



Province of Alberta

## SAFETY CODES ACT

# FIRE CODE REGULATION

### **Alberta Regulation 118/2007**

With amendments up to and including Alberta Regulation 227/2012

### Office Consolidation

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(Consolidated up to 227/2012)

**ALBERTA REGULATION 118/2007**

**Safety Codes Act**

**FIRE CODE REGULATION**

*Table of Contents*

- 1 Code in force
- 2 Disclaimer
- 3 Repeal
- 5 Coming into force

Schedule

**Code in force**

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

AR 118/2007 s1;50/2009

**Disclaimer**

**2** The Code declared in force in this Regulation, and any codes and standards referred to in that Code, do not make or imply any assurance or guarantee by the Crown in right of Alberta with respect to the life expectancy, durability or operating performance of materials, appliances, systems and equipment referred to in that Code, codes or standards.

**Repeal**

**3** The *Fire Code Regulation* (AR 52/98) is repealed.

**4** Repealed AR 227/2012 s3.

**Coming into force**

**5** This Regulation comes into force on September 2, 2007.

## Schedule

### 1 Division B, "Acceptable Solutions", is amended

- (a) in Table 1.3.1.2. by striking out the line that refers to **CSA S350-M1980 (R2003)**, "Code of Practice for Safety in Demolition of Structures" including the reference in that line to **5.6.1.20.(1)** under the column heading "Code Reference";
- (b) by striking out subsections **5.6.1.** and **5.6.2.** and substituting the following:

#### **Section 5.6. Construction and Demolition Sites**

##### **5.6.1. General**

###### **5.6.1.1. Application**

(See Appendix A.)

- 1) This Section applies to fire safety for *buildings*, parts of *buildings*, facilities, adjacent *buildings* or facilities and associated areas undergoing construction, alteration or demolition operations.

###### **5.6.1.2. Protection of Adjacent Building**

- 1) Protection shall be provided for exposed adjacent *buildings* or facilities from fire originating from *buildings*, parts of *buildings*, facilities and associated areas undergoing construction, alteration or demolition operations. (See Appendix A.)

###### **5.6.1.3. Fire Safety Plan**

- 1) Except as required in Sentence (2), prior to the commencement of construction, alteration or demolition operations, a fire safety plan shall be prepared for the site and shall include
  - a) the designation and organization of site personnel to carry out fire safety duties, including a fire watch service if applicable,
  - b) the emergency procedures to be followed in the event of a fire, including
    - i) initiating a fire warning,
    - ii) notifying the fire department,

- iii) instructing site personnel on the procedures to be followed once the warning has been initiated, and
- iv) confining, controlling and extinguishing the fire,
- c) measures for controlling fire hazards in and around the *building* (see Appendix A), and
- d) a maintenance procedure for firefighting measures required in Section 5.6.

2) Where construction, alteration or demolition operations occur in an existing *building* that is required to have a fire safety plan conforming to Section 2.8., the fire safety plan shall take into account the changes occurring to the *building*.

#### 5.6.1.4. Access for Firefighting

- 1) Unobstructed access to fire hydrants, portable extinguishers and to fire department connections for standpipe and sprinkler systems shall be maintained.
- 2) A means shall be provided for firefighters to allow for firefighting on all levels of the *building*.
- 3) Provision shall be made for the use of existing elevators, hoists or lifts to assist such personnel in reaching all levels of the *building*.
- 4) Access routes for fire department vehicles shall be provided and maintained to construction and demolition sites.
- 5) Where a construction or demolition site is fenced so as to prevent general entry, provision shall be made for access by fire department equipment and personnel.

#### 5.6.1.5. Portable Extinguishers

- 1) In addition to the other requirements of this Code, portable extinguishers shall be provided in unobstructed and easily accessible locations
  - a) where hot work operations are carried out,
  - b) where combustibles are stored,
  - c) near internal combustion engines,

- d) where *combustible liquids, flammable liquids* or gases are stored or handled, and
  - e) where temporary fuel-fired equipment is used.
- 2) The extinguishers required by Sentence (1) shall have a minimum rating of
- a) 2-A:10-B:C on moveable equipment, and
  - b) 4-A:40-B:C in all other locations.

#### **5.6.1.6. Standpipe Systems**

(See Appendix A.)

- 1) Where a standpipe system is to be installed in a *building* under construction or alteration, the system shall be installed progressively in conformance with Subsection 3.2.5. of Division B of the Alberta Building Code 2006 in areas permitted to be occupied.
- 2) Where a standpipe is to be installed in portions of a *building* under construction or alteration that is not occupied
- a) a permanent or temporary standpipe system is permitted in accordance with Clauses (b) and (c),
  - b) the standpipe system shall be provided with conspicuously marked and readily accessible fire department connections on the outside of the *building* at the *street* level and shall have at least one hose outlet at each floor,
  - c) the pipe size, hose valves and water supply shall be in accordance with Subsection 3.2.5. of Division B of the Alberta Building Code 2006,
  - d) the standpipes system shall, as a minimum, be securely supported and restrained at each alternate floor,
  - e) at least one hose valve for attaching fire department hose shall be provided at each intermediate landing or floor level in the *exit* stairway,
  - f) hose valves shall be kept closed at all times and guarded against mechanical damage,

- g) the standpipe shall be not more than one floor below the highest forms, staging, and similar combustibles at all times, and
- h) temporary standpipe systems shall remain in service until permanent standpipe installation is complete.

3) Where a *building* being demolished floor by floor is equipped with a standpipe system, the system, together with fire department connections and valves, shall be maintained in operable condition on all *storeys* below the one being demolished, except for the *storey* immediately below it.

#### 5.6.1.7. Hot Surface Applications and Hot Works

- 1) Any activity that involves heat sources and hot processes shall be considered hot works and shall conform to the requirements in Sentences (2) and (3) and Section 5.2.
- 2) Bitumen kettles shall
  - a) not be located on roofs,
  - b) be provided with adequate metal covers that are close-fitting and constructed of steel having a thickness of not less than No. 14 standard gauge,
  - c) be under constant supervision when in operation, and
  - d) be maintained free of excessive residue.
- 3) Mops that have been used for spreading bitumen shall be kept outside the *building* in a safe location when not in use.

#### 5.6.1.8. Provision for Egress

- 1) In areas of a *building* where construction, alteration or demolition operations are taking place, at least one *exit* shall be accessible and usable at all times.
- 2) In *buildings* being demolished, at least one stairway shall be maintained in usable condition at all times.

**5.6.1.9. Fire Warning**

1) A means shall be provided to alert site personnel of a fire and such a means shall be capable of being heard throughout the *building* or facility.

**5.6.1.10. Building Services at Demolition Sites**

1) Except as required in Sentence (2) and except for water supplies for firefighting, *building* services shall be terminated at a point located outside the *building* or part thereof being demolished. (See Appendix A.)

2) The service company whose service connections will be affected shall be notified before any action described in Sentence (1) is taken and, if it is necessary to maintain any service, it shall be

- a) relocated as necessary, and
- b) protected from damage.

3) Temporary service installations shall be installed in conformance with regulations made pursuant to the Safety Codes Act.

**5.6.1.11. Ignition Sources**

1) Devices capable of producing ignition, internal combustion engines, temporary heating equipment and associated devices shall be kept at a safe distance from combustible material so as not to cause ignition. (See Appendix A.)

2) The clearance between combustible materials and temporary heating equipment, including *flues*, shall be in conformance with Part 6 of Division B of the Alberta Building Code 2006 or in conformance with the minimum clearances shown on certified heating equipment.

**5.6.1.12. Fuel Supply Installation**

1) Fuel supplies for heating equipment and internal combustion engines shall conform to

- a) CAN/CSA B139, "Installation Code for Oil Burning Equipment," or
- b) gas regulations made pursuant to the Safety Codes Act.



**5.6.1.13. Tank, Piping and Machinery Reservoir Safety at Demolition Sites**

- 1) Tanks, piping and machinery reservoirs at a demolition site shall be taken out of service in conformance with Subsection 4.3.15.
- 2) Tanks, piping and machinery reservoirs at a demolition site that contain *combustible liquids* or *flammable liquids* or that are likely to contain flammable vapours shall be drained and, except as permitted by Sentence (3), removed prior to the demolition of the *building*.
- 3) Where it is impracticable to remove tanks, piping or machinery reservoirs from the *building* prior to demolition, such equipment shall be conspicuously identified and removed as soon as conditions permit.
- 4) Tanks, piping and machinery reservoirs referred to in Sentences (1), (2) and (3) that once contained *combustible liquids*, *flammable liquids* or flammable vapours shall be purged with inert materials prior to demolition to prevent an explosion. (See Appendix A.)

**5.6.1.14. Fire Separations in Partly Occupied Buildings**

- 1) Where part of a *building* continues to be occupied, the occupied part shall be separated from the part being demolished or constructed by a *fire separation* having a *fire-resistance rating* of not less than 1 h.

**5.6.1.15. Watch**

- 1) A watch, with tours at intervals of not more than 1 h, shall be provided throughout demolition sites when there are occupants in the portion of the *building* not being demolished.
- 2) Except where a *building* is provided with a fire alarm system or similar equipment, a watch, with tours at intervals of not more than 1 h, shall be provided when a portion of the *building* is occupied while construction operations are taking place.
- 3) Facilities shall be provided to enable the watcher referred to in Sentences (1) and (2) to
  - a) ensure a fire warning is sounded to notify occupants, and

- b) communicate with the fire department.

#### **5.6.1.16. Smoking Restrictions**

- 1) Smoking shall be permitted only if Subsection 2.4.2. is complied with.

#### **5.6.1.17. Dangerous Goods Storage and Use**

- 1) *Flammable liquids* and *combustible liquids* shall be stored and used in conformance with Part 4.
- 2) *Dangerous goods* shall be stored in conformance with Part 3.
- 3) *Dangerous goods* shall be used in conformance with Part 5.

#### **5.6.1.18. Temporary Enclosures**

- 1) Fabrics and films used to temporarily enclose *buildings* shall be securely fastened to prevent them from being blown against heaters or other ignition sources.

#### **5.6.1.19. Disposal of Combustible Refuse**

- 1) Combustible refuse in sufficient quantities to constitute a fire hazard shall be moved to a safe location. (See also Subsection 8.2.5. of Division B of the Alberta Building Code 2006.)

#### **5.6.1.20. Protection during Shutdown**

- 1) Except as permitted in Sentence (2), where a fire protection system is provided, it shall remain operational throughout the construction, alteration or demolition area where reasonably practical.
- 2) When any portion of a fire protection system is temporarily shut down during construction, alteration or demolition operations, protection during shutdown shall comply with Article 6.1.1.4.

#### **5.6.1.21. Occupied Buildings**

- 1) When a *building* is occupied prior to its completion or during extensive alterations to it, fire safety measures in the occupied portions of the *building* shall be maintained or alternate provisions made.

2) Measures shall be taken to cordon off and control access to the work areas.

3) Required *exits* from the occupied area shall be maintained or alternate *means of egress* shall be provided. (See Appendix A.)

## **5.6.2. Excavation**

### **5.6.2.1. Services Shut-off**

1) Except as provided in Article 5.6.2.2., before excavation begins, *building* services shall be shut off, terminated and labelled so as to permit them to be easily identified outside the limits of the excavation. (See also Sentence 5.6.1.10.(1).)

2) The service company whose service connections will be affected shall be notified before any action described in Sentence (1) is taken and, if it is necessary to maintain any service, it shall be

- a) relocated as necessary, and
- b) protected from damage.

### **5.6.2.2. Maintaining Existing Services**

1) Existing gas, electrical, water, steam and other services are permitted to be left within the area of the excavation provided that

- a) before work begins, the service company concerned has approved the proposed method of operation,
- b) the location of the services is determined before excavation commences,
- c) a suitable method of excavation is adopted that will ensure that the services are not damaged, and
- d) the services are provided with suitable temporary supports.

(c) in Table 5.8.1.1. by striking out items 5.6.1.2. to 5.6.2.2. and substituting the following:

<b>5.6.1.2. Protection of Adjacent Building</b>	
(1)	[F11,F13,F12-OS1.2,OS1.5] [F01,F82-OS1.1] [F02,F82-OS1.2]
<b>5.6.1.3. Fire Safety Plan</b>	
(1)	[F11,F13,F12-OS1.2,OS1.5] [F01,F82-OS1.1] [F02,F82-OS1.2]
	[F13,F12-OP1.2] [F01,F82-OP1.1] [F02,F82-OP1.2]
<b>5.6.1.4. Access for Firefighting</b>	
(1)	[F12-OS1.2,OS1.5]
(2)	[F12-OP1.2]
	[F12-OS1.2,OS1.5]
(3)	[F12-OP1.2]
	[F12-OS1.2,OS1.5]
(4)	[F12-OS1.2,OS1.5]
	[F12-OP1.2]
(5)	[F12-OS1.2,OS1.5]
	[F12-OP1.2]
<b>5.6.1.5. Portable Extinguishers</b>	
(1)	[F12-OP1.2]
	[F12-OS1.2]
(2)	[F02-OP1.2]
	[F02-OS1.2]
<b>5.6.1.6. Standpipe Systems</b>	
(1)	[F02,F12-OS1.2]
	[F02,F12-OP1.2]
(2)	[F02,F12-OS1.2]
	[F02,F12-OP1.2]
(3)	[F12,F82-OP1.2]
	[F12,F82-OS1.2]

<b>5.6.1.7. Hot Surface Applications and Hot Works</b>	
(1)	[F01-OS1.1]
	[F01-OP1.1]
(2)	[F01-OS1.1]
	[F01-OP1.1]
(3)	[F01-OS1.2]
	[F01-OP1.2]
<b>5.6.1.8. Provision for Egress</b>	
(1)	[F10,F82-OS3.7]
(2)	[F10,F82-OS3.7]
<b>5.6.1.9. Fire Warning</b>	
(1)	[F11-OS1.5]
<b>5.6.1.10. Building Services at Demolition Sites</b>	
(1)	[F01,F43-OS1.1]
	[F01,F43-OP1.1]
	[F32-OS3.3]
(2)	[F81-OS1.1,OS1.2]
	[F81-OP1.1,OP1.2]
(3)	[F32-OS3.4]
	[F01-OS1.1,OS1.2]
<b>5.6.1.11. Ignition Sources</b>	
(1)	[F01,OS1.1]
	[F01,OP1.1]
(2)	[F01,OS1.1,OS1.2]
	[F01,OP1.1]
<b>5.6.1.13. Tank, Piping and Machinery Reservoir Safety at Demolition Sites</b>	
(2)	[F01,F43-OS1.1] [F01-OS1.1]
(3)	[F01,F81-OS1.1]

(4)	[F01,F43-OS1.1]
<b>5.6.1.14. Fire Separations in Partly Occupied Buildings</b>	
(1)	[F03-OP1.2]
	[F03-OS1.2]
<b>5.6.1.15. Watch</b>	
(1)	[F02-OS1.2,OS1.5]
(2)	[F02-OS1.5,OS1.2]
(3)	[F13-OS1.5,OS1.2]
<b>5.6.1.16. Smoking Restrictions</b>	
(1)	[F01-OS1.1]
<b>5.6.1.18. Temporary Enclosures</b>	
(1)	[F01-OS1.1,OS1.2]
<b>5.6.1.19. Disposal of Combustible Refuse</b>	
(1)	[F02-OP1.2]
<b>5.6.1.20. Protection during Shutdown</b>	
(1)	[F12, F82-OS1.2]
	[F12, F82-OP1.2]
	[F02-OP3.1]
(2)	[F02-OP1.2]
	[F02-OP3.1]
	[F02-OS1.2,OS1.5]
<b>5.6.11.21. Occupied Buildings</b>	
(1)	[F10,F11,F12,F13,F82-OS1.5] [F01-OS1.1]
	[F02,F11,F13,F82-OS1.2]
	[F02,F11,F12,F13,F82-OP1.2] [F01,F82-OP1.1]
(2)	[F34-OS1.1] [F34-OS3.4]
(3)	[F10-OS1.5]
<b>5.6.2.1. Services Shut-off</b>	
(1)	[F01, F43, F81-OS1.1,OS1.2]

	[F01, F43, F81–OP1.1,OP1.2]
	[F32,OS3.3]
(2)	[F81–OS1.1,OS1.2]
	[F81–OP1.1,OP1.2]
<b>5.6.2.2. Maintaining Existing Services</b>	
(1)	[F81–OS1.1,OS1.2]

**(d) in Appendix A**

- (i) in the line of Table A-1.3.1.2. that refers to NFPA 326-2005, “Safeguarding of Tanks and Containers for Entry, Cleaning, or Repair”, by striking out “A-5.6.1.13.(3)” under the column heading “Code Reference” and substituting “A-5.6.1.13.(4)”;**
- (ii) by striking out Appendix Notes A 5.6.1.1.(2) to A 5.6.1.21.(3) and substituting the following:**

**A-5.6.1.1.** The degree of application should be determined in advance in conjunction with the authority having jurisdiction. In construction, alteration or demolition operations that do not pose an exposure hazard to other buildings, or to occupants, the degree of application of Section 5.6. may be minimal.

The degree of application of Section 5.6. to each operation should be determined in advance, as part of the fire safety plan for the operation, taking into consideration such issues as the size of the operation, exposure hazards to adjacent buildings or facilities and the site conditions. Operations can range from large multi-storey buildings to small single-storey residences and may include additions or alterations to existing buildings.

**A-5.6.1.2.** Methods or materials to protect adjacent buildings or facilities can range from active to passive systems such as spatial separation, installing water curtains, using construction methods and materials that may include gypsum sheathing, or erecting a temporary fire barrier such as fire tarpaulin.

**A-5.6.1.3.(1)(c)** The control of fire hazards in and around buildings being constructed, renovated or demolished includes fire protection for combustible construction materials and combustible refuse on the site. The sizes of piles of materials and refuse and the location of such piles in relation to adjacent buildings are factors that should be taken

into consideration in determining which fire protection measures to implement. The selection of fire protection measures for demolition operations will also depend on the demolition procedure being used, the specific conditions existing on the site and the firefighting capabilities of the responding fire department.

It is the intent of this Code that requirements regarding the outdoor storage of materials stated in Section 3.3. be referred to and applied at construction and demolition sites.

**A-5.6.1.6.** It is not expected that all aspects of Subsection 3.2.5. of Division B of the Alberta Building Code 2006 are applicable to buildings, parts of buildings, facilities and associated areas undergoing construction, alteration or demolition operations for unoccupied areas.

When the temperature causes freezing conditions, the standpipe should be drained to prevent damage to the equipment. It is not expected that hoses and nozzles be made available in the building under construction, alteration or demolition operations, as they will be brought to the relevant floor by the responding fire department.

This requirement applies only in areas where the standpipe is required under the Alberta Building Code for that building.

**A-5.6.1.10.(1)** A safe area for the location of terminated building services, such as gas and fuel lines, electrical lines, water and steam piping, is in an area away from the building or part thereof that is safe enough so as not to cause damage to the building or part thereof in the event of their accidental breakage. In some cases, terminated services can be located directly outside the building or part thereof if adequate protection is provided, and in others, they can be located at the property line and/or service connection.

**A-5.6.1.11.(1)** Minimum clearances shown on certified heating equipment or as described in Part 6 of Division B of the Alberta Building Code 2006 should be provided between combustible materials and temporary heating equipment, including flues such as exhaust discharges from internal combustion engines.

**A-5.6.1.13.(4)** Guidance on methods of rendering inert tanks, piping and machinery reservoirs is available in NFPA 326, "Safeguarding of Tanks and Containers for Entry, Cleaning, or Repair."

**A-5.6.1.21.(3)** Where exits are obstructed by construction while the building is occupied, an alternative means of egress



must be established. Replacing a window with a door and providing the necessary step and walkway could be an acceptable temporary solution.



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