



CSA/ANSI Z21.24:22 • CSA 6.10:22
National Standard of Canada
American National Standard



Connectors for gas appliances



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Connectors for gas appliances**



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Preface

This is the fifth edition of CSA/ANSI Z21.24 • CSA 6.10, *Connectors for gas appliances*. It supersedes the previous editions published in 2015, 2006, 2001, and 1997.

This Standard was prepared by the ANSI/CSA Joint Technical Sub-Committee on Standards on Connectors for Gas Appliances, under the jurisdiction of the Technical Committee on Performance & Installation of Gas Burning Appliances and Related Accessories and the Strategic Steering Committee on Standards for Gas Appliances and Related Accessories, and has been formally approved by the Technical Committee and the Interprovincial/Territorial 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.

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

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- 3) *This publication 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 publication.*
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 - d) *rationale for the change.*

CSA/ANSI Z21.24:22 • CSA 6.10:22

Connectors for gas appliances

0 Development of the standard for connectors for 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 American 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.

A draft harmonized standard for connectors for moveable gas appliances was prepared for review by the Z21/CGA Joint Connector Subcommittee. The draft harmonized standard for connectors for gas appliances is based on ANSI Z21.24-1993 and ANSI Z21.24a-1993, ANSI Z21.45-1992, ANSI Z21.45a-1993 and ANSI Z21.45b-1993, and CAN/CGA-6.10-M88. At its September 20, 1994, meeting, the Z21/CGA Joint Connector Subcommittee considered and modified the proposed harmonized draft standard and agreed to distribute it for industry review during April 1995.

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. In accordance with American National Standards Institute procedures, operating procedures for joint subcommittees were developed and subsequently approved by the American National Standards Institute on April 1, 1993.

Following reconsideration and modification of the proposed draft standard for connectors for gas appliances, the Joint Connector Subcommittee, at its November 16, 1995, meeting, recommended the proposed draft to the Z21 Committee and the CGA Standards Steering Committee for approval.

The first edition of the harmonized standard for connectors for gas appliances, as modified by the joint subcommittee, was approved by the Z21 Committee at its April 11, 1996, meeting; by the CGA Standards Steering Committee on May 8, 1996; by the Interprovincial Gas Advisory Council (IGAC) in June 1996; by the CGA Standards Advisory Committee on September 6, 1996; and by the American National Standards Institute (ANSI) on June 6, 1997.

The second edition of the harmonized standard for connectors for gas appliances was approved by the IGAC on June 12, 2001, and by ANSI on May 18, 2001.

The third edition of the harmonized standard for connectors for gas appliances was approved by the IGAC December 1, 2006, and by ANSI on August 25, 2005.

The fourth edition of the harmonized standard for connectors for gas appliances was approved by the IGAC on October 10, 2015, and by ANSI on September 16, 2015.

The following identifies the designation and year of the harmonized standard:
Z21.24-2015 • CSA 6.10-2021.

1 Scope

1.1 Inclusions

This Standard applies to newly produced gas appliance connectors, constructed entirely of new unused parts and materials, having nominal internal diameters of $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, and 1 in, and having fittings at both ends provided with taper pipe threads for connection to a gas appliance and to house piping.

This Standard covers assembled appliance connectors not exceeding a nominal length of 6 ft (1.83 m).

Connectors listed under this Standard are intended for use with gas appliances that are not frequently moved after installation.

For the purpose of this Standard, an unused connector, including end fittings, is considered to be a connector that has not been installed.

1.2 Suitability

Appliance connectors complying with this Standard are considered suitable for use with natural gases and propane.

1.3 System pressure units

Appliance connectors complying with this Standard are for use with piping systems having fuel gas pressures not in excess of $\frac{1}{2}$ psi (3.5 kPa).

1.4 Measurement units

This Standard contains SI (metric) corresponding 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.)

The values given in parentheses are for information and comparison only.

1.5 References to “psi”

All references to “psi” throughout this Standard are gauge pressure unless otherwise specified.

1.6 Provisions unique to the United States

Clause [7](#) contains provisions that are unique to the United States.

1.7 Provisions unique to Canada

Clause [8](#) contains provisions that are unique to Canada.

1.8 Mandatory language

In this Standard, “shall” is used to express a requirement, i.e., a provision that the user is obliged to 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.