CSA GROUP™

CSA/ANSI Z21.19:19 • CSA 1.4:19
National Standard of Canada
American National Standard

Refrigerators using gas fuel

Approved American National Standard
ANSI

Standards Council of Canada
Conseil canadien des normes

Revision History

CSA/ANSI Z21.19:19 • CSA 1.4:19, Refrigerators using gas fuel

Revision from previous edition	Revision symbol (in margin)
Clauses 4.13.3, 4.23.1, 5.6.2, 5.13, 5.14, A.4.1, A.4.2, A.5, A.5.1, A.5.2, A.5.3, A.5.4.1, A.5.4.2, A.5.4.3, A.5.4.4, A.5.4.5, A.5.4.6, A.5.4.7, and A.5.5	Δ

Standards Update Service

CSA/ANSI Z21.19:19 • CSA 1.4:19
November 2019

Title: *Refrigerators using gas fuel*

To register for e-mail notification about any updates to this publication
- go to **store.csagroup.org**
- click on **Product Updates**

The **List ID** that you will need to register for updates to this publication is **24263**.

If you require assistance, please e-mail **techsupport@csagroup.org** or call 416-747-2233.

Visit CSA Group's policy on privacy at **www.csagroup.org/legal** to find out how we protect your personal information.

CSA Group

The Canadian Standards Association (operating as "CSA Group"), under whose auspices this National Standard has been produced, was chartered in 1919 and accredited by the Standards Council of Canada to the National Standards system in 1973. It is a not-for-profit, nonstatutory, voluntary membership association engaged in standards development and certification activities.

CSA Group standards reflect a national consensus of producers and users including manufacturers, consumers, retailers, unions and professional organizations, and governmental agencies. The standards are used widely by industry and commerce and often adopted by municipal, provincial, and federal governments in their regulations, particularly in the fields of health, safety, building and construction, and the environment.

Individuals, companies, and associations across Canada indicate their support for CSA Group's standards development by volunteering their time and skills to Committee work and supporting CSA Groups objectives through sustaining memberships. The more than 7000 committee volunteers and the 2000 sustaining memberships together form CSA Group's total membership from which its Directors are chosen. Sustaining memberships represent a major source of income for CSA Groups standards development activities.

CSA Group offers certification and testing services in support of and as an extension to its standards development activities. To ensure the integrity of its certification process, CSA Group regularly and continually audits and inspects products that bear the CSA Group Mark.

In addition to its head office and laboratory complex in Toronto, CSA Group has regional branch offices in major centres across Canada and inspection and testing agencies in eight countries. Since 1919, CSA Group has developed the necessary expertise to meet its corporate mission: CSA Group is an independent service organization whose mission is to provide an open and effective forum for activities facilitating the exchange of goods and services through the use of standards, certification and related services to meet national and international needs.

For further information on CSA Group services, write to
CSA Group
178 Rexdale Boulevard, Toronto, Ontario,
Canada M9W 1R3

American National Standards Institute

The American National Standards Institute (ANSI), Inc. is the nationally recognized coordinator of voluntary standards development in the United States through which voluntary organizations, representing virtually every technical discipline and every facet of trade and commerce, organized labor and consumer interests, establish and improve the some 10,000 national consensus standards currently approved as American National Standards.

ANSI provides that the interests of the public may have appropriate participation and representation in standardization activity, and cooperates with departments and agencies of U.S. Federal, state and local governments in achieving compatibility between government codes and standards and the voluntary standards of industry and commerce.

ANSI represents the interests of the United States in international nontreaty organizations such as the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC). The Institute maintains close ties with regional organizations such as the Pacific Area Standards Congress (PASC) and the Pan American Standards Commission (COPANT). As such, ANSI coordinates the activities involved in the U.S. participation in these groups.

ANSI approval of standards is intended to verify that the principles of openness and due process have been followed in the approval procedure and that a consensus of those directly and materially affected by the standards has been achieved. ANSI coordination is intended to assist the voluntary system to ensure that national standards needs are identified and met with a set of standards that are without conflict or unnecessary duplication in their requirements.

Responsibility of approving American standards rests with the
American National Standards Institute, Inc.
25 West 43rd Street, Fourth floor
New York, NY 10036

National Standard of Canada
American National Standard

CSA/ANSI Z21.19:19 • CSA 1.4:19
Refrigerators using gas fuel

American National Standards Institute, Inc.

Interprovincial Gas Advisory Council

Approved on October 4, 2019 by ANSI
Approved on August 29, 2019 by IGAC
Effective in Canada June 1, 2021
Published in November 2019 by CSA Group
A not-for-profit private sector organization
178 Rexdale Boulevard, Toronto, Ontario, Canada M9W 1R3

To purchase standards and related publications, visit our Online Store at store.csagroup.org or call toll-free 1-800-463-6727 or 416-747-4044.

ICS 97.040.30
ISBN 978-1-4883-1655-5

Contents

Preface

This is the third edition of CSA/ANSI Z21.19 • CSA 1.4, *Refrigerators using gas fuel*. It supersedes the previous editions published in 2014 and 2002.

This Standard is considered suitable for use for conformity assessment within the stated scope of the Standard.

This Standard was prepared by the Joint Technical Subcommittee on Gas-Fired Refrigerators and Portable Camping Equipment under the jurisdiction of the Z21/83 Technical Committee on Performance and Installation of Gas Burning Appliances and Related Accessories and the Strategic Steering Committee on Fuels and Appliances. It has been formally approved by the Z21/83 Technical Committee, the Canadian Technical Committee on Gas Appliances and Related Accessories, and the Interprovincial Gas Advisory Council.

This Standard has been developed in compliance with Standards Council of Canada requirements for National Standards of Canada. It has been published as a National Standard of Canada by CSA Group.

This Standard has been approved by the American National Standards Institute (ANSI) as an American National Standard.

Interpretations: The Strategic Steering Committee on 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 CSA 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 standard for refrigerators using gas fuel

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. Joint subcommittees were established to facilitate the standards harmonization process between the United States and Canada.

The draft harmonized standard was based on current coverage from the American National Standard for *Refrigerators Using Gas Fuel*, Z21.19-1990, and the Canadian Gas Association Standard for *Refrigerators Using Gas Fuel*, CGA 1.4-M94. At the November 4–5, 1998 meeting of the (Interim CSA)/ Z21 Joint Subcommittee for Gas Refrigerators and Portable Camping Equipment, the subcommittee adopted the changes to the proposed draft Harmonized Standard for Refrigerators Using Gas Fuel, ANSI Z21.19 • CSA 1.4 dated October 23, 1998 and approved the updated draft for distribution for Public Review and Comment. The new proposed draft harmonized standard (Draft #2) was distributed for Review and Comment on January 5, 1999.

At the June 23-24, 1999 joint subcommittee meeting in Atlanta, GA, the subcommittee adopted the proposed draft harmonized standard with editorial changes (Draft #3) for submittal to the parent committees for their approval. The letter ballot #99-31 was "approved, pending disposition of negative comments." At its June 2000 meeting, the joint subcommittee reviewed the revised draft standard prepared by the refrigerators task group and adopted the revised Draft #4 for distribution for industry review. Draft #4 was distributed for another industry review during September 2000.

At its February 2001 meeting, following reconsideration and modifications of the proposed draft standard for refrigerators using gas fuel, the joint subcommittee recommended the proposed draft standard to the Accredited Standards Committee Z21/83 and the CSA Technical Committee for approval.

The proposed draft of the harmonized standard for *Refrigerators Using Gas Fuel* was approved by the Z21/83 Committee on January 15, 2002, and by the CSA Technical Committee by letter ballot dated April 3, 2001.

The first edition of the harmonized Z21/83 • CSA Standard for *Refrigerators Using Gas Fuel* was approved by the Canadian Interprovincial Gas Advisory Council on November 14, 2001 and by the American National Standards Institute, Inc., on January 14, 2002.

Following the procedures outlined above, further revisions to this standard, ANSI Z21.19 • CSA 1.4, were made in line with industry developments. The second edition of the American National Standard/ CSA Standard for *Refrigerators Using Gas Fuel* was approved by the IGAC on March 10, 2014, and by ANSI, on February 26, 2014.

This, the third edition of the Standard for *Refrigerators using gas fuel*, CSA/ANSI Z21.19 • CSA 1.4, was approved by the IGAC on August 29, 2019 and by ANSI on October 4, 2019.

The previous editions of the Standard for *Refrigerators Using Gas Fuel*, and addenda thereto, approved by the Interprovincial Gas Advisory Council and American National Standards Institute, Inc. are as follows:

ANSI Z21.19-2002 • CSA 1.4-2002
ANSI Z21.19a-2009 • CSA 1.4a-2009

ANSI Z21.19-2014 • CSA 1.4-2014

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

CSA/ANSI Z21.19:19 • CSA 1.4:19

Note: *This edition of CSA/ANSI Z21.19 • CSA 1.4 incorporates changes to the 2014 edition. Changes, other than editorial, are denoted by a delta in the margin.*

CSA/ANSI Z21.19:19 • CSA 1.4:19
Refrigerators using gas fuel

1 Scope

1.1

This Standard covers gas-fired refrigerators having refrigerated spaces for (1) storage of foods, or (2) storage of foods and making ice, or (3) storage of frozen foods and making ice, or (4) storage of foods and the storage of frozen foods and making ice, hereinafter referred to as refrigerators or appliances. The Standard applies to newly produced refrigerators constructed entirely of new, unused parts and materials:

a) for use with natural gas;
b) for use with liquefied petroleum (propane) gases;
c) convertible for use with natural gas and liquefied petroleum (propane) gases for residential use;
d) for manufactured home (mobile home) installation for use with liquefied petroleum (propane) gases only (see Clause 4.1.18);
e) for manufactured (mobile home) installation convertible for use with natural gas and liquefied petroleum (propane) gases when provision is made for the simple conversion from one gas to the other (see Clause 4.1.18);
f) for recreational vehicle installation for use with liquefied petroleum (propane) gases only (see Clause 4.1.19); and
g) for recreational vehicle installation convertible for use with natural gas and liquefied petroleum (propane) gases when provision is made for the simple conversion from one gas to the other (see Clause 4.1.19).

The construction of refrigerators for use with the above-mentioned gases is covered under Clause 4, Construction.

The performance of refrigerators for use with the above-mentioned gases is covered under Clause 5, Performance. Definitions are covered in Clause 3.

1.2

This Standard also covers all electrical equipment, wiring, and accessories built in or supplied with gas-fired refrigerators for use with low-voltage direct current or alternating current. Appliances for use with alternating current are nominally rated 120 V, 60 Hz.

1.3

This Standard applies to those refrigerators provided with a direct, self-contained type of system employing the absorption or adsorption principle of refrigeration.

1.4

This Standard applies to those refrigerators that are designed to use Group 2 refrigerants in quantities not exceeding 6 lb (2.72 kg), complying with the applicable provisions of the *Mechanical Refrigeration Code*, CSA B52, and with the *Safety Standard for Refrigeration Systems*, ASHRAE 15. Group 2 refrigerants include, but are not limited to the following: