

Irish Standard I.S. EN ISO 14245:2021

Gas cylinders - Specifications and testing of LPG cylinder valves - Self-closing (ISO 14245:2021)

© CEN 2021 No copying without NSAI permission except as permitted by copyright law.

I.S. EN ISO 14245:2021

Incorporating amendments/corrigenda/National Annexes issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

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

S.R.~xxx: Standard~Recommendation-recommendation~based~on~the~consensus~of~an~expert~panel~and~subject~to~public~consultation.

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

This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.

This document is based on:

Published:

EN ISO 14245:2021

2021-06-16

This document was published under the authority of the NSAI and comes into effect on:

ICS number:

23.020.35

2021-07-05

NOTE: If blank see CEN/CENELEC cover page

Sales:

NSAI T +353 1 807 3800

 1 Swift Square,
 F +353 1 807 3838
 T +353 1 857 6730

 Northwood, Santry
 E standards@nsai.ie
 F +353 1 857 6729

 Dublin 9
 W NSAI.ie
 W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

This is a free page sample. Access the full version online.

National Foreword

I.S. EN ISO 14245:2021 is the adopted Irish version of the European Document EN ISO 14245:2021, Gas cylinders - Specifications and testing of LPG cylinder valves - Self-closing (ISO 14245:2021)

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

For relationships with other publications refer to the NSAI web store.

Compliance with this document does not of itself confer immunity from legal obligations.

In line with international standards practice the decimal point is shown as a comma (,) throughout this document.

This is a free page sample. Access the full version online.

This page is intentionally left blank

EUROPEAN STANDARD

EN ISO 14245

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2021

ICS 23.020.35

Supersedes EN ISO 14245:2019

English Version

Gas cylinders - Specifications and testing of LPG cylinder valves - Self-closing (ISO 14245:2021)

Bouteilles à gaz - Spécifications et essais pour valves de bouteilles de GPL - Fermeture automatique (ISO 14245:2021) Gasflaschen - Spezifikation und Prüfung von Flaschenventilen für Flüssiggas (LPG) -Selbstschließend (ISO 14245:2021)

This European Standard was approved by CEN on 6 June 2021.

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 CEN-CENELEC 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

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

EN ISO 14245:2021 (E)

Contents	Page
European foreword	3

EN ISO 14245:2021 (E)

European foreword

This document (EN ISO 14245:2021) has been prepared by Technical Committee ISO/TC 58 "Gas cylinders" in collaboration with Technical Committee CEN/TC 286 "Liquefied petroleum gas equipment and accessories" the secretariat of which is held by NSAI.

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 December 2021, and conflicting national standards shall be withdrawn at the latest by December 2021.

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

This document supersedes EN ISO 14245:2019.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 14245:2021 has been approved by CEN as EN ISO 14245:2021 without any modification.

This is a free page sample. Access the full version online.

This page is intentionally left blank

This is a free page sample. Access the full version online. I.S. EN ISO 14245:2021

INTERNATIONAL STANDARD

ISO 14245

Third edition 2021-06

Gas cylinders — Specifications and testing of LPG cylinder valves — Self-closing

Bouteilles à gaz — Spécifications et essais pour valves de bouteilles de GPL — Fermeture automatique





COPYRIGHT PROTECTED DOCUMENT

© ISO 2021

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office CP 401 • Ch. de Blandonnet 8 CH-1214 Vernier, Geneva Phone: +41 22 749 01 11 Email: copyright@iso.org Website: www.iso.org

Published in Switzerland

Contents			Page
Forev	word		v
Intro	duction	n	vi
1	Scone	2	1
2	-	native references	
3		s and definitions	
4	Desig	n and specification	4
	4.1	General	4
	4.2	Materials	
		4.2.1 General	
		4.2.2 Operating temperatures	
		4.2.3 Copper alloys	
		4.2.4 Non-metallic materials	
	4.3	Essential components	
		4.3.1 Valve operating mechanism	
		4.3.2 Valve body	
		4.3.3 Valve stem	
		4.3.4 Valve outlet	
	1 1	4.3.5 Excess flow valve	
	4.4	Optional components 4.4.1 General	
		4.4.1 General 4.4.2 Pressure relief valve	
		4.4.3 Eduction tube	
		4.4.4 Fixed liquid level gauge	
		4.4.5 Excess flow valve	<i>7</i>
		4.4.6 Non-return valve	
		4.4.7 Liquid level indicator	
		4.4.8 Sealing cap and sealing plug	
		4.4.9 Sediment tube	8
	4.5	Leak tightness	
5	Valve type test		
J	5.1	General	
	5.2	Test samples	
	5.3	Test procedure and test requirements	
	5.4	Inspection	
	5.5	Hydraulic pressure test	
		5.5.1 Procedure	
		5.5.2 Requirement	
	5.6	External and internal leak tightness tests	
		5.6.1 Procedure	11
		5.6.2 Requirement	11
	5.7	Operation test	12
		5.7.1 Procedure	12
		5.7.2 Requirement	12
	5.8	Valve stem test	
		5.8.1 Procedure	
		5.8.2 Requirement	
	5.9	Impact test	
		5.9.1 General	
		5.9.2 Procedure	
	E 40	5.9.3 Requirement	
	5.10	Endurance test — Part 1	
		5.10.1 Procedure	15

This is a free page sample. Access the full version online. I.S. EN ISO 14245:2021

ISO 14245:2021(E)

		5.10.2 Requirement	15
	5.11	Endurance test — Part 2	
		5.11.1 Procedure	15
		5.11.2 Requirement	16
	5.12	Simulated vacuum test	16
	5.13	Examination of dismantled valves	
		5.13.1 Procedure	
		5.13.2 Requirement	
	5.14	Excess flow valve test	
		5.14.1 General	
		5.14.2 Excess flow valve test with air	
		5.14.3 Excess flow valve test with water	
	- 4-	5.14.4 Excess flow strength test	
	5.15	Non-return valve test	
		5.15.1 Procedure	
	T 1.0	5.15.2 Requirement	
	5.16	Vibration test	
		5.16.1 Procedure	
		5.16.2 Requirement	
6	Docu	mentation and test report	
	6.1	Documentation	
	6.2	Test report	19
7	Prod	uction testing	19
8	Mark	sings	19
Ann	Annex A (normative) Production testing and inspection		
		rmative) Special low temperature requirements	
		rmative) Vibration testing	
	iogranh	2	23
KINI	morann	V	/ 4

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 286, *Liquefied petroleum gas equipment and accessories*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 14245:2019), of which it constitutes a minor revision. The changes compared with the previous edition are as follows:

— correction of <u>Clause 8</u>, list item c).

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 covers the function of a LPG cylinder valve as a closure (defined by the UN Model Regulations $^{[15]}$).

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

Cylinder valves complying with this document can be expected to perform satisfactorily under normal service conditions.

When an LPG cylinder valve has been approved according to a previous edition of this document, the body responsible for approving the same LPG cylinder valve to this new edition should consider which tests need to be performed.

In this document the unit bar is used, due to its universal use in the field of technical gases. It should, however, be noted that bar is not an SI unit, and that the corresponding SI unit for pressure is Pa $(1 \text{ bar} = 10^5 \text{ Pa} = 10^5 \text{ N/m}^2)$.

Pressure values given in this document are given as gauge pressure (pressure exceeding atmospheric pressure) unless noted otherwise.

Gas cylinders — Specifications and testing of LPG cylinder valves — Self-closing

1 Scope

This document specifies the requirements for design, specification, type testing and production testing and inspection for dedicated LPG self-closing cylinder valves for use with and directly connected to transportable refillable LPG cylinders.

It also includes requirements for associated equipment for vapour and liquid service. Bursting discs and/or fusible plugs are not covered in this document.

<u>Annex A</u> identifies requirements for production testing and inspection.

This document excludes other LPG cylinder devices which are not an integral part of the dedicated self-closing cylinder valve.

This document does not apply to cylinder valves for fixed automotive installations and ball valves.

NOTE For manually operated LPG cylinder valves see ISO 15995. For cylinder valves for compressed, dissolved and other liquefied gases see ISO 10297, ISO 17871 or ISO 17879.

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 2859-1, Sampling procedures for inspection by attributes — Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection

ISO 10286, Gas cylinders — Terminology

ISO 11114-1, Gas cylinders — Compatibility of cylinder and valve materials with gas contents — Part 1: Metallic materials

ISO 11114-2, Gas cylinders — Compatibility of cylinder and valve materials with gas contents — Part 2: Non-metallic materials

ISO 13341, Gas cylinders — Fitting of valves to gas cylinders

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/



Product Page

- Dooking for additional Standards? Visit Intertek Inform Infostore
- Dearn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation