Irish Standard
I.S. EN ISO 10961:2012

Gas cylinders - Cylinder bundles - Design, manufacture, testing and inspection (ISO 10961:2010)

I.S. EN ISO 10961:2012

Incorporating amendments/corrigenda/National Annexes issued since publication:

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I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

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SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces:
EN 13769:2003

This document is based on:	*Published:*
EN ISO 10961:2012	12 April, 2012
EN 13769:2003	6 November, 2003

This document was published under the authority of the NSAI and comes into effect on:
12 April, 2012

ICS number:
23.020.30

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I.S. EN ISO 10961:2012

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 10961

April 2012

ICS 23.020.30

Supersedes EN 13769:2003

English Version

Gas cylinders - Cylinder bundles - Design, manufacture, testing and inspection (ISO 10961:2010)

Bouteilles à gaz - Cadres de bouteilles - Conception, fabrication, essais et inspection (ISO 10961:2010)

Gasflaschen - Flaschenbündel - Auslegung, Herstellung, Prüfung und Inspektion (ISO 10961:2010)

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Ref. No. EN ISO 10961:2012: E

Contents

Page

Foreword

The text of ISO 10961:2010 has been prepared by Technical Committee ISO/TC 58 “Gas cylinders” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 10961:2012 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of an identical text or by endorsement, at the latest by October 2012, and conflicting national standards shall be withdrawn at the latest by October 2012.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

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Endorsement notice

The text of ISO 10961:2010 has been approved by CEN as a EN ISO 10961:2012 without any modification.

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I.S. EN ISO 10961:2012

INTERNATIONAL STANDARD

ISO 10961

Second edition
2010-10-15

Gas cylinders — Cylinder bundles — Design, manufacture, testing and inspection

Bouteilles à gaz — Cadres de bouteilles — Conception, fabrication, essais et inspection

Reference number
ISO 10961:2010(E)

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Contents

Page

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 10961 was prepared by Technical Committee ISO/TC 58, *Gas cylinders*, Subcommittee SC 4, *Operational requirements for gas cylinders*.

This second edition cancels and replaces the first edition (ISO 10961:2010), of which it constitutes a minor revision.

Introduction

For some applications, the contents of an individual gas cylinder may not satisfy the gas demand, in which case assemblies of cylinders can be used to supply larger volumes of gas in a single unit. The single unit, which contains a number of cylinders, is known as a cylinder bundle.

A cylinder bundle is a portable assembly which is designed to be routinely lifted and which consists of a frame and two or more cylinders connected to a manifold by cylinder valves or fittings so that the cylinders can be filled, transported and emptied without disassembly.

A cylinder bundle can be subjected to rough handling in the course of normal operations.

There are types of gas cylinder assemblies which use cylinder bundle components, but which are designed to be disassembled at each filling to enable the cylinders to be filled individually. Although these assemblies do not conform to the basic definition of a cylinder bundle, they are commonly referred to as bundles. Their special requirements are included in Annex A.

Acetylene cylinder bundles are often filled without disassembly. However, in order to confirm their solvent content, they are disassembled after a defined number of fillings.

In International Standards, weight is equivalent to a force, expressed in newtons. However, in common parlance (as used in terms defined in this International Standard), the word “weight” continues to be used to mean “mass”, even though this practice is deprecated (see ISO 80000-4).

Gas cylinders — Cylinder bundles — Design, manufacture, testing and inspection

1 Scope

This International Standard specifies the requirements for the design, construction, testing and initial inspection of a transportable cylinder bundle. It is applicable to cylinder bundles containing compressed gas, liquefied gas and mixtures thereof. It is also applicable to cylinder bundles for acetylene.

This International Standard does not apply to packages in which cylinders are manifolded together in a support frame which is designed to be fixed permanently to a road vehicle, to a railway wagon or to the ground as a customer storage vessel. It does not apply to cylinder bundles which are designed for use in extreme environmental or operational conditions when additional and extraordinary requirements are imposed to maintain safety standards, reliability and performance, e.g. offshore cylinder bundles.

Some special applications (e.g. electronics) require an alternative design approach. With the agreement of the inspection body, the manifold and its piping components may be designed and tested at a pressure which is appropriate to the service conditions.

Specific requirements for acetylene cylinder bundles containing acetylene in a solvent are included in Annex B. This International Standard does not, however, cover acetylene cylinder bundles with solvent-free acetylene cylinders.

This International Standard is intended primarily for industrial gases other than liquefied petroleum gases (LPGs), but it may also be used for LPGs.

Unless otherwise stated, individual cylinders within cylinder bundles will have to conform to applicable standards for single cylinders. This International Standard specifies the additional requirements that apply when individual cylinders are assembled into a bundle.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 7225, *Gas cylinders — Precautionary labels*

ISO 10297, *Transportable gas cylinders — Cylinder valves — Specification and type testing*

ISO 13769, *Gas cylinders — Stamp marking*

ISO 14113, *Gas welding equipment — Rubber and plastics hose and hose assemblies for use with industrial gases up to 450 bar (45 MPa)*