



BSI Standards Publication

LPG equipment and accessories — Sealing caps and plugs for LPG cylinder and pressure vessel valves — Specification and testing

National foreword

This British Standard is the UK implementation of EN 16119:2021. It supersedes BS EN 16119:2013, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PVE/19, LPG containers and their associated fittings.

A list of organizations represented on this committee can be obtained on request to its committee manager.

Contractual and legal considerations

This publication has been prepared in good faith, however no representation, warranty, assurance or undertaking (express or implied) is or will be made, and no responsibility or liability is or will be accepted by BSI in relation to the adequacy, accuracy, completeness or reasonableness of this publication. All and any such responsibility and liability is expressly disclaimed to the full extent permitted by the law.

This publication is provided as is, and is to be used at the recipient's own risk.

The recipient is advised to consider seeking professional guidance with respect to its use of this publication.

This publication is not intended to constitute a contract. Users are responsible for its correct application.

© The British Standards Institution 2022
Published by BSI Standards Limited 2022

ISBN 978 0 539 12496 5

ICS 23.060.99

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 January 2022.

Amendments/corrigenda issued since publication

Date	Text affected
------	---------------

English Version

LPG equipment and accessories - Sealing caps and plugs
for LPG cylinder and pressure vessel valves - Specification
and testing

Équipements pour GPL et leurs accessoires - Bouchons
et obturateurs d'étanchéité pour robinets de bouteilles
et vannes de réservoirs sous pression - Spécifications
et essais

Flüssiggas-Geräte und Ausrüstungsteile - Dichtkappen
und Dichtstopfen für Flaschen und Druckbehälter für
Flüssiggas (LPG) - Spezifikation und Prüfungen

This European Standard was approved by CEN on 22 November 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.



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

Page

European foreword.....	3
Introduction	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	6
4 Operating temperatures	7
5 Materials.....	7
5.1 Environmental.....	7
5.2 General.....	7
5.3 Metallic materials	8
5.4 Non-metallic materials.....	8
6 Design.....	8
6.1 General.....	8
6.2 Threads.....	9
6.3 External leak tightness.....	9
7 Testing and inspection of the design.....	9
7.1 General.....	9
7.2 LPG resistance	9
7.3 Water resistance.....	10
7.4 Ageing.....	10
7.5 Hydraulic strength test	10
7.5.1 Reusable sealing caps or plugs.....	10
7.5.2 Single use sealing caps or plugs	10
7.6 Endurance test	10
7.7 Torque Test	11
8 Marking.....	11
9 Documentation.....	12
10 Packaging	12
Annex A (normative) Special low temperature requirements for caps or plugs	13
Annex B (normative) Combined ageing test.....	14
B.1 General.....	14
B.2 Ultraviolet light.....	14
B.3 Rain	14
Bibliography.....	17

European foreword

This document (EN 16119:2021) 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 16119:2013.

EN 16119:2021 includes the following significant technical changes with respect to EN 16119:2013:

- Addition of external leak tightness term and definition
- Introduction of requirement for UV resistance
- Parameters for LPG resistance have been tightened
- Introduction of pressure test after endurance test
- Environmental checklist deleted

In this document the unit bar is used, due to its universal use in the gas industry. It should, however, be noted that bar is not an SI unit, and that the corresponding SI unit for pressure is Pa ($1 \text{ bar} = 10^5 \text{ Pa} = 10^5 \text{ N/m}^2$).

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.

Introduction

This document calls for the use of substances and procedures that may be injurious to health and/or the environment if adequate precautions are not taken. It refers only to technical suitability and does not absolve the user from legal obligations at any stage.

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

Protection of the environment is a key political issue in Europe and elsewhere. For TC 286 this is covered in CEN/TS 16765 [4] LPG equipment and accessories - Environmental considerations for CEN/TC 286 standards, and this Technical Specification should be read in conjunction with this document. 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.

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.

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 may be beneficial to refer to the leaflet, Measurement uncertainty leaflet SP INFO 2000:27 [3].