SLOVENSKI STANDARD
SIST EN 1439:2006

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SIST EN 1439:1998

Oprema in pribor za utekoļ injeni naftni plin (UNP) - Premiļ ne, ponovno polnljive varjene in trdo spajkane jeklene jeklenke za UNP - Postopek za preverjanje pred polnjenjem, med njim in po njem

LPG equipment and accessories - Transportable refillable welded and brazed steel Liquefied Petroleum Gas (LPG) cylinders - Procedure for checking before, during and after filling

Flüssiggas-Geräte und Ausrüstungsteile - Ortsbewegliche, wiederbefüllbare Flaschen aus geschweißtem Stahl für Flüssiggas (LPG) - Kontrollverfahren vor, während und nach dem Füllen

Equipements pour GPL et leurs accessoires - Bouteilles en acier soudé transportables et rechargeables pour gaz de pétrole liquéfiés (GPL) - Procédures de vérification avant, pendant et apres le remplissage

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23.020.30	Tlaļ ne posode, plinske jeklenke	Pressure vessels, gas cylinders

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EUROPEAN STANDARD

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EN 1439

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English Version

LPG equipment and accessories - Transportable refillable welded and brazed steel Liquefied Petroleum Gas (LPG) cylinders - Procedure for checking before, during and after filling

Equipements pour GPL et leurs accessoires - Bouteilles en acier soudé transportables et rechargeables pour gaz de pétrole liquéfié (GPL) - Procédures de vérification avant, pendant et après le remplissage

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This European Standard was approved by CEN on 16 August 2005.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

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Foreword

This European Standard (EN 1439:2005) 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 April 2006, and conflicting national standards shall be withdrawn at the latest by April 2006.

This European Standard has been submitted for reference into the RID and/or in the technical annexes of the ADR. Therefore the standards listed in the normative references and covering basic requirements of the RID/ADR not addressed within the present standard are normative only when the standards themselves are referred to in the RID and/or in the technical annexes of the ADR.

This document supersedes EN 1439:1996.

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

Introduction

This European Standard calls for the use of substances and procedures that can be injurious to health if adequate precautions are not taken. It refers only to technical suitability and does not absolve the user from legal obligations relating to health and safety 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. Where judgements are called for, it has been assumed that they are made by competent persons who have been trained specifically for the tasks.

1 Scope

This European Standard specifies the procedures to be adopted when checking transportable refillable welded and brazed steel LPG cylinders before, during and after filling.

This European Standard applies to transportable refillable welded and brazed steel LPG cylinders of water capacity from 0,5 l up to and including 150 l with a minimum wall thickness of 1,5 mm (see EN 1442 and EN 12807).

This European Standard does not apply to cylinders permanently installed in vehicles, or to plant and filling equipment.

2 Normative references

The following referenced documents are indispensable for the application 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 1440, *LPG equipment and accessories – Transportable refillable welded and brazed steel Liquefied Petroleum Gas (LPG) cylinders - Periodic inspection*

EN 12816, *Transportable refillable steel and aluminium LPG cylinders – Disposal*

EN 13952, *LPG cylinders - Filling procedures*

prEN 14894, *LPG Equipment and accessories - Cylinder and drum marking*

3 Terms and definitions

For the purposes of this European Standard, the following terms and definitions apply.

3.1
LPG (liquefied petroleum gas)
mixture of predominantly butane or propane with traces of other hydrocarbon gases classified in accordance with UN number 1965, hydrocarbon gases mixture, liquefied, NOS or UN number 1075, petroleum gases, liquefied

NOTE In some countries, UN numbers 1011 and 1978 may also be designated LPG.

3.2
competent person
person who by a combination of training, experience and supervision, is able to make objective judgements on the subject

3.3
competent body
person or corporate body defined by the national authority, which by combination of appropriate qualification, training, experience and resources is able to make objective judgements on the subject

3.4
cylinder
transportable, refillable pressure receptacle with a water capacity from 0,5 l up to and including 150 l

3.5
protected cylinder
cylinder fully covered with a protection against impact and external corrosion so that the cylinder wall cannot be seen, see Figure C.1

3.6
filling ratio
ratio of the mass of gas introduced into a cylinder to the mass of water at 15 °C that would fill the same cylinder fitted ready for use

NOTE See Annex A for filling ratio.

3.7
reference temperature
temperature used for the calculation of safe filling quantity

NOTE See Annex A for reference temperatures.

3.8
filled to a level
filled to a fixed level using a fixed liquid level device

3.9
filled by volume
filled with a fixed volume of LPG

3.10
filled by mass
filled with LPG using a weighing machine

3.11
filling plant
establishment where filling and checking of LPG cylinders takes place

3.12
reconditioning
major repairs to cylinders, which can include hot work, welding or de-denting carried out by specialists away from potential sources of flammable air/gas mixture

3.13
periodic inspection
activities carried out at defined intervals, such as examining, measuring, testing or gauging the characteristics of a cylinder, comparing these with specified requirements as defined in EN 1440 and marking to attest conformity

3.14
tare weight
sum of the mass of the empty cylinder, the mass of the valve including a dip tube where fitted, and the mass of all other parts that are permanently attached to the cylinder when it is being filled, e.g. fixed valve guard

4 Segregation of cylinders prior to filling

4.1 General

Cylinders shall be checked and segregated into the categories specified in 4.2 to 4.4.

A flow diagram of the checks before, during and after filling is given in Annex B.

For protected cylinders, different procedures may be adopted, if accepted by the relevant competent authorities. The specific procedure applicable to protected cylinders as described in C.1 shall be in accordance with Annex C.

4.2 Cylinders suitable for filling

The cylinder shall be deemed suitable for filling if the following conditions apply:

a) Design code/specification is identifiable;

b) tare indication and water capacity are marked;

c) allowed quantity and identification of the product (butane, propane or mixtures thereof, the properties of which were considered for the design of the cylinder) are indicated;

d) cylinder is within the test date as determined from the marked manufacture date or periodic inspection date;

NOTE For a means of satisfying this requirement for protected cylinders see Annex C.

and

e) cylinder does not have defects as described in 4.4. The inspection of the foot-ring for corrosion or damage shall determine the need for a more thorough external visual examination of the cylinder base.

4.3 Cylinders for periodic inspection

A cylinder shall be set aside for periodic inspection in accordance with EN 1440 when either of the following conditions apply.

a) Cylinder is out of test date;

b) cylinder cannot be confirmed to be within test date.

NOTE For a) and b), protected cylinders are addressed in Annex C.

4.4 Cylinders requiring further assessment

A cylinder with any of the following defects shall be set aside for further assessment, e.g. re-taring, disposal, etc (see Clause 5).

a) The indication of tare weight of a cylinder, filled by mass, is missing or illegible;

b) cylinder is faulty or defective, e.g. dents, fire damage or damage to the shroud, carrying handles, foot-ring;

c) cylinder is found to have visible corrosion or, with cylinders with a welded foot-ring, to exhibit corrosion at the weld;

NOTE For protected cylinders, see Annex C.

d) cylinder, valve or pressure relief device (if fitted) is damaged or has been previously identified as leaking;

e) cylinder whose required permanent markings are obscured and not easily identified.