



**NSAI**  
Standards

Irish Standard  
I.S. EN 16652-1:2016

# LPG equipment and accessories - Automotive LPG vehicles workshops - Part 1: Working areas and procedures

© CEN 2016 No copying without NSAI permission except as permitted by copyright law.

**I.S. EN 16652-1:2016**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

*This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):*

*NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.*

*This document is based on:*

EN 16652-1:2016

*Published:*

2016-05-18

*This document was published  
under the authority of the NSAI  
and comes into effect on:*

2016-06-05

ICS number:

43.060.40

43.180

NOTE: If blank see CEN/CENELEC cover page

NSAI  
1 Swift Square,  
Northwood, Santry  
Dublin 9

T +353 1 807 3800  
F +353 1 807 3838  
E standards@nsai.ie  
W NSAI.ie

Sales:  
T +353 1 857 6730  
F +353 1 857 6729  
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

## National Foreword

I.S. EN 16652-1:2016 is the adopted Irish version of the European Document EN 16652-1:2016, LPG equipment and accessories - Automotive LPG vehicles workshops - Part 1: Working areas and procedures

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

**Compliance with this document does not of itself confer immunity from legal obligations.**

*In line with international standards practice the decimal point is shown as a comma (,) throughout this document.*

This page is intentionally left blank

**EUROPEAN STANDARD**  
**NORME EUROPÉENNE**  
**EUROPÄISCHE NORM**

**EN 16652-1**

May 2016

ICS 43.060.40; 43.180

English Version

**LPG equipment and accessories - Automotive LPG vehicles  
workshops - Part 1: Working areas and procedures**

Équipements GPL et leurs accessoires - Ateliers pour  
véhicules automobiles fonctionnant au GPL - Partie 1:  
Zones de travail et modes opératoires

Flüssiggas-Geräte und Ausrüstungsteile - Werkstätten  
für Autogas-Nachrüstsysteme - Teil 1: Arbeitsbereiche  
und Verfahren

This European Standard was approved by CEN on 13 February 2016.

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, 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 United Kingdom.



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

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

<b>Contents</b>	<b>Page</b>
<b>European foreword.....</b>	<b>3</b>
<b>Introduction .....</b>	<b>4</b>
<b>1 Scope .....</b>	<b>5</b>
<b>2 Normative references .....</b>	<b>5</b>
<b>3 Terms and definitions .....</b>	<b>5</b>
<b>4 Working areas .....</b>	<b>7</b>
4.1 General service working areas.....	7
4.2 Dedicated LPG working areas.....	7
4.2.1 General.....	7
4.2.2 Service pits .....	8
4.2.3 Equipment .....	8
<b>5 Procedures.....</b>	<b>8</b>
5.1 Procedures in case of an increased hazard.....	8
5.2 Prevention of overheating.....	9
5.2.1 General.....	9
5.2.2 Treatment of an LPG vehicle in the paint booth.....	9
5.3 Fuel unloading.....	10
5.4 Gas-freeing.....	11
5.5 Work on the LPG system.....	11
5.6 Storage of unpurged containers .....	11
5.7 LPG system decommissioning .....	12
5.8 Scrapping .....	12
5.9 Emergency measures.....	12
<b>Annex A (informative) Dedicated LPG working area equipment .....</b>	<b>13</b>
<b>Annex B (informative) Fuel unloading methods.....</b>	<b>14</b>
<b>Annex C (informative) Container depressurising method .....</b>	<b>20</b>
<b>Annex D (informative) Gas-freeing methods.....</b>	<b>22</b>
<b>Annex E (informative) Emergency measures guidelines .....</b>	<b>24</b>
<b>Annex F (informative) Leak detection methods.....</b>	<b>27</b>
<b>Bibliography.....</b>	<b>29</b>

## **European foreword**

This document (EN 16652-1:2016) 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 November 2016, and conflicting national standards shall be withdrawn at the latest by November 2016.

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.

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.

## **EN 16652-1:2016 (E)**

### **Introduction**

This European Standard does not purport to address all of the health and safety risks, if any, associated with its use. It is the responsibility of the user to establish appropriate health and safety practices and to ensure compliance with any national legislative and regulatory obligations.

Users should perform their own full risk assessment to address all of the health and safety risks, as required by national legislation.

Training and competency requirements for personnel involved in the activities are not included in the scope of this standard but are planned to be addressed in a second part to this European Standard.

This European Standard specifies the requirements for working areas and the procedures for the installation of LPG systems on vehicles and for the repairing and maintenance of vehicles equipped with LPG systems.

This European Standard should be used for aspects not covered by the manuals provided by the manufacturers of LPG vehicles and/or retrofit systems.

Protection of the environment is a key political issue in Europe and elsewhere, for CEN/TC 286 this is covered in CEN/TS 16765 [2] *LPG equipment and accessories - Environmental considerations for CEN/TC 286 standards*, and this Technical Specification should be read in conjunction with this standard.

It is recommended that users develop an environmental management policy. For guidance see EN ISO 14021[3], EN ISO 14024 [4] and EN ISO 14025 [5]. It has been assumed in the drafting of this European Standard that execution of its provisions is entrusted to appropriately qualified and experienced people.



## 1 Scope

This European Standard sets out the requirements for automotive LPG working areas and procedures, aimed at reducing the risk of fire and explosion of LPG when the following types of work or activity are carried out:

- a) equipping vehicles with an LPG system to use LPG for propulsion purposes;
- b) maintenance, servicing and repairs to the LPG system;
- c) any other LPG vehicle maintenance, servicing or repairs not involving the LPG system.

The operations described in items a) and b) above are undertaken in dedicated LPG working areas, whereas item c) is undertaken in general service working areas.

This Standard does not address how to equip a vehicle with an LPG retrofit system or how to repair or maintain an LPG vehicle.

NOTE Such provisions are normally provided in the instruction manuals issued by the relevant manufacturers.

## 2 Normative references

Not applicable.

## 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, butene with traces of other hydrocarbon gases

Note 1 to entry: For automotive LPG specification, see EN 589 [6].

### 3.2

#### **competent person**

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

### 3.3

#### **contents gauge**

device to indicate the liquid level or contents in a pressure vessel

### 3.4

#### **remote-controlled service valve**

device that allows or interrupts the LPG supply to the vaporizer/pressure regulator

### 3.5

#### **service valve**

valve for fluid off-take which is manually operated to provide a leak-tight seal

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

- 
- Looking for additional Standards? Visit Intertek Inform Infostore
  - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-