



EUROPEAN COMMISSION  
DIRECTORATE-GENERAL  
JOINT RESEARCH CENTRE  
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**COMPARISON OF PRESENTLY AVAILABLE INTERNATIONAL REGULATIONS/STANDARDS  
FOR H<sub>2</sub> HIGH PRESSURE CONTAINERS  
Status 2009 01 10**

## Objectives

The comparison has been originally prepared by BAM and JRC as deliverable of the European Integrated Project STORHY. It is in the form of an Excel file, whose individual worksheets are dedicated each to one of the foreseen tests in the various international regulations.

The original version is dated January 2008 and was limited to few destructive tests. It was containing a first column with the original EIHP2 proposal and a probabilistic approach proposed by BAM as alternative to the deterministic one predominant in the present standards and regulations.

We have updated the document to keep pace with the evolution of the various international regulations and standards and completed with almost all the tests foreseen.

We hope that it becomes a useful tool in the drafting of hydrogen car regulation at both the UN-ECE and European Union level.

The EIHP2 input has been replaced with the EC Implementing Regulation developed at the moment by the Direction General Enterprise and Industry of the European Commission<sup>1</sup>.

Also the probabilistic approach has been recently reviewed By Dr. Mair at BAM and can be found in the last column of each Excel worksheet, for discussion and possibly future improvements of the approving criteria.

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<sup>1</sup> Available at [http://ec.europa.eu/enterprise/automotive/wgh\\_meetings/index.htm](http://ec.europa.eu/enterprise/automotive/wgh_meetings/index.htm) .

## Documents

The following international technical standards and regulations have been used for the comparison:

- EC Implementing Regulation draft version 4 (December 08)
- JARI S 001 - Japanese regulation for containers of compressed hydrogen vehicle fuel devices (2004)
- Draft ISO/DIS 15869.3 - Gaseous hydrogen and hydrogen blends, land vehicle fuel tanks (2008)
- SAE J2579 - Technical information Report for Fuel Systems in FC and other hydrogen vehicles (2008)

## Caveat and limitations

- ☞ The comparison is focussing on the tests for high pressure hydrogen tanks/vessels/containers (depending on the various terminologies). Tests for other components and liquid hydrogen components are not considered.
- ☞ The comparison is a living document, to be updated when the standards/regulations are updated or replaced.
- ☞ Errors and typos are certainly present in the document. We count on readers for their detection.
- ☞ To our knowledge, the Japanese regulation is a non-official English translation. We could check the original Japanese official version.
- ☞ To guarantee a certain degrees of readiness, we have omitted some testing details.
- ☞ Some tests, such as the Boss Torque test, have not yet been entered.

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Enclosure: Comparison of relevant H2 high pressure RCS 2009-01-10.xls

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