance rating* shall

i) have a *fire-resistance rating* not less than 45 min, or

ii) be of *noncombustible construction*, and

d) *loadbearing* walls, columns and arches supporting a *fire separation* shall have a *fire-resistance rating* not less than that required for the *fire separation*.

3.2.2.23. Group A, Division 2, Any Height, Any Area, Sprinklered

1) Except as permitted by Articles 3.2.2.24. to 3.2.2.28., a *building* classified as Group A, Division 2 shall conform to Sentence (2).

2) Except as permitted by Article 3.2.2.16., the *building* referred to in Sentence (1) shall be of *noncombustible construction*, and

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building shall be sprinklered* throughout,

b) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 2 h,

c) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

d) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.24. Group A, Division 2, up to 6 Storeys, Any Area, Sprinklered

1) A *building* classified as Group A, Division 2, that is not limited by *building area*, is permitted to conform to Sentence (2), provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout, and

b) it is not more than 6 *storeys* in *building height*.

2) Except as permitted by Article 3.2.2.16., the *building* referred to in Sentence (1) shall be of *noncombustible construction*, and

a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,

b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.25. Group A, Division 2, up to 2 Storeys

1) A *building* classified as Group A, Division 2 is permitted to conform to Sentence (2) provided

a) it is not more than 2 *storeys* in *building height*, and

b) it has a *building area* not more than the value in Table 3.2.2.25.

Table 3.2.2.25.
Maximum Building Area, Group A, Division 2, up to 2 Storeys
Forming Part of Sentence 3.2.2.25.(1)

No. of *Storeys*	Maximum Area, m^2		
	Facing 1 *Street*	Facing 2 *Streets*	Facing 3 *Streets*
1	1 600	2 000	2 400
2	800	1 000	1 200

2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

a) floor assemblies shall be *fire separations* and, if of *combustible construction*, shall have a *fire-resistance rating* not less than 45 min,

b) *mezzanines* shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min,

c) roof assemblies shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min, except that in a *building* not more than 1 *storey* in *building height*, the *fire-resistance rating* is permitted to be waived provided the roof assembly is constructed as a *fire-retardant-treated wood* roof system conforming to Article 3.1.14.1., and the *building area* is not more than

i) 800 m^2 if facing one *street*,

ii) 1 000 m^2 if facing 2 *streets*, or

iii) 1 200 m² if facing 3 *streets*, and

d) *loadbearing* walls, columns and arches supporting an assembly required to have a *fire-resistance rating* shall

i) have a *fire-resistance rating* not less than 45 min, or

ii) be of *noncombustible construction*.

3.2.2.26. Group A, Division 2, up to 2 Storeys, Increased Area, Sprinklered

1) A *building* classified as Group A, Division 2 is permitted to conform to Sentence (2) provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

b) it is not more than 2 *storeys* in *building height*, and

c) it has a *building area* not more than

i) 4 800 m² if 1 *storey* in *building height*, or

ii) 2 400 m² if 2 *storeys* in *building height*.

2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

a) floor assemblies shall be *fire separations* and, if of *combustible construction*, shall have a *fire-resistance rating* not less than 45 min,

b) *mezzanines* shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min, and

c) *loadbearing* walls, columns and arches supporting an assembly required to have a *fire-resistance rating* shall

i) have a *fire-resistance rating* not less than 45 min, or

ii) be of *noncombustible construction*.

3.2.2.27. Group A, Division 2, up to 2 Storeys, Sprinklered

1) A *building* classified as Group A, Division 2 is permitted to be of *combustible construction* or *noncombustible construction*, used singly or in combination, provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

b) it is not more than 2 *storeys* in *building height*, and

c) it has a *building area* not more than

i) 2 400 m² if 1 *storey* in *building height* with no *basement*,

ii) 1 200 m² if 1 *storey* in *building height*, or

iii) 600 m² if 2 *storeys* in *building height*.

3.2.2.28. Group A, Division 2, One Storey

1) A *building* classified as Group A, Division 2 is permitted to be of *combustible construction* or *noncombustible construction*, used singly or in combination, provided

a) it is not more than 1 *storey* in *building height*, and

b) except as permitted by Sentence (2), it has a *building area* not more than

i) 400 m² if facing one *street*,

ii) 500 m² if facing 2 *streets*, or

iii) 600 m² if facing 3 *streets*.

2) In a *building* referred to in Sentence (1) without a *basement*, the *building area* limits of Sentence (1) are permitted to be doubled provided a *fire separation* with a *fire-resistance rating* not less than 1 h is used to separate the *building* into *fire compartments*, each one of which does not exceed the limits of Clause (1)(b).

3.2.2.29. Group A, Division 3, Any Height, Any Area, Sprinklered

1) Except as permitted by Articles 3.2.2.30. to 3.2.2.34., a *building* classified as Group A, Division 3 shall conform to Sentence (2).

2) Except as permitted by Article 3.2.2.16., the *building* referred to in Sentence (1) shall be of *noncombustible construction*, and

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* shall be *sprinklered* throughout,

b) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 2 h,

c) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

d) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.30. Group A, Division 3, up to 2 Storeys

1) A *building* classified as Group A, Division 3 is permitted to conform to Sentence (2) provided

a) it is not more than 2 *storeys* in *building height*, and

b) it has a *building area* not more than the value in Table 3.2.2.30.

Table 3.2.2.30.
Maximum Building Area, Group A, Division 3, up to 2 Storeys
Forming Part of Sentence 3.2.2.30.(1)

No. of *Storeys*	Maximum Area, m^2		
	Facing 1 *Street*	Facing 2 *Streets*	Facing 3 *Streets*
1	4 000	5 000	6 000
2	2 000	2 500	3 000

2) Except as permitted by Clauses (c) and (d), the *building* referred to in Sentence (1) shall be of *noncombustible construction*, and

a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,

b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h,

c) roof assemblies shall

i) have a *fire-resistance rating* not less than 45 min, or

ii) be of *heavy timber construction*, and

d) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly, except that arches and structural members within the *storey* immediately below a roof assembly are permitted to be of *heavy timber construction*.

3) If intended for occasional use for trade shows and similar exhibition purposes, a *building* referred to in Sentence (1) that is more than 1 500 m^2 in *building area* shall be *sprinklered* throughout.

3.2.2.31. Group A, Division 3, up to 2 Storeys, Sprinklered

1) A *building* classified as Group A, Division 3 is permitted to conform to Sentence (2) provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

b) it is not more than 2 *storeys* in *building height*, and

c) it has a *building area* not more than

i) 12 000 m^2 if 1 *storey* in *building height*, or

ii) 6 000 m^2 if 2 *storeys* in *building height*.

2) Except as permitted by Clause (c) and Article 3.2.2.16., the *building* referred to in Sentence (1) shall be of *noncombustible construction*, and

a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,

b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly, except that arches are permitted to be of *heavy timber construction*.

3.2.2.32. Group A, Division 3, One Storey, Increased Area

1) A *building* classified as Group A, Division 3 is permitted to conform to Sentence (2) provided

a) it is not more than 1 *storey* in *building height*, and

b) it has a *building area* not more than

i) 2 400 m^2 if facing one *street*,

ii) 3 000 m^2 if facing 2 *streets*, or

iii) 3 600 m^2 if facing 3 *streets*.

2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

a) *mezzanines* shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min,

b) roof assemblies shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min, except that the *fire-resistance rating* is permitted to be waived provided the roof assembly is constructed as a *fire-retardant-treated wood* roof system conforming to Article 3.1.14.1., and the *building area* is not more than

i) 1 200 m^2 if facing one *street*,

ii) 1 500 m^2 if facing 2 *streets*, or

iii) 1 800 m^2 if facing 3 *streets*, and

c) *loadbearing* walls, columns and arches supporting an assembly required to have a *fire-resistance rating* shall

i) have a *fire-resistance rating* not less than 45 min, or

ii) be of *noncombustible construction*.

3) If intended for occasional use for trade shows and similar exhibition purposes, a *building* referred to in Sentence (1) that is more than 1 500 m^2 in *building area* shall be *sprinklered* throughout.

3.2.2.33. Group A, Division 3, One Storey, Sprinklered

1) A *building* classified as Group A, Division 3 is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

b) it is not more than 1 *storey* in *building height*, and

c) it has a *building area* not more than 7 200 m^2.

3.2.2.34. Group A, Division 3, One Storey

1) A *building* classified as Group A, Division 3 is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination provided

a) it is not more than 1 *storey* in *building height*, and

b) it has a *building area* not more than

i) 1 000 m^2 if facing one *street*,

ii) 1 250 m^2 if facing 2 *streets*, or

iii) 1 500 m^2 if facing 3 *streets*.

3.2.2.35. Group A, Division 4

1) Except as permitted by Sentences (2) and (3), a *building* classified as Group A, Division 4 shall be of *noncombustible construction*.

2) Roof assemblies and supporting arches and columns are permitted to be of *heavy timber construction*.

3) A *building* classified as Group A, Division 4 is permitted to be of *combustible construction* provided

a) the *occupant load* is less than 1 500, and

b) the *building* has a *limiting distance* not less than 6 m.

4) Sprinklers shall be installed in all spaces below tiers of seats in a *building* classified as Group A, Division 4 if those spaces are used for *occupancy*. (See Note A-3.2.2.35.(4).)

3.2.2.36. Group B, Division 1, Any Height, Any Area, Sprinklered

1) Except as permitted by Article 3.2.2.37., a *building* classified as Group B, Division 1 shall conform to Sentence (2).

2) Except as permitted by Article 3.2.2.16., the *building* referred to in Sentence (1) shall be of *noncombustible construction*, and

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* shall be *sprinklered* throughout,

b) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 2 h,

c) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

d) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.37. Group B, Division 1, up to 3 Storeys, Sprinklered

1) A *building* classified as Group B, Division 1 is permitted to conform to Sentence (2) provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

b) it is not more than 3 *storeys* in *building height*, and

c) it has a *building area*

i) that is not limited if the *building* is not more than 1 *storey* in *building height*,

ii) not more than 12 000 m^2 if 2 *storeys* in *building height*, or

iii) not more than 8 000 m^2 if 3 *storeys* in *building height*.

2) Except as permitted by Article 3.2.2.16., the *building* referred to in Sentence (1) shall be of *noncombustible construction*, and

a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,

b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.38. Group B, Division 2, Any Height, Any Area, Sprinklered

1) Except as permitted by Articles 3.2.2.39. to 3.2.2.41., a *building* classified as Group B, Division 2 shall conform to Sentence (2).

2) Except as permitted by Article 3.2.2.16., the *building* referred to in Sentence (1) shall be of *noncombustible construction*, and

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* shall be *sprinklered* throughout,

b) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 2 h,

c) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

d) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.39. Group B, Division 2, up to 3 Storeys, Sprinklered

1) A *building* classified as Group B, Division 2 is permitted to conform to Sentence (2) provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

b) it is not more than 3 *storeys* in *building height*, and

c) it has a *building area*

i) that is not limited if the *building* is not more than 1 *storey* in *building height*,

ii) not more than 12 000 m^2 if 2 *storeys* in *building height*, or

iii) not more than 8 000 m^2 if 3 *storeys* in *building height*.

2) Except as permitted by Article 3.2.2.16., the *building* referred to in Sentence (1) shall be of *noncombustible construction*, and

a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,

b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.40. Group B, Division 2, up to 2 Storeys, Sprinklered

1) A *building* classified as Group B, Division 2 is permitted to conform to Sentence (2) provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

b) it is not more than 2 *storeys* in *building height*, and

c) it has a *building area* not more than

i) 2 400 m^2 if 1 *storey* in *building height*, or

ii) 1 600 m^2 if 2 *storeys* in *building height*.

2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 45 min,

b) *mezzanines* shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min, and

c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.41. Group B, Division 2, One Storey, Sprinklered

1) A *building* classified as Group B, Division 2 is permitted to be of *combustible construction* or *noncombustible construction*, used singly or in combination, provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

b) it is not more than 1 *storey* in *building height*, and

c) it has a *building area* not more than 500 m^2.

3.2.2.42. Group B, Division 3, Any Height, Any Area, Sprinklered

1) Except as permitted by Articles 3.2.2.43. to 3.2.2.46., a *building* classified as Group B, Division 3 shall conform to Sentence (2).

2) Except as permitted by Article 3.2.2.16., the *building* referred to in Sentence (1) shall be of *noncombustible construction*, and

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* shall be *sprinklered* throughout,

b) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 2 h,

c) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

d) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.43. Group B, Division 3, up to 3 Storeys (Noncombustible), Sprinklered

1) A *building* classified as Group B, Division 3 is permitted to conform to Sentence (2) provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

b) it is not more than 3 *storeys* in *building height*, and

c) it has a *building area*

i) that is not limited if the *building* is not more than 1 *storey* in *building height*,

ii) not more than 12 000 m^2 if 2 *storeys* in *building height*, or

iii) not more than 8 000 m^2 if 3 *storeys* in *building height*.

2) Except as permitted by Article 3.2.2.16., the *building* referred to in Sentence (1) shall be of *noncombustible construction*, and

a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,

b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.44. Group B, Division 3, up to 3 Storeys, Sprinklered

1) A *building* classified as Group B, Division 3 is permitted to conform to Sentence (2) provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

b) it is not more than 3 *storeys* in *building height*, and

c) it has a *building area* not more than

i) 5 400 m² if 1 *storey* in *building height*,

ii) 2 700 m² if 2 *storeys* in *building height*, or

iii) 1 800 m² if 3 *storeys* in *building height*.

2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction*, used singly or in combination, and

a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,

b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.45. Group B, Division 3, up to 2 Storeys, Sprinklered

1) A *building* classified as Group B, Division 3 is permitted to conform to Sentence (2) provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

b) it is not more than 2 *storeys* in *building height*, and

c) it has a *building area* not more than

i) 2 400 m² if 1 *storey* in *building height*, or

ii) 1 600 m² if 2 *storeys* in *building height*.

2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction*, used singly or in combination, and

a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 45 min,

b) *mezzanines* shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min, and

c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.46. Group B, Division 3, One Storey, Sprinklered

1) A *building* classified as Group B, Division 3 is permitted to be of *combustible construction* or *noncombustible construction*, used singly or in combination, provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

b) it is not more than 1 *storey* in *building height*, and

c) it has a *building area* not more than 600 m².

3.2.2.47. Group C, Any Height, Any Area, Sprinklered

1) Except as permitted by Articles 3.2.2.48. to 3.2.2.54., a *building* classified as Group C shall conform to Sentence (2).

2) Except as permitted by Article 3.2.2.16., the *building* referred to in Sentence (1) shall be of *noncombustible construction*, and

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* shall be *sprinklered* throughout,

b) except as permitted by Sentence (3), floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 2 h,

c) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

d) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3) In a *building* that contains *dwelling units* that have more than one *storey*, subject to the requirements of Sentence 3.3.4.2.(3), the floor assemblies, including floors over *basements*, which are entirely contained within these *dwelling units*, shall have a *fire-resistance rating* not less than 1 h but need not be constructed as *fire separations*.

3.2.2.48. Group C, up to 6 Storeys, Sprinklered, Noncombustible Construction

1) A *building* classified as Group C is permitted to conform to Sentence (2) provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

b) it is not more than 6 *storeys* in *building height*, and

c) it has a *building area*

i) that is not limited if the *building* is not more than 2 *storeys* in *building height*,

ii) not more than 12 000 m² if 3 *storeys* in *building height*,

iii) not more than 9 000 m² if 4 *storeys* in *building height*,

iv) not more than 7 200 m² if 5 *storeys* in *building height*, or

v) not more than 6 000 m² if 6 *storeys* in *building height*.

2) Except as permitted by Article 3.2.2.16., the *building* referred to in Sentence (1) shall be of *noncombustible construction*, and

a) except as permitted by Sentence (3), floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,

b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3) In a *building* that contains *dwelling units* that have more than one *storey*, subject to the requirements of Sentence 3.3.4.2.(3), the floor assemblies, including floors over *basements*, which are entirely contained within these *dwelling units*, shall have a *fire-resistance rating* not less than 1 h but need not be constructed as *fire separations*.

3.2.2.48EMTC. Group C, up to 12 Storeys, Sprinklered

Rev. 12715

1) A *building* classified as Group C is permitted to conform to Sentence (2), provided

a) it is *sprinklered* throughout,

b) it is not more than 12 *storeys* in *building height*,

c) it has a height not more than 42 m measured between the floor of the first *storey* and the uppermost floor level, excluding any floor level within a rooftop enclosure that is not considered as a *storey* in calculating *building height* in accordance with Sentence 3.2.1.1.(1), and

d) it has a *building area* not more than 6 000 m².

2) Except as provided in Article 3.2.2.16., the *building* referred to in Sentence (1) is permitted to be of *encapsulated mass timber construction* or *noncombustible* construction, used singly or in combination, and

a) except as provided in Sentence (3), floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 2 h,

b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3) In a *building* that contains *dwelling units* that have more than one *storey*, subject to the requirements of Sentence 3.3.4.2.(3), the floor assemblies, including floors over *basements*, that are entirely contained within these *dwelling units* shall have a *fire-resistance rating* not less than 1 h but need not be constructed as *fire separations.*

4) Group A, Division 2 *major occupancies*, Group E *major occupancies* and *storage garages* located in a *building* or part of a *building* within the scope of this Article are permitted to be constructed in accordance with this Article, provided

a) the Group A, Division 2 *major occupancy* is located below the fourth *storey*,

b) the Group E *major occupancy* is located below the third *storey*, and

c) the *storage garage* is located below the fifth *storey* (see also Article 4.4.2.1.).

(See Note A-3.2.2.48EMTC.(4) and 3.2.2.57EMTC.(3).)

3.2.2.49. Group C, up to 3 Storeys, Noncombustible Construction

1) A *building* classified as Group C is permitted to conform to Sentence (2) provided

a) it is not more than 3 *storeys* in *building height*, and

b) it has a *building area* not more than the value in Table 3.2.2.49.

Table 3.2.2.49.
Maximum Building Area, Group C, up to 3 Storeys
Forming Part of Sentence 3.2.2.49.(1)

No. of *Storeys*	Maximum Area, m²		
	Facing 1 *Street*	Facing 2 *Streets*	Facing 3 *Streets*
1	not limited	not limited	not limited
2	6 000	not limited	not limited
3	4 000	5 000	6 000

2) The *building* referred to in Sentence (1) shall be of *noncombustible construction*, and

a) except as permitted by Sentence (3), floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,

b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h,

c) roof assemblies shall have a *fire-resistance rating* not less than 1 h, and

d) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3) In a *building* that contains *dwelling units* that have more than one *storey*, subject to the requirements of Sentence 3.3.4.2.(3), the floor assemblies, including floors over *basements*, which are entirely contained within these *dwelling units*, shall have a *fire-resistance rating* not less than 1 h but need not be constructed as *fire separations*.

3.2.2.50. Group C, up to 6 Storeys, Sprinklered

1) A *building* classified as Group C is permitted to conform to Sentence (2), provided

a) it is *sprinklered* throughout,

b) it is not more than 6 *storeys* in *building height*,

c) it has a height not more than 18 m measured between the floor of the *first storey* and the uppermost floor level excluding any floor level within a rooftop enclosure that is not considered as a *storey* in calculating *building height* in accordance with Sentence 3.2.1.1.(1), that does not serve a rooftop enclosure for elevator machinery, a stairway or a *service room* used only for service to the *building*, and Rev. 12683

d) it has a *building area* not more than

i) 9 000 m² if 1 *storey* in *building height*,

ii) 4 500 m² if 2 *storeys* in *building height*,

iii) 3 000 m² if 3 *storeys* in *building height*,

iv) 2 250 m² if 4 *storeys* in *building height*,

v) 1 800 m² if 5 *storeys* in *building height*, or

vi) 1 500 m² if 6 *storeys* in *building height*.

2) *Buildings* referred to in Sentence (1) are permitted to be of *combustible construction* or *noncombustible construction*, used singly or in combination, and

a) except as provided in Sentence (3), floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,

b) roof assemblies shall have a *fire-resistance rating* not less than 1 h,

c) except as provided in Sentence (4), where the roof assembly has a height greater than 25 m measured from the floor of the *first storey* to the highest point of the roof assembly, the roof assembly shall be constructed of *noncombustible construction* or *fire-retardant-treated wood* conforming to Article 3.1.4.5.,

d) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

e) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3) In a *building* that contains *dwelling units* that have more than one *storey*, subject to the requirements of Sentence 3.3.4.2.(3), the floor assemblies, including those over *basements*, that are entirely contained within these *dwelling units* shall have a *fire-resistance rating* not less than 1 h but need not be constructed as *fire separations*.

4) Where *buildings* conforming to Sentence (2) include non-contiguous roof assemblies at different elevations, the roof assemblies are permitted to be evaluated separately to determine which ones are required to be constructed in accordance with Clause (2)(c).

5) Group A, Division 2 *major occupancies*, Group E *major occupancies* and *storage garages* located in a *building* or part of a *building* within the scope of this Article are permitted to be constructed in accordance with this Article provided

a) the Group A, Division 2 *major occupancy*, and Group E *major occupancy* is located below the third *storey*, and

b) the *storage garage* is located below the fourth *storey* (See also Sentence 4.4.2.1.(1).).

(See Note A-3.2.2.50.(5) and 3.2.2.58.(4).) (See also Article 3.2.1.7)

3.2.2.51. Group C, up to 4 Storeys, Sprinklered

1) A *building* classified as Group C is permitted to conform to Sentence (2) provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

b) it is not more than 4 *storeys* in *building height*, and

c) it has a *building area* not more than

i) 7 200 m^2 if 1 *storey* in *building height*,

ii) 3 600 m^2 if 2 *storeys* in *building height*,

iii) 2 400 m^2 if 3 *storeys* in *building height*, or

iv) 1 800 m^2 if 4 *storeys* in *building height*.

2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

a) except as permitted by Sentences (3) and (4), floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,

b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3) In a *building* that contains *dwelling units* that have more than one *storey*, subject to the requirements of Sentence 3.3.4.2.(3), the floor assemblies, including floors over *basements*, which are entirely contained within these *dwelling units*, shall have a *fire-resistance rating* not less than 1 h but need not be constructed as *fire separations*.

4) In a *building* in which there is no *dwelling unit* above another *dwelling unit*, the *fire-resistance rating* for floor assemblies entirely within the *dwelling unit* is waived.

3.2.2.52. Group C, up to 3 Storeys, Increased Area

1) A *building* classified as Group C is permitted to conform to Sentence (2) provided

a) it is not more than 3 *storeys* in *building height*, and

b) it has a *building area* not more than the value in Table 3.2.2.52.

Table 3.2.2.52.
Maximum Building Area, Group C, up to 3 Storeys, Increased Area
Forming Part of Sentence 3.2.2.52.(1)

No. of *Storeys*	Maximum Area, m^2		
	Facing 1 *Street*	Facing 2 *Streets*	Facing 3 *Streets*
1	2 400	3 000	3 600
2	1 200	1 500	1 800
3	800	1 000	1 200

2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible*

construction used singly or in combination, and

a) except as permitted by Sentences (3) and (4), floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,

b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h,

c) roof assemblies shall have a *fire-resistance rating* not less than 1 h, and

d) *loadbearing* walls, columns, and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3) In a *building* that contains *dwelling units* that have more than one *storey*, subject to the requirements of Sentence 3.3.4.2.(3), the floor assemblies, including floors over *basements*, which are entirely contained within these *dwelling units*, shall have a *fire-resistance rating* not less than 1 h but need not be constructed as *fire separations*.

4) In a *building* in which there is no *dwelling unit* above another *dwelling unit*, the *fire-resistance rating* for floor assemblies entirely within the *dwelling unit* is waived.

3.2.2.53. Group C, up to 3 Storeys

1) A *building* classified as Group C is permitted to conform to Sentence (2) provided

a) it is not more than 3 *storeys* in *building height*, and

b) it has a *building area* not more than the value in Table 3.2.2.53.

Table 3.2.2.53.
Maximum Building Area, Group C, up to 3 Storeys
Forming Part of Sentence 3.2.2.53.(1)

No. of *Storeys*	Maximum Area, m^2		
	Facing 1 *Street*	Facing 2 *Streets*	Facing 3 *Streets*
1	1 800	2 250	2 700
2	900	1 125	1 350
3	600	750	900

2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

a) except as permitted by Sentences (3) and (4), floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 45 min,

b) *mezzanines* shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min, and

c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3) In a *building* that contains *dwelling units* that have more than one *storey*, subject to the requirements of Sentence 3.3.4.2.(3), the floor assemblies, including floors over *basements*, which are entirely contained within these *dwelling units*, shall have a *fire-resistance rating* not less than 45 min but need not be constructed as *fire separations*.

4) In a *building* in which there is no *dwelling unit* above another *dwelling unit*, the *fire-resistance rating* for floor assemblies entirely within the *dwelling unit* is waived.

3.2.2.54. Group C, up to 3 Storeys, Sprinklered

1) A *building* classified as Group C is permitted to conform to Sentence (2) provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

b) it is not more than 3 *storeys* in *building height*, and

c) it has a *building area* not more than

i) 5 400 m^2 if 1 *storey* in *building height*,

ii) 2 700 m^2 if 2 *storeys* in *building height*, or

iii) 1 800 m^2 if 3 *storeys* in *building height*.

2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

a) except as permitted by Sentences (3) and (4), floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 45 min,

b) *mezzanines* shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min, and

c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3) In a *building* that contains *dwelling units* that have more than one *storey*, subject to the requirements of Sentence 3.3.4.2.(3), the floor assemblies, including floors over *basements*, which are entirely contained within these *dwelling units*, shall have a *fire-resistance rating* not less than 45 min but need not be constructed as *fire separations*.

4) In a *building* in which there is no *dwelling unit* above another *dwelling unit*, the *fire-resistance rating* for floor assemblies entirely within the *dwelling unit* is waived.

3.2.2.55. Group D, Any Height, Any Area, Sprinklered

1) Except as permitted by Articles 3.2.2.56. to 3.2.2.63., a *building* classified as Group D shall conform to Sentence (2).

2) Except as permitted by Article 3.2.2.16., the *building* referred to in Sentence (1) shall be of *noncombustible construction*, and

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* shall be *sprinklered* throughout,

b) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 2 h,

c) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

d) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.56. Group D, up to 6 Storeys

1) A *building* classified as Group D is permitted to conform to Sentence (2) provided

a) it is not more than 6 *storeys* in *building height*, and

b) it has a *building area* not more than the value in Table 3.2.2.56.

Table 3.2.2.56.
Maximum Building Area, Group D, up to 6 Storeys
Forming Part of Sentence 3.2.2.56.(1

No. of *Storeys*	Maximum Area, m²		
	Facing 1 *Street*	Facing 2 *Streets*	Facing 3 *Streets*
1	not limited	not limited	not limited
2	7 200	not limited	not limited
3	4 800	6 000	7 200
4	3 600	4 500	5 400
5	2 880	3 600	4 320
6	2 400	3 000	3 600

2) The *building* referred to in Sentence (1) shall be of *noncombustible construction*, and

a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,

b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h,

c) roof assemblies shall have a *fire-resistance rating* not less than 1 h, except that in a *building* not more than 1 *storey* in *building height* this requirement is waived, and

d) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.57. Group D, up to 6 Storeys, Sprinklered, Noncombustible Construction

1) A *building* classified as Group D is permitted to conform to Sentence (2) provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

b) it is not more than 6 *storeys* in *building height*, and

c)it has a *building area*

i) that is not limited if the *building* is not more than 2 *storeys* in *building height*,

ii) not more than 14 400 m² if 3 *storeys* in *building height*,

iii) not more than 10 800 m² if 4 *storeys* in *building height*,

iv) not more than 8 640 m² if 5 *storeys* in *building height*, or

v) not more than 7 200 m² if 6 *storeys* in *building height*.

2) Except as permitted by Article 3.2.2.16., the *building* referred to in Sentence (1) shall be of *noncombustible construction*, and

a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,

b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.57EMTC. Group D, up to 12 Storeys, Sprinklered

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1) A *building* classified as Group D is permitted to conform to Sentence (2), provided

a) it is *sprinklered* throughout,

b) it is not more than 12 *storeys* in *building height*,

c) it has a height not more than 42 m measured between the floor of the first *storey* and the uppermost floor level, excluding any floor level within a rooftop enclosure that is not considered as a *storey* in calculating *building height* in accordance with Sentence 3.2.1.1.(1), and

d) it has a *building area* not more than 7 200 m².

2) Except as provided in Article 3.2.2.16., the *building* referred to in Sentence (1) is permitted to be of *encapsulated mass timber construction* or *noncombustible* construction, used singly or in combination, and

a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 2 h,

b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3) Group A, Division 2 *major occupancies*, Group E *major occupancies*, Group F, Division 2 and 3 *major occupancies*, and *storage garages* located in a *building* or part of a *building* within the scope of this Article are permitted to be constructed in accordance with this Article, provided

a) the Group A, Division 2 *major occupancy* is located below the fourth *storey*,

b) the Group E *major occupancy* is located below the third *storey*, and

c) the *storage garage* is located below the fifth *storey* (see also Article 4.4.2.1.).

(See Note A-3.2.2.48EMTC.(4) and 3.2.2.57EMTC.(3).)

3.2.2.58. Group D, up to 6 Storeys, Sprinklered

1) A *building* classified as Group D is permitted to conform to Sentence (2), provided

a) it is *sprinklered* throughout,

b) it is not more than 6 *storeys* in *building height*,

c) it has a height not more than 18 m measured between the floor of the *first storey* and the uppermost floor level excluding any floor level within a rooftop enclosure that is not considered as a *storey* in calculating *building height* in accordance with Sentence 3.2.1.1.(1), that does not serve a rooftop enclosure for elevator machinery, a stairway or a *service room* used only for service to the *building*, and

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d) it has a *building area* not more than

i) 18 000 m² if 1 *storey* in *building height*,

ii) 9 000 m² if 2 *storeys* in *building height*,

iii) 6 000 m² if 3 *storeys* in *building height*,

iv) 4 500 m² if 4 *storeys* in *building height*,

v) 3 600 m² if 5 *storeys* in *building height*, or

vi) 3 000 m² if 6 *storeys* in *building height*.

2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction*, used singly or in combination, and

a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,

b) roof assemblies shall have a *fire-resistance rating* not less than 1 h,

c) except as provided in Sentence (3), where the roof assembly has a height greater than 25 m measured from the floor of the *first storey* to the highest point of the roof assembly, the roof assembly shall be constructed of *noncombustible construction* or *fire-retardant-treated wood* conforming to Article 3.1.4.5.,

d) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

e) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3) Where *buildings* conforming to Sentence (2) include non-contiguous roof assemblies at different elevations, the roof assemblies are permitted to be evaluated separately to determine which ones are required to be constructed in accordance with Clause (2)(c).

4) Group A, Division 2 *major occupancies*, Group E *major occupancies*, Group F, Division 2 and 3 *major occupancies* and *storage garages* located in a *building* or part of a *building* within the scope of this Article are permitted to be constructed in accordance with this Article provided

a) the Group A, Division 2 *major occupancy*, and Group E *major occupancy*, and Group F, Division 2 and 3 *major occupancy* is located below the third *storey*, and

b) the *storage garage* is located below the fourth *storey* (See also Sentence 4.4.2.1.(1).).

(See Note A-3.2.2.50.(5) and 3.2.2.58.(4).) (See also Article 3.2.1.7.)

3.2.2.59. Group D, up to 4 Storeys, Sprinklered

1) A *building* classified as Group D is permitted to conform to Sentence (2) provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

b) it is not more than 4 *storeys* in *building height*, and

c) it has a *building area* not more than 3 600 m².

2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,

b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.60. Group D, up to 3 Storeys

1) A *building* classified as Group D is permitted to conform to Sentence (2) provided

a) it is not more than 3 *storeys* in *building height*, and

b) it has a *building area* not more than the value in Table 3.2.2.60.

Table 3.2.2.60.
Maximum Building Area, Group D, up to 3 Storeys
Forming Part of Sentence 3.2.2.60.(1)

No. of *Storeys*	Maximum Area, m²		
	Facing 1 *Street*	Facing 2 *Streets*	Facing 3 *Streets*
1	4 800	6 000	7 200
2	2 400	3 000	3 600
3	1 600	2 000	2 400

2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible*

construction used singly or in combination, and

a) floor assemblies shall be *fire separations* and, if of *combustible construction*, shall have a *fire-resistance rating* not less than 45 min,

b) *mezzanines* shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min,

c) roof assemblies shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min, except that in a *building* not more than 1 *storey* in *building height*, the *fire-resistance rating* is permitted to be waived provided the roof assembly is constructed as a *fire-retardant-treated wood* roof system conforming to Article 3.1.14.1. and the *building area* is not more than

i) 2 400 m^2 if facing one *street*,

ii) 3 000 m^2 if facing 2 *streets*, or

iii) 3 600 m^2 if facing 3 *streets*, and

d) *loadbearing* walls, columns and arches supporting an assembly required to have a *fire-resistance rating* shall

i) have a *fire-resistance rating* not less than 45 min, or

ii) be of *noncombustible construction*.

3.2.2.61. Group D, up to 3 Storeys, Sprinklered

1) A *building* classified as Group D is permitted to conform to Sentence (2) provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

b) it is not more than 3 *storeys* in *building height*, and

c) it has a *building area* not more than

i) 14 400 m^2 if 1 *storey* in *building height*,

ii) 7 200 m^2 if 2 *storeys* in *building height*, or

iii) 4 800 m^2 if 3 *storeys* in *building height*.

2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

a) floor assemblies shall be *fire separations* and, if of *combustible construction*, shall have a *fire-resistance rating* not less than 45 min,

b) *mezzanines* shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min, and

c) *loadbearing* walls, columns and arches supporting an assembly required to have a *fire-resistance rating* shall

i) have a *fire-resistance rating* not less than 45 min, or

ii) be of *noncombustible construction*.

3.2.2.62. Group D, up to 2 Storeys

1) A *building* classified as Group D is permitted to conform to Sentence (2) provided

a) it is not more than 2 *storeys* in *building height*, and

b) it has a *building area* not more than the value in Table 3.2.2.62.

Table 3.2.2.62.
Maximum Building Area, Group D, up to 2 Storeys
Forming Part of Sentence 3.2.2.62.(1)

No. of *Storeys*	Maximum Area, m^2		
	Facing 1 *Street*	Facing 2 *Streets*	Facing 3 *Streets*
1	1 000	1 250	1 500
2	800	1 000	1 200

2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

a) floor assemblies shall be *fire separations* and, if of *combustible construction*, shall have a *fire-resistance rating* not less than 45 min, and

b) *loadbearing* walls, columns and arches supporting an assembly required to have a *fire-resistance rating* shall

i) have a *fire-resistance rating* not less than 45 min, or

ii) be of *noncombustible construction*.

3.2.2.63. Group D, up to 2 Storeys, Sprinklered

1) A *building* classified as Group D is permitted to conform to Sentence (2) provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

b) it is not more than 2 *storeys* in *building height*, and

c) it has a *building area* not more than

i) 3 000 m^2 if 1 *storey* in *building height*, or

ii) 2 400 m^2 if 2 *storeys* in *building height*.

2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

a) floor assemblies shall be *fire separations* and, if of *combustible construction*, shall have a *fire-resistance rating* not less than 45 min, and

b) *loadbearing* walls, columns and arches supporting an assembly required to have a *fire-resistance rating* shall

i) have a *fire-resistance rating* not less than 45 min, or

ii) be of *noncombustible construction*.

3.2.2.64. Group E, Any Height, Any Area, Sprinklered

1) Except as permitted by Articles 3.2.2.65. to 3.2.2.69., a *building* classified as Group E shall conform to Sentence (2).

2) Except as permitted by Article 3.2.2.16., the *building* referred to in Sentence (1) shall be of *noncombustible construction*, and

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* shall be *sprinklered* throughout,

b) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 2 h,

c) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

d) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.65. Group E, up to 4 Storeys, Sprinklered

1) A *building* classified as Group E is permitted to conform to Sentence (2) provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

b) it is not more than 4 *storeys* in *building height*, and

c) it has a *building area* not more than 1 800 m^2.

2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,

b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.66. Group E, up to 3 Storeys

1) A *building* classified as Group E is permitted to conform to Sentence (2) provided

a) it is not more than 3 *storeys* in *building height*, and

b) it has a *building area* not more than the value in Table 3.2.2.66.

Table 3.2.2.66.
Maximum Building Area, Group E, up to 3 Storeys
Forming Part of Sentence 3.2.2.66.(1)

No. of *Storeys*	Maximum Area, m²		
	Facing 1 *Street*	Facing 2 *Streets*	Facing 3 *Streets*
1	1 500	1 500	1 500
2	1 200	1 500	1 500
3	800	1 000	1 500

2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 45 min,

b) *mezzanines* shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min,

c) roof assemblies shall have a *fire-resistance rating* not less than 45 min, except that in a *building* not more than 1 *storey* in *building height*, the *fire-resistance rating* is permitted to be waived provided the roof assembly is of *noncombustible construction* or is constructed as a *fire-retardant-treated wood* roof system conforming to Article 3.1.14.1.,

d) *loadbearing* walls, columns and arches supporting an assembly required to have a *fire-resistance rating* shall

i) have a *fire-resistance rating* not less than 45 min, or

ii) be of *noncombustible construction*, and

e) *loadbearing* walls, columns and arches supporting a *fire separation* shall have a *fire-resistance rating* not less than that required for the *fire separation*.

3.2.2.67. Group E, up to 3 Storeys, Sprinklered

1) A *building* classified as Group E is permitted to conform to Sentence (2) provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

b) it is not more than 3 *storeys* in *building height*, and

c) it has a *building area* not more than

i) 7 200 m² if 1 *storey* in *building height*,

ii) 3 600 m² if 2 *storeys* in *building height*, or

iii) 2 400 m² if 3 *storeys* in *building height*.

2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 45 min,

b) *mezzanines* shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min,

c) *loadbearing* walls, columns and arches supporting an assembly required to have a *fire-resistance rating* shall

i) have a *fire-resistance rating* not less than 45 min, or

ii) be of *noncombustible construction*, and

d) *loadbearing* walls, columns and arches supporting a *fire separation* shall have a *fire-resistance rating* not less than that required for the *fire separation*.

3.2.2.68. Group E, up to 2 Storeys

1) A *building* classified as Group E is permitted to conform to Sentence (2) provided

a) it is not more than 2 *storeys* in *building height*, and

b) it has a *building area* not more than the value in Table 3.2.2.68.

Table 3.2.2.68.
Maximum Building Area, Group E, up to 2 Storeys
Forming Part of Sentence 3.2.2.68.(1)

No. of *Storeys*	Maximum Area, m²		
	Facing 1 *Street*	Facing 2 *Streets*	Facing 3 *Streets*
1	1 000	1 250	1 500
2	600	750	900

2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 45 min, and

b) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.69. Group E, up to 2 Storeys, Sprinklered

1) A *building* classified as Group E is permitted to conform to Sentence (2) provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

b) it is not more than 2 *storeys* in *building height*, and

c) it has a *building area* not more than

i) 3 000 m² if 1 *storey* in *building height*, or

ii) 1 800 m² if 2 *storeys* in *building height*.

2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 45 min, and

b) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.70. Group F, Division 1, up to 4 Storeys, Sprinklered

1) Except as permitted by Articles 3.2.2.71. to 3.2.2.73., a *building* classified as Group F, Division 1 shall conform to Sentence (2) provided

a) it is not more than 4 *storeys* in *building height*, and

b) it has a *building area* not more than

i) 9 000 m² if 1 *storey* in *building height*,

ii) 4 500 m² if 2 *storeys* in *building height*,

iii) 3 000 m² if 3 *storeys* in *building height*, or

iv) 2 250 m² if 4 *storeys* in *building height*.

2) Except as permitted by Article 3.2.2.16., the *building* referred to in Sentence (1) shall be of *noncombustible construction*, and

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* shall be *sprinklered* throughout,

b) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 2 h,

c) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

d) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.71. Group F, Division 1, up to 3 Storeys, Sprinklered

1) A *building* classified as Group F, Division 1 is permitted to conform to Sentence (2) provided except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

a) it is not more than 3 *storeys* in *building height*, and

b) it has a *building area* not more than

i) 3 600 m^2 if 1 *storey* in *building height*,

ii) 1 800 m^2 if 2 *storeys* in *building height*, or

iii) 1 200 m^2 if 3 *storeys* in *building height*.

2) The *building* referred to in Sentence (1) is permitted to be of *heavy timber construction* or *noncombustible construction* used singly or in combination, and

a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 45 min, and

b) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.72. Group F, Division 1, up to 2 Storeys, Sprinklered

1) A *building* classified as Group F, Division 1 is permitted to conform to Sentence (2) provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

b) it is not more than 2 *storeys* in *building height*, and

c) it has a *building area* not more than

i) 2 400 m^2 if 1 *storey* in *building height*, or

ii) 1 200 m^2 if 2 *storeys* in *building height*.

2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

a) floor assemblies shall be *fire separations* and, if of *combustible construction*, shall have a *fire-resistance rating* not less than 45 min, and

b) *loadbearing* walls, columns and arches supporting an assembly required to have a *fire-resistance rating* shall

i) have a *fire-resistance rating* not less than 45 min, or

ii) be of *noncombustible construction*.

3.2.2.73. Group F, Division 1, One Storey

1) A *building* classified as Group F, Division 1 is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination provided

a) it is not more than 1 *storey* in *building height*, and

b) it has a *building area* not more than 800 m^2.

3.2.2.74. Group F, Division 2, Any Height, Any Area, Sprinklered

1) Except as permitted by Articles 3.2.2.75. to 3.2.2.79., a *building* classified as Group F, Division 2 shall conform to Sentence (2).

2) Except as permitted by Article 3.2.2.16., the *building* referred to in Sentence (1) shall be of *noncombustible construction*, and

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* shall be *sprinklered* throughout,

b) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 2 h,

c) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

d) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.75. Group F, Division 2, up to 4 Storeys, Increased Area, Sprinklered

1) A *building* classified as Group F, Division 2 is permitted to conform to Sentence (2) provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

b) it is not more than 4 *storeys* in *building height*, and

c) it has a *building area* not more than

i) 18 000 m^2 if 1 *storey* in *building height*,

ii) 9 000 m^2 if 2 *storeys* in *building height*,

iii) 6 000 m^2 if 3 *storeys* in *building height*, or

iv) 4 500 m^2 if 4 *storeys* in *building height*.

2) Except as permitted by Article 3.2.2.16., the *building* referred to in Sentence (1) shall be of *noncombustible construction*, and

a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,

b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.76. Group F, Division 2, up to 3 Storeys

1) A *building* classified as Group F, Division 2 is permitted to conform to Sentence (2) provided

a) it is not more than 3 *storeys* in *building height*, and

b) it has a *building area* not more than the value in Table 3.2.2.76.

Table 3.2.2.76.
Maximum Building Area, Group F, Division 2, up to 3 Storeys
Forming Part of Sentence 3.2.2.76.(1)

No. of *Storeys*	Maximum Area, m^2		
	Facing 1 *Street*	Facing 2 *Streets*	Facing 3 *Streets*
1	1 500	1 500	1 500
2	1 500	1 500	1 500
3	1 070	1 340	1 500

2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 45 min,

b) *mezzanines* shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min,

c) roof assemblies shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min, except that in a *building* not more than 1 *storey* in *building height*, the *fire-resistance rating* is permitted to be waived provided that the roof assembly is constructed as a *fire-retardant-treated wood* roof system conforming to Article 3.1.14.1.,

d) *loadbearing* walls, columns and arches supporting an assembly required to have a *fire-resistance rating* shall

i) have a *fire-resistance rating* not less than 45 min, or

ii) be of *noncombustible construction*, and

e) *loadbearing* walls, columns and arches supporting a *fire separation* shall have a *fire-resistance rating* not less than that required for the *fire separation*.

3.2.2.77. Group F, Division 2, up to 4 Storeys, Sprinklered

1) A *building* classified as Group F, Division 2 is permitted to conform to Sentence (2) provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,
b) it is not more than 4 *storeys* in *building height*, and
c) it has a *building area* not more than
   i) 9 600 m² if 1 *storey* in *building height*,
   ii) 4 800 m² if 2 *storeys* in *building height*,
   iii) 3 200 m² if 3 *storeys* in *building height*, or
   iv) 2 400 m² if 4 *storeys* in *building height*.

2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 45 min,
b) *mezzanines* shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min,
c) *loadbearing* walls, columns and arches supporting an assembly required to have a *fire-resistance rating* shall
   i) have a *fire-resistance rating* not less than 45 min, or
   ii) be of *noncombustible construction*, and
d) *loadbearing* walls, columns and arches supporting a *fire separation* shall have a *fire-resistance rating* not less than that required for the *fire separation*.

3.2.2.78. Group F, Division 2, up to 2 Storeys

1) A *building* classified as Group F, Division 2 is permitted to conform to Sentence (2) provided

a) it is not more than 2 *storeys* in *building height*, and
b) it has a *building area* not more than the value in Table 3.2.2.78.

Table 3.2.2.78.
Maximum Building Area, Group F, Division 2, up to 2 Storeys
Forming Part of Sentence 3.2.2.78.(1)

No. of *Storeys*	Maximum Area, m²		
	Facing 1 *Street*	Facing 2 *Streets*	Facing 3 *Streets*
1	1 000	1 250	1 500
2	600	750	900

2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

a) floor assemblies shall be *fire separations* and, if of *combustible construction*, shall have a *fire-resistance rating* not less than 45 min, and
b) *loadbearing* walls, columns and arches supporting an assembly required to have a *fire-resistance rating* shall
   i) have a *fire-resistance rating* not less than 45 min, or
   ii) be of *noncombustible construction*.

3.2.2.79. Group F, Division 2, up to 2 Storeys, Sprinklered

1) A *building* classified as Group F, Division 2 is permitted to conform to Sentence (2) provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,
b) it is not more than 2 *storeys* in *building height*, and
c) it has a *building area* not more than
   i) 4 500 m² if 1 *storey* in *building height*, or
   ii) 1 800 m² if 2 *storeys* in *building height*.

2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

a) floor assemblies shall be *fire separations* and, if of *combustible construction*, shall have a *fire-resistance rating* not less than 45 min, and
b) *loadbearing* walls, columns and arches supporting an assembly required to have a *fire-resistance rating* shall

i) have a *fire-resistance rating* not less than 45 min, or

ii) be of *noncombustible construction*.

3.2.2.80. Group F, Division 3, Any Height, Any Area, Sprinklered

1) Except as permitted by Articles 3.2.2.81. to 3.2.2.90., a *building* classified as Group F, Division 3 shall conform to Sentence (2).

2) Except as permitted by Article 3.2.2.16., the *building* referred to in Sentence (1) shall be of *noncombustible construction*, and

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* shall be *sprinklered* throughout,

b) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 2 h, except that floor assemblies are permitted to be *fire separations* with a *fire-resistance rating* not less than 1 h in a *storage garage* with all *storeys* constructed as *open-air storeys*,

c) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

d) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.81. Group F, Division 3, up to 6 Storeys

1) A *building* classified as Group F, Division 3 is permitted to conform to Sentence (2) provided

a) it is not more than 6 *storeys* in *building height*, and

b) it has a *building area* not more than the value in Table 3.2.2.81.

Table 3.2.2.81.
Maximum Building Area, Group F, Division 3, up to 6 Storeys
Forming Part of Sentence 3.2.2.81.(1)

No. of *Storeys*	Maximum Area, m²		
	Facing 1 *Street*	Facing 2 *Streets*	Facing 3 *Streets*
1	not limited	not limited	not limited
2	7 200	9 000	10 800
3	4 800	6 000	7 200
4	3 600	4 500	5 400
5	2 880	3 600	4 320
6	2 400	3 000	3 600

2) The *building* referred to in Sentence (1) shall be of *noncombustible construction*, and

a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,

b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h,

c) roof assemblies shall have a *fire-resistance rating* not less than 1 h, and

d) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.82. Group F, Division 3, up to 6 Storeys, Sprinklered

1) A *building* classified as Group F, Division 3 is permitted to conform to Sentence (2) provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

b) it is not more than 6 *storeys* in *building height*, and

c) it has a *building area*

i) that is not limited if the *building* is not more than 1 *storey* in *building height*,

ii) not more than 21 600 m² if 2 *storeys* in *building height*,

iii) not more than 14 400 m² if 3 *storeys* in *building height*,

iv) not more than 10 800 m² if 4 *storeys* in *building height*,

v) not more than 8 640 m² if 5 *storeys* in *building height*, or

vi) not more than 7 200 m² if 6 *storeys* in *building height*.

2) Except as permitted by Article 3.2.2.16., the *building* referred to in Sentence (1) shall be of *noncombustible construction*, and

a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,

b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and

c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3.2.2.83. Group F, Division 3, up to 4 Storeys

1) A *building* classified as Group F, Division 3 is permitted to conform to Sentence (2) provided

a) it is not more than 4 *storeys* in *building height*, and

b) it has a *building area* not more than the value in Table 3.2.2.83.

Table 3.2.2.83.
Maximum Building Area, Group F, Division 3, up to 4 Storeys
Forming Part of Sentence 3.2.2.83.(1)

No. of *Storeys*	Maximum Area, m²		
	Facing 1 *Street*	Facing 2 *Streets*	Facing 3 *Streets*
1	4 800	6 000	7 200
2	2 400	3 000	3 600
3	1 600	2 000	2 400
4	1 200	1 500	1 800

2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

a) floor assemblies shall be *fire separations* and, if of *combustible construction*, shall have a *fire-resistance rating* not less than 45 min,

b) *mezzanines* shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min,

c) roof assemblies shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min, except that in a *building* not more than 1 *storey* in *building height*, the *fire-resistance rating* is permitted to be waived provided the roof assembly is constructed as a *fire-retardant-treated wood* roof system conforming to Article 3.1.14.1., and the *building area* is not more than

i) 2 400 m² if facing one *street*,

ii) 3 000 m² if facing 2 *streets*, or

iii) 3 600 m² if facing 3 *streets*, and

d) *loadbearing* walls, columns and arches supporting an assembly required to have a *fire-resistance rating* shall

i) have a *fire-resistance rating* not less than 45 min, or

ii) be of *noncombustible construction*.

3.2.2.84. Group F, Division 3, up to 4 Storeys, Sprinklered

1) A *building* classified as Group F, Division 3 is permitted to conform to Sentence (2) provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

b) it is not more than 4 *storeys* in *building height*, and

c) it has a *building area* not more than

i) 14 400 m² if 1 *storey* in *building height*,

ii) 7 200 m² if 2 *storeys* in *building height*,

iii) 4 800 m² if 3 *storeys* in *building height*, or

iv) 3 600 m² if 4 *storeys* in *building height*.

2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

a) floor assemblies shall be *fire separations* and, if of *combustible construction*, shall have a *fire-resistance rating* not less than 45 min,

b) *mezzanines* shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min, and

c) *loadbearing* walls, columns and arches supporting an assembly required to have a *fire-resistance rating* shall

i) have a *fire-resistance rating* not less than 45 min, or

ii) be of *noncombustible construction*.

3.2.2.85. Group F, Division 3, up to 2 Storeys

1) A *building* classified as Group F, Division 3 is permitted to conform to Sentence (2) provided

a) it is not more than 2 *storeys* in *building height*, and

b) it has a *building area* not more than the value in Table 3.2.2.85.

Table 3.2.2.85.
Maximum Building Area, Group F, Division 3, up to 2 Storeys
Forming Part of Sentence 3.2.2.85.(1)

No. of *Storeys*	Maximum Area, m²		
	Facing 1 *Street*	Facing 2 *Streets*	Facing 3 *Streets*
1	1 600	2 000	2 400
2	800	1 000	1 200

2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

a) floor assemblies shall be *fire separations* and, if of *combustible construction*, shall have a *fire-resistance rating* not less than 45 min, and

b) *loadbearing* walls, columns and arches supporting an assembly required to have a *fire-resistance rating* shall

i) have a *fire-resistance rating* not less than 45 min, or

ii) be of *noncombustible construction*.

3.2.2.86. Group F, Division 3, up to 2 Storeys, Sprinklered

1) A *building* classified as Group F, Division 3 is permitted to conform to Sentence (2) provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

b) it is not more than 2 *storeys* in *building height*, and

c) it has a *building area* not more than

i) 7 200 m² if 1 *storey* in *building height*, or

ii) 2 400 m² if 2 *storeys* in *building height*.

2) The *building* referred to in Sentence (1) is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, and

a) floor assemblies shall be *fire separations* and, if of *combustible construction*, shall have a *fire-resistance rating* not less than 45 min, and

b) *loadbearing* walls, columns and arches supporting an assembly required to have a *fire-resistance rating* shall

i) have a *fire-resistance rating* not less than 45 min, or

ii) be of *noncombustible construction*.

3.2.2.87. Group F, Division 3, One Storey

1) A *building* classified as Group F, Division 3 is permitted to be of *heavy timber construction* or *noncombustible construction* used singly or in combination provided

a) it is not more than 1 *storey* in *building height*, and

b) it has a *building area* not more than

i) 5 600 m² if facing one *street*,

ii) 7 000 m² if facing 2 *streets*, or

iii) 8 400 m² if facing 3 *streets*.

3.2.2.88. Group F, Division 3, One Storey, Sprinklered

1) A *building* classified as Group F, Division 3 is permitted to be of *heavy timber construction* or *noncombustible construction* used singly or in combination provided

a) except as permitted by Sentences 3.2.2.7.(1) and 3.2.2.18.(2), the *building* is *sprinklered* throughout,

b) it is not more than 1 *storey* in *building height*, and

c) it has a *building area* not more than 16 800 m².

3.2.2.89. Group F, Division 3, One Storey, Any Area, Low Fire Load Occupancy

1) A *building* classified as Group F, Division 3 is permitted to conform to Sentence (2) provided it is

a) not more than 1 *storey* in *building height*,

b) used solely for low *fire load occupancies* such as

i) power generating plants, or

ii) plants for the manufacture or storage of *noncombustible* materials, and

c) not limited in *building area*.

2) The *building* referred to in Sentence (1) shall be of *noncombustible construction*.

3.2.2.90. Group F, Division 3, Storage Garages up to 22 m High

1) A *building* used as a *storage garage* with all *storeys* constructed as *open-air storeys* and having no other *occupancy* above it is permitted to have its floor, wall, ceiling and roof assemblies constructed without a *fire-resistance rating* provided it is

a) of *noncombustible construction*,

b) not more than 22 m high, measured between *grade* and the ceiling level of the top *storey*,

c) not more than 10 000 m² in *building area*, and

d) designed so that every portion of each *floor area* is within 60 m of an exterior wall opening.

3.2.3. Spatial Separation and Exposure Protection

(See Note A-3.2.3.)

3.2.3.1. Limiting Distance and Area of Unprotected Openings

1) Except as permitted by Articles 3.2.3.10. to 3.2.3.12., the area of *unprotected openings* in an *exposing building face* for the applicable *limiting distance* shall be not more than the value determined in accordance with

a) Table 3.2.3.1.-B or 3.2.3.1.-C for an *exposing building face* conforming to Article 3.2.3.2. of a *building* or *fire compartment* which is not *sprinklered*, or

b) Table 3.2.3.1.-D or 3.2.3.1.-E for an *exposing building face* conforming to Article 3.2.3.2. of a *sprinklered fire compartment* that is part of a *building* which is *sprinklered* in conformance with Section 3.2.

(See Note A-3.)

(See also Article 3.1.6.3.)

2) The area of the *unprotected openings* in an *exposing building face* shall be the aggregate area of *unprotected openings* expressed as a percentage of the area of the *exposing building face* in Table 3.2.3.1.-B, 3.2.3.1.-C, 3.2.3.1.-D or 3.2.3.1.-E. (See Sentence 3.2.3.2.(1).)

3) For the purpose of determining the type of construction and cladding and the *fire-resistance rating* of an exterior wall,

a) the *exposing building face* shall be taken as the projection of the exterior wall onto a vertical plane located so that no portion of the exterior wall of the *building* or of a *fire compartment*, if the *fire compartment* complies with the requirements of Article 3.2.3.2., is between the vertical plane and the line to which the *limiting distance* is measured, and

b) the area of *unprotected openings* shall be determined from Table 3.2.3.1.-B, 3.2.3.1.-C, 3.2.3.1.-D or 3.2.3.1.-E.

4) For the purpose of determining the actual percentage of *unprotected openings* permitted in an exterior wall, the location of the *exposing building face* is permitted to be taken at a vertical plane located so that there are no *unprotected openings* between the vertical plane and the line to which the *limiting distance* is measured. (See Note A-3.2.3.1.(4).)

5) Except for *buildings* that are *sprinklered*, where the *limiting distance* is 2 m or less, individual *unprotected openings* in an *exposing building face* shall be no greater than

a) the area stated in Table 3.2.3.1.-A, or

b) where the *limiting distance* is equal to or greater than 1.2 m, the area calculated by

$$\text{Area} = 0.24\ (2 \times \text{LD} - 1.2)^2$$

where

Area = area of the *unprotected opening*, and

LD = *limiting distance*.

Table 3.2.3.1.-A
Maximum Concentrated Area of Unprotected Openings
Forming Part of Sentence 3.2.3.1.(5)

***Limiting Distance*, m**	**Maximum Area of Individual *Unprotected Openings*, m²**
1.2	0.35
1.5	0.78
2.0	1.88

6) The spacing between individual *unprotected openings* described in Sentence (5) that serve a single room or space described in Sentence (7) shall not be less than

a) 2 m horizontally of another *unprotected opening* that is on the same *exposing building face* and serves the single room or space, or

b) 2 m vertically of another *unprotected opening* that serves the single room or space, or another room or space on the same *storey*.

7) For the purpose of Sentence (6), "single room or space" shall mean

a) two or more adjacent spaces having a full-height separating wall extending less than 1.5 m from the interior face of the exterior wall, or

b) two or more stacked spaces that are on the same *storey*.

8) A *limiting distance* equal to half the actual *limiting distance* shall be used as input to Tables 3.2.3.1.-B and 3.2.3.1.-C, where

a) the time from receipt of notification of a fire by the fire department until the arrival of the first fire department vehicle at the *building* exceeds 10 min in 10% or more of all fire department calls to the *building*, and

b) any *storey* in the *building* is not *sprinklered*.

(See Notes A-3.2.3.1.(8) and A-3.2.3.)

9) If the surface temperature on the unexposed surface of a wall assembly exceeds the temperature limit of a standard fire test as permitted by Article 3.1.7.2., an allowance shall be made for the radiation from the hot unexposed wall surface by adding an equivalent area of *unprotected opening* to the area of actual openings as follows:

$$A_C = A + (A_F \times F_{EO})$$

where

A_C = corrected area of *unprotected openings* including actual and equivalent openings,

A = actual area of *unprotected openings*,

A_F = area of exterior surface of the *exposing building face*, exclusive of openings, on which the temperature limit of the standard test is exceeded, and

F_{EO} = an equivalent opening factor derived from the following expression:

$$F_{EO} = \frac{(T_U + 273)^4}{(T_E + 273)^4}$$

T_U = average temperature in degrees Celsius of the unexposed wall surface at the time the required *fire-resistance rating* is reached under test conditions,

T_E = 892°C for a *fire-resistance rating* not less than 45 min, 927°C for a *fire-resistance rating* not less than 1 h, and 1 010°C for a *fire-resistance rating* not less than 2 h.

10) Unless a *closure* used to protect an opening in an *exposing building face* has a protective performance equivalent to that required for the wall assembly in which it is located, an equivalent area of *unprotected opening*, determined in accordance with the procedures of Sentence (9) shall be added to the greater of

a) the actual area of *unprotected openings*, or

b) the corrected area of *unprotected openings*.

Table 3.2.3.1.-B
Unprotected Opening Limits for a Building or Fire Compartment that is not Sprinklered Throughout
Forming Part of Article 3.2.3.1.

Exposing Building Face		**Area of *Unprotected Opening* for Groups A, C, D, and F, Division 3 *Occupancies*, %**																									
Max. Area, m^2	**Ratio (L/H or H/L)[1]**	***Limiting Distance*, m**																									
		0	**1.2**	**1.5**	**2.0**	**2.5**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**16**	**18**	**20**	**25**	**30**	**35**	**40**	**45**	**50**
	Less than 3 : 1	0	8	10	18	29	46	91	100																		
10	3 : 1 to 10 : 1	0	8	12	21	33	50	96	100																		
	over 10 : 1	0	11	18	32	48	68	100																			
	Less than 3 : 1	0	7	9	14	22	33	63	100																		
15	3 : 1 to 10 : 1	0	8	10	17	25	37	67	100																		
	over 10 : 1	0	10	15	26	39	53	87	100																		
	Less than 3 : 1	0	7	9	12	18	26	49	81	100																	
20	3 : 1 to 10 : 1	0	8	10	15	21	30	53	85	100																	
	over 10 : 1	0	9	14	23	33	45	72	100																		
	Less than 3 : 1	0	7	8	11	16	23	41	66	98	100																
25	3 : 1 to 10 : 1	0	8	9	13	19	26	45	70	100																	
	over 10 : 1	0	9	13	21	30	39	62	90	100																	
	Less than 3 : 1	0	7	8	11	15	20	35	56	83	100																
30	3 : 1 to 10 : 1	0	7	9	12	17	23	39	61	88	100																
	over 10 : 1	0	8	12	19	27	36	56	79	100																	
	Less than 3 : 1	0	7	8	10	13	17	28	44	64	89	100															
40	3 : 1 to 10 : 1	0	7	8	11	15	20	32	48	69	93	100															
	over 10 : 1	0	8	11	17	24	31	47	66	88	100																
	Less than 3 : 1	0	7	8	9	12	15	24	37	53	72	96	100														
50	3 : 1 to 10 : 1	0	7	8	10	14	18	28	41	57	77	100															
	over 10 : 1	0	8	10	15	21	28	41	57	76	97	100															
	Less than 3 : 1	0	7	8	9	11	14	21	32	45	62	81	100														
60	3 : 1 to 10 : 1	0	7	8	10	13	16	25	36	49	66	85	100														
	over 10 : 1	0	8	10	14	20	25	38	51	67	85	100															
	Less than 3 : 1	0	7	7	8	10	12	18	26	36	48	62	79	98	100												
80	3 : 1 to 10 : 1	0	7	8	9	11	14	21	29	40	52	67	84	100													

Exposing Building Face		Area of *Unprotected Opening* for Groups A, C, D, and F, Division 3 *Occupancies*, %																									
Max. Area, m^2	Ratio (L/H or H/L)[1]	*Limiting Distance*, m																									
		0	1.2	1.5	2.0	2.5	3	4	5	6	7	8	9	10	11	12	13	14	16	18	20	25	30	35	40	45	50
	over 10 : 1	0	8	9	13	17	22	32	44	56	70	86	100														
	Less than 3 : 1	0	7	7	8	9	11	16	22	30	40	51	65	80	97	100											
100	3 : 1 to 10 : 1	0	7	8	9	11	13	18	25	34	44	56	69	84	100												
	over 10 : 1	0	7	9	12	16	20	29	39	49	61	74	89	100													
	Less than 3 : 1	0	7	7	8	9	10	13	17	22	29	37	46	56	67	79	93	100									
150	3 : 1 to 10 : 1	0	7	7	8	10	11	15	20	26	33	41	50	60	71	84	97	100									
	over 10 : 1	0	7	8	11	13	17	24	31	39	48	57	68	79	91	100											
	Less than 3 : 1	0	7	7	7	8	9	10	13	16	20	25	30	36	43	51	59	68	87	100							
250	3 : 1 to 10 : 1	0	7	7	8	9	10	12	15	19	24	28	34	40	47	55	63	72	92	100							
	over 10 : 1	0	7	8	9	11	14	19	24	30	36	43	50	57	65	73	82	92	100								
	Less than 3 : 1	0	7	7	7	8	8	9	11	14	16	20	24	28	33	38	44	50	64	81	99	100					
350	3 : 1 to 10 : 1	0	7	7	8	8	9	11	13	16	19	23	27	32	37	42	48	55	69	85	100						
	over 10 : 1	0	7	8	9	10	12	16	21	25	30	36	41	47	53	59	66	73	88	100							
	Less than 3 : 1	0	7	7	7	7	8	9	10	12	14	16	19	22	25	29	33	37	47	59	71	100					
500	3 : 1 to 10 : 1	0	7	7	7	8	8	10	12	14	16	19	22	25	29	33	37	41	52	63	76	100					
	over 10 : 1	0	7	7	8	9	11	14	18	22	25	30	34	38	43	48	53	58	70	82	96	100					
	Less than 3 : 1	0	7	7	7	7	7	8	9	9	10	12	13	14	16	18	20	22	27	33	39	58	82	100			
1 000	3 : 1 to 10 : 1	0	7	7	7	7	8	9	10	11	12	14	15	17	19	21	23	26	31	37	43	63	86	100			
	over 10 : 1	0	7	7	8	8	9	11	13	16	19	21	24	27	30	33	36	39	46	53	60	82	100				
	Less than 3 : 1	0	7	7	7	7	7	7	8	8	9	9	10	11	12	13	14	15	17	20	23	33	44	58	74	93	100
2 000	3 : 1 to 10 : 1	0	7	7	7	7	7	8	8	9	10	11	12	13	14	15	16	17	20	23	27	37	49	63	79	97	100
	over 10 : 1	0	7	7	7	8	8	9	11	12	14	16	18	19	21	23	25	27	32	36	40	53	66	82	99	100	

Notes to Table 3.2.3.1.-B:

(1) Apply whichever ratio is greater.

L = Length of exposing building face

H = Height of exposing building face

Table 3.2.3.1.-C
Unprotected Opening Limits for a Building or Fire Compartment that is not Sprinklered Throughout
Forming Part of Article 3.2.3.1.

Exposing Building Face		**Area of *Unprotected Openings* for Groups E and F, Division 1 and 2 Occupancies, %**																														
Max. Area, m²	**Ratio (L/H or H/L)[1]**	***Limiting Distance*, m**																														
		0	**1.2**	**1.5**	**2.0**	**2.5**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**16**	**18**	**20**	**25**	**30**	**35**	**40**	**45**	**50**	**55**	**60**	**65**	**70**
	Less than 3 : 1	0	4	5	9	15	23	46	77	100																						
10	3 : 1 to 10 : 1	0	4	6	10	17	25	48	79	100																						
	over 10 : 1	0	5	9	16	24	34	58	91	100																						
	Less than 3 : 1	0	4	5	7	11	16	32	53	79	100																					
15	3 : 1 to 10 : 1	0	4	5	8	13	18	34	55	82	100																					
	over 10 : 1	0	5	8	13	19	26	43	66	93	100																					
	Less than 3 : 1	0	4	4	6	9	13	25	40	61	85	100																				
20	3 : 1 to 10 : 1	0	4	5	7	11	15	27	43	63	87	100																				
	over 10 : 1	0	5	7	11	17	22	36	53	74	99	100																				
	Less than 3 : 1	0	4	4	6	8	11	20	33	49	69	92	100																			
25	3 : 1 to 10 : 1	0	4	5	7	9	13	22	35	51	71	94	100																			
	over 10 : 1	0	4	6	10	15	20	31	45	62	82	100																				
	Less than 3 : 1	0	4	4	5	7	10	18	28	42	58	77	100																			
30	3 : 1 to 10 : 1	0	4	4	6	9	12	20	30	44	60	80	100																			
	over 10 : 1	0	4	6	10	14	18	28	40	54	71	91	100																			
	Less than 3 : 1	0	4	4	5	6	8	14	22	32	44	59	76	94	100																	
40	3 : 1 to 10 : 1	0	4	4	6	8	10	16	24	34	47	61	78	97	100																	
	over 10 : 1	0	4	5	8	12	15	23	33	44	57	72	89	100																		
	Less than 3 : 1	0	4	4	5	6	7	12	18	26	36	48	61	76	93	100																
50	3 : 1 to 10 : 1	0	4	4	5	7	9	14	20	29	38	50	63	79	95	100																
	over 10 : 1	0	4	5	8	11	14	21	29	38	48	61	74	90	100																	
	Less than 3 : 1	0	4	4	4	5	7	11	16	23	31	40	52	64	78	94	100															
60	3 : 1 to 10 : 1	0	4	4	5	6	8	12	18	25	33	43	54	66	81	96	100															
	over 10 : 1	0	4	5	7	10	13	19	26	34	43	53	64	77	92	100																
	Less than 3 : 1	0	4	4	4	5	6	9	13	18	24	31	40	49	60	71	84	98	100													
80	3 : 1 to 10 : 1	0	4	4	5	6	7	10	15	20	26	33	42	51	62	74	86	100														
	over 10 : 1	0	4	5	6	9	11	16	22	28	35	43	52	62	73	85	98	100														
	Less than 3 : 1	0	4	4	4	5	5	8	11	15	20	26	32	40	48	58	68	79	100													

Table 3.2.3.1.-C
Unprotected Opening Limits for a Building or Fire Compartment that is not Sprinklered Throughout
Forming Part of Article 3.2.3.1.

Exposing Building Face		**Area of *Unprotected Openings* for Groups E and F, Division 1 and 2 Occupancies, %**																													
Max. Area, m^2	**Ratio (L/H or H/L)(1)**	***Limiting Distance*, m**																													
		0	**1.2**	**1.5**	**2.0**	**2.5**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**16**	**18**	**20**	**25**	**30**	**35**	**40**	**45**	**50**	**55**	**60**	**65**	**70**
100	3 : 1 to 10 : 1	0	4	4	4	5	6	9	13	17	22	28	35	42	51	60	70	81	100												
	over 10 : 1	0	4	4	6	8	10	14	19	25	31	37	44	52	61	71	81	92	100												
	Less than 3 : 1	0	4	4	4	4	5	6	8	11	14	18	23	28	33	40	46	54	70	89	100										
150	3 : 1 to 10 : 1	0	4	4	4	5	6	8	10	13	16	20	25	30	36	42	49	56	73	92	100										
	over 10 : 1	0	4	4	5	7	8	12	16	20	24	29	34	39	46	52	59	67	84	100											
	Less than 3 : 1	0	4	4	4	4	4	5	7	8	10	12	15	18	22	25	29	34	44	55	68	100									
250	3 : 1 to 10 : 1	0	4	4	4	4	5	6	8	10	12	14	17	20	24	27	32	36	46	57	70	100									
	over 10 : 1	0	4	4	5	6	7	9	12	15	18	21	25	28	32	37	41	46	56	68	81	100									
	Less than 3 : 1	0	4	4	4	4	4	5	6	7	8	10	12	14	16	19	22	25	32	40	49	77	100								
350	3 : 1 to 10 : 1	0	4	4	4	4	4	5	7	8	10	12	14	16	18	21	24	27	34	43	52	79	100								
	over 10 : 1	0	4	4	4	5	6	8	10	13	15	18	21	23	26	30	33	36	44	53	62	90	100								
	Less than 3 : 1	0	4	4	4	4	4	4	5	6	7	8	9	11	13	14	16	19	24	29	36	55	78	100							
500	3 : 1 to 10 : 1	0	4	4	4	4	4	5	6	7	8	9	11	13	14	16	18	21	26	31	38	57	80	100							
	over 10 : 1	0	4	4	4	5	5	7	9	11	13	15	17	19	21	24	26	29	35	41	48	68	92	100							
	Less than 3 : 1	0	4	4	4	4	4	4	4	5	5	6	6	7	8	9	10	11	14	16	20	29	41	55	71	89	100				
1 000	3 : 1 to 10 : 1	0	4	4	4	4	4	4	5	5	6	7	8	9	10	11	12	13	15	18	22	31	43	57	73	91	100				
	over 10 : 1	0	4	4	4	4	5	6	7	8	9	11	12	13	15	16	18	20	23	26	30	41	53	68	84	100					
	Less than 3 : 1	0	4	4	4	4	4	4	4	4	4	5	5	5	6	6	7	7	9	10	12	16	22	29	37	46	56	68	80	94	100
2 000	3 : 1 to 10 : 1	0	4	4	4	4	4	4	4	5	5	5	6	6	7	7	8	9	10	12	13	18	24	31	39	49	59	70	83	96	100
	over 10 : 1	0	4	4	4	4	4	5	5	6	7	8	9	10	11	12	13	14	16	18	20	26	33	41	50	59	70	81	94	100	

Notes to Table 3.2.3.1.-C:

(1) Apply whichever ratio is greater.

L = Length of exposing building face

H = Height of exposing building face

Table 3.2.3.1.-D
Unprotected Opening Limits for a Building or Fire Compartment that is Sprinklered Throughout
Forming Part of Article 3.2.3.1.

Exposing Building Face	**Area of *Unprotected Opening* for Groups A, B, C, D and F, Division 3 *Occupancies*, %**											
Max. Area, m^2	***Limiting Distance*, m**											
	0	**1.2**	**1.5**	**2.0**	**2.5**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
10	0	16	24	42	66	100						
15	0	16	20	34	50	74	100					
20	0	16	20	30	42	60	100					
25	0	16	18	26	38	52	90	100				
30	0	14	18	24	34	46	78	100				
40	0	14	16	22	30	40	64	96	100			
50	0	14	16	20	28	36	56	82	100			
60	0	14	16	20	26	32	50	72	98	100		
80	0	14	16	18	22	28	42	58	80	100		
100	0	14	16	18	22	26	36	50	68	88	100	
150 or more	0	14	14	16	20	22	30	40	52	66	82	100

Table 3.2.3.1.-E
Unprotected Opening Limits for a Building or Fire Compartment that is Sprinklered Throughout
Forming Part of Article 3.2.3.1.

Exposing Building Face	**Area of *Unprotected Opening* for Groups E and F, Division 1 and 2 *Occupancies*, %**																	
Max. Area, m^2	***Limiting Distance*, m**																	
	0	**1.2**	**1.5**	**2.0**	**2.5**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
10	0	8	12	20	34	50	96	100										
15	0	8	10	16	26	36	68	100										
20	0	8	10	14	22	30	54	86	100									
25	0	8	10	14	18	26	44	70	100									
30	0	8	8	12	18	24	40	60	88	100								
40	0	8	8	12	16	20	32	48	68	94	100							
50	0	8	8	10	14	18	28	40	58	76	100							
60	0	8	8	10	12	16	24	36	50	66	86	100						
80	0	8	8	10	12	14	20	30	40	52	66	84	100					
100	0	8	8	8	10	12	18	26	34	44	56	70	84	100				
150	0	8	8	8	10	12	16	20	26	32	40	50	60	72	84	98	100	
200 or more	0	8	8	8	8	10	14	18	22	28	34	42	50	60	68	80	92	100

3.2.3.2. Area of Exposing Building Face

1) Except as permitted by Sentences (2) and (3), the area of an *exposing building face* shall be calculated as the total area of an exterior wall facing in one direction on any side of a *building* measured from the finished ground level to the uppermost ceiling.

2) If a *building* is divided by *fire separations* into *fire compartments*, the area of *exposing building face* is permitted to be calculated for each *fire compartment* provided the *fire separations* have a *fire-resistance rating* not less than 45 min.

3) In a *building* that is *sprinklered* throughout and contains an *interconnected floor space*, the area of the *exposing*

building face for the *interconnected floor space* is permitted to be determined by considering each *storey* as a separate *fire compartment* notwithstanding openings through the floor assemblies.

3.2.3.3. Wall Enclosing Attic or Roof Space

1) An exterior wall enclosing an *attic or roof space* and located above an *exposing building face*, shall be constructed in conformance with the requirements for the *exposing building face*.

3.2.3.4. Party Wall

1) A *party wall* shall be constructed as a *firewall*. (See Note A-3.2.3.4.(1).)

3.2.3.5. Wall with Limiting Distance Less Than 1.2 m

1) Openings in a wall that has a *limiting distance* less than 1.2 m shall be protected by *closures* whose *fire-protection rating* is in conformance with the *fire-resistance rating* required for the wall.

2) Wired glass or glass block shall not be used for a *closure* referred to in Sentence (1).

3.2.3.6. Combustible Projections

1) Except for a *building* containing one or 2 *dwelling units* only, *combustible* projections on the exterior of a wall that could expose an adjacent *building* to fire spread and are more than 1 m above ground level, including balconies, platforms, canopies and stairs, shall not be permitted within

a) 1.2 m of a property line or the centre line of a *public way*, or

b) 2.4 m of a *combustible* projection on another *building* on the same property.

2) Except as provided in Sentence (4), where the *exposing building face* has a *limiting distance* of not more than 0.45 m, projecting roof soffits shall not be constructed above the *exposing building face*. (See Note A-3.2.3.6.(2).)

3) Except as provided in Sentence (4), where the *exposing building face* has a *limiting distance* of more than 0.45 m, the face of roof soffits shall not project to less than 0.45 m from the property line. (See Note A-3.2.3.6.(2).)

4) The face of a roof soffit is permitted to project to the property line, where it faces a street, lane or public thoroughfare. (See Note A-9.10.14.5.(11) and 9.10.15.5.(10).)

5) Where roof soffits project to less than 1.2 m from the centre line of a lane or public thoroughfare, or from an imaginary line between two *buildings* or *fire compartments* on the same property, they shall

a) have no openings, and

b) be protected by

i) not less than 0.38 mm thick sheet steel,

ii) unvented aluminum conforming to CAN/CGSB-93.2-M, “Prefinished Aluminum Siding, Soffits, and Fascia, for Residential Use,”

iii) not less than 12.7 mm thick gypsum soffit board or gypsum ceiling board installed according to CSA A82.31-M, “Gypsum Board Application,”

iv) not less than 11 mm thick plywood,

v) not less than 12.5 mm thick OSB or waferboard, or

vi) not less than 11 mm thick lumber.

6) For *buildings* of *combustible construction*, materials installed to provide the required protection of soffits may be covered with a *combustible* or *noncombustible* finish material.

3.2.3.7. Construction of Exposing Building Face

1) Except as provided in Sentences (3) and (4), and Articles 3.2.3.10. and 3.2.3.11., the *fire-resistance rating*, construction and cladding for *exposing building faces* of *buildings* or *fire compartments* of Group A, B, C, D or Group F, Division 3 *occupancy* classification shall comply with Table 3.2.3.7.

2) Except as provided in Sentences (3) and (4) and Article 3.2.3.10., the *fire-resistance rating*, construction and cladding for *exposing building faces* of *buildings* or *fire compartments* of Group E or Group F, Division 1 or 2 *occupancy* classification shall comply with Table 3.2.3.7.

Table 3.2.3.7.
Minimum Construction Requirements for Exposing Building Faces
Forming Part of Sentences 3.2.3.7.(1) and (2)

Occupancy* Classification of *Building* or *Fire Compartment	**Maximum Area of *Unprotected Openings* Permitted, % of *Exposing Building Face* Area**	**Minimum Required *Fire-Resistance Rating***	**Type of Construction Required**	**Type of Cladding Required**
Group A, B, C, D, or Group F, Division 3	0 to 10	1 h	*Noncombustible*	*Noncombustible*
	> 10 to 25	1 h	*Combustible*, *Encapsulated mass timber,* or *Noncombustible*	*Noncombustible*
	> 25 to 50	45 min	*Combustible*, *Encapsulated mass timber,* or *Noncombustible*	*Noncombustible*
	> 50 to < 100	45 min	*Combustible*, *Encapsulated mass timber,* or *Noncombustible*	*Combustible* or *Noncombustible*(1)(2)
Group E, or Group F, Division 1 or 2	0 to 10	2 h	*Noncombustible*	*Noncombustible*
	> 10 to 25	2 h	*Combustible*, *Encapsulated mass timber,* or *Noncombustible*	*Noncombustible*
	> 25 to 50	1 h	*Combustible*, *Encapsulated mass timber,* or *Noncombustible*	*Noncombustible*
	> 50 to < 100	1 h	*Combustible*, *Encapsulated mass timber,* or *Noncombustible*	*Combustible* or *Noncombustible*(1)

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Notes to Table 3.2.3.7.:

(1) See also Article 3.1.4.8. for additional requirements for exterior cladding on *buildings* conforming to Article 3.2.2.50. and Article 3.2.2.58.

(2) The cladding on Group C buildings or parts thereof conforming to Article 3.2.2.48EMTC. and on Group D *buildings* or parts thereof conforming to Article 3.2.2.57EMTC. shall conform to Sentence 3.1.18.7.(2) or be *noncombustible*.

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3) Except as provided in Article 3.1.4.8. and 3.1.18.7., the requirement in Table 3.2.3.7. for *noncombustible* cladding for *buildings* or *fire compartments* where the maximum permitted area of *unprotected openings* is more than 10% of the *exposing building face* is permitted to be waived for exterior wall assemblies that comply with Article 3.1.5.5.

4) Except as provided in Article 3.1.4.8. and 3.1.18.7., the requirement in Table 3.2.3.7. for *noncombustible* cladding for *buildings* or *fire compartments* where the maximum permitted area of *unprotected openings* is more than 25% but not more than 50% of the *exposing building face* is permitted to be waived where

a) the *limiting distance* is greater than 5 m,

b) the *building* or *fire compartment* and all *combustible* attic and roof spaces are *sprinklered* throughout,

c) the cladding

i) conforms to Subsections 9.27.6., 9.27.7., 9.27.8., 9.27.9. or 9.27.10.,

ii) is installed without furring members, or on furring not more than 25 mm thick, over gypsum sheathing at least 12.7 mm thick or over masonry, and

iii) after conditioning in conformance with ASTM D 2898, "Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing," has a *flame-spread rating* not greater than 25 on the exterior face when tested in accordance with Sentence 3.1.12.1.(1),

d) the cladding

i) conforms to Subsection 9.27.12.,

ii) is installed with or without furring members over gypsum sheathing at least 12.7 mm thick or over masonry,

iii) has a *flame-spread rating* not greater than 25 when tested in accordance with Sentence 3.1.12.1.(2), and

iv) does not exceed 2 mm in thickness exclusive of fasteners, joints and local reinforcements, or the exterior wall assembly complies with Article 3.1.5.5.

5) The construction requirements for the *exposing building face* stated in Sentences (1) and (2) shall be satisfied before increasing the *unprotected opening* area as permitted by Sentence 3.2.3.12.(1).

3.2.3.8. Protection of Exterior Building Face

1) Except as permitted by Sentence (3) and in addition to the requirements of Sentences 3.2.3.7.(1) and (2) and where the maximum permitted area of *unprotected openings* is greater than 10% of the *exposing building face*, foamed plastic insulation used in an exterior wall of a *building* more than 3 *storeys* in *building height* shall be protected on its exterior surface by

a) concrete or masonry not less than 25 mm thick, or

b) *noncombustible* material that complies with the criteria for testing and the conditions of acceptance stated in Sentence (2) when tested in conformance with CAN/ULC-S101, "Fire Endurance Tests of Building Construction and Materials."

2) The criteria for testing and the conditions of acceptance for a wall assembly to satisfy the requirements of Clause (1)(b) are that

a) the fire exposed area of the wall assembly shall be not less than 9.3 m^2 and have no dimension less than 2.75 m,

b) the exposed surface shall include typical vertical and horizontal joints,

c) the test shall be continued for not less than 15 min and the standard time/temperature curve of the referenced standard shall be followed,

d) the *noncombustible* protective material must remain in place and no through openings should develop that are visible when viewed normal to the face of the material, and

e) the *noncombustible* protective material should not disintegrate in a manner that would permit fire to propagate along the surface of the test assembly.

3) The requirements of Sentence (1) are waived for wall assemblies that comply with the requirements of Article 3.1.5.5. (See Note A-3.1.4.1.(1).)

3.2.3.9. Protection of Structural Members

1) Structural members, including beams, columns and arches, that are placed wholly or partly outside the exterior face of a *building* and are less than 3 m from the property line or the centre line of a public thoroughfare shall be protected from exterior fire exposure by fire protection having a *fire-resistance rating* not less than that required for their protection from interior fire exposure, as stated in Articles 3.2.2.20. to 3.2.2.90., but not less than 1 h.

2) Structural members of *heavy timber construction*, including beams, columns and arches, that are placed wholly or partly outside the exterior face of a *building* and are 3 m or more from the property line or the centre line of a public thoroughfare need not be covered with *noncombustible* cladding.

3.2.3.10. Unlimited Unprotected Openings

1) An *exposing building face* in a *storage garage* is permitted to have unlimited *unprotected openings* provided it has a *limiting distance* not less than 3 m.

2) The *exposing building face* of a *storey* that faces a *street* and is at the same level as the *street* is permitted to have unlimited *unprotected openings* if the *limiting distance* is not less than 9 m.

3.2.3.11. Low Fire Load, One Storey Building

1) An *exposing building face* of a *building* of *low-hazard industrial occupancy* conforming to Article 3.2.2.89. is permitted to be of *noncombustible construction* without a *fire-resistance rating* provided

a) it is not a *loadbearing* wall, and

b) the *limiting distance* is not less than 3 m.

3.2.3.12. Area Increase for Unprotected Openings

1) Except as required by Sentence 3.2.3.7.(5), the maximum area of *unprotected openings* in any *exposing building face* of an unsprinklered *building* is permitted to be doubled if the openings are glazed with

a) glass block conforming to the requirements of Article 3.1.8.16., or

b) wired glass assemblies conforming to D-2.3.15. in Appendix D.

3.2.3.13. Protection of Exit Facilities

1) Except as required by Sentence (3) and as permitted by Sentence 3.4.4.3.(1), if the plane of an exterior wall of an *exit* enclosure forms an angle less than 135° with the plane of an exterior wall of the *building* it serves, and an opening in the exterior wall of the *exit* enclosure could be exposed to fire from an opening in the exterior wall of the *building*, the opening in either the exterior wall of the *exit* or the exterior wall of the *building* shall be protected in conformance with the requirements of Sentence (4) where the opening in the exterior wall of the *building* is within 3 m horizontally and

a) less than 10 m below an opening in the exterior wall of the *exit*, or

b) less than 2 m above an opening in the exterior wall of the *exit*.

(See Note A-3.2.3.14.(1).)

2) If an unenclosed exterior *exit* stair, ramp, or confined path of travel could be exposed to fire from an opening in the exterior wall of the *building* it serves, the opening in the exterior wall of the *building* shall be protected in conformance with the requirements of Sentence (4) where the opening in the exterior wall of the *building* is within 3 m horizontally and

a) less than 10 m below the *exit* stair, ramp, or confined path of travel, or

b) less than 5 m above the *exit* stair, ramp, or confined path of travel.

3) Except as permitted by Sentence 3.4.4.3.(1), if an exterior *exit* door in one *fire compartment* is within 3 m horizontally of an opening in another *fire compartment* and the exterior walls of these *fire compartments* intersect at an exterior angle of less than 135°, the opening shall be protected in conformance with the requirements of Sentence (4).

4) The opening protection referred to in Sentences (1), (2) and (3) shall consist of

a) glass block conforming to the requirements of Article 3.1.8.16.,

b) a wired glass assembly conforming to D-2.3.15. in Appendix D,

c) a *closure* conforming to the requirements of Subsection 3.1.8. and Articles 3.2.3.1. and 3.2.3.14., or

d) a dedicated sprinkler water curtain in accordance with Sentence (5).

5) An opening provided with a dedicated sprinkler water curtain for opening protection as permitted in Clause (4)(d) shall

a) be provided with tempered or laminated safety glass glazed openings where windows are provided,

b) be provided with quick response sprinklers with a nominal k-factor of 5.6 of the upright or pendant type,

c) be located such that

i) the water curtain sprinklers are between 150 mm and 300 mm horizontally from the interior face of the opening,

ii) the water curtain is located and not more than 3.6 m vertically above the floor immediately below and within 300 mm of the ceiling per the manufacturers listing for the quick response sprinkler head and NFPA 13,

iii) if the opening is 1.8 m or less in width, the water curtain shall have one sprinkler head installed at the center of the opening with no more than 0.9 m horizontally from the edge of the opening, and

iv) if the opening is more than 1.8 m in width, have multiple sprinkler heads installed at 1.8 m on center with no more than 0.9 m horizontally from the edge of the opening, and

d) have sprinkler heads protected from spray and from cold solder effects from adjacent sprinklers (floor area or water curtain sprinkler heads) by means of baffles in accordance with NFPA 13, and be hydraulically designed to

i) discharge water at a minimum flow rate of 1.13 L/s (18 usgpm),

ii) sprinklers will be supplied off the floor area *sprinkler system*, and

iii) be included in the most hydraulically demanding design area for the adjacent floor area sprinklers plus the inside and outside hose stream allowance per NFPA 13.

3.2.3.14. Wall Exposed to Another Wall

1) Except as required by Sentences (3) and 3.2.3.13.(1) or as permitted by Sentence 3.2.3.19.(4), if an *unprotected opening* in an exterior wall of a *fire compartment* is exposed to an *unprotected opening* in the exterior wall of another *fire compartment*, and the planes of the 2 walls are parallel or at an angle less than 135°, measured from the exterior of the *building*, the *unprotected openings* in the 2 *fire compartments* shall be separated by a distance not less than D_o where

$$D_o = 2D - (\theta/90 \times D)$$

but in no case less than 1 m, and

D = the greater required *limiting distance* for the *exposing building faces* of the 2 *fire compartments*, and

θ = the angle made by the intersecting planes of the *exposing building faces* of the 2 *fire compartments* (in the case where the exterior walls are parallel and face each other, θ = 0°).

(See Note A-3.2.3.14.(1).)

2) The exterior wall of each *fire compartment* referred to in Sentence (1) within the distance, D_o, shall have a *fire-resistance rating* not less than that required for the interior vertical *fire separation* between the *fire compartment* and the remainder of the *building*.

3) Sentence (1) does not apply to *unprotected openings* of *fire compartments* within a *building* that is *sprinklered* throughout, but shall apply to

a) *unprotected openings* of *fire compartments* on opposite sides of a *firewall*, and

b) exposure from *unprotected openings* of a *fire compartment* that is not protected by an automatic *sprinkler system*.

3.2.3.15. Wall Exposed to Adjoining Roof

1) Except as permitted by Sentence 3.2.3.19.(4), if a wall in a *building* is exposed to a fire hazard from an adjoining roof of a separate *fire compartment* that is not *sprinklered* in the same *building*, and the exposed wall contains windows within 3 *storeys* vertically and 5 m horizontally of the roof, the roof shall contain no skylights within 5 m of the exposed wall.

3.2.3.16. Protection of Soffits

1) Except as permitted by Sentences (3) and (4), where there is a common *attic or roof space* above more than 2 *suites* of *residential occupancy* or above more than 2 patients' sleeping rooms, and the common *attic or roof space* projects beyond the exterior wall of the *building*, the soffit, and any opening in the soffit or other surface of the projection located within 2 500 mm of a window or door opening, shall be protected by

a) *noncombustible* material

i) not less than 0.38 mm thick, and

ii) having a melting point not below 650°C,

b) plywood not less than 11 mm thick,

c) strandboard or waferboard not less than 12.5 mm thick, or

d) lumber not less than 11 mm thick.

2) The soffit protection required by Sentence (1) shall extend the full width of the opening and to not less than 1 200 mm on either side of it, and shall apply to all openings through the soffit within this limit.

3) If an eave overhang is completely separated from the remainder of the *attic or roof space* by the use of *fire blocks*, the requirements of Sentence (1) do not apply.

4) The protection required by Sentence (1) for projections is permitted to be omitted if

a) the *fire compartments* behind the window and door openings are *sprinklered* in accordance with Article 3.2.5.12., and

b) all rooms, including closets and bathrooms, having openings in the wall beneath the soffit are *sprinklered*, notwithstanding exceptions permitted in the standards referenced in Article 3.2.5.12. for the installation of automatic *sprinkler systems.*

3.2.3.17. Canopy Protection for Vertically Separated Openings

1) Except as permitted by Sentences (2) and (3), if a *storey* classified as a Group E or Group F, Division 1 or 2 *major occupancy* is required to be separated from the *storey* above by a *fire separation*,

a) every opening in the exterior wall of the lower *storey* that is located vertically below an opening in the *storey* above shall be separated from the *storey* above by a canopy projecting not less than 1 m from the face of the *building* at the intervening floor level, and

b) the canopy required by Clause (a) shall have a *fire-resistance rating* not less than that required for the floor assembly but need not be more than 1 h, except as required elsewhere in this Subsection.

2) Except as permitted by Sentence (3), the canopy required by Sentence (1) is permitted to be omitted if the exterior wall of the upper *storey* is recessed not less than 1 m behind the exterior wall containing the opening in the lower *storey*.

3) The requirements of Sentences (1) and (2) are permitted to be waived if the *building* is *sprinklered* throughout.

3.2.3.18. Covered Vehicular Passageway

1) A covered vehicular passageway designed as a receiving or shipping area shall be separated from every *building* or part of a *building* adjoining it by a *fire separation* having a *fire-resistance rating* not less than 1.5 h.

2) A covered vehicular passageway constructed below *grade* shall be of *noncombustible construction*.

3.2.3.19. Walkway Between Buildings

1) Except as required by Sentence 3.2.3.20.(2), if *buildings* are connected by a *walkway*, each *building* shall be separated from the *walkway* by a *fire separation* with a *fire-resistance rating* not less than 45 min.

2) Except as permitted by Sentence (3), a *walkway* connected to a *building* required to be of *noncombustible construction* shall also be of *noncombustible construction*.

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3) Except as provided in Sentence (4), a *walkway* connected to a *building* or part of a *building* permitted to be of *encapsulated mass timber construction* shall be of *noncombustible construction* or *encapsulated mass timber construction*.

4) A *walkway* connected to a *building* required to be of *noncombustible construction* or part of a *building* permitted to be of *encapsulated mass timber construction* is permitted to be of *heavy timber construction* provided

a) not less than 50% of the area of any enclosing perimeter walls is open to the outdoors, and

b) the *walkway* is at ground level.

5) A *walkway* of *noncombustible construction* used only as a pedestrian thoroughfare need not conform to the requirements of Articles 3.2.3.14. and 3.2.3.15.

6) A *walkway* between *buildings* shall be not more than 9 m wide.

3.2.3.20. Underground Walkway

1) An underground *walkway* shall not be designed or used for any purpose other than pedestrian travel unless

a) the purpose is acceptable to the *authority having jurisdiction*, and

b) sprinklers are installed in any space in the *walkway* containing an *occupancy*.

2) *Buildings* connected by an underground *walkway* shall be separated from the *walkway* by a *fire separation* with a *fire-resistance rating* not less than 1 h.

3) An underground *walkway* shall be of *noncombustible construction* suitable for an underground location.

4) In an underground *walkway*

a) smoke barrier doors shall be installed at intervals of not more than 100 m, or

b) the travel distance from the door of an adjacent room or space to the nearest *exit* shall be not more than one and a half times the least allowable travel distance to an *exit* for any of the adjacent *occupancies* as permitted by Sentence 3.4.2.5.(1).

5) An underground *walkway* between *buildings* shall be not more than 9 m wide.

3.2.3.21. Storage and Process Equipment Located Outdoors

1) Location of outdoor storage and outdoor process equipment in relation to *buildings* shall conform to Parts 3 and 4 of Division B of the Fire By-law.

3.2.3.22. Installation of Service Lines Under Buildings

1) When a *building* is erected over existing buried flammable gas mains, such service lines shall be encased in gas-tight conduits in conformance with CSA Z662 Package, "Oil and Gas Pipeline Systems/CSA Z662-11, Commentary on Oil and Gas Pipeline Systems."

3.2.4. Fire Alarm and Detection Systems

(See Note A-3.2.4.)

3.2.4.1. Determination of Requirement for a Fire Alarm System

1) Except as permitted in Sentences (2), (3), (5), (6) and (7), a fire alarm system shall be installed in *buildings* in which an automatic *sprinkler system* is required by this Part.

2) *Buildings* in which a *sprinkler system* is installed in accordance with NFPA 13D, "Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes," need not comply with Sentence (1).

3) *Buildings* that contain fewer than 9 sprinklers conforming to Sentence 3.2.5.12.(4) need not comply with Sentence (1).

4) Except as permitted by Sentences (5) to (7) and Sentence 3.2.4.2.(4), a fire alarm system shall be installed in a *building* that is not *sprinklered* throughout and that contains

a) a *contained use area*,
b) an *impeded egress zone*,
c) more than 3 *storeys*, including the *storeys* below the *first storey*,
d) a total *occupant load* more than 300, other than in open air seating areas,
e) an *occupant load* more than 150 above or below the *first storey*, other than in open air seating areas,
f) a school, college, or *child care facility*, including a daycare facility for *children*, with an *occupant load* more than 40,
g) a licensed beverage establishment or a licensed restaurant, with an *occupant load* more than 150,
h) a *low-hazard industrial occupancy* with an *occupant load* more than 75 above or below the *first storey*,
i) a *medium-hazard industrial occupancy* with an *occupant load* more than 75 above or below the *first storey*,
j) a *residential occupancy* with sleeping accommodation for more than 10 persons,
k) a *high-hazard industrial occupancy* with an *occupant load* more than 25, or
l) an *occupant load* more than 300 below an open air seating area.

5) Where each *dwelling unit* in an apartment *building* has direct access to an exterior *exit* facility leading to ground level, a fire alarm system is not required if

a) not more than 4 *dwelling units* share a common *means of egress*, or
b) the *building* is not more than 3 *storeys* in *building height*.

6) A fire alarm system is not required in a hotel or motel 3 *storeys* or less in *building height* provided each *suite* has direct access to an exterior *exit* facility leading to ground level.

7) A fire alarm system is not required in a *storage garage* conforming to Article 3.2.2.90. that is contained in a *building* that is not *sprinklered* provided there are no other *occupancies* in the *building*.

3.2.4.2. Continuity of Fire Alarm System

1) Except as permitted by Sentence (6), if there are openings through a *firewall*, other than those for piping, tubing, wiring and totally enclosed *noncombustible* raceways, the requirements in this Subsection shall apply to the *floor areas* on both sides of the *firewall* as if they were in the same *building*.

2) Except as permitted by Sentence (4), if a *building* contains more than one *major occupancy* and a fire alarm system is required, a single system shall serve all *occupancies*.

3) Except as permitted by Sentence (4), if a fire alarm system is required in any portion of a *building*, it shall be

installed throughout the *building*.

4) Except as required by Sentence (5), the requirements in this Subsection are permitted to be applied to each portion of a *building* not more than 3 *storeys* in *building height*, in which a vertical *fire separation* having a *fire-resistance rating* not less than 1 h separates the portion from the remainder of the *building* as if it were a separate *building*, provided there are no openings through the *fire separation*, other than those for piping, tubing, wiring and totally enclosed *noncombustible* raceways.

5) The permission in Sentence (4) to consider separated portions of a *building* as separate *buildings* does not apply to *service rooms* and storage rooms.

6) *Buildings* interconnected by *walkways* permitted in Articles 3.2.3.19. and 3.2.3.20. or by vestibules provided in conformance with Article 3.2.6.3. shall be treated as separate *buildings* for the purpose of fire alarm installation required by this Subsection.

3.2.4.3. Types of Fire Alarm Systems

1) A fire alarm system shall be

a) a single-stage system in a Group F, Division 1 *occupancy*,

b) except as permitted in Clause (c), a 2-stage system in a Group B *occupancy*,

c) a single- or 2-stage system in a Group B, Division 3 *occupancy* where the *building* is 3 *storeys* or less in *building height*, and

d) a single- or 2-stage system in all other cases.

3.2.4.4. Description of Fire Alarm Systems

1) A single stage fire alarm system shall, upon the operation of any manual station, waterflow detecting device, or *fire detector*, cause an *alarm signal* to sound on all audible signal devices in the system. (See Note A-3.2.4.4.(1).)

2) A 2-stage fire alarm system shall

a) cause an *alert signal* to sound upon the operation of any manual station, waterflow detecting device, or *fire detector*,

b) automatically cause an *alarm signal* to sound if the *alert signal* is not acknowledged within 5 min of its initiation, and

c) have manual stations, each of which is equipped so that the use of a key or other similar device causes an *alarm signal* to sound that continues to sound upon removal of the key or similar device from the manual station (See Note A-3.2.4.4.(2)(c).).

(See Note A-3.2.4.4.(2).)

3) A 2-stage fire alarm system is permitted to be zone coded so that, upon the operation of any manual station, waterflow detecting device, or *fire detector*,

a) a coded *alert signal* is sounded indicating the zone of alarm initiation,

b) the coded *alert signal* is repeated in its entirety not less than 4 times, and

c) a continuous *alert signal* is sounded upon completion of the coded signals referred to in Clause (b) and Sentence (4).

4) If a second manual station, waterflow detecting device, or *fire detector* is operated in a fire alarm system with zone coding as permitted by Sentence (3), in a zone other than that for which the first *alert signal* was sounded, the coded *alert signal* for the first zone shall be completed before the coded *alert signal* for the second zone is repeated not less than 4 times.

3.2.4.5. Installation and Verification of Fire Alarm Systems

1) Fire alarm systems, including the voice communication capability where provided, shall be installed in conformance with CAN/ULC-S524, "Installation of Fire Alarm Systems."

2) Fire alarm systems shall be verified in conformance with CAN/ULC-S537, "Verification of Fire Alarm Systems," to ensure they are operating satisfactorily.

3.2.4.6. Silencing of Alarm Signals

1) A fire alarm system shall be designed so that when an *alarm signal* is actuated, it cannot be silenced automatically before a period of time has elapsed that is not less than

a) 5 min for a *building* not required to be equipped with an annunciator, and

b) 20 min for any other *building*.

2) Except as permitted by Sentence 3.2.4.18.(7) and Sentences 3.2.4.22.(2) and (3), a fire alarm system shall not incorporate manual silencing switches other than those installed inside the fire alarm control unit. (See Note A-3.2.4.6.(2).)

3) A manual silencing switch, accessible only to authorized personnel, shall be installed inside of the annunciator described in Sentence 3.2.4.8.(1). (See Note A-3.2.4.6.(3).)

3.2.4.7. Signals to Fire Department

1) A single stage fire alarm system installed in a *building* of *assembly occupancy* that has an *occupant load* more than 300 shall be designed to notify the fire department, in conformance with Sentence (4), that an *alarm signal* has been initiated.

2) A fire alarm system that includes waterflow-indicating devices shall be designed to notify the fire department in conformance with Sentence (4) when an alarm is initiated.

3) A 2-stage fire alarm system shall be designed to notify the fire department, in conformance with Sentence (4), that an *alert signal* has been initiated.

4) Notification of the fire department, as required by Sentences (1), (2) and (3), shall be provided in conformance with CAN/ULC-S561, "Installation and Services for Fire Signal Receiving Centres and Systems." (See Note A-3.2.4.7.(4).)

5) Where a single stage fire alarm system is installed in a *building* that is not *sprinklered* throughout and Sentence (1) does not apply, a legible notice that is not easily removed shall be affixed to the wall near each manual station stating

a) that the fire department is to be notified in the event of a fire emergency, and

b) the emergency telephone number for the municipality or for the fire department (See Note A-3.2.4.7.(5)(b).).

6) Helicopter landing areas on roofs shall be provided with telephone extensions or means to notify the fire department.

3.2.4.8. Annunciator and Zone Indication

1) Except as permitted by Sentences (3) to (5), an annunciator shall be installed in close proximity to a *building* entrance that faces a *street* or an access route for fire department vehicles that complies with Sentence 3.2.5.5.(1).

2) Except as permitted by Sentences (6), (8), (9) and (10), the annunciator required by Sentence (1) shall have separate zone indication of the actuation of the alarm initiating devices, *smoke detectors, heat detectors,* manual stations and waterflow detecting devices, in each

a) *floor area* so that the area of coverage for each zone in a *building* that is not *sprinklered* is not more than 2 000 m^2,

b) *floor area* so that the area of coverage for each zone is neither

i) more than one *storey*, nor

ii) more than the system area limits specified in NFPA 13, "Installation of Sprinkler Systems,"

c) shaft required to be equipped with *smoke detectors*,

d) air-handling system required to be equipped with *smoke detectors*,

e) fire extinguishing system required by NFPA 96, "Ventilation Control and Fire Protection of Commercial Cooking Operations,"

f) *contained use area*,

g) *impeded egress zone*,

h) *fire compartment* required by Sentence 3.3.3.5.(2), and

i) *floor area* required to be equipped with *smoke detector* or *detectors* as required by Clause 3.2.4.11.(1)(h) to

i) initiate an *alert signal* in a 2 stage system or an *alarm signal* in a single stage system, and

ii) indicate the actuation of each device separately on the fire alarm system annunciator.

(See Note A-3.2.4.8.(2).)

3) An annunciator need not be provided for a fire alarm system if not more than one zone indicator is required by Sentence (2).

4) If an annunciator is not installed as part of a fire alarm system in conformance with Sentence (1), a visual and audible trouble signal device shall be provided inside the main entrance of the *building*.

5) The requirements of Sentence (1) are waived in a *building*

a) in which an automatic *sprinkler system* is not installed,

b) that has an aggregate area for all *storeys* of not more than 2 000 m^2, and

c) that is not more than 3 *storeys* in *building height*.

6) The area limits of Clause (2)(a) are waived for an interior undivided open space used as an arena, a rink, or a swimming pool provided that other spaces in the *building* that are separated from the open space are individually zoned in accordance with the requirements of Sentence (2).

7) A fire alarm control unit installed in close proximity to a *building* entrance that faces a *street* or an access route for fire department vehicles that complies with Sentence 3.2.5.5.(1) is deemed to satisfy the requirement for an annunciator, provided all indicators required for an annunciator or trouble signal device are included on the control unit.

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8) If a fire alarm system is required in a *building* of *residential occupancy* containing *row housing* or in residential blocks where the egress of the *dwelling units* conforms to Sentence 3.3.4.4.(3) or Clause 9.9.9.1.(1)(b) and the *building* is no more than 4 *storeys* above the adjacent ground or *storage garage*, the *building* shall be provided with

a) a single electrically supervised fire alarm system for the entire *building*,

b) at least one sprinkler zone for each block of *row housing* or each residential block,

c) a *sprinkler system* which is monitored by the fire alarm system and an off-site monitoring service,

d) a strobe light located outside the principal entrance of each *dwelling unit* and connected to an internal *smoke alarm* within the *dwelling unit*, and

e) an exterior audible signal activated by the fire alarm system.

9) In a multi-level residential *suite*, where a single egress door is provided and the egress door opens directly into a *public corridor* or an exterior *exit* passageway or onto a *street*, a separate zone for sprinkler water flow detecting devices on each *storey* is not required provided

a) the actuation of a sprinkler waterflow detecting device in the *suite* shall be zoned at the *public corridor* or exterior *exit* passageway floor level, and

b) a strobe light is installed and maintained outside the *suite* entrance of the *dwelling unit*, and connected to an internal *smoke alarm* within the *dwelling unit*.

10) A separate zone for waterflow detecting devices is not required for a shaft described in Clause 3.2.4.8.(2)(c).

11) The annunciator required by Sentence (1) shall have indicator lamps for the separate zone indications required by Sentence (2). (See Note A-3.2.4.8.(11).)

3.2.4.9. Electrical Supervision

1) Electrical supervision shall be provided for a fire alarm system.

2) If a fire alarm system in a *building* is required to have an annunciator by Sentence 3.2.4.8.(1), except for hose valves, all valves controlling water supplies in a standpipe system shall be equipped with an electrically supervised switch for transmitting a trouble signal to the annunciator in the event of movement of the valve handle.

3) An automatic *sprinkler system* shall be electrically supervised to indicate a trouble supervisory signal on the *building* fire alarm system annunciator for each of the following:

a) movement of a valve handle that controls the supply of water to sprinklers,

b) loss of excess water pressure required to prevent false alarms in a wet pipe system,

c) loss of air pressure in a dry pipe system,

d) loss of air pressure in a pressure tank,

e) a significant change in water level in any water storage container used for firefighting purposes,

f) loss of power to any automatically starting fire pump (See Note A-3.2.4.9.(3)(f).), and

g) a temperature approaching the freezing point in any dry pipe valve enclosure or water storage container used for firefighting purposes.

4) A fire pump shall be electrically supervised as stipulated in NFPA 20, "Installation of Stationary Pumps for Fire Protection."

5) Except as permitted by Sentence (6), a radio antenna system shall perform a self-test at least twice daily and shall be electrically supervised to indicate a trouble signal on the *building* fire alarm system annunciator for:

a) loss of power to any head-end equipment, and

b) fundamental failure of a self-test.

6) Electrical supervision of a radio antenna system in a *building* in which a fire alarm system is not installed shall be provided by an *acceptable* method.

7) A trouble signal indicating the nature of the trouble in accordance with Sentence (3) and (5) shall be transmitted to a Fire Signal Receiving Centre conforming to CAN/ULC-S561, "Installation and Services for Fire Signal Receiving Centres and Systems" as provided for in Sentence 3.2.4.7.(4).

3.2.4.10. Fire Detectors

1) *Fire detectors* required by this By-law shall be connected to the fire alarm system.

2) Except as permitted by Sentence (3), if a fire alarm system is required in a *building* that is not *sprinklered*, *fire detectors* shall be installed in the following spaces:

a) storage rooms not within *dwelling units*,

b) *service rooms* not within *dwelling units*,

c) janitors' rooms,

d) rooms in which hazardous substances are to be used or stored (See Note A-3.3.1.2.(1).),

e) elevator hoistways and dumbwaiter shafts, and

f) laundry rooms in *buildings* of *residential occupancy*, but not those within *dwelling units*.

3) *Fire detectors* required by Sentence (2) need not be provided within *floor areas* that are *sprinklered*.

4) *Fire detectors* required by Sentence (2) shall be installed in elevator hoistways and dumbwaiter shafts where a *sprinkler system* is not installed within the hoistway or shaft.

3.2.4.11. Smoke Detectors

1) If a fire alarm system is installed, *smoke detectors* shall be installed in

a) except as permitted in Sentence (2), each sleeping room and each corridor serving as part of a *means of egress* from sleeping rooms in portions of a *building* classified as a Group B *major occupancy*,

b) each room in a *contained use area* and corridors serving those rooms,

c) each corridor in portions of a *building* classified as a Group A, Division 1 *major occupancy*,

d) each *public corridor* in portions of a *building* classified as a Group C *major occupancy*,

e) each *exit* stair shaft other than those serving only a Group A, Division 4 *major occupancy* or an open *storage garage*,

f) the vicinity of draft stops required by Article 3.2.8.6.,

g) elevator machine rooms, and

h) each *floor area* in front of the elevator or elevators. Rev. 12997

(See Note A-3.2.4.11.(1).)

2) *Smoke detectors* need not be installed in sleeping rooms and in corridors serving the sleeping rooms within a *suite* of *care occupancy* where *smoke alarms* are installed in accordance with Article 3.2.4.20.

3) *Smoke detectors* required in the sleeping rooms of a *care*, *treatment* or *detention occupancy* shall, upon actuation, provide an audible and visible signal to staff serving those rooms so that the room or location containing the actuated *smoke detector* can be easily identified. (See Note A-3.2.4.11.(3).)

4) *Smoke detectors* required in Clause (1)(g) shall, upon actuation, recall the elevators served by the elevator machine room in which the *smoke detector* is installed.

5) Except as permitted in Sentences (6) and (7), *smoke detectors* installed in *buildings* required to be equipped with a fire alarm system shall be located near the entrance to *walkways* described in Articles 3.2.3.19. and 3.2.3.20. or vestibules provided in conformance with Article 3.2.6.3.

6) *Smoke detectors* installed at the entrance to the *walkways* in conformance with Article 3.1.8.14. shall be deemed to meet the requirements of Sentence (5).

7) *Smoke detectors* required by Sentence (5) may be replaced with *fire detectors* in Group F *occupancies* where the *smoke detectors* may be subjected to false alarms due to the activities within the *building*.

3.2.4.12. Prevention of Smoke Circulation

1) If a fire alarm system is installed, an air-handling system shall be designed to prevent the circulation of smoke upon a signal from a duct-type *smoke detector* if the air-handling system

a) serves more than one *storey*,

b) serves more than one *suite* in a *storey*, or

c) serves more than one *fire compartment* required by Sentence 3.3.3.5.(2).

3.2.4.13. Vacuum Cleaning System Shutdown

1) A central vacuum cleaning system in a *building* equipped with a fire alarm system shall be designed to shut down upon actuation of the fire alarm system.

3.2.4.14. Elevator Emergency Return

(See Article 3.2.6.4. for high buildings.)

1) Deleted.

2) Deleted.

3) Deleted.

3.2.4.15. System Monitoring

1) An automatic *sprinkler system* shall be equipped with waterflow detecting devices and, if an annunciator is required by Article 3.2.4.8., shall be installed so that each device serves

a) not more than one *storey*, and

b) except as required by Sentence 3.2.4.8.(2), an area on each *storey* that is not more than the system area limits as specified in NFPA 13, "Installation of Sprinkler Systems."

2) Waterflow-detecting devices required by Sentence (1) shall be connected to the fire alarm system so that, upon its actuation, an *alert signal* or an *alarm signal* is initiated.

3) The actuation of each waterflow detecting device required by Sentence (1) shall be indicated separately on the fire alarm system annunciator.

3.2.4.16. Manual Stations

1) Except as permitted by Sentences (2) and (3), where a fire alarm system is installed, a manual station shall be installed in every *floor area* near

a) every principal entrance to the *building*, and

b) every required *exit*, and

c) every other egress facility that has been designed and identified as an *exit* and has all the features of a required *exit*.

(See Note A-3.2.4.16.(1).)

2) In a *building* that is *sprinklered* throughout, a manual station is not required at an exterior egress doorway from a *suite* that does not lead to an interior shared *means of egress* in a hotel or motel not more than 3 *storeys* in *building height*, provided each *suite* is served by an exterior *exit* facility leading directly to ground level.

3) In a *building* that is *sprinklered* throughout, a manual station is not required at an exterior egress doorway

from a *dwelling unit* that does not lead to an interior shared *means of egress* in a *building* not more than 3 *storeys* in *building height* containing only *dwelling units*, provided each *dwelling unit* is served by an exterior *exit* facility leading directly to ground level.

4) In a *building* referred to in Sentences (2) or (3), manual stations shall be installed near doorways leading from shared interior corridors to the exterior.

5) Where a fire alarm system is installed, a manually operated fire alarm station shall be installed on the roof at each *exit* from a helicopter landing area.

3.2.4.17. Alert and Alarm Signals

1) In a 2-stage fire alarm system described in Sentence 3.2.4.4.(2), the same audible signal devices are permitted to be used to sound the *alert signals* and the *alarm signals*.

2) If audible signal devices with voice reproduction capabilities are intended for paging and similar voice message use, other than during a fire emergency, they shall be installed so that *alert signals* and *alarm signals* take priority over all other signals.

3) Audible signal devices forming part of a fire alarm or voice communication system shall not be used for playing music or background noise.

3.2.4.18. Audibility of Alarm Systems

(See Note A-3.2.4.18.)

1) Audible signal devices forming part of a fire alarm system shall be installed in a *building* so that

a) *alarm signals* are clearly audible throughout the *floor area* and throughout any *occupancy* on a roof, and Rev. 12683

b) *alert signals* are clearly audible in continuously staffed locations, and where there are no continuously staffed locations, throughout the *floor area* and throughout any *occupancy* on a roof.

(See Note A-3.2.4.18.(1).)

2) The sound pattern of an *alarm signal* shall conform to the temporal pattern defined in Clause 4.2 of ISO 8201, "Acoustics – Audible emergency evacuation signal." (See Note A-3.2.4.18.(2).)

3) The sound patterns of *alert signals* shall be significantly different from the temporal patterns of *alarm signals*. (See Note A-3.2.4.18.(3).)

4) The fire *alarm signal* sound pressure level shall be not more than 110 dBA in any normally occupied area. (See Note A-3.2.4.18.(4).)

5) The sound pressure level in a sleeping room from a fire alarm audible signal device shall be not less than 75 dBA in a *building* of *residential* or *care occupancy* when any intervening doors between the device and the sleeping room are closed. (See Note A-3.2.4.18.(5).)

6) Except as required by Sentence (5), the sound pressure level from a fire alarm system's audible signal device within a *floor area* shall be not less than 10 dBA above the ambient noise level without being less than 65 dBA.

7) Except as permitted by Sentence (11), audible signal devices located within a *dwelling unit* shall include a means for them to be manually silenced for a period of not more than 10 min, after which time the devices shall restore themselves to normal operation. (See Note A-3.2.4.18.(7).)

8) Audible signal devices within a *dwelling unit* or a *suite* of *residential* or *care occupancy* shall be connected to the fire alarm system

a) in a manner such that a single open circuit or short circuit at one device will not impair the operation of other audible signal devices on that same circuit that serve the other *dwelling units* or *suites* of *residential* or *care occupancy*, or

b) on separate signal circuits that are not connected to the devices in any other *dwelling unit*, *public corridor* or *suite* of *residential* or *care occupancy*.

(See Note A-3.2.4.18.(8) and (9).)

9) **Deleted.**

10) Audible signal devices shall be installed in a *service space* referred to in Sentence 3.2.1.1.(8) and shall be connected to the fire alarm system.

11) Audible signal devices within *dwelling units* that are wired on separate signal circuits need not include a means for silencing as required by Sentence (7) provided the fire alarm system includes a provision for an automatic signal silence within *dwelling units*, where

a) the automatic signal silence cannot occur within the first 60 s of operation or within the zone of initiation,

b) a subsequent alarm elsewhere in the *building* will reactuate the silenced audible signal devices within *dwelling units*,

c) after a period of not more than 10 min, the silenced audible signal devices will be restored to continuous audible signal if the alarm is not acknowledged, and

d) the voice communication system referred to in Article 3.2.4.22. has a provision to override the automatic signal silence to allow the transmission of voice messages through silenced audible signal device circuits that serve the *dwelling units*.

(See Note A-3.2.4.18.(7).)

12) If a 2-stage fire alarm system has been installed with an automatic signal silence as described in Sentence (11), the system shall be designed so that any silenced audible signal devices serving *dwelling units* are reactuated whenever an *alarm signal* is required to be transmitted as part of the second stage. (See Note A-3.2.4.18.(7).)

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13) An audible signal device forming part of a fire alarm system provided so as to sound alarm signals that are clearly audible throughout any *occupancy* on a roof or balcony, shall be located

a) in the vicinity of an exterior door providing access to a private residential roof deck or balcony, or

b) on exterior public roofs or balconies.

3.2.4.19. Visible Signal Devices and Visible Warning Systems

1) Visible signal devices shall be installed in addition to *alarm signals*

a) in *buildings* or portions thereof intended for use primarily by persons are deaf or hard of hearing,

b) in *assembly occupancies* in which music and other sounds associated with performances could exceed 100 dBA,

c) in any *floor area* in which the ambient noise level is more than 87 dBA, and

d) in any *floor area* in which the occupants

i) use ear protection devices,

ii) are located in an audiometric booth, or

iii) are located in sound-insulating enclosures.

2) Visible signal devices required by Sentence (1) shall be installed so that the signal from at least one device is visible throughout the *floor area* or portion thereof in which they are installed. (See Note A-3.2.4.19.(2).)

3) A visible warning system shall be installed in the rooms and spaces required by Section 3.8. and shall conform to

a) Sentence (4) where a fire alarm system is provided, and

b) Sentence (5) where a fire alarm system is not provided.

4) The visible warning system required by Sentences (2) and (3) shall consist of strobe lights conforming to CAN/ULC-S526, "Visible Signal Devices for Fire Alarm Systems, Including Accessories" that are designed to operate as part of the fire alarm system, and

a) have a luminous intensity of not less than

i) 75 candela, if the strobe light is located in a sleeping room or bed space, and

ii) 15 candela, if the strobe light is not located in a sleeping room or bed space,

b) produce between 1 and 3 flashes per second, with the flashes synchronized when more than one strobe light is visible from a single location,

c) have a clear or white translucent lens with the word "FIRE" clearly visible on the

i) lens, or

ii) attached nameplate,

d) be installed in each

i) sleeping room or bed space,

ii) room closed off from the living area by a door including bathrooms, and

iii) living area or hallway serving the living area, and

e) be located in conformance with the installation requirements for visible signal devices in CAN/ULC-S524, "Installation of Fire Alarm Systems."

5) Where a fire alarm system is not provided, the visible warning system required by Sentences (2) and (3) shall consist of strobe lights conforming to CAN/ULC-S526, "Visible Signal Devices for Fire Alarm Systems, Including Accessories" that shall

a) be connected to, and activated by,

i) the *smoke alarms* required by Article 3.2.4.20. and Article 9.10.19.1., or

ii) the *smoke detectors* permitted by Article 3.2.4.20., 3.2.4.21. or 9.10.19.8.,

b) have a luminous intensity of not less than

i) 75 candela, if the strobe light is located in a sleeping room or bed space, or

ii) 15 candela, if the strobe light is not located in a sleeping room or bed space,

c) produce between 1 and 3 flashes per second, with the flashes synchronized when more than one strobe light is visible from a single location,

d) have a clear or white translucent lens with the word "SMOKE" clearly visible on the

i) lens, or

ii) attached nameplate,

e) be installed in each

i) sleeping room or bed space,

ii) room closed off from the living area by a door including bathrooms, and

iii) living area or hallway serving the living area, and

f) be located not less than 2 100 mm above the floor on a wall or ceiling in a location that will maximize effectiveness.

6) The special outlet boxes and cover plates required by Sentence 3.8.2.12.(5) and 3.8.5.7.(4) shall be

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a) designed, located and wired specifically to allow strobe lights to operate in conformance with

i) Sentence (4) where a fire alarm system is provided, or

ii) Sentence (5) where a fire alarm system is not provided,

b) permanently identified as "FIRE – Strobe Light Connection Only,"

c) installed in each

i) sleeping room or bed space,

ii) room closed off from the living area by a door including bathrooms, and

iii) living area or hallway serving the living area, and

d) be located not less than 2 100 mm above the floor on a wall or ceiling in a location that will maximize effectiveness.

7) For the purposes of providing power to the strobe lights that may be connected to the outlets described in Sentence (6), it shall be assumed that the total special outlets for at least 20 percent of the *dwelling units* in the *building* are in use.

3.2.4.20. Smoke Alarms

1) Except as provided in Article 3.2.4.21., *smoke alarms* shall be installed in accordance with this Article.

2) Except as required by Sentence (5) and permitted by Sentence (8), *smoke alarms* conforming to CAN/ULC-S531, "Standard for Smoke Alarms," shall be installed in each *dwelling unit* and, except for *care*, *treatment* or *detention occupancies* required to have a fire alarm system, in each sleeping room not within a *dwelling unit* or *suite* of *care occupancy*.

3) At least one *smoke alarm* shall be installed on each *storey* of a *dwelling unit* or *suite* of *care occupancy*.

4) On any *storey* of a *dwelling unit* containing sleeping rooms, a *smoke alarm* shall be installed

a) in each sleeping room, and

b) in a location between the sleeping rooms and the remainder of the *storey*, and if the sleeping rooms are served by a hallway, the *smoke alarm* shall be located in the hallway.

5) Where a *care occupancy* has individual *suites* for residents, a *smoke alarm* shall be installed

a) in each sleeping room, and

b) in a location between the sleeping rooms and the remainder of the *suite*, and if the sleeping rooms are served by a corridor within the *suite*, the *smoke alarm* shall be located in the corridor.

6) A *smoke alarm* shall be installed on or near the ceiling.

7) Except as permitted in Sentence (8), *smoke alarms* referred in Sentence (2) shall

a) be installed with permanent connections to an electrical circuit (See Note A-3.2.4.20.(7)(a).),

b) have no disconnect switch between the overcurrent device and the *smoke alarm*, and

c) in case the regular power supply to the *smoke alarm* is interrupted, be provided with a battery as an alternative power source that can continue to provide power to the *smoke alarm* for a period of no less than 7 days in the normal condition, followed by 4 minutes of alarm.

8) *Suites* of *residential occupancy* are permitted to be equipped with *smoke detectors* in lieu of *smoke alarms*, provided the *smoke detectors*

a) sound audible signals only within the *suite* they serve,

b) are installed in conformance with CAN/ULC-S524, "Installation of Fire Alarm Systems," and

c) form part of the fire alarm system.

(See Note A-3.2.4.20.(8).)

9) If more than one *smoke alarm* is required in a *dwelling unit*, the *smoke alarms* shall be wired so that the actuation of one *smoke alarm* will cause all *smoke alarms* within the *dwelling unit* to sound.

10) A *smoke alarm* required by Sentence (2) shall be installed in conformance with CAN/ULC-S553, "Installation of Smoke Alarms."

11) Except as permitted in Sentence (13), a manually operated silencing device shall be incorporated within the circuitry of a *smoke alarm* installed in a *dwelling unit* so that it will silence the signal emitted by the *smoke alarm* for a period of not more than 10 min, after which the *smoke alarm* will reset and again sound the alarm if the level of smoke in the vicinity is sufficient to reactuate the *smoke alarm*.

12) *Suites* of *residential occupancy* equipped with *smoke detectors* installed to CAN/ULC-S524, "Installation of Fire Alarm Systems," as part of the fire alarm system in lieu of *smoke alarms* as permitted by Sentence (8), need not incorporate the manually operated device required in Sentence (12). (See Note A-3.2.4.20.(8).)

13) The sound patterns of *smoke alarms* shall

a) meet the temporal patterns of *alarm signals* (See Note A-3.2.4.18.(2).), or

b) be a combination temporal pattern and voice relay.

3.2.4.21. Residential Fire Warning Systems

1) Except where a fire alarm system is installed or required in a *building*, *smoke detectors* forming part of a residential fire warning system installed in conformance with CAN/ULC-S540, "Residential Fire and Life Safety Warning Systems: Installation, Inspection, Testing and Maintenance," are permitted to be installed in lieu of all *smoke alarms* required by Article 3.2.4.20., provided the system

a) is capable of sounding audible signals in accordance with Articles 9.10.19.2. and 9.10.19.5.,

b) is powered in accordance with Article 9.10.19.4., and

c) is provided with a silencing device in accordance with Article 9.10.19.6.

3.2.4.22. Voice Communication Systems

(See also Article 3.2.5.20)

1) A voice communication system required by Subsection 3.2.6. and Sentences (7) to (10) shall

a) consist of a two-way means of communication with the central alarm and control facility and to the mechanical control centre from each *floor area*, and

b) be capable of broadcasting prerecorded, synthesized, or live messages from the central alarm and control

facility that are audible and intelligible in all parts of the *building*, except that this requirement does not apply to elevator cars (See Note A-3.2.4.22.(1)(b).).

2) The voice communication system referred to in Sentence (1) shall include a means to silence the *alarm signal* in a single stage fire alarm system while voice instructions are being transmitted, but only after the *alarm signal* has initially sounded for not less than 30 s.

3) The voice communication system referred to in Sentence (1) shall include a means to silence the *alert signal* and the *alarm signal* in a 2-stage fire alarm system while voice instructions are being transmitted, but only after the *alert signal* has initially sounded for not less than

a) 10 s in hospitals that have supervisory personnel on duty for twenty-four hours each day, or

b) 30 s for all other *occupancies*.

4) The voice communication system referred to in Clause (1)(b) shall be designed so that the *alert signal* or *alarm signal* in a 2-stage fire alarm system can be selectively transmitted to any zone or zones while maintaining an *alert signal* or selectively transmitting voice instructions to any other zone or zones in the *building*.

5) Except where a radio antenna system conforming to Sentence 3.2.5.20.(1) is installed, emergency telephones shall be installed and located in each *floor area near exit* stair shafts for the 2-way communication system referred to in Clause (1)(a). Rev. 12997

6) Visible signal devices required by Sentence 3.2.4.19.(1) and visible warning systems required by Sentence 3.2.4.19.(3) shall continue to emit a visible signal while voice instructions are being transmitted.

7) Except for Group B, Division 1 and Group F, Division 1 *major occupancies*, where a fire alarm system is required under Subsection 3.2.4., a voice communication system shall be installed in *buildings* where a 2-stage fire alarm system is installed and whose *occupant load* exceeds 1 000.

8) A voice communication system required by Sentence (7) shall consist of loudspeakers that are

a) operated from the central alarm and control facility or, in the absence of such a facility, from a designated area, and

b) except in elevator cars, designed and located so that transmitted messages are audible and intelligible in all parts of the *building*.

(See Note A-3.2.4.22.(1)(b).)

9) Where the facility is not equipped with staff trained to provide instructions over the loudspeakers, a pre-recorded message shall be provided.

10) The voice communication system required by Sentence (7) shall meet the silencing and transmission requirements of Sentences (2) to (4).

3.2.5. Provisions for Firefighting

(See Note A-3.)

3.2.5.1. Access to Above-Grade Storeys

1) Except for *storeys* below the *first storey*, direct access for firefighting shall be provided from the outdoors to every *storey* that is not *sprinklered* throughout and whose floor level is less than 25 m above *grade*, by at least one unobstructed window or access panel for each 15 m of wall in each wall required to face a *street* by Subsection 3.2.2.

2) An opening for access required by Sentence (1) shall

a) have a sill no higher than 900 mm above the inside floor, and

b) be not less than 1 100 mm high by not less than

i) 550 mm wide for a *building* not designed for the storage or use of *dangerous goods*, or

ii) 750 mm wide for a *building* designed for the storage or use of *dangerous goods*.

3) Access panels above the *first storey* shall be readily openable from both inside and outside, or the opening shall be glazed with plain glass.

4) Where locking devices to prevent access to *floor areas* are installed on *exit* doors

a) a master key shall be provided in an *acceptable* location accessible to firefighters, or

b) the *exit* doors shall be provided with a wired glass panel measuring no less than 0.0645 m^2 in area and located not more than 300 mm from the door opening hardware.

3.2.5.2. Access to Basements

1) Direct access from at least one *street* shall be provided from the outdoors in a *building* that is not *sprinklered* to each *basement* having a horizontal dimension more than 25 m.

2) The access required by Sentence (1) is permitted to be provided by

a) doors, windows or other means that provide an opening not less than 1 100 mm high and 550 mm wide, with a sill no higher than 900 mm above the inside floor, or

b) an interior stairway immediately accessible from the outdoors.

3.2.5.3. Roof Access

1) Except as permitted by Sentence (2), on a *building* more than 3 *storeys* in *building height* where the slope of the roof is less than 1 in 4, all main roof areas shall be provided with direct access from the *floor areas* immediately below, either by Rev. 12997

a) a stairway, or

b) a hatch not less than 550 mm by 900 mm with a fixed ladder.

2) A building of residential occupancy not more than 4 storeys in building height need not be provided with direct access from the floor areas immediately below, provided Rev. 12997

a) the slope of the roof is less than 1 in 4,

b) there is no common patio, balcony, or deck area, and

c) dwelling units are provided with direct stair access from floor areas immediately below.

3.2.5.4. Access Routes

1) Every *building* shall be provided with fire department access route(s)

a) to the *building* face having a principal entrance, and

b) to each *building* face having access openings for firefighting as required by Articles 3.2.5.1. and 3.2.5.2.

(See Note A-3.2.5.4.(1).)

3.2.5.5. Location of Access Routes and Paths of Travel

(See Note A-3.2.5.5.)

1) Except as provided by Sentences (2) and (3), access routes required by Article 3.2.5.4. shall be located so that

a) the principal entrance is no less than 3 m and no more than 15 m from the closest portion of the access route, measured horizontally along the path of travel from the access route to the principal entrance (see Note A-3.2.5.5.(2)(a).), and Rev. 12997

b) every access opening required by Articles 3.2.5.1. and 3.2.5.2. are located not less than 3 m and not more than 15 m from the closest portion of the access route, measured horizontally to the face of the *building*. (See Note A-3.2.5.5.(1).)

2) Paths of travel for firefighters shall not be more than 45 m to the principal *suite* entry for

a) a *building* or portion of a *building*, of *residential occupancy* containing *dwelling units* with *means of egress* conforming with Article 3.3.4.4. provided directly to the exterior at adjacent *grade*, or

b) non-residential portions of a *building*, which are cut off from and have no internal access to the remainder of the *building*. (See Note A-3.2.5.5.(3)(b).)

3) The path of travel for firefighters to the main entry of a dwelling unit permitted by Clause (2)(a) may be increased to

a) 65 m where

i) *dwelling units* are separated from adjacent *floor areas* by a *fire separation* with at least 1 h *fire-resistance rating*,

ii) the *building sprinkler system* is designed to the NFPA 13, except that the *sprinkler system* may be designed to the hydraulic design criteria and *sprinkler* coverage requirements of NFPA 13R where the *building* would otherwise be permitted to be NFPA 13D,

iii) a strobe light is installed outside the principal entrance of the *dwelling unit*, and is connected to an internal *smoke alarm* within the *dwelling unit*,

iv) *sprinkler systems* are monitored by a fire alarm system or residential fire warning system and by an off-site monitoring service,

v) lighting and emergency lighting is provided along the path of travel for firefighters with a minimum illumination level of 1 lx, and average illumination of not less than 10 lx, and

vi) the *building* is provided with a fire alarm system and graphic annunciator, or

b) 90 m where

i) the requirements of Subclauses (a)(i) to (a)(vi) are met,

ii) no principal *dwelling unit* or its *ancillary residential unit* is located above another *dwelling unit*,

iii) a 64 mm diameter fire department hose connection is located adjacent to the path of travel for firefighters located not more than 45 m measured from the hose connection to the principal entrance of each of the *dwelling units*,

iv) the location of the fire department hose connections required by Subclause (c)(ii) is indicated on the fire alarm system graphic annunciator, and

v) the *building* is *sprinklered* to NFPA 13.

4) The access route from the hydrant location to the *building* location or the principal entrance of the *building* as described in Sentences (5) and (6), shall be no more than 90 m. (See Note A-3.2.5.5.(4).)

5) Where the access route runs continuously across the face of a *building*, the length of the access route shall be measured by measuring the shortest distance between a line drawn perpendicular to the access route and through the hydrant and a line drawn perpendicular to the access route and through the principal entrance of the *building*. (See Note A-3.2.5.5.(5).)

6) Where the access route terminates before the principal entrance of a *building*, the length of the access route shall be measured by measuring from a line drawn perpendicular to the access route and through the hydrant straight along the access route to its terminus and thereafter along the actual path of travel to the principal entrance. (See Note A-3.2.5.5.(6).)

3.2.5.6. Design of Access Routes and Paths of Travel

1) A portion of a roadway or yard provided as a required access route for fire department use shall

a) have a clear width not less than 6 m, unless it can be shown that lesser widths are satisfactory,

b) have a centre-line radius not less than 12 m,

c) have an overhead clearance not less than 5 m,

d) have a change of gradient not more than 1 in 12.5 over a minimum distance of 15 m,

e) be designed to support the expected loads imposed by firefighting equipment and be surfaced with concrete, asphalt or other material designed to permit accessibility under all climatic conditions,

f) have turnaround facilities for any dead-end portion of the access route more than 90 m long, and

g) be connected with a public thoroughfare.

(See Note A-3.2.5.6.(1).)

2) For *buildings* conforming to Article 3.2.2.50. or 3.2.2.58., no portion of the access route described in Sentence 3.2.2.10.(3) shall be more than 20 m below the uppermost floor level.

3) The unobstructed path of travel for firefighters from the curb to the main entrance or *suite* entrance door as required in Sentences 3.2.5.5.(1) to (3) and every access opening as required in Articles 3.2.5.1. and 3.2.5.2. shall be

a) no less than

i) 1.2 m in width, or

ii) 900 mm in width where serving not more than one *dwelling unit* or *ancillary residential unit*, and

b) surfaced with concrete, asphalt or similar material.

(See Note A-3.2.5.6.(3).)

3.2.5.7. Water Supply

1) Every *building* shall be provided with an adequate water supply for firefighting. (See Note A-3.2.5.7.(1).)

2) *Buildings* that are *sprinklered* throughout with a *sprinkler system* conforming to Article 3.2.5.12. or have a standpipe system conforming to Article 3.2.5.8. to 3.2.5.10. are deemed to comply with Sentence (1).

3.2.5.8. Standpipe Systems

1) Except as permitted by Sentence 3.2.5.9.(4), a standpipe system shall be installed in a *building* that is

a) more than 3 *storeys* in *building height*,

b) more than 14 m high measured between *grade* and the ceiling of the top *storey*, or

c) not more than 14 m high measured between *grade* and the ceiling of the top *storey* but has a *building area* exceeding the area shown in Table 3.2.5.8. for the applicable *building height* unless the *building* is *sprinklered* throughout.

Table 3.2.5.8.
Building Limits without Standpipe Systems
Forming Part of Sentence 3.2.5.8.(1)

Occupancy Classification	*Building Area*, m²		
	1 *storey*	2 *storeys*	3 *storeys*
Group A	2 500	2 000	1 500
Group C	2 000	1 500	1 000
Group D	4 000	3 000	2 000
Group F, Division 2	1 500	1 500	1 000
Group F, Division 3	3 000	2 000	1 000

3.2.5.9. Standpipe System Design

1) Except as provided in Sentences (2) to (8), Articles 3.2.5.10. and 3.2.5.11., and Sentence 3.2.4.9.(2), the design, construction, installation and testing of a standpipe system shall conform to NFPA 14, "Installation of Standpipe and Hose Systems."

2) A dry standpipe that is not connected to a water supply shall not be considered as fulfilling the requirements of this Article.

3) If more than one standpipe is provided, the total water supply need not be more than 30 L/s.

4) A standpipe need not be installed in a *storage garage* conforming to Article 3.2.2.90., provided the *building* is not more than 15 m high.

5) The residual water pressure at the design flow rate at the topmost hose connection of a standpipe system that is required to be installed in a *building* is permitted to be less than 690 kPa provided

a) the *building* is *sprinklered* throughout,

b) the water supply at the base of the sprinkler riser is capable of meeting, without a fire pump, the design flow rate and pressure demand of the *sprinkler system*, including the inside and outside hose allowance, and

c) fire protection equipment is available to deliver, by means of the fire department connection, the full demand flow rate at a residual water pressure of 690 kPa at the topmost hose connection of the standpipe system. (See Note A-3.2.5.9.(5)(c).)

6) A fire department connection shall be provided for every standpipe system.

7) If a standpipe system is required by Sentence 3.2.5.8.(1) and an *exit* stair shaft is not provided in the *building*, a standpipe system may be omitted if

a) a 64 mm diameter fire department hose connection is located adjacent to the path of travel for firefighters and is connected to a fire department connection in conformance with 3.2.5.15., and

b) the hose connection shall be available to reach all portions of the area with 30 m of hose plus 9 m of hose stream distance.

8) A standpipe system may be omitted from *dwelling units* where

a) the *building* is of *residential occupancy* throughout,

b) the path of travel may not exceed 15 m from the principal entrance of *suite* to the fire department access route,

c) egress from each *suite* complies with Sentence 3.3.4.4.(3), and

d) the travel distance from any point on the *floor area* to the primary entrance of each *suite* does not exceed 30 m.

3.2.5.10. Hose Connections

1) Hose connections shall be located in *exits*, in accordance with NFPA 14, "Installation of Standpipe and Hose Systems."

2) Hose connections are not required within a *floor area*.

3) Hose connections shall be provided with sufficient clearance to permit the use of a standard fire department hose key.

4) Except as permitted by Sentence (5), 64 mm diam hose connections shall be installed in a standpipe system.

5) Hose connections for 64 mm diam hose are not required in a *building* that is not more than 25 m high, measured between *grade* and the ceiling level of the top *storey* and in which an automatic *sprinkler system* is not installed.

3.2.5.11. Hose Stations

1) Hose stations for 38 mm diam hose shall be installed for a standpipe system in a *building* that is not *sprinklered* throughout.

2) Hose stations for a 38 mm diam hose shall be installed for a standpipe system within every *floor area* that is not *sprinklered* throughout. (See Note A-3.2.5.11.(2).)

3) Hose stations shall be located in the *floor area* within 5 m of *exits* and at other locations to provide coverage of the entire *floor area*.

4) A hose station located on one side of a *horizontal exit* shall be considered to serve only the *floor area* on that side of the *horizontal exit*.

5) A hose cabinet shall be located so that its door, when fully opened, will not obstruct the required width of a *means of egress*.

6) Where a *building* or part thereof is used as a *distillery* and the *building* is *sprinklered* in conformance with Article 3.2.5.12., small hose (38 mm) stations are permitted to be supplied from interior sprinkler piping.

7) Where a hose station is provided in grain handling and storage facilities in which *combustible dusts* are produced in quantities or concentrations that create an explosion or fire hazard, fog and fine spray nozzles shall be used instead of nozzles that discharge a solid stream of water to prevent *combustible dusts* from being raised into suspension.

3.2.5.12. Automatic Sprinkler Systems

1) Except as permitted by Sentences (2), (3) and (4), an automatic *sprinkler system* shall be designed, constructed, installed and tested in conformance with NFPA 13, "Installation of Sprinkler Systems." (See Note A-3.2.5.12.(1).)

2) Instead of the requirements of Sentence (1), NFPA 13R, "Installation of Sprinkler Systems in Low-Rise Residential Occupancies," is permitted to be used for the design, *construction* and installation of an automatic *sprinkler system* installed

a) in a *building* of Group C *major occupancy* containing no other *major occupancies* that
   i) is not more than 4 *storeys* in *building height* and conforms to Articles 3.2.2.47., 3.2.2.48., 3.2.2.50., 3.2.2.51. or 3.2.2.54., or
   ii) is not more than 3 *storeys* in *building height* and conforms to Article 9.10.1.3., or

b) in a *building* of *care occupancy* with not more than 10 occupants that is not more than 3 *storeys* in *building height* and conforms to one of Articles 3.2.2.42. to 3.2.2.46.

(See Note A-3.2.5.12.(2).)

3) Instead of the requirements of Sentence (1), NFPA 13D, "Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes," is permitted to be used for the design, *construction*, installation and testing of an automatic *sprinkler system* installed

a) in a residential *building* with not more than two principal *dwelling units*, where
   i) each *dwelling unit* has its own sprinkler water supply, and

ii) a one tank-type water closet is supplied with water from the sprinkler head which is located farthest from the main water supply,

b) in a *building* of *care occupancy*, provided

i) it contains not more than 2 *suites* of *care occupancy*,

ii) it has not more than 5 residents throughout, and

iii) a 30-minute water supply demand can be met,

c) in a *building* of *residential occupancy* throughout that contains only *row housing* where

i) all vertical *suite* separations are constructed as a *fire separation* having no less than a 1 h *fire-resistance rating*,

ii) the *fire separation* described in Subclause (c)(i) provides continuous protection from the top of the footing to the underside of the roof deck and any space between the top of the wall and the roof deck is tightly fitted with mineral wool or *noncombustible* material,

iii) each *dwelling unit* has its own sprinkler water supply, and

iv) one tank-type water closet is supplied with water from the sprinkler head which is located farthest from the main water supply, or

d) in an *ancillary residential building* where

i) each bathroom, clothes closet, linen closet, and pantry must have sprinkler coverage, notwithstanding the exemptions set out in NFPA 13D,

ii) sprinklers are provided in each attached garage or carport, notwithstanding the exemptions set out in NFPA 13D,

iii) a one tank-type water closet is supplied with water from the sprinkler head which is located farthest from the main water supply,

iv) the path of travel for firefighters complies with Clause 3.2.5.5.(3)(a), and

v) each *dwelling unit* has direct access to an exterior *exit* facility complying with Sentence 3.3.4.4.(3);

4) If a *building* contains fewer than 9 sprinklers, the water supply for these sprinklers is permitted to be supplied from the domestic water system for the *building* provided the required flow for the sprinklers can be met by the domestic system.

5) If a water supply serves both an automatic *sprinkler system* and a system serving other equipment, control valves shall be provided so that either system can be shut off independently.

6) Notwithstanding the requirements of the standards referenced in Sentences (1) and (2) regarding the installation of automatic *sprinkler system*s, sprinklers shall not be omitted in any room or closet in the *storey* immediately below a roof assembly. (See Note A-3.2.5.12.(6).)

7) Fast response sprinklers shall be installed in *residential occupancies*, *care occupancies*, *treatment occupancies* and *detention occupancies*.

(See Note A-3.2.5.12.(7).)

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8) Notwithstanding the requirements of the standards referenced in Sentences (1) and (2) regarding the installation of automatic *sprinkler systems*, in *buildings* conforming to Article 3.2.2.48.EMTC., 3.2.2.50., 3.2.2.57.EMTC. or 3.2.2.58., sprinklers shall be provided for balconies and decks exceeding 610 mm in depth measured perpendicular to the exterior wall. (See Note A-3.2.5.12.(8).)

9) Sprinklers in elevator machine rooms shall have a temperature rating not less than that required for an intermediate temperature classification and shall be protected against physical damage. (See Note A-3.2.5.12.(9).)

10) Except as provided in Subsection 3.2.8., closely spaced sprinklers and associated draft stops need not be installed around floor openings in conformance with NFPA 13, "Installation of Sprinkler Systems",

11) Notwithstanding Sentences (1) and (2) and except as permitted by Sentence (12), automatic sprinkler protection shall be provided for all unenclosed balconies, exterior decks, porches and patios of *buildings sprinklered* to NFPA 13R or NFPA 13 if

a) the framing or cladding is of *combustible construction*,

b) the depth of balcony, deck, porch, or patio is more than 1200 mm, and

c) the balcony, roof overhang or structure above is more than 300 mm overlapping the balcony, deck or patio below and is located less than 3 m above the finished floor of the balcony, deck or patio below.

12) Automatic sprinkler protection for an unenclosed exterior balcony of a residential *building* may be omitted if

a) the *building* is of *noncombustible construction*, and

b) the exterior wall assembly adjoining the balcony and the exterior ceiling assembly covering the balcony are constructed with *noncombustible* materials.

13) Notwithstanding the requirements of the standards referenced by Sentence (3) regarding the installation of automatic *sprinkler systems*, sprinklers shall be provided in any *storage garage* attached to a *building* of *residential occupancy* where a *fire separation* is not provided between the *storage garage* and adjacent *floor areas*.

3.2.5.13. Combustible Sprinkler Piping

1) *Combustible* sprinkler piping shall be used only for *sprinkler systems* in *residential occupancies* and other light-hazard *occupancies*. (See Note A-3.2.5.13.(1).)

2) *Combustible* sprinkler piping shall meet the requirements of ULC/ORD-C199P, "Combustible Piping for Sprinkler Systems."

3) Except as permitted by Sentence (5), *combustible* sprinkler piping shall be separated from the area served by the *sprinkler system*, and from any other *fire compartment*, by ceilings, walls, or soffits consisting of, as a minimum,

a) lath and plaster,

b) gypsum board not less than 9.5 mm thick,

c) plywood not less than 13 mm thick, or

d) a suspended membrane ceiling with

i) steel suspension grids, and

ii) lay-in panels or tiles having a mass not less than 1.7 kg/m^2.

4) Except as permitted by Sentence (5), *combustible* sprinkler piping may be located above a ceiling provided that the distance between the edge of any ceiling opening that is not protected in conformance with Sentence (3) and the nearest sprinkler is not more than 300 mm.

5) Where *combustible* sprinkler piping has been tested in conformance with ULC/ORD-C199P, "Combustible Piping for Sprinkler Systems," and has been shown to meet the requirements therein without additional protection, conformance to Sentences (3) and (4) is not required.

3.2.5.14. Sprinklered Service Space

1) An automatic *sprinkler system* shall be installed in a *service space* referred to in Sentence 3.2.1.1.(8) if flooring for access within the *service space* is other than catwalks.

2) The *sprinkler system* required by Sentence (1) shall be equipped with waterflow detecting devices, with each device serving not more than one *storey*.

3) The waterflow detecting devices required by Sentence (2) shall be connected to the fire alarm system, to

a) initiate an *alert signal* in a 2-stage system or an *alarm signal* in a single stage system, and

b) indicate separately on the fire alarm system annunciator the actuation of each device.

3.2.5.15. Fire Department Connections

(Also See A-3.2.5.5.)

1) The fire department connection for a standpipe system shall be located horizontally within 5 m of the principal entrance of a *building*, have unobstructed access for a distance of not less than 1 m and be visible from the *street*.

2) The fire department connection for an automatic *sprinkler system* shall be located horizontally within 5 m of the principal entrance of a *building*, have unobstructed access for a distance of not less than 1 m and be visible from the *street*.

3.2.5.16. Portable Fire Extinguishers

1) Portable extinguishers shall be provided and installed in accordance with the Fire By-law.

2) In a Group B, Division 1 *major occupancy*, portable fire extinguishers are permitted to be located in secure areas, or in lockable cabinets provided

a) identical keys for all cabinets are located at all supervisory or security stations, or

b) electrical remote release devices are provided and are connected to an emergency power supply.

3.2.5.17. Protection from Freezing

1) Equipment forming part of a fire protection system shall be protected from freezing if

a) it could be adversely affected by freezing temperatures, and

b) it is located in an unheated area.

3.2.5.18. Fire Pumps

1) If a fire pump is installed, it shall be installed in accordance with the requirements of NFPA 20, "Installation of Stationary Pumps for Fire Protection." (See Note A-3.2.5.18.(1).)

3.2.5.19. Location of Building Safety Facilities for Firefighters

1) Fire fighting installations and *building* safety facilities including central control facility, firefighters' elevator and stairwells equipped with standpipes shall be centrally located in close proximity to the firefighters' entrance.

3.2.5.20. Radio Antenna Systems

(See Note A-3.2.5.20.).

1) Except as permitted by Sentence (2), an *acceptable* radio antenna system shall be installed in every *building* that

a) is more than 6 *storeys* in *building height*,

b) contains more than 1 *storey* in the *basement*, or

c) contains more than 1200 m² of *floor area* in the *basement*.

2) A radio antenna system shall not be required for

a) government *buildings* requiring security against transfer of signals inside and outside of *buildings*,

b) where, in the opinion of the *Chief Building Official*, in consultation with the Fire Chief, radio signals compromise the intended use of the *building*, and Rev. 12997

c) *buildings* of *residential occupancy* only with no more than two principal *dwelling units*.

3) A radio antenna system shall provide not less than 98% coverage at in each of the following critical locations in the *building*

a) e*xit* stair shafts,

b) e*xit* corridors,

c) *public corridors,*

d) corridors used by the public,

e) corridors serving classrooms or patients' sleeping rooms,

f) within 5 m of the fire alarm control unit,

g) within 5 m of the central alarm and control facility,

h) within 5 m of the fire alarm annunciator,

i) fire pump room,

j) emergency generator room,

k) electrical service and transformer room,

l) elevator machine room,

m) elevator lobbies,

n) elevator hoistways,

o) corridors in the *basement* and not within a *suite*, and

p) s*torage garages* and associated vehicle ramps.

4) A radio antenna system shall comply with ANSI/CAN/UL 2524 "Standard For Safety In-building 2-Way Emergency Radio Communication Enhancement Systems." Rev. 12997

3.2.6. Additional Requirements for High Buildings

(See Note A-3.2.6.)

3.2.6.1. Application

1) Except as permitted by Sentence (2), this Subsection applies to a *building*

a) more than 18 m in height, measured between *grade* and the uppermost floor level of the top *storey*, or

b) with a *floor area* or part of a *floor area* located above the third *storey* designed or intended as a Group B, Division 2 or Group B, Division 3 *major occupancy*.

2) A *building* or that portion of a *building* separated in accordance with Division A, Article 1.3.3.4., need not comply with the requirements of this Subsection, provided

a) the *building* or that portion of a *building* does not exceed 6 *storeys* in *building height*,

b) the *building* or that portion of a *building* does not contain a *floor area* or part of a *floor area* located above the third *storey* designed or intended as a Group B, Division 2 or Group B, Division 3 *major occupancy*,

c) the principal entrance for firefighters is located on the *storey* which requires vertical travel to the topmost floor level to be not more than 18 m,

d) except where vestibules designed to limit movement of smoke from a fire in a *floor area* below the lowest *exit storey* into upper *storeys* are provided, stairs and elevators shall not directly connect more than 6 consecutive *storeys* (See Note A-3.2.6.2.(4).),

e) *exit* stair enclosures are provided with not less than a 2 h *fire separation*, and Rev. 12683

f) the *building* sprinklers are designed in accordance with NFPA 13 "Installation of Sprinkler Systems", except that the design area of the *floor areas* above the *basement* shall be twice the design area otherwise permitted by NFPA 13 "Installation of Sprinkler Systems" after all reductions in design area have been applied.

(See Note A-3.2.6.1.(2).)

3.2.6.2. Limits to Smoke Movement

1) A *building* to which this Subsection applies shall be designed in accordance with Sentences (2) to (6) and Article 3.2.6.3. to limit the danger to occupants and firefighters from exposure to smoke in a *building* fire.

2) A *building* referred to in Sentence (1) shall be designed so that, during a period of 2 h after the start of a fire, each *exit* stair serving *storeys* below the lowest *exit level* will not contain more than 1% by volume of contaminated air from the fire floor, assuming an outdoor temperature equal to the January design temperature on a 2.5% basis determined in accordance with Subsection 1.1.3. (See Note A-3.2.6.2.(2).)

3) Each stairway that serves *storeys* above the lowest *exit level* shall have a vent to the outdoors, at or near the bottom of the stair shaft, that

a) has an openable area of 0.05 m^2 for every door between the stair shaft and a *floor area*, but not less than 1.8 m^2,

b) opens directly to the outdoors or into a vestibule that has a similar opening to the outdoors, and

c) has a door or *closure* that

i) is openable manually, and

ii) can remain in the open position during a fire emergency.

(See Note A-3.2.6.2.(3).)

4) Measures shall be taken to limit movement of smoke from a fire in a *floor area* below the lowest *exit storey* into upper *storeys*. (See Note A-3.2.6.2.(4).)

5) Except for exhaust fans in kitchens, washrooms and bathrooms in *dwelling units*, and except for fans used for smoke venting as required by Article 3.2.6.6., air moving fans in a system that serves more than 2 *storeys* shall be designed and installed so that in the event of a fire these fans can be stopped by means of a manually operated switch at the central alarm and control facility.

6) Except as provided in Article 3.2.4.12. or where there is a conflict with other smoke control measures in the *building*, air-handling systems used to provide make-up air to *public corridors* serving *suites* in a Group C *major occupancy* shall not shut down automatically upon activation of the fire alarm so as to maintain corridor

pressurization.

3.2.6.3. Connected Buildings

1) If a *building* described in Article 3.2.6.1. is connected to any other *building*, measures shall be taken to limit movement of contaminated air from one *building* into another during a fire. (See Note A-3.2.6.3.(1).)

3.2.6.4. Emergency Operation of Elevators

1) Automatic and manual emergency recall shall be provided for all elevators serving *storeys* above the *first storey*.

2) Key-operated switches for emergency recall required by Sentence (1) shall be provided in a conspicuous location at

a) each elevator lobby on the recall level, and

b) the central alarm and control facility required by Article 3.2.6.7.

3) In-car emergency service switches shall be provided in all elevator cars.

4) Keys to operate the switches required by Sentences (2) and (3) shall be

a) provided in a suitably identified box conspicuously located on the outside of an elevator hoistway near the central alarm and control facility required by Article 3.2.6.7., and

b) kept at the central alarm and control facility.

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5) The automatic emergency recall provided in accordance with Sentence (1) shall be activated by *smoke detectors* installed in

a) each *floor area* in front of the elevator(s),

b) the elevator hoistway

c) the elevator machine room, or

d) any room containing elevator control equipment.

6) Where *smoke detectors* as provided in accordance with Sentence (5), are activated on the recall level, the automatic emergency recall signal shall automatically direct the elevator to an alternate floor level.

7) *Smoke detectors* provided in accordance with Sentence (5) shall be designed as part of the *building* fire alarm system.

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8) *Smoke detectors* installed in an elevator lobby to comply with Clause 3.2.6.4.(5)(a) shall be located such that the detector is not more than its rated detection distance from the elevator doors that it serves.

3.2.6.5. Elevator for Use by Firefighters

1) At least one elevator shall be provided for use by firefighters in conformance with Sentences (2) to (6).

2) The elevator referred to in Sentence (1) shall have a useable platform area not less than 2.2 m^2 and shall be capable of carrying a load of 900 kg to the top floor that it serves from a landing on the *storey* containing the entrance for firefighter access referred to in Articles 3.2.5.4. and 3.2.5.5. within 1 min.

3) Each elevator for use by firefighters shall

a) be provided with a *closure* at each shaft opening so that the interlock mechanism remains mechanically engaged and electrical continuity is maintained in the interlock circuits and associated wiring for a period of not less than 1 h when the assembly is subjected to the standard fire exposure described in CAN/ULC-S104, "Fire Tests of Door Assemblies,"

b) be protected with a vestibule containing no *occupancy* and separated from the remainder of the *floor area* by a *fire separation* having a *fire-resistance rating* not less than 45 min, or

c) be protected with a corridor containing no *occupancy* and separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* not less than 1 h.

4) Except as permitted by Sentence (5), an elevator referred to in Sentence (1) shall be capable of providing transportation from the *storey* containing the entrance for firefighter access referred to in Articles 3.2.5.4. and 3.2.5.5. to every floor that is above *grade* in the *building* and that is normally served by the elevator system.

5) If it is necessary to change elevators to reach any floor referred to in Sentence (4), the system shall be designed so that not more than one change of elevator is required when travelling to any floor in the *building* from

the *storey* containing the entrance for firefighter access referred to in Articles 3.2.5.4. and 3.2.5.5.

6) Deleted.

3.2.6.6. Venting to Aid Firefighting

1) Means of venting each *floor area* to the outdoors shall be provided by windows, wall panels, smoke shafts, or the *building* exhaust system. (See Note A-3.2.6.6.(1).)

2) Fixed glass windows shall not be used for the venting required by Sentence (1) if the breaking of the windows could endanger pedestrians below.

3) Openable windows used for the venting required by Sentence (1) shall be permanently marked so that they are easily identifiable.

4) Elevator hoistways shall not be designed for the venting required by Sentence (1).

3.2.6.7. Central Alarm and Control Facility

1) A central alarm and control facility shall be provided on the *storey* containing the entrance for firefighter access referred to in Articles 3.2.5.4. and 3.2.5.5. in a location that

a) is readily accessible to firefighters entering the *building*, and

b) takes into account the effect of background noise likely to occur under fire emergency conditions, so that the facility can properly perform its required function under these conditions.

(See Note A-3.2.6.7.(1).)

2) The central alarm and control facility required by Sentence (1) shall include

a) means to control the voice communication system required by Article 3.2.6.8., so that messages can be sent to

i) all loudspeakers simultaneously,

ii) individual *floor areas*, and

iii) *exit* stairwells,

b) means to indicate audibly and visually *alert signals* and *alarm signals* and a switch to

i) silence the audible portion of these signals, and

ii) indicate visually that the audible portion has been silenced,

c) means to indicate visually that elevators are on emergency recall,

d) an annunciator conforming to Article 3.2.4.8.,

e) means to transmit *alert signals* and *alarm signals* to the fire department in conformance with Article 3.2.4.7.,

f) means to release hold-open devices on doors to vestibules,

g) means to manually actuate *alarm signals* in the *building* selectively to any zone or zones,

h) means to silence the *alarm signals* referred to in Clause (g) in conformance with Sentences 3.2.4.22.(2) and 3.2.4.22.(3),

i) means, as appropriate to the measure for fire safety provided in the *building*, to

i) actuate auxiliary equipment identified in Articles 3.2.6.2., 3.2.6.3. and 3.2.6.6., or

ii) communicate with a continually staffed auxiliary equipment control centre,

j) means to communicate with telephones in elevator cars, separate from connections to firefighters' telephones, if elevator cars are required by the Elevating Devices Safety Regulations to be equipped with a telephone, Rev. 12683

k) means to indicate visually, individual *sprinkler system* waterflow signals,

l) means to indicate audibly and visually, sprinkler and standpipe system supervisory signals and trouble signals,

m) a switch to silence the audible portion of a supervisory signal or a trouble signal, and

n) visual indication that the audible portion of a supervisory signal or a trouble signal has been silenced.

(See Note A-3.2.6.7.(2).)

3.2.6.8. Voice Communication System

1) A voice communication system or systems conforming to Article 3.2.4.22. shall be provided in all *buildings* conforming to Article 3.2.6.1.

a) **Deleted.**
b) **Deleted.**

3.2.6.9. Testing

1) The systems for control of smoke movement and mechanical venting required by Articles 3.2.6.2. and 3.2.6.6. shall be tested to ensure satisfactory operation. (See Note A-3.2.6.9.(1).)

3.2.7. Lighting and Emergency Power Systems

3.2.7.1. Minimum Lighting Requirements

1) An *exit*, a *public corridor*, or a corridor providing *access to exit* for the public or serving patients' sleeping rooms or classrooms shall be equipped to provide illumination to an average level not less than 50 lx at floor or tread level and at angles and intersections at changes of level where there are stairs or ramps.

2) The minimum value of the illumination required by Sentence (1) shall be not less than 10 lx.

3) Rooms and spaces used by the public shall be illuminated as described in Article 9.34.2.7.

4) Lighting outlets in a *building* of *residential occupancy* shall be provided in conformance with Subsection 9.34.2.

3.2.7.2. Recessed Lighting Fixtures

1) A recessed lighting fixture shall not be located in an insulated ceiling unless the fixture is designed for this type of installation.

3.2.7.3. Emergency Lighting

1) Emergency lighting shall be provided to an average level of illumination not less than 10 lx at floor or tread level in

a) *exits*,
b) principal routes providing *access to exit* in open *floor areas* and in *service rooms*,
c) corridors used by the public,
d) corridors serving sleeping rooms in a *treatment occupancy*,
e) corridors serving sleeping rooms in a *care occupancy*, except corridors serving sleeping rooms within individual *suites* of *care occupancy*,
f) corridors serving classrooms,
g) underground *walkways*,
h) *public corridors*,
i) *floor areas* or parts thereof where the public may congregate
   i) in Group A, Division 1 *occupancies*, or
   ii) in Group A, Division 2 and 3 *occupancies* having an *occupant load* of 60 or more,
j) *floor areas* or parts thereof where persons are cared for that are within daycare facilities, including *child care facilities*,
k) food preparation areas in commercial kitchens, and
l) public washrooms.

2) Emergency lighting to provide an average level of illumination of not less than 10 lx at floor or catwalk level shall be included in a *service space* referred to in Sentence 3.2.1.1.(8).

3) The minimum value of the illumination required by Sentences (1) and (2) shall be not less than 1 lx.

4) In addition to the requirements of Sentences (1) to (3), the installation of battery-operated emergency lighting in *buildings* or part thereof where *treatment* is provided shall conform to the appropriate requirements of CSA Z32, "Electrical Safety and Essential Electrical Systems in Health Care Facilities."

3.2.7.4. Emergency Power for Lighting

1) An emergency power supply shall be

a) provided to maintain the emergency lighting required by this Subsection from a power source such as batteries or generators that will continue to supply power in the event that the regular power supply to the *building* is interrupted, and

b) so designed and installed that upon failure of the regular power it will assume the electrical load automatically for a period of

i) 2 h for a *building* within the scope of Subsection 3.2.6.,

ii) 1 h for a *building* of Group B *major occupancy* classification that is not within the scope of Subsection 3.2.6.,

iii) 1 h for a *building* constructed in accordance with Article 3.2.2.50. or 3.2.2.58., and

iv) 30 min for a *building* of any other *occupancy*.

(See Note A-3.2.7.4.(1).)

2) If self-contained emergency lighting units are used, they shall conform to CSA C22.2 No. 141, "Emergency Lighting Equipment."

3.2.7.5. Emergency Power Supply Installation

1) Except as required by Articles 3.2.7.6. and 3.2.7.7., an emergency electrical power supply system shall be installed in conformance with CSA C282, "Emergency Electrical Power Supply for Buildings." (See Sentence 3.2.7.8.(1) for emergency electrical power supply for voice communication systems.)

3.2.7.6. Emergency Power for Treatment Occupancies

1) Except as required by Article 3.2.7.7., an emergency electrical power supply system for emergency equipment required by this Part for *treatment occupancies* shall be installed in conformance with CSA Z32, "Electrical Safety and Essential Electrical Systems in Health Care Facilities." (See Note A-3.2.7.6.(1).)

3.2.7.7. Fuel Supply Shut-off Valves

1) If a liquid or gas fuel-fired engine or turbine for an emergency electric power supply is dependent on a fuel supply from outside the *building*, the fuel supply shall be provided with a suitably-identified separate shut-off valve outside the *building*.

3.2.7.8. Emergency Power for Fire Alarm Systems

1) Fire alarm systems, including those incorporating a voice communication system, shall be provided with an emergency power supply conforming to Sentences (2), (3) and (4).

2) The emergency power supply required by Sentence (1) shall be supplied from

a) a generator,

b) batteries, or

c) a combination thereof.

3) The emergency power supply required by Sentence (1) shall be capable of providing

a) supervisory power for not less than 24 h, and

b) immediately following that period, emergency power under full load for not less than

i) 2 h for a *building* within the scope of Subsection 3.2.6.,

ii) 1 h for a *building* classified as a Group B *major occupancy* that is not within the scope of Subsection 3.2.6.,

iii) 1 h for a *building* constructed in accordance with Article 3.2.2.50. or 3.2.2.58.,

iv) 5 min for a *building* not required to be equipped with an annunciator, and

v) 30 min for any other *building*.

(See Note A-3.2.7.8.(3).)

4) The emergency power supply required by Sentence (1) shall be designed so that, in the event of a failure of the normal power source, there is an immediate automatic transfer to emergency power with no loss of information.

3.2.7.9. Emergency Power for Building Services

1) An emergency power supply capable of operating under a full load for not less than 2 h shall be provided by

an emergency generator for

a) every elevator serving *storeys* above the *first storey* in a *building* that is more than 18 m high measured between *grade* and the floor level of the top *storey*, other than in a *building* complying with Sentence 3.2.6.1.(2), and every elevator for firefighters in conformance with Sentence (2), Rev. 12997

b) water supply for firefighting in conformance with Article 3.2.5.7., if the supply is dependent on electrical power supplied to the *building*,

c) fans and other electrical equipment that are installed to maintain the air quality specified in Articles 3.2.6.2. and 3.3.3.6.,

d) fans required for venting by Article 3.2.6.6., and

e) fans required by Clause 3.2.8.4.(1)(c) and Article 3.2.8.7. in *buildings* within the scope of Subsection 3.2.6.

(See Note A-3.2.7.9.(1).)

2) Except as permitted by Sentence (3), the emergency power supply for elevators required by Clause (1)(a) shall be capable of operating all elevators for firefighters plus one additional elevator simultaneously.

3) Sentence (2) does not apply if the time to recall all elevators under emergency power supply is not more than 5 min, each from its most remote *storey* to

a) the *storey* containing the entrance for firefighter access referred to in Articles 3.2.5.4. and 3.2.5.5., or

b) to a transfer lobby.

3.2.7.10. Protection of Electrical Conductors

1) Electrical and emergency conductors referred to in Clauses (a) to (c) shall be protected against exposure to fire, for a period of no less than 1 h, from the source of the emergency power supply to the branch circuits serving equipment, if

a) electrical conductors located within *buildings* identified in Article 3.2.6.1. are serving

i) fire alarms,

ii) emergency lighting, or

iii) emergency equipment within the scope of Articles 3.2.6.2. to 3.2.6.8.,

b) emergency conductors are serving fire pumps, and

c) electrical conductors are serving mechanical systems and auxiliary equipment

i) that serve areas of refuge identified in Clause 3.3.3.6.(1)(b),

ii) *that serve contained use areas* identified in Clauses 3.3.3.7.(4)(a) and (b), or

iii) intended for fire and life safety purposes as a smoke management system. Rev. 12683

(See Note A-3.2.7.10.(1).)

2) Except as otherwise required by Sentence (3) and permitted by this Article, electrical conductors that are used in conjunction with systems identified in Sentence (1) shall

a) conform to CAN/ULC-S139, "Fire Test for Evaluation of Integrity of Electrical Power, Data and Optical Fibre Cables," including the hose stream application, to provide a circuit integrity rating of not less than 1 h (See Note A-3.2.7.10.(2)(a) and (3)(a).), or

b) be located in a *service space* that is separated from the remainder of the *building* by a *fire separation* that has a *fire-resistance rating* not less than 1 h.

3) Electrical conductors identified in Clause (1)(c) shall

a) conform to CAN/ULC-S139, "Fire Test for Evaluation of Integrity of Electrical Power, Data and Optical Fibre Cables," including the hose stream application, to provide a circuit integrity rating of not less than 2 h (See Note A-3.2.7.10.(2)(a) and (3)(a).), or

b) be located in a *service space* that is separated from the remainder of the *building* by a *fire separation* that has a *fire-resistance rating* not less than 2 h.

4) The *service spaces* referred to in Clauses (2)(b) and (3)(b) shall not contain any *combustible* materials other than the conductors being protected.

5) Except as stated in Sentences (7) and (9), the electrical conductors referred to in Sentence (1) are those that extend from the source of emergency power to

a) the equipment served, or

b) the distribution equipment supplying power to the equipment served, if both are in the same room. (See Note A-3.2.7.10.(5)(b).)

6) If a fire alarm transponder or annunciator in one *fire compartment* is connected to a central processing unit or another transponder or annunciator located in a different *fire compartment*, the electrical conductors connecting them shall be protected in accordance with Sentence (2).

7) Fire alarm system branch circuits within a *storey* that connect transponders and individual devices need not conform to Sentence (2). (See Note A-3.2.7.10.(7).)

8) Except as permitted in Sentence (9), if a distribution panel supplies power to emergency lighting, the power supply conductors leading up to the distribution panel shall be protected in accordance with Sentence (2).

9) Conductors leading from a distribution panel referred to in Sentence (8) to emergency lighting units in the same *storey* need not conform to Sentence (2).

10) Distribution panels serving emergency lighting units located on other *storeys* shall be installed in a *service room* separated from the *floor area* by a *fire separation* having a *fire-resistance rating* of at least 1 h.

11) Conductors leading from a distribution panel to emergency lighting units located on other *storeys* shall be protected in accordance with Sentence (2) between the distribution panel and the *floor area* where the emergency lighting units are located.

3.2.8. Mezzanines and Openings through Floor Assemblies

3.2.8.1. Application

1) Except as permitted by Article 3.2.8.2. and Sentence 3.3.4.2.(3), the portions of a *floor area* or a *mezzanine* that do not terminate at an exterior wall, a *firewall* or a vertical shaft shall

a) terminate at a vertical *fire separation* having a *fire-resistance rating* not less than that required for the floor assembly and extending from the floor assembly to the underside of the floor or roof assembly above, or

b) be protected in conformance with the requirements of Articles 3.2.8.3. to 3.2.8.8.

2) The penetration of a floor assembly by an *exit* or a *vertical service space* shall conform to the requirements of Sections 3.4., 3.5. and 3.6.

3) A *floor area* containing sleeping rooms in a *building* of Group B, Division 2 *major occupancy* shall not be constructed as part of an *interconnected floor space*.

3.2.8.2. Exceptions to Special Protection

1) A *mezzanine* need not terminate at a vertical *fire separation* nor be protected in conformance with the requirements of Articles 3.2.8.3. to 3.2.8.8. provided the *mezzanine*

a) serves a Group A, Division 1 *major occupancy*,

b) serves a Group A, Division 3 *major occupancy* in a *building* not more than 2 *storeys* in *building height*, or

c) serves a Group A, C, D, E or F *major occupancy* and

i) is 500 m^2 or less in area, and

ii) conforms to Sentence 3.2.1.1.(3) or (4).

2) Except for floors referred to in Sentence 3.1.10.3.(1) and Article 3.2.1.2., openings through a horizontal *fire separation* for vehicular ramps in a *storage garage* are not required to be protected with *closures* and need not conform to this Subsection.

3) If a *closure* in an opening in a *fire separation* would disrupt the nature of a manufacturing process, such as a continuous flow of material from *storey* to *storey*, the *closure* for the opening is permitted to be omitted provided precautions are taken to offset the resulting hazard. (See Note A-3.2.8.2.(3).)

4) An *interconnected floor space* in a Group B, Division 1 *occupancy* need not conform to the requirements of Articles 3.2.8.3. to 3.2.8.8. provided the *interconnected floor space* does not interconnect more than 2 adjacent *storeys*.

5) Except as permitted by Sentence (6), openings for escalators and inclined moving walks need not conform to the requirements in Articles 3.2.8.3. to 3.2.8.8. provided

a) the opening for each escalator or walk does not exceed 10 m^2,

b) the *building* is *sprinklered* throughout,

c) the *interconnected floor space* contains only Group A, Division 1, 2 or 3, Group D or Group E *major occupancies* (See Note A-3.2.8.2.(6)(c).), and

d) closely spaced sprinklers and associated draft stops shall be installed around the openings in conformance with NFPA 13, "Installation of Sprinkler Systems".

6) An *interconnected floor space* need not conform to the requirements of Articles 3.2.8.3. to 3.2.8.8., provided

a) it consists of the *first storey* and the *storey* next above or below it, but not both,

b) it is *sprinklered* throughout or, where the *building area* is not more than one half of the area permitted by Subsection 3.2.2., the openings through the floor are used only for stairways, escalators or moving walks (See Note A-3.2.8.2.(6)(b).), and

c) it contains only Group A, Division 1, 2 or 3, Group D, Group E, or Group F, Division 2 or 3 *major occupancies*. (See Note A-3.2.8.2.(6)(c).)

3.2.8.3. Sprinklers

1) A *building* containing an *interconnected floor space* shall be *sprinklered* throughout.

2) Except for large floor openings as defined in NFPA 13, "Installation of Sprinkler Systems", closely spaced sprinklers and associated draft stops shall be installed around floor openings in conformance with NFPA 13.

3.2.8.4. Vestibules

1) An *exit* opening into an *interconnected floor space* shall be protected at each opening into the *interconnected floor space* by a vestibule

a) with doorways that are not less than 1.8 m apart,

b) that is separated from the remainder of the *floor area* by a *fire separation* that is not required to have a *fire-resistance rating* (See Note A-3.1.8.1.(1)(b).), and

c) that is designed to limit the passage of smoke so that the *exit* stair shaft does not contain more than 1% by volume of contaminated air from the fire floor, assuming an outdoor temperature equal to the January design temperature on a 2.5% basis determined in accordance with Subsection 1.1.3. (See Note A-3.2.8.4.(1)(c).)

2) An *exit* opening into an *interconnected floor space* shall conform to Sentence 3.4.3.2.(6).

3) If an elevator hoistway opens into an *interconnected floor space* and into *storeys* above the *interconnected floor space*, either the elevator doors opening into the *interconnected floor space* or the elevator doors opening into the *storeys* above the *interconnected floor space* shall be protected by vestibules conforming to Sentence (1).

3.2.8.5. Protected Floor Space

1) A *protected floor space* used to satisfy the requirements of Clause 3.4.3.2.(6)(b) shall

a) be separated from the *interconnected floor space* by a *fire separation* having a *fire-resistance rating* not less than that required for the floor assembly of the *storey* in which it is located,

b) have all openings in the vertical *fire separation* between a *protected floor space* and the adjacent *interconnected floor space* protected by vestibules conforming to Sentence 3.2.8.4.(1), and

c) be designed so that it is not necessary to enter the *interconnected floor space* to reach an *exit*.

3.2.8.6. Draft Stops

1) A draft stop shall be provided at each floor level within an *interconnected floor space*, immediately adjacent to and surrounding the opening, and shall be not less than 500 mm deep measured from ceiling level down to the underside of the draft stop.

3.2.8.7. Mechanical Exhaust System

1) A mechanical exhaust system shall be provided to remove air from an *interconnected floor space* at a rate of 4 air changes per hour. (See Note A-3.2.8.7.(1).)

2) The mechanical exhaust system required by Sentence (1) shall be actuated by a switch located on the *storey* containing the entrance for firefighter access referred to in Articles 3.2.5.4. and 3.2.5.5. near the annunciator for the fire alarm system.

3.2.8.8. Combustible Content Limits

1) An *interconnected floor space* shall be designed so that the *combustible* contents, excluding interior finishes, in those parts of a *floor area* in which the ceiling is more than 8 m above the floor, are limited to not more than 16 g of *combustible* material for each cubic metre of volume of the *interconnected floor space*.

3.2.9. Integrated Fire Protection and Life Safety Systems

3.2.9.1. Testing

1) Where fire protection and life safety systems and systems with fire protection and life safety functions are integrated with each other, they shall be tested as a whole in accordance with CAN/ULC-S1001, "Integrated Systems Testing of Fire Protection and Life Safety Systems," to verify that they have been properly integrated. (See Note A-3.2.9.1.(1).)