



**CSA
Group**

Hydrogen & Fuel Cell Standards Update

Julie Weis, Brent Hartman, Sara Marxen, Alice Lewis, and Julie Cairns
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Hydrogen standards update



Designation	Title	Status	Anticipated Publication Date*
CSA HGV 4.1	Hydrogen Dispenser	Published April 2013	ANSI approved
CSA HGV 4.2	Hoses	Published April 2013	ANSI approved
ANSI HGV 4.3	Fueling Parameters	Work on the next edition of the standard is ongoing. The TSC is meeting regularly to align the Standard with SAE J2601.	December 2015 [Anticipated ANSI Standard]
CSA HGV 4.4	Breakaway Devices	Published April 2013	ANSI approved
CSA HGV 4.5	Priority and Sequencing	Published April 2013	ANSI approved

* Dates dependent on availability and responsiveness of TSC/TC members to Ballots and meeting

Hydrogen standards update



Designation	Title	Status	Anticipated Publication Date*
CSA HGV 4.6	Manual Valves for use in Hydrogen Fueling Station(s)	Published March 2013	ANSI approved
CSA HGV 4.7	Automatic Valves for use in Hydrogen Fueling Station(s)	Published March 2013	ANSI approved
CSA HGV 4.8	Fueling Station Compressors	Published January 2013	ANSI approved
CSA HGV 4.9	Fueling Station Guidelines	Comments received during industry review are currently being considered by the TSC.	December 2015 [Anticipated CSA Standard]
CSA HGV 4.10	Fittings	Published May 2012.	ANSI approved

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Hydrogen standards update



Designation	Title	Status	Anticipated Publication Date*
CSA HPRD 1	Pressure Relief Devices	The TSC met in September 2014 and began reviewing proposed revisions for the next edition of the Standard.	TBD [ANSI Standard]
CSA HGV 3.1	Fuel System Components	Published February 2015	ANSI approved
CSA HGV 2	Compressed hydrogen gas vehicle fuel containers	Published June 2014	ANSI approved

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Hydrogen standards update



Designation	Title	Status	Anticipated Publication Date*
CSA HPIT 1	System Components for Powered Industrial Trucks	HPIT 1 is currently in final publication.	March 2015 [Anticipated CSA standard]
CSA HPIT 2	Fueling for Powered Industrial Trucks	Work on the development of the draft standard is ongoing.	December 2015 [Anticipated CSA standard]
ANSI CHMC 1	Test Methods for Evaluating Material Compatibility in Compressed Hydrogen Applications - Metals	Published January 2014	ANSI Approved
CSA CHMC 2	Test Methods for Evaluating Material Compatibility in Compressed Hydrogen Applications – Non-Metallics	Work is tentatively scheduled to begin in Spring 2015	TBD

* Dates dependent on availability and responsiveness of TSC/TC members to Ballots and meeting

Fuel Cell standards update



Designation	Title	Status	Anticipated Publication Date
ANSI/CSA FC 1	Stationary Fuel Cell Power Systems	Published February 2014	ANSI approved – Adoption of IEC 62282-3-100 Ed. 1
ANSI FC 3	Portable Fuel Cell Power Systems	Working group was formed to identify U.S. references comparable to the international standards references. TSC will meet to finalize references.	TSC tabled - pending issuance of the FDIS [Anticipated ANSI approval – Adoption of IEC 62282-5-1 Ed. 2]
CSA/UL 62282-6-100	Micro Fuel Cell Power Systems	Inactive until further progress is made at IEC TC 105 WG8	Industry request – pending Amendment 1 to the 1st Edition is published prior to starting the project
ANSI FC XX	Portable Hydrogen Generators	Request was received to consider adoption of ISO 16110.	Pending

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Upcoming

- Automotive TC – March 16 [Teleconference]
- HGV 4.3 – March 6 & 20, April 3 [Teleconference]
- HPIT 2 – March 17 & 31 – [Teleconference]

Recent

- HPIT 2 TSC – February 17 [Teleconference]
- HGV 4.3 TSC – February 6 & 20 [Teleconference]

* Meetings can be changed or cancelled without prior notice.

* Working groups meet more frequently and meetings are not shown.

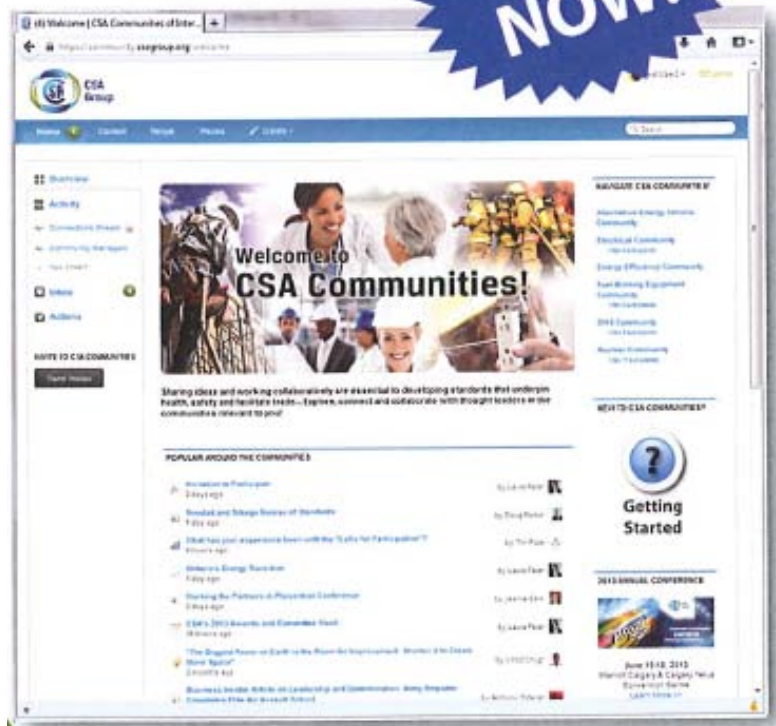
- Hydrogen Material Compatibility – Non-Metallics [CHMC 2]
 - The field of rubbers and polymers and how they react when exposed to hydrogen at various temperatures and pressures
- Fuel Cell Technical Committee
 - User Interest; General Interest; Gas Supplier
- Stationary Fuel Cell Power System TSC [FC 1]
- Portable Fuel Cell Power System TSC [FC 3]

- Breakaway Devices, Manual Valves and Automatic Valves TSC [HGV 4.4, HGV 4.6 and HGV 4.7]
 - Valve manufacturers
- Fuel System Components for Hydrogen Powered Vehicles TSC [HGV 3]
 - Valve manufacturers, hose manufacturers
- Hydrogen Powered Industrial Truck On-Board Fuel Storage and Handling Components TSC [HPIT 1]
 - Forklift manufacturers, fuel cell battery manufacturers
- Hydrogen Station and Components for Fuelling Powered Industrial Trucks TSC [HPIT 2]
 - Forklift manufacturers, HPIT station manufacturers

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