



SLOVENSKI STANDARD SIST EN 12252:2022

01-september-2022

Nadomešča:
SIST EN 12252:2014

Oprema in pribor za utekočinjeni naftni plin (UNP) - Oprema cestnih cistern za UNP

LPG equipment and accessories - Equipping of LPG road tankers

Flüssiggas-Geräte und Ausrüstungsteile - Ausrüstung von Straßentankwagen für Flüssiggas (LPG)

Équipements pour GPL et leurs accessoires - Équipements des camions citernes pour GPL

<https://standards.iteh.ai/catalog/standards/sist/502e609b-039d-4ec6-8851-6f9708c8a99b/sist-en-12252-2022>

Ta slovenski standard je istoveten z: EN 12252:2022

ICS:

23.020.20	Posode in vsebniki, montirani na vozila	Vessels and containers mounted on vehicles
43.080.10	Tovornjaki in priklopniki	Trucks and trailers

SIST EN 12252:2022

en,fr,de

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 12252

June 2022

ICS 43.080.10

Supersedes EN 12252:2014

English Version

LPG equipment and accessories - Equipping of LPG road tankers

Équipements pour GPL et leurs accessoires -
Équipements des véhicules-citernes routiers pour GPL

Flüssiggas-Geräte und Ausrüstungsteile - Ausrüstung
von Straßentankwagen für Flüssiggas (LPG)

This European Standard was approved by CEN on 20 April 2022.

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.

SIST EN 12252:2022

<https://standards.iteh.ai/catalog/standards/sist/502e609b-039d-4ec6-8851-6f9708cba99b/sist-en-12252-2022>



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents

European foreword.....	5
Introduction	7
1 Scope	8
2 Normative references	8
3 Terms and definitions	10
4 Requirements	12
4.1 General.....	12
4.2 Equipment	12
4.3 Valve access.....	13
5 Road tanker chassis.....	13
6 Pressure vessel	13
6.1 Pressure vessel	13
6.2 Mounting of pressure vessel on road tanker	14
6.2.1 General.....	14
6.2.2 Mounting	14
7 Pressure vessel accessories	14
7.1 Required pressure vessel accessories.....	14
7.1.1 Contents gauge	14
7.1.2 Pressure gauge	14
7.1.3 Primary shut-off system	15
7.1.4 Pressure relief valves	16
7.2 Optional pressure vessel accessories	16
8 Vehicle LPG equipment.....	17
8.1 Mandatory LPG equipment.....	17
8.1.1 General.....	17
8.1.2 Pipework.....	17
8.1.3 Connecting hoses.....	17
8.1.4 Accessories	17
8.1.5 Earth connection	17
8.2 Optional LPG equipment	18
9 Equipment specifications.....	18
9.1 Suitable materials	18
9.1.1 General.....	18
9.1.2 Steel pressure retaining parts.....	18
9.1.3 Non-pressure retaining parts	18
9.1.4 Welding consumables.....	18
9.1.5 Non-metallic materials.....	18
9.1.6 Pipework.....	19
9.1.7 Certification of materials.....	19
9.1.8 Control of materials.....	19
9.2 Contents gauge	19
9.3 Pressure gauge	20
9.4 Temperature gauge	20
9.5 Pump.....	20
9.6 Hoses.....	20

9.7	Hose reel	21
9.8	Earth reel	21
9.9	Metering system	21
9.10	Valves	21
9.11	Pressure relief valves (PRV)	22
9.12	Filters and strainers	22
9.13	Drain valves	22
10	Assembly	22
10.1	General	22
10.2	Welding	22
10.2.1	Welding of the pressure containing parts	22
10.2.2	Welding of the non-pressure containing parts	23
10.3	Flanged connections	23
10.4	Screwed connections	23
10.5	External corrosion protection	23
11	Safety systems	23
11.1	General	23
11.2	Emergency Shut-Down (ESD) system	24
11.3	General safety requirements	24
Annex A (normative) Discharge rates for pressure relief valves — Discharge capacity		25
Annex B (informative) Calculation of mountings of pressure vessel to the chassis		27
B.1	General	27
B.2	Mounting of pressure vessel to the chassis	28
B.2.1	Vertical bolts	28
B.2.2	Horizontal bolts	28
B.2.3	Bracket welds	28
B.2.4	Allowable stress	28
B.2.5	Typical mounting	29
B.3	Calculation of vertical bolts	29
B.3.1	In the direction of travel	29
B.3.2	At right angles to the direction of travel	30
B.3.3	Vertically upwards	30
B.4	Calculation of the bracket welds	31
B.4.1	General	31
B.4.2	In the direction of travel	31
B.4.3	At right angles to the direction of travel	31
B.4.4	Vertically upwards	31
B.5	Calculation of horizontal bolts	32
B.5.1	General	32
B.5.2	In the direction of travel	32
B.5.3	At right angles to the direction of travel	32

EN 12252:2022 (E)

B.5.4 Vertically upwards.....	33
Annex C (informative) Additional traffic safety measures.....	34
Bibliography.....	35

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 12252:2022

<https://standards.iteh.ai/catalog/standards/sist/502e609b-039d-4ec6-8851-6f9708cba99b/sist-en-12252-2022>

European foreword

This document (EN 12252:2022) 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 December 2022, and conflicting national standards shall be withdrawn at the latest by December 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 12252:2014.

Compared with EN 12252:2014 the following significant changes apply:

- the fitment of pressure relief valves now mandatory;
- the term “drain valve” was added to Table 1;
- a new clause “Road tanker chassis” (see Clause 5) was added;
- new requirements for road tankers with remotely mounted discharge pump were added (see 7.1.3.4);
- introduction of overfill protection systems on the discharge side (see 8.2);
- introduction of filters and strainers (see 9.12);
- a new clause “Drain valves” (see 9.13) was added;
- clarification of specification for equipment of non-metallic materials (see 9.1.5);
- Clause 11 “Initial inspection and testing” has been removed and will be introduced into EN 14334;
- the requirement of a “dead-man” function for the Emergency-Shut-Down system was added (see 11.2.3);
- introduction of an additional Annex C on additional traffic safety measures;
- update of terms and definitions.

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 document. It is emphasized that RID/ADR are being revised regularly at intervals of two years which may lead to temporary non-compliances with the clauses of this document.

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.

EN 12252:2022 (E)

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.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN 12252:2022](https://standards.iteh.ai/catalog/standards/sist/502e609b-039d-4ec6-8851-6f9708cba99b/sist-en-12252-2022)

<https://standards.iteh.ai/catalog/standards/sist/502e609b-039d-4ec6-8851-6f9708cba99b/sist-en-12252-2022>

Introduction

This document calls for the use of substances and procedures that may be injurious to health and also 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. For CEN/TC 286 this is covered in CEN/TS 16765 and this Technical Specification should be read in conjunction with this document. This 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.

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 ISO 14000 series.

It has been assumed in the drafting of this document that the execution of its provisions is entrusted to appropriately qualified and experienced people.

All pressures are gauge pressures unless otherwise stated.

NOTE This document 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 might be beneficial to refer to the leaflet "measurement uncertainty leaflet" SP INFO 2000 27 [10].

EN 12252:2022 (E)**1 Scope**

This document specifies equipment and accessories for road tankers used for the transport of Liquefied Petroleum Gas (LPG) and identifies the equipment that is considered necessary to ensure that filling, transportation and discharge operations can be carried out safely. It specifies the requirements for the assembly of the accessories and the vehicle LPG equipment to the road tanker. This document also identifies additional equipment and accessories that can be used on road tankers carrying LPG.

This document does not preclude the use of alternative designs, materials and equipment testing which provide the same or a higher level of safety. ADR [9] requires that such alternative technical codes be recognized by the competent authority, provided that the minimum requirements of section 6.8.2 of ADR [9] are complied with.

This document does not apply to “tank-containers” or “battery-vehicles” used for the transport of LPG.

For design of road tankers, see EN 12493, and for the inspection and test requirements of road tankers, see EN 14334 [11].

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 549, *Rubber materials for seals and diaphragms for gas appliances and gas equipment*

EN 558, *Industrial valves - Face-to-face and centre-to-face dimensions of metal valves for use in flanged pipe systems - PN and Class designated valves*

EN 837-2, *Pressure gauges - Part 2: Selection and installation recommendations for pressure gauges*

EN 1012-1, *Compressors and vacuum pumps - Safety requirements - Part 1: Air compressors*

EN 14129, *LPG Equipment and accessories - Pressure relief valves for LPG pressure vessels*

EN 1591-1, *Flanges and their joints - Design rules for gasketed circular flange connections - Part 1: Calculation*

EN 1762, *Rubber hoses and hose assemblies for liquefied petroleum gas, LPG (liquid or gaseous phase), and natural gas up to 25 bar (2,5 MPa) - Specification*

EN 1983, *Industrial valves - Steel ball valves*

EN 1984, *Industrial valves - Steel gate valves*

EN 10025-1, *Hot rolled products of structural steels - Part 1: General technical delivery conditions*

EN 10025-2, *Hot rolled products of structural steels - Part 2: Technical delivery conditions for non-alloy structural steels*

EN 10025-3, *Hot rolled products of structural steels - Part 3: Technical delivery conditions for normalized/normalized rolled weldable fine grain structural steels*

EN 10025-4, *Hot rolled products of structural steels - Part 4: Technical delivery conditions for thermomechanical rolled weldable fine grain structural steels*

EN 10025-5, *Hot rolled products of structural steels - Part 5: Technical delivery conditions for structural steels with improved atmospheric corrosion resistance*

EN 10025-6, *Hot rolled products of structural steels - Part 6: Technical delivery conditions for flat products of high yield strength structural steels in the quenched and tempered condition*

EN 10028-1, *Flat products made of steels for pressure purposes - Part 1: General requirements*

EN 10028-2, *Flat products made of steels for pressure purposes - Part 2: Non-alloy and alloy steels with specified elevated temperature properties*

EN 10028-3, *Flat products made of steels for pressure purposes - Part 3: Weldable fine grain steels, normalized*

EN 10028-4, *Flat products made of steels for pressure purposes - Part 4: Nickel alloy steels with specified low temperature properties*

EN 10028-5, *Flat products made of steels for pressure purposes - Part 5: Weldable fine grain steels, thermomechanically rolled*

EN 10028-6, *Flat products made of steels for pressure purposes - Part 6: Weldable fine grain steels, quenched and tempered*

EN 10204:2004, *Metallic products - Types of inspection documents*

EN 10216-1, *Seamless steel tubes for pressure purposes - Technical delivery conditions - Part 1: Non-alloy steel tubes with specified room temperature properties*

EN 10217-1, *Welded steel tubes for pressure purposes - Technical delivery conditions - Part 1: Electric welded and submerged arc welded non-alloy steel tubes with specified room temperature properties*

EN 12074, *Welding consumables - Quality requirements for manufacture, supply and distribution of consumables for welding and allied processes*

EN 12493, *LPG equipment and accessories - Welded steel pressure vessels for LPG road tankers - Design and manufacture*

EN 12627, *Industrial valves - Butt welding ends for steel valves*

EN 12760, *Industrial valves - Socket welding ends for steel valves*

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

EN 13709, *Industrial valves - Steel globe and globe stop and check valves*

EN 13789, *Industrial valves - Cast iron globe valves*

EN 13799, *LPG equipment and accessories - Contents gauges for Liquefied Petroleum Gas (LPG) pressure vessels*

EN 14422, *Clamp type coupling assemblies for liquefied petroleum gas (LPG) transfer hoses*

EN 14424, *Hose fittings with screwed ferrules*

EN 12252:2022 (E)

EN ISO 148-1, *Metallic materials - Charpy pendulum impact test - Part 1: Test method (ISO 148-1:2016)*

EN ISO 3834-2, *Quality requirements for fusion welding of metallic materials - Part 2: Comprehensive quality requirements (ISO 3834-2:2021)*

EN ISO 3834-3, *Quality requirements for fusion welding of metallic materials - Part 3: Standard quality requirements (ISO 3834-3:2021)*

EN ISO 9606-1, *Qualification testing of welders - Fusion welding - Part 1: Steels (ISO 9606-1:2012 including Cor 1:2012 and Cor 2:2013)*

EN ISO 10497, *Testing of valves - Fire type-testing requirements (ISO 10497:2010)*

EN ISO 14732, *Welding personnel - Qualification testing of welding operators and weld setters for mechanized and automatic welding of metallic materials (ISO 14732:2013)*

EN ISO 15609-1, *Specification and qualification of welding procedures for metallic materials - Welding procedure specification - Part 1: Arc welding (ISO 15609-1:2019)*

EN ISO 15614-1, *Specification and qualification of welding procedures for metallic materials - Welding procedure test - Part 1: Arc and gas welding of steels and arc welding of nickel and nickel alloys (ISO 15614-1:2017, Corrected version 2017-10-01)*

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 <http://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 and butene with traces of other hydrocarbon gases

3.2**pressure vessel**

assembly of the pressure envelope (including the openings and their closures) and non-pressure-retaining parts attached directly to it

3.3**primary shut-off system**

valve or a series of valves attached to the pressure vessel which provides a method of sealing off the flow from the pressure vessel

3.4**vehicle LPG equipment**

equipment and pipework on the road tanker which is in contact with LPG and forms part of the LPG operating system, shut-down system or safety system, but which is not directly connected to the pressure vessel and is not part of the automotive LPG system