



**CSA/ANSI HGV 4.2:22**  
National Standard of Canada  
American National Standard



# Hoses for dispensing compressed gaseous hydrogen



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Hoses for dispensing compressed  
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<b>S. Quong</b>	Quong & Associates, Inc., San Francisco, California, USA <i>Category: General Interest</i>	
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<b>S. Marxen</b>	CSA Group, Cleveland, Ohio, USA	<i>Project Manager</i>

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<b>J. Wilms</b>	Air Products, Long Beach, California, USA
<b>E. Wolff-Klammer</b>	UL LLC, Northbrook, Illinois, USA

**L. Yang**

Toyota Motor Engineering & Manufacturing North  
America,  
Gardena, California, USA

**S. Marxen**

CSA Group,  
Cleveland, Ohio, USA

*Project Manager*

# Preface

This is the second edition of CSA/ANSI HGV 4.2, *Hoses for dispensing compressed gaseous hydrogen*. It supersedes the previous edition published in 2013.

This edition of CSA HGV 4.2 has been updated to include requirements for new technology; harmonizes requirements with the International Standard, ISO 19880-5:2019, *Gaseous Hydrogen — Fuelling Stations — Part 5: Dispenser Hoses and Hose Assemblies*; and has been reformatted to comply with current editorial practices at CSA Group.

CSA Group acknowledges that the development of this Standard was made possible, in part, by the financial support of Natural Resources Canada.

This Standard was prepared by the Technical Subcommittee on Hoses for Dispensing Compressed Gaseous Hydrogen, under the jurisdiction of the Technical Committee on Hydrogen Transportation and the Strategic Steering Committee on Transportation, 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.

**Interpretations:** The Strategic Steering Committee on Transportation 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](mailto: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](http://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](mailto: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.*

# CSA/ANSI HGV 4.2:22

## *Hoses for dispensing compressed gaseous hydrogen*

### 1 Scope

#### 1.1 General

##### 1.1.1 Inclusions

This Standard specifies requirements for materials, design, manufacture, and testing of hoses and hose assemblies used for dispensing compressed gaseous hydrogen to vehicles.

##### 1.1.2 Applicability of this Standard

This Standard applies to hose assemblies used for connecting compressed gaseous hydrogen dispensers to fuelling nozzles and includes hose assemblies with integrated vent hoses.

##### 1.1.3 Exclusions

This Standard does not apply to

- a) hoses and hose assemblies used as part of vehicle on-board fuel storage systems;
- b) bulk storage transfer; or
- c) flexible metal hoses.

#### 1.2 New and historical designs

This Standard is intended for new hose assembly designs and existing designs made with new materials. It is not intended for existing hose designs with history of use, hoses made of existing materials with history of use, or hoses qualified by industry-recognized organizations (e.g., ASME, CGA, MSS, and SAE) for use in compressed gaseous hydrogen applications.

**Note:** *The exclusions in this Clause do not preclude manufacturers from using this Standard for certification purposes for existing hoses and hose assemblies with history of use.*

#### 1.3 Precedence of requirements and conflicts

##### 1.3.1 Precedence of requirements

Application-specific standards supersede the requirements of this Standard.

##### 1.3.2 Conflicts

In case of conflict between this Standard and federal, provincial, state, or local requirements, the governmental requirements take precedence.

#### 1.4 Terminology

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.