



SLOVENSKI STANDARD
SIST EN 15493:2008
01-maj-2008

Gj Y Y!`GdYWZ_UWYnUdcyUfbc`j Ufbcgh

Candles - Specification for fire safety

Kerzen - Spezifikation für Feuersicherheit

Bougies - Spécification relative a la sécurité incendie

iTeh STANDARD PREVIEW

Ta slovenski standard je istoveten z: EN 15493:2007

[SIST EN 15493:2008](https://standards.iteh.ai/catalog/standards/sist/63b5e5be-8e74-4818-9195-b31f765dffcf/sist-en-15493-2008)

<https://standards.iteh.ai/catalog/standards/sist/63b5e5be-8e74-4818-9195-b31f765dffcf/sist-en-15493-2008>

ICS:

13.120

13.220.01

97.180

SIST EN 15493:2008

en,fr,de

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 15493:2008

<https://standards.iteh.ai/catalog/standards/sist/63b5e5be-8e74-4818-9195-b31f765dffcf/sist-en-15493-2008>

ICS 71.100.99

English Version

Candles - Specification for fire safety

Bougies - Spécification relative à la sécurité incendie

Kerzen - Spezifikation für die Feuersicherheit

This European Standard was approved by CEN on 23 September 2007.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

(standards.iteh.ai)

SIST EN 15493:2008

<https://standards.iteh.ai/catalog/standards/sist/63b5e5be-8e74-4818-9195-b31f765dffcf/sist-en-15493-2008>



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

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

Contents

Page

Foreword.....	3
Introduction	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	5
4 Safety requirements	6
4.1 Stability	6
4.2 Secondary ignition.....	7
4.3 Flame height.....	7
4.4 Behaviour by self-extinguishing at the end of the burning process	7
4.5 Re-ignition after extinguishing.....	7
5 Test equipment and apparatus.....	7
6 Sampling.....	7
7 Sample preparation	7
8 General test conditions.....	7
9 Test methods.....	8
9.1 General.....	8
9.2 Stability test.....	8
9.3 Burning test.....	8
9.4 Flame height.....	9
10 Test report	9
Bibliography	10

iTeh STANDARD PREVIEW
(standards.iteh.ai)

<https://standards.iteh.ai/catalog/standards/sist/63b5e5bc-8e74-4818-9195-0311765d11c1/sist-cif-15493-2008>

Foreword

This document (EN 15493:2007) has been prepared by Technical Committee CEN BT/TF 164 “Candle safety”, the secretariat of which is held by DIN.

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 May 2008, and conflicting national standards shall be withdrawn at the latest by May 2008.

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN 15493:2008](https://standards.iteh.ai/catalog/standards/sist/63b5e5be-8e74-4818-9195-b31f765dffcf/sist-en-15493-2008)

<https://standards.iteh.ai/catalog/standards/sist/63b5e5be-8e74-4818-9195-b31f765dffcf/sist-en-15493-2008>

Introduction

Candles have accompanied mankind for more than 2 000 years serving above all as a light source. Closely connected to the development history of the candle are the efforts made to improve its quality and its safety in use. Discussions in the past and present over possible self-forming, harmful emissions and fires caused by unsafe candles and/or inappropriate use during the burning of candles have led to consumer concern for these issues.

This European Standard helps to ensure a reasonable degree of safety during use, thereby improving personal safety and reducing the risk of fires, deaths and injuries.

iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN 15493:2008

<https://standards.iteh.ai/catalog/standards/sist/63b5e5be-8e74-4818-9195-b31f765dffcf/sist-en-15493-2008>

1 Scope

This European Standard specifies requirements and test methods for the fire safety of candles intended to be burned indoors.

2 Normative references

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

EN 15494:2007, *Candles - Candles - Product safety labels*

3 Terms and definitions

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

3.1

base material

intended fuel source for candle flame

3.2

burning period

time the candle burns from initial being lit until it is extinguished

3.3

burn test cycle

total time of a burning period and pause

3.4

candle

one or more combustible wicks supported by a material that constitutes a fuel, which is solid, semisolid or quasi-rigid at room temperature (20 °C to 27 °C)

NOTE 1 It can also contain additives, which are used for colour, odour, stability, or to modify the burning characteristics; the combined function of which is to sustain a light-producing flame.

NOTE 2 Including candles with decoration attached to or contained within the candle.

3.5

container candle

candle which is produced in and will be burned in a container

3.6

flame height

base of the flame to the top of the flame

NOTE See Figure 1.

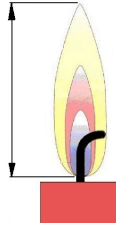


Figure 1 — Flame height

- 3.7 free-standing candle**
candle that is designed to be used without a supporting holder
- 3.8 molten fuel pool**
portion of the wax or fuel pool of a candle that is in liquid form when the candle is burning
- 3.9 re-ignition**
self-ignition of the wick after it has been extinguished
- 3.10 secondary ignition**
self-sustained flame other than that on the intended wick(s), including flash over where the base material's vapours ignite over the molten fuel pool
- 3.11 self-sustained flame**
flame that continues to burn until the fuel source is removed or depleted or requires manual extinguishing
- 3.12 tea light**
cylindrical candle that is burned up in a container which may be suitable to keep vessels containing coffee, tea or other liquids warm, by using a warming stove
- NOTE 1 Typical dimensions of a tea light are 38 mm in diameter and 15 in mm height.
- NOTE 2 A tea light container can be made from metal, glass or plastic.
- 3.13 wax**
crystalline, plastic solid or semi-solid material at 25 °C consisting of a mixture of hydrocarbons and/or hydrocarbon derivatives
- NOTE Wax melts typically at temperatures equal to or greater than 40 °C and becomes a low viscosity liquid. Waxes may be of mineral (particularly petroleum), vegetable, animal (including insect), or synthetic origin.
- 3.14 wick**
object that delivers fuel to a flame through the process of capillary action

4 Safety requirements

4.1 Stability

Free-standing candles shall not tip over when tested on a slope of 10 ° according to 9.2.

4.2 Secondary ignition

No secondary ignition shall occur for more than 10 s, when the candle is burned according to 9.3.

NOTE Wick remaining in the molten fuel pool is considered as a potential source for secondary ignition.

4.3 Flame height

The flame height for all candle types, except tea lights, shall not exceed 75 mm. The flame height for tea lights shall not exceed 30 mm. Test method see 9.4.

NOTE The natural tendency of a candle is for the flame height to vary during the burn life. The maximum allowable flame height requirement in this standard takes into account such variation and anticipates that manufacturers will design candles to ensure that they remain below the maximum flame height requirement throughout the burning. Furthermore, the manufacturer should determine the appropriate lower flame height for optimum performance for individual candle types.

4.4 Behaviour by self-extinguishing at the end of the burning process

Container candles and candles marketed as self-extinguishing shall, at the end of the burning time, self extinguish and, in the case of container candles, not cause the container to break.

4.5 Re-ignition after extinguishing

The wick shall not continue to glow or smoke for more than 20 s after extinguishing. After extinguishing the candle shall not spontaneously re-light. For the test method see to 9.3.

5 Test equipment and apparatus

5.1 **Incline plane** (fixed or adjustable) with an angle of $(10 \pm 0,2)^\circ$ from a horizontal level.

5.2 **Measuring device**, non flammable with millimetre grading.

5.3 **Candle extinguisher**, type "snuffer".

6 Sampling

The test shall be carried out on finished candles representative of those intended to be supplied commercially. For the test result to represent a specific candle type, a minimum of 3 samples shall be tested.

7 Sample preparation

Remove any outer wrapping and label material and prepare the sample for use according to the manufacturer's instructions, if any given, e.g. trim the wick. For identification of the sample, measure the dimension and the mass of the candle. The temperature of the sample shall be $(20 \pm 5)^\circ\text{C}$ before the test is started.

8 General test conditions

The room temperature at which the burning test is to take place shall be $(20 \pm 5)^\circ\text{C}$. The room shall be draught free. If during the test the temperature is outside the range, the maximum and/or minimum temperature shall be recorded in the test report.