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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. 04/15

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## EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

#### **EN 13175**

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Supersedes EN 13175:2003+A2:2007

#### **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 Fittinge an Druckbehältern für Flüssiggas (LPG)

This European Standard was approved by CEN on 14 September 2014.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, 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: Avenue Marnix 17, B-1000 Brussels

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#### **Foreword**

This document (EN 13175:2014) has been prepared by Technical Committee CEN/TC 286 "LPG Equipment and accessories - Specification and testing for Liquefied Petroleum Gas (LPG) pressure vessel valves and fittings", 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 May 2015 and conflicting national standards shall be withdrawn at the latest by May 2015.

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 supersedes EN 13175:2003+A2:2007.

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 European Standard has been submitted for reference into:

the technical annexes of the ADR [4].

NOTE These regulations take precedence over any clause of this European Standard. 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 European Standard.

The major changes to this revision include:

- reference to the RID and ADN has been removed;
- the addition of aluminium alloys and zinc alloys;
- additional requirements for brass materials;
- change in requirements for non-metallic components, lubricants, sealants and adhesives;
- the insertion of filler valve with overfill protection device, dry disconnect coupling requirements and the deletion of plug and cap requirements;
- the introduction of Annex C (informative), Inspection of 3 ¼ inch x 6 ACME coupling;
- the introduction of Annex D (normative), Dry disconnect couplings.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

#### Introduction

This European Standard 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 European Standard that the execution of its provisions is entrusted to appropriately qualified and experienced people.

All pressures are gauge pressures unless otherwise stated.

NOTE This European Standard 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 may be beneficial to refer to the leaflet "measurement uncertainty leaflet" SP INFO 2000 27 [8].

#### 1 Scope

This European Standard 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 I water capacity. Pressure relief valves and their ancillary equipment, contents gauges and automotive LPG components are outside the scope of this European Standard.

This European Standard does not apply to refineries or other process plants.

#### 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.

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, Pressure gauges - Part 1: Bourdon tube pressure gauges - Dimensions, metrology, requirements and testing

EN 1092-1:2007+A1:2013, 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 1503-1:2000, Valves - Materials for bodies, bonnets and covers - Part 1: Steels specified in European Standards

EN 1503-2:2000, Valves - Materials for bodies, bonnets and covers - Part 2: Steels other than those specified in European Standards

EN 1503-4:2002, Valves - Materials for bodies, bonnets and covers - Part 4: Copper alloys specified in European Standards

EN 1563:2011, 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, Industrial valves - Steel ball valves

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

EN 12164:2011, Copper and copper alloys - Rod for free machining purposes

EN 12165:2011, Copper and copper alloys - Wrought and unwrought forging stock

EN 12420:2014, Copper and copper alloys - Forgings

EN 13547, 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, Explosive Atmospheres - Part 0: Equipment - General requirements (IEC 60079-0)

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

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

### koniec náhľadu – text ďalej pokračuje v platenej verzii STN