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LPG Equipment and accessories - Specification and testing for Liquefied Petroleum Gas (LPG) pressure vessel valves and fittings

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 09/19

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English Version

LPG Equipment and accessories - Specification and testing for Liquefied Petroleum Gas (LPG) pressure vessel valves and fittings

Équipements pour GPL et leurs accessoires -
Spécifications et essais des équipements et accessoires
des réservoirs pour gaz de pétrole liquéfié (GPL)

Flüssiggas-Geräte und Ausrüstungsteile - Spezifikation
und Prüfung für Ventile und Fittings an
Druckbehältern für Flüssiggas (LPG)

This European Standard was approved by CEN on 11 February 2019.

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.

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

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

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EN 13175:2019 (E)**European foreword**

This document (EN 13175:2019) has been prepared by 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of an identical text or by endorsement, at the latest by October 2019, and conflicting national standards shall be withdrawn at the latest by October 2019.

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 13175:2014.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

This document has been submitted for reference into:

- the technical annexes of the ADR [1].

NOTE These regulations take precedence over any clause of this document. It is emphasized that ADR is being revised regularly at intervals of two years which may lead to temporary non-compliances with the clauses of this document.

The major changes to this revision include:

- changes in 7.6, Occasional liquid withdrawal valve (OLW);
- new 7.7, Occasional liquid withdrawal valve adaptor;
- new Annex E, Connection and adaptor designs of preferred Occasional Liquid Withdrawal valves.

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

Introduction

This document calls for the use of substances and procedures that may be injurious to health and/or the environment if adequate precautions are not taken. It refers only to technical suitability; it does not absolve the user from their legal obligations at any stage.

It has been assumed in the drafting of this document that the execution of its provisions is entrusted to appropriately qualified and experienced people.

All pressures are gauge pressures unless otherwise stated.

NOTE This document requires measurement of material properties, dimensions and pressures. All such measurements are subject to a degree of uncertainty due to tolerances in measuring equipment, etc. It can be beneficial to refer to the leaflet “measurement uncertainty leaflet” SP INFO 2000 27 [4].

EN 13175:2019 (E)**1 Scope**

This document specifies minimum requirements for the design, testing and production testing of valves, including appropriate fittings, which are connected to mobile or static LPG pressure vessels above 150 l water capacity. Pressure relief valves and their ancillary equipment, contents gauges and automotive LPG components are outside the scope of this document.

This document does not apply to refineries or other process plants.

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.

EN 549:1994, *Rubber materials for seals and diaphragms for gas appliances and gas equipment*

EN 751-1:1996, *Sealing materials for metallic threaded joints in contact with 1st, 2nd and 3rd family gases and hot water — Part 1: Anaerobic jointing compounds*

EN 751-2:1996, *Sealing materials for metallic threaded joints in contact with 1st, 2nd and 3rd family gases and hot water — Part 2: Non-hardening jointing compounds*

EN 751-3:1996, *Sealing materials for metallic threaded joints in contact with 1st, 2nd and 3rd family gases and hot water — Part 3: Unsintered PTFE tapes*

EN 837-1:1996, *Pressure gauges — Part 1: Bourdon tube pressure gauges — Dimensions, metrology, requirements and testing*

EN 1092-1:2018, *Flanges and their joints — Circular flanges for pipes, valves, fittings and accessories, PN designated — Part 1: Steel flanges*

EN 1267:2012, *Industrial valves — Test of flow resistance using water as test fluid*

EN 1563:2018, *Founding — Spheroidal graphite cast irons*

EN 1759-1:2004, *Flanges and their joint — Circular flanges for pipes, valves, fittings and accessories, Class designated — Part 1: Steel flanges, NPS 1/2 to 24*

EN 1774:1997, *Zinc and zinc alloys — Alloys for foundry purposes — Ingot and liquid*

EN 1983:2013, *Industrial valves — Steel ball valves*

EN 10270-3:2011, *Steel wire for mechanical springs — Part 3: Stainless spring steel wire*

EN 12164:2016, *Copper and copper alloys — Rod for free machining purposes*

EN 12165:2016, *Copper and copper alloys — Wrought and unwrought forging stock*

EN 12420:2014, *Copper and copper alloys — Forgings*

EN 12516-1:2014+A1:2018, *Industrial valves — Shell design strength — Part 1: Tabulation method for steel valve shells*

EN 12516-4:2014+A1:2018, *Industrial valves — Shell design strength — Part 4: Calculation method for valve shells manufactured in metallic materials other than steel*

EN 13445-2:2014, *Unfired pressure vessels — Part 2: Materials*

EN 13547:2013, *Industrial valves — Copper alloy ball valves*

EN 13709:2010, *Industrial valves — Steel globe and globe stop and check valves*

EN 13789:2010, *Industrial valves — Cast iron globe valves*

EN 13799:2012, *LPG equipment and accessories — Contents gauges for Liquefied Petroleum Gas (LPG) pressure vessels*

EN 13906-1:2013, *Cylindrical helical springs made from round wire and bar — Calculation and design — Part 1: Compression springs*

EN 15202:2012, *LPG equipment and accessories — Essential operational dimensions for LPG cylinder valve outlet and associated equipment connections*

EN 60079-0:2012, *Explosive atmospheres — Part 0: Equipment — General requirements (IEC 60079 0:2011, modified)*

EN ISO 196:1995, *Wrought copper and copper alloys — Detection of residual stress — Mercury(I) nitrate test (ISO 196:1978)*

EN ISO 11114-1:2012, *Gas cylinders — Compatibility of cylinder and valve materials with gas contents — Part 1: Metallic materials (ISO 11114-1:2012)*

ISO 7-1:1994, *Pipe threads where pressure-tight joints are made on the threads — Part 1: Dimensions, tolerances and designation*

ISO 301:2006, *Zinc alloy ingots intended for castings*

ISO 2859-1:1999, *Sampling procedures for inspection by attributes — Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection*

ISO 6957:1988, *Copper alloys — Ammonia test for stress corrosion resistance*

ANSI/ASME B1.20.1 - 1983, *Pipe threads, general purpose (inch) issued by American National Standards Institute in 1983*

ASME B1.5 - 1990, *ACME Screw Threads issued by American Society of Mechanical Engineers in 1990*

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