

LPG equipment and accessories - Equipping of LPG road tankers

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NATIONAL FOREWORD

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English Version

LPG equipment and accessories - Equipping of LPG road tankers

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

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

This European Standard was approved by CEN on 9 February 2014.

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Foreword

This document (EN 12252:2014) 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of an identical text or by endorsement, at the latest by October 2014 and conflicting national standards shall be withdrawn at the latest by October 2014.

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 12252:2012.

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

This document has been submitted for reference into the technical annexes of the ADR [9].

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

The main technical changes of this revision include:

- the update of definitions;
- the modification of requirements on the primary shut-off system (see 6.1.3);
- the modification of the general requirements on the safety system (see 11.1);
- the correction of an error in the flow calculation units (see Annex A).

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.

Introduction

This European Standard 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 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, fabrication, packaging, distribution, use, scrapping, recycling of materials, etc.

NOTE 1 Annex C comprises an environmental checklist which highlights the clauses of 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 ISO 14000 series [3], [4] and [5]

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

1 Scope

This European Standard 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 European Standard also identifies additional equipment and accessories that can be used on road tankers carrying LPG.

This European Standard 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 recognised by the competent authority, provided that the minimum requirements of section 6.8.2 of ADR [9] are complied with.

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

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

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 (all parts), *Hot rolled products of structural steels*

EN 10028 (all parts), *Flat products made of steels for pressure purposes*

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

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

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

EN ISO 9606-1, *Qualification testing of welders - Fusion welding - Part 1: Steels (ISO 9606-1)*

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

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

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

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)*

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 and butene with traces of other hydrocarbon gases