ANSI Z21.58-2018 • CSA 1.6-2018

CSA Group

Outdoor cooking gas appliances

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ANSI Z21.58-2018 • CSA 1.6-2018
Outdoor cooking gas appliances

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Preface

This is the fifth edition of ANSI Z21.58 • CSA 1.6, *Outdoor cooking gas appliances*. It supersedes the previous editions published in 2015, 2007, 2005 and 1995.

This Standard was prepared by the Z21/CSA Joint Technical Subcommittee on Standards for Outdoor Cooking and Illuminating Gas Appliances, under the jurisdiction of the Z21/83 Technical Committee on Performance and Installation of Gas Burning Appliances and Related Accessories, the Canadian Technical Committee on Gas Appliances and Related Accessories, and the Strategic Steering Committee on Standards for Fuels and Appliances, and had been formally approved by the Technical Committees, American National Standards Institute, and the Interprovincial Gas Advisory Council.

Interpretations: The Strategic Steering Committee on Standards for Fuels and Appliances has provided the following direction for the interpretation of standards under its jurisdiction: "The literal text shall be used in judging compliance of products with the safety requirements of this Standard. When the literal text cannot be applied to the product, such as for new materials or construction, and when a relevant committee interpretation has not already been published, CSA Group's procedures for interpretation shall be followed to determine the intended safety principle."

Notes:

1) *Use of the singular does not exclude the plural (and vice versa) when the sense allows.*
2) *Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.*
3) *This Standard was developed by consensus, which is defined by* CSA Policy governing standardization — Code of good practice for standardization *as "substantial agreement. Consensus implies much more than a simple majority, but not necessarily unanimity". It is consistent with this definition that a member may be included in the Technical Committee list and yet not be in full agreement with all clauses of this Standard.*
4) *To submit a request for interpretation of this Standard, please send the following information to* ***inquiries@csagroup.org*** *and include "Request for interpretation" in the subject line:*
   a) *define the problem, making reference to the specific clause, and, where appropriate, include an illustrative sketch;*
   b) *provide an explanation of circumstances surrounding the actual field condition; and*
   c) *where possible, phrase the request in such a way that a specific "yes" or "no" answer will address the issue.*

   Committee interpretations are processed in accordance with the CSA Directives and guidelines governing standardization *and are available on the* Current Standards Activities *page at* ***standardsactivities.csa.ca****.*
5) *This Standard is subject to review within five years from the date of publication. Suggestions for its improvement will be referred to the appropriate committee. To submit a proposal for change, please send the following information to* ***inquiries@csagroup.org*** *and include "Proposal for change" in the subject line:*
   a) *Standard designation (number);*
   b) *relevant clause, table, and/or figure number;*
   c) *wording of the proposed change; and*
   d) *rationale for the change.*

History of the development of standards for outdoor cooking gas appliances

Note: *This History is informative and is not part of the standard.*

With the onset of the Free Trade Agreement between the United States and Canada on January 2, 1988, significant attention was given to the harmonization of the United States and Canadian safety standards addressing gas-fired equipment for residential, commercial and industrial applications. It was believed that the elimination of the differences between the standards would remove potential trade barriers and provide an atmosphere in which North American manufacturers could market more freely in the United States and Canada. The harmonization of these standards was also seen as a step toward harmonization with international standards.

With the formation of joint subcommittees, a Canadian Gas Association Standards Steering Committee on Gas Burning Appliances and Related Accessories was established to parallel Accredited Standards Committees Z21 and Z83, and to support the formation of joint subcommittees. Operating procedures for joint subcommittees, in accordance with American National Standards Institute procedures, for joint subcommittees were developed and subsequently approved by American National Standards Institute on April 1, 1993.

A comparison document was prepared by the Z21/CGA Joint Subcommittee on Standards for Outdoor Cooking and Illuminating Gas Appliances during 1992. This document compared the American National Standard for Outdoor Cooking Gas Appliances, ANSI Z21.58, including proposed revision under development, and the National Standard of Canada for Outdoor Gas Grills, CAN/CGA-1.6.

Following reconsideration and modification of the proposed draft standard for outdoor cooking gas appliances, based on comments received, the Z21/CGA Joint Outdoor Cooking Subcommittee, at its February 18-19, 1993 and September 28-29, 1993 meetings, recommended the proposed draft standard to the Z21 Committee and the CGA Standards Steering Committee for approval.

The proposed draft harmonized outdoor cooking gas appliances standard was approved by the Z21 Committee by letter ballot dated August 1994. The CGA Standards Steering Committee approved the proposed draft harmonized standard for outdoor cooking gas appliances by letter ballot dated March 7, 1995.

The first edition of the harmonized Z21/CGA Standard for Outdoor Cooking Gas Appliances was approved by the CGA Standards Advisory Committee and the Canadian Interprovincial Gas Advisory Council (IGAC) in October 1995 and by the American National Standards Institute, Inc. (ANSI), on October 16, 1995.

The second edition of the harmonized Z21/CGA Standard for Outdoor Cooking Gas Appliances was approved by the CGA Standards Advisory Committee and the Canadian Interprovincial Gas Advisory Council (IGAC) in February 1, 2005 and by the American National Standards Institute, Inc. (ANSI), on March 14, 2005.

Following the procedures outlined above, further revisions to this Standard ANSI Z21.58 • CSA 1.6, were made in line with industry developments. The third edition of the American National Standard/CSA Standard for Outdoor Cooking Gas Appliances was approved by the IGAC on February 16, 2007, and by the ANSI, Inc. on November 13, 2006.

The fourth edition of this Standard was approved by the Z21/83 Technical Committee on Performance and Installation of Gas Burning Appliances and Related Accessories on March 12, 2013; April 22, 2014;

April 14, 2015; and June 10, 2015; the CSA Technical Committee on Gas Appliances and Related Accessories on July 26, 2012; April 15, 2013; April 14, 2015, and June 10, 2015; ANSI on July 9, 2015; and the IGAC on May 18, 2015.

This, the fifth edition of this Standard was distributed for industry review and comment dated March 2014; April 2016; and July 2016. This edition was formally approved by the Z21/83 Technical Committee on Performance and Installation of Gas Burning Appliances and Related Accessories on November 9, 2017; the CSA Technical Committee on Gas Appliances and Related Accessories on July 1, 2017; ANSI on January 10, 2018; and the IGAC on October 20, 2017.

The previous editions of the Outdoor Cooking Gas Appliances standard, and addenda there to, approved by the IGAC and ANSI are as follows:

ANSI Z21.58-1995 • CGA 1.6-M95	ANSI Z21.58a-1998 • CGA 1.6a-M98 ANSI Z21.58b-2002 • CGA 1.6b-2002
ANSI Z21.58-2005 • CSA 1.6-2005	ANSI Z21.58a-2006 • CSA 1.6a-2006 ANSI Z21.58b-2006 • CGA 1.6b-2006
ANSI Z21.58-2007 • CSA 1.6-2007	ANSI Z21.58a-2008 • CSA 1.6a-2008 ANSI Z21.58b-2012 • CSA 1.6b-2012
ANSI Z21.58-2015 • CSA 1.6-2015	

The following identifies the designation and year of the harmonized standard:

ANSI Z21.58-2018 • CSA 1.6-2018

Note: *This edition of ANSI Z21.58 • CSA 1.6 incorporates changes to the 2015 edition. Changes, other than editorial, are denoted by a Δ in the margin*

ANSI Z21.58-2018 • CSA 1.6-2018
Outdoor cooking gas appliances

1 Scope

1.1
This Standard applies to newly produced outdoor cooking gas appliances (see Clause 3) constructed entirely of new, unused parts and materials. Outdoor cooking gas appliances submitted for examination under this Standard are classified as portable, stationary, or built-in.

1.2
This Standard applies to outdoor cooking gas appliances mounted to the exterior of a recreational vehicle (RV grills) (see Clause 3) for connection to the recreational vehicle's low pressure LP gas supply system (see Clause 1.8). It does not apply to outdoor cooking gas appliances for installation in the interior living space of a recreational vehicle.

1.3
This Standard does not apply to outdoor cooking gas appliances for installation in or on boats.

1.4
An outdoor cooking gas appliance may be a:
a) broiler unit;
b) top or surface unit;
c) oven;
d) combination of a), b) or c) above, or any other outdoor cooking gas appliance; or
e) RV grill.

1.5
Ovens shall not be of the self-cleaning type (see Clause 3).

1.6
Outdoor cooking gas appliances may be for connection to:
a) a fixed fuel piping system.
b) a remote self-contained liquefied petroleum gas supply system (see Clause 3, Definitions), provided the appliance is supplied with remote mounting and retention means for the attachment of a single cylinder with a maximum size in accordance with Clause 1.6c) or Clause 1.6d) and instructions for installing the mounting and retention means within the built-in enclosure.
c) a self-contained liquefied petroleum gas supply system with an integral cylinder mounting means, for attachment to a single cylinder:
    i) outdoor cooking gas appliances with input ratings less than 80,000 Btu/h (23,446 W) shall be designed to accommodate a vertically mounted cylinder with a maximum size of 20 lb (9.1 kg) of fuel.
    ii) outdoor cooking gas appliances with input rating greater than or equal to 80,000 Btu/h (23,466 W) shall be designed to accommodate a vertically mounted cylinder with a maximum size of 30 lb (13.6 kg) of fuel.

d) a self-contained liquefied petroleum gas supply system with an integral cylinder mounting means for the attachment of not more than two vertically mounted vapor withdrawal cylinders, each with a maximum size of 20 lb (9.1 kg) of fuel for outdoor cooking gas appliances with input ratings greater than or equal to 80,000 Btu/hr (23,466 W).

1.7

This Standard applies to outdoor cooking gas appliances operating at inlet gas pressures not to exceed 1/2 psi (3.5 kPa) for connection to a fixed fuel piping system for use with:

a) natural gas;
b) manufactured gas;
c) mixed gas;
d) liquefied petroleum gases; and
e) LP gas-air mixtures.

This Standard also applies to outdoor cooking gas appliances designed for connection to self-contained LP gas supply systems (see Clause 4.5) operating at regulated outlet pressures:

a) not to exceed 11 in wc (2.74 kPa); and
b) in excess of 11 in wc (2.74 kPa) but not greater than 5 psi (34.5 kPa).

The construction of outdoor cooking gas appliances for use with the above-mentioned gases is covered under Clause 4, Construction.

The performance of outdoor cooking gas appliances for use with the above-mentioned gases is covered under Clause 5, Performance.

1.8

Built-in outdoor cooking gas appliances may be for connection to:

a) a fixed fuel piping system; or
b) a remote self-contained liquefied petroleum gas supply system (see Clause 3, Definitions), provided the appliance is supplied with remote mounting and retention means for the attachment of a single cylinder with a maximum size in accordance with Clause 1.6b) and instructions for installing the mounting and retention means within the built-in enclosure.

1.9

An outdoor cooking gas appliance conforming to Clause 1.6c)ii), and that is capable of accepting either a 20 lb (9.1 kg) or a 30 lb (13.6 kg) LP gas cylinder, shall have all applicable tests in Clause 4 and Clause 5 conducted with both size cylinders.

1.10

An outdoor cooking gas appliance having integral mounting and retention means shall be designed so a spare 20 lb (9.1 kg) or 30 lb (13.6 kg) LP gas cylinder cannot be stored within any enclosure, or under the firebox of the appliance.

1.11

Throughout this document gauge pressures are designated in pounds per square inch, (psi) and kilopascals (kPa). Use of the terminology “psig” is not used. Where “psi” is used it is understood to be pound per square inch gauge. Absolute pressures are not used in this Standard.

1.12

This Standard contains SI (Metric) equivalents to the yard/pound quantities, the purpose being to allow the Standard to be used in SI (Metric) units. (IEEE/ASTM SI 10, *American National Standard for Metric Practice*, or ISO 80000-1:2009, *Quantities and units – Part 1: General* (Standard for use of the International System of Units (SI): The Modern Metric System, IEEE/ASTM SI 10 or ISO 80000-1:2009 *Quantities and units — Part 1: General* are is used as a guide in making metric conversion from yard/pound quantities.) If a value for a measurement and a corresponding value in other units are stated, the first stated value is to be regarded as the requirement. The given corresponding value may be approximate. If a value for a measurement and a corresponding value in other units are both specified as a quoted marking requirement, the first stated unit, or both shall are to be provided.

1.13

In this Standard, "shall" is used to express a requirement, i.e., a provision that the user shall satisfy in order to comply with the standard; "should" is used to express a recommendation or that which is advised but not required; and "may" is used to express an option or that which is permissible within the limits of the standard.

Notes accompanying clauses do not include requirements or alternative requirements; the purpose of a note accompanying a clause is to separate from the text explanatory or informative material.

Notes to tables and figures are considered part of the table or figure and may be written as requirements.

Annexes are designated normative (mandatory) or informative (non-mandatory) to define their application.

1.14

Clause 7 contains provisions that are unique to the United States.

1.15

Clause 8 contains provisions that are unique to Canada.

1.16

Clause 2 contains a list of standards specifically referenced in this Standard and sources from which these reference standards may be obtained.

1.17

An outdoor cooking gas appliance covered by this Standard need not comply with the provisions of the Standard for *Gas-Fired Appliances for Outdoor Installations,* CAN1-2.21.

2 Reference publications

This Standard refers to the following publications, and where such reference is made, it shall be to the edition listed below, including all amendments published thereto.

CSA Group

ANSI Z21.15-2009 • CSA 9.1-2009, and addenda ANSI Z21.15a-2012 • CSA 9.1a-2012
Manually-Operated Gas Valves for Appliances, Appliance Connector Valves and Hose End Valves