

# APPENDIX

## Safety Codes Act

### BUILDING CODE AMENDMENT REGULATION

**1** The *Building Code Regulation* (AR 117/2007) is amended by this Regulation.

**2** Section 1 is repealed and the following is substituted:

#### Code in force

**1** The *Alberta Building Code 2006*, as established by the Safety Codes Council and published by the National Research Council of Canada, is declared in force with respect to buildings, with the variations set out in the Schedule.

**3** Section 4 is amended by striking out “November 30, 2016” and substituting “November 30, 2014”.

**4** The following is added after section 5:

#### Schedule

**1** Volume 1 is amended in Division A, “Compliance, Objectives, Functional Statements and Attribution Tables”,

(a) in Table 4.2.1.1.

(i) by striking out item 3.2.3.1. and substituting the following:

3.2.3.1. Limiting Distance and Area of Unprotected Openings	
(1)	[F03-OP3.1]
(5)	[F03-OP3.1]
(6)	[F03-OP3.1]
(8)	[F03-OP3.1]
(9)	[F03-OP3.1]
(10)	[F03-OP3.1]

(ii) by striking out items 3.2.3.6. and 3.2.3.7. and substituting the following:

3.2.3.6. Combustible Projections	
(1)	[F03-OP3.1]
(3)	[F03-OP3.1] [F03-OP1.2] [F03-OS1.2]
(4)	[F03-OP3.1] [F03-OP1.2]

	[F03-OS1.2]
(5)	[F03-OP3.1] [F03-OP1.2] [F03-OS1.2]
<b>3.2.3.7. Construction of Exposing Building Face</b>	
(1)	[F03,F02-OP3.1]
(2)	[F03,F02-OP3.1]
(3)	[F03, F02-OP3.1]

(b) in Table 4.7.1.1

(i) by striking out items 9.10.14.4 and 9.10.14.5 and substituting the following:

<b>9.10.14.4. Openings in Exposing Building Face</b>	
(1)	[F03-OP3.1]
(2)	[F03-OP3.1]
(3)	[F03-OP3.1]
(4)	[F03-OP3.1]
(6)	[F03-OP3.1]
(7)	[F03-OP3.1]
<b>9.10.14.5. Construction of Exposing Building Face and Walls above Exposing Building Face</b>	
(1)	[F02,F03-OP3.1]
(2)	[F02,F03-OP3.1]
(3)	[F02,F03-OP3.1]
(4)	[F03-OP3.1]
(5)	[F03-OP3.1] [F03-OP1.2] [F03-OS1.2]
(6)	[F03-OP3.1] [F03-OP1.2] [F03-OS1.2]
(7)	[F03-OP3.1] [F03-OP1.2] [F03-OS1.2]

(ii) by striking out items 9.10.15.4 and 9.10.15.5 and substituting the following:

<b>9.10.15.4. Glazed Openings in Exposing Building Face</b>	
(1)	[F03-OP3.1]
(3)	[F03-OP3.1]
(4)	[F03-OP3.1]
<b>9.10.15.5. Construction of Exposing Building Face of Houses</b>	
(1)	[F02,F03-OP3.1]
(2)	[F02,F03-OP3.1]
(3)	[F02,F03-OP3.1]
(5)	[F03-OP3.1]
(7)	[F02,F03-OP3.1]
(8)	[F03-OP3.1] [F03-OP1.2] [F03-OS1.2]
(9)	[F03-OP3.1] [F03-OP1.2] [F03-OS1.2]
(10)	[F03-OP3.1] [F03-OP1.2] [F03-OS1.2]

**2 Volume 2 is amended in Division B, “Acceptable Solutions”,**

**(a) in Table 1.3.1.2.**

**(i) in the line that refers to ASTM document D 2898-94 (2004), “Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing”, by adding “3.2.3.7.(3)(c)(iii)” after “3.1.5.21.(1)” under the column heading “Code Reference”;**

**(ii) in the line that refers to CGSB document CAN/CGSB-93.2-M91, “Prefinished Aluminum Siding, Soffits and Fascia, for Residential Use”, by adding “3.2.3.6.(5)(b)(ii)” after “Table 5.10.1.1.” under the column heading “Code Reference”;**

**(iii) in the line that refers to CGSB document CAN/CGSB-93.4-92, “Galvanized Steel and Aluminum-Zinc Alloy Coated Steel Siding, Soffits and Fascia, Prefinished, Residential” by adding “3.2.3.6.(5)(b)(i)” after “Table 5.10.1.1.” under the column heading “Code Reference”;**

**(iv) in the line that refers to ULC document CAN/ULC S134-92 (R1998), “Fire Test of Exterior Wall Assemblies”, by striking out “3.1.5.5.(1)” under the column heading “Code Reference” and substituting the following:**

- 3.1.5.5.(1)
- 3.2.3.7.(2)
- 9.10.14.5.(2)
- 9.10.15.5.(2)(c)
- 9.10.15.5.(3)(c)

**(b) in Sentence 3.1.5.5.(1) by striking out “required to conform to Sentence 3.2.3.7.(1) or Sentence 3.2.3.7.(4)” and substituting “with a maximum aggregate area of *unprotected openings* that is not more than 10% of the *exposing building face* as determined by Sentence 3.2.3.7.(1)”;**

**(c) in Sentence 3.1.7.2.(1) by striking out “Sentence 3.2.3.1.(6)” and substituting “Sentence 3.2.3.1.(9)”;**

- (d) by adding the following after the heading “3.2.3.1. Limiting Distance and Area of Unprotected Openings”:

(See Appendix A.)

- (e) by striking out Sentences 3.2.3.1.(5) to 3.2.3.1.(7) and substituting the following:

5) Individual *unprotected openings* in an *exposing building face* shall have a projected area that is not more than the value determined in accordance with Table 3.2.3.1.E., unless

- a) the *building* is *sprinklered* throughout, or
- b) the *limiting distance* is more than 2 m.

**Table 3.2.3.1.E**  
**Maximum Concentrated Area of Unprotected Openings**  
Forming Part of Sentence 3.2.3.1.(5)

<i>Limiting Distance, m</i>	<i>Maximum Area of Individual Unprotected Openings, m<sup>2</sup></i>
0	0
1.2	0.35
1.5	0.78
2.0	1.88

6) An individual *unprotected opening* described in Sentence (5) shall be separated by not less than 2 m horizontally and 2 m vertically from any other *unprotected opening* that is located on the same *exposing building face* and within the same *fire compartment*. (See Appendix A.)

7) For the purposes of Sentence (6),

- a) two adjacent spaces are permitted to be considered as separate *fire compartments* where there is a full height wall extending not less than 1.5 m from the interior face of the exterior wall, finished in accordance with Subsection 9.29.4. or 9.29.5., and

- b) two stacked spaces shall be considered to be a single room or space where the spaces are on the same *storey*.

**8)** A *limiting distance* equal to half the actual *limiting distance* shall be used as input to the requirements of this Subsection, where

- a) the time from receipt of notification of a fire by the fire department until the first fire department vehicle capable of beginning suppression activities arrives at the *building* is greater than 10 minutes in not less than 10% of all calls to the *building*, and

- b) any *storey* in the *building* is not *sprinklered*.

(See Appendix A and A 3.2.3.1. in Appendix A.)

**9)** If the surface temperature on the unexposed surface of a wall assembly exceeds the temperature limit of a standard fire test as permitted by Article 3.1.7.2., an allowance shall be made for the radiation from the hot unexposed wall surface by adding an equivalent area of *unprotected opening* to the area of actual openings as follows:

$$A_C = A + (A_F \times F_{EO})$$

where

$A_C$  = corrected area of *unprotected openings* including actual and equivalent openings,

$A$  = actual area of *unprotected openings*,

$A_F$  = area of exterior surface of the *exposing building face*, exclusive of openings, on which the temperature limit of the standard test is exceeded, and

$F_{EO}$  = an equivalent opening factor derived from the following expression:

$$F_{EO} = \frac{(T_u + 273)^4}{(T_e + 273)^4}$$

$T_u$  = average temperature in degrees Celsius of the unexposed wall surface at the time the required

*fire-resistance rating* is reached under test conditions,

$T_e = 892^{\circ}\text{C}$  for a *fire-resistance rating* not less than 45 min,  $927^{\circ}\text{C}$  for a *fire-resistance rating* not less than 1 h, and  $1010^{\circ}\text{C}$  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*.

(f) by striking out Article 3.2.3.6. and substituting the following:

#### 3.2.3.6. Combustible Projections

1) Except as provided in Sentence (2), *combustible* projections on the exterior of a wall that are more than 1 m above ground level and that could expose an adjacent *building* to fire spread 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) Sentence (1) shall not apply to

- a) *buildings* containing 1 or 2 *dwelling units*, and
- b) detached garages or accessory *buildings*, where
  - i) the detached garage or accessory *building* serves only one *dwelling unit* or a primary *dwelling unit* with a *secondary suite*,
  - ii) the detached garage or accessory *building* is located on the same property as that *dwelling unit*, and

- iii) the *dwelling unit* served by the detached garage or accessory *building* is the only *major occupancy* on the property.

(See A-9.10.15.5.(6) in Appendix A.)

3) Where the *limiting distance* is not more than 0.45 m, projecting roof soffits shall not be constructed above an *exposing building face*.

4) Where the *limiting distance* is more than 0.45 m, the face of roof soffits above an *exposing building face* are permitted to project to not less than 0.45 m from a property line.

5) Where roof soffits project closer than 1.2 m from a property line, they shall

- a) have no openings, and
- b) be protected by
  - i) not less than 0.38 mm thick sheet steel conforming to CAN/CGSB-93.4, “Galvanized Steel and Aluminum-Zinc Alloy Coated Steel Siding, Soffits and Fascia, Prefinished, Residential,”
  - 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 board conforming to Sentence 9.29.5.1.(2), Subclauses 9.29.5.2.(1)(e) and (f), and Articles 9.29.5.3. to 9.29.5.10.,
  - iv) not less than 11 mm thick plywood conforming to Sentences 9.27.9.1.(1), 9.27.9.3.(1) and 9.27.9.4.(1),
  - v) not less than 12.5 mm thick OSB or waferboard conforming to Sentences 9.27.11.1.(1) and 9.27.11.3.(1), or
  - vi) not less than 11 mm thick lumber conforming to Sentence 9.27.6.1.(1).

(g) by striking out Article 3.2.3.7. and substituting the following:

**3.2.3.7. Construction of Exposing Building Face**

1) Except as provided in Sentences (2) and (3) and Articles 3.2.3.10. and 3.2.3.11., *fire-resistance rating*, construction and cladding for *exposing building faces* of *buildings* or *fire compartments* shall comply with Table 3.2.3.7.

**Table 3.2.3.7.  
Minimum Construction Requirements  
for Exposing Building Faces  
Forming Part of Sentence 3.2.3.7.(1)**

<i>Occupancy Classification of Building or Fire Compartment</i>	<i>Maximum Area of Unprotected Openings Permitted, % of Exposing Building Face Area</i>	<i>Minimum Required Fire-Resistance Rating</i>	<i>Type of Construction Required</i>	<i>Type of Cladding Required</i>
Group A, B, C, D, or Group F, Division 3	0 - 10	1 h	<i>Noncombustible</i>	<i>Noncombustible</i>
	> 10 - 25	1 h	<i>Combustible or Noncombustible</i>	<i>Noncombustible<sup>(1)</sup></i>
	> 25 - 50	45 min	<i>Combustible or Noncombustible</i>	<i>Noncombustible<sup>(2)</sup></i>
	> 50 - < 100	45 min	<i>Combustible or Noncombustible</i>	<i>Combustible or Noncombustible</i>
Group E, or Group F, Division 1 or 2	0 - 10	2 h	<i>Noncombustible</i>	<i>Noncombustible</i>
	> 10 - 25	2 h	<i>Combustible or Noncombustible</i>	<i>Noncombustible<sup>(1)</sup></i>
	> 25 - 50	1 h	<i>Combustible or Noncombustible</i>	<i>Noncombustible<sup>(2)</sup></i>
	> 50 - < 100	1 h	<i>Combustible or Noncombustible</i>	<i>Combustible or Noncombustible</i>

**Notes to Table 3.2.3.7:**

<sup>(1)</sup> See Sentence (2).

<sup>(2)</sup> See Sentence (3).

2) Except as provided in Sentence (3), cladding for *buildings* or *fire compartments* where the maximum aggregate area of *unprotected openings* is more than 10% of the *exposing building face* need not be *noncombustible* where the wall assembly satisfies the criteria of Sentences 3.1.5.5.(2) and (3) when subjected to testing in conformance with CAN/ULC S134, “Fire Test of Exterior Wall Assemblies.”

3) Cladding for *buildings* or *fire compartments* where the maximum aggregate area of *unprotected openings* is more than 25% but not more than 50% of the *exposing building face* need not be *noncombustible* where

- a) the *limiting distance* is not less than 5 m,
- b) the *building or fire compartment* is *sprinklered* throughout,
- c) the cladding
  - i) conforms to Subsection 9.27.6., 9.27.7., 9.27.9., 9.27.10., or 9.27.11.,
  - ii) is installed with or without furring members, over gypsum sheathing not less than 12.7 mm thick conforming to Articles 9.23.16.2 and 9.23.16.3 or over masonry (see Articles 3.1.11.2. and 9.10.16.2. for additional requirements for fire stopping of concealed spaces in wall assemblies), and
  - iii) after conditioning in conformance with ASTM D2898, “Methods for Accelerated Weathering on Fire-Retardant-Treated Wood for Fire Testing,” has a *flame-spread rating* not more than 25 when tested in accordance with Sentence 3.1.12.1.(1), or
- d) the cladding
  - i) conforms to Subsection 9.27.13.,
  - ii) is installed with or without furring members, over gypsum sheathing not less than 12.7 mm thick conforming to Articles 9.23.16.2 and 9.23.16.3 or over masonry (see Articles 3.1.11.2. and 9.10.16.2. for additional requirements for fire stopping of concealed spaces in wall assemblies),
  - iii) has a *flame-spread rating* not more 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.

4) The construction requirements for the *exposing building face* stated in Sentence (1) shall be satisfied before increasing

the *unprotected opening* area as permitted by Sentence 3.2.3.12.(1).

**(h) in Article 3.2.3.8.**

**(i) in Sentence (1) by striking out** “of Sentences 3.2.3.7.(2), (3), (5) and (6)” **and substituting** “for *buildings* with a maximum aggregate area of *unprotected openings* more than 10% of the *exposing building face* as determined by Sentence 3.2.3.7.(1),”;

**(ii) in Sentence (3) by striking out** “A-3.2.3.7.(7) in”;

**(i) in Sentence 3.2.3.12.(1) by striking out** “Sentence 3.2.3.7.(9)” **and substituting** “Sentence 3.2.3.7.(4)”;

**(j) in Article 3.2.5.13.**

**(i) by striking out Sentence (2) and substituting the following:**

2) Except as required by Sentences (10) and (11), NFPA 13R, “Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height,” is permitted to be used for the design, construction, installation and testing of an automatic sprinkler system installed in a *building* of *residential occupancy* throughout, not more than 4 *storeys* in *building height*, conforming to Articles 3.2.2.42. to 3.2.2.48.

**(ii) by adding the following after Sentence (9):**

**10)** Notwithstanding the requirements of Sentence (2) regarding the installation of automatic sprinkler systems, in *buildings of combustible construction*, sprinklers shall be required in

- a) porches and balconies,
- b) *public corridors*,
- c) stairs that are open and attached,
- d) attics and floor/ceiling spaces,
- e) penthouse equipment rooms,

- f) elevator machine rooms,
- g) concealed spaces dedicated exclusively to and containing only *dwelling unit* ventilation equipment,
- h) crawl spaces,
- i) closets or storage rooms on exterior balconies, and
- j) other concealed spaces that are not used or intended for living purposes or storage and do not contain fuel-fired *appliances*.

**11)** A concealed space mentioned in Sentence (10) does not require sprinkler protection provided the concealed space meets one of the criteria described in Clause 8.14.1.2. of NFPA 13, “Installation of Sprinkler Systems.”

**(k) in Article 9.10.12.4.**

**(i) in Sentence (3) by striking out** “Sentences (2) and (6)” **and substituting** “Sentence (2)”;

**(ii) by striking out Sentence (6);**

**(l) by adding the following after Article 9.10.12.4.:**

**9.10.12.5. Protection of Balconies**

(See Appendix A.)

**1)** This Article applies to *buildings* that

- a) contain more than 2 *suites* of *residential occupancy*,
- b) are not less than 2 *storeys* in *building height*,
- c) have *dwelling units* located in whole or in part above other *dwelling units*, and
- d) are not *sprinklered* throughout.

**2)** The protection required by Sentences (3) and (4) shall be provided by cladding that conforms to

- a) Subsection 9.27.8. or 9.27.12.,
- b) Section 9.28., or

- c) one of the methods described in Clause 3.2.3.7.(3)(c) or (d).

3) Balcony walls shall be protected by one of the methods mentioned in Sentence (2) from the floor level of the balcony to the underside of the balcony or roof assembly above for

- a) the full width and depth of the balcony, and
- b) 1.2 m on either side of the balcony.

4) Ceiling and roof assemblies above balconies mentioned in Sentence (3) shall be protected by one of the methods mentioned in Sentence (2).

**(m) in Sentence 9.10.14.2.(2) by striking out “Table 9.10.14.4.” and substituting “Table 9.10.14.4.A.”.**

**(n) by striking out Sentence 9.10.14.3.(1) and substituting the following:**

**9.10.14.3. Limiting Distance where Firefighting Facilities are Inadequate**

1) Except for the purpose of applying Sentences 9.10.14.4.(2), (8) and (9), and Sentence 9.10.14.5.(8), a *limiting distance* equal to half the actual *limiting distance* shall be used as input to the requirements of this Subsection, where

- a) the time from receipt of notification of a fire by the fire department until the first fire department vehicle capable of beginning suppression activities arrives at the *building* is greater than 10 minutes in not less than 10% of all calls to the *building*, and
- b) any *storey* in the *building* is not *sprinklered*.  
(See A-3.2.3.1. and A-3.2.3.1.(8) in Appendix A.)

**(o) in Article 9.10.14.4.**

**(i) by striking out Sentence (1) and substituting the following:**

1) Except as provided in Sentences (6) to (9), the maximum aggregate area of *unprotected openings* in an *exposing building face* shall

- a) conform to Table 9.10.14.4.A.,
- b) conform to Subsection 3.2.3., or

- c) where the *limiting distance* is not less than 1.2 m, be equal to or less than
  - i) the *limiting distance* squared, for *residential occupancies, business and personal services occupancies* and *low-hazard industrial occupancies*, and
  - ii) half the limiting distance squared, for mercantile occupancies and medium-hazard industrial occupancies.

**Table 9.10.14.4.A.**  
**Maximum Aggregate Area of Unprotected**  
**Openings in Exterior Walls**  
 Forming Part of Sentence 9.10.14.4.(1)

Occupancy Classification of Building	Maximum Total Area of Exposing Building Face, m <sup>2</sup>	Maximum Aggregate Area of <i>Unprotected Openings</i> , % of <i>Exposing Building Face Area</i>											
		<i>Limiting Distance, m</i>											
		Less than 1.2	1.2	1.5	2.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	25.0
Residential, business and personal services, and low-hazard industrial	30	0	7	9	12	39	88	100	—	—	—	—	—
	40	0	7	8	11	32	69	100	—	—	—	—	—
	50	0	7	8	10	28	57	100	—	—	—	—	—
	100	0	7	8	9	18	34	56	84	100	—	—	—
	Over 100	0	7	7	8	12	19	28	40	55	92	100	—
Mercantile and medium-hazard industrial	30	0	4	4	6	20	44	80	100	—	—	—	—
	40	0	4	4	6	16	34	61	97	100	—	—	—
	50	0	4	4	5	14	29	50	79	100	—	—	—
	100	0	4	4	4	9	17	28	42	60	100	—	—
	Over 100	0	4	4	4	6	10	14	20	27	46	70	100

**(ii) by striking out Sentences (3) to (8) and substituting the following:**

- 3)** Individual *unprotected openings* in an *exposing building face* shall have a projected area that is not more than the value determined in accordance with Table 9.10.14.4.B., unless
- (a) the *building* is *sprinklered* throughout, or
  - (b) the *limiting distance* is more than 2 m.

**Table 9.10.14.4.B.**  
**Maximum Concentrated Area of Unprotected Openings**  
Forming Part of Sentence 9.10.14.4.(3)

<i>Limiting Distance, m</i>	Maximum Area of Individual <i>Unprotected Openings, m<sup>2</sup></i>
Less than 1.2	0
1.2	0.35
1.5	0.78
2.0	1.88

**4)** An individual *unprotected opening* described in Sentence (3) shall be separated by not less than 2 m horizontally and 2 m vertically from any other *unprotected opening* that is located on the same *exposing building face* and within the same *fire compartment*. (See A-3.2.3.1.(6) in Appendix A.)

**5)** For the purposes of Sentence (4),

- a) two adjacent spaces are permitted to be considered as separate *fire compartments* where there is a full-height wall extending not less than 1.5 m from the interior face of the exterior wall, finished in accordance with Subsection 9.29.4. or 9.29.5., and
- b) two stacked spaces shall be considered to be a single room or space where the spaces are on the same *storey*.

**6)** The maximum aggregate area of *unprotected openings* shall be not more than twice the area

determined according to Sentence (1), where the *unprotected openings* are glazed with

- a) wired glass in steel frames, as described in Article 9.10.13.5., or
- b) glass blocks, as described in Article 9.10.13.7.

7) Where the *building* is *sprinklered*, the maximum aggregate area of *unprotected openings* shall be not more than twice the area determined according to Sentence (1), provided all rooms, including closets and bathrooms, that are adjacent to the *exposing building face* and that have *unprotected openings* are *sprinklered*, notwithstanding any exemptions in the sprinkler standards referenced in Article 3.2.5.13.

8) The maximum aggregate area of *unprotected openings* in an *exposing building face* of a *storage garage* need not comply with Sentence (1), where

- a) all *storeys* are constructed as open-air *storeys*, and
- b) the *storage garage* has a *limiting distance* of not less than 3 m.

9) The maximum aggregate area of *unprotected openings* in an *exposing building face* of a *storey* that faces a *street* and is at the same level as the *street* need not comply with Sentence (1), where the *limiting distance* is not less than 9 m.

(p) by striking out Article 9.10.14.5. and substituting the following:

**9.10.14.5. Construction of Exposing Building Face and Walls above Exposing Building Face**

1) Except as permitted in Sentences (2) to (9), each *exposing building face* and any exterior wall located above an *exposing building face* that encloses an *attic or roof space* shall be constructed in conformance with Table 9.10.14.5. (See also Subsection 9.10.8.) (See Appendix A.)

**Table 9.10.14.5.**  
**Minimum Construction Requirements**  
**for Exposing Building Faces**  
 Forming Part of Sentence 9.10.14.5.(1)

<i>Occupancy Classification of Building or Fire Compartment</i>	<i>Maximum Area of Unprotected Openings Permitted, % of Exposing Building Face Area</i>	<i>Minimum Required Fire-Resistance Rating</i>	<i>Type of Construction Required</i>	<i>Type of Cladding Required</i>
Residential, business and personal services, and low-hazard industrial	0 - 10	1 h	<i>Noncombustible</i>	<i>Noncombustible</i>
	> 10 - 25	1 h	<i>Combustible or Noncombustible</i>	<i>Noncombustible<sup>(1)</sup></i>
	> 25 - 50	45 min	<i>Combustible or Noncombustible</i>	<i>Noncombustible<sup>(2)</sup></i>
	> 50 - < 100	45 min	<i>Combustible or Noncombustible</i>	<i>Combustible or Noncombustible</i>
Mercantile and medium-hazard industrial	0 - 10	2 h	<i>Noncombustible</i>	<i>Noncombustible</i>
	> 10 - 25	2 h	<i>Combustible or Noncombustible</i>	<i>Noncombustible<sup>(1)</sup></i>
	> 25 - 50	1 h	<i>Combustible or Noncombustible</i>	<i>Noncombustible<sup>(2)</sup></i>
	> 50 - < 100	1 h	<i>Combustible or Noncombustible</i>	<i>Combustible or Noncombustible</i>

**Notes to Table 9.10.14.5.:**

<sup>(1)</sup> See Sentence (2).

<sup>(2)</sup> See Sentence (3).

**2)** Except as provided in Sentence (3), cladding on *exposing building faces* and any exterior wall above an *exposing building face* that enclose an *attic or roof space* for *buildings or fire compartments* where the maximum aggregate area of *unprotected openings* is more than 10% of the *exposing building face* need not be *noncombustible* where the wall assembly satisfies the criteria of Sentences 3.1.5.5.(2) and (3) when subjected to testing in conformance with CAN/ULC S134, “Fire Test of Exterior Wall Assemblies.”

**3)** Cladding on *exposing building faces* and on any exterior wall located above an *exposing building face* that encloses an *attic or roof space* for *buildings or fire compartments* where the maximum aggregate area of *unprotected openings* is more than 25% but not more than 50% of the *exposing building face*, need not be *noncombustible* where

a) the *limiting distance* is not less than 5 m,

- b) the *building* or *fire compartment* is *sprinklered* throughout, or
  - c) the cladding conforms to Clause 3.2.3.7.(3)(c) or (d).
- 4) *Combustible* projections on the exterior of a wall that are more than 1 m above ground level and that could expose an adjacent *building* to fire spread 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.
- 5) Where the *limiting distance* is not more than 0.45 m, projecting roof soffits shall not be constructed above the *exposing building face*.
- 6) Where the *limiting distance* is more than 0.45 m, the face of roof soffits above the *exposing building face* are permitted to project to not less than 0.45 m from a property line.
- 7) Where roof soffits project closer than 1.2 m from a property line, they shall
- a) have no openings, and
  - b) be protected by one of the materials listed in Clause 3.2.3.6.(5)(b).
- 8) Heavy timber and steel columns need not conform to the requirements of Sentence (1), provided the *limiting distance* is not less than 3 m.
- 9) Non-*loadbearing* wall components need not have a minimum *fire-resistance rating*, where the *building*
- a) is 1 *storey* in *building height*,
  - b) is of *noncombustible construction*,
  - c) is classified as a *low-hazard industrial occupancy* and used only for *low fire load occupancies*, such as power-generating plants or plants for the manufacture or storage of *noncombustible materials*, and

d) has a *limiting distance* of 3 m or more.

(q) **by striking out Articles 9.10.15.1. to 9.10.15.5. and substituting the following:**

**9.10.15.1. Application**

1) This Subsection applies to

- a) *buildings* that contain only *dwelling units* and have no *dwelling unit* above another *dwelling unit*,
- b) *buildings* that contain a detached garage or accessory *building* facing a *dwelling unit* where
  - i) the detached garage or accessory *building* serves only one *dwelling unit* or a primary *dwelling unit* with a *secondary suite*,
  - ii) the detached garage or accessory *building* is located on the same property as that *dwelling unit*,
  - iii) the *dwelling unit* served by the detached garage or accessory *building* is the only *major occupancy* on the property, and
- c) *buildings* that contain one *dwelling unit* located in whole or in part above another *dwelling unit*, provided the *buildings* contain
  - i) not more than 2 *dwelling units*, and
  - ii) not more than 3 *storeys*, including any *basements*.

(See Appendix A.)

2) This Subsection does not apply to hotels or motels.

**9.10.15.2. Area and Location of Exposing Building Face**

1) The area of an *exposing building face* shall be

- a) taken as the exterior wall area facing in one direction on any side of a *building*, and
- b) calculated as

- i) the total area measured from the finished ground level to the uppermost ceiling,
- ii) the area for each *fire compartment*, where a *building* is divided into *fire compartments* by *fire separations* with *fire-resistance ratings* not less than 45 min, or
- iii) the area of any number of individual vertical portions of the wall measured from the finished ground level to uppermost ceiling where Table 9.10.15.4. is used to determine the maximum aggregate area of glazed openings if the *limiting distance* is 2 m or more. (See A-9.10.15.4.(2) in Appendix A.)

2) For the purpose of using Table 9.10.15.4. to determine the maximum permitted area of glazed openings in an irregularly shaped or skewed exterior wall, the location of the *exposing building face* shall be taken as a vertical plane located so that there are no glazed openings between the vertical plane and the line to which the *limiting distance* is measured. (See A-3.2.3.1.(4) in Appendix A.)

3) For the purpose of using Table 9.10.15.5. to determine the required type of construction, cladding and *fire-resistance rating* for an irregularly shaped or skewed exterior wall,

- (a) the location of the *exposing building face* shall be taken as a vertical plane located so that no portion of the actual *exposing building face* is between the vertical plane and the line to which the *limiting distance* is measured, and
- (b) the value for the maximum aggregate area of glazed openings (see first column of Table 9.10.15.5.) shall be determined using the *limiting distance* measured from the location described in Clause (a). (See A-3.2.3.1.(4) in Appendix A.)

4) The *limiting distance* for an *exposing building face* that includes projections such as bow windows, bay

windows, or *flue* chases of *combustible construction*, shall be measured from the face of the projection nearest the line to which the *limiting distance* is measured.

**9.10.15.3. Limiting Distance where Firefighting Facilities are Inadequate**

1) Except for the purpose of applying Sentence 9.10.15.5.(1), a *limiting distance* equal to half the actual *limiting distance* shall be used as input to the requirements of this Subsection, where

a) the time from receipt of notification of a fire by the fire department until the first fire department vehicle capable of beginning suppression activities arrives at the *building* is greater than 10 minutes in not less than 10% of all calls to the *building*, and

b) any *storey* in the *building* is not *sprinklered*.  
(See A-3.2.3.1. and A-3.2.3.1.(8) in Appendix A.)

**9.10.15.4. Glazed Openings in Exposing Building Face**

1) Except as provided in Sentence (6), the maximum aggregate area of glazed openings in an *exposing building face* shall

a) conform to Table 9.10.15.4.,  
b) conform to Subsection 3.2.3., or  
c) be equal to or less than the *limiting distance* squared, where the *limiting distance* is not less than 1.2 m.

2) Where the limits on the area of glazed openings are determined for individual portions of the exterior wall, as described in Subclause 9.10.15.2.(1)(b)(iii), the maximum aggregate area of glazed openings for any portion shall conform to the values in the row of Table 9.10.15.4. corresponding to the maximum total area of *exposing building face* (see column 1 of the Table) that is equal to the sum of all portions of the *exposing building face*. (See Appendix A.)

3) Individual glazed openings in an *exposing building face* shall have a projected area that is not more than

50% of the maximum allowable aggregate area of glazed openings determined in Sentence (1), unless

- a) the *building* is *sprinklered* throughout, or
- b) the *limiting distance* is more than 2m.

4) An individual glazed opening described in Sentence (3) shall be separated by not less than 2 m horizontally and 2 m vertically from any other glazed opening that is located on the same *exposing building face* and within the same *fire compartment*. (See A-3.2.3.1.(6) in Appendix A.)

5) For the purposes of Sentence (4),

- a) two adjacent spaces are permitted to be considered as separate *fire compartments* where there is a full-height wall extending not less than 1.5 m from the interior face of the exterior wall, finished in accordance with Subsection 9.29.4. or 9.29.5., and
- b) two stacked spaces shall be considered to be a single room or space where the spaces are on the same *storey*.

6) The limits on the area of glazed openings shall not apply to the *exposing building face* of a *dwelling unit* facing a detached garage or accessory *building*, where

- a) the detached garage or accessory *building* serves only one *dwelling unit* or a primary *dwelling unit* with a *secondary suite*,
- b) the detached garage or accessory *building* is located on the same property as that *dwelling unit*, and
- c) the *dwelling unit* served by the detached garage or accessory *building* is the only *major occupancy* on the property.

**Table 9.10.15.4.**  
**Maximum Area of Glazed Openings**  
**in Exterior Walls**  
 Forming Part of Sentence 9.10.15.4.(1)

Maximum Total Area of Exposing Building Face, m <sup>2</sup>	Maximum Aggregate Area of Glazed Openings, % of <i>Exposing Building Face</i> Area											
	<i>Limiting Distance, m</i>											
	Less than 1.2	1.2	1.5	2.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	25.0
30	0	7	9	12	39	88	100	—	—	—	—	—
40	0	7	8	11	32	69	100	—	—	—	—	—
50	0	7	8	10	28	57	100	—	—	—	—	—
100	0	7	8	9	18	34	56	84	100	—	—	—
Over 100	0	7	7	8	12	19	28	40	55	92	100	—

**9.10.15.5. Construction of Exposing Building Face of Houses**

1) Except as provided in Sentences (4) and (6), each *exposing building face* and any exterior wall located above an *exposing building face* that encloses an *attic or roof space* shall be constructed in conformance with Sentence (2) or (3)

- a) for the *exposing building face* as a whole, or
- b) for any number of separate portions of the *exposing building face*. (See Subclause 9.10.15.2.(1)(b)(iii), Sentence 9.10.15.4.(2), and Appendix Note A-9.10.15.4.(2) in Appendix A. See also Subsection 9.10.8.).

2) Except as provided in Sentence (4), where the *limiting distance* is less than 0.6 m, the *exposing building face* and any exterior wall located above the *exposing building face* that encloses an *attic or roof space* shall have a *fire-resistance rating* of not less than 45 min and

- a) the cladding shall
  - i) be of a *noncombustible* material conforming to Sections 9.20., 9.27. or 9.28. (See Appendix Note A-9.10.14.5.(1) in Appendix A.), or
  - ii) conform to Clause 3.2.3.7.(3)(d), or
- b) the wall assembly shall satisfy the criteria of Sentences 3.1.5.5.(2) and (3) when subjected to testing in conformance with CAN/ULC S134, “Fire Test of Exterior Wall Assemblies.”

3) Except as provided in Sentence (4), where the *limiting distance* is not less than 0.6 m and less than 1.2 m, the *exposing building face* and any exterior wall located above the *exposing building face* that encloses an *attic or roof space* shall have a *fire-resistance rating* of not less than 45 min and

- a) the cladding shall

- i) be of a *noncombustible* material conforming to Sections 9.20., 9.27. or 9.28. (See Appendix Note A-9.10.14.5.(1) in Appendix A.), or
  - ii) conform to Clause 3.2.3.7.(3)(c) or (d), or
- b) the wall assembly shall satisfy the criteria of Sentences 3.1.5.5.(2) and (3) when subjected to testing in conformance with CAN/ULC S134, “Fire Test of Exterior Wall Assemblies.”
- 4) The requirements regarding *fire-resistance rating* and type of cladding-sheathing assemblies shall not apply to an *exposing building face*, or to a projection from an *exposing building face*, where
- a) the *exposing building face* or projection is part of a *dwelling unit* and faces a detached garage or accessory *building*, or is part of a garage or accessory *building* and faces a *dwelling unit*,
  - b) the detached garage or accessory *building* serves only one *dwelling unit* or a primary *dwelling unit* with a *secondary suite*,
  - c) the detached garage or accessory *building* is located on the same property as that *dwelling unit*, and
  - d) the *dwelling unit* served by the detached garage or accessory *building* is the only *major occupancy* on the property.
- 5) Except as provided in Sentence (6), *combustible* projections on the exterior of a wall that are more than 1 m above ground level and that could expose an adjacent *building* to fire spread 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.

- 6) Sentence (5) shall not apply to
- a) *buildings* containing 1 or 2 *dwelling units* only, and
  - b) detached garages or accessory *buildings*, where
    - i) the detached garage or accessory *building* serves only one *dwelling unit* or a primary *dwelling unit* with a *secondary suite*,
    - ii) the detached garage or accessory *building* is located on the same property as that *dwelling unit*, and
    - iii) the *dwelling unit* served by the detached garage or accessory *building* is the only *major occupancy* on the property.

(See Appendix A.)

7) Where *combustible* projections from an *exposing building face* are permitted by Sentence (6) and are totally enclosed and constructed with solid faces, such as for fireplaces and *chimneys*, and extend within 1.2 m of a property line,

- a) the construction of the face of the projection shall comply with the corresponding requirements for *exposing building faces* for *limiting distances* less than 1.2 m in Sentence (2) or (3),
- b) the construction required for the face of the projection shall also apply to the sides of the projection, and
- c) the underside of the projection shall be protected by one of the materials listed in Clause 3.2.3.6.(5)(b), if it is more than 0.6m above finished ground level.

(See Appendix A.)

8) Where the *limiting distance* is not more than 0.45 m, projecting roof soffits shall not be constructed above an *exposing building face*.

9) Where the *limiting distance* is more than 0.45 m, the face of roof soffits above an *exposing building face* are permitted to project to not less than 0.45 m from a property line.

10) Where roof soffits project closer than 1.2 m from a property line, they shall

- a) have no openings, and
- b) be protected by one of the materials listed in Clause 3.2.3.6.(5)(b).

11) Heavy timber and steel columns need not conform to the requirements of Sentence (1), provided the *limiting distance* is not less than 3 m.

- (r) **in Sentence 9.35.1.1.(1) by adding** “or a primary *dwelling unit* with a *secondary suite*” **after** “*dwelling unit*”;
- (s) **by striking out** “Walls and Columns” **in the heading for Article 9.35.4.1. and substituting** “Walls, Columns and Ceilings”;
- (t) **in Sentence 9.35.4.1.(1) by striking out** “Interior” **and substituting** “Except as required by Sentence (2), interior”;
- (u) **by adding the following after Sentence 9.35.4.1.(1):**
  - 2) The walls and ceilings of an attached garage shall have an interior finish consisting of
    - a) not less than 12.7 mm thick gypsum board conforming to Subsection 9.29.5.,
    - b) lath and plaster conforming to Subsection 9.29.4., or
    - c) any material that can be shown to remain in place and prevent the passage of flames for not less than 15 min when subjected to the standard fire exposure in CAN/ULC-S101, “Fire Endurance Tests of Building Construction and Materials.”
- (v) **by adding the following after Sentence 9.35.4.3.(1):**

**9.35.4.4. Thermal Insulation**

1) The walls and ceilings of an attached garage shall be provided with thermal insulation that conforms to Subsection 9.25.2.

**(w) in Appendix A, “Explanatory Material”,**

**(i) in Table A-1.3.1.2. by adding the following after the line that refers to NFPA document 1142-2001, “Water Supplies for Suburban and Rural Fire Fighting”:**

<b>NFPA</b>	<b>1710-2004</b>	<b>Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments</b>	<b>A-3.2.3.1.(8)</b>
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**(ii) by adding the following after Appendix Note A-3.2.2.35.(4):**

**A-3.2.3.1. Fire Protection Related to Limiting Distance versus Separation Between Buildings.**

Requirements in the Code for protection against fire spread from building to building are related to the limiting distance for a building, measured to a property line, the centre line of a street or an imaginary line between buildings, rather than the distance between adjacent buildings. (See definition for limiting distance.)

The Code does not provide requirements based on the distance between buildings, for buildings on separate properties, since this would result in situations where the design and construction of a building on one property would affect the design and construction of a building on an adjacent property.

The Code requirements for reducing the probability of building-to-building fire spread were originally developed based on an assumption that the exposing building faces of adjacent buildings are of similar size and configuration, and are placed equidistant from the property line. Where buildings are different sizes, the smaller building may be subject to higher heat flux in the case of a fire compared to the larger building. Where buildings are closely spaced and

not equidistant from property lines, the construction of the building with the greater limiting distance does not recognize the proximity of the building with the lesser limiting distance.

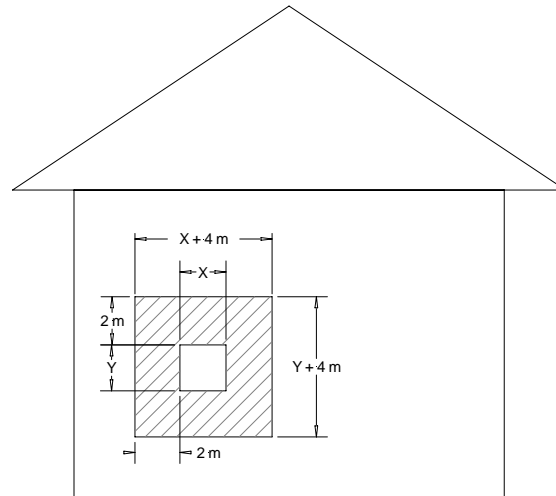
At lesser limiting distances, the Code has more stringent requirements for maximum area and spacing of unprotected openings, and for construction, cladding and fire resistance of walls. This recognizes that fire hazard is greater where buildings are closer together and that adjacent buildings may have exposing building faces of different sizes, configurations or limiting distances, which could further increase the hazard.

Limiting distances may also be addressed by the authority having jurisdiction through legal agreements where the parties agree that the limiting distance be measured to a line that is not the property line. Such agreements would normally be registered with the titles of both properties.

**(iii) by striking out Appendix Note A-3.2.3.3.(7) and substituting the following:**

**A-3.2.3.1.(6) Spacing between Individual Unprotected Openings**

The spacing values of 2 m horizontally and 2 m vertically given in Sentences 3.2.3.1.(6), 9.10.14.4.(4) and 9.10.15.4.(4) are not meant to apply at distances from the unprotected openings greater than 2 m. Figure A-3.2.3.1.(6) illustrates the area around an individual unprotected opening that would be considered “off-limits” for another unprotected opening. Other individual unprotected openings would be permitted, for example, directly above the window shown, provided the second window is more than 2 m above the first window.



**Figure A-3.2.3.1.(6) Spacing between Individual Unprotected Openings**

**A-3.2.3.1.(8) Intervention Time and Limiting Distance**

The total time from the start of a fire until fire suppression by the fire department begins depends on the times taken for a series of actions. Sentence 3.2.3.1.(8) is concerned only with the time from receipt of notification of a fire by the fire department until the first fire department vehicle arrives at the building. Sentence 3.2.3.1.(8) specifies a 10 minute time limit that must be met in at least 90% of the calls to the building served by the fire department.

This reliability rate and provision for flexibility is essentially consistent with NFPA 1710, “Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments.” While providing some guidance, NFPA 1710 does not cover all situations.

NFPA 1710 establishes “time objectives” for fire incidents as follows:

- 1 minute (60 seconds) for turn-out of responders after receipt of notification of a fire, and
- 4 minutes (240 seconds) or less for arrival of the first arriving engine company at a fire suppression incident and/or 8 minutes (480 seconds) or less for the deployment of a full first alarm assignment at a fire suppression incident.<sup>(1)</sup>

The standard requires that the fire department establish a “performance objective” of not less than 90% for each response time objective. This reliability level is referred to in NFPA 1710 as a “performance objective.”

Where the 10 minute limit cannot be met by the fire department at least 90% of the time, Sentence 3.2.3.1.(8) specifies that requirements that depend on limiting distance to define other criteria are to use a value that is half of the actual limiting distance.

The same applies in Part 9 as stated in Sentence 9.10.14.3.(1) and 9.10.15.3.(1).

(1) Reference: Clause 4.1.2.1. of NFPA 1710, “Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments,” 2004.

#### **A-3.2.3.8.(3) Noncombustible Cladding**

The requirement for the exterior protection of foamed plastic insulation in an exposing building face is intended to limit the exposure of the insulation to flames, thereby reducing the possibility of increased radiation to an exposed building. The permission to use combustible cladding systems conforming to Article 3.1.5.5. does not waive the requirements for noncombustible construction or noncombustible cladding in Sentences 3.2.3.7.(1).

(iv) **adding the following after Appendix Note A-9.10.12.4.(3):**

#### **A-9.10.12.5. Protection of Balconies**

This Article is intended to apply only to multi-family, multi-storey residential occupancies and multi-storey hotels or motels. It would not be appropriate to apply the requirements of this Article to row housing or single-family dwellings with or without secondary suites.

The popularity of exterior balconies as a place to smoke or barbecue, combined with combustible furnishing, propane, increased use of combustible cladding such as vinyl siding and lack of balcony sprinkler protection, has contributed to the potential for high intensity residential fires.

Provided that the fire department is notified in an appropriate time frame, protecting the exterior wall assembly with some form of fire-resistant construction (either noncombustible cladding or a fire-resistant sheathing material) around the entire balcony will decrease the likelihood of a balcony fire propagating into the interior of a building or into a concealed space within the building prior to the arrival of fire fighting personnel.

Extending the protection 1.2 m on either side of the balcony should ensure that any flame extension from a balcony fire is not able to compromise the protection provided under windy conditions that pull the flame around the edge of a balcony or further down the side of the wall.

**(v) adding the following after Appendix Note A-9.10.13.2.(1):**

**A-9.10.14.5.(1) Minor Combustible Cladding Elements**

Where the cladding is required to be noncombustible, minor elements are permitted to be of combustible material. These elements are intended to be distributed over the building face and not concentrated in one area.

**(vi) by striking out Appendix Note A-9.10.18.6.(1) and substituting the following:**

**A-9.10.15.5.(6) Permitted Projections**

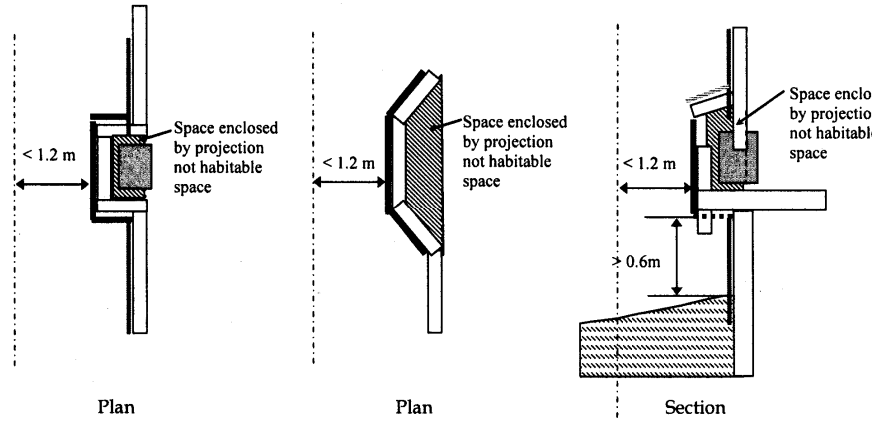
The definition of exposing building face provided in Sentence 1.4.1.2.(1) of Division A refers to “that part of the exterior wall of a building ... or, where a building is divided into fire compartments, the exterior wall of a fire compartment ...” Because exposing building face is defined with respect to the exterior wall, projections from exposing building faces are elements that do not incorporate exterior walls. Depending on their specific configurations, examples of constructions that would normally be permitted by Sentence 9.10.15.5.(6) are balconies, platforms, canopies, eave projections and stairs. However, if a balcony, platform or stair is enclosed, its exterior wall would become part of an exposing building face and the construction could not be considered to be a projection from the exposing building face.

**A-9.10.15.5.(7) Protection at Projections**

Sentence 9.10.14.5.(7) permits certain projections from exposing building faces where the constructions do not have exterior walls and thus clearly do not constitute part of the exposing building face. Sentence 9.10.14.5.(8) refers to other types of projections from the exposing building face, such as for fireplaces and chimneys. It is recognized that these present more vertical surface area compared to platforms, canopies and eave projections, and may be enclosed by constructions that are essentially the same as exterior walls. These constructions, however, do not enclose habitable space, are of limited width and may not extend a full storey in height. Consequently, Sentence (8) allows these projections beyond the exposing building face of buildings identified in Sentence (6) provided additional fire protection is installed on the projection.

Figure A-9.10.14.5.(8) illustrates projections that extends within 0.6 m or 1.2 m of the property line where additional protection must be provided. Where a projection extends within 0.6 m of the property line, it must be protected to the same degree as an exposing building face that has a limiting distance of less than 0.6 m. Where a projection extends within 1.2 m but not within 0.6 m of the property line, it must be protected to the same degree as an exposing building face that has a limiting distance of less than 1.2 m.

Protection is also required on the under-side of the projection where the projection is more than 0.6 m above finished ground level, measured at the exposing building face.



**Figure A-9.10.14.5.(7) Protection of projections**

- normal cladding-sheathing assembly
- ⋯ cladding-sheathing assemblies providing additional fire protection

**A-9.10.18.6.(1) Fire Alarm, Fire Detection and Smoke Detection Devices and Systems**

A number of provisions captured by the cross-reference to Subsection 3.2.4. address issues already addressed in Subsection 9.10.18. and so are not applicable to Part 9 buildings. For example, Articles 9.10.18.2. and 9.10.18.8. identify the Part 9 buildings where fire alarm systems are required, so Article 3.2.4.1. does not apply.

Note that, because the cross-reference relating to sprinkler systems in Sentence 9.10.1.2.(8) refers only to Subsection 3.2.5., the requirements of Subsection 3.2.4. regarding electrical supervision and monitoring do not normally apply to sprinkler systems in Part 9 buildings. However, where a sprinkler system is installed in lieu of heat and smoke detectors according to Sentence 9.10.18.3.(3), electrical supervision and monitoring of the sprinkler system must comply with the provisions in Subsection 3.2.4.

**5** Notwithstanding this Regulation, the *Building Code Regulation* (AR 117/2007), as it read immediately before the coming into force of this Regulation, remains in force for work in respect of which

- (a) a permit is issued after September 2, 2007 but prior to May 3, 2009, by a safety codes officer or other person designated by an Administrator pursuant to section 44 of the *Safety Codes Act*, or

- (b) a permit application is submitted after September 2, 2007 but prior to May 3, 2009, to a safety codes officer or other person designated by an Administrator pursuant to section 44 of the *Safety Codes Act*,

until that work has been completed or the permit has expired or been revoked.

**6 This Regulation comes into force on May 3, 2009.**