



**SLOVENSKI STANDARD**  
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**Oprema in pribor za utekočinjeni naftni plin (UNP) - Postopek polnjenja in praznjenja cestnih cistern za UNP**

LPG equipment and accessories - Filling and discharge procedures for LPG road tankers

Flüssiggasgeräte und -Ausrüstungsteile - Füll- und Entleerungsverfahren für Straßentankfahrzeuge für Flüssiggas (LPG)

Équipements et accessoires pour GPL - Procédures de chargement et déchargement des camionscisternes pour GPL

**Ta slovenski standard je istoveten z: prEN 13776**

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43.080.10      Tovornjaki in priklopniki      Trucks and trailers

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English Version

## LPG equipment and accessories - Filling and discharge procedures for LPG road tankers

Équipements et accessoires pour GPL - Procédures de  
chargement et déchargement des camionsciternes pour  
GPL

Flüssiggasgeräte und -Ausrüstungsteile - Füll- und  
Entleerungsverfahren für Straßentankfahrzeuge für  
Flüssiggas (LPG)

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 286.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

**Management Centre: Avenue Marnix 17, B-1000 Brussels**

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## Foreword

This document (prEN 13776:2011) has been prepared by Technical Committee CEN/TC 286 “Liquefied petroleum gas equipment and accessories”, the secretariat of which is held by NSAI.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 13776:2002.

The main changes to the previous edition include:

- Rewording of the exact requirement in 8.2.
- Deletion of the former Annex A;
- Addition of an environmental Annex B;

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## Introduction

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 B indicates which clauses in this standard address environmental issues.

Provisions have to be restricted to a general guidance. Limit values are specified in national laws.

It is recommended that companies using this standard develop an environmental management policy. For guidance see ISO 14000 series.

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## 1 Scope

This European Standard specifies filling, discharge and emergency procedures for road tankers used for the transportation of liquefied petroleum gas (LPG).

This standard also covers routine maintenance procedures for LPG equipment of road tankers.

This standard applies to road tankers equipped in accordance with EN 12252.

This standard does not apply to “batteries of receptacles”.

## 2 Normative references

The following referenced documents are indispensable for the application of this European Standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 12252, *LPG equipment and accessories — Equipping of LPG road tankers*

EN 12493, *LPG equipment and accessories — Welded steel tanks for liquefied petroleum gas (LPG) — Road tankers design and manufacture*

## 3 Terms and definitions

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

### 3.1

#### **liquefied petroleum gas LPG**

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 or traces of other hydrocarbon gases

### 3.2

#### **road tanker**

rigid vehicle, semi-trailer or trailer comprising of one or more fixed tanks

NOTE Referred to as fixed tanks (tank-vehicles) and demountable tanks in the ADR.

### 3.3

#### **pressure vessel**

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

### 3.4

#### **routine maintenance**

inspection and checks together with replacement of parts and repairs

### 3.5

#### **competent person**

person which by combination of appropriate qualification, training, experience, and resources, is able to make objective judgments on the subject

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**3.6 anti-drive-away system interlock/installation barrier**  
method of ensuring that the road tanker cannot be driven away accidentally unless hoses are disconnected and stowed

**3.7 hot work**  
any work that requires a flame or other ignition source for its execution, or which could produce or expose a possible source of ignition (e.g. sparks) capable of igniting flammable gases, liquids or other materials

**3.8 gas-free**  
less than 20 % of the lower explosive limit of LPG in air

**3.9 work permit system**  
controlled permission to work under specific conditions for a particular duration

**4 General**

**4.1** Safety systems as required by EN 12252 shall be used. Personnel shall wear personal protection equipment while carrying out LPG transfer operations. Filling and discharging shall be under the constant supervision of the driver or a competent person. The road tanker fire extinguisher shall be readily available.

**4.2** The responsibility for fire protection shall be clearly defined.

**4.3** The road tanker driver shall be trained in the use of the:

- road tanker;
- LPG fixed installation; and
- LPG equipment.

**4.4** Written procedures shall be readily available, understood and followed. This shall be achieved by training and supervision. The responsibilities of all persons involved in the operation shall be clearly defined.

The procedures shall include:

- routine filling;
- routine discharge;
- the prevention of filling pressure vessels containing air or inert gas;
- uplift;
- emergency action.



## 5 Filling procedures

### 5.1 Preparation for filling

- 5.1.1** The vehicle shall be driven to the filling area and positioned in accordance with the site procedure.
- 5.1.2** The filler shall ensure that any device provided to check the loaded quantity is operational and in the correct position.
- 5.1.3** All road tanker electrical equipment not required for the filling process shall be switched off. Any other sources of ignition shall be removed/de-activated. The handbrake shall be applied and, where required, the wheel-scotch put in place. Mobile telephones shall be switched off.
- 5.1.4** Precautions shall be taken to ensure that the grade of LPG to be filled is correctly identified and that the road tanker is suitable for the intended load and that it is correctly labelled.
- 5.1.5** Anti-drive-away system interlock/installation barriers shall be engaged.

### 5.2 Filling operations

- 5.2.1** The electrostatic potential of the road tanker and the fixed installation shall be equalised before the LPG hoses are connected.
- 5.2.2** All road tanker outlets and internal valves shall be checked to ensure that they are in the closed position.
- 5.2.3** The blanking cap shall be removed from the vapour return (where fitted) and the liquid inlet connections.
- 5.2.4** The transfer couplings (hoses or loading arms) shall be connected without submitting them to any abnormal stresses. The road tanker, product terminal and vapour return valves, where applicable, shall be opened in the required sequence and manner in accordance with the written procedures. The connections between the transfer couplings and the road tanker shall be checked for leakage. A second check shall be done again for any sign of leakage during transfer.

### 5.3 Completion of filling

- 5.3.1** The driver shall ensure that the correct quantity and grade of LPG has been loaded and that the road tanker displays the appropriate hazard warning panels, before leaving the site.
- 5.3.2** The driver shall also check that the correct Transport Emergency Card is on the vehicle (see ADR for details).
- 5.3.3** Any LPG between the transfer couplings shall be vented in a safe manner before fully disconnecting.
- 5.3.4** After disconnection of the filling lines, a final check shall be made to ensure that:
- all road tanker valves are properly closed;
  - the caps are replaced and secured.
- 5.3.5** A final check shall be made to ensure that the road tanker is in a fit condition to be driven away. There shall be no sign of leakage. The connection made to equalise the electrostatic potential shall be disconnected.
- 5.3.6** Anti-drive-away system interlock/installation barriers shall be disengaged.

**prEN 13776:2011 (E)****5.4 Precautions against overfilling**

**5.4.1** Gauging devices shall be monitored continuously during the filling operation, to ensure that the road tanker is not overfilled.

**5.4.2** If a road tanker is accidentally overfilled the excess LPG shall be removed in a controlled manner without delay, before departure of the road tanker.

**5.4.3** When filling by weight, the tare weight of the vehicle shall be determined to ensure that the vehicle is not overfilled and that the gross weight is not exceeded when the weight of the automotive fuel and the driver are taken into account.

**6 Discharging procedures****6.1 Preparation for discharge**

**6.1.1** The electrostatic potential of the road tanker and the fixed installation shall be equalised before the LPG hoses are connected.

**6.1.2** The driver shall ensure that the pressure vessel is suitable to receive the LPG product to be discharged.

**6.1.3** The vehicle shall be positioned so that the driver has access to the

- road tanker;
- vehicle flow meter (where fitted); and
- receiving tank contents gauge and fixed liquid level gauge.

**6.1.4** The handbrake shall be applied and, where required, the wheel-scotch put in place.

**6.1.5** Anti-drive-away system interlock/installation barriers shall be engaged.

**6.1.6** The immediate surroundings of the tank shall be checked to ensure there are no potential sources of ignition or any obvious dangers. The area around the road tanker shall be checked to ensure that it is safe to allow LPG to be discharged.

**6.1.7** Care shall be taken to avoid damage to the hose caused by:

- running hoses across sharp objects; or
- heat sources and naked flames.

**6.1.8** Hoses shall normally be routed in the open air. Where hoses are routed through enclosed spaces, access by the public shall be restricted and the area shall be under the direct control of the driver. Where direct control by the driver cannot be assured, a special procedure shall apply.

**6.1.9** Where hoses are run across pavements or foot paths during road side deliveries, a warning sign shall be prominently displayed, e.g.

"FLAMMABLE GAS TRANSFER TAKING PLACE – NO SMOKING OR NAKED FLAMES".

NOTE National regulations and /or laws regarding road side deliveries can apply.

**6.1.10** Delivery hoses shall be visually examined for kinks, wear or obvious damage.