Domestic Gas Ranges, ANSI Z21.1 • CSA 1.1 and listed by an independent testing laboratory for combination use.

4.28.19

Also see Clauses 4.1.23, 4.8.6 c), 4.24.2, 4.29.3 d), 4.29.15, and 4.29.16.

4.29 Marking

4.29.1

Marking material shall be identified by class number and shall meet the following specifications. All metal marking materials shall be rustproof. All markings shall be suitable for application to surfaces upon which applied and shall demonstrate suitable legibility as specified under Clause 5.27, Marking material adhesion and legibility. The designation of any class of marking shall not preclude the use of marking of a lower number class.

Class I. Integral Marking
Marking that is embossed, cast, stamped, or otherwise formed in the part. This includes markings baked into an enameled surface.

Class IIA-1. Permanent Plate
Shall be made of metal having a minimum thickness of 0.012 in (0.30 mm) and shall be securely attached by mechanical means.

Class IIA-2. Permanent Plate
Shall be made of metal having a thickness of 0.006 to 0.012 in (0.15 to 0.30 mm) and shall have mechanical attachment means at all corners with a maximum spacing of 6 in (152 mm) between mechanical fasteners.

Class IIA-3. Permanent Plate
Shall be made of metal having a thickness less than 0.006 in (0.15 mm), shall be attached by means of nonwater-soluble adhesive, and shall comply with Clause 5.27, Marking material adhesion and legibility. These materials shall not be located on surfaces having temperatures exceeding 300°F (149 °C) as determined during conduct of Clause 5.19, Wall, floor, and enclosure temperatures.

Class IIA-4. Permanent Plate
Shall be made of pressure-sensitive metal foil requiring no solvent or activator and shall comply with Clause 5.27, Marking material adhesion and legibility. These materials shall not be located on surfaces having temperatures exceeding 300°F (149 °C) as determined during conduct of Clause 5.19, Wall, floor, and enclosure temperatures.

Class IIIA-1. Permanent Label
Shall be made of material not adversely affected by water, shall be attached by means of nonwater-soluble adhesive, and shall comply with Clause 5.27, Marking material adhesion and legibility. These materials shall not be located on surfaces having temperatures exceeding 300°F (149 °C) as determined during conduct of Clause 5.19, Wall, floor, and enclosure temperatures.

Class IIIA-2. Permanent Label
Shall be made of material not adversely affected by water, shall be attached by means of nonwater-soluble adhesive, and shall comply with Clause 5.27, Marking material adhesion and legibility. These materials shall not be located on surfaces having temperatures exceeding 175°F (79.5 °C) as determined during conduct of Clause 5.19, Wall, floor, and enclosure temperatures.

Class IIIB. Waterproof Marking
Shall be printed directly on the part with waterproof marking not adversely affected by a temperature of 175°F (79.5 °C). This marking shall not be used on surfaces having temperatures exceeding 175°F (79.5 °C) as determined during conduct of Clause 5.19, Wall, floor, and enclosure temperatures.

Class IV. Semi-Permanent Label
Shall be made of material that may be soluble in water and may use water-soluble adhesive for attachment means.

Class V. Printed Marking
Marking shall be clear and prominent and may be applied directly by any printing means.

Class VI. Attached Tags

4.29.2
Name plate(s)

Each appliance shall bear a plate, or a combination of adjacent plates, of Class IIIA-1 marking material attached to a permanent part of the appliance that is not exposed to the accumulation of spillage. The plate(s) shall be visible by either opening a door or a drawer, lifting the top, or removing one or more of the parts normally removable by the user without the use of tools.

4.29.3

The following information shall be permanently recorded on the name plate(s):

a) Manufacturer's or dealer's name and address (city and province or state).
b) Model number of the appliance.
c) A distinctive number that will identify an individual appliance.
d) Information on the need for venting, as follows:
   i) "Vented unit. See installation instructions."
   ii) "May be vented. If vented, see installation instructions."
e) If the appliance utilizes any electrical equipment, the voltage, frequency, and current input.
f) Identification of this Standard by indicating the edition of the standard, with the following marking:
   "CSA/ANSI Z21.1 XXXX-(year) • CSA 1.1 XXXX-(year) Household Cooking Appl.;"
g) The symbol of the organization making the tests for compliance with this Standard.

4.29.4

The following information also shall be permanently recorded on the name plate(s):

a) Gases for which equipped:
   i) A dedicated type appliance shall be marked for only the type of gas for which equipped, as follows: Nat., Mfd., Mix., Propane, or ____ Btu/Cubic foot LP gas-air mixture (the heating value for the LP gas-air mixture shall be indicated).
   ii) A convertible or universal type appliance shall be marked for only the two types of gases for which equipped, as follows: Nat-Propane, Mfd-Propane, Mix-Propane.
   The appliance shall also be marked to the effect that:
   "The gas appliance pressure regulator must be set for the gas with which the appliance is used." (See Clause 4.28.13.)
      1) A universal type appliance shall also be marked: "This appliance can be used with Propane gas and ____ gas. (Only the gas for which the appliance is equipped shall be identified.) It is shipped from the factory adjusted for use with ____ gas: DOUBLE COAXIAL ORIFICE HOODS MUST BE SCREWED TIGHT WHEN PROPANE GAS IS USED."

2) A convertible type appliance provided with a combination of fixed orifices and double coaxial orifices shall also be marked: "This appliance can be used with Propane gas and ____ gas. (Only the gas for which the appliance is equipped shall be identified.) It is shipped from the factory adjusted for use with gas: DOUBLE COAXIAL ORIFICE HOODS MUST BE SCREWED TIGHT WHEN PROPANE GAS IS USED. (oven, broiler, top) ____ burners are equipped with fixed orifices, located ____. Follow the instructions packaged with the orifices for gas conversion." (Each fixed orifice shall be clearly identified with regard to the gas for which it will be used, and the orifice size shall be indicated on the spud.) (See Clause 4.28.13.)
3) A convertible type appliance provided with fixed orifices shall also be marked: "This appliance can be used with Propane gas and ____ gas. (Only the gas for which the appliance is equipped shall be identified.) It is shipped from the factory adjusted for use with ____ gas: Conversion orifices are located ____. Follow the instructions packaged with the orifices for gas conversion." (Each orifice shall be clearly identified with regard to the gas for which it will be used, and the orifice size shall be indicated on the spud.) (See Clause 4.28.13.)

iii) A convertible appliance equipped with dual outlet burner valves requiring orifice spud substitution shall display a marking outlining the correct selection of the orifices for the gas with which the appliance is to be used when installed.
iv) The appliance shall be marked with the manufacturer's normal hourly Btu input rating for each main burner for each gas for which the appliance is equipped.
v) The appliance shall be marked with the manufacturer's manifold pressure in inches water column for each gas for which the appliance is equipped.

b) The appliance shall have a marking stating a maximum depth of 13 in (330 mm) or a greater depth specified by the manufacturer as tested by the certification agency for the overhead cabinets.
c) Clearances from adjacent combustible construction as follows:
i) Each appliance shall be clearly marked with the minimum horizontal clearances in integral inches or millimeters between the appliance and combustible construction extending from the countertop surface to 18 in (457 mm) or a lesser height specified by the manufacturer as tested by the certification agency above the level of the cooking surface.
ii) A floor-supported unit, except one incorporating a room heater, shall be clearly marked that it is for zero clearance between adjacent combustible construction below the countertop surface and the back and sides of the appliance.
A floor-supported unit incorporating a room heater shall be clearly marked with the minimum clearance to adjacent combustible construction below the countertop surface and the back and sides of the appliance as established by performance tests (see Clause 5.1.14).
iii) An appliance not having an elevated cooking section shall be clearly marked with:
1) the minimum vertical clearance between the countertop surface and combustible construction above the appliance; and
2) the minimum horizontal distance in integral inches between overhead cabinets installed to either side of the appliance (not less than the nominal width of the appliance), or the statement, "not less than the nominal width of the appliance."
iv) An appliance having an elevated cooking section shall be clearly marked that it is for zero clearance between adjacent combustible construction and
1) the back of the appliance; and
2) for 13 in (330 mm) or a greater depth specified by the manufacturer as tested by the certification agency from the rear wall on the sides and top of the elevated section

v) A built-in top unit shall have a marking stating:

"Minimum horizontal distance(s) from sides and back of appliance to adjacent vertical combustible walls extending above the top panel, ____ in from side walls, ____ in from rear wall. Minimum horizontal distance from front edge of counter to front side of appliance, ____ in."

These distances shall be from the outermost edge of the top panel or any trim strip supplied with the appliance.

vi) A two-burner built-in top unit shall have a marking specifying the minimum acceptable spacing between similar adjacent top units.

vii) A built-in oven or broiler unit shall be clearly marked with the minimum distance from the floor to the bottom of the cutout opening.

viii) If vented, the appliance shall be clearly marked with the minimum clearances from the vent.

d) Marking appliance for manufactured (mobile) homes or recreational park trailers.

i) An appliance for manufactured (mobile) home or recreational park trailer installation only shall be marked: "For installation in a manufactured (mobile) home or recreational park trailer only."

ii) An appliance for household installation as well as for manufactured (mobile) home or recreational park trailer installation should be marked: "Also for installation in a manufactured (mobile) home or recreational park trailer."

iii) Any of the following may be substituted for the term "manufactured home (mobile home)" in i) and ii) above:

1) Mfd. home (mobile home);
2) Manufactured (mobile) home;
3) Mfd. (mobile) home;
4) Manufactured home; or
5) Mfd. home.

e) Marking appliances for manufactured (mobile) homes and recreational vehicles:
An appliance complying with the Standard for *Recreational Vehicle Cooking Gas Appliances,* ANSI Z21.57 or the Standard for *Propane Fired Cooking Appliances for Recreational Vehicles,* CAN 1.1.16, as well as with the provisions of this Standard may be marked: "Also for installation in a recreational vehicle." This marking may be combined with that specified under Clause 4.29.4 d) ii).

4.29.5

When an appliance is designed so that the legs, casters, or base can be removed for shipping, the appliance shall bear a Class IV marking to the effect that the appliance is for use only with the specific legs, casters, or base specified by the manufacturer, as applicable.

4.29.6

An appliance designed as specified in Clause 4.1.13 shall have a Class IV marking in a conspicuous exterior location in black letters on a yellow background, stating:

"NOTICE: In order to be able to service this appliance, it must be installed with the casters supplied, a connector complying with the Standard for *Connectors For Movable Gas Appliances,* ANSI Z21.69 • CSA 6.16, and a quick-disconnect device complying with the Standard for *Quick-Disconnect Devices For Use With Gas Fuels,* ANSI Z21.41 • CSA 6.9. It must also be installed with restraining means to guard against transmission of strain to the connector, as specified in the appliance manufacturer's instructions."

The word "NOTICE" shall be in letters having a minimum uppercase letter height of 0.360 in (9.14 mm).* The remainder of the notice shall be in letters having a minimum uppercase letter height of 0.180 in

(4.57 mm)† with a minimum vertical spacing between lines of 0.069 in (1.75 mm). Lowercase letters shall be compatible with uppercase letter size specifications.

* *This letter height corresponds to 36-point type.*

† *This letter height corresponds to 18-point type.*

4.29.7

An appliance that can be caster-mounted shall have a Class IV marking in a conspicuous exterior location in black letters on a yellow background, stating:

"NOTICE: When the appliance is installed with casters, it must be installed with the casters supplied, a connector complying with the Standard for *Connectors for Movable Gas Appliances,* ANSI Z21.69 • CSA 6.16 and a quick-disconnect device complying with the Standard for *Quick Disconnect Devices For Use With Gas Fuels,* ANSI Z21.41 • CSA 6.9. It must also be installed with restraining means to guard against transmission of strain to the connector, as specified in the appliance manufacturer's instructions."

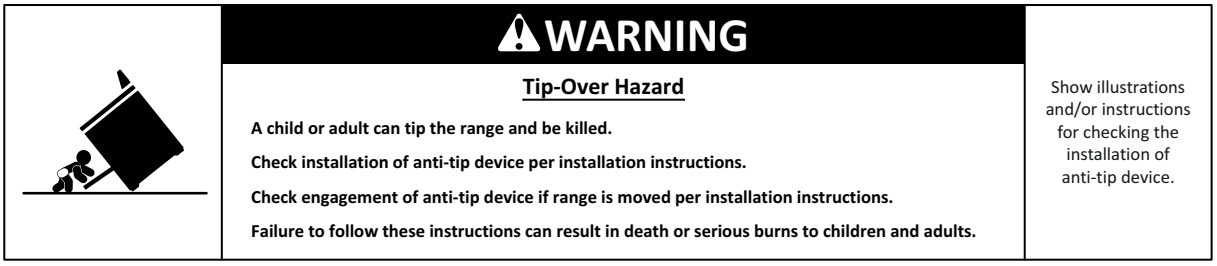
The word "NOTICE" shall be in letters having a minimum uppercase letter height of 0.360 in (9.14 mm).* The remainder of the notice shall be in letters having a minimum uppercase letter height of 0.180 in (4.57 mm)† with a minimum vertical spacing between lines of 0.069 in (1.75 mm). Lowercase letters shall be compatible with uppercase letter size specifications.

* *This letter height corresponds to 36-point type.*

† *This letter height corresponds to 18-point type.*

4.29.8

An appliance employing devices to reduce the risk of tipping of the appliance shall be marked with a Class IV marking as shown below, and the marking shall be readily visible during installation of the appliance (see Clause 4.28.2). An equivalent marking may be used provided the word "WARNING" appears on the marking.



4.29.9

An appliance employing devices to reduce the risk of tipping of the appliance shall be marked with a Class II or Class III marking with the text and illustration as shown below. An equivalent marking may be used provided the word "WARNING" appears on the marking. The marking may be visible after opening an oven door.

⚠WARNING

Tip-Over Hazard

A child or adult can tip the range and be killed.

Check installation of anti-tip device per installation instructions.

Check engagement of anti-tip device if range is moved per installation instructions.

Failure to follow these instructions can result in death or serious burns to children and adults.

Show illustrations and/or instructions for checking the installation of anti-tip device.

4.29.10

An appliance employing devices to reduce the risk of tipping of the appliance shall be marked with a Class IV marking with an area of at least 36 in^2 (0.02 m^2). The label shall state that the appliance should not be operated without the anti-tip device installed and include information and illustration as shown below. An equivalent marking may be used provided the word "WARNING" appears on the marking. The marking shall state "CONSUMER INFORMATION — THE INSTALLER SHALL NOT REMOVE" and "Before removing marking, ensure anti-tip device is properly installed." The marking shall be visible after the appliance is installed with any doors closed.

⚠WARNING

Tip-Over Hazard

A child or adult can tip the range and be killed.

Verify the anti-tip bracket has been installed.

Ensure the anti-tip bracket is engaged when the range is moved.

Do not operate the range without the anti-tip bracket in place.

Failure to follow these instructions can result in death or serious burns to children and adults.

Show specific manufacturer illustrations for checking installation/engagement of anti-tip brackets.

CONSUMER INFORMATION — THE INSTALLER SHALL NOT REMOVE

Before removing label, ensure anti-tip bracket is properly installed.

4.29.11

Separate gas appliance pressure regulator

When a gas appliance pressure regulator is supplied separately:

a) the appliance shall be marked: "For use with a gas pressure regulator"; and

b) the appliance shall also bear a marking on Class VI marking material in an obvious location stating, "The regulator supplied must be used with this appliance."

4.29.12

Self-cleaning

An appliance provided with self-cleaning oven or self-cleaning broiler features shall have a permanent marking stating that the broiler tray and utensils must be removed from the compartment and excessive spillage wiped off before initiating the cleaning cycle.

This marking shall be in sharp contrast to its background.

The marking shall be applied in a location that will be clearly evident to the user when initiating the cleaning cycle.

When applied to the inside of the oven door, it shall have a permanency equivalent to a marking baked into an enameled surface. When applied to the outside of the oven door or adjacent to the point of actuation of the cleaning cycle, a Class III A-2 marking shall be used.

4.29.13
Electrical diagrams

Except when electrical equipment is limited to a light(s) and clock motor(s), electrical diagrams of all circuits within the appliance shall be attached to the appliance on Class IV marking material or in a marked envelope. Some means of color, letter, or number coding shall be used in the diagram so as to identify each circuit and the actual wiring shall be colored or marked as shown in the diagram.

a) Electrical diagrams shall conform to the Standard for *Electrical and Electronics Diagrams,* ANSI Y14.15. See Annex C for reference to pertinent provisions of ANSI Y14.15. The wire color designations specified under 15-3.11 of ANSI Y14.15 are shown in Annex D.
b) It is recommended that the usage of wire colors be as shown in Annex E.
c) Unidentified graphical symbols used for electrical diagrams shall conform to the Standard for *Graphic Symbols for Electrical and Electronics Diagrams (Including Reference Designation Class Designation Letters),* ANSI/IEEE 315. See Annex F for preferred symbols of commonly used items, as extracted from the above standard. Abbreviations for identified items shall be as shown in Annex F.
d) The electrical diagram specified in Clause 4.29.13 a) shall be a schematic diagram of the ladder form (see Clause 3, Definitions, Electrical Diagrams). When necessary for clarification, a cycle chart or printed sequence of switching action shall accompany the schematic diagram.
e) It is recommended that a connection diagram (see Clause 3, Definitions, Electrical Diagrams) also be provided, in addition to the schematic diagram, to aid in locating components for field service.
f) The electrical diagram shall include the following statements:
"Caution: Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation."
"Verify proper operation after servicing."

4.29.14

An appliance provided with a flexible service cord of the grounding type for connection to a line-voltage electrical supply shall bear a Class VI marking attached to the plug end of the cord, which includes the following information, as applicable:

WARNING

Electrical Grounding Instructions

This appliance is equipped with a (three-prong) (four-prong) grounding plug for your protection against shock hazard and should be plugged directly into a properly grounded receptacle. Do not cut or remove the grounding prong from this plug.

4.29.15
Vent connection

When the appliance is provided with a flue collar, it shall be provided with a Class IV marking in a location conspicuous prior to installation, clearly indicating the specific type of Type B Gas Vent (such as

B-0, B-1 or B-1/2) with which the appliance is to be used. Stenciling this marking directly on the appliance is considered acceptable. (The manufacturer's instructions shall state the specific type of Type B Gas Vent to be used, together with the listed clearances from combustible construction.)

4.29.16
Front flue discharge

A built-in oven with provisions for front discharge of flue gases shall comply with Clause 5.24, Oven flue discharge temperatures. Otherwise, it shall have a Class IV marking stating, "Do not install beneath work counters. The flue discharge shall not be located below the 36 in (914 mm) level when the oven is installed in accordance with the manufacturer's instructions."

4.29.17
Field applied exterior surface

An appliance having an exterior surface applied using materials supplied by the installer shall have the surface upon which the finish material is to be superimposed stenciled with a statement in Class V marking that only material that the manufacturer specifies should be applied.

4.29.18
Open top broiler unit markings

In addition to other applicable specified markings, a built-in open top broiler unit shall bear the following markings on the rating plate or on a separate Class II plate adjacent to the rating plate, unless otherwise specified:

a) When the appliance does not incorporate an integral exhaust system, the statement, "To be used in conjunction with a suitable vent hood only."
b) If the appliance complies with Clause 5.19, Wall, floor, and enclosure temperatures, the statement, "For Installation in Other Than Noncombustible Locations." Otherwise, the statement, "For Use Only In Noncombustible Locations."
c) If the appliance is for installation in other than noncombustible locations, the statements:
    i) "Minimum horizontal distance(s) from center of grid area to adjacent vertical combustible walls extending above the top panel in (mm) from side walls, in (mm) from rear wall."
    ii) "Minimum vertical distance from top of broiler grid to overhead unprotected combustible surfaces 36 in (975 mm)."
d) A statement to the effect that cooking utensils should not be used on an open top broiler unit.

4.29.19

A Class VI marking shall include the following information:

A statement that an air curtain or other overhead range hood, which operates by blowing a downward airflow onto a range, shall not be used in conjunction with a gas range unless the hood and range have been designed, tested and listed by an independent testing laboratory for combination use. The marking should also direct the purchaser/installer to review the installation instructions to determine if their range is acceptable for use with such a ventilation system and what are the acceptable manufacturer(s) and model number(s) of such products.

4.29.20

Open top broiler section markings

In addition to other applicable specified markings, an open top broiler section shall bear the following markings on the rating plate or on a separate Class II plate adjacent to the rating plate, unless otherwise specified:

a) When the appliance does not incorporate an integral exhaust system, the statement, "To be used in conjunction with a suitable vent hood only."
b) A statement to the effect that cooking utensils shall not be used on an open top broiler section.

4.29.21

Also see Clauses 4.7.6, 4.7.7, 4.7.14, 4.10.7, and 4.26.29.

4.30 Flammability

4.30.1

All electrical connections where the total circuit load is greater than 60 W during normal operation shall:

a) comply with Clauses 4.30.2, 4.30.3, and 4.30.4; or
b) be evaluated as specified in Clause 5.31, Nichrome wire test.

Note: *A risk of fire is considered to exist at any two points in a circuit where a power of more than 15 watts can be delivered into an external resistor connected between the two points within 5 seconds. To deliver 15 watts at a connector, the circuit must have a nominal load of 60 watts or more. This is based on the maximum power transfer theorem that shows an electrical connection can only dissipate 1/4 of the power of the load when the resistance of the connection is equal to the resistance of the load.*

Electrical connections are not required to comply with this provision when all mating parts of the electrical connection are provided within a component (e.g., contacts within a switch or relay, connections within a motor, etc.) that complies with the relevant component standard. Electrical connections that are mated to the component from the appliance are required to comply with this provision.

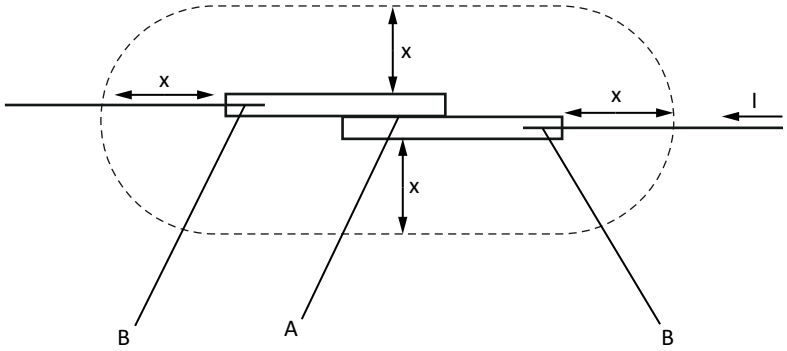
This provision shall not apply to welded or soldered connections.

4.30.2

With reference to Clause 4.30.1, components such as wire, tubing, sleeving, or tape that are located within 0.12 in (3 mm) of an electrical connection, as shown in Figure 6, Definition of "within 3 mm of an electrical connection", shall have a flammability classification as follows:

a) VW-1 for wire evaluated in accordance with the *Reference Standard for Electrical Wires, Cables, and Flexible Cords*, UL 1581, or CSA C22.2 No. 0.3;
b) VW-1 for tubing and sleeving evaluated in accordance with the *Standard for Extruded Insulating Tubing*, CAN/CSA-C22.2 No. 198.1/UL 224, or the *Standard for Coated Electrical Sleeving*, CAN/CSA-C22.2 No. 198.3/UL 1441;
c) evaluated in accordance with the *Standard for Polyvinyl Chloride, Polyethylene, and Rubber Insulating Tape*, UL 510, or the *Standard for PVC Insulating Tape*, CSA C22.2 No. 197 for flame-retardant insulating tape.

Figure 6
Definition of "within 3 mm of an electrical connection"



"Within 3 mm of an electrical connection" means falling within the dotted boundary formed by the cylinder with hemispherical ends, as shown in the above drawing.

A — Terminal connection zone

B — Wire crimp connection zone

I — Current through the connection

X — Distance from the connection

4.30.3

With reference to Clause 4.30.1, polymeric materials located within 0.12 in (3 mm) of an electrical connection as shown in Figure 6, Definition of "within 3 mm of an electrical connection", shall have a flammability classification as follows:

a) a minimum V-0 or VTM-0, in accordance with the Standard for *Tests for Flammability of Plastic Materials for Parts in Devices and Appliances*, UL 94, or the Standard for *Evaluation of Properties of Polymeric Materials*, CAN/CSA-C22.2 No. 0.17;

b) a minimum SC-0 or SCTC-0, in accordance with Standard for *Tests for Flammability of Small Polymeric Component Materials*, UL 1694;

c) a minimum glow wire ignition temperature (GWIT) of 1427°F (775 °C) according to *Fire Hazard Testing — Part 2-13: Glowing/Hot-wire Based Test Methods — Glow-wire Ignition Temperature (GWIT) Test Method for Materials*, IEC 60695-2-13; or

d) the material withstands glow-wire test (GWT) according to *Fire Hazard Testing — Part 2-11: Glowing/Hot-wire Based Test Methods — Glow-wire Flammability Test Method for End-products (GWEPT)*, IEC 60695-2-11 with a minimum test severity of 1382°F (750 °C), and during the test flames persist for no longer than 2 seconds.

4.30.4

With reference to Clause 4.30.1, all non-metallic combustible materials located within the envelope of a vertical flame cylinder having a diameter of 0.79 in (20 mm) and a height of 1.97 in (50 mm), placed above the center of the connection zone and on top of the non-metallic parts that are supporting current-carrying electrical connections as shown in Figure 7, Placement of flame cylinder, shall have a flammability classification as follows:

a) a minimum of V-0, VTM-0, or HF-1, in accordance with the Standard for *Tests for Flammability of Plastic Materials for Parts in Devices and Appliances*, UL 94, or the Standard for *Evaluation of Properties of Polymeric Materials*, CAN/CSA-C22.2 No. 0.17, and *Fire Hazard Testing — Part 11-10: Test Flames — 50 W Horizontal and Vertical Flame Test Methods*, IEC 60695-11-10;

