



Handläggande organ

Fastställd

Utgåva

Sida

Tryckkärlsstandardiseringen, TKS

2000-05-19

1

1 (1+10)

© Copyright SIS. Reproduction in any form without permission is prohibited.

Cryogenic vessels – Transportable vacuum insulated vessels of not more than 1000 litres volume – Part 1: Fundamental requirements

The European Standard EN 1251-1:2000 has the status of a Swedish Standard. This document contains the official English version of EN 1251-1:2000.

Swedish Standards corresponding to documents referred to in this Standard are listed in "Catalogue of Swedish Standards", issued by SIS. The Catalogue lists, with reference number and year of Swedish approval, International and European Standards approved as Swedish Standards as well as other Swedish Standards.

Kryogena kärl – Vakuumisolerade kärl med volym ej över 1000 l – Del 1: Grundläggande krav

Europastandarden EN 1251-1:2000 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN 1251-1:2000.

Motsvarigheten och aktualiteten i svensk standard till de publikationer som omnämns i denna standard framgår av "Katalog över svensk standard", som ges ut av SIS. I katalogen redovisas internationella och europeiska standarder som fastställts som svenska standarder och övriga gällande svenska standarder.

ICS 23.020.30

Standarder kan beställas hos SIS Förlag AB som även lämnar allmänna upplysningar om svensk och utländsk standard.
Postadress: SIS, Box 6455, 113 82 STOCKHOLM
Telefon: 08 - 610 30 00. Telefax: 08 - 30 77 57
E-post: sis.sales@sis.se. Internet: www.sisforlag.se

Upplysningar om **sakinnehållet** i standarden lämnas av TKS.
Telefon: 08 - 653 49 68. Telefax: 08 - 653 49 95
E-post: tk.s@sis.se

Prisgrupp N

Tryckt i juli 2000

EUROPEAN STANDARD

EN 1251-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 2000

ICS 23.020.40

English version

Cryogenic vessels - Transportable vacuum insulated vessels of not more than 1000 litres volume - Part 1: Fundamental requirements

Réipients cryogéniques - Réipients transportables, isolés sous vide, d'un volume n'excédant pas 1000 litres - Partie 1: Exigences fondamentales

Kryo-Behälter - Ortsbewegliche, vakuum-isolierte Behälter mit einem Fassungsraum von nicht mehr als 1000 Liter - Teil 1: Grundanforderungen

This European Standard was approved by CEN on 19 June 1999.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Contents

Foreword.....	3
1 Scope	4
2 Normative references	4
3 Definitions.....	4
4 General requirements.....	7
5 Mechanical loads	7
5.1 General.....	7
5.2 Load during the pressure test	7
5.3 Other mechanical loads	7
6 Chemical effects.....	8
7 Thermal conditions.....	8
8 Material.....	8
8.1 Material properties	8
8.2 Inspection certificate	8
8.3 Materials for outer jackets and equipment.....	9
9 Design, fabrication, inspection and testing	9
10 Marking and labelling	9
11 Final acceptance test.....	10
12 Periodic inspection	10

Foreword

This European Standard has been prepared by Technical Committee CEN/TC 268 "Cryogenic vessels", the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by July 2000, and conflicting national standards shall be withdrawn at the latest by July 2000.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

The standard has been submitted for reference into the RID and/or in the technical annexes of the ADR.

Therefore the standards listed in the normative references and covering basic requirements of the RID/ADR not addressed within the present standard are normative only when the standards themselves are referred to in the RID and/or in the technical annexes of the ADR.

The other parts of EN 1251 are :

- Part 2 : Design, fabrication, inspection and testing ;
- Part 3 : Operational requirements.

1 Scope

This standard specifies the fundamental requirements for transportable vacuum insulated cryogenic vessels of not more than 1 000 litres volume and designed to operate above atmospheric pressure. Appropriate parts may be used as a guidance for vessels designed to operate to the atmosphere.

This standard applies to transportable vacuum insulated cryogenic vessels for fluids as specified in 3.1 and is not applicable to such vessels designed for toxic fluids.

NOTE For the purposes of this standards, in the English and German versions, “cryogenic vessels” and “Tiefkalte Behälter” mean reciprocating “cryogenic receptacles” and “Kryo-Behälter” as defined in RID/ADR.

2 Normative references

This European Standard incorporates by dated or undated references provisions from other publications. These normative references are cited at appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to, or revisions of, any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 1251-2, *Cryogenic vessels - Transportable vacuum insulated vessels of not more than 1 000 litres volume - Part 2 : Design, fabrication, inspection and testing*

EN 1251-3, *Cryogenic vessels - Transportable vacuum insulated vessels of not more than 1 000 litres volume - Part 3 : Operational requirements*

EN 1252-1, *Cryogenic vessels - Materials - Part 1: Mechanical characteristics for temperature below - 80 C*

EN 1626, *Cryogenic vessels - Valves for cryogenic service*

EN 1797-1, *Cryogenic vessels - Gas/material compatibility - Part 1: Oxygen compatibility*

EN 10204, *Metallic products - Types of inspection documents*

EN 12300, *Cryogenic vessels - Cleanliness for cryogenic service*

3 Definitions

For the purposes of this standard, the following definitions apply :

3.1

cryogenic fluid (refrigerated liquefied gas)

a gas which is partially liquid because of its low temperature¹⁾. In the context of all parts of prEN 1251 the (refrigerated but) non-toxic gases given in table 1 and mixtures of them are referred to as cryogenic fluids.

¹⁾ This includes totally evaporated liquids and supercritical fluids.