SLOVENSKI STANDARD
oSIST prEN ISO 22434:2021

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Plinske jeklenke - Pregled in vzdrževanje ventilov za jeklenke (ISO/DIS 22434:2021)

Gas cylinders - Inspection and maintenance of valves (ISO/DIS 22434:2021)

Ortsbewegliche Gasflaschen - Inspektion und Instandhaltung von Gasflaschenventilen (ISO/DIS 22434:2021)

Bouteilles à gaz transportables - Contrôle et maintenance des robinets de bouteilles (ISO/DIS 22434:2021)

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Gas cylinders — Inspection and maintenance of valves

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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 of the voluntary nature of standards, 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 www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC *58*, *Gas cylinders*, Subcommittee SC 2, *Cylinder fittings,* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 23, *Transportable gas cylinders*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 22434:2006), which has been technically revised.

The main changes compared to the previous edition are as follows:

— update of the scope;

— update of the normative references;

— update of terms and definitions;

— modifications of subclauses 5.1, 5.2.2, 5.3.2;

— clause 6 Testing is now given in 5.4 and has been modified;

— modification of marking requirements;

— update of the Bibliography.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

This document has been written so that it is suitable to be referenced in the UN Model Regulations[1].

Gas cylinders — Inspection and maintenance of valves

1 Scope

This document specifies the requirements for the inspection and maintenance of valves (including ball valves and valves with integrated pressure regulator (VIPRs)) for:

a) refillable transportable gas cylinders;

b) cylinder bundles;

c) pressure drums and tubes;

which convey compressed, liquefied or dissolved gases.

This document does not apply to valves for LPG.

NOTE Where there is no risk of ambiguity, gas cylinders, cylinder bundles, pressure drums and tubes are addressed with the collective term “gas cylinders” within this document.

This document applies to valves reused at the time of the periodic inspection of gas cylinders, cylinder bundles, pressure drums and tubes, and may be applied at any other time, e.g. at change of gas service (see ISO 11621).

This document does not apply to routine inspection of valves e.g. carried out at the time of gas cylinder filling.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 10286, *Gas cylinders — Terminology*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 10286 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
inspection
procedure to determine if a valve is suitable for further service

3.2
dismantling
separation of the valve into its component parts, such that the main pressure barrier of the valve is breached

3.3
removal
disconnection of the valve from the gas cylinder

3.4
maintenance
operations required to keep the valve in working condition

Note 1 to entry: Note to entry: This covers minor repairs, major repairs and refurbishment.

3.4.1
minor repair
operation including cleaning, and replacement of non-pressure-retaining components, e.g. handwheel, outlet flow restrictor, residual pressure device fitted in the valve outlet

3.4.2
major repair
operation including replacement of valve accessories which are incorporated within the pressure boundary, but do not require dismantling of the valve, e.g. pressure relief device (PRD), pressure gauges, flowmeter

3.4.3
refurbishment
operation involving dismantling of the valve, evaluation, re-use or replacement (if necessary) of its internal components, and reassembly to make it suitable for further service

4 General requirements

4.1 Frequency of inspection and maintenance

If a valve is deemed to require maintenance at any time, e.g. at time of periodic inspection and tests of a gas cylinder, it shall either be subject to the maintenance procedures in accordance with 5.3 or be scrapped in accordance with Clause 8.

4.2 Personnel

Valves shall be inspected, maintained and removed from gas cylinders by competent personnel only.

4.3 Safety concerns

Prior to removing the valve from a gas cylinder it shall be verified that no pressure remains in the cylinder.

NOTE ISO 25760 provides guidance for the safe removal of cylinder valves and assessment related to gas hazards.

Inspection and minor repairs may be carried out on valves while they are connected to a pressurized gas cylinder, but this requires special procedures.

Major repairs and refurbishment shall only be performed on a valve in a de-pressurized gas cylinder or on a removed valve.

5 Inspection and maintenance

5.1 General

Inspection will determine if a valve is suitable for continued service or if maintenance is required, and the level of that maintenance.

