

Krüogeenanumad. Gaasi/materjali sobivus

Cryogenic vessels - Gas/material compatibility

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 1797:2002 sisaldab Euroopa standardi EN 1797:2001 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 14.02.2002 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 1797:2002 consists of the English text of the European standard EN 1797:2001.</p> <p>This document is endorsed on 14.02.2002 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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Käsitlusala:

This European Standard specifies requirements for gas/materials compatibility for cryogenic vessels (such as chemical resistance) but it does not cover mechanical properties (e.g. for low temperature application).

Scope:

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Võtmesõnad:

English version

Cryogenic vessels - Gas/material compatibility

Réipients cryogéniques - Compatibilité entre gaz et matériaux

Kryo-Behälter - Verträglichkeit von Gas/Werkstoffen

This European Standard was approved by CEN on 9 June 2001.

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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 Management Centre has the same status as the official versions.

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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of an identical text or by endorsement, at the latest by January 2002, and conflicting national standards shall be withdrawn at the latest by January 2002.

This document replaces EN 1797-1:1998.

For relationship with EU Directives, see informative annex ZA, which is an integral part of this document.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directives.

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.

1 Scope

This European Standard specifies requirements for gas/materials compatibility for cryogenic vessels (such as chemical resistance) but it does not cover mechanical properties (e.g. for low temperature application).

It gives guidance for compatibility with gases other than oxygen and it gives detailed requirements for oxygen and oxygen enriched atmosphere compatibility and defines the testing methods for establishing oxygen compatibility of materials (metallic and non-metallic) to be used for cryogenic vessels and associated equipment.

It mainly deals with materials that are normally or could be in contact with liquid/gaseous oxygen e.g., materials for cryogenic vessels used for the storage and/or transport of liquid oxygen.

It also deals with the materials which can be in contact with oxygen enriched environment e.g. insulating materials used for nitrogen, neon, hydrogen and helium cryogenic vessels in case of air condensation.

2 Normative references

This European Standard incorporates by dated or undated references provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publication 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 (including amendments).

EN 849: 1996, *Transportable gas cylinder – Cylinder valves - Specification and type testing*.

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

EN ISO 11114-1, *Transportable gas cylinders - Compatibility of cylinder and valve materials with gas contents - Part 1 : Metallic materials (ISO 11114-1:1997)*.

prEN ISO 11114-2:1997, *Transportable gas cylinders - Compatibility of cylinder and valve materials with gas contents - Part 2 : Non-metallic materials (ISO/DIS 11114-2)*.

3 Compatibility of materials with gases other than oxygen

The cryogenic vessels are used in a range of temperature from very low temperature to ambient temperature. The problems of compatibility with gases other than oxygen such as corrosion, hydrogen embrittlement normally occur at ambient temperature and become negligible at cryogenic temperature.

So, in case of gases other than oxygen, EN ISO 11114-1 and prEN ISO 11114-2:1997 may be used as a guide for cryogenic vessels.