



**CSA
Group**

Hydrogen & Fuel Cell Standards Update

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November 2014



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Group**

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.	TBD 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	Industry Review comments are currently being dispositioned.	TBD 2015 [Anticipated CSA approval]
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	A call for proposals for the next edition of HPRD 1 is open with a deadline of September 5, 2014.	ANSI approved
CSA HGV 3.1	Fuel System Components	The TSC agreed to submit the Draft HGV 3.1 Standard to the Automotive Technical Committee for approval.	March 2015 [Anticipated ANSI Standard]
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.	December 2014 [Anticipated CSA standard]
CSA HPIT 2	Fueling for Powered Industrial Trucks	Work on the development of the draft standard is ongoing.	March 2015 [Anticipated CSA standard]
ANSI CHMC 1	Test Methods for Evaluating Material Compatibility in Compressed Hydrogen Applications - Metals	Phase 1 published March 2012. Phase 2 published January 2014.	ANSI Approved

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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

- HPIT 2 TSC – November 25 [Teleconference]
- HGV 4.3 TSC – December 12 [Teleconference]
- Automotive TC – December 16 [Teleconference]
- PRD 1/HPRD 1 TSC – December [Teleconference]

Recent

- HGV 4.9 TSC – October 2 [in-Person]
- HGV 4.3 TSC – September 30 & October 1 [In-Person]
- PRD 1/HPRD 1 TSC – September 30 & October 1 [In-Person]
- Automotive TC – September 29 [In-Person]
- HGV 4.9 – September 22, October 17 [Teleconference]
- HGV 4.3 TSC – October 17, October 31 & November 17 [Teleconference]
- HPIT 2 – September 15, October 9, October 23 & October 30 [Teleconference]
- NGV 3/HGV 3 TSC – September 11 [Teleconference]

* Meetings can be changed or cancelled without prior notice.

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

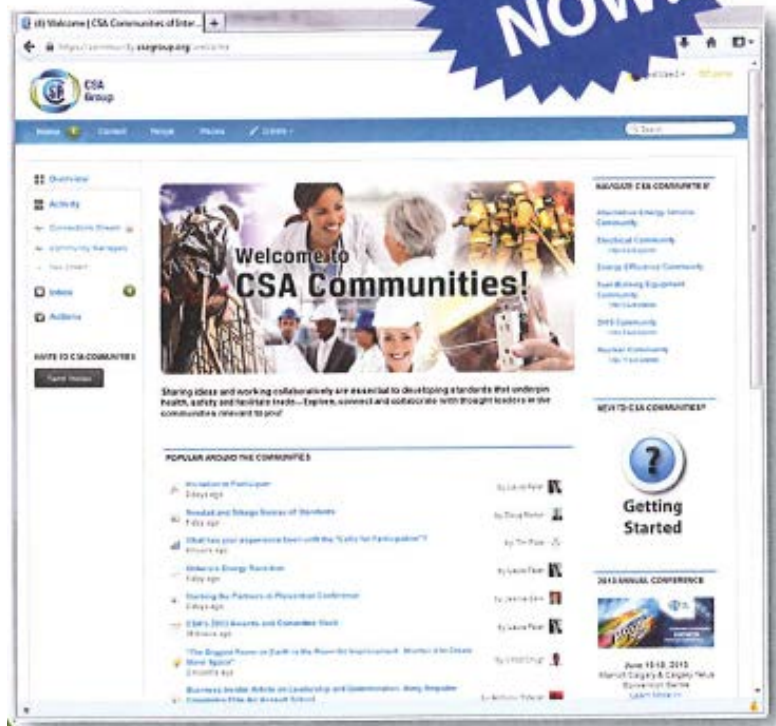
- Fuel Cell Technical Committee
 - User Interest; General Interest; Gas Supplier
- Stationary Fuel Cell Power System TSC [FC 1]
- Portable Fuel Cell Power System TSC [FC 3]
- Hydrogen Powered Industrial Truck On-Board Fuel Storage and Handling Components TSC [HPIT 1]
 - Forklift manufacturers, fuel cell battery manufacturers
- Hydrogen Station and Components for Fuelling Powered Industrial Trucks TSC [HPIT 2]
 - Forklift manufacturers, HPIT station manufacturers

- Breakaway Devices, Manual Valves and Automatic Valves TSC [HGV 4.4, HGV 4.6 and HGV 4.7]
 - Valve manufacturers
- Hydrogen Material Compatibility TSC [CHMC 1]
 - The field of rubbers and polymers and how they react when exposed to hydrogen at various temperatures and pressures
- Fuel System Components for Hydrogen Powered Vehicles TSC [HGV 3]
 - Valve manufacturers, hose manufacturers

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