

**Joint Meeting of the RID Safety Committee
and the Working Party on the Transport of
Dangerous Goods
(Geneva, 13-24 September 1999)**

Informal document regarding EN standards ready for formal vote

Transmitted by the European Committee for Standardisation (CEN)

With reference to the proposal of CEN regarding the reference to standards (see document 1999/40), this document gives information about standards that have not yet been submitted to the Joint Meeting but that are likely to be approved before the end of the year. Considering the fact that the forthcoming session is the last before the next edition of the ADR and RID, CEN asks the Joint Meeting to take those standards into consideration would they be published -without alterations- before the new texts of ADR and RID are definitely edited.

The information on these standards is given in appendix in the form of synopsis of the assessments made by the CEN Consultant.

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Appendix: Synopses of standards proposed for references in RID/ADR

1. Standards for cryogenic receptacles (item 4 of marginal (2)211)

1.1 reference number and title of the standards

prEN 1251-1 Cryogenic vessels - Transportable vacuum insulated of not more than 1000 litres volume – *Part 1: Fundamental requirements.*

prEN 1251-2 Cryogenic vessels - Transportable vacuum insulated of not more than 1000 litres volume – *Part 2: Design, fabrication, inspection and testing.*

prEN 1251-3 Cryogenic vessels - Transportable vacuum insulated of not more than 1000 litres volume – *Part 3: Operational requirements.*

1.2 General conclusion

The standard is built in three parts referring to one another. There is no conflict between the specifications defined in this standard in three parts and the corresponding requirements in ADR/RID.

Most of the requirements defined in part 1 are found again in parts 2 and 3; from this part the specifications to apply the markings on the inner vessel and on the outer vessel can be used to show compliance to the requirements of marginal (2)223.

The content of part 2 covers the requirements of several marginals including those in Appendix A2/Appendix IIB of ADR/RID related to the mechanical tests of the materials.

Part 3 “Operational conditions” covers many issues that are not defined in ADR/RID (putting into service, handling, storage, maintenance and repair, etc) or that do not add value to the requirements described in ADR/RID. The specifications for the periodic inspection go beyond the requirements of (2)217(4) and should be referred to as a way to show compliance.

The three parts of this standard should be referred to in the tables proposed in section 6.2.2 of the restructured ADR/RID, as follows:

Reference	Title of document	Applicable sections
<i>for the design of receptacles</i>		
[EN 1251-2: 1999	Cryogenic vessels - Transportable vacuum insulated of not more than 1000 litres volume – Part 2: Design, fabrication, inspection and testing.	6.2.1.1 and 6.2.1.5]
<i>for marking</i>		
[EN 1251-1: 1999	Cryogenic vessels - Transportable vacuum insulated of not more than 1000 litres volume – Part 1: Fundamental requirements.	6.2.1.7.1]
<i>for periodic inspection</i>		
[EN 1251-3 1999	Cryogenic vessels - Transportable vacuum insulated of not more than 1000 litres volume – Part 3: Operational requirements.	6.2.1.6]

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**1.3 Table of concordance between essential requirements of RID/ADR and clauses of:
a) prEN 1251-1**

marginal(s) of RID/ADR	clauses of standard
(2)201 list of gases item 3)	3.1
(2)212 (1) Receptacles and their closures shall be designed, calculated, manufactured, tested and equipped in such a way as to withstand all conditions to which they will be subjected during their normal use and during normal transport conditions In the design of pressure receptacles, all relevant factors are to be taken into account such as:.....	4 , 5, 6, 7
(2)219 The following requirements apply to receptacles referred to in marginal (2)211((e)..... For receptacles according to marginal (2)206 (1) the test pressure equals 1.3 times.....	5.1
(2)223 (1) Refillable receptacles according to marginal 2211 shall bear the following particulars in clearly legible and durable characters (a) name or mark of the manufacturer; (b) approval number (if design type approval); (c) serial number of receptacle by manufacturer; (d) tare of receptacle (e) test pressure (f) date(month, year) of initial test and most recent test; (g) stamp of expert (h) for D/A cylinders, settle pressure and total mass (i) water capacity in litres; (j) max. fill pressure for gases filled by pressure These marks shall immovably They can be engraved..... (2)223 (2) Refillable receptacles according to marginal 2211 shall in addition bear the following particulars in clearly legible and durable characters: (a) number and name of gas (b) filling mass or gross mass for gases filled by weight. (c) date (year) of next inspection These marks can either be engraved, or indicated on a durable disk, label,..... or by painting or by any equivalent process.	10 a) and e) d) b) and f) j) h) k) and n) l) and o) N/A i) N/A s) s) m)

b) prEN 1251-2

marginal(s) of RID/ADR	clauses of standard
(2)206 (1) Gases of 3° shall be enclosed in closed receptacles of metal or synthetic or composite material which are so insulated that they cannot become coated with dew or hoar-frost. The receptacles shall be fitted with safety valves (4) In the case of receptacles intended for the carriage of gases of 3°O, the substances used to ensure the leakproofness of the joints or for the maintenance of the closures shall be compatible with the contents	vacuum insulated design ref to EN 1797-1
(2)212 (1) Receptacles and their closures shall be designed, calculated, manufactured, tested and equipped in such a way as to withstand all conditions to which they will be subjected during their normal use and during normal transport conditions In the design of pressure receptacles, all relevant factors are to be taken into account such as:	4 , 5, 6,

3250 to 3285/1250 to 1261 and 1270 to 1282 Requirements concerning the materials and construction of receptacles intended for the carriage of deeply-refrigerated liquefied gases of Class 2 : impact test for steel, bending test for aluminium	reference in part 1 to EN 1252-1 (impact test) reference to EN 910 in part 2 for the bending test
(2)216 (1) Receptacles shall be subjected to initial inspection in accordance with the following specifications: On one adequate sample of receptacles: (a) Testing of the material of construction... (b) Measurement of wall thickness at the thinnest point and calculation of the stress (c) checking the homogeneity of the material for each manufacturing For all receptacles (d) a hydraulic pressure test... (e) inspection of the markings..... (f) receptacles for acetylene.....	6 6.2 6.2.2 6.1.2 6.1.1 6.5.1 6.1.3 not applicable
(2)213 (2) Valves shall be effectively protected from damage which could cause gas release if the receptacle falls, and during carriage and stacking. This requirement is deemed to be complied with if one or more of the following conditions are fulfilled:.....	4.2.3.8 and 4.3.5 or 4.4.4.5
(2)219 The following requirements apply to receptacles referred to in marginal (2)211 (e)..... For receptacles according to marginal (2)206 (1) the test pressure equals 1.3 times.....	4.2.3.2

c) prEN 1251-3

marginal(s) of RID/ADR	clauses of standard
(2)219 The following requirements apply to receptacles referred to in marginal (2)211 (e) For gases of 3° A and 3° O the degree of filling, at the filling temperature and at a pressure of 0.1 MPa (1 bar) shall not exceed 98% of the capacity. For gases of 3° F the degree of filling shall remain below the level...	not mentioned in any parts Annex C of prEN 1251-2
(2)217 (1) Refillable receptacles shall be subjected to periodic inspection under the supervision of a testing and certifying body approved by the competent authority, in accordance with the following specifications: (a) Check of the external conditions of the receptacle and verification of the equipment and the external markings; (b) Check the internal conditions of the receptacle (e.g. by weighing, internal inspection, checks of wall thickness); (c) The hydraulic test and , if necessary, verification of the characteristics of the material by suitable tests; (4) By derogation from marginal (2)217(1)(c) closed receptacles conforming to marginal (2)206(1) shall be subjected to external inspection and to a leakproofness test. The leakproofness test shall be carried out with the gas contained in the receptacle or with an inert gas. Checking shall be performed by means of a pressure gauge or by vacuum measurement. The thermal insulation need not be removed.	15 only in case of doubt

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2. prEN 12205 Transportable gas cylinders – Non refillable metallic gas cylinders

1.1 General conclusion

This prEN is the CEN version of *ISO11118:1998 Gas cylinders – Non-refillable metallic gas cylinders – Specifications and test methods*. The CEN standard was made different because of the reference temperature and design pressure criteria conflicting with those in ADR/RID and a design safety factor (ratio between the stress at test pressure and the yield stress) equal to 1 in ISO. The design requirements and the tests on the prototype are as expected less strenuous than for refillable cylinders; they include however a burst pressure test with a burst pressure/test pressure ratio of 2 while a factor of 1.6 is required for refillable cylinders. Furthermore a drop test at 1.2 metre is required, while no drop test is normally required for refillable cylinders. This standard should be referred to in the tables proposed in section 6.2.2 of the restructured ADR/RID, as follows:

Reference	Title of document	Applicable sections
<i>for the design of receptacles</i>		
[prEN 12205	Transportable gas cylinders – Non refillable metallic gas cylinders.	6.2.1.1, 6.2.1.5 and 6.2.1.7.2]

1.2 Table of concordance between essential requirements of RID/ADR and clauses of PrEN 12205

marginal(S) RID/ADR	clauses of standard
(2)212 (1) Receptacles and their closures shall be designed, calculated, manufactured, tested and equipped in such a way as to withstand all conditions to which they will be subjected during their normal use and during normal transport conditions	all
(2)216 (1) Receptacles shall be subjected to initial inspection in accordance with the following specifications: On one adequate sample of receptacles: (a) Testing of the material of construction... (b) Measurement of wall thickness..... (c) checking the homogeneity of the material for each manufacturing For all receptacles (d) a hydraulic pressure test... (e) inspection of the markings..... (f) receptacles for acetylene.....	7.1 7.6.1 7.1 7.3 10 not in scope
(2)223 markings	9