

SLOVENSKI STANDARD
oSIST prEN 15493:2019
01-januar-2019

Sveče - Specifikacija za požarno varnost

Candles - Specification for fire safety

Kerzen - Spezifikation für die Feuersicherheit

Bougies - Spécification relative à la sécurité incendie

Ta slovenski standard je istoveten z: prEN 15493

<https://standards.iteh.ai/catalog/standards/sist/2dabe168-1f05-4c6b-9455-9b0a2576ddd0/sist-en-15493-2020>

ICS:

13.120	Varnost na domu	Domestic safety
13.220.01	Varstvo pred požarom na splošno	Protection against fire in general
97.180	Razna oprema za dom in trgovino	Miscellaneous domestic and commercial equipment

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Will supersede EN 15493:2007

English Version

Candles - Specification for fire safety

Bougies - Spécification relative à la sécurité incendie

Kerzen - Spezifikation für die Feuersicherheit

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 369.

If this draft becomes a European Standard, 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.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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European foreword

This document (prEN 15493:2018) has been prepared by Technical Committee CEN/TC 369 “Candle fire safety”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 15493:2007.

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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.

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1 Scope

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

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

prEN 15494:2018, *Candles - Product safety labels*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1

aftersmoke time

time the wick continues to smoke visibly after extinguishing the flame

3.2

base material

intended fuel source for candle flame

3.3

burning period

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

3.4

burn test cycle

total time of a burning period and pause

3.5

candle

one or more combustible wicks supported by a material that constitutes a fuel, which is solid or semisolid at room temperature (20 °C to 27 °C) with the main function of sustaining a light-producing flame, including any coatings on and articles or substances in the fuel

3.6

container candle

candle that is produced and used in the same container

Note 1 to entry: This definition includes tea lights.

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3.7 flame height

base of the flame to the top of the flame

Note 1 to entry: The base of the flame is not always visible. In such cases, the point where the wick colour changes from light to dark is considered the base of the flame for measuring the flame height. See Figure 1.

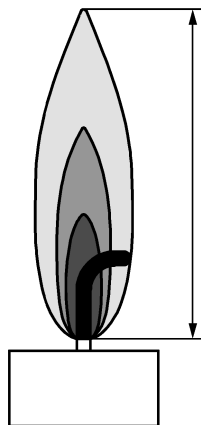


Figure 1 — Flame height

3.8 floating candle

candle intended and designed for use in a suitable bowl or container filled with water

3.9 freestanding candle

candle that is designed to be used without a supporting holder

3.10 indoor candle

candle intended and designed for use inside a house or a building with typical indoor conditions concerning ventilation, draught and temperature

Note 1 to entry: An outdoor candle is a candle intended and designed to be used outside buildings in the open air.

3.11 molten fuel pool

portion of the fuel of a candle that is in the liquid form when the candle is burning

3.12 re-ignition

self-ignition of the wick after it has been extinguished

3.13 residual height

height of the candle, measured from the bottom of the candle to the surface of the molten fuel pool

3.14**secondary ignition**

self-sustained flame other than that on the intended wick(s), including flash over where vapours of the base material ignite over the molten fuel pool

3.15**self-sustained flame**

flame that continues to burn until the fuel source is removed or depleted or is actively extinguished

3.16**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 to entry: Diameters of tea lights typically range from 36 mm to 39 mm.

Note 2 to entry: A tea light container can be made from metal, glass or plastic.

3.17**wick**

object that delivers fuel to a flame through the process of capillary action

4 Safety requirements**4.1 Stability**

Freestanding candles, container candles and candles that are sold together with a holder or other accessories 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.

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 9.3.2.

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 Self-extinguishing

4.4.1 To prevent the ignition of the surface underneath, freestanding candles marketed as self-extinguishing shall self-extinguish at the end of the burning time. The candles shall neither burn a paper placed underneath nor cause any scorch marks on it during the whole burning test (see 9.3).

4.4.2 To prevent the ignition or cracking of a supporting holder, non-freestanding candles marketed as self-extinguishing shall self-extinguish at a residual height of at least 12 mm in case of candles with a maximum diameter of ≤ 14 mm and at a residual height of at least 18 mm in case of other candles (see 9.3).

NOTE Holders for non-freestanding candles with a smaller diameter are typically lower than those for larger diameters.

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4.5 Behaviour after extinguishing

4.5.1 After extinguishing the candle shall not spontaneously re-light.

4.5.2 The wick shall not continue to glow or smoke for an average time of more than 30 s after extinguishing. For the test method, see 9.3.3.

4.6 Container candles

The container shall not crack or break at any time throughout the burning test.

NOTE The risk of burns caused by touching a container candle during or after burning of the candle cannot be completely avoided (see Annex B).

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 **Stop watch**.

5.4 **White copy paper**, standard copy paper used for printing and with a weight of 80 g/m².

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. If the candle is sold together with a holder or other accessories it shall be tested in the intended combination. 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.

For testing of floating candles, the temperature of the water shall be $(20 \pm 5)^\circ\text{C}$ when the test is started.

NOTE Draught free means that a candle burns without noticeable disturbance of the flame. If the flame is flickering this can be verified using a reference candle such as a paraffin candle with a diameter of 22 mm. If this reference candle is also flickering there is a draught, if not then the tested candle is flickering due to the candle design or quality.