

**LPG equipment and accessories
Pressure relief valves for transportable refillable
cylinders for Liquefied Petroleum Gas (LPG)**

EVS

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English Version

**LPG equipment and accessories - Pressure relief valves for
transportable refillable cylinders for Liquefied Petroleum Gas
(LPG)**

Équipements et accessoires GPL - Soupapes de sécurité
des bouteilles transportables et rechargeables pour gaz de
pétrole liquéfiés (GPL)

Flüssiggas-Geräte und Ausrüstungsteile - Sicherheitsventile
für ortsbewegliche, wiederbefüllbare Flaschen für
Flüssiggas (LPG)

This European Standard was approved by CEN on 29 November 2014.

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Foreword

This document (EN 13953:2015) 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of an identical text or by endorsement, at the latest by September 2015, and conflicting national standards shall be withdrawn at the latest by September 2015.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 13953:2003+A1:2007.

— This European Standard has been submitted for reference into the technical annexes of the ADR [1].

NOTE These regulations take precedence over any clause of this European Standard. It is emphasized that ADR is 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:

- change to the nominal set pressure;
- restructure of Clause 7, Testing and Inspection of the design;
- introduction of an endurance test.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

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.

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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.

Protection of the environment is a key political issue in Europe and elsewhere around the world. Protection of the environment in this document is understood in a very broad sense. The phrase is used, for example, in relation to the total life-cycle aspects of a product on the environment, including expenditure of energy, and during all phases of its existence, from mining of raw materials, to fabrication, packaging, distribution, use, scrapping, recycling of materials, etc.

It is essential that provisions be restricted to a general guidance. Limit values are specified in national laws.

It is recommended that manufacturers develop an environmental management policy. For guidance see the EN ISO 14000 series.

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 [2].

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1 Scope

This European Standard specifies the design, testing and marking requirements for spring loaded pressure relief valves (PRV), for use in liquefied petroleum gas (LPG) cylinders.

These PRVs can be either an integral part of a cylinder valve (see EN ISO 14245 [3] and EN ISO 15995 [4]) or a separate device.

This European Standard does not exclude the use of other designs of pressure relief devices that provide a similar level of safety.

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, *Rubber materials for seals and diaphragms for gas appliances and gas equipment*

EN 751-1, *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, *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 *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 10270-3, *Steel wire for mechanical springs — Part 3: Stainless spring steel wire*

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

EN 12420, *Copper and copper alloys — Forgings*

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

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

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

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply:

3.1

liquefied petroleum gas

LPG

low pressure liquefied gas composed of one or more light hydrocarbons which are assigned to UN 1011, UN 1075, UN 1965, UN 1969 or UN 1978 only and which consists mainly of propane, propene, butane, butane isomers, butene with traces of other hydrocarbon gases