

STANDARD INFORMATION

Standard: ANSI Z21.1 / CSA 1.1

Standard ID: Household Cooking Gas Appliances [CSA/ANSI Z21.1:2018 Ed.2]

Household Cooking Gas Appliances [CSA 1.1:2018 Ed.2]

Previous Standard ID: Household Cooking Gas Appliances [ANSI Z21.1:2016 Ed.1]

Household Cooking Gas Appliances [CSA 1.1:2016 Ed.1]

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: **November 30, 2022**

IMPACT, OVERVIEW, AND ACTION REQUIRED

Impact Statement: Per our accreditation, Intertek is required to review reports against the standard revisions to confirm compliance. Once compliance is confirmed, the standard reference in the report is updated to show continued compliance to the technical requirements of the standard.

Overview of Changes:

- New current leakage and nichrome wire tests
- New requirements for electronic controls
- New requirements for polymeric materials
- New wash down test for controls
- New requirements for flammability ratings

Specific details of new/updated requirements are found in table below.

Current Listings Not Active? – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records. We will do this at no charge as long as Intertek is notified in writing prior to the review of your reports.



STANDARD INFORMATION

CLAUSE	VERDICT	COMMENT
		<i>Additions to existing requirements are <u>underlined</u> and deletions are shown lined-out below.</i>
4	Info	Construction
4.7	Info	Manual valves and other energy controlling devices
		Any manual gas valve or energy controlling device intended for use during normal operation and that has an off position to shut off the gas to a main burner or the energy flow to a heating element shall necessitate not less than two separate manual operations to turn on and shall necessitate only one manual operation to turn off.
4.7.3		Programmable timing devices controlling an Oven or Broiler section need not comply with this provision [see Clause 4.28.1 a) xi)]. (Also see Clauses 4.10.3 and 4.10.6.) <u>When an electronic control with a touch-type user interface is used to meet the two-step ON requirement, two operations that consist of touching two different touch pads but not the same touch pad twice meets the intent of the requirement. A non-valid or a single input shall be cancelled within 30 seconds.</u>
4.7.4		An oven or broiler section provided with an indirect control system, other than an electric system incorporating a normally closed valve in the main gas supply line, shall be designed so the thermostat and main burner gas supply line are under the supervision of a manual shut-off means, either integral with the thermostat or as a selector valve in the case of a single-cavity dual-burner unit. An electric control system shall include a manual shut-off means to the system gas supply, or the system gas supply shall pass through two automatic valves, both of which operate each time there is a call for heat. <u>shall pass through two automatic valves, both of which close when the oven or broiler is turned off.</u>
4.7.12		All valve handles controlling burners (except pilots) shall rotate in a clockwise direction to close. This provision does not apply to selector type valves for ovens and broilers. <u>This provision does not apply to selector type valves for ovens, broilers and top burner valves incorporating multiple outlets.</u>
4.7.14		Each top surface cooking section burner control shall have markings to clearly and unmistakably indicate the "OFF" position, the "LIGHT" position, and the "FULL ON" or heat level position. These markings shall be visible and interpretable at a distance of 3 ft (914 mm) in front of the control when viewed from a height of 5 ft (1.52 m) above the floor. <u>These markings shall be visible and interpretable from a height of 5 ft (1.52 m) above the floor, and</u>



CLAUSE	VERDICT	COMMENT
		<p><u>a) for a range, no closer than the forward projection of the appliance; or</u> <u>b) for a counter-mounted unit, no closer than the forward projection of the counter when the appliance is installed per manufacturer's instructions.</u></p> <p>The markings of the "OFF" position of the valve shall be clearly and unmistakably indicated by using with the word "off" or "OFF" or an open circle (O) at least 3 mm in diameter.</p>
4.10	Info	Thermostats
		<i>New clause added;</i>
4.10.9		Electronic controls that function as thermostats shall be designed so that a single component failure shall not result in a gas burner or electric heating element remaining energized when the cooking cycle is turned off manually or automatically (such as a timed cycle).
4.13	Info	Burners
4.13.18		The ports of pilot and main burners for open top broiler sections and units shall be protected from falling particles and grease drippings. <u>If the broiler is equipped with a fully premixed infrared burner, compliance with Clause 5.30 meets the intent of this Clause.</u>
4.26	Info	Electrical equipment and wiring
		<i>New clause added;</i>
		Electrical equipment of cooking appliances shall not be adversely affected by moisture spills in the area of the horizontal cooking surface.
		Method of Test
4.26.27		<p>a) Controls mounted on the horizontal cooking surface. This test applies to controls such as gas valves, switches, or electronic controls that are mounted in a surface that is more than 45 degrees from vertical, and that is mounted in or adjacent to a cooking surface. The appliance shall be electrically energized with all controls in the off position. A solution of 500 cm³ of water containing 0.25 grams of ordinary table salt shall be poured at random over knobs and controls. All sections shall then be operated for a period of 5 minutes.</p> <p>b) Vents, slots, or openings. This test applies to vents, slots, or openings on or near the horizontal cooking surface. The appliance shall be electrically energized with all controls in the OFF position. A solution of 500 cubic centimeters of water containing 0.25 grams of ordinary table salt shall be poured down any series of openings (vent, slot, gap, groove, crevice, or similar openings) that could receive water from a spill at a steady rate while steadily moving back and forth along the length of the opening. All sections shall then be operated for a period of 5 minutes.</p>



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		At the end of the 5 minute period, the appliance shall be tested for compliance with Clause 4.26.28 a). Additionally, there shall be no evidence of arcing, short-circuiting, insulation breakdown, or unintended operation.
4.27	Info	<p>Electronic controls</p> <p><i>New clause added;</i></p> <p>Electronic controls shall be certified to:</p> <p>4.27.1 a) UL 60730-1, Automatic Electrical Controls for Household and Similar Use, Part 1: General Requirements; b) CAN/CSA E60730-1, Automatic Electrical Controls for Household and Similar Use, Part 1: General Requirements; or c) CSA C22.2 No. 24-15, Temperature-Indicating and -Regulating Equipment, if the electronic control is classified as a thermostat.</p> <p><i>New clause added;</i></p> <p>Electronic controls that are also classified as a thermostat shall also comply with:</p> <p>4.27.2 a) UL 60730-2-9, Particular Requirements for Temperature Sensing Controls; b) CAN/CSA E60730-2-9, Particular Requirements for Temperature Sensing Controls; or c) CSA C22.2 No. 24-15, Temperature-Indicating and -Regulating Equipment.</p> <p>Circuits that transmit or receive signals (analog or digital), transform or convert electricity to supply other circuits (e.g., power supply), or switch an electrical load (e.g., electronic relay) are subject to the requirements of Clause 4.27 when they are integrated (physically or functionally) with an electronic control.</p>
Table 10		<p><i>New table added;</i></p> <p>Declaration guidance relating to UL or CAN/CSA-60730-1</p>
Table 11		<p><i>New table added;</i></p> <p>Control functions</p>
Table 12		<p><i>New table added;</i></p> <p>Unique parameters/conditions for controls</p>
4.28	Info	<p>Instructions</p> <p>Each appliance shall be accompanied by clear, concise printed instructions and diagrams, stated in terms clearly understandable to the consumer, adequate for proper field assembly, installation, maintenance, safe use, and operation.</p> <p>4.28.1 Instructions for testing the appliance for leaks shall be included.</p>



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The safety-related items included in the instructions shall be prominently displayed and shall precede the instructions concerning the functional use of the appliance.

The instructions shall be marked with directions to the installer to leave them with the appliance and to the consumer to retain them for future reference.

These instructions shall include:

a) For all appliances:

xvii) The cover or first page of the manual shall bear the following instruction:

 **WARNING:**

Never Operate the Top Surface Cooking Section of this Appliance Unattended

- **Failure to follow this warning statement could result in fire, explosion, or burn hazard that could cause property damage, personal injury, or death.**
- **If a fire should occur, keep away from the appliance and immediately call your fire department.**

DO NOT ATTEMPT TO EXTINGUISH AN OIL/GREASE FIRE WITH WATER.

This warning shall be in boldface type. The word WARNING shall have a letter height of at least 3/16 in (4.8 mm) and the rest of the wording a letter height of at least 1/8 in (3.2 mm). If larger than minimum height letters are used, the WARNING word shall be 50 percent larger than the other words.

New section added;

4.30

Flammability

This section contains requirements for flammability (see standard for details).

5

Info

Performance

5.7

Info

Ignition systems

Method of Test

5.7.5

Two series of ignition tests shall be conducted. For each test, it shall be determined that all gas piping is filled with gas.



CLAUSE	VERDICT	COMMENT
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For the first series of tests, the supply voltage shall be maintained at 85 percent of the appliance rating plate voltage, an ignition cycle initiated, and the pilot gas ignition observed. Upon ignition, the pilot or main burner shall be immediately extinguished to prevent the components from becoming heated. This test shall be repeated 25 times, after which the supply voltage shall be increased to 110 percent of the appliance rating plate voltage and the test repeated 25 additional times.

For the second series of tests, the entire appliance shall be placed in operation.

e) When an ignition system is used in conjunction with top section burners that is either of the 1) cycling thermostatically controlled type, or 2) cycled on a timing process to maintain a low input heat level/mode (or simulated simmer mode), the ignition system shall demonstrate reliable ignition of the gas at the lowest user setting in the pulsing or thermostatically controlled mode. The test shall be conducted with test pots as shown in Figure 11, Top burner test pot. No less than 25 ignitions shall take place automatically under this mode of test with the flame setting at the lowest size that the system can be utilized at. Any other top burners, oven cavity burners, or built-in exhaust system that can operate at the same time shall be in operation if that operation impacts the ignition of the burner under test.

5.15 Info **Broiler operation**

New clause added;

Open top broilers equipped with fully premixed infrared burners shall comply with the following Method of Test. The main burner shall re-light and, after 15 minutes of additional operation, shall re- light and, after 15 minutes of additional operation, shall demonstrate normal burner operation. Compliance may be achieved by pyrolytic self-cleaning of the burner.

Method of Test

5.15.2

This test shall be conducted at normal test pressure. With the broiler at room temperature, the gas shall be turned on, ignited, and the cover closed. The broiler shall be operated for 15 minutes. Meat cakes made from freshly ground 80 percent lean/20 percent fat hamburger meat weighing 0.3 lb (0.14 kg) with a diameter of 4 in (102 mm) and a thickness of approximately 3/4 in (9.5 mm) shall be immediately placed on the broiler rack directly over the main burner in a manner that will represent a normal cooking load without crowding. The meat cakes shall be placed in a method to completely cover the burner. The meat cakes shall be positioned uniformly, with no more than 1/2 in space between each cake. The broiler rack shall be placed in the lowest rack position for this test. The cakes shall be broiled for 5 minutes on each side. After broiling the meat cakes on both sides, the main burners shall be manually extinguished and the meat cakes left on the broiler rack for 5 minutes. The cakes shall then be removed and an attempt to re-light the open top broiler burner shall be made.



CLAUSE	VERDICT	COMMENT
		<i>New section added;</i>
5.30		Sponge washing test This section contains requirements for a leakage test using a wet sponge to simulate cleaning of the appliance control surfaces (see standard for details).
		<i>New section added;</i>
5.31		Nichrome wire test This section contains requirements for the nichrome wire test to evaluate polymer materials used inside of the appliance (see standard for details).