

Transportable gas cylinders - Periodic inspection and testing of seamless steel gas cylinders

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 1968:2002 sisaldab Euroopa standardi EN 1968:2002 ingliskeelset teksti.	This Estonian standard EVS-EN 1968:2002 consists of the English text of the European standard EN 1968:2002.
Käesolev dokument on jõustatud 12.07.2002 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.	This document is endorsed on 12.07.2002 with the notification being published in the official publication of the Estonian national standardisation organisation.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.

Käsitlusala: This European Standard specifies the requirements for periodic inspection and testing of seamless steel transportable gas cylinders (single or those from bundles) intended for compressed and liquefied gases under pressure, of water capacity from 0,5 l up to 150 l.	Scope: This European Standard specifies the requirements for periodic inspection and testing of seamless steel transportable gas cylinders (single or those from bundles) intended for compressed and liquefied gases under pressure, of water capacity from 0,5 l up to 150 l.
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Võtmesõnad: gas holders, gas pressure vessels, gas type, gases, inspection, liquefied petroleum gas, liquefied petroleum gases, methods, mobile, pressure tests, re-usable, reusable equipment, seamless, specification (approval), specifications, steel cylinders, testing, valves

ICS 23.020.30

English version

Transportable gas cylinders - Periodic inspection and testing of seamless steel gas cylinders

Bouteilles à gaz transportables - Contrôles et essais
périodiques des bouteilles à gaz sans soudure en acier

Ortsbewegliche Gasflaschen - Wiederkehrende Prüfung
von nahtlosen Gasflaschen aus Stahl

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

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 Management Centre 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 Management Centre 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, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

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Foreword

This document EN 1968:2002 has been prepared by Technical Committee CEN/TC 23 "Transportable gas cylinders", the secretariat of which is held by BSI.

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 August 2002, and conflicting national standards shall be withdrawn at the latest by August 2002.

In this standard the annexes B, C, D, E, F and G are normative and the annexes A, H and I are informative.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports the objectives of the framework Directives on Transport of Dangerous Goods.

This European Standard has been submitted for reference into the RID and/or the technical annexes of the ADR. Therefore in this context 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 the technical annexes of the ADR.

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, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

The principal aim of a periodic inspection and testing procedure is that at the completion of the test the cylinders may be reintroduced into service for a further period of time.

Experience of the inspection and testing of cylinders which is specified in this European Standard is an important factor when determining whether a cylinder should be returned into service.

1 Scope

This European Standard specifies the requirements for periodic inspection and testing of seamless steel transportable gas cylinders (single or those from bundles) intended for compressed and liquefied gases under pressure, of water capacity from 0,5 l up to 150 l.

NOTE As far as practicable, this standard may also be applied to cylinders of less than 0,5 l water capacity.

This standard specifies the requirements for periodic inspection and testing to verify the integrity of such gas cylinders to be reintroduced into service for a further period of time. It also defines a procedure to qualify existing gas cylinders for free movement between member states of the European Union (see annex A).

This standard does not apply to periodic inspection and testing of acetylene cylinders or composite (fully wrapped or hoop-wrapped) steel cylinders.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate place 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 (including amendments).

EN 473, *Non destructive testing - Qualification and certification of NDT personnel - General principles*.

EN 629-2, *Transportable gas cylinders — 25E taper thread for connection of valves to gas cylinders — Part 2: Gauge inspection*.

EN 837-1, *Pressure gauges — Part 1: Bourdon tube pressure gauges — Dimensions, metrology, requirements and testing*.

EN 837-3, *Pressure gauges — Part 3: Diaphragm and capsule pressure gauges — Dimension, metrology, requirements and testing*.

EN 1089-1, *Transportable gas cylinders — Gas cylinder identification (excluding LPG) — Part 1: Stampmarking*.

EN 1964-1, *Transportable gas cylinders — Specification for the design and construction of refillable transportable seamless steel gas cylinders of water capacities from 0,5 litre up to and including 150 litres — Part 1: Cylinders made of seamless steel with an R_m value of less than 1100 MPa*.

prEN 1964-2, *Transportable gas cylinders — Specification for the design and construction of refillable transportable seamless steel gas cylinders of water capacities from 0,5 litre up to and including 150 litres — Part 2: Cylinders made of seamless steel with an R_m value of 1100 MPa and above*.

EN 1964-3, *Transportable gas cylinders — Specification for the design and construction of refillable transportable seamless steel gas cylinders of water capacities from 0,5 litre up to and including 150 litres — Part 3: Cylinders made of seamless stainless steel with an R_m value of less than 1100 MPa*.

EN 1795, *Transportable gas cylinders (excluding LPG) — Procedures for change of gas 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)*.

EN ISO 11114-2, *Transportable gas cylinders — Compatibility of cylinder and valve materials with gas contents — Part 2: Non-metallic materials (ISO 11114-2:2000)*.

EN ISO 13341, *Transportable gas cylinders — Fitting of valves to gas cylinders (ISO 13341:1997)*.

3 Intervals between periodic inspection and test

In order to ensure continued safe operation, cylinders shall be periodically submitted to inspection and test in accordance with annex B. A cylinder shall fall due for a periodic inspection and test on its first receipt by a filler after the expiry of the interval in annex B.

NOTE Table B.1 gives a list of the intervals between periodic inspections for some gases which complies with the current RID/ADR regulations and also gives recommendations which could be subsequently adopted by the RID/ADR regulations.

Provided the cylinder has been subjected to normal conditions of use and has not been subjected to abusive and abnormal conditions rendering the cylinder unsafe, there is no general requirement for the user to return a gas cylinder before the contents have been used even though the test interval may have lapsed. However it is recommended that cylinders are retested within a period not exceeding twice the time interval.

In the case of cylinders used for emergency purposes (e.g. fire extinguishers, breathing apparatus), it is the responsibility of the person in possession (owner or user) to submit it for a periodic inspection within the interval specified in annex B or as specified in the relevant cylinder design standard/regulation, if this is shorter.

4 List of procedures for periodic inspection and test

The inspection and test shall be carried out only by competent persons who shall ensure that the cylinders are fit for continued safe use.

NOTE A competent person is a person who has the necessary technical knowledge, experience and authority to assess and approve materials for use with gases and to define any special conditions of use that are necessary. Such a person will also normally be formally qualified in an appropriate technical discipline.

Each cylinder shall be submitted to periodic inspection and test. The following procedures form the requirements for such inspection and test, and are explained more fully in later clauses:

- identification of cylinder and preparation for inspection and test (clause 5);
- external visual inspection (clause 6);
- internal visual inspection (clause 7);
- supplementary tests (clause 8);
- inspection of cylinder neck (clause 9);
- pressure test or ultrasonic test (clause 10);
- inspection of valve (clause 11);
- final operations (clause 12);
- rejection and rendering cylinders unserviceable (clause 13).

Where cylinders are manufactured according to National Regulations and are intended to be qualified under the Transportable Pressure Equipment Directive (TPED) for free movement and use between member states of the European Union, additional requirements are specified in annex A.

It is recommended that the above listed tests are performed in the suggested sequence. In particular the internal visual examination (clause 7) should be carried out before the pressure test or ultrasonic test (clause 10).

Cylinders which fail the inspection or tests shall be rejected (see clause 13). When, after the above tests, doubts still exist as to the extent of a defect or the condition of a cylinder, then additional tests may be performed in accordance with clause 8, until such doubts are positively resolved or the cylinder shall be rendered unserviceable.