Irish Standard
I.S. EN ISO 24431:2016

Gas cylinders - Seamless, welded and composite cylinders for compressed and liquefied gases (excluding acetylene) - Inspection at time of filling (ISO 24431:2016)

I.S. EN ISO 24431:2016

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National Foreword

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 24431

November 2016

ICS 23.020.35

English Version

Gas cylinders - Seamless, welded and composite cylinders for compressed and liquefied gases (excluding acetylene) - Inspection at time of filling (ISO 24431:2016)

Bouteilles à gaz - Bouteilles à gaz comprimés et liquéfiés (à l'exception de l'acétylène) sans soudure, soudées et composites - Contrôle au moment du remplissage (ISO 24431:2016)

Gasflaschen - Nahtlose, geschweißte und Composite-Flaschen für verdichtete und verflüssigte Gase (ausgenommen Acetylen) - Inspektion zum Zeitpunkt des Füllens (ISO 24431:2016)

This European Standard was approved by CEN on 13 September 2016.

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

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European foreword

This document (EN ISO 24431:2016) has been prepared by Technical Committee ISO/TC 58 “Gas cylinders” in collaboration with 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of an identical text or by endorsement, at the latest by May 2017, and conflicting national standards shall be withdrawn at the latest by May 2017.

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.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

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Endorsement notice

The text of ISO 24431:2016 has been approved by CEN as EN ISO 24431:2016 without any modification.

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I.S. EN ISO 24431:2016

INTERNATIONAL STANDARD

ISO 24431

Second edition
2016-11-01

Gas cylinders — Seamless, welded and composite cylinders for compressed and liquefied gases (excluding acetylene) — Inspection at time of filling

Bouteilles à gaz — Bouteilles à gaz comprimés et liquéfiés (à l'exception de l'acétylène) sans soudure, soudées et composites — Contrôle au moment du remplissage

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is ISO/TC 58, *Gas cylinders*, Subcommittee SC 4, *Operational requirements for gas cylinders*.

This second edition cancels and replaces the first edition (ISO 24431:2006), which has been technically revised with the following changes.

— This edition has been restructured and includes additional provisions for the inspection before, during and after filling of composite cylinders (Types 2 to 5 inclusive).

Introduction

This International Standard covers requirements that reflect current practice and experience.

Each transportable gas cylinder is inspected at the time of filling in order to establish that

— it has no defects which render it unsafe for filling or continued use,

— it can be identified and complies with the relevant requirements with regard to marking (e.g. within test period, labelling, colour coding and completeness of its accessories), and

— its valve functions satisfactorily.

The cylinder filling inspection is carried out exclusively by persons who have the appropriate training and competencies, so as to ensure that each cylinder is safe for continued use.

Guidance and requirements provided in this International Standard allow fillers to determine when cylinders should be rejected for filling. This International Standard is intended to be used as a basis for developing specific operating procedures for a filling operation.

CAUTION — Some of the tests specified in this International Standard involve the use of processes which could lead to a hazardous situation.

This International Standard is intended to be used under a variety of national regulatory regimes, but has been written so that it is suitable for the application of the UN Model Regulations.[1] Attention is drawn to requirements in the relevant national regulations of the country (countries) where the cylinders are intended to be used that might override the requirements given in this International Standard. Where there is any conflict between this International Standard and any applicable regulation, the regulation always takes precedence.

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”, although this practice is deprecated (see ISO 80000-4).

Gas cylinders — Seamless, welded and composite cylinders for compressed and liquefied gases (excluding acetylene) — Inspection at time of filling

1 Scope

This International Standard specifies the inspection requirements at the time of filling, and applies to seamless or welded transportable gas cylinders made of steel or aluminium-alloy (Type 1), and for composite transportable gas cylinders (Types 2 to 5 inclusive) for liquefied or compressed gases of a water capacity up to 150 l. It may be applicable to cylinders and tubes with a water capacity between 150 l and 450 l, provided they are inspected and filled as individual cylinders and tubes.

This International Standard does not apply to acetylene cylinders, bundles of cylinders, tubes, multiple-element gas container (MEGCs) or battery vehicles.

This International Standard may also be applicable to LPG. For specific LPG applications, refer to ISO 10691.

For cylinders manifolded in bundles, refer to ISO 11755.

2 Normative references

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

ISO 6406, *Gas cylinders — Seamless steel gas cylinders — Periodic inspection and testing*

ISO 7225, *Gas cylinders — Precautionary labels*

ISO 10460, *Gas cylinders — Welded carbon-steel gas cylinders — Periodic inspection and testing*

ISO 10461, *Gas cylinders — Seamless aluminium-alloy gas cylinders — Periodic inspection and testing*

ISO 11623, *Gas cylinders — Composite construction — Periodic inspection and testing*

ISO 13769, *Gas cylinders — Stamp marking*

ISO 25760, *Gas cylinders — Operational procedures for the safe removal of valves from gas cylinders*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
compressed gas
gas which when packaged under pressure for transport is entirely gaseous at –50 °C

Note 1 to entry: This category includes all gases with a critical temperature less than or equal to –50 °C.

3.2
covering
protective or non-protective, transparent or non-transparent, device or attachment that can interfere with an external visual inspection