



Economic Commission for Europe**Inland Transport Committee****Working Party on the Transport of Dangerous Goods****Joint Meeting of the RID Committee of Experts and the
Working Party on the Transport of Dangerous Goods**

Bern, 15–19 March 2021

Item 5 (b) of the provisional agenda

**Proposals for amendments to RID/ADR/ADN:
new proposals****RID/ADR 4.1.6.8 and 4.1.6.15 – Requirements for valve
protection****Transmitted by the European Industrial Gases Association (EIGA) ^{*}, ^{**}, ^{***}***Summary*

Executive summary:	This proposal is intended to clarify the requirements on valve protection for pressure receptacles of Class 2.
Action to be taken:	Supplement RID/ADR 4.1.6.8 and 4.1.6.15.

Introduction

1. Valve protection caps and valve guards have to meet the requirements of the appropriate edition of EN ISO 11117 "Transportable gas cylinders — Valve protection caps and valve guards — Design, construction and tests". Therefore, with regard to the applicable standards, valve guards shall be handled together with valve protection caps.

2. Requirements for shrouds (integral part of a welded cylinder or pressure drum for valve protection during transport, handling and storage) are part of the relevant design standard for the pressure receptacle (shell). EN ISO 11117 explicitly excludes protection devices which are integral part of the pressure receptacle (shell). Therefore, with respect to the applicable standards, shrouds have to be handled separately.

^{*} A/75/6 (Sect.20), para 20.51.

^{**} Circulated by the Intergovernmental Organisation for International Carriage by Rail (OTIF) under the symbol OTIF/RID/RC/2021/12.

^{***} This document was scheduled for publication after the standard publication date owing to circumstances beyond the submitter's control.

3. Permanent protection attachments (integral part of the cylinder design permanently affixed to composite cylinders [type 2 to 5] covering part of or the entire surface of the cylinder, providing additional functions during handling, transport and use), also intended to serve as valve protection, are not yet included but have to be handled together with shrouds.
4. To date, requirements for valves with inherent protection used for non-refillable pressure receptacles are not yet included.

Proposal

5. The amendments to 4.1.6.8 and 4.1.6.15 are shown below, new text is marked in underlined and italics and deleted text is ~~struck through~~. The proposed changes to 4.1.6.15 agreed at the September 2020 Joint Meeting based on document ECE/TRANS/WP.15/AC.1/2020/46 as amended and informal document INF.53/Rev.2 (see ECE/TRANS/WP.15/AC.1/158) are taken into account. Editorial corrections to ECE/TRANS/WP.15/AC.1/158 are marked in **bold and underlined**:

“4.1.6.8 Valves and other components which are to remain connected to the valve during carriage (e.g. handling devices or adaptors) shall be designed and constructed in such a way that they are inherently able to withstand damage without release of the contents or shall be protected from damage which could cause inadvertent release of the contents of the pressure receptacle, by one of the following methods (see also table of standards at the end of this section):

- (a) Valves are placed inside the neck of the pressure receptacle and protected by a threaded plug or cap;
- (b) Valves are protected by caps or guards. Caps shall possess vent-holes of sufficient cross-sectional area to evacuate the gas if leakage occurs at the valves;
- (c) Valves are protected by shrouds or permanent protection attachments ~~guards~~;
- (d) and (e) remain unchanged.

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“4.1.6.15 For UN pressure receptacles, the ISO standards and EN ISO standards listed in Table 1, except EN ISO 14245 and EN ISO 15995, shall be applied. For information on which standard shall be used at the time of manufacturing the equipment, see 6.2.2.3.

For other pressure receptacles, the requirements of section 4.1.6 are considered to have been complied with if the standards in Table 1, as relevant, are applied. For information on which standards shall be used for the manufacture of valves with inherent protection, see 6.2.4.1. For information on the applicability of standards for manufacturing valve protection caps and valve guards, see Table 2.

Table 1: Standards for UN and non-UN pressure receptacles

Applicable paragraphs	Reference	Title of document
4.1.6.2	EN ISO 11114-1:2020	Gas cylinders – Compatibility of cylinder and valve materials with gas contents – Part 1: Metallic <u>m</u> aterials
	EN ISO 11114-2:2013	Gas cylinders – Compatibility of cylinder and valve materials with gas contents – Part 2: Non-metallic <u>m</u> aterials
4.1.6.4	ISO 11621:1997 or EN ISO 11621:2005	Gas cylinders – Procedures for change of gas service

4.1.6.8 Valves with inherent protection	Clause 4.6.2 of EN ISO 10297:2006 or clause 5.5.2 of EN ISO 10297:2014 or clause 5.5.2 of EN ISO 10297:2014 + A1:2017	Gas cylinders – Cylinder valves – Specification and type testing
	Clause 5.3.8 of EN 13152:2001 + A1:2003	Testing and specifications of LPG cylinder valves – Self-closing
	Clause 5.3.7 of EN 13153:2001 + A1:2003	Specifications and testing of LPG cylinder valves – Manually operated
	Clause 5.9 of EN ISO 14245:2010 or clause 5.9 of EN ISO 14245:2019	Gas cylinders – Specifications and testing of LPG cylinder valves – Self-closing
	Clause 5.10 of EN ISO 15995:2010 or clause 5.10 of EN ISO 15995:2019	Gas cylinders – Specifications and testing of LPG cylinder valves – Manually operated
	Clause 5.4.2 of EN ISO 17879:2017	Gas cylinders – Self-closing cylinder valves – Specification and type testing
	<u>Clause 9.2.5 of EN ISO 11118:2015 or clause 9.2.5 of EN ISO 11118:2015 + A1:2020</u>	<u>Gas cylinders – Non-refillable metallic gas cylinders – Specification and test methods</u>
4.1.6.8 (b)	<u>ISO 11117:1998 or EN ISO 11117:2008 + Cor 1:2009 or EN ISO 11117:2019</u>	<u>Transportable gas cylinders – Valve protection caps and valve guards for industrial and medical gas cylinders – Design, construction and tests</u>
	<u>EN962:1996 + A2:2000</u>	<u>Transportable gas cylinders – Valve protection caps and valve guards for industrial and medical gas cylinders – Design, construction and tests</u>
4.1.6.8 (c)	<u>Requirements for shrouds and permanent protection attachments, if also intended to be used as valve protection under 4.1.6.8 (c), are given in the relevant pressure receptacle shell design standards, see 6.2.2.3 for UN pressure receptacles and 6.2.4.1 for other pressure receptacles.</u>	
4.1.6.8 (b) and (c)	ISO 11117:1998 or EN ISO 11117:2008 + Cor 1:2009 or ISO 11117:2019	Transportable gas Cylinders – Valve protection caps and valve guards for industrial and medical gas cylinders – Design, construction and tests
	EN962:1996 + A2:2000	Transportable gas cylinders – Valve protection caps and valve guards for industrial and medical gas cylinders – Design, construction and tests
	ISO 16111:2008	Transportable gas storage devices – Hydrogen absorbed in reversible metal hydride

Table 2 of ECE/TRANS/WP.15/AC.1/158 remains unchanged.”

Justification

6. The proposal seeks to clarify the requirements for valve protection and does not add any additional requirements to the regulation.