



**Committee of Experts on the Transport of Dangerous Goods
and on the Globally Harmonized System of Classification
and Labelling of Chemicals****Sub-Committee of Experts on the Transport of Dangerous Goods****Forty-third session**

Geneva, 24–28 June 2013

Item 5 (d) of the provisional agenda

Transport of gases: miscellaneous**References to revised ISO Standards****Submitted by the International Organization for Standardisation (ISO)¹****Introduction**

1. This paper proposes to introduce two revised standards, one for the construction of seamless aluminium cylinders and one concerning the compatibility of gases with non-metallic materials.

The standards are:

- ISO 7866-1:2012 Gas cylinders – Refillable seamless aluminium alloy gas cylinders – Design, construction and testing
- ISO 11114-2:2013 Gas cylinders – Compatibility of cylinder and valve materials with gas contents – Part 2: Non-metallic materials

If accepted, the former standard will replace the existing references to the 1999 version subject to the transition arrangements agreed in the last biennium. The latter standard updates the 2000 edition's advice on compatibility.

2. The revision of ISO 7866 has the following significant technical changes.
- A new sub-clause (11.7) has been added to address unacceptable manufacturing defects and unacceptable surface features at the time of manufacture and consequential and complementary changes made including defining "defect" as a

¹ In accordance with the programme of work of the Sub-Committee for 2013-2014 approved by the Committee at its sixth session (refer to ST/SG/AC.10/C.3/84, para. 86 and ST/SG/AC.10/40, para. 14).

feature caused by the manufacturing/manufacture; and defining "imperfection" as damage or feature not caused by manufacturing/manufacture.

- Terminology and definitions have been revised.
- Test equipment calibration requirements were added.

3. ISO 11114-2 has been revised in clauses 4 and 6 and Table 1 to give more information and advice. In particular, five additional types of plastic and three additional types of elastomer are covered. The advice on Fluorine reflects the industry's positive experience with some non-metallic materials in certain service conditions.

Proposal 1

4. In 4.4.4.1 packing instruction P200 (4) u: replace "ISO 7866:1999" with ISO 7866:2012.

5. Insert a new row in the table in 6.2.2.1.1 below the entry for ISO 7866:1999 and add the end date for manufacture to the existing reference as shown below (new text underlined). The note in the table referring to the note in clause 7.2 of the standard is not needed for the 2012 version since the note in the standard is not present in the 2012 version. The second sentence of the note in the table is still needed because the standard still covers the alloy 6351A.

<i>Reference</i>	<i>Title</i>	<i>Applicable for manufacture</i>
ISO 7866:1999	Gas cylinders – Refillable seamless aluminium alloy gas cylinders – Design, construction and testing <i>NOTE: The note concerning the F factor in section 7.2 of this standard shall not be applied for UN cylinders. Aluminium alloy 6351A – T6 or equivalent shall not be authorised.</i>	Until further notice <u>31 December 2020</u>
<u>ISO 7866: 2012</u>	<u>Gas cylinders – Refillable seamless aluminium alloy gas cylinders – Design, construction and testing</u> <i>NOTE: Aluminium alloy 6351A or equivalent shall not be used.</i>	<u>Until further notice</u>

Justification

6. The new version of the standard has made incremental improvements to the old version, but does not represent a significant change in the safety of the cylinder. An accelerated transition to the new standard is not necessary.

7. The note concerning alloy 6351A has been changed to exclude it entirely, not just in the heat-treated condition T6. Also, in pursuit of plain English, 'authorised' has been changed to 'used'.

Proposal 2

8. In 4.1.6.1.2 and 6.7.5.2.4 (a) replace “ISO 11114-2:2000” with “ISO 11114-2:2013”.
9. In the second row of the table in 6.2.2.2 replace “ISO 11114-2:2000 Transportable gas cylinders – Compatibility of cylinder and valve materials with gas contents – Part 2: Non-metallic materials” with “ISO 11114-2:2013 Gas cylinders – Compatibility of cylinder and valve materials with gas contents – Part 2: Non-metallic materials”

Justification

10. As described above this standard gives updated and more extensive advice on compatibility. Since it is advisory, no transition requirement is foreseen.
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