

**Compressed hydrogen powered
industrial truck on-board fuel storage
and handling components**



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Preface

This is the first edition of CSA HPIT 1, Compressed hydrogen powered industrial truck on-board fuel storage and handling components.

This Standard was prepared by the HPIT 1 Technical Subcommittee on Standards for Compressed Hydrogen Powered Industrial Truck On-Board Fuel Storage and Handling Components, under the jurisdiction of the Joint Automotive Technical Committee, and had been formally approved by the Technical Committee.

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 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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 - 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.

CSA HPIT 1:15

Compressed hydrogen powered industrial truck on-board fuel storage and handling components

1 Scope

1.1

This Standard establishes minimum requirements for the material, design, manufacture, and testing of newly produced compressed hydrogen gas fuel system components and serially produced, refillable Type HPIT 1 containers intended only for the storage of compressed hydrogen gas installed in powered industrial truck applications or other heavy duty industrial applications. The following are components covered under this Standard:

- a) check valve;
- b) manual valve;
- c) manual container valve;
- d) automatic valve;
- e) pressure sensors and pressure gauges;
- f) pressure regulator;
- g) pressure relief device;
- h) excess flow valve;
- i) rigid fuel line;
- j) flexible fuel line;
- k) filter;
- l) fittings;
- m) discharge line closures; and
- n) containers – HPIT Types 1, 2, 3, and 4.

The construction of compressed hydrogen gas fuel system components and containers is covered under Clause [4](#).

The performance of compressed hydrogen gas fuel system components and containers is covered under Clause [6](#).

1.2

This Standard applies to containers permanently attached to the powered industrial truck and intended only for on-board refueling from a dispenser.

1.3

This Standard does not apply to the following:

- a) stationary gas engines;
- b) containers that can be removed from the powered industrial truck, refilled, and reattached; and
- c) reseating or resealing pressure relief devices.