Section 3.2.  Building Fire Safety

3.2.1.  General

3.2.1.1.  Exceptions in Determining Building Height

1) A roof-top enclosure shall not be considered as a storey in calculating the building height if the roof-top enclosure is
   a) provided for elevator machinery, a stairway or a service room, and
   b) used for no purpose other than for service to the building.

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 a visually 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,

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.

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), 3.2.2.51.(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) Except as permitted by Sentences (2) and 3.2.2.15.(3), in a building in which an automatic sprinkler system 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 m² 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) An open-air storey need not conform to Sentence (1).

### 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.

### 3.2.2. 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 3.2.2.50.(5) 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.

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 3.2.2.50.(5) 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.
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.)

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 3.11.6., 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

1) 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.

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**

1) A roof-top enclosure for elevator machinery 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 or for a service room, not more than one storey high, 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 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:
   a) except as permitted by Sentence (3), 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) If the first storey of a building is not required to be sprinklered, sprinklers are not required in the storey immediately below the first storey provided the storey below
   a) contains only residential occupancies, and
   b) has at least one unobstructed access opening conforming to Sentence 3.2.5.1.(2) installed on that storey for each 15 m of wall length in at least one wall required by this Subsection to face a street.

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**

1) Except as permitted by Sentence (2), 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.,...
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.).)

3.2.2.19. 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 6400 m² 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,
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e) it is not more than 600 m² 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,
   b) it has a building area not more than the value in Table 3.2.2.25.

<table>
<thead>
<tr>
<th>No. of Storeys</th>
<th>Facing 1 Street</th>
<th>Facing 2 Streets</th>
<th>Facing 3 Streets</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>1 600</td>
<td>2 000</td>
<td>2 400</td>
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<td>2</td>
<td>800</td>
<td>1 000</td>
<td>1 200</td>
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</table>

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 m² if facing one street,
      ii) 1 000 m² 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,
   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...
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>
<thead>
<tr>
<th>No. of Storeys</th>
<th>Maximum Area, m²</th>
</tr>
</thead>
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<td></td>
<td>Facing 1 Street</td>
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<td>4 000</td>
</tr>
<tr>
<td>2</td>
<td>2 000</td>
</tr>
</tbody>
</table>
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 m² 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 m² if 1 storey in building height, or
      ii) 6 000 m² 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 m² if facing one street,
      ii) 3 000 m² if facing 2 streets, or
      iii) 3 600 m² 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 m² if facing one street,
      ii) 1 500 m² if facing 2 streets, or
      iii) 1 800 m² 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 m² 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 m².

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 m² if facing one street,
   
   ii) 1 250 m² if facing 2 streets, or
   
   iii) 1 500 m² 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 m² if 2 storeys in building height, or
iii) not more than 8,000 m² 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 m² if 2 storeys in building height, or
      iii) not more than 8,000 m² 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 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.

3.2.2.41. 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 m².

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 m² if 2 storeys in building height, or
      iii) not more than 8 000 m² 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,

b) 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 m$^2$ if 4 storeys in building height,
iv) not more than 7,200 m$^2$ if 5 storeys in building height, or
v) not more than 6,000 m$^2$ 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.

3.2.2.49. 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>
<thead>
<tr>
<th>No. of Storeys</th>
<th>Maximum Area, m$^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Facing 1 Street</td>
</tr>
<tr>
<td>1</td>
<td>not limited</td>
</tr>
<tr>
<td>2</td>
<td>6,000</td>
</tr>
<tr>
<td>3</td>
<td>4,000</td>
</tr>
</tbody>
</table>

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, and
   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 that does not serve a rooftop enclosure for elevator machinery, a stairway or a service room used only for service to the building, and
   d) it has a building area not more than
      i) 9,000 m$^2$ if 1 storey 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).)

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 m² if 1 storey in building height,

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

   iii) 2 400 m² if 3 storeys in building height, or

   iv) 1 800 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) 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>
<thead>
<tr>
<th>No. of Storeys</th>
<th>Maximum Area, m²</th>
<th>Facing 1 Street</th>
<th>Facing 2 Streets</th>
<th>Facing 3 Streets</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<tr>
<td>2</td>
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<td></td>
</tr>
<tr>
<td>3</td>
<td>800</td>
<td>1 000</td>
<td>1 200</td>
<td></td>
</tr>
</tbody>
</table>

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>
<thead>
<tr>
<th>No. of Storeys</th>
<th>Maximum Area, m²</th>
<th>Facing 1 Street</th>
<th>Facing 2 Streets</th>
<th>Facing 3 Streets</th>
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</thead>
<tbody>
<tr>
<td>1</td>
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<td></td>
</tr>
<tr>
<td>2</td>
<td>900</td>
<td>1 125</td>
<td>1 350</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>600</td>
<td>750</td>
<td>900</td>
<td></td>
</tr>
</tbody>
</table>

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 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) 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)

<table>
<thead>
<tr>
<th>No. of Storeys</th>
<th>Facing 1 Street</th>
<th>Facing 2 Streets</th>
<th>Facing 3 Streets</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>not limited</td>
<td>not limited</td>
<td>not limited</td>
</tr>
<tr>
<td>2</td>
<td>7 200</td>
<td>not limited</td>
<td>not limited</td>
</tr>
<tr>
<td>3</td>
<td>4 800</td>
<td>6 000</td>
<td>7 200</td>
</tr>
<tr>
<td>4</td>
<td>3 600</td>
<td>4 500</td>
<td>5 400</td>
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<td>5</td>
<td>2 880</td>
<td>3 600</td>
<td>4 320</td>
</tr>
<tr>
<td>6</td>
<td>2 400</td>
<td>3 000</td>
<td>3 600</td>
</tr>
</tbody>
</table>

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.

3.2.2.58. 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
      that does not serve a rooftop enclosure for elevator machinery, a stairway or a service room used only for
      service to the building, and
   d) it has a building area not more than
      i) 18 000 m² if 1 storey 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).)

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.
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.

3.2.2.61. 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 m² if 1 storey in building height,
   ii) 7 200 m² if 2 storeys in building height, or
   iii) 4 800 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 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.
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 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.

3.2.2.64. 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 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.

3.2.2.66. 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)

<table>
<thead>
<tr>
<th>No. of Storeys</th>
<th>Maximum Area, m²</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Facing 1 Street</td>
</tr>
<tr>
<td>1</td>
<td>1 500</td>
</tr>
<tr>
<td>2</td>
<td>1 200</td>
</tr>
<tr>
<td>3</td>
<td>800</td>
</tr>
</tbody>
</table>

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>
<thead>
<tr>
<th>No. of Storeys</th>
<th>Facing 1 Street</th>
<th>Facing 2 Streets</th>
<th>Facing 3 Streets</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1 000</td>
<td>1 250</td>
<td>1 500</td>
</tr>
<tr>
<td>2</td>
<td>600</td>
<td>750</td>
<td>900</td>
</tr>
</tbody>
</table>

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 Articles 3.2.2.71. to 3.2.2.73., 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) 1 800 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, 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 m$^2$ if 1 *storey* in *building height*,

      ii) 4 500 m$^2$ if 2 *storeys* in *building height*,

      iii) 3 000 m$^2$ 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
   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) 3 600 m² if 1 storey in building height,
      ii) 1 800 m² if 2 storeys in building height, or
      iii) 1 200 m² 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 m² if 1 storey in building height, or
      ii) 1 200 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.

3.2.2.73. 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 m².

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 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, or
      iv) 4,500 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) 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)

<table>
<thead>
<tr>
<th>No. of Storeys</th>
<th>Maximum Area, m²</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Facing 1 Street</td>
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<tr>
<td>1</td>
<td>1,500</td>
</tr>
<tr>
<td>2</td>
<td>1,500</td>
</tr>
<tr>
<td>3</td>
<td>1,070</td>
</tr>
</tbody>
</table>

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
c) 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.

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
Part 3 – Fire Protection, Occupant Safety and Accessibility

Division B: Acceptable Solutions

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

c) it has a building area not more than

i) 7 200 m² if facing 1 street,

ii) 9 000 m² if facing 2 streets,

iii) 10 800 m² if facing 3 streets.

2) The building referred to in Sentence (1) shall 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 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.

<table>
<thead>
<tr>
<th>No. of Storeys</th>
<th>Maximum Area, m²</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Facing 1 Street</td>
</tr>
<tr>
<td>1</td>
<td>7 200</td>
</tr>
<tr>
<td>2</td>
<td>4 800</td>
</tr>
<tr>
<td>3</td>
<td>3 600</td>
</tr>
<tr>
<td>4</td>
<td>2 880</td>
</tr>
<tr>
<td>5</td>
<td>2 400</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>No. of Storeys</th>
<th>Maximum Area, m² Facing 1 Street</th>
<th>Facing 2 Streets</th>
<th>Facing 3 Streets</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4 800</td>
<td>6 000</td>
<td>7 200</td>
</tr>
<tr>
<td>2</td>
<td>2 400</td>
<td>3 000</td>
<td>3 600</td>
</tr>
<tr>
<td>3</td>
<td>1 600</td>
<td>2 000</td>
<td>2 400</td>
</tr>
<tr>
<td>4</td>
<td>1 200</td>
<td>1 500</td>
<td>1 800</td>
</tr>
</tbody>
</table>

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)

<table>
<thead>
<tr>
<th>No. of Storeys</th>
<th>Facing 1 Street</th>
<th>Facing 2 Streets</th>
<th>Facing 3 Streets</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1 600</td>
<td>2 000</td>
<td>2 400</td>
</tr>
<tr>
<td>2</td>
<td>800</td>
<td>1 000</td>
<td>1 200</td>
</tr>
</tbody>
</table>

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

   \[ \text{Area} = 0.24 \times (2 \times \text{LD} - 1.2)^2 \]

   where

   \[ \text{Area} = \text{area of the unprotected opening}, \text{ and} \]
   \[ \text{LD} = \text{limiting distance}. \]

Table 3.2.3.1.-A

<table>
<thead>
<tr>
<th>Limiting Distance, m</th>
<th>Maximum Area of Individual Unprotected Openings, m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>0.35</td>
</tr>
<tr>
<td>1.5</td>
<td>0.78</td>
</tr>
<tr>
<td>2.0</td>
<td>1.88</td>
</tr>
</tbody>
</table>

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:

   \[ A_C = A + \left( A_F \times F_{EO} \right) \]

   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

<table>
<thead>
<tr>
<th>Exposing Building Face</th>
<th>Limiting Distance, m</th>
<th>Area of Unprotected Opening for Groups A, C, D, and F, Division 3 Occupancies, %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0 1 2 1.5 2 2.5 3 4 5 6 7 8 9 10 11 12 13 14 16 18 20 25 30 35 40 45 50</td>
<td></td>
</tr>
<tr>
<td>Less than 3 : 1</td>
<td>0 8 10 18 29 46 91 100</td>
<td></td>
</tr>
<tr>
<td>3 : 1 to 10 : 1</td>
<td>0 8 12 21 33 50 96 100</td>
<td></td>
</tr>
<tr>
<td>over 10 : 1</td>
<td>0 11 18 32 48 68 100</td>
<td></td>
</tr>
</tbody>
</table>
### Table 3.2.3.1.-B (continued)

Unprotected Opening Limits for a Building or Fire Compartment that is not Sprinklered Throughout

Forming Part of Article 3.2.3.1.

<table>
<thead>
<tr>
<th>Exposing Building Face</th>
<th>Ratio (L/H or H/L)</th>
<th>Limiting Distance, m</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Max. Area, m²</td>
<td>0</td>
</tr>
<tr>
<td>Less than 3 : 1</td>
<td>15</td>
<td>0</td>
</tr>
<tr>
<td>3 : 1 to 10 : 1</td>
<td>over 10 : 1</td>
<td>0</td>
</tr>
<tr>
<td>Less than 3 : 1</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>3 : 1 to 10 : 1</td>
<td>over 10 : 1</td>
<td>0</td>
</tr>
<tr>
<td>Less than 3 : 1</td>
<td>25</td>
<td>0</td>
</tr>
<tr>
<td>3 : 1 to 10 : 1</td>
<td>over 10 : 1</td>
<td>0</td>
</tr>
<tr>
<td>Less than 3 : 1</td>
<td>30</td>
<td>0</td>
</tr>
<tr>
<td>3 : 1 to 10 : 1</td>
<td>over 10 : 1</td>
<td>0</td>
</tr>
<tr>
<td>Less than 3 : 1</td>
<td>40</td>
<td>0</td>
</tr>
<tr>
<td>3 : 1 to 10 : 1</td>
<td>over 10 : 1</td>
<td>0</td>
</tr>
<tr>
<td>Less than 3 : 1</td>
<td>50</td>
<td>0</td>
</tr>
<tr>
<td>3 : 1 to 10 : 1</td>
<td>over 10 : 1</td>
<td>0</td>
</tr>
<tr>
<td>Less than 3 : 1</td>
<td>60</td>
<td>0</td>
</tr>
<tr>
<td>3 : 1 to 10 : 1</td>
<td>over 10 : 1</td>
<td>0</td>
</tr>
</tbody>
</table>
### Table 3.2.3.1.-B (continued)
Unprotected Opening Limits for a Building or Fire Compartment that is not Sprinklered Throughout
Forming Part of Article 3.2.3.1.

<table>
<thead>
<tr>
<th>Exposing Building Face</th>
<th>Area of Unprotected Opening for Groups A, C, D, and F, Division 3 Occupancies, %</th>
<th>Limiting Distance, m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Area, m²</td>
<td>Ratio (L/H or H/L)(1)</td>
<td>0</td>
</tr>
<tr>
<td>over 10 : 1</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Less than 3 : 1</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>80</td>
<td>3 : 1 to 10 : 1</td>
<td></td>
</tr>
<tr>
<td>over 10 : 1</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Less than 3 : 1</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>100</td>
<td>3 : 1 to 10 : 1</td>
<td></td>
</tr>
<tr>
<td>over 10 : 1</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Less than 3 : 1</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>150</td>
<td>3 : 1 to 10 : 1</td>
<td></td>
</tr>
<tr>
<td>over 10 : 1</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Less than 3 : 1</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>250</td>
<td>3 : 1 to 10 : 1</td>
<td></td>
</tr>
<tr>
<td>over 10 : 1</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Less than 3 : 1</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>350</td>
<td>3 : 1 to 10 : 1</td>
<td></td>
</tr>
<tr>
<td>over 10 : 1</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Less than 3 : 1</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>500</td>
<td>3 : 1 to 10 : 1</td>
<td></td>
</tr>
<tr>
<td>over 10 : 1</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Less than 3 : 1</td>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>
### Table 3.2.3.1.-B (continued)
Unprotected Opening Limits for a Building or Fire Compartment that is not Sprinklered Throughout
Forming Part of Article 3.2.3.1.

<table>
<thead>
<tr>
<th>Exposing Building Face</th>
<th>Area of Unprotected Opening for Groups E and F, Division 3 Occupancies, %</th>
<th>Limiting Distance, m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Area, m²</td>
<td>Ratio (L/H or H/L)(1)</td>
<td>0</td>
</tr>
<tr>
<td>1 000</td>
<td>3:1 to 10:1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>over 10:1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Less than 3:1</td>
<td>0</td>
</tr>
<tr>
<td>2 000</td>
<td>3:1 to 10:1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>over 10:1</td>
<td>0</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Exposing Building Face</th>
<th>Area of Unprotected Openings for Groups E and F, Division 1 and 2 Occupancies, %</th>
<th>Limiting Distance, m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Area, m²</td>
<td>Ratio (L/H or H/L)(1)</td>
<td>0</td>
</tr>
<tr>
<td>Less than 3:1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>10</td>
<td>3:1 to 10:1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>over 10:1</td>
<td>0</td>
</tr>
<tr>
<td>Less than 3:1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>15</td>
<td>3:1 to 10:1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>over 10:1</td>
<td>0</td>
</tr>
<tr>
<td>Less than 3:1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>20</td>
<td>3:1 to 10:1</td>
<td>0</td>
</tr>
</tbody>
</table>
## Table 3.2.3.1.-C (continued)

Unprotected Opening Limits for a Building or Fire Compartment that is not Sprinklered Throughout

Forming Part of Article 3.2.3.1.

<table>
<thead>
<tr>
<th>Exposing Building Face</th>
<th>Area of Unprotected Openings for Groups E and F, Division 1 and 2 Occupancies, %</th>
<th>Limiting Distance, m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Ratio (L/H or H/L)</td>
<td>0</td>
<td>1.2</td>
</tr>
<tr>
<td>over 10 : 1</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Less than 3 : 1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>25 3 : 1 to 10 : 1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>over 10 : 1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Less than 3 : 1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>30 3 : 1 to 10 : 1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>over 10 : 1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Less than 3 : 1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>40 3 : 1 to 10 : 1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>over 10 : 1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Less than 3 : 1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>50 3 : 1 to 10 : 1</td>
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<td>4</td>
</tr>
<tr>
<td>over 10 : 1</td>
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<td>4</td>
</tr>
<tr>
<td>Less than 3 : 1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
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</tr>
<tr>
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</tr>
<tr>
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<td>80 3 : 1 to 10 : 1</td>
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</table>
### Table 3.2.3.1.-C (continued)

Unprotected Opening Limits for a Building or Fire Compartment that is not Sprinklered Throughout

Forming Part of Article 3.2.3.1.

<table>
<thead>
<tr>
<th>Exposing Building Face</th>
<th>Area of Unprotected Openings for Groups E and F, Division 1 and 2 Occupancies, %</th>
<th>Limiting Distance, m</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Max. Area, m²</td>
<td>Ratio (L/H or H/L)</td>
</tr>
<tr>
<td>over 10 : 1</td>
<td>0 4 5 6 9 11 16 22 28 35 43 52 62 73 85 98 100</td>
<td></td>
</tr>
<tr>
<td>Less than 3 : 1</td>
<td>0 4 4 4 5 5 8 11 15 20 26 32 40 48 58 68 79 100</td>
<td></td>
</tr>
<tr>
<td>100 3 : 1 to 10 : 1</td>
<td>0 4 4 4 5 6 9 13 17 22 28 35 42 51 60 70 81 100</td>
<td></td>
</tr>
<tr>
<td>over 10 : 1</td>
<td>0 4 6 8 10 14 19 25 31 37 44 52 61 71 81 92 100</td>
<td></td>
</tr>
<tr>
<td>Less than 3 : 1</td>
<td>0 4 4 4 4 5 6 8 11 14 18 23 28 33 40 46 54 70 89 100</td>
<td></td>
</tr>
<tr>
<td>150 3 : 1 to 10 : 1</td>
<td>0 4 4 4 5 6 8 10 13 16 20 25 30 36 42 49 56 73 92 100</td>
<td></td>
</tr>
<tr>
<td>over 10 : 1</td>
<td>0 4 5 7 8 12 16 20 24 29 34 39 46 52 59 67 84 100</td>
<td></td>
</tr>
<tr>
<td>Less than 3 : 1</td>
<td>0 4 4 4 4 4 5 7 8 10 12 15 18 22 25 29 34 44 55 68 100</td>
<td></td>
</tr>
<tr>
<td>250 3 : 1 to 10 : 1</td>
<td>0 4 4 4 4 5 6 8 10 12 14 17 20 24 27 32 36 46 57 70 100</td>
<td></td>
</tr>
<tr>
<td>over 10 : 1</td>
<td>0 4 4 5 6 7 9 12 15 18 21 25 28 32 37 41 46 56 68 81 100</td>
<td></td>
</tr>
<tr>
<td>Less than 3 : 1</td>
<td>0 4 4 4 4 4 5 6 7 8 10 12 14 16 19 22 25 32 40 49 77 100</td>
<td></td>
</tr>
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</tr>
<tr>
<td>over 10 : 1</td>
<td>0 4 4 4 5 6 8 10 13 15 18 21 23 26 30 33 36 44 53 62 90 100</td>
<td></td>
</tr>
<tr>
<td>Less than 3 : 1</td>
<td>0 4 4 4 4 4 4 5 6 7 8 9 11 13 14 16 19 24 29 36 55 78 100</td>
<td></td>
</tr>
<tr>
<td>500 3 : 1 to 10 : 1</td>
<td>0 4 4 4 4 4 5 6 7 8 9 11 13 14 16 18 21 26 31 38 57 80 100</td>
<td></td>
</tr>
<tr>
<td>over 10 : 1</td>
<td>0 4 4 4 5 5 7 9 11 13 15 17 19 21 24 26 29 35 41 48 68 92 100</td>
<td></td>
</tr>
<tr>
<td>Less than 3 : 1</td>
<td>0 4 4 4 4 4 4 4 5 5 6 6 7 8 9 10 11 14 16 29 41 55 71 89 100</td>
<td></td>
</tr>
<tr>
<td>1000 3 : 1 to 10 : 1</td>
<td>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</td>
<td></td>
</tr>
</tbody>
</table>
### Table 3.2.3.1.-C (continued)

Unprotected Opening Limits for a Building or Fire Compartment that is not Sprinklered Throughout
Forming Part of Article 3.2.3.1.

<table>
<thead>
<tr>
<th>Exposing Building Face</th>
<th>Area of Unprotected Openings for Groups E and F, Division 1 and 2 Occupancies, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Area m²</td>
<td>Ratio (L/H or H/L)</td>
</tr>
<tr>
<td>over 10 : 1</td>
<td>0</td>
</tr>
<tr>
<td>Less than 3 : 1</td>
<td>0</td>
</tr>
<tr>
<td>2 000 3 : 1 to 10 : 1</td>
<td>0</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Exposing Building Face</th>
<th>Area of Unprotected Opening for Groups A, B, C, D and F, Division 3 Occupancies, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Area m²</td>
<td>Limiting Distance, m</td>
</tr>
<tr>
<td>0</td>
<td>1.2</td>
</tr>
<tr>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>15</td>
<td>0</td>
</tr>
<tr>
<td>20</td>
<td>0</td>
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<tr>
<td>25</td>
<td>0</td>
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<td>30</td>
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<td>40</td>
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<td>50</td>
<td>0</td>
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<tr>
<td>60</td>
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<tr>
<td>80</td>
<td>0</td>
</tr>
<tr>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>150 or more</td>
<td>0</td>
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</table>
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.

<table>
<thead>
<tr>
<th>Exposing Building Face</th>
<th>Area of Unprotected Opening for Groups E and F, Division 1 and 2 Occupancies, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Area, m²</td>
<td>Limiting Distance, m</td>
</tr>
<tr>
<td></td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td></td>
</tr>
<tr>
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<tr>
<td>80</td>
<td></td>
</tr>
<tr>
<td>100</td>
<td></td>
</tr>
<tr>
<td>150</td>
<td></td>
</tr>
<tr>
<td>200 or more</td>
<td></td>
</tr>
</tbody>
</table>

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 two 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) |

<table>
<thead>
<tr>
<th>Occupancy Classification of Building or Fire Compartment</th>
<th>Maximum Area of Unprotected Openings Permitted, % of Exposing Building Face Area</th>
<th>Minimum Required Fire-Resistance Rating</th>
<th>Type of Construction Required</th>
<th>Type of Cladding Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group A, B, C, D, or Group F, Division 3</td>
<td>0 to 10</td>
<td>1 h</td>
<td>Noncombustible</td>
<td>Noncombustible</td>
</tr>
<tr>
<td></td>
<td>&gt; 10 to 25</td>
<td>1 h</td>
<td>Combustible or Noncombustible</td>
<td>Noncombustible</td>
</tr>
<tr>
<td></td>
<td>&gt; 25 to 50</td>
<td>45 min</td>
<td>Combustible or Noncombustible</td>
<td>Noncombustible</td>
</tr>
<tr>
<td></td>
<td>&gt; 50 to &lt; 100</td>
<td>45 min</td>
<td>Combustible or Noncombustible</td>
<td>Combustible or Noncombustible(1)</td>
</tr>
</tbody>
</table>
3) Except as provided in Article 3.1.4.8., 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., 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

e) 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 m² 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 with all storeys constructed as open-air storeys 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 opening 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 or ramp 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 or ramp, or
   b) less than 5 m above the exit stair or ramp.

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, or
   c) a closure conforming to the requirements of Subsection 3.1.8. and Articles 3.2.3.1. and 3.2.3.14.

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 \( D_0 \) where

\[
D_0 = 2D - \left( \frac{\theta}{90} \times D \right)
\]

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
\( \theta = \) 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, \( \theta = 0° \)).

(See Note A-3.2.3.14.(1).)

2) The exterior wall of each fire compartment referred to in Sentence (1) within the distance, \( D_0 \), 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.

3) A walkway connected to a building required to be of noncombustible 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.

4) 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.

5) 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 British Columbia Fire Code.

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) and (3), 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 that is not sprinklered 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 that is contained in a building that is not sprinklered 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)).

(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).)

### 3.2.4.7. 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 Sentence (6), the annunciator required by Sentence (1) shall have separate zone indication of the actuation of the alarm initiating 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 m²,
   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, and
   h) fire compartment required by Sentence 3.3.3.5.(2).

(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 m², 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.

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 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.
A fire pump shall be electrically supervised as stipulated in NFPA 20, “Installation of Stationary Pumps for Fire Protection.”

Indication of a supervisory signal in accordance with Sentence (3) shall be transmitted to the fire department in conformance with Sentence 3.2.4.7.(4).

### 3.2.4.10. Fire Detectors

1) *Fire detectors* required by this Code 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., and
   g) elevator machine rooms.

(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*. 

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Effective December 10, 2018 to December 11, 2019
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

1) Except as permitted by Sentence (3), in a building having elevators that serve storeys above the first storey and that are equipped with an automatic emergency recall feature, smoke detectors shall be installed in the elevator lobbies on the recall level so that when these smoke detectors are actuated, the elevators will automatically return directly to an alternate floor level.

2) Smoke detectors required by Sentence (1) shall be designed as part of the building fire alarm system.

3) The alternate floor recall feature required by Sentence (1) is not required if the floor area containing the recall level is sprinklered throughout.

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
   b) alert signals are clearly audible in continuously staffed locations, and where there are no continuously staffed locations, throughout the floor area.

(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 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) In a building or part thereof classified as a residential or care occupancy,
   a) separate circuits shall be provided for audible signal devices on each floor area, and
   b) audible signal devices within dwelling units or suites of residential or care occupancy shall be wired on separate signal circuits from those not within dwelling units or suites of residential or care occupancy.

(See Note A-3.2.4.18.(8) and (9).)

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).)

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 who 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 Sentence (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
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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 Sentence (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 Sentences 3.8.2.12.(5) and 3.8.5.3.(4) shall be
   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,” and
   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.

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 to 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

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 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) The 2-way communication system referred to in Clause (1)(a) shall be installed so that emergency telephones are located in each floor area near exit stair shafts.

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.

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) 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
   a) a stairway, or
   b) a hatch not less than 550 mm by 900 mm with a fixed ladder.

3.2.5.4. Access Routes

1) A building which is more than 3 storeys in building height or more than 600 m² in building area shall be provided with access routes for fire department vehicles
   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

1) Access routes required by Article 3.2.5.4. shall be located so that the principal entrance and 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 required for fire department use, measured horizontally from the face of the building.

2) Access routes shall be provided to a building so that
   a) for a building provided with a fire department connection, a fire department pumper vehicle can be located adjacent to the hydrants referred to in Article 3.2.5.15.,
   b) for a building not provided with a fire department connection, a fire department pumper vehicle can be located so that the length of the access route from a hydrant to the vehicle plus the unobstructed path of travel for the firefighter from the vehicle to the building is not more than 90 m, and
   c) the unobstructed path of travel for the firefighter from the vehicle to the building is not more than 45 m.

3) The unobstructed path of travel for the firefighter required by Sentence (2) from the vehicle to the building shall be measured from the vehicle to the fire department connection provided for the building, except that if no fire department connection is provided, the path of travel shall be measured to the principal entrance of the building.

4) If a portion of a building is completely cut off from the remainder of the building so that there is no access to the remainder of the building, the access routes required by Sentence (2) shall be located so that the unobstructed path of travel from the vehicle to one entrance of each portion of the building is not more than 45 m.

3.2.5.6. Access Route Design

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.

3.2.5.7. 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.

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<thead>
<tr>
<th>Occupancy Classification</th>
<th>Building Area, m²</th>
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<tr>
<td>Group C</td>
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<td>Group F, Division 2</td>
<td>1 500</td>
</tr>
<tr>
<td>Group F, Division 3</td>
<td>3 000</td>
</tr>
</tbody>
</table>

3.2.5.9. Standpipe System Design

1) Except as provided in Sentences (2) to (6), 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.
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 and installation of an automatic sprinkler system installed

   a) in a building of residential occupancy throughout that contains not more than 2 dwelling units, or

   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.
(See Note A-3.2.5.12.(2).)

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 systems, 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).)

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 3.2.2.50. 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).)

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/m².

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**

1) The fire department connection for a standpipe system shall be located so that the distance from the fire department connection to a hydrant is not more than 45 m and is unobstructed.

2) The fire department connection for an automatic sprinkler system shall be located so that the distance from the fire department connection to a hydrant is not more than 45 m and is unobstructed.

3.2.5.16. **Portable Fire Extinguishers**

1) Portable extinguishers shall be provided and installed in accordance with the British Columbia Fire Code.

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.).)

3.2.6. **Additional Requirements for High Buildings**

(See Note A-3.2.6.)

3.2.6.1. **Application**

1) This Subsection applies to a building
   a) of Group A, D, E or F major occupancy classification that is more than
      i) 36 m high, measured between grade and the floor level of the top storey, or
      ii) 18 m high, measured between grade and the floor level of the top storey, and in which the cumulative or total occupant load on or above any storey above grade, other than the first storey, divided by 1.8 times the width in metres of all exit stairs at that storey, exceeds 300,
   b) containing a Group B major occupancy in which the floor level of the highest storey of that major occupancy is more than 18 m above grade,
   c) containing a floor area or part of a floor area located above the third storey designed or intended as a Group B, Division 2 or 3 occupancy, or
   d) containing a Group C major occupancy whose floor level is more than 18 m above grade.

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 m² for every door between the stair shaft and a floor area, but not less than 1.8 m²,

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) 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.

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 m² 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) Electrical conductors for the operation of the elevator referred to in Sentence (1) shall be
   a) installed in service spaces conforming to Section 3.6. that do not contain other combustible material, or
   b) protected against exposure to fire from the service entrance of the emergency power supply, or the normal service entrance of the normal power supply, to the equipment served, to ensure operation for a period of 1 h when subjected to the standard fire exposure described in CAN/ULC-S101, “Fire Endurance Tests of Building Construction and Materials,” (see Note A-3.2.6.5.(6)(b)).

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,
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j) means to communicate with telephones in elevator cars, separate from connections to firefighters’ telephones, if elevator cars are required by ASME A17.1/CSA B44, “Safety Code for Elevators and Escalators,” to be equipped with a telephone,
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 conforming to Article 3.2.4.22. shall be provided in a building if
   a) the floor of the top storey is more than 36 m above grade, or
   b) a floor area or part of a floor area located above the third storey is designed or intended for use as a Group B, Division 2 or 3 occupancy.

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 daycare facilities for children,
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 36 m high measured between grade and the floor level of the top storey and every elevator for firefighters in conformance with Sentence (2),
   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) The protection of electrical and emergency conductors referred to in Clauses (a) to (c) shall conform to the requirements stated in Sentences (2) to (11):
   a) electrical conductors located within buildings identified in Article 3.2.6.1. 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 serving fire pumps required to be installed under Article 3.2.5.18., and
   c) electrical conductors serving mechanical systems serving
      i) areas of refuge identified in Clause 3.3.3.6.(1)(b), or
      ii) contained use areas identified in Clauses 3.3.3.7.(4)(a) and (b).

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
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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
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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 m² 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 m²,  
   b) the building is sprinklered throughout, and  
   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)).  

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.  

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).)