STANDARDS UPDATE NOTICE (SUN)
ISSUED: July 10, 2020

STANDARD INFORMATION

Standard Number: ANSI Z21.10.3 / CSA 4.3
Standard Name: Gas-Fired Water Heaters, Volume III, Storage Water Heaters with Input Ratings Above 75,000 Btu per Hour, Circulating and Instantaneous
Standard Edition and Issue Date: 9th Edition dated November 1, 2019
Date of Revision: November 1, 2019
Date of Previous Revision of Standard: 8th Edition with Errata August 2019

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: **May 1, 2021**

IMPACT, OVERVIEW, AND ACTION REQUIRED

Impact Statement: A review of all Listing Reports is necessary to determine which products comply with new/revised requirements and which products will require re-evaluation. **NOTE:** Effective immediately, this revised standard will be exclusively used for evaluation of new products unless the Applicant requests in writing that current requirements be used along with their understanding that their listings will be withdrawn on Effective Date noted above, unless the product is found to comply with new/revised requirements.

Overview of Changes:

- Addition of test for vent and air intake connection means
- Installation requirements for Category II and IV
- Modification of requirements for venting installation
- Revised markings throughout the standard

Specific details of new/revised requirements are found in table below

If the applicable requirements noted in the table are not described in your report(s), these requirements will need to be confirmed as met and added to your report(s) such as markings, instructions, test results, etc. (as required).

Client Action:

Information – To assist our Engineer with review of your Listing Reports, please submit technical information in response to the new/revised paragraphs noted in the attached or explain why these new/revised requirements do not apply to your product (s).

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 – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records.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
		Additions to existing requirements are <u>underlined</u> and deletions are shown ~~lined out~~ below.
4	Info	**Construction**
4.26		***New clause added;*** **Non-metallic vent and air intake connection strength test** Venting and air intake system parts, including parts within a water heater, shall not break, disassemble, or become damaged when subjected to a longitudinal force of 50 lb (223 N) and a torque of 25 ft-lb (34 N•m). **Method of Test** A section of non-metallic vent material of sufficient length to perform this test shall be connected to the exhaust outlet of the water heater. The water heater venting system shall be installed on the water heater in accordance with the appliance or vent manufacturer's instructions. If cemented joints are included in the assembly of the water heater vent system, the cement shall be allowed to dry as specified in the manufacturer's instructions. A 50 lb (223 N) force shall be applied along the longitudinal center-line of the vent pipe in a direction tending to pull the vent from the water heater for 5 minutes. The vent shall not become disconnected. A similar force is then applied in the opposite direction for 5 minutes. The vent shall not become disconnected. A torque of 25 ft-lb (34 N•m) is applied to the center-line of the assembly for 1 minute, from one rotation direction. The torque shall then be applied in the opposite direction for 1 minute. After forces and torques have been applied, there shall be no signs of leakage, breakage, or disassembly of the venting and air intake system parts when visually examined.
Figure 2A and 2B		Figures 2A, 2B and the associated notes are amended to better align with the Canadian and US installation codes and for added clarity. *See standard for details.*

CLAUSE	VERDICT	COMMENT
4.31	Info	**Instructions**
4.31.2 b)		Instructions shall bear the seal or symbol of the testing agency. The instructions shall include: b) Installation instructions indicating: xx) Unless design certified for coverage with insulation, the instructions shall prohibit covering non-metallic vent pipe and fittings with thermal insulation. If coverage with insulation is not prohibited, the instructions shall specify the type, thickness, and thermal resistance value of the design certified insulation covering. xxii) Installation instructions for installing vents, venting systems, and provisions for adequate combustion and ventilation air shall include the following instructions: 4) For Category II, III, or IV water heaters, the manufacturer's instructions shall specify the type of venting material to be used, vent size, and the minimum and maximum vent lengths: B) When the parts for venting the vent gases are not provided by the water heater manufacturer and they are specific types listed by a nationally recognized testing agency, these instructions shall clearly identify and specify the use of the specific parts for the venting system and the standard under which the vent system components are listed (see Clause 4.32.33). 5) For Category II, III and IV water heaters, the venting system shall be installed in accordance with the water heater manufacturer's instructions and, if applicable, the venting system manufacturer's instructions. 7) Instructions for proper venting installation: B) For Category II, III, and IV appliances, the venting system shall be installed in accordance with the appliance manufacturer's installation instructions and, if applicable, the venting manufacturer's installation instructions. The instructions for the installation of the venting system shall specify that the horizontal portions of the venting system shall be supported to prevent sagging; the methods of and intervals for support shall be specified. These instructions shall also specify that the venting system: i) for Category I and II appliances, have horizontal runs sloping upwards not less than 1/4 in/ft (21 mm/m) from the appliance to the vent terminal; ii) for Category III and IV appliances, slope shall be as specified in the appliance manufacturer's instructions; and iii) for Category II and IV appliances, be installed with a means for condensate disposal. 8) If an appliance is marked, "Category I or Category III", the installation manuals shall specify the venting system to be used for each category.

CLAUSE	VERDICT	COMMENT
		xxiii) When an existing Category I appliance is removed or replaced, the original venting system may no longer be sized to properly vent the attached appliances. Instructions shall also indicate effects of an improperly sized venting system (formation of condensate, leakage, spillage, etc.).
4.31.2 c)		c) Maintenance instructions (including recommended frequency guidelines) suggesting: ii) periodic cleaning of the screens in the vent terminal (where applicable); x) a condensate neutralization maintenance schedule, if a condensate neutralization means is provided; xi) periodic cleaning of the condensate collection and disposal system(s) (if applicable); and xii) for horizontally vented appliances, information on preventing blockage by snow.
4.32	Info	**Rating plate(s)**
4.32.3		This plate(s) shall include the following information: s) Identification of this Standard with the following marking: "CSA/ANSI Z21.10.3 • CSA 4.3-(year)" ~~"ANSI Z21.10.3 • CSA 4.3-(year)"~~
4.32.27		***New clause added;*** If a water heater may be installed as a direct vent water heater or installed to use indoor combustion air, it shall bear the following marking: "FOR EITHER DIRECT VENT INSTALLATION OR FOR INSTALLATION USING INDOOR COMBUSTION AIR (see manufacturer's installation instructions)".
5	Info	**Performance**
5.33		***New clause added;*** **Condensate disposal system(s)** A water heater having a condensate disposal system(s) shall, under conditions of a blocked condensate drain line(s), continue to operate satisfactorily or shall shut off main burner gas during conduct of the following Method of Test. **Method of Test** The condensate disposal system(s) shall be installed in accordance with the manufacturer's installation instructions. The condensate drain line(s) shall be blocked at or upstream of the narrowest point in the system(s). When the condensate disposal system(s) is provided with an overflow port, blockage shall be applied upstream of the overflow port or the port shall be plugged.

CLAUSE	VERDICT	COMMENT
		The water heater shall be placed in operation at normal input rate(s) and normal inlet test pressure. The condensate disposal system(s) shall be filled to the maximum level of water obtainable or to the point just prior to causing the water heater to shut off (the method of filling shall be at the discretion of the testing agency). The combustion shall be monitored during filling. At no time shall the combustion level [concentration of carbon monoxide in an air-free sample of the flue (vent) gases when tested in an atmosphere having a normal oxygen supply] exceed 0.04 percent or the water heater shall shut off main burner gas before the carbon monoxide level reaches 0.04 percent. The safety shutoff device shall be bypassed, if necessary, and the water heater cycled as it would be under normal operating conditions. The main burner(s) and ignition device(s) shall ignite without delayed ignition, flame rollout, or flashback. The bypass shall be removed. The water heater shall comply with the leakage current and dielectric withstand tests. A water heater that cannot be placed into operation under conditions of blocked condensate drain line(s) shall be deemed to comply with this test.
8	Info	**Items unique to Canada**
8.4	Info	**Outdoor installation**
8.4.1		***New clause added;*** **Components for low temperature operation** In Canada, all components and/or controls affecting the safety of the appliance shall be individually certified for the lower ambient operating temperature of the outdoor appliance or enclosed in a supplementary heated compartment. All operating components and or controls not affecting the safety of the appliance will be reviewed for their acceptance in the particular application, bearing in mind their certified temperature limitations and the effect that any malfunction might produce. The heated compartment shall not rely solely on recirculating air for supplementary heat.
		CUSTOMERS PLEASE NOTE: This Table and column “Verdict” can be used in determining how your current or future production is or will be in compliance with new/revised requirements.