

Outstanding issues to be resolved from:

Comparison between the EIHP Draft Regulations and the ISO Draft Standards on compressed gaseous hydrogen fuel tanks for land vehicles. Discussed at the GRPE/ISO group of experts meeting on 30 July 2002 in Munich, Germany.

EIHP Draft regulations: Uniform Provisions Concerning the Approval of: I Specific Components of Motor Vehicles Using Compressed Gaseous Hydrogen; II. Vehicles with Regard to the Installation of Specific Components for the Use of Compressed Gaseous Hydrogen. Rev. 9 dated 6 May 2002.

ISO/CD 15869-1 to ISO/CD 15869-5 (2002-06)
Gaseous hydrogen and hydrogen blends – Land vehicle fuel tanks

GRPE/ISO N 23

2002-10-17

Summary from Document

GRPE/ISO N 08

Code ¹	Clause in EIHP draft regulations	Clause in ISO draft standards	Name of expert/ Organization	Comments	Proposed change	Observations on each comment submitted
C	Annex 7 A2.3	ISO/CD 15869-1, clause 5.2.1.2.3		ISO/CD 15869-1 requires that a stress analysis be performed on all types of tanks. Draft 9 of the EIHP draft regulation does not require a stress analysis report.		<i>Discussion in progress.</i> <i>TUV, ISO & Raufoss were asked to exchange written arguments. TUV have not responded to date.</i>
C	Annex 7 A2.4 Table 7A.3 A7 Table 7A.8 B.11			The hydrogen compatibility test is not specified in ISO 15869, as these would be referenced directly by ISO 9809.		ISO to check status of document-ISO 11114-4. Retain reference in EIHP draft until GRPE process becomes formal. ISO to include reference in 15869. <i>Consider adopting new Annex 8 (B1) proposal for Annex 7</i>
C	Annex 7 B1			This section of the EIHP draft regulation has been removed from ISO 15869 with the incorporation of ISO 9809-1 and ISO 7866		EIHP to harmonise with ISO <i>Need to retain requirements for non-metallic materials.</i>

¹ Code: **C** identifies a comment related to the comparison of the EIHP draft regulation and the ISO draft standard.
Red text – Issues to be addressed at the next meeting

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C	Annex 7 B2			This section of the EIHP draft regulation has been removed from ISO 15869 with the incorporation of ISO 9809-1 and ISO 7866.		EIHP to harmonise with ISO <i>Incorrect. This test is still referred to in the ISO draft, and should be retained in this draft as well.</i>
C	Annex 7 B24	ISO/CD 15869-1, clause D.9		The EIHP draft regulation requires multiple drops in the vertical and 45-degree orientations. ISO 15869 requires a single drop in these orientations. The EIHP draft regulations also add two drops from a horizontal position while the ISO 15869 does not. Rationale: Containers designed to meet the ISO 15869 requirement, which is the same as in the ISO 11439 for CNG containers, have performed exceptionally in the field. They have demonstrated safety through a number of accidents and incidents in which the containers were subjected to impacts. Note: trying to do two drops on the same area adds non-repeatability, as there is some randomness in the impacts, particularly secondary and tertiary hits.		<i>Discussion in progress.</i>

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C	Annex 8A 5			<p>The EIHP draft regulation requires the PRD to be held at test pressure and 95C for 24 hours with no evidence of extrusion, and that brass components be tested per ASTM B154.</p> <p>Comment: The combined temperature and pressure requirements may cause failure of PRDs which have proven successful in the field. The ASTM B154 test contains environmentally harmful test agents, and has been replaced by testing in a moist ammonia-air environment in other standards.</p>		See new proposals for Annex 8 (GRPE/ISO Doc. No. N022)

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