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INLAND TRANSPORT COMMITTEE

Working Party on the Transport of Dangerous Goods

Joint Meeting of the RID Safety Committee and the Working Party on the Transport of Dangerous Goods
(Bern, 24-28 March 2003)

ACCEPTANCE OF EN 12 245:2002 IN CHAPTER 6.2 OF RID/ADR

Comments on the report from Standards Working Group in Bonn

Transmitted by the Government of Sweden

Executive summary:	In the Annex 1, B.1 of INF.8 to this meeting, it is proposed to add a note, which is stating that, the published standard EN 12 245:2002 should not be accepted for LPG-service. This has also been proposed by the AEGPL in the document TRANS/WP.15/AC.1/2002/24 and in INF.7 to the Joint Meeting in Geneva, 9-13 September 2002. In both cases the purpose from AEGPL is to include a future reference to the prEN 14 427 instead. The prEN 14 427 is under production by CEN/TC 286 but is not ready and published. Sweden strongly disagrees with this proposal.
Action to be taken:	Insert reference to the standard EN 12 245:2002 “Transportable gas cylinders – Fully wrapped composite cylinders” in section 6.2.2 without any note.
Related documents:	Joint Meeting Standards Working Group - Report on the first meeting, Bonn, Germany (INF.8) to this meeting. Proposals regarding the reference to CEN standards in the ADR/RID (TRANS/WP.15/AC.1/2002/24) and INF.7 to the Joint Meeting in Geneva, 9-13 September 2002

Introduction

Composite cylinders in use for LPG
The Scandinavian countries (S, N, DK and FIN) have more composite cylinders in use for LPG than any other country and have a lot of experience from them.

More than 500.000 cylinders are in circulation in mainly the Scandinavian countries, but also in other European countries, which provides us with more than 1 million cylinder years of experience in total since the first one was introduced 9 years ago. There are two manufacturers, which have produced and delivered more than 500.000 cylinders; one is based in Sweden and one in Norway.

All the cylinders which have been put on the market fulfil the demands in the standard EN 12 245:2002 and cylinders produced after the date on which EN 12 245:2002 was published are manufactured according to this standard.

National approvals
At first a limited number of cylinders were approved for LPG use in Sweden. This was as early as June 1994. New approvals followed for more cylinders. Approvals for the cylinders have been achieved in for example; Sweden, Denmark, Norway, Finland, United Kingdom, the Netherlands and Germany (*see annex 1*).

Approvals according to TPED (π-marked cylinders)
The main part of the cylinders produced and put on the market, i.e. more than 300.000 cylinders, are certified in accordance with the Transportable Pressure Equipment Directive (TPED) and marked with the required π-mark.

Filled cylinders can therefore since 1 of July 2001 be transported and used in EC-countries without further national approvals.

In accordance with 6.2.1.4.4 of the RID/ADR the Transportable Pressure Equipment Directive (TPED) is accepted as one way to fulfil the requirements of sub-section 6.2.1.4, i.e. the conformity assessment procedure of cylinders.

Field experience
The Swedish Work Environment Authority and the Swedish Rescue Services Agency, Flammable & Explosives Department report that no accidents have occurred since the first approvals were issued, when the cylinders have been properly used. The incidents reported are related to problems with accessories like damaged hoses, leaking hose connections etc.

The Authorities have confirmed that no special incidents or accidents have been reported for composite cylinders regarding the integrity and safety of the cylinders during transportation or use. The composite cylinders have neither been involved in fires more frequently than other LPG cylinders, nor been subjected to more serious damages than cylinders of other materials.

The CEN/TC 286/WG 7 (WG7 Operational requirements) meeting in Stenungsund Sweden, in May 2002 showed that very few cylinders are scrapped at the filling and periodic inspection. The figures are comparable or lower than for metallic cylinders.

The standard EN 12 245 "Transportable gas cylinders – Fully wrapped composite cylinders"
For the main part of the 500.000 composite cylinders for LPG put on the market, design approval testing and production testing are based on the EN 12 245 "Transportable gas cylinders – Fully wrapped composite cylinders".

This comprehensive standard incorporates a lot of severe test procedures including various drop tests. For the purpose of transportation Sweden is of the opinion that the drop tests are sufficient. The standard takes into consideration different aspects regarding design, manufacturing and use and is in our opinion appropriate also for LPG and that it is not any need for changing the present scope of the standard. We therefore find it unjustified to exclude these cylinders from the use with LPG.

When the prEN 12 245 were sent on the enquiry by CEN/TC 23 no comments were made from any European country proposing a more severe drop test (the results from the enquiry are found in the document CEN/TC 23/SC 1 N 126).

However, Sweden can accept a more stringent drop test e.g. from a 3 m height to be introduced, if deemed necessary for special applications and use. In such a case we believe that a revision of EN 12 245 is an appropriate measure to be proposed.

prEN 14 427
One comment from the CEN consultant Mr. Pierre Wolfs, taken from the results of the enquiry of the prEN 14 427, is *"The standard is a carbon copy of EN 12 245 except for the drop tests"*

Sweden does not oppose that a special standard for composite LPG cylinders is developed, but until this standard is approved and referred to in RID/ADR, it must be possible to use the EN 12 245:2002 for LPG applications.

Proposal
Sweden proposes that the Note in Annex 1, B.1 of INF.8, is to be deleted in order to have the EN 12 245:2002 accepted for LPG also.

Justification
The Scandinavian countries have more than 500.000 composite cylinders for LPG in use and more than 1 million cylinder years of positive experience of LPG in composite cylinders manufactured in accordance with the EN 12 245. More than 300.000 cylinders are certified in accordance with TPED and π-marked.

Sweden basically is of the opinion that EN 12 245 is a standard suitable for LPG applications. Sweden can accept a more stringent drop test (e.g. from a 3 m height), if deemed necessary for special applications and use, to be introduced in a revised version of the EN 12 245 or a published and approved EN 14 427.

Safety implications
The expert from Sweden consider the safety level arrived at by applying the EN 12 245:2002 also for LPG to be satisfactory.

Feasibility
The expert from Sweden sees no extra costs or practical implications with the proposed change. The effect will rather be to the contrary, since acceptance of the proposed standard reflects the actual situation for the transport in the EC-countries.

Enforceability
The expert from Sweden sees no problems in enforceability arising from the proposal.

Approvals of Composite Scandinavia AB products:
(Information from Composite Scandinavia AB)

Country	Approved by	Approval number	Code	Date of approval
Sweden	Swedish National Board of Occupational Safety and Health, and The Swedish Plant Inspectorate	CS 6: 55 MTM 881/91 KKI 586750 91-04-05	AFS 1988:11, Gasflasknormer 1967	1991-06-28
Europe *	DNV	01-794441	EN 12245; Directive 99/36/EC	2001-09-25
Germany	TÜV	D-ZLS-0045-001/01 Rev.1	prEN 12245	2001-04-02
	Ministerium für Arbeit, Gesundheit und Soziales	11 S 155 B	prEN 12245	2000-12-21
Australia	Workcover	CS 6: 0220079	EN 12245	2002-02-27
	Workcover	CS 10: 0220078	EN 12245	2002-02-27
The Netherlands	Stoomwezen	8033455 T	EN 12245, VLG/ADR;99-02	2001-04-27
Denmark	Arbejdstilsynet	CS 6: 20000029527	EN 12245, ADR 99; randnr. 2223	2000-05-02
		CS 10: 20000029539	EN 12245, ADR 99; randnr. 2223	2000-05-02
		CS 13: 20000029547	HSE-LL-FW4**, ADR 99; randnr. 2223	2000-05-02
United Kingdom	HSE/UKAS/DNV	CS 6: 991025 - 1164	HSE-LL-FW4**	1999-12-20
		CS 10: 991025 - 1164	HSE-LL-FW4**	1999-12-20
		CS 13: 0004 - 1164	HSE-LL-FW4**	2000-04-10
Finland	Inspecta OY	Assessment report No ser 1321/99	Pressure Vessel Decree (549/73 with amendments) 6§; Ministry of trade and Industry Decision (391/84 with amendments) 21 §	1999-05-16

* All countries within the European Community (EC), and Norway, Iceland and Liechtenstein

** HSE-LL-FW4 is within all relevant parts equivalent to EN 12245

Approvals of Ragasco A/S (former Raufoss Composites A/S) products:
(Information from Ragasco A/S)

Country	Approved by	Approval number	Code	Date of approval
Germany	TÜV	D-ZLS-TÜV 12-027/99	prEN12245:Febr1999	2000-02-22
Norway	Direktoratet for Brann og Eksplosionsvern	00/991-7/HH	prEN12245:Febr1999	2000-04-04
Finland	Inspecta	RS 804-00	prEN12245:Febr1999	2000-09-18
Sweden	ArbetarSkyddsStyrelsen	CTP 2124/00	prEN12245:Febr1999	2000-12-07
Denmark	Arbejdstilsynet	2000-0109342	prEN12245:Febr1999	2001-01-11
EU and EEC	TÜV (0036)	D-ZLS-TÜV 12-027/99TPED	prEN12245:Febr1999	2001-10-25
EU and EEC	TÜV (0036)	0036 018/02 TPED	prEN12245:Febr2000	2002-05-03
Australia	WorkSafe	V0220405	EN12245	2002-10-03
Australia	WorkSafe	V0220404	EN12245	2002-10-03