

# STANDARDS UPDATE NOTICE (SUN)

## ISSUED: March 29, 2018

**Standard Number:** ANSI Z21.86 / CSA 2.32  
**Standard Name:** Vented Gas-Fired Space Heating Appliances  
**Standard Edition and Issue Date:** 6<sup>th</sup> Edition Dated December 1, 2016  
**Date of Revision:** December 1, 2016  
**Date of Previous Revision of Standard:** January 1, 2014

**Effective Date:** **January 31, 2020**

**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requests in writing that current requirements be used along with their understanding that their listings will be withdrawn on Effective Date noted above, unless the product is found to comply with new/revised requirements.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:

- New warning label for carbon monoxide poisoning hazard.
- New thermocouple requirements for performance.
- New section added for Determination of Category.
- Updated requirements for markings.
- New Annex added for corrosion resistance criteria and test method for condensing appliances.

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 Required:

**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 – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records.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.***



CLAUSE	VERDICT	COMMENT
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*Additions to existing requirements are underlined and deletions are shown ~~lined out~~ below.*



4	Info	<b>Construction</b>
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4.26	Info	<b>Instructions</b>
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Each appliance shall be accompanied by clear, concisely printed instructions and diagrams adequate for proper field assembly installation, maintenance, safe use, and operation.

Instructions shall bear the symbol of the organization conducting tests for compliance with this Standard.

The front cover, or in the absence of a cover the first page, shall bear the following boxed warning. It shall be boxed as shown:

**Deleted:**

4.26.1





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**New:**

The letters used for the boxed warning above shall be bold-faced type having a minimum uppercase letter height of 0.120 in (3.05 mm). The minimum vertical spacing between lines of type shall be 0.046 in (1.17 mm). \* Lowercase letters shall be compatible with the uppercase letter size specification.

\* This letter height and line spacing corresponds to 12-point type.

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***New subclause added;***

4.26.1 i)

when an existing Category I heater 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.) and shall specify the following test procedure:

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4.27.2 k) Identification of this standard by indicating either this edition of the standard, ~~or the most recent effective addenda thereto,~~ with ~~one of~~ the following markings:  
“ANS Z21.86-(year) • CSA 2.32-(year) (Appliance type);”  
~~“ANS Z21.86a • CSA 2.32a(year) (Appliance type);” or~~  
~~“ANS Z21.86b • CSA 2.32b(year) (Appliance type).”~~

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5 Info **Performance**

5.1.3 When a thermocouple is specified for the measurement of temperature, a thermocouple of type J (iron–constantan), type K (nickel chromium–nickel aluminum), or an equivalent temperature measuring device complying with the *Performance Test Code — Temperature Measurement of the Supplement on Instruments and Apparatus, Part 3, ANSI/ASME PTC 19.3*, shall be used.

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***New clause added;***

5.4 **Category Determination**

This clause contains information to determine appliance venting categories (see standard for details).

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***New Figure added;***

**Chart for determination of Category**  
(See Clause 5.4)

Figure 4

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***New Table added;***

**Determination of category**  
(See Clause 5.4)

Table 5

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***New clause added;***

5.22 **Allowable vent pipe, heating element, and load-bearing flue gas baffle temperatures**

This clause contains requirements for vent pipe, heating element, and load-bearing flue gas baffle temperatures (see standard for details).

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8	Info	<b>Gravity and fan-type direct vent wall furnaces construction</b>
8.4	Info	<b>Main burners</b>

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Wall furnaces for manufactured home (USA only), mobile home, or recreational vehicle installation convertible for use with natural gas and propane gas shall be provided with burner(s) designed to operate satisfactorily with Test Gases A and/or E. In the event burner designs differ for each Test Gas, these burners will be properly identified including identification as to which burner(s) is in place on the appliance as shipped. This marking shall be located on the outside front of the appliance. This marking may be on a Class VI marking and may be combined with the marking in Clause 8.5, Orifice spuds and orifice fittings.

8.4.4

The marking shall be worded as follows:

“THIS APPLIANCE IS EQUIPPED FOR NATURAL (~~LP~~/PROPANE) GAS. This appliance is equipped with main burner(s) designed for operation with natural (~~LP~~/propane) gas.

Main burner(s) necessary for ~~LP~~/propane (natural) conversion are provided \_\_\_\_\_.”\*

\* Location to be determined by the manufacturer.

When a change of main burner(s) is not required to convert from one gas to the other, the above label need not be provided.

8.5

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A wall furnace for manufactured home (USA only), mobile home, or recreational vehicle installation convertible for use with natural gas and propane gas shall be provided with an orifice for both natural gas and propane gas which shall be properly identified. One set of orifices shall be in place in the pilot and main burners when the appliance is shipped from the factory.

Proper identification as to which orifice is in place on the appliance as shipped shall be provided on the outside front of the appliance, including reference to the location of the conversion instructions. This marking may be on a Class VI marking worded as follows:

“THIS APPLIANCE IS EQUIPPED FOR NATURAL (LP/PROPANE) GAS. For conversion to ~~LP~~/propane (natural) gas see instructions provided with the appliance.

Orifices and instructions necessary for ~~LP~~/propane (natural) conversion are provided.”\*

\* Location to be determined by the manufacturer.

When a change of orifice spuds is not required to convert from one gas to the other, the above label need not be provided.

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Each wall furnace shall be accompanied by clear, concise printed instructions and diagrams adequate for proper field assembly, installation, maintenance, safe use, and operation.

The front cover, or in the absence of a cover, the first page shall bear the following applicable boxed warning. It shall be boxed as shown for wall furnaces for recreational vehicle installation only:

**Deleted:**

8.18.1



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**New:**

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8.18.2

The printed instructions accompanying the appliance shall also include the following minimum information presented in an obvious and prominent manner, such as by being underlined, encircled, or printed in larger or different color type:

a) for appliances equipped with a non-metallic panel(s) larger than 5 in<sup>2</sup> (32.3 cm<sup>2</sup>) (see Clause 8.15, Non-metallic panels), the following statement (also see Clause 8.19.9):

“WARNING: Do not operate appliance with the panel(s) removed, cracked or broken. Replacement of the panel(s) should be done by a licensed or qualified service person.”

b) “For manufactured home (USA only), mobile home, or residential installation convertible for use with natural gas and ~~liquid petroleum gases~~ propane gas when provision is made for the simple conversion from one gas to the other.”

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8.19.1 d)	<p>Type of gas for which equipped: Nat., Mfd., Mix., <del>LP Propane</del>, or _____ Btu LP gas-air mixture (the heating value for the LP gas-air mixture shall be indicated). An appliance for use with natural, manufactured, and mixed gases, or any two of these gases, with no change other than a change in orifices, may be marked as equipped for operation with the specific gases. An appliance that takes advantage of this multiple gas marking shall be shipped with: (1) the smallest orifice(s) in place; (2) an extra main burner; and (3) pilot orifices (properly identified) shall be provided for the other gas(es).</p> <p>On an appliance for manufactured home (USA only), mobile home, or recreational vehicle installation convertible for use with natural gas and <del>liquefied petroleum (propane)</del> gas, (see Clauses 8.1.1(c) and (d), the marking shall be as follows: "For natural gas when equipped with No. _____ drill size orifice." "For <del>LP (propane)</del> gas when equipped with No. _____ drill size orifice."</p> <p>On an appliance for manufactured home (USA only), mobile home OEM or recreational vehicle installation for use with propane gas only [see Clauses 8.1.1(b) and (e)], the marking shall be as follows: "For use with <del>LP (propane)</del> gas only."</p>
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	<p><b><i>New section added;</i></b></p>
14	<p><b>Vented condensing gas-fired space heating appliances construction</b></p> <p>This section applies to Category II and IV heaters (see standard for details).</p>
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	<p><b><i>New section added;</i></b></p>
15	<p><b>Vented condensing gas-fired space heating appliance performance</b></p>
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15.1	<p>All applicable performance requirements outlined in Clause 5, Clause 7, and Clause 9 also apply to a vented condensing gas-fired space heating appliance, unless otherwise specified herein.</p>
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15.2	<p>A Category II or IV heater shall comply with all of the applicable performance clauses with the minimum vent length specified by the manufacturer. In addition, the tests specified in Clause 7.2, (Vented room heater) Combustion, or 9.3, (Gravity and fan type direct vent wall furnaces) Combustion, as applicable; 5.5, Burner operating characteristics; 5.7, Pilot burners and safety shut-off devices; 5.8, Direct ignition systems, plus applicable tests specified in Clauses 7 and 9 shall be conducted with the appliance equipped with the maximum vent length specified by the manufacturer. Other vent configurations deemed critical may be tested at the discretion of the testing agency. The vent terminal or cap supplied or specified by the manufacturer shall be in place during all performance tests, unless otherwise specified.</p>

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Table 17

18	Info	<b>Items unique to Canada</b>
18.5	Info	<b>Bilingual instructions and markings</b>
		<b>French translations</b>
18.5.4		The table in this clause contains the French translation for the appliance markings and instruction manual requirements where the words “LP” and “Liquefied Petroleum” have been changed to “Propane” (see standard for details).
		<b><i>New Annex added;</i></b>
Annex L		<b><i>Corrosion resistance criteria and test method for condensing appliances</i></b>
		This annex includes requirements for corrosion resistant tests (see standard for details).
<b>CUSTOMERS PLEASE NOTE:</b> 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.		