

## 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, 23–27 March 2015

Item 4 of the provisional agenda

##### Interpretation of RID/ADR/ADN

18 February 2015

### Application of standards for LPG tanks

#### Transmitted by the Government of the Republic of Poland

##### *Summary*

**Executive summary:** In ADR 2015 the EN 12493:2013 standard for LPG tanks was added to the table under 6.8.2.6.1. However, because under ADR 2013 the EN 14025 standard was applied to the design, construction and testing of LPG tanks, some doubts may arise regarding the application of EN 12493 and EN 14025 standards to LPG tanks and the periods within which they are applicable.

**Action to be taken:** The Joint Meeting is invited to clarify the issues concerning the application of EN 12493 and EN 14025 standards to the design, manufacture and testing of LPG tanks.

### Introduction

1. In accordance with the provisions of 6.8.2.6.1 of ADR 2013, the EN12493:2008 standard and the EN12493:2008+A1:2012 standard (except Annex C) applied to the design and manufacture of LPG tanks until 31 December 2013 as specified in column (4) of the table under 6.8.2.6.1, reproduced in paragraph 4 for easy reference.
2. As the EN 12493 standards regarding LPG tanks were no longer in force after 31 December 2013, the EN 14025:2008 standard was applied from 1 January 2014 for the design and construction of LPG tanks and for the issue of type approvals.
3. In ADR 2015, the updated version of the EN 12493 standard applying to LPG tanks, namely EN 12493:2013 (except Annex C) and the updated version of the EN 14025 standard (EN 14025:2013) were added to the table under 6.8.2.6.1. These are marked in grey.
4. To summarise, the table under 6.8.2.6.1 contains one standard for LPG, applicable for new type approvals or for renewals (EN 12493:2013) until further notice, and two EN 14025 standards for all tanks with pressure exceeding 0,5 bar: EN 14025:2008 and EN 14025:2013 applicable for new type approvals or for renewals until 31 December 2016 and until further notice respectively, as presented below in the extract from the table under 6.8.2.6.1.

Reference	Title of document	Applicable sub-sections and paragraphs	Applicable for new type approvals or for renewals	Latest date for withdrawal of existing type approvals
(1)	(2)	(3)	(4)	(5)
<b>For all tanks</b>				
EN 14025:2003 + AC:2005	Tanks for the transport of dangerous goods – Metallic pressure tanks – Design and construction	6.8.2.1	Between 1 January 2005 and 30 June 2009	
EN 14025:2008	Tanks for the transport of dangerous goods – Metallic pressure tanks – Design and construction	6.8.2.1 and 6.8.3.1	Between 1 July 2009 and 31 December 2016	
EN 14025:2013	Tanks for the transport of dangerous goods – Metallic pressure tanks – Design and construction	6.8.2.1 and 6.8.3.1	Until further notice	
<b>For tanks for gases of Class 2</b>				
EN 12493:2001 (except Annex C)	Welded steel tanks for liquefied petroleum gas (LPG) – Road tankers – Design and manufacture <i>NOTE: Road tankers is to be understood in the meaning of "fixed tanks" and "demountable tanks" as per ADR.</i>	6.8.2.1 (with the exception of 6.8.2.1.17); 6.8.2.4.1 (with the exclusion of the leakproofness test); 6.8.2.5.1, 6.8.3.1 and 6.8.3.5.1	Between 1 January 2005 and 31 December 2010	31 December 2012
EN 12493:2008 (except Annex C)	LPG equipment and accessories - Welded steel tanks for liquefied petroleum gas (LPG) – Road tankers – Design and manufacture <i>NOTE: Road tankers is to be understood in the meaning of "fixed tanks" and "demountable tanks" as per ADR.</i>	6.8.2.1 (with the exception of 6.8.2.1.17), 6.8.2.5, 6.8.3.1, 6.8.3.5, 6.8.5.1 to 6.8.5.3	Between 1 January 2010 and 31 December 2013	31 December 2014
EN 12493:2008 + A1:2012 (except Annex C)	LPG equipment and accessories –Welded steel tanks for liquefied petroleum gas (LPG) – Road tankers – Design and manufacture <i>NOTE: Road tankers is to be understood in the meaning of "fixed tanks" and "demountable tanks" as per ADR.</i>	6.8.2.1 (with the exception of 6.8.2.1.17), 6.8.2.5, 6.8.3.1, 6.8.3.5, 6.8.5.1 to 6.8.5.3	Until 31 December 2013	31 December 2015
EN 12493:2013 (except Annex C)	LPG equipment and accessories – Welded steel tanks for liquefied petroleum gas (LPG) – Road tankers – Design and manufacture <i>NOTE: Road tankers is to be understood in the meaning of "fixed tanks" and "demountable tanks" as per ADR.</i>	6.8.2.1, 6.8.2.5, 6.8.3.1, 6.8.3.5, 6.8.5.1 to 6.8.5.3	Until further notice	

5. Under ADR 2013 the EN 14025:2008 standard was applied to the design and construction of LPG tanks. Under ADR 2015 it is applicable for new type approvals until 31 December 2016 (column (4) marked in grey). However, it is not clear whether this standard remains applicable to LPG tanks within that period, especially in view of the fact that current regulations include a valid standard dedicated for LPG tanks, namely EN 12493:2013.

6. Still further doubts concerning the relation between standards EN 14025 and EN 12493 with reference to LPG tanks may arise in connection with note 2 in the part 1 of the standard EN 14025:2013 concerning its scope of application, namely:

“NOTE 2 This standard is applicable to liquefied gases including LPG, however for a dedicated LPG standard see EN 12493.”

7. Considering the above it is not absolutely clear whether only EN 12493 should be applied for the design and manufacture of tanks for LPG or whether one can choose between applying EN 12493 or EN 14025 as mandatory. If such a choice is possible a question arises whether the competent authority or approved inspection bodies<sup>1</sup> should play a decisive role in the decision making.

8. The standard EN 12493:2013 requires a significant increase in the wall thickness of the LPG tank compared to the requirements of the standards EN 12493:2008, EN 14025:2008 and EN 14025:2013. This is illustrated in the table below, an example for steel P460NL1/P460NL2.

TABLE OF PLATE THICKNESS FOR GAS TANKS [mm]							
Ø [mm]	p [MPa]	SHELL			BOTTOM		
		12493 (2008)	14025 (2013)	12493 (2013)	12493 (2008)	14025 (2013)	12493 (2013)
(in) 2000	2,5	8,811	8,811	<b>9,600</b>	9,869	9,869	<b>10,705</b>
(out) 2150		9,389	9,389	<b>10,225</b>	10,180	10,180	<b>11,034</b>
(in) 2200		9,692	9,692	<b>10,559</b>	10,856	10,856	<b>11,777</b>
(out) 2400		10,480	10,480	<b>11,414</b>	11,480	11,480	<b>12,442</b>
(out) 2450		10,699	10,699	<b>11,652</b>	11,573	11,573	<b>12,543</b>
(in) 2000	2,1	7,396	7,396	<b>8,057</b>	8,434	8,434	<b>9,152</b>
(out) 2150		7,892	7,892	<b>8,595</b>	8,728	8,728	<b>9,464</b>
(in) 2200		8,135	8,135	<b>8,863</b>	9,278	9,278	<b>10,067</b>
(out) 2400		8,810	8,810	<b>9,595</b>	9,848	9,848	<b>10,677</b>
(out) 2450		8,993	8,993	<b>9,795</b>	9,922	9,922	<b>10,759</b>
(in) 2000	2,0	7,042	7,042	<b>7,672</b>	8,070	8,070	<b>8,757</b>
(out) 2150		7,517	7,517	<b>8,188</b>	8,358	8,358	<b>9,064</b>
(in) 2200		7,746	7,746	<b>8,439</b>	8,877	8,877	<b>9,633</b>
(out) 2400		8,392	8,392	<b>9,140</b>	9,431	9,431	<b>10,226</b>
(out) 2450		8,566	8,566	<b>9,330</b>	9,501	9,501	<b>10,303</b>

9. Bearing in mind the significant differences between the requirements of the aforementioned standards, it is crucial to ensure a common understanding of the regulations mentioned above. Therefore, we would like to invite the Joint Meeting to address the following issues in order to clarify doubts concerning the application of the EN 14025 and EN 12493 standards and their relation to each other.

## Interpretation

10. Under ADR 2015, is there a choice between the application of EN 14025:2008 (or EN 14025:2013) and EN 12493:2013 standards for the design and manufacture of LPG

<sup>1</sup> Notified bodies under TPED (Directive 2010/35/EU of the European Parliament and of the Council of 16 June 2010 on transportable pressure equipment and repealing Council Directives 76/767/EEC, 84/525/EEC, 84/526/EEC, 84/527/EEC and 1999/36/EC

tanks, and hence for the issue of new type approvals or for renewals for these tanks? Or is it mandatory to conform to the EN 12493:2013 standard in the case of LPG tanks?

11. If the Joint Meeting is of the opinion that under RID 2015 only the EN 12493:2013 standard can be applied for LPG tanks, then further questions included in this paragraph become irrelevant. If, however, the Joint Meeting is of the view that either EN 14025:2008 (or EN 14025:2013) or EN 12493:2013 standards can be applied to LPG tanks, then the following issues need clarification:

a) Is it still permitted to design, manufacture and issue the type approval certificate for LPG tanks based on the standard EN 14025:2008 until 31 December 2016, considering the fact that the deadline for the withdrawal of the existing type approvals issued based on this standard is not specified in the column 5 in the table under 6.8.2.6.1 in ADR 2015?

b) As for the choice between the application of EN 14025:2013 (or possibly EN 14025:2008) or EN 12493:2013 standards:

- (i) are there any specific circumstances that should determine the choice concerned?
- (ii) should the choice be made by the manufacturer?
- (iii) should this choice be made with the consent of the competent authority or the approved inspection body referred to in 1.8.6.1 or with the consent of a notified body?

12. If in the view of the Joint Meeting, ADR 2015 requires the mandatory use of the EN 12493:2013 standard for the design and manufacture of LPG tanks, it is important to clear any doubts concerning the application of standards within the transitional period specified in 1.6.1.1.

13. Under 1.6.1.1 the substances and articles of ADR may be carried until 30 June 2015 in accordance with the requirements of ADR applicable up to 31 December 2014. Since there is no specific transitional provision for the application of the EN 12493:2013 standard added in ADR 2015, is it correct to say that the standard applicable under ADR 2013 may still be applied until 30 June 2015, namely that EN 14025:2008 applies for the design and manufacture of LPG tanks and for the issue of new type approvals and for renewals until 30 June 2015?

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