

Section 9.22. Fireplaces

9.22.1. General

9.22.1.1. Application

- 1) Except when otherwise specifically stated herein, this Section applies to masonry fireplaces constructed on-site.

9.22.1.2. Masonry and Concrete

- 1) Except as otherwise stated in this Section, unit masonry shall conform to Section 9.20. and concrete to Section 9.3.
- 2) Masonry above openings shall be supported by steel lintels conforming to Sentence 9.20.5.2.(2), reinforced concrete or a masonry arch.

9.22.1.3. Footings

- 1) Footings for masonry and concrete fireplaces shall conform to Section 9.15.

9.22.1.4. Combustion Air

- 1) Where a supply of combustion air is provided directly to the fire chamber of a fireplace, including a factory-built fireplace, the installation shall comply with the “Outdoor Air Supply” requirements provided in CAN/CSA-A405-M, “Design and Construction of Masonry Chimneys and Fireplaces.”

9.22.2. Fireplace Liners

9.22.2.1. Brick or Steel Liners

- 1) Except where a fireplace is equipped with a steel liner, every fireplace shall have a firebrick liner.

9.22.2.2. Firebrick Liners

- 1) Firebrick liners shall be not less than
 - a) 50 mm thick for the sides and back, and
 - b) 25 mm thick for the floor.
- 2) Firebrick liners shall be laid with high temperature cement mortar conforming to CAN/CGSB-10.3, “Air Setting Refractory Mortar.”
- 3) Joints between a firebrick liner and the adjacent backing masonry shall be offset.

9.22.2.3. Steel Liners

- 1) Steel liners for fireplaces shall conform to CAN/ULC-S639-M, “Steel Liner Assemblies for Solid-Fuel Burning Masonry Fireplaces,” and shall be installed in accordance with the installation instructions in that standard.

9.22.3. Fireplace Walls

9.22.3.1. Thickness of Walls

- 1) Except as provided in Sentence (2), the thickness of the back and sides of a fireplace, including the thickness of any firebrick liner, shall be not less than 190 mm where a metal liner or a firebrick liner less than 51 mm thick is used.
- 2) When a steel fireplace liner is used with an air circulating chamber surrounding the firebox, the back and sides of the fireplace shall consist of
 - a) *solid masonry units* not less than 90 mm thick, or
 - b) hollow masonry units not less than 190 mm thick.

9.22.4. Fire Chamber

9.22.4.1. Fire Chamber Dimensions

- 1) The distance from the back of the fire chamber to the plane of the fireplace opening shall be not less than 300 mm.

9.22.5. Hearth

9.22.5.1. Hearth Extension

- 1) Except as required in Sentence (2), fireplaces shall have a *noncombustible* hearth extending not less than 400 mm in front of the fireplace opening and not less than 200 mm beyond each side of the fireplace opening.
- 2) Where the fire chamber floor is elevated more than 150 mm above the hearth, the dimension of the hearth measured perpendicular to the plane of the fireplace opening shall be increased by not less than
 - a) 50 mm for an elevation above 150 mm and not more than 300 mm, and
 - b) an additional 25 mm for every 50 mm in elevation above 300 mm.

9.22.5.2. Support of Hearth

- 1) Except as permitted in Sentence (2), the fire chamber floor and hearth shall be supported on a reinforced concrete slab not less than 100 mm thick at its supports and, if cantilevered, not less than 50 mm thick at its unsupported edge.
- 2) A hearth for a fireplace with an opening raised not less than 200 mm from a *combustible* floor is permitted to be supported on that floor provided the requirements of Clauses 5.3.6.5. to 5.3.6.7. of CAN/CSA-A405-M, “Design and Construction of Masonry Chimneys and Fireplaces,” are followed.

9.22.6. Damper

9.22.6.1. Required Damper and Size

- 1) The throat of every fireplace shall be equipped with a metal damper sufficiently large to cover the full area of the throat opening.

9.22.7. Smoke Chamber

9.22.7.1. Slope of Smoke Chamber

- 1) The sides of the smoke chamber connecting a fireplace throat with a *flue* shall not be sloped at an angle greater than 45° to the vertical.

9.22.7.2. Wall Thickness

- 1) The thickness of masonry walls surrounding the smoke chamber shall be not less than 190 mm at the sides, front and back, except that the portions of the back exposed to the outside may be 140 mm thick.

9.22.8. Factory-Built Fireplaces

9.22.8.1. Conformance to Standard

- 1) Factory-built fireplaces and their installation shall conform to CAN/ULC-S610-M, “Factory-Built Fireplaces.”

9.22.9. Clearance of Combustible Material

9.22.9.1. Clearance to the Fireplace Opening

- 1) *Combustible* material shall not be placed on or near the face of a fireplace within 150 mm of the fireplace opening, except that where the *combustible* material projects more than 38 mm out from the face of the fireplace above the opening, such material shall be not less than 300 mm above the top of the opening.

9.22.9.2. Metal Exposed to the Interior

1) Metal exposed to the interior of a fireplace such as the damper control mechanism shall have not less than a 50 mm clearance from any *combustible* material on the face of the fireplace where such metal penetrates through the face of the fireplace.

9.22.9.3. Clearance to Combustible Framing

1) Not less than a 100 mm clearance shall be provided between the back and sides of a fireplace and *combustible* framing, except that a 50 mm clearance is permitted where the fireplace is located in an exterior wall.

2) Not less than a 50 mm clearance shall be provided between the back and sides of the smoke chamber of a fireplace and *combustible* framing, except that a 25 mm clearance is permitted where the fireplace is located in an exterior wall.

9.22.9.4. Heat-Circulating Duct Outlets

1) The clearance of *combustible* material above heat-circulating duct outlets from those outlets shall be not less than

- a) 300 mm where the *combustible* material projects not less than 38 mm from the face, and
- b) 150 mm where the projection is less than 38 mm.

9.22.10. Fireplace Inserts and Hearth-Mounted Stoves**9.22.10.1. Appliance Standard**

1) Fireplace inserts and hearth-mounted *stoves* vented through the throat of a fireplace shall conform to ULC-S628, “Fireplace Inserts.”

9.22.10.2. Installation

1) The installation of fireplace inserts and hearth-mounted stoves vented through the throat of a fireplace shall conform to CSA B365, “Installation Code for Solid-Fuel-Burning Appliances and Equipment.”