

**LPG equipment and accessories - Sealing caps and
plugs for LPG cylinder and pressure vessel valves -
Specification and testing**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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English Version

**LPG equipment and accessories - Sealing caps and plugs for
LPG cylinder and pressure vessel valves - Specification and
testing**

Équipements pour GPL et leurs accessoires - Bouchons et
obturateurs d'étanchéité pour robinets/vannes de bouteilles
et réservoirs - Spécifications et essais

Flüssiggas-Geräte und Ausrüstungsteile - Dichtkappen und
Dichtstopfen für Flaschen und Behälter für Flüssiggas
(LPG) - Spezifikation und Prüfungen

This European Standard was approved by CEN on 7 December 2012.

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Foreword

This document (EN 16119:2013) 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of an identical text or by endorsement, at the latest by August 2013, and conflicting national standards shall be withdrawn at the latest by August 2013.

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.

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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 and does not absolve the user from legal obligations at any stage.

Protection of the environment is a key political issue in Europe and elsewhere. Protection of the environment is taken in a very broad sense. What is meant is the total life cycle aspects of, e.g., a product on the environment, including expenditure of energy and during all phases from mining of raw materials, fabrication, packaging, distribution, use, scrapping, recycling of materials, etc.

NOTE Annex C indicates the clauses in this European Standard that address environmental issues.

Provisions need to 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.

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 [3].

1 Scope

This European Standard specifies the design, testing and marking requirements for caps and plugs used to form a pressure tight seal with liquefied petroleum gas (LPG) cylinder valves and pressure vessel valves. Sealing caps and plugs provide an additional seal for self-closing and manually operated valves.

Dust caps or plugs and tamper evident seals that do not form an additional seal as part of their design are excluded from the scope of this European Standard.

Cylinder valve caps and plugs may be used with valves for liquid and vapour manufactured in accordance with EN ISO 14245 and EN ISO 15995.

Pressure vessel valve caps and plugs may be used with valves for liquid and vapour manufactured in accordance with EN 13175. Occasional liquid withdrawal valve caps and plugs are excluded from the scope of this European Standard.

Reusable and single use sealing caps and plugs are included in this European Standard.

This European Standard does not exclude the use of other designs that provide an equivalent level of safety.

NOTE The term “pressure vessel” does not include LPG tank vehicles, also called “road tankers”, in CEN/TC 286 standards.

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

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

EN 12420, *Copper and copper alloys — Forgings*

EN 13175:2003+A1, *LPG equipment and accessories — Specification and testing for Liquefied Petroleum Gas (LPG) tank valves and fittings*

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

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

EN ISO 14021, *Environmental labels and declarations — Self-declared environmental claims (Type II environmental labelling) (ISO 14021)*

EN ISO 14024, *Environmental labels and declarations — Type I environmental labelling — Principles and procedures (ISO 14024)*

EN ISO 14025, *Environmental labels and declarations — Type III environmental declarations — Principles and procedures (ISO 14025)*

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

Note 1 to entry: In some countries, UN numbers 1011 and 1978 may also be designated LPG.

3.2
plug
component which seals a female connection

3.3
cap
component which seals a male connection

3.4
cylinder valve
primary shutoff device intended for liquid filling and liquid or vapour service fitted to LPG cylinders

Note 1 to entry: The valve can also include additional devices e.g. liquid level indicator, excess flow device, pressure relief valve, sediment tube, non-return valve and eduction tube.

3.5
leak tightness
resistance to gas leakage under a specified pressure differential

3.6
sealing cap or plug
device which is intended to seal the inlet and or outlet connection of a valve

Note 1 to entry: It may also provide protection to the valve connection. The device may provide protection against the ingress of dust, dirt or other contamination. The device may also be used to provide tamper evidence.

3.7
dust cap or plug
device which is intended to protect the inlet or outlet of a valve against the ingress of dust, dirt or other contamination

3.8
reusable sealing caps and plugs
sealing caps and plugs that are designed for reuse and have a means of attachment to the valve