

**ECONOMIC COMMISSION FOR EUROPE**

**INF.17**

**INLAND TRANSPORT COMMITTEE**

**Working Party on the Transport of  
Dangerous Goods**

**(Seventy-first session,  
Geneva, 5-9 November 2001)**

**Item 7 of the agenda**

**Working Party on the Transport of  
Dangerous Goods**

(Sixty-ninth session,  
Geneva, 5-9 November 2001)

**Presentation of a EN standard for future reference in chapter 6.8 of the ADR**

**Transmitted by the European Committee for Standardisation (CEN)**

CEN will soon issue to its member *PrEN 12530-2 Cryogenic vessels - Large transportable vacuum insulated vessels - Part 2: Design, fabrication, inspection and testing* for formal vote.

The formal vote will be closed by the end of the year and the standard will be published in the first quarter of next year.

At the next WP15 session, CEN will request from WP15 to adopt the reference to this standard in 6.8.2.6 as follows:

<b>DOC. Reference</b>	<b>Title of Document</b>	<b>Applicable sections</b>
[EN 13530-2:2001]	Cryogenic vessels - Large transportable vacuum insulated vessels - Part 2: Design, fabrication, inspection and testing	6.8.2.1 and 6.8.2.4

A synopsis of the assessment made by the CEN consultant for this standard is in appendix.

## Annex 1: Synopses of assessments of standards proposed for references in RID/ADR

### EN 13530-2:2001 Cryogenic vessels - Large transportable vacuum insulated vessels - Part 2: Design, fabrication, inspection and testing

**Conclusions:** The standard covers all essential requirements of RID/ADR on the subject as outlined in the table hereafter and there is no contradiction between any part of the standard and these requirements. The standard was modified just before the editing for the formal vote to incorporate an open reference to the minimum wall thickness values as outlined in 6.8.2.1.19 and to take into account the decision of the Joint Meeting in May that the strength values 15% above the values specified in the material standard could be used for the calculation of the thickness for pressure but not for the minimum wall thickness for resistance against damage.

The standard considers “cold stretching” or “pressure strengthening” as a method to increase the mechanical characteristics of the vessel. “Pressure strengthening” of assemblies in stainless steels is accepted by all pressure codes in Europe for static and transportable vessels. The standard will harmonize the existing practices.

**Table of concordance between essential requirements of RID/ADR and clauses of prEN 13530-2**

Marginals of ADR	Clauses of standard
<b>Basic principles</b>	
6.8.2.1.1/6.8.2.1.2 general design requirements, stresses and forces	4.2.3.1.
6.8.2.1.7 protection against collapsing of inner vessel	4.2.7.2 + Annex F
<b>Materials</b>	
6.8.2.1.8 design temperature range; resistance to brittle fracture	4.1
6.8.2.1.9 compatibility	Ref to EN 1797
6.8.2.1.10 weldability of material; limits for fine-grained steels	N.A.
6.8.2.1.11/12 mechanical characteristics limitations Re/Rm < 0.85      elongation >16 or 20 %	4.3.2.3
<b>Calculation of the wall thickness</b>	4.3.2.3.1 and 4.3.2.4 a)
6.8.2.1.13/15/16 design stress limitations $\sigma < 0.75 Re$ or $\sigma < 0.5 Rm$	
6.8.2.1.17/18 Minimum shell thickness	4.3.2.1. Table 1
6.8.2.1.19/20 protection against damage	4.3.3.1
6.8.2.1.22 surge plates/partitions	4.2.3.6
6.8.2.1.23 welding and inspection of welds	5.6; 6.3
6.8.2.1.26/27 electrostatic discharge	4.2.11
6.8.2.1.28 Protection of upper fittings	4.2.3.9
6.8.2.2.4 Inspection openings	N.A.
<b>Tests</b>	
6.8.2.4.1 Initial inspection requirements incl.: - external/internal examination - hydraulic pressure test (pneumatic test if accepted by competent authority)	6.1.2 6.5
6.8.3.4.4 determination of capacity	Not covered
6.8.3.4.9 leakproofness test	6.1.2 and 4.2.3.11 (piping)
<b>6.8.5 Additional requirements for welded shells</b>	
6.8.5.1.2 materials allowed	Annex B for 9% Nickel steel
6.8.5.3. Impact-strength tests	6.2 +reference to EN 288, EN 1252-1 and EN 1252-2