



SLOVENSKI STANDARD
SIST EN 15493:2020

01-januar-2020

Nadomešča:
SIST EN 15493:2008

Sveče - Specifikacija za požarno varnost

Candles - Specification for fire safety

Kerzen - Spezifikation für die Feuersicherheit

Bougies - Spécification relative à la sécurité incendie

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Ta slovenski standard je istoveten z: EN 15493:2019

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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 |

SIST EN 15493:2020

en,fr,de

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EUROPEAN STANDARD

EN 15493

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2019

ICS 71.100.99

Supersedes EN 15493:2007

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 9 September 2019.

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.

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

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European foreword

This document (EN 15493:2019) has been prepared by Technical Committee CEN/TC 369 "Candle fire 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 April 2020, and conflicting national standards shall be withdrawn at the latest by April 2020.

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 15493:2007.

EN 15493:2019 includes the following significant technical changes with respect to EN 15493:2007:

- terms and definitions have been improved;
- a test method for self-extinguishing candles has been introduced;
- the requirement for the aftersmoke time has changed;
- the test procedure has been defined in more detail and the burn test cycles have been modified;
- an informative Annex A for the calculation of the hourly fuel consumption has been added;
- an informative Annex B for the analysis of container candle surface temperatures has been added.

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

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 document 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.

EN 15494:2019, *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 <https://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 a candle flame

[SOURCE: EN 15426:2018, 3.1]

3.3

burning period

time the candle burns from being lit initially 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 to 27) °C) with the main function of sustaining a light-producing flame, including any coatings on and articles or substances in the fuel

[SOURCE: EN 15426:2018, 3.2]

3.6

container candle

candle that is produced and used in the same container

Note 1 to entry: This definition includes tea lights.

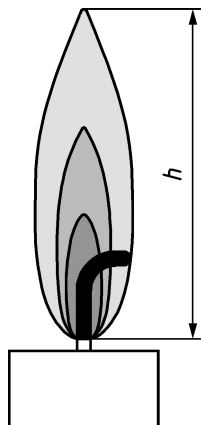
[SOURCE: EN 15426:2018, 3.3]

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3.7 flame height

vertical distance between the base of the flame and 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.



Key

h flame height

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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

[SOURCE: EN 15426:2018, 3.4]

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.

[SOURCE: EN 15426:2018, 3.5]

3.11 molten fuel pool

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

[SOURCE: EN 15426:2018, 3.7]

3.12 non-freestanding candle

candle that is designed to be used with a supporting holder

3.13**re-ignition**

self-ignition of the wick after it has been extinguished

3.14**residual height**

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

[SOURCE: EN 15426:2018, 3.8]

3.15**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 or the ignition of a container

3.16**self-sustained flame**

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

3.17**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.

3.18**wick**

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

[SOURCE: EN 15426:2018, 3.14]

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 $(10 \pm 0,2)^\circ$ according to 9.2.

4.2 Secondary ignition

No secondary ignition shall occur for more than 10 s, when the candle is burning 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 document 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.