



ISO/TC 197  
Hydrogen technologies

Email of secretary: [jonathan.lafontaine@bnq.qc.ca](mailto:jonathan.lafontaine@bnq.qc.ca)  
Secretariat: SCC (Canada)

**ISO DIS 21087 - Collated comments from ISO TC197**

Document type: Other committee document

Date of document: 2018-08-14

Expected action: INFO

Background: Collated comments transmitted to ISO / TC 158 / JWG7 related to the DIS 21087 Gas analysis - analytical methods for hydrogen fuel - proton exchange membrane (PEM) fuel cell applications for road vehicles.

Committee URL: <https://isotc.iso.org/livelink/livelink/open/tc197>

## Template for comments and secretariat observations

Date: 2018-08-14	Document:	Project: ISO/DIS 21087
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MB/NC	Line number <sup>1</sup> (e.g. 17)	Clause/Subclause (e.g. 3.1)	Paragraph/Figure/Table/ Table (e.g. Table 1)	Type of comment <sup>2</sup>	Comments	Proposed change	Observations of the secretariat
FR		General		ed	Suggestion to harmonize the following headings in the whole document: Fit for purpose for H <sub>2</sub> analysis Fit for purpose	Fit for purpose for H <sub>2</sub> analysis	
FR		Scope		te	Delete the second occurrence of "quality" in the following sentence: This document specifies the validation protocol of analytical methods used for ensuring the <b>quality</b> of the gaseous hydrogen <b>quality</b> at hydrogen distribution bases and hydrogen fueling stations for PEM fuel cells for road vehicles. <b>Error corrected in the French version.</b>	This document specifies the validation protocol of analytical methods used for ensuring the <b>quality</b> of the gaseous hydrogen at hydrogen distribution bases and hydrogen fueling stations for PEM fuel cells for road vehicles.	
FR		Clause 4		ed	French experts report an error (incorrect writing of the symbol): <b>B</b> absolute bias <b>Error corrected in the French version.</b>	<b>b</b> absolute bias	
FR		Clause 4		ed	French experts report an error (incorrect writing of the symbol): <b>b</b> relative bias in % <b>Error corrected in the French version.</b>	<b>b (%)</b> relative bias in %	
FR		Clause 5		te	Delete the first occurrence of "requirements" in the following sentence. Some of the informations mentioned here are already given in the previous sentence and they must be deleted: The fuel quality <b>requirements</b> at the dispenser nozzle <b>applicable to the hydrogen fuel for PEM fuel cells in road vehicles</b> shall meet the requirements of grade D of this standard. <b>Error corrected in the French version.</b>	The fuel quality at the dispenser nozzle shall meet the requirements of grade D of this standard.	
FR		6.2	Title	te	The first word should be a plural: <b>Characteristic</b> for analytical methods <b>Error corrected in the French version.</b>	<b>Characteristics</b> for analytical methods	
FR		6.2.4.1	c)	te	The word "access" makes no sense in the following sentence, it should be deleted: It is also possible to assess bias by comparing results from the method used by the laboratory (xmean) to the reference value <b>access</b> during a proficiency test (xrefproficiency). <b>Error corrected in the French version.</b>	It is also possible to assess bias by comparing results from the method used by the laboratory (xmean) to the reference value during a proficiency test (xrefproficiency).	

<sup>1</sup> Attention, cette cellule ne peut contenir qu'un seul nombre, indiquer uniquement le n° de la 1<sup>ère</sup> ligne. Ne pas mentionner une plage de lignes 100-105 ou plusieurs lignes : 102, 104, ...

<sup>2</sup> **Type of comment:** **ge** = general **te** = technical **ed** = editorial

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FR		6.2.5.2	1 <sup>st</sup> sentence	te	The second occurrence of "concentration" should be a plural: In order to assess the fit for purpose of the analytical method, the precision of the method shall be determined at least at <b>concentrations</b> close to the threshold value and the precision for <b>this concentration</b> shall be small enough to have a relative combined uncertainty below 10 % of the concentration. <b>Error corrected in the French version.</b>	In order to assess the fit for purpose of the analytical method, the precision of the method shall be determined at least at <b>concentrations</b> close to the threshold value and the precision for <b>these concentrations</b> shall be small enough to have a relative combined uncertainty below 10 % of the concentration.	
US 01		7	Table 2	Te	Limit listed for formaldehyde does not match value from latest version of ISO 14687.	Formaldehyde IS: 0-04 s/b: <b>0.2</b>	
US 02		7	Table 2	Te	Consider adding Note e from 14687 to this impurity.	<b>Note: Sum of CO, HCHO and HCOOH shall not exceed 0.2</b>	
JP-1	9	Section 7	Table 2 Water Line1	Ed	Add JIS K0512 at Chilled mirror hygrometer (Dew point meter)  Reason: JIS K0512 Is one of the analysis methods of this part	(Before) Murugan and Brown (2014) (After) Murugan and Brown (2014) <b>JIS K0512</b>	
CN		7	Table 2	ge	It is suggested to keep ISO 21087 consist with the latest ISO 14687.	In ISO CD 14687, the tolerances of hydrogen impurities for PEM fuel cells have been reconsidered. In order to keep consistency, it is suggested to keep the impurity limit value (Column 2 in Table 2) consisting with the latest tolerance value in ISO CD 14687.	

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AR		8		Te	The laboratory that adopts a validated procedure should have to accomplish with the safety guides and recommendations to operate with hydrogen samples. Therefore, the document "ISO/TR 15916, Basic considerations for the safety of hydrogen systems" should be consulted a guide.	It is suggested to include the following paragraphs within the Clause:  Sampled gases are flammable and potentially toxic. Measures shall be taken to avoid hazardous situations as per ISO/TR 15916.  In addition, the laboratory that adopts a validated procedure should have to accomplish with the safety guides and recommendations to operate with hydrogen. As guidance the document "ISO/TR 15916, Basic considerations for the safety of hydrogen systems" should be consulted.	
FR		Clause 9	f)	ed	The same sentence is repeated twice, in e) and in f): f) details of any environmental conditions during sampling that may affect the interpretation of the test results;	Delete f)	
JP-2	13	Section 9		Ed	e) details of any environmental conditions during sampling that may affect the interpretation of the test results; f) details of any environmental conditions during sampling that may affect the interpretation of the test results; e) and f) are the same	Delete f)	Identical comment to Fr on Clause 9 f)
JP-3	15	Bibliography	[25]	Ed	The revision of ISO/IEC 17025 is correct in 2017, not in 2015.	(Before) ISO/IEC 17025:2015 (After) ISO/IEC 17025:2017	
AR		Bibliography		Te	Safety considerations for hydrogen as a guide should be mentioned within the documents and the reference should be included into the bibliography.	Add the following bibliographic reference: ISO/TR 15916, Basic considerations for the safety of hydrogen systems	

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