

***American National Standard/
CSA Standard For***

Gas Food Service Equipment



AMERICAN NATIONAL STANDARD
ANSI Z83.11-2002

CSA STANDARD
CSA 1.8-2002

Second Edition - 2002

This Standard is a revised edition
of the former Standard for

GAS FOOD SERVICE EQUIPMENT

ANSI Z83.11-1996 • CGA 1.8-M96
and Addenda
ANSI Z83.11a-1997 • CGA 1.8a-M97
ANSI Z83.11b-2000 • CGA 1.8b-2000



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Preface

This publication represents a basic standard for safe operation, substantial and durable construction, and acceptable performance of gas food service equipment using gas fuel. It is the result of years of experience in the manufacture, testing, installation, maintenance, inspection and research on gas food service equipment designed for utilization of gas. There are risks of injury to persons inherent in appliances that, if completely eliminated, would defeat the utility of the appliance. The provisions in this standard are intended to help reduce such risks while retaining the normal operation of the appliance.

Nothing in this standard is to be considered in any way as indicating a measure of quality beyond compliance with the provisions it contains. It is designed to allow compliance of gas food service equipment, the safety construction and performance of which may exceed the various provisions specified herein. In its preparation, recognition has been given to possibilities of improvement through ingenuity of design. As progress takes place, revisions may become necessary. When they are believed desirable, recommendations or suggestions should be forwarded to the Chairman of Accredited Standards Committee Z21/83, 8501 East Pleasant Valley Road, Cleveland, Ohio 44131, or the Chairman of CSA Technical Committee on Gas Appliances and Related Accessories, 5060 Spectrum Way, Suite 100, Mississauga, Ontario, Canada L4W 5N6.

Safe and satisfactory operation of gas food service equipment depends to a great extent upon its proper installation, use and maintenance. It should be installed, as applicable, in accordance with the *National Fuel Gas Code, ANSI Z223.1/NFPA 54*; the *Natural Gas and Propane Installation Code, CSA B149.1*.

Users of this American National Standard/CSA Standard are advised that the devices, products and activities within its scope may be subject to regulation at the Federal, Territorial, Provincial, state or local level. Users are strongly urged to investigate this possibility through appropriate channels. In the event of a conflict with this standard, the Federal, Territorial, Provincial, state or local regulation should be followed.

THIS STANDARD IS INTENDED TO BE USED BY THE MANUFACTURING SECTOR AND BY THOSE APPLYING THE EQUIPMENT AND BY THOSE RESPONSIBLE FOR ITS PROPER INSTALLATION. IT IS THE RESPONSIBILITY OF THESE USERS TO DETERMINE THAT IN EACH CASE THIS STANDARD IS SUITABLE FOR AND APPLICABLE TO THE SPECIFIC USE THEY INTEND.

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EFFECTIVE DATE: An organization using this standard for product evaluation as a part of its certification program will normally establish the date by which all products certified by that organization should comply with this standard. In Canada the Technical Committee and the Interprovincial Gas Advisory Council normally stipulate an effective date for the standard.

History Of The Development Of The Standard For Gas Food Service Equipment

(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 equipment.

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 preliminary step toward harmonization with international standards, which was to become a necessity as Europe moved toward its goal to form the Economic Community (EC) by the early 1990's.

At its June 13-14, 1990 meeting, the Z83 Subcommittee on Standards for Gas Food Service Equipment appointed working groups to begin comparisons of all five Z83 food service equipment standards, with their Canadian equivalents. In 1991, a U.S./Canadian joint working group on harmonizing Z83 and CGA food service equipment standards was established.

A Z83/CGA Joint Subcommittee on Standards for Gas Food Service Equipment was then established, based on memberships of the Z83 Subcommittee on Standards for Gas Food Service Equipment and the CGA 1.8-1.12 & 1.15 Commercial Cooking Appliance Committee.

Membership encompasses representatives from the U.S. and Canadian manufacturing industry, gas suppliers (natural and LP), regulatory authorities and general interest with the intent that each country is equally represented.

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.

The first meeting of the Z83/CGA joint gas food service equipment subcommittee was held on January 28-29, 1992. At its March 1993 meeting, an ad hoc working group was appointed to compare and investigate consolidation of the five Z83/CGA draft harmonized food service equipment standards for: ranges and unit broilers, baking and roasting ovens, deep fat fryers, counter appliances and kettles, steam cookers and steam generators into one standard.

At its September 1993 meeting, the joint food service equipment subcommittee reviewed a draft of Part I for the harmonized consolidated gas food service equipment standard as presented by the ad hoc working group and provided guidance to the working group on nine issues related to coverage which was unique to the product types covered in the five draft harmonized Z83/CGA food service equipment standards.

At its March 1994 meeting, the joint food service equipment subcommittee was provided with a First Draft of the harmonized consolidated gas food service equipment standard. Following consideration, the joint food service equipment subcommittee agreed to refer the draft standard back to the ad hoc working group for further editorial modifications.

At its August 1994 meeting, the joint food service equipment subcommittee was provided with a Second Draft of the draft harmonized gas food service equipment standard. Following review and subsequent modification, the joint food service equipment subcommittee adopted a proposed Third Draft of the harmonized consolidated gas food service equipment standard for distribution for review and comment. The review and comment text for the proposed Third Draft was distributed for industry review during September 1994.

By letter ballot dated November 30, 1994, the joint food service equipment subcommittee recommended the proposed Third Draft of the harmonized consolidated gas food service equipment standard to the Z83 Committee and the CGA Standards Steering Committee for approval. The Third Draft of the proposed harmonized standard for gas food service equipment, Z83.11 • CGA 1.8, was approved by the Z83 Committee and CGA Standards Steering Committee by letter ballots dated January 20, 1995 and March 14, 1995, respectively.

Further editorial modifications to Z83.11 • CGA 1.8, based on comments considered by the joint food service equipment subcommittee at its July 1995 meeting were also recommended to and approved by the Z83 Committee and CGA Standards Steering Committee by letter ballots dated October 19, 1995 and December 4, 1995, respectively.

The first edition of the harmonized Z83/CGA Standard for Gas Food Service Equipment was approved by the American National Standards Institute, Inc. on November 15, 1995 and by the Interprovincial Gas Advisory Council and the CGA Standards Advisory Committee in May 31, 1996.

Following the procedures outlined above, further revisions to this standard, Z83.11 • CGA 1.8, were made in line with industry developments. The second edition of the American National Standard/CSA Standard for Gas Food Service Equipment was approved by the Canadian Interprovincial Gas Advisory Council on July 12, 2002, and by the American National Standards Institute, Inc., on January 7, 2002.

The previous editions of the gas food service equipment standard, and addenda thereto, approved by the Interprovincial Gas Advisory Council and American National Standards Institute, Inc. are as follows:

Z83.11-1996 • CGA 1.8-M96
Z83.11a-1997 • CGA 1.8a-M97
Z83.11b-2000 • CGA 1.8b-2000

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

ANSI Z83.11-2002 • CSA 1.8-2002

Note: *This the second edition of Z83.11 • CSA 1.8 incorporates changes to the first 1996 edition of Z83.11 • CGA 1.8 and addenda thereto. Changes are denoted by a vertical line in the margin.*

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Note

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 or CAN/CSA Z234.1 are used as a guide in making metric conversion from yard/pound quantities.) If a value for a measurement and an equivalent value in other units, the first stated is to be regarded as the requirement. The given equivalent value may be approximate. If a value for a measurement and an equivalent value in other units, are both specified as a quoted marking requirement, the first stated unit, or both shall be provided.

Harmonized Standard For Gas Food Service Equipment

Part I: Construction

1.1 Scope

1.1.1 This standard applies to newly produced gas food service equipment providing coverage for ranges and unit broilers, baking and roasting ovens, counter appliances, deep fat fryers, kettles, steam cookers, steam generators, (see Part IV, Definitions) hereinafter referred to as either (1) "appliances," constructed entirely of new, unused parts and materials for use in food service centers of commercial, industrial, institutional and public assembly buildings or (2) "outdoor appliances" constructed entirely of new, unused parts and materials for outdoor use and/or for installation in either carts or trailers:

- a. For use with natural gas;
- b. For use with manufactured gas;
- c. For use with mixed gas;
- d. For use with propane gas;
- e. For use with liquefied petroleum gases (See 2.2-e);
- f. For use with LP gas-air mixtures; and
- g. For use with either natural, manufactured, or mixed gas and convertible (see Part IV, Definitions) for use with either propane gas or liquefied petroleum gases.

The construction of gas food service equipment for use with the above-mentioned gases is covered under Part I.

The performance of gas food service equipment for use with the above-mentioned gases is covered under Part II.

The construction of floor-supported and built-in food service appliances for use with the above-mentioned gases is covered under Part I.

The performance of floor-supported and built-in food service appliances for use with the above-mentioned gases is covered under Part II.

1.1.2 Where specific type of equipment is involved, that product type (e.g., fryer) will be identified and underlined in the provision and will only apply to that product type.

1.1.3 This standard also covers all electrical equipment, wiring and accessories built in or supplied for use with an appliance. It covers only such appliances with electrical equipment, wiring and accessories which are installed in accordance with the *National Electrical Code, ANSI/NFPA 70* or the *Canadian Electrical Code, CSA C22.1*, as applicable.

1.1.4 If a value for measurement as given in this standard is followed by an equivalent value in other units, the first stated value is to be regarded as the specification.

1.1.5 All references to psi through this standard are to be considered gage pressure unless otherwise specified.

1.1.6 OUTDOOR APPLIANCES, CARTS, AND TRAILERS

- a. Appliances complying with sections of this standard which specify outdoor appliances shall be marked per Section 1.50, Marking.
- b. Appliances which are for use with a self-contained LP-gas system shall comply with Sections 1.42 (Self-Contained LP-Gas Supply Systems) and 1.43 (Enclosures for Self-Contained LP-Gas Supply Systems).
- c. Outdoor appliances also include appliances which are intended to be towed behind a vehicle. This standard does not address the issues of road performance nor Department of Transportation (Federal, State, Canadian, or Provincial) rules and regulations concerning trailers.
- d. A manufacturer shall supply adequate documentation to a testing agency that the trailer equipped with appliances meets applicable regulations and is eligible for titling and licensing. Listing by an approval agency to this standard does not imply that the trailer complies with the necessary codes applicable to vehicles for use on highways, roads, or streets.
- e. This standard also covers the permanent gas distribution system used in any cart or trailer that is being submitted for evaluation under this standard.
- f. This standard is not intended for appliances that are:
 - 1. For use in mobile structures with walls on all four sides and a permanent roof.
 - 2. Listed separately for mounting on a trailer or cart.
 - 3. Carts or trailers that are listed without appliances.
- g. Carts and trailers shall only be investigated for gas supply system construction.

1.1.7 Exhibit A contains items that are unique to the United States.

1.1.8 Exhibit B contains items that are unique to Canada.

1.1.9 Exhibit C contains a list of standards specifically referenced in this standard, and sources from which these reference standards may be obtained.

1.1.10 Special construction provisions applicable to an appliance convertible for use with natural gas and liquefied petroleum gases are outlined under 1.10.3, 1.15.1, 1.49.2-u, and 1.50.3-f(3).

1.1.11 Special construction provisions applicable to an appliance designed for use with an optional listed conversion kit are outlined under Exhibit D (Optional) Provisions for Listed Gas Appliance Conversion Kits.