

**Gas cylinders - Seamless steel and seamless aluminium-alloy gas cylinders and tubes - Periodic inspection and testing (ISO 18119:2018 + ISO 18119:2018/Amd 1:2021 + ISO 18119:2018/Amd 2:2024)**

**EESTI STANDARDI EESSÕNA****NATIONAL FOREWORD**

|   |   |
|---|---|
| See Eesti standard EVS-EN ISO 18119:2018+A1+A2:2024 sisaldab Euroopa standardi EN ISO 18119:2018 ja selle muudatuste A1:2021 ja A2:2024 ingliskeelset teksti.   | This Estonian standard EVS-EN ISO 18119:2018+A1+A2:2024 consists of the English text of the European standard EN ISO 18119:2018 and its amendments A1:2021 and A2:2024.   |
| Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.<br><br>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 24.10.2018, muudatused A1 26.05.2021 ja A2 19.06.2024.  | This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.<br><br>Date of Availability of the European standard is 24.10.2018, for A1 26.05.2021 and A2 19.06.2024.   |
| Muudatusega A1 lisatud või muudetud teksti algus ja lõpp on tekstis tähistatud sümbolitega <b>A1</b> <b>A1</b> .<br><br>Muudatusega A2 lisatud või muudetud teksti algus ja lõpp on tekstis tähistatud sümbolitega <b>A2</b> <b>A2</b> .<br><br>Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest. | The start and finish of text introduced or altered by amendment A1 is indicated in the text by tags <b>A1</b> <b>A1</b> .<br><br>The start and finish of text introduced or altered by amendment A2 is indicated in the text by tags <b>A2</b> <b>A2</b> .<br><br>The standard is available from the Estonian Centre for Standardisation and Accreditation. |

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ICS 23.020.35

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EUROPEAN STANDARD

**EN ISO 18119 + A1 + A2**

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2018, May 2021, June 2024

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English Version

**Gas cylinders - Seamless steel and seamless aluminium-alloy gas cylinders and tubes - Periodic inspection and testing (ISO 18119:2018 + ISO 18119:2018/Amd 1:2021 + ISO 18119:2018/Amd 2:2024)**

Bouteilles à gaz - Bouteilles et tubes à gaz en acier et en alliages d'aluminium, sans soudure - Contrôles et essais périodiques (ISO 18119:2018 + ISO 18119:2018/Amd 1:2021 + ISO 18119:2018/Amd 2:2024)

Gasflaschen - Nahtlose Gasflaschen und Großflaschen aus Stahl und Aluminiumlegierungen - Wiederkehrende Inspektion und Prüfung (ISO 18119:2018 + ISO 18119:2018/Amd 1:2021 + ISO 18119:2018/Amd 2:2024)

This European Standard was approved by CEN on 17 May 2018. Amendment A1 was approved by CEN on 14 May 2021. Amendment A2 was approved by CEN on 15 June 2024.

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**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

## European foreword

This document (EN ISO 18119:2018) 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 April 2019, and conflicting national standards shall be withdrawn at the latest by April 2019.

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## **Amendment A1 European foreword**

This document (EN ISO 18119:2018/A1:2021) 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.

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### **Endorsement notice**

The text of ISO 18119:2018/Amd 1:2021 has been approved by CEN as EN ISO 18119:2018/A1:2021 without any modification. **Amendment A1**

## **A2** Amendment A2 European foreword

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### **Endorsement notice**

The text of ISO 18119:2018/Amd 2:2024 has been approved by CEN as EN ISO 18119:2018/A2:2024 without any modification. **A2**

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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.

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This document was prepared by ISO/TC 58, *Gas cylinders*, Subcommittee SC 4, *Operational requirements for gas cylinders*.

This first edition cancels and replaces ISO 6406:2005 and ISO 10461:2005, which have been technically revised. It also incorporates the Amendment ISO 10461:2005/Amd 1:2006.

The main changes are:

- a section has been added for symbols used in the document;
- a detailed account of steps to be taken if the actual cylinder wall thickness is less than the minimum design wall thickness has been added;
- a clearer way to ultrasonically test cylinders with a built-in footing, especially for seamless steel cylinders with a convex base, has been added;
- improved guidelines have been added for dealing with the effects of heating of seamless aluminium-alloy cylinders.

## **A1** Amendment A1 foreword

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

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## Introduction

This document provides information and procedures for the periodic inspection and testing of seamless steel and seamless aluminium-alloy cylinders and the condition of the test equipment. The principal aim of periodic inspection and testing is that at the completion of the test the cylinders have been requalified and are suitable to be reintroduced into service for a further period of time.

This document requires that well-trained and competent personnel undertake the work as described in this document, who consult the cylinder's manufacturer if there are doubts about aspects of the document, so that the cylinder manufacturer's current recommendations are taken into account.

This document has been written so that it is suitable to be referenced in the UN *Model Regulations*<sup>[23]</sup>.

# Gas cylinders — Seamless steel and seamless aluminium-alloy gas cylinders and tubes — Periodic inspection and testing

CAUTION — Some of the tests specified in this document involve the use of processes that could lead to a hazardous situation.

## 1 Scope

This document specifies the requirements for periodic inspection and testing to verify the integrity of cylinders and tubes to be re-introduced into service for a further period of time.

This document is applicable to seamless steel and seamless aluminium-alloy transportable gas cylinders (single or those that comprise a bundle) intended for compressed and liquefied gases under pressure, of water capacity from 0,5 l up to 150 l and to seamless steel and seamless aluminium-alloy transportable gas tubes (single or those that comprise a bundle) intended for compressed and liquefied gases under pressure, of water capacity greater than 150 l. It also applies, as far as practical, to cylinders of less than 0,5 l water capacity.

This document does not apply to the periodic inspection and maintenance of acetylene cylinders or to the periodic inspection and testing of composite cylinders.

NOTE Unless noted by exception, the use of the word “cylinder” in this document refers to both cylinders and tubes.

## 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 6506-1, *Metallic materials — Brinell hardness test — Part 1: Test method*

ISO 7866, *Gas cylinders — Refillable seamless aluminium alloy gas cylinders — Design, construction and testing*

ISO 9712, *Non-destructive testing — Qualification and certification of NDT personnel*

ISO 9809-1, *Gas cylinders — Refillable seamless steel gas cylinders — Design, construction and testing — Part 1: Quenched and tempered steel cylinders with tensile strength less than 1 100 MPa*

ISO 10286, *Gas cylinders — Vocabulary*

ISO 11621, *Gas cylinders — Procedures for change of gas service*

ISO 13769<sup>1</sup>, *Gas cylinders — Stamp marking*

<sup>1</sup> To be published. Stage at the time of publication: ISO/FDIS 13769:2018.

ISO 22434, *Transportable gas cylinders — Inspection and maintenance of cylinder valves*

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

ASNT SNT-TC-1A, *Personnel qualification and certification in non-destructive testing*

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