BRITISH STANDARD

BS EN
14059:2002

Decorative oil lamps — Safety requirements and test methods

The European Standard EN 14059:2002 has the status of a British Standard

ICS 97.195

NO COPYING WITHOUT BSI PERMISSION EXCEPT AS PERMITTED BY COPYRIGHT LAW

BSI
British Standards

National foreword

This British Standard is the official English language version of EN 14059:2002.

The UK participation in its preparation was entrusted to Technical Committee CW/31, Domestic and paraffin appliances, which has the responsibility to:

— aid enquirers to understand the text;

— present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;

— monitor related international and European developments and promulgate them in the UK.

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

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the *BSI Catalogue* under the section entitled "International Standards Correspondence Index", or by using the "Search" facility of the *BSI Electronic Catalogue* or of British Standards Online.

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

Compliance with a British Standard does not of itself confer immunity from legal obligations.

This British Standard, having been prepared under the direction of the Consumer Products and Services Sector Policy and Strategy Committee, was published under the authority of the Standards Policy and Strategy Committee on 13 November 2002

Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 12, an inside back cover and a back cover.

The BSI copyright date displayed in this document indicates when the document was last issued.

Amendments issued since publication

Amd. No.	Date	Comments

© BSI 13 November 2002

ISBN 0 580 40731 4

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 14059

October 2002

ICS 97.195

English version

Decorative oil lamps - Safety requirements and test methods

Lampes à huile décoratives - Exigences de sécurité et méthodes d'essai

Dekorative Öllampen - Sicherheitsanforderungen und Prüfverfahren

This European Standard was approved by CEN on 9 September 2002.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

© 2002 CEN All rights of exploitation in any form and by any means reserved worldwide for CEN national Members.

Ref. No. EN 14059:2002 E

Contents

Foreword

This document EN 14059:2002 has been prepared by CMC.

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 April 2003, and conflicting national standards shall be withdrawn at the latest by April 2003.

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

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

Ingestion of lamp oils can lead to severe lung damage and even to death.

Small children aged 1 - 3 years are at particular risk, if they drink the oil directly from the lamps. Very small amounts of lamp oil (probably less than 80 - 150 mg/kg body weight) are sufficient to cause serious pulmonary complications with lethal consequences.

This safety standard for oil lamps aims primarily to restrict the access of small children to the lamp oil contained in decorative oil lamps, but also covers some other safety aspects.

Products complying with this standard should not be considered as being totally safe. It is unrealistic to expect that children will not sometimes be able to gain access to the oil in the lamp. Nevertheless, it can be anticipated that the risk of accidental poisonings will be significantly reduced by oil lamps conforming to this standard.

Attention is drawn to the fact that European regulations for lamp oil are in force which will have to be complied with in case a filled oil lamp is placed on the market.

1 Scope

This European Standard specifies requirements and test methods for oil lamps used for decorative purposes in households, in restaurants, in recreational facilities and in similar areas.

The standard does not apply to oil lamps intended to be a primary source of light or for industrial purposes (e. g. securing of road building sites).

The purpose of the standard is to minimise the risk of accidental poisoning of small children up to 3 years of age by limiting the accessibility of the lamp oil.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN ISO 6508-1, *Metallic materials - Rockwell hardness test - Part 1: Test method (scales A, B, C, D, E, F, G, H, K, N, T) (ISO 6508-1:1999).*

3 Terms and definitions

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

3.1
burner
part of an oil lamp including one end of the wick where the combustion takes place

3.2
container
part of an oil lamp which holds the fuel

3.3
filler opening
part of an oil lamp designed to enable the container to be refilled with fuel

3.4
lamp oil
inflammable liquid such as paraffin

3.5
oil lamp
vessel in which oil is burnt at a wick to provide illumination

3.6
oil lamp for decorative purposes
oil lamp for interior or exterior use appealing by its design and/or the light atmosphere it creates

3.7
wick
strip or thread which can supply fuel to the burner by its capillary action

3.8
wick guard
guard whose purpose it is to prevent small children up to 3 years of age from making contact with the wick

4 Requirements

4.1 General Requirements

The oil lamp shall be constructed of materials suitable for the purpose, able to withstand the thermal, chemical and mechanical stresses which may be reasonably foreseen that the product will encounter in storage and use.

4.2 Sharp edges, corner and points

When assembled for use, all accessible edges, corners and points shall be designed so as to reduce the risk of causing injury. Edges and corners shall be free from burr and shall be chamfered or rounded. When tested in accordance with 5.2, no sharp edges, corners or points shall be detected.

4.3 Stability

When tested in accordance with 5.3, the oil lamp shall not overturn when released.

4.4 Impact strength

When tested in accordance with 5.4, the oil lamp container shall not break, crack or leak oil.

4.5 Wick guard

The oil lamp shall be equipped with a wick guard to prevent access to the wick by small children.

When tested in accordance with 5.5:

a) the wick holder shall not become detached from the oil lamp;

b) the wick guard shall not break or crack;

c) the probe shall not be able to touch the wick.

4.6 Filler cap

Closures of filler openings including the wick holder shall require two independent movements to be opened: a vertical push downwards and a twist in the clockwise or anticlockwise direction (bayonet joint). When tested in accordance with 5.6, the closure shall not open.

4.7 Leakage

When tested in accordance with 5.7, no oil shall leak out from the oil lamp.

4.8 Durability of marking

At the conclusion of the test in 5.8, the marking shall be clearly legible.

4.9 Child appeal

The oil lamp shall not in any way resemble or incorporate any object commonly recognised as appealing to or intended for use by children younger than 36 months of age. This includes, but is not limited to, toys, cartoon characters, animals, plant materials, food, or food and beverage containers.

5 Test methods

5.1 General test conditions

The oil lamp shall be assembled and filled with lamp oil according to the instructions provided by the manufacturer. The default filling volume shall be ¾ of the container volume unless stated otherwise in the instructions. The oil lamp shall be filled at least 2 h prior to the tests. Tests are conducted with the oil lamp unlit.

All forces shall be measured with an accuracy of ± 5 %, all dimensions with an accuracy of ± 0,5 mm and all angles with an accuracy of ± 1°.

The tests shall be carried out in the order given below

5.2 Sharp edges, corners and points test

Check to see whether sharp edges, corners and points exist by touching with the fingertips.

5.3 Stability test

Place the oil lamp on a sloping platform inclined at an angle of 20° to the horizontal. If necessary, a stop shall be used to prevent the oil lamp from slipping down the slope. The stop shall not prevent the oil lamp from overturning. Check to see whether overturning occurs.

Repeat the test with an empty lamp.

5.4 Impact strength test

5.4.1 Test principle

The oil lamp container is subjected to blows from a steel cylinder attached to a pendulum arm.

5.4.2 Apparatus

A pendulum as shown in Figure A.1 of annex A is used, comprising the following:

- a steel cylinder with a length of 25 mm, a diameter of 25 mm, a rounded front side with a radius of 15 mm and a hardness of 58-65 HRC conforming to EN ISO 6508-1;
- the pendulum arm made of an aluminium tube with an inner diameter of 4 mm, an outer diameter of 6 mm and a length of 500 mm measured from the pivot to the centre of gravity of the steel cylinder;
- a dial to measure the angular displacement of the pendulum from the vertical;
- a support which can be adjusted vertically, horizontally and/or tilted, to hold the test specimen;

NOTE Alternatively the column to support the pendulum can be adjustable or a combination of an adjustable column and an adjustable support can be used.

- a supporting fixture made of aluminium in the shape of a V with an angle of 120° for spherical oil lamps and a cuboid supporting fixture made of aluminium for non-spherical oil lamp forms to prevent any displacement of the test specimen resulting from the impact;
- a protective screen to protect personnel against splinters;
- a heavy base fixed to the floor, on which the components of the testing machine are mounted.

NOTE It is advisable to use a collecting pan for the oil.

5.4.3 Procedure

Place an oil lamp with a spherical oil lamp container on the support so that the centre of the hammer in the resting position touches the oil lamp container at the point of its largest circumference. Place an oil lamp with a cylindrical oil lamp container on the support so that the centre of the hammer in the resting position touches the oil lamp container at any point at half height. Place an oil lamp with a cubic oil lamp container on the support so that the centre of the hammer in the resting position touches the oil lamp container in the centre of any vertical plane. Place an oil lamp with a pyramidal oil lamp container on the support so that the centre of the hammer in the resting position touches the oil lamp container in the centre of any triangular plane. Place an oil lamp with an irregular oil lamp container on the support so that the centre of the hammer in the resting position touches the oil lamp container at any point half height. Ensure that the supporting fixture touches the oil lamp container at a position exactly opposite the point of the hammer impact.

Lift the pendulum so that the angular displacement of the pendulum from the vertical is 60°.

Close the protective screen.

Release the pendulum.

Repeat the test from three further positions evenly distributed over the full circumference of the oil lamp container at the same height. In the case of oil lamps with cubic or pyramidal oil lamp containers, each plane except the base and the top plane shall be subjected to one hammer blow.

Check visually for any breaks, cracks or oil leakages.

5.5 Wick guard test

Exert a pull on the wick guard from the oil lamp with vertical force of 50 N for 3 min.

Place a glass plate of a mass of 100 g on the wick guard. Apply a force of 50 N vertically down on the wick guard and maintain the force for 3 min.

Move the test probe from any direction towards the wick as shown in Figure A.2 of annex A (unless it is obvious that the test probe cannot touch the wick for dimensional reasons).

Check to see whether:

a) the wick guard when lifted becomes detached from the oil lamp;

b) the wick guard shows any sign of breakage or cracking;

c) the test probe touches the wick.

5.6 Filler cap test

If necessary, remove the wick guard. Open and reclose the filler cap 10 times.

Apply a force of 30 N vertically down on the filler cap. Apply a torque of 0,5 Nm ± 0,05 Nm in the clockwise or anticlockwise direction, as appropriate. Check to see whether the cap is still closed.

5.7 Leakage test

Hold the oil lamp in a vertical position as shown in Figure A.3 a) of annex A. Turn the oil lamp 90° (horizontal position) as shown in Figure A.3 b) and maintain this position for 10 seconds. Choose the most onerous position of the filler cap if different positions are possible. Turn the oil lamp further 45° (135° in total) as shown in Figure A.3 c) and maintain this position for 10 seconds. Choose the most onerous position of the filler cap if different positions are possible. Turn the oil lamp further 45° (180° in total) as shown in Figure A.3 d) and maintain this position for 10 s. Choose the most onerous position of the filler cap if different positions are possible.

Examine whether any liquid leaks from the oil lamp paying due attention to the filler cap and the immediate surrounding area.

5.8 Durability of marking test

The marking is rubbed by hand for 15 s with a piece of cotton fabric soaked with water and then for 15 s with a piece of cotton fabric soaked with an aqueous solution containing the following ingredients:

- sodium dodecyl benzene sulphonate mass fraction of 25 %
- sodium lauryl ether sulphate mass fraction of 5 %
- sodium xylene sulphonate mass fraction of 3 %

NOTE This is the composition of a typical household washing-up detergent.

The marking of another lamp is rubbed by hand for 15 s with a piece of cotton fabric soaked with paraffin oil used as fuel for decorative oil lamps.

Check to see whether the text is clearly legible after the treatment.

6 Product information

6.1 General information

Product information shall be provided to reduce possible consequences of foreseeable hazards connected with the use of the oil lamp.

It shall be indicated that the product information should be carefully read before use and kept for further reference.

The information shall be presented in the official language(s) of the intended country of sale.

6.2 Purchase information

The following warnings shall be provided at the point of sale and shall also be provided on the oil lamp or a leaflet affixed to the oil lamp. It shall be clearly visible and legible.

a) WARNING: In the case of small children, just a sip of lamp oil - or even sucking the wick - may lead to life-threatening lung damage.

b) WARNING: If lamp oil is swallowed, do not induce vomiting. Seek medical advice immediately or contact a poison information centre and show these warnings.

6.3 Instruction for use

The instructions for use shall contain the following:

a) a functional description of the lamp;

b) instructions regarding the type and the adjustment of the wick, including the recommended functional height of the wick;

c) instructions regarding the recommended fuel;

d) instructions regarding the refilling of the oil lamp container, including a description of the opening mechanism and the filling amount.

e) Instructions on maintenance, in particular on care of the burner and care of the wick, together with a correct description of the wick type appropriate to the oil lamp in question;

f) WARNING: Keep this oil lamp out of the reach of children both in use and when stored.

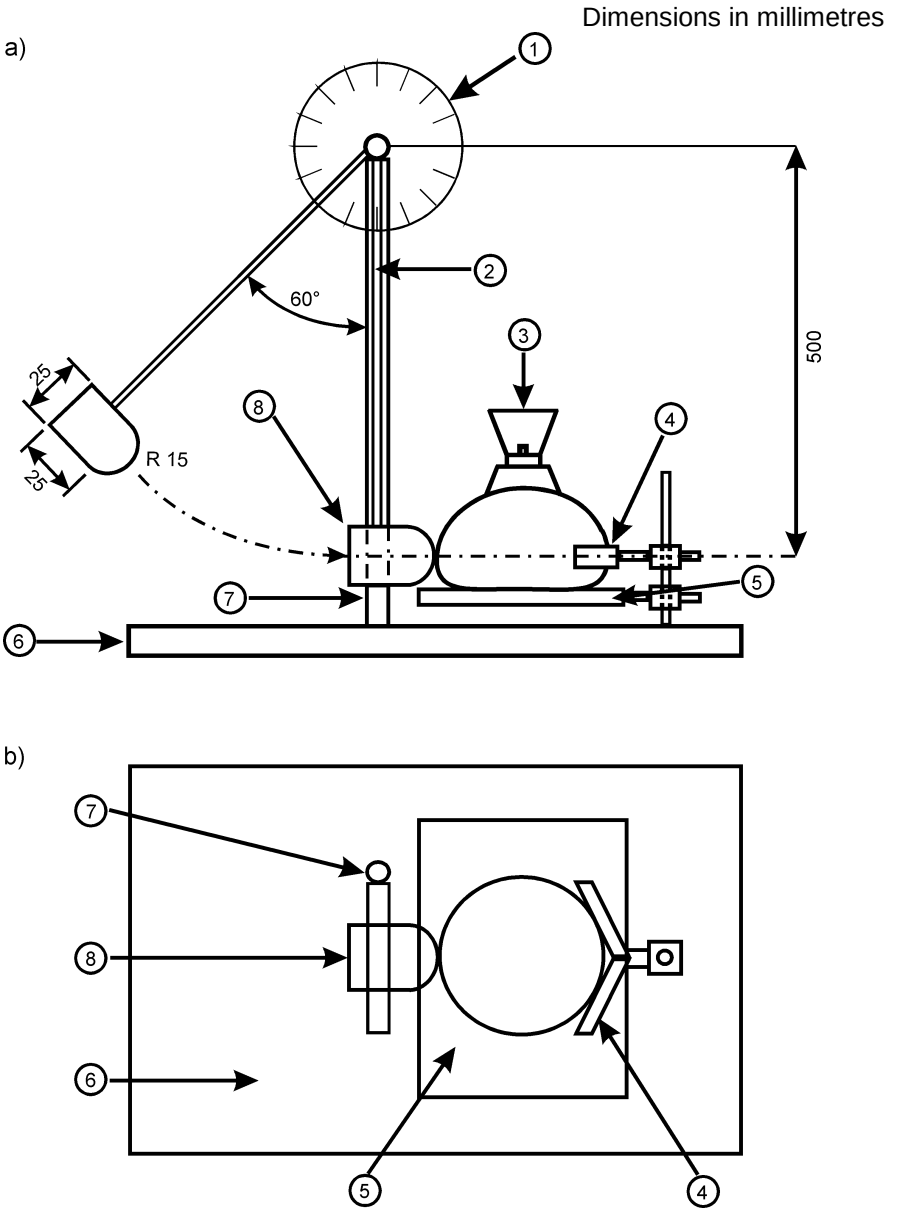
6.4 Marking, labelling and packaging

The marking shall contain at least the following:

a) the name, address and telephone number of the manufacturer, importer or the organisation responsible for its sale;

b) the number and date of this European Standard.

Annex A
(normative)

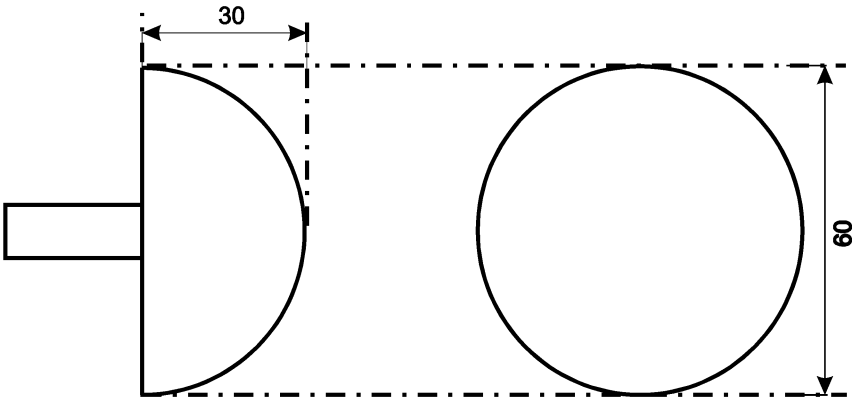


Key
a) Side view
b) Top view
1 Dial
2 Pendulum arm
3 Oil lamp
4 Supporting fixture
5 Support to hold the article under test
6 Base
7 Column to support pendulum and dial
8 Hammer

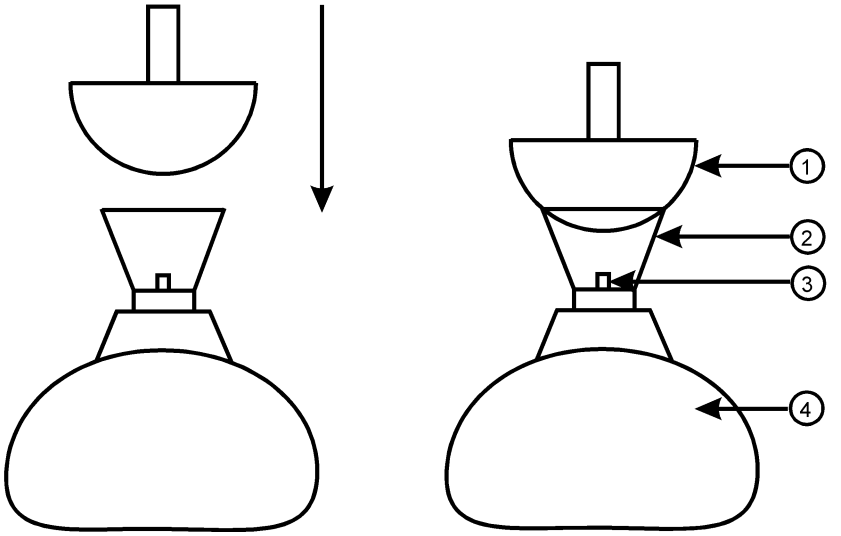
Figure A.1 — Impact strength test

Dimensions in millimetres

a)

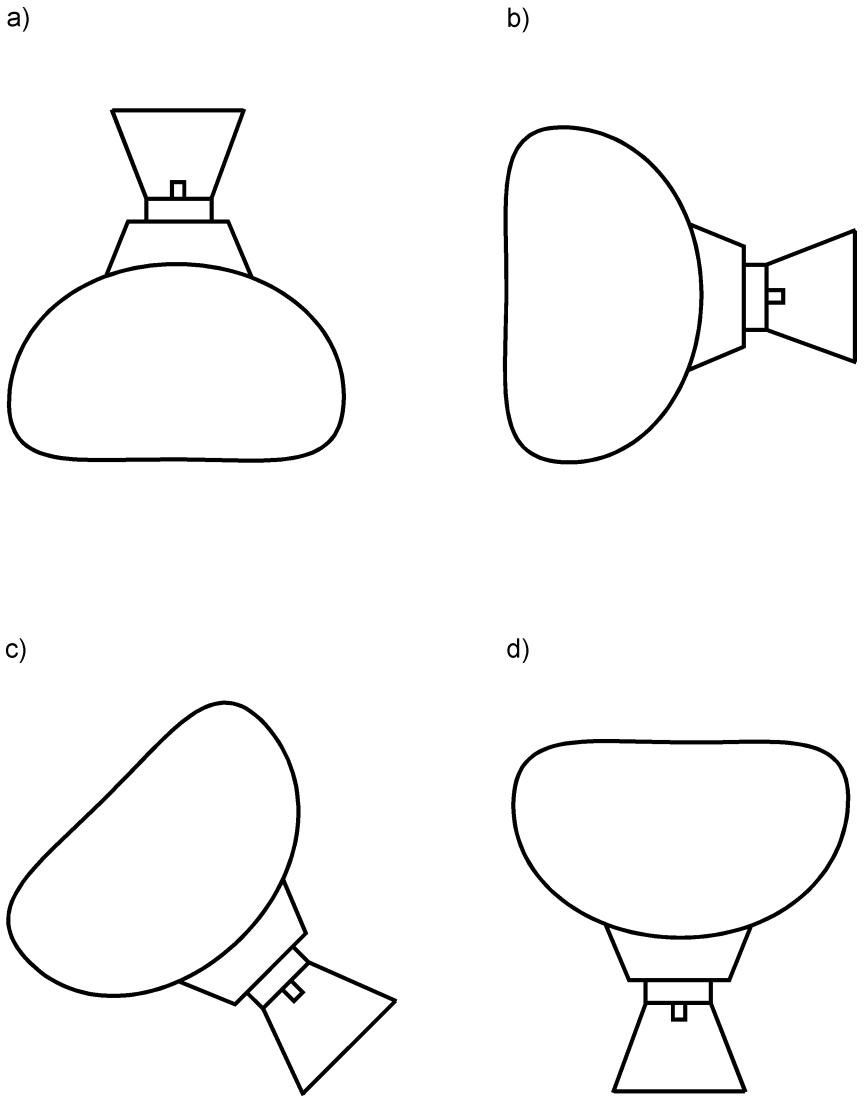


b)



Key
a) Test probe
b) Test principle
1 Probe
2 Wick guard
3 Wick
4 Oil container

Figure A.2 — Wick guard test



Key
a) Vertical position
b) Horizontal position – 90°
c) 135° - position
d) 180° - position

Figure A.3 — Leakage test

blank

BSI — British Standards Institution

BSI is the independent national body responsible for preparing British Standards. It presents the UK view on standards in Europe and at the international level. It is incorporated by Royal Charter.

Revisions

British Standards are updated by amendment or revision. Users of British Standards should make sure that they possess the latest amendments or editions.

It is the constant aim of BSI to improve the quality of our products and services. We would be grateful if anyone finding an inaccuracy or ambiguity while using this British Standard would inform the Secretary of the technical committee responsible, the identity of which can be found on the inside front cover. Tel: +44 (0)20 8996 9000. Fax: +44 (0)20 8996 7400.

BSI offers members an individual updating service called PLUS which ensures that subscribers automatically receive the latest editions of standards.

Buying standards

Orders for all BSI, international and foreign standards publications should be addressed to Customer Services. Tel: +44 (0)20 8996 9001. Fax: +44 (0)20 8996 7001. Email: orders@bsi-global.com. Standards are also available from the BSI website at http://www.bsi-global.com.

In response to orders for international standards, it is BSI policy to supply the BSI implementation of those that have been published as British Standards, unless otherwise requested.

Information on standards

BSI provides a wide range of information on national, European and international standards through its Library and its Technical Help to Exporters Service. Various BSI electronic information services are also available which give details on all its products and services. Contact the Information Centre. Tel: +44 (0)20 8996 7111. Fax: +44 (0)20 8996 7048. Email: info@bsi-global.com.

Subscribing members of BSI are kept up to date with standards developments and receive substantial discounts on the purchase price of standards. For details of these and other benefits contact Membership Administration. Tel: +44 (0)20 8996 7002. Fax: +44 (0)20 8996 7001. Email: membership@bsi-global.com.

Information regarding online access to British Standards via British Standards Online can be found at http://www.bsi-global.com/bsonline.

Further information about BSI is available on the BSI website at http://www.bsi-global.com.

Copyright

Copyright subsists in all BSI publications. BSI also holds the copyright, in the UK, of the publications of the international standardization bodies. Except as permitted under the Copyright, Designs and Patents Act 1988 no extract may be reproduced, stored in a retrieval system or transmitted in any form or by any means – electronic, photocopying, recording or otherwise – without prior written permission from BSI.

This does not preclude the free use, in the course of implementing the standard, of necessary details such as symbols, and size, type or grade designations. If these details are to be used for any other purpose than implementation then the prior written permission of BSI must be obtained.

Details and advice can be obtained from the Copyright & Licensing Manager. Tel: +44 (0)20 8996 7070. Fax: +44 (0)20 8996 7553. Email: copyright@bsi-global.com.

BSI
389 Chiswick High Road
London
W4 4AL