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**Dekoratívne oljne svetilke – Varnostne zahteve in preskusne metode**

Decorative oil lamps - Safety requirements and test methods

Dekorative Öllampen - Sicherheitsanforderungen und Prüfverfahren

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

**Ta slovenski standard je istoveten z: EN 14059:2002**

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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.

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EUROPÄISCHES KOMITEE FÜR NORMUNG

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## 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of an identical text or by endorsement, at the latest by April 2003, and conflicting national standards shall be withdrawn at the latest by April 2003.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.

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## 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**

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**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  $\frac{3}{4}$  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  $\pm 5\%$ , all dimensions with an accuracy of  $\pm 0,5$  mm and all angles with an accuracy of  $\pm 1^\circ$ .

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  $20^\circ$  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.