7.5.3.4.2
If the side wall prevents opening of the door to permit removal of an oven rack, both an upper end cabinet and a base cabinet wide enough to permit opening of the door, as required, shall be installed.

7.5.3.4.3
If a control panel is provided on the opposite side to the hinged end of the door, the upper end cabinet and base cabinet shall not be provided.

7.5.3.4.4
If a lower oven or storage area is not provided, floor mounting of the range may be installed on a bottom cabinet or over any specific appliance with which the range is intended to be used. See Clause 6.31.

7.5.3.4.5
The upper end cabinet provided opposite the hinged end of the door shall be 152 ± 6.4 mm wide, the same depth as the top cabinet, and the same height as the upper oven.

7.5.3.4.6
The upper end cabinet installed to provide clearance at the hinged end of the door shall be the same depth as the top cabinet; the same height as the upper oven; and with the base cabinet that has sufficient width to allow the oven door to be opened. If the base cabinet width is 9.5 mm, solid plywood shall be used.

7.5.3.4.7
The base cabinet shall be 146 to 159 mm wide, 914 mm high, and the same depth as the cook top of the range, except that it shall extend a minimum of 25.4 mm beyond the junction of the door and the body of the oven.

7.5.3.5 Wall-mounted ovens and counter-mounted cooking units

7.5.3.5.1 General

7.5.3.5.1.1
Wall mounted ovens and counter-mounted cooking units shall be tested with zero clearance to all combustible surfaces in accordance with the conditions described in Clauses 7.5.3.5.1.2 to 7.5.3.5.3.6.

7.5.3.5.1.2
A cord-connected, wall-mounted oven or a counter-mounted cooking unit shall have thermocouples located 152 mm apart in lines, and columns spaced 152 mm from one another on those surfaces considered likely to be contacted by the cord upon installation.

7.5.3.5.1.3
A permanently connected wall-mounted oven or a counter-mounted cooking unit shall have thermocouples located as described in Clause 7.5.3.5.1.2 on those surfaces considered likely to be contacted by the conduit or cord. The maximum acceptable temperature rise on such surfaces during the test is 35 °C.

7.5.3.5.1.4

With reference to Clauses 7.5.3.5.1.2 and 7.5.3.5.1.3, a thermocouple shall be in direct contact with the surface of the material for which the temperature is being measured. Direct thermal contact will result from taping or cementing the thermocouple in place. For metal surfaces, particularly in contact with combustible material, brazing or soldering the thermocouple to the metal may be necessary.

7.5.3.5.2 Wall-mounted ovens

7.5.3.5.2.1

A wall-mounted oven shall be placed on a base, as described in Clause 7.5.3.5.2.2, which is resting on a bench or table. The test enclosure as described in Clause 7.5.3.5.2.3 shall be assembled so that the sides, back, and top provide as close a fit as the construction of the oven will permit. The trim around the oven door shall be mounted as intended. A gasket intended to provide a spacing between the trim and the wall in which the oven is mounted shall be removed for the test, unless it is factory installed so that it cannot be separated readily from the trim.

7.5.3.5.2.2

The base for supporting the oven shall be as illustrated in Figure 17. All sides of the base shall be constructed of wooden boards of such length as to be flush with the side, front, and back panels. The slats shall be wooden boards that are mounted to align with the feet or skids on the bottom of the oven. The tops of the slats and the thermocouple side of the thermocouple block shall be in the same horizontal plane as the top surface of the base.

7.5.3.5.2.3

The panels for enclosing the oven shall be minimum 9.5 mm plywood, as illustrated in Figure 18. The dimensions of the panels shall determined by the overall outer dimensions of the oven, in accordance with Clause 7.5.3.5.2.1. The opening in the front panel shall be only as large as necessary to permit the oven to be inserted. The width of the top section of the front panel shall be 305 mm, and the width of the other sections shall be 152 mm. The front side-wall panels shall extend outward from the front panel a minimum of 305 mm, extend the full height of the overall front panel, and be located as close as possible to the trim of the oven. If the oven door covers the trim, the front side-wall panels shall be located 6.4 mm from the edge of the door.

7.5.3.5.2.4

An oven with side-hinged door shall be tested with only one front side-wall panel located at the hinged side of the door.

7.5.3.5.2.5

An oven with bottom-hinged door shall first be tested with both front side-wall panels in place. If temperature rises exceeding those specified in Table 2 are recorded, the test may be repeated with one front side-wall panel in place at the manufacturer's specified distance followed by a test with the other panel in place at the manufacturer's specified distance. The temperature rises shall not exceed those specified in Table 2 in both of the tests. See Clause 6.26.

7.5.3.5.2.6

An oven that is specifically designed to be installed adjacent to an identical oven, either one above the other, or side by side, shall be tested in pairs. When tested in pairs, each of the two ovens shall be enclosed as described in Clauses 7.5.3.5.2.1 to 7.5.3.5.2.5, except as specified in this Clause, and the

front of each oven shall be in the same vertical plane. For operation side-by-side, the two ovens shall be placed on the same horizontal surface, and for operation one above the other, one oven shall be set on top of the other. In either case, the separation between the two ovens shall be no larger than that necessary to accommodate the trims, except that the separation may be larger than the trims will permit if the oven is marked in accordance with Clause 6.27. If the minimum separation is employed for ovens mounted one above the other, the height of the base (see Clause 7.5.3.5.2.2) for mounting the uppermost oven may be increased from the specified value, if necessary, to accommodate the trim. If the minimum separation is employed for ovens mounted side by side, the width of each section of the two adjacent front panels may be less than the 152 mm value specified in Clause 7.5.3.5.2.3, as necessary, to bring the two trims into contact with each other. After the ovens have been mounted as described above, any open space at the top, back, or sides is to be closed with plywood. See Clause 6.16.

7.5.3.5.2.7

The thermocouple block shall be wood, 100 mm by 100 mm by 10 mm thick. The method of securing the thermocouple shall be as illustrated in Figure 13.

7.5.3.5.3 Counter-mounted cooking units

7.5.3.5.3.1

A counter-mounted cooking unit shall be mounted as illustrated in Figure 19. The base on which the cooking unit is to be supported shall be placed on a bench or a table. The sides of the supporting base shall be as close to the sides of the cooking unit as its construction permits. The back and side walls above the cooking surface shall be placed as close to the surface elements as permitted by the trim with which the unit is equipped. If a cooking unit is to be installed adjacent to another cooking unit, they shall be mounted for the test as close together as their construction will permit. The thermocouple block shall be supported against the hottest area on bottom of the cooking unit. A top cabinet as described in Clause 7.5.3.2.4 shall be installed 762 mm above the horizontal cooking surface.

7.5.3.5.3.2

In reference to Clause 7.5.3.5.3.1, if the width (left-to-right dimension) of a cooking unit is less than 406.4 mm, the distance between the side walls above the cooking surface shall be maintained as specified by the manufacturer and shall be not more than 406.4 mm.

The cooking unit shall be oriented so that at least two walls above the cooking surface are placed as close to the surface elements as permitted by the trim. The cooking unit shall be marked in accordance with Clause 6.28.

7.5.3.5.3.3

The base referenced in Clause 7.5.3.5.3.1 is to be constructed as illustrated in Figure 20. The sides of the base are to be constructed of boards 19.1 mm thick, and of such length as is necessary to enclose the cooking unit in accordance with Clause 7.5.3.5.3.1. The width of the boards (the height of the base) shall be equal to the depth of the enclosure of the cooking unit plus 51 mm. If the manufacturer's instructions require that ventilating accessories accompanying the cooking unit be installed for additional ventilation, the additional ventilation shall be provided in the base of the test enclosure. The top panel shall consist of nominal 9.5 mm plywood, and the opening in this panel shall be no larger than necessary to permit insertion of the cooking unit with the trim as tight against the top panel as configuration will permit. The size of the top panel shall be in accordance with the position of the back and side walls of the test enclosure.

7.5.3.5.3.4

The side and back walls illustrated in Figure 19 shall extend at least to the front edge of the cooking surface and be mounted as close to the cooking units as the trim permits.

7.5.3.5.3.5

If two cooking units are tested for installation adjacent to each other, they shall be mounted as close together as the trim will permit as illustrated in Figure 21. The stringers shall be of 9.5 mm nominal plywood, and one or both stringers shall be omitted if space is inadequate.

The spacing between cooking units may be larger than the trim will permit if the unit is marked in accordance with Clause 6.29.

7.5.3.5.3.6

A cooktop unit intended to be mounted directly above a wall-mounted oven shall be tested while assembled in that manner. See Clause 6.15.

7.5.4 Surface elements

7.5.4.1

An appliance with four or fewer surface elements shall have a stove plate placed on one surface element.

An appliance with five or more surface elements shall have a stove plate placed on each of two surface elements.

The criteria for the surface element or elements to be covered with a stove plate shall be in accordance with the following order of precedence:

a) front element, if any;
b) elements having highest wattage rating;
c) elements farthest from the wall of the test enclosure; and
d) elements having largest diameter.

Each remaining surface element not covered by a stove plate shall be covered with a pan of water.

7.5.4.2

With reference to Clause 7.5.4.1, the front of a counter-mounted cooking unit shall be considered to be the long side adjacent to the highest-wattage surface element unless the manufacturer's installation instructions or some other feature clearly indicates otherwise.

7.5.4.3

In reference to Clauses 7.5.4.1 and 7.5.4.8, the stove plates shall be circular cast-iron or steel plates. For a-surface element up to 152 mm in diameter, the stove plate shall be 190 mm in diameter and weigh approximately 1.4 kg. For a surface element larger than 152 mm in diameter, the stove plate shall be 267 mm in diameter, and shall weigh approximately 3.2 kg. The stove plates shall be flat on one side but may be ribbed on the other side to reduce the likelihood or warping. The stove plates shall be kept free from rust and other foreign material by the use of steel wool or a wire brush.

If one or more of the pans specified in Clause 7.5.4.5 causes interference such that a stove plate cannot be positioned as specified in Clause 7.5.4.4, the diameter of the stove plate shall be reduced to the largest diameter possible without contacting any of the pans.

A non-circular stove plate shall be used if the specified circular stove plate covering non-circular surface element (e.g., elliptical shape) cannot be made to cover the entire active part of the surface element as described in Clause 7.5.4.4. A non-circular stove plate shall have the same approximate shape as the active portion of the surface element and, except as noted in the previous paragraph, shall have major and minor axes that are 50 mm greater than the major and minor axes of the active portion of the surface element.

7.5.4.4

Each stove plate shall be positioned such that it completely covers the active area of the surface element. If centering the stove plate over the surface element results in the stove plate overlapping an edge of a cooktop, preventing a stove plate from lying flat on the surface element or cooking surface due to interference with trim, knobs, or the like, the stove plate shall be re-positioned so that the stove plate lies flat without overlapping the edge of the cooktop or interfering with trim or knobs. The centre of the stove plate shall be positioned as close as possible to the centre of the surface element.

7.5.4.5

The pans mentioned in Clause 7.5.4.1 shall have approximately vertical sides. The bottom plane surface of the pan shall have a diameter of at least the active part of the surface element on which the pan is used, and not more than 25.4 mm larger than that diameter.

The pans shall be of aluminum, except as noted in Clause 7.5.4.6.

A pan covering a non-circular surface element (e.g., elliptical shape) shall have the same approximate shape as the active portion of the surface element. The bottom plane surface of the pan shall have major and minor axes that are within minus 0 and plus 25.4 mm of the major and minor axes of the active portion of the non-circular surface element.

7.5.4.6

An appliance designed requiring the use of pans made of material other than aluminum to reduce the likelihood of overheating of the surface element shall use such pans during the test. However, the appliance shall be marked in accordance with Clause 6.30 and an additional test shall be conducted to demonstrate that the use of aluminum pans will not create a risk of fire.

7.5.4.7

All surface elements shall be operated as specified in Clauses 7.5.4.8 and 7.5.4.9.

7.5.4.8

The control for each surface element covered with a stove plate shall be adjusted to result in a temperature of 246 °C at the centre of the top surface of the stove plate. A control with an intermittent input such as an automatic or cycling type control shall be set so that the average temperature at the centre of the top surface of the stove plate will be 246 °C.

If a control having a definite number of settings cannot be set to result in this temperature:

a) the radiant (resistive) surface element shall be connected to an external power supply having means for providing a variable output voltage, and the output voltage shall be set so that temperature at the centre of the top surface of the stove plate is 246 °C; and
b) the induction heater element shall be set at the power level which provides the average temperature at the centre of the top surface of the stove plate of at least 246 °C.

Note: *Special software may be used to achieve the suitable power level in order to obtain the required stove plate temperature.*

If the maximum heat setting of the surface element control results in a temperature less than 246 °C at the centre of the top surface of the stove plate, or if the control has only one setting, the test shall be conducted with the control set in this position.

7.5.4.9

The control for each surface element covered with a pan of water, and for each well cooker, shall be set as follows for the test:

a) A control having only one on setting shall be set in that position.
b) A control having a definite number or an infinite number of settings shall be set so that the power input of the surface element is not less than
   i) 50% of the rated power input for a surface element rated 1200 W or less; and
   ii) 400 + *w*/6 watts for any other surface element, where *w* equals the wattage rating of the surface element.
c) A control, as mentioned in Item b), of an automatic or cycling type (i.e., intermittent input) shall be set so that the average power input of the unit is not less than that specified in Item b).

7.5.5 Ovens

7.5.5.1

The inside of an oven cavity shall be maintained at an average temperature of 246 °C or at the temperature resulting from the maximum setting of the thermostat, whichever is lower.

7.5.5.2

In addition to the test specified in Clause 7.5.5.1, ovens having pyrolitic self-cleaning features shall be operated, starting from ambient temperature,

a) in the longest cleaning cycle possible or until a constant temperature is reached, whichever is shorter; or
b) at the manufacturer's recommended temperature for oven cleaning until constant temperatures are reached.

The surface elements, if any, shall be turned off.

If two self-cleaning ovens are provided and are interlocked so that only one oven can be cleaned at a time, one oven shall be operated to stabilization and maximum temperatures shall be measured as described in Clause 7.5. As soon as possible, the second oven shall be operated and maximum temperatures again measured.

7.5.5.3

In addition to the tests in Clauses 7.5.5.1 and 7.5.5.2, ovens having a broil feature shall be operated as a broiling oven starting from ambient temperature in accordance with the manufacturer's instructions.

7.5.6 Rotating spits

7.5.6.1

An oven with a rotating spit shall be tested under the conditions specified in the manufacturer`s instructions provided with the appliance, with reference to

a) whether the upper or lower element is to be energized;
b) the thermostat setting. If a thermostat setting, less than maximum, is necessary for proper rotating spit operation, the maximum thermostat setting for such use shall be plainly indicated by the words “rotary roasting”, “spit broiling”, or an equivalent wording on or adjacent to the thermostat. This marking may indicate a range of settings lower than the maximum setting. See Clause 7.5.6.2; and
c) whether the oven door is to be closed or slightly open.

The rotating spit shall be loaded with a 4.5 kg weight as illustrated in Figure 14. The oven shall be operated with the surface elements operating in accordance with Clause 7.5.4.7, until constant temperatures are obtained.

Note: *Operation may be terminated after 1-1/2 h if the oven is obviously intended only for short-time cooking operations as indicated by small size or other factors.*

7.5.6.2

With reference to Clause 7.5.6.1, if instructions or marking for setting of the oven control are not provided, the test shall be conducted with the control at maximum setting. If the oven control is marked as described in Clause 7.5.6.1 b), the test shall be conducted with the control at that setting.

7.5.6.3

A rotating spit intended to be used in conjunction with a grill element shall be operated in accordance with Clauses 7.5.9.1 and 7.5.9.3.

7.5.7 Built-in griddle sections

A griddle shall be operated under one of the following conditions, whichever temperature is lower:

a) with the control switch set to give a temperature nearest to, but not less than 246 °C at the centre of the griddle plate; or
b) at the temperature resulting from the maximum setting of the control.

7.5.8 Deep-fat fryers

7.5.8.1

A deep-fat fryer shall be filled with unused vegetable oil to the height recommended by the manufacturer and then operated continuously with the temperature regulating control set at the maximum heat setting. A temperature limiting control, if provided, shall not function during this test, except for an initial overshoot that occurs when the test is started from room temperature. Oil temperatures need not be measured.

7.5.8.2

Following the test described in Clause 7.5.8.2, the temperature regulating control shall be short-circuited. The fryer shall be started at room temperature and operated continuously until the oil temperature:

a) has stabilized;

b) has peaked if a manually reset limit thermostat is provided; or
c) peaks have become constant if an automatically reset temperature limiting control is provided.

The oil temperature shall not exceed 246 °C when measured at the approximate centre of the oil vessel, 25.4 mm below the surface.

The oil temperature of the oil may exceed 246 °C if a temperature-limiting control is provided that de-energizes the fryer heater elements before the oil temperature exceeds 246 °C and any temperature overshoot does not cause ignition of the oil.

7.5.9 Grills

7.5.9.1

The appliance shall be operated under conditions representing normal service. A temperature-regulating control for the grill, if provided, shall be set to the maximum heat setting.

7.5.9.2

When a grill is not operated in conjunction with a rotating spit, the appliance shall be operated with the rotating spit only until constant temperatures are attained. The grill shall then be energized and the appliance operated for an additional 1 h.

7.5.9.3

When a grill is operated in conjunction with a rotating spit, the appliance shall be operated with the grill and rotating spit energized simultaneously until constant temperatures are attained. During this test, the rotating spit shall be loaded with a 4.5 kg weight as illustrated in Figure 14.

7.5.9.4

If the temperature rise exceeds 65 °C on walls and surfaces visible after installation of the appliance, the temperature rise shall not exceed 95 °C during operation as specified in Clauses 7.5.9.1 to 7.5.9.3. The appliance shall be

a) provided with installation instructions indicating minimum clearances required to adjacent surfaces in order that the temperature rise on the subject surfaces does not exceed 65 °C;
b) marked in accordance with Clause 6.11; and
c) operated as specified in Clauses 7.5.9.1 to 7.5.9.3 with the appliance installed with the minimum required clearances to the test enclosure in accordance with Clause 7.5.9.4 a) and b).

7.5.10 Induction woks

7.5.10.1

A wok vessel shall be filled the maximum capacity of rice and water in accordance with the manufacturer's instructions and shall be operated for two complete cycles of rice cooking. The cycle is considered as having ended when the thermostat automatically switches to the low or off position. The second cycle shall begin immediately after completion of the first cycle as the control allows. The temperatures shall be measured throughout the two cycles, and also when the induction wok has subsequently operated on low heat until temperatures having become stabilized.

7.5.10.2

A wok vessel shall have an equivalent sphere diameter that does not differ from the sphere diameter of the induction wok by more than 0/–1%. This wok vessel may be supplied by the manufacturer.

The wok vessel shall be made of low carbon steel having a maximum carbon content of 0.08% with a thickness of 2 mm ± 0.5 mm. The height of the wok vessel shall not be less than twice the depth of the induction wok cavity or as recommended in the manufacturer's instructions.

7.5.11 Electric ranges in combination with fuel-burning heaters

7.5.11.1

The electric section of the combination dual fuel appliance shall be operated as described in Clause 7.5 and the fuel burning section operated as described in Clause 7.5.11.2.

7.5.11.2

Gas-fired heaters shall comply with the applicable requirements specified in CSA CAN1-1.1.

7.5.12 Accessories

If one or more specific plug-in accessories, such as a griddle, is intended for use with an appliance, consideration shall be given to the appropriate test setup in order to operate the appliance and accessories under conditions representing the most adverse conditions of normal operation.

7.6 Dielectric strength

7.6.1

Immediately following the temperature tests specified in Clauses 7.4 and 7.5, and each of the abnormal tests in Clause 7.6, the equipment shall withstand without breakdown, for a period of 1 min, the application of an ac voltage of 1000 V between live parts and exposed non-current-carrying metal parts.

7.6.2

To determine whether an appliance complies with the requirements in Clause 7.6.1, the appliance shall be tested by means of a 500 V A or larger-capacity transformer, the output voltage of which is essentially sinusoidal and can be varied. The applied potential shall be increased from zero until the required test level is reached and shall be held at that level for 1 min. The increase in the applied potential shall be at a uniform rate and as rapid as is consistent with its value being correctly indicated by a voltmeter. All controls in the appliance shall be in the ON position.

7.7 Abnormal operation

7.7.1 General

7.7.1.1

If the conditions of normal operation are not representative of abnormal conditions that are likely to occur in actual service, appliances shall not become an undue hazard when operated under such abnormal conditions.

7.7.1.2

When operated under such abnormal conditions, appliances shall be considered to be an undue hazard if their operation results in any of the following:

a) emission of flame or molten metal;
b) glowing, flaming, or charring of the test alcove walls or test enclosure of built-in units;
c) burning of insulation or other combustible material within the appliance; and

d) dripping of thermoplastic wire insulation.

7.7.2 Ranges and built-in cooking units

7.7.2.1

A range shall be located and enclosed as for the normal temperature test during the following tests:

a) The range shall be operated continuously for 3 h with all the surface elements set at the maximum watts input, the oven thermostat on the range set to "preheat" or the setting resulting in the maximum watts input to the oven with the surface elements uncovered, and the oven door fully open.
b) The test in Item a) shall be continued for an additional hour with the oven door set ajar and the oven thermostat set at "broil".

7.7.2.2

A range with two ovens, one of which may be a microwave oven, shall be tested as required by Clause 7.7.2.1, except both ovens shall be operated simultaneously under the most severe conditions and the condition equivalent to maximum power input.

7.7.2.3

To check compliance with the requirements of Clause 5.18.11, the maximum stabilized oven temperature of the appliance shall not exceed 343 °C when operated under the following conditions:

a) The appliance is located and enclosed as for the appropriate normal temperature test (see Clause 7.5.3).
b) The supply voltage conditions are as specified in Clause 7.2.
c) The primary temperature regulating device is shunted out of the circuit.
d) Only the appropriate oven circuit for bake or broil mode, or both, is energized.
e) Temperature is measured by means of an unshielded thermocouple placed at the geometric centre of the oven rack, with the rack placed in the most central position in the oven.

Before this test, an appliance of the pyrolytic self-cleaning type shall be conditioned by being operated through three cleaning cycles, each for a duration of 3 h, or the maximum permitted by the timer, whichever is shorter.

7.7.2.4

A range having a pyrolytic self-cleaning oven and a pyrolytic self-cleaning built-in oven shall have the pyrolytic self-cleaning operation tested after the addition of a total of 90 g of charred beef and pork fat, broken into 20 to 25 pieces and distributed around the bottom area of the oven, and after splattering the interior oven surfaces with similar (uncharred) grease.

7.7.2.5

Pyrolytic self-cleaning range ovens and pyrolytic self-cleaning built-in ovens shall be located or enclosed as for the normal temperature test with the pyrolytic self-cleaning primary thermostat shorted out. The oven shall then be operated continuously until failure occurs (see Clause 7.7.1.2) or until the cleaning cycle is shut off automatically, whichever occurs first. Upon completion of this test, the requirements of Items a) and b) of Clause 7.7.1.2 shall be met.