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**ANSI Z21.101-2018 • CSA 8.5-2018**

# **Gas hose connectors for portable and moveable gas appliances**

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# *ANSI Z21.101-2018 • CSA 8.5-2018 Gas hose connectors for portable and moveable gas appliances*



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# Preface

This is the second edition of ANSI Z21.101 • CSA 8.5, *Gas hose connectors for portable and moveable gas appliances*. It supersedes the previous edition published in 2012.

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

**Interpretations:** The Strategic Steering Committee on Standards for Standards for Gas Appliances and Related Accessories 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.”

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## History of the development of the Standard for Gas hose connectors for portable and moveable 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 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 early 1990's.

In October 2007, the CSA/Z21 Joint Committee on Standards for Connectors for Gas Appliances approved the development of a draft bi-national standard for gas hose connectors for other than all metal construction.

The first draft harmonized standard was based on the CSA Requirement 1-08 for Connectors for Other than all Metal construction. The first draft was subsequently issued for public review during January 2010.

Following reconsideration and modification of the proposed draft standard, in light of comments received, the joint committee on Standards for Connectors for Gas Appliances at its June 13, 2012 meeting, recommended the proposed draft to the Z21/83 Technical Committee and the CSA Technical Committee for approval.

The proposed draft of the harmonized Standard for Gas hose connectors for portable and moveable gas appliances, as modified by the joint technical advisory group, was approved by the Z21/83 Committee and the CSA Technical Committee during their meeting July 17, 2012.

The first edition of the harmonized Standard for Gas hose connectors for portable and moveable gas appliances, was approved by the Canadian Interprovincial Gas Advisory Council on September 24, 2012 and by the American National Standards Institute, Inc., on October 5, 2012.

The second edition of the harmonized Standard for Gas hose connectors for portable and moveable gas appliances, was approved by the Canadian Interprovincial Gas Advisory Council on January 29, 2018 and by the American National Standards Institute, Inc., on March 6, 2018.

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

ANSI Z21.101-2018 • CSA 8.5-2018

# ANSI Z21.101-2018 • CSA 8.5-2018

## Gas hose connectors for portable and moveable gas appliances

### 1 Scope

#### 1.1

This Standard applies to newly produced gas hose connectors for portable and moveable gas appliances constructed entirely of new, unused parts and materials, consisting of flexible tubing for gas leak resistance that:

- a) when used indoors, hose connectors are to be equipped with a male plug fitting, which complies with *ANSI Z21.90 • CSA 6.24, Gas Convenience Outlets and Optional Enclosures*;
- b) are for use with indoor/outdoor gas-fired appliances;
- c) are for use on piping systems having fuel gas pressure not in excess of 5 psi (34.5 kPa);
- d) are capable of operation at temperatures between -40°F (-40 °C) and 300°F (149 °C);
- e) are of 1/4 in to 1-1/2 in nominal internal diameters;
- f) are of not more than 6 ft (1.83 m) nominal length for indoor use;
- g) are of not more than 15 ft (4.57 m) nominal length for outdoor use;
- h) are equipped with standard taper pipe threads (conforming to the *Standard for Pipe Threads, General Purpose (Inch)*, ASME B1.20.1 or the *Standard for Dryseal Pipe Threads (Inch)*, ASME B1.20.3) on the end fittings attaching to the appliance and to the gas supply piping.

#### 1.2

Connectors complying with this Standard are considered suitable for use with natural, manufactured, mixed, and LP-gas air mixtures.

#### 1.3

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.

#### 1.4

All references to psi throughout this Standard are to be considered gauge pressure unless otherwise specified.

#### 1.5

Annex A, Items Unique to Canada, contains provisions that are unique to Canada.

#### 1.6

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

#### 1.7

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* 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 are to be provided.

## 1.8

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.

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.

## 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

CSA B149.1-15

*Natural Gas and Propane Installation Code*

ANSI Z21.24-2015 • CSA 6.10-2015

*Connectors for Gas Appliances*

ANSI Z21.69-2015 • CSA 6.16-2015

*Connectors for Moveable Gas Appliances*

ANSI Z21.90-2015 • CSA 6.24-2015

*Gas Convenience Outlets and Optional Enclosures*

### American Gas Association

ANSI Z223.1/NFPA 54-2015

*National Fuel Gas Code*

### ASME International

ASME B1.20.1-2013

*Standard for Pipe Threads, General Purpose (Inch)*

ASME B1.20.3-1976 (R2013)

*Standard for Dryseal Pipe Threads (Inch)*