



SLOVENSKI STANDARD

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Nadomešča:
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Oprema in pribor za utekočinjeni naftni plin (UNP) - Označevanje jeklenk in sodov

LPG equipment and accessories - Cylinder and drum marking

Flüssiggas-Geräte und Ausrüstungsteile – Kennzeichnung

Équipements pour gaz de pétrole liquéfié et leurs accessoires - Marquage des bouteilles et des fûts à pression

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ICS:

23.020.35	Plinske jeklenke	Gas cylinders
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en,fr,de

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 14894

December 2021

ICS 23.020.35

Supersedes EN 14894:2013

English Version

**LPG equipment and accessories - Cylinder and drum
marking**

Équipements pour gaz de pétrole liquéfié et leurs
accessoires - Marquage des bouteilles et des fûts à
pression

Flüssiggas-Geräte und Ausrüstungsteile -
Kennzeichnung von Flaschen und Fässern

This European Standard was approved by CEN on 24 October 2021.

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

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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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European foreword

This document (EN 14894:2021) has been prepared by Technical Committee CEN/TC 286 “LPG 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 June 2022, and conflicting national standards shall be withdrawn at the latest by June 2022.

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 14894:2013.

This document has been submitted for reference in

- the RID and/or
- the technical annexes of the ADR.

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

The main technical changes to this version are as follows:

- To fully align with RID/ADR.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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

EN 14894:2021 (E)**Introduction**

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

Protection of the environment is a key political issue in Europe and elsewhere. For CEN/TC 286 this is covered in CEN/TS 16765 and this Technical Specification should be read in conjunction with this standard. The Technical Specification provides guidance on the environmental aspects to be considered regarding equipment and accessories produced for the LPG industry and the following is addressed:

- a) design;
- b) manufacture;
- c) packaging;
- d) use and operation; and
- e) disposal.

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1 Scope

This document specifies stamp marking requirements for transportable refillable LPG cylinders and metallic drums including:

- Steel LPG cylinders designed and manufactured in accordance with EN 1442, EN 14140, EN 12807 or an equivalent standard or technical code recognized by the Competent Authority.
- LPG metallic drums designed and manufactured in accordance with EN 14893 or an equivalent standard or technical code recognized by the Competent Authority.
- Welded aluminium LPG cylinders designed and manufactured in accordance with EN 13110 or an equivalent standard or technical code recognized by the Competent Authority.
- LPG composite cylinders designed and manufactured in accordance with EN 14427 or an equivalent standard or technical code recognized by the Competent Authority.

NOTE 1 All these types of receptacles are referred to throughout this document as “cylinders”.

This document does not specify any requirements for product, hazard or safety-phrase labelling of packaging which can be required to meet ADR or other legislative requirements.

NOTE 2 The marking of cylinders is regulated by RID/ADR which take precedence over any clause in this document. The European Directive on Transportable Pressure Equipment 2010/35/EU [8] includes additional marking requirements (π -marking). For countries that are not members of the European Union, the π marking is replaced by their relevant conformity mark.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

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

3.2

stamp marking

permanent or durable markings affixed to the cylinder

3.3

competent authority

authority designated as such in each country in accordance with national regulation

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3.4

inspection body

independent inspection and testing body approved by the competent authority

4 Symbols and abbreviated terms

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road [7]
D	durable
P	permanent
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail [5]
TPED	Transportable Pressure Equipment Directive 2010/35/EU [8]
π -marking	Pi marking as defined in European Directive on Transportable Pressure Equipment 2010/35/EU [8]

5 Application of stamp markings**5.1 General**

5.1.1 Stamp markings consist of manufacturing, operational and certification stamp marks and are listed in Clause 6, Clause 7 and Clause 8. The layout of the marks is covered by 5.3. Additional markings can be applied if required by other regulations or technical standards, or when required by the cylinder owner; provided the layout does not cause any confusion in their interpretation and the clarity of the other mandatory markings is not affected.

5.1.2 Low stress stamp marking methods shall be utilized.

5.1.3 Stamp markings shall be applied to low stress areas.

5.1.4 Stamp marking shall be in accordance with the requirements of EN 14894 and any requirements in the standard to which cylinder or drum is being manufactured.

The marking information can be supplemented and/or duplicated by electronic means or other types of coding where required by the operator.

NOTE 1 The TPED includes additional marking requirements (π -marking).

NOTE 2 The requirements of RID/ADR override any conflicting requirements of this document; this can lead to a temporary noncompliance with EN 14894.

5.2 Workmanship

5.2.1 All stamp markings shall be affixed clearly, legibly and durably on the cylinder and shall remain visible and legible under all foreseeable operating and ageing conditions.

- Markings required to be “permanent” shall be such that they can only be removed with the use of special tools and can be done, for example by hard metal stamping, engraving, casting, embossing, encapsulation or other similar methods.
- Markings required to be “durable” shall be such that they remain visible and legible for the relevant period of time and can be done, for example by printing, external labelling, stencilling, use of valve hand-wheel insert or other similar methods.

Clause 5, Clause 6, Clause 7 and Clause 8 indicate which markings shall be “permanent (P)” and which can be “durable (D)”.

Markings which are permitted to be durable can be permanently applied if so desired.

5.2.2 For metallic cylinders, the markings shall be located on the shoulder, top end or neck of the cylinder or on a permanently affixed component, e.g. shroud, handle(s), foot ring, welded nameplate, etc.

5.2.3 If markings are applied after completion of manufacture or following periodic inspection, by stamping or engraving onto the pressure parts of the cylinder, it shall be demonstrated by fatigue and burst tests in accordance with the original design standard or equivalent, that failure does not initiate in the markings.

5.2.4 For composite cylinders, permanent markings can be affixed by different methods, e.g. by use of a printed label encapsulated by either placing it under the resin or by covering it with a permanent transparent coating, on the shoulder or the sidewall of the cylinder, or printed in plastic components permanently affixed to the cylinder in bottom or neck area (see 5.3).

5.2.5 The characters in the stamp markings shall be at least 5 mm in height. On cylinders with an outside diameter less than 140 mm, this height can be reduced, but in no case shall the characters be less than 2,5 mm in height.

5.2.6 The π -mark, where applicable, shall have substantially the same vertical dimension as the other stamp markings but shall not be less than 5 mm. If the mark dimensions are changed, the proportions of the drawing shall be maintained.

NOTE The proportions of the π -mark are specified in the conformity marking drawing in the TPED.

5.2.7 The UN number corresponding to the dangerous goods contained, preceded by the letters “UN” shall be:

- a) at least 12 mm high for cylinders of greater than 60 l water capacity;
- b) at least 6 mm in height for cylinders of 60 l water capacity or less; and
- c) be of an appropriate size for cylinders of 5 l or less.

5.3 Arrangements for stamp marking

5.3.1 The markings for manufacturing, operation and certification shall be arranged in three groups as specified in Clause 6, Clause 7 and Clause 8, where the manufacturing marks shall be the top grouping, the operational be the middle grouping and the certification marks be the bottom grouping.

5.3.2 The arrangement of additional markings specified in Clause 9, shall be such as to avoid confusion with the markings specified in 5.3.1.

5.3.3 When an identity plate (or label for composite cylinders) is used, all the stamp markings can be on a single plate or label together with any additional markings, provided the layout does not cause any confusion in their interpretation.

NOTE Possible locations of the markings are given in Annex A, Figure A.1.

6 Manufacturing stamp markings

This grouping of stamp markings shall be permanently applied in the sequence listed in Table 1.

Table 1 — Manufacturing stamp markings

Mark	Specification	Status	Example
Country mark (of manufacture) ^a	Capital letters	Mandatory ^b	CH
Manufacturer's mark	Capital letters Manufacturer's identity, logo, symbol or other mark registered with the competent authority	Mandatory	GASCYL
Manufacturing serial number	Alphanumeric code assigned by the manufacturer to clearly identify the cylinder	Mandatory	A76128
^a The distinguishing signs for motor vehicles in international traffic as described in the Vienna Convention on Road Traffic (1968) shall be used. ^b This marking is not required when the country of manufacture is the same as the country of approval.			

7 Operational stamp markings

This grouping of stamp markings listed in Table 2 shall be permanently applied.

Table 2 — Operational stamp markings

Mark	Specification	Status	Example
Test pressure	The prefix "PH" followed by the value of the test pressure which has been used by the manufacturer for the design of the cylinder, in bar, and the letters "BAR"	Mandatory	PH 30 BAR
Water capacity	The minimum water capacity guaranteed by the cylinder manufacturer, in litres, followed by the unit "L" The capacity shall be expressed to three significant digits, rounded down to the last digit. If the value of the water capacity is an integer, the digits after the decimal point can be neglected.	Mandatory	12,8 L