

Candles - Specification for sooting behaviour

augustus 2017
ICS 71.100.99

Commentaar vóór 2017-09-12

Zal vervangen NEN-EN 15426:2007

Als Europees normontwerp is gepubliceerd: prEN 15426:2017, IDT

Definitief vastgestelde normen zullen als Nederlandse norm gelden. Daarom wordt dit normontwerp in Nederland voor commentaar gepubliceerd. Op het ontwerp ingebracht commentaar zal aan de bevoegde normcommissie worden voorgelegd die hiermee rekening zal houden bij de bepaling van de Nederlandse stem. Indien er geen bezwaar bij NEN wordt gebracht, kan dat leiden tot ongewijzigde definitieve vaststelling van het ontwerp als norm.

Van Europese normen bestaan drie officiële versies: Engels, Frans en Duits. Voor Nederland zal de Engelse versie gelden. Daarnaast kan er gekozen worden voor een andere geautoriseerde versie in het Nederlands.

Beleidscommissie 330 "BC Consumentenzaken"

**THIS PUBLICATION IS COPYRIGHT PROTECTED****DEZE PUBLICATIE IS AUTEURSRECHTELIJK BESCHERMD**

Apart from exceptions provided by the law, nothing from this publication may be duplicated and/or published by means of photocopy, microfilm, storage in computer files or otherwise, which also applies to full or partial processing, without the written consent of the Royal Netherlands Standardization Institute.

The Royal Netherlands Standardization Institute shall, with the exclusion of any other beneficiary, collect payments owed by third parties for duplication and/or act in and out of law, where this authority is not transferred or falls by right to the Reproduction Rights Foundation.

Auteursrecht voorbehouden. Behoudens uitzondering door de wet gesteld mag zonder schriftelijke toestemming van het Koninklijk Nederlands Normalisatie-instituut niets uit deze uitgave worden verveelvoudigd en/of openbaar gemaakt door middel van fotokopie, microfilm, opslag in computerbestanden of anderszins, hetgeen ook van toepassing is op gehele of gedeeltelijke bewerking.

Het Koninklijk Nederlands Normalisatie-instituut is met uitsluiting van ieder ander gerechtigd de door derden verschuldigde vergoedingen voor verveelvoudiging te innen en/of daartoe in en buiten rechte op te treden, voor zover deze bevoegdheid niet is overgedragen c.q. rechtens toekomt aan de Stichting Reprorecht.

Although the utmost care has been taken with this publication, errors and omissions cannot be entirely excluded. The Royal Netherlands Standardization Institute and/or the members of the committees therefore accept no liability, not even for direct or indirect damage, occurring due to or in relation with the application of publications issued by the Royal Netherlands Standardization Institute.

Hoewel bij deze uitgave de uiterste zorg is nagestreefd, kunnen fouten en onvolledigheden niet geheel worden uitgesloten. Het Koninklijk Nederlands Normalisatie-instituut en/of de leden van de commissies aanvaarden derhalve geen enkele aansprakelijkheid, ook niet voor directe of indirecte schade, ontstaan door of verband houdend met toepassing van door het Koninklijk Nederlands Normalisatie-instituut gepubliceerde uitgaven.

Voorbeeld
Preview

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
prEN 15426

July 2017

ICS 71.100.99

Will supersede EN 15426:2007

English Version

Candles - Specification for sooting behaviour

Bougies - Spécification relative à l'émission de suie

Kerzen - Spezifikation für das Rußverhalten

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.

This draft European Standard was established by CEN 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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

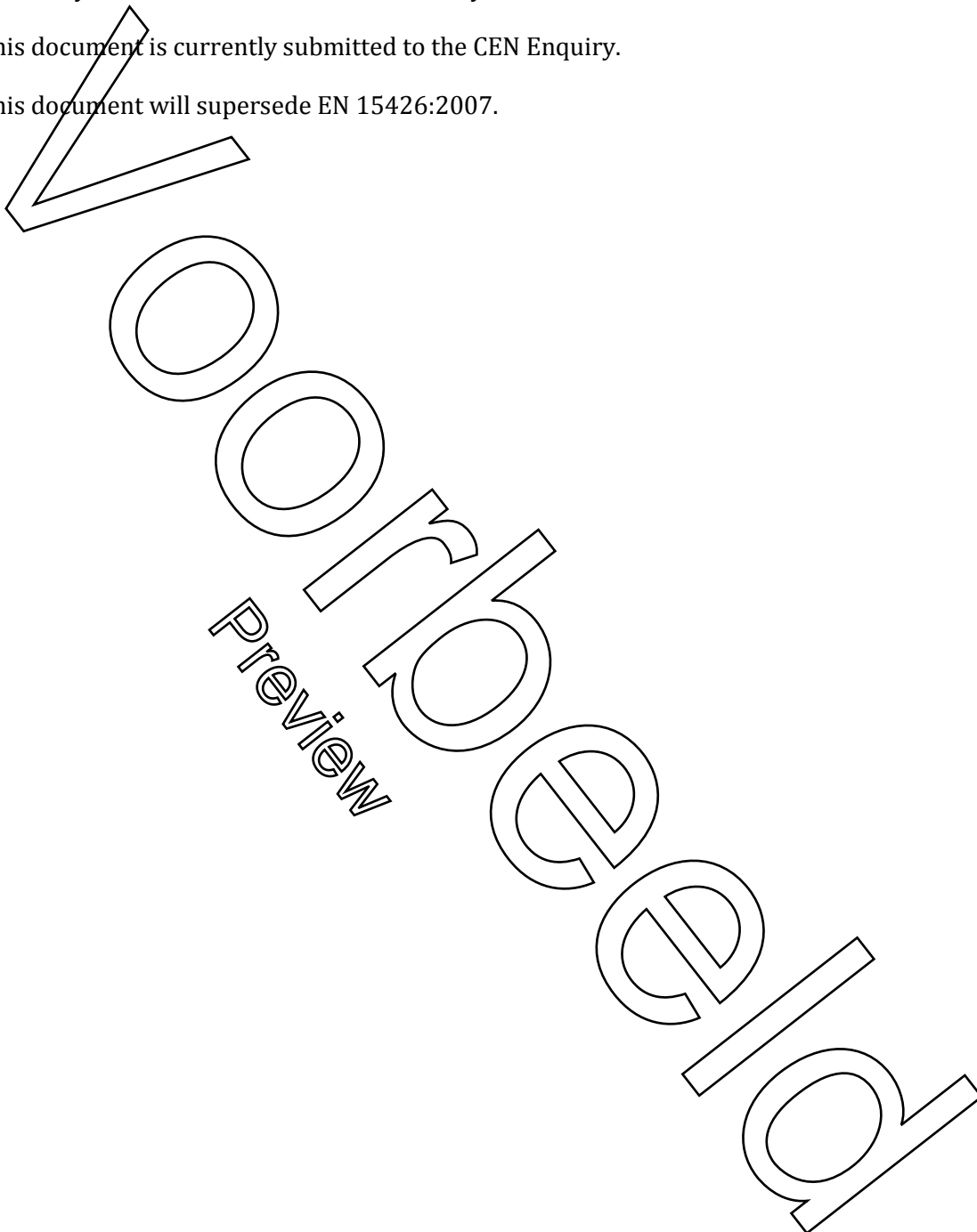
Contents	Page
European foreword.....	3
Introduction.....	4
1 Scope.....	5
2 Normative references.....	5
3 Terms and definitions.....	5
4 Sooting behaviour.....	6
5 Test equipment and apparatus.....	6
6 Sampling.....	9
7 Sample preparation.....	9
8 General test conditions.....	9
9 Test method.....	9
9.1 General.....	9
9.2 Test preparation.....	9
9.3 Burning test.....	10
10 Measuring the illuminance of the glass plate.....	12
11 Evaluation.....	12
12 Test report.....	13
Annex A (normative) Measurement unit.....	14
A.1 First operation of the measurement unit.....	14
A.2 Calibration of the measurement unit.....	14
Annex B (informative) Hourly fuel consumption.....	15
Annex C (informative) Guidance for selection and setup of the wire mesh cylinder.....	16
Bibliography.....	19

European foreword

This document (prEN 15426:2017) 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 15426:2007.



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 describes the requirements and a simple method for measuring the sooting behaviour of candles. The soot index obtained by this procedure may be considered as characteristic of the sooting behaviour of the type of candle tested.

The soot which is emitted from a candle is collected on a glass plate throughout a defined period. Afterwards the attenuation of light intensity caused by soot precipitation is quantified in a measuring chamber.

This method helps to ensure a reasonable degree of safety for normal use, thereby improving personal safety.

Preview

Copyright

1 Scope

This European Standard specifies requirements and the test method for evaluating the sooting behaviour of burning indoor candles. It is applicable to single wick candles with a diameter up to 100 mm or equivalent cross sectional area intended to be burned indoors.

NOTE Single wick candles with a diameter above 100 mm or equivalent cross sectional area and multiwick candles cannot be evaluated with this test method for technical reasons. Evaluation of the visible release of soot is a possibility for these candles.

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.

ISO 9044:1999, *Industrial woven wire cloth — Technical requirements and testing*

3 Terms and definitions

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

3.1

base material

intended fuel source for a candle flame

3.2

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

3.3

container candle

candle that is produced and used in the same container

Note 1 to entry: This definition includes tea lights.

3.4

free-standing candle

candle that is designed to be used without a supporting holder

3.5

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.

3.6

measuring period

time the candle is burned and soot is collected

prEN 15426:2017 (E)**3.7****molten fuel pool**

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

3.8**soot**

solid, carbon enriched particles, which come into existence when the base material is incompletely burned in the flame and which are subsequently released into the atmosphere

3.9**soot index**

index number for the evaluation of the sooting behaviour of candles

3.10**soot test cycle**

total length of time the candle is burned during the stabilizing period, measuring period, including pause

3.11**stabilizing period**

period of time the candle is burned without collecting soot

3.12**total measuring time**

total time of all measuring periods

3.13**wick**

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

4 Sooting behaviour

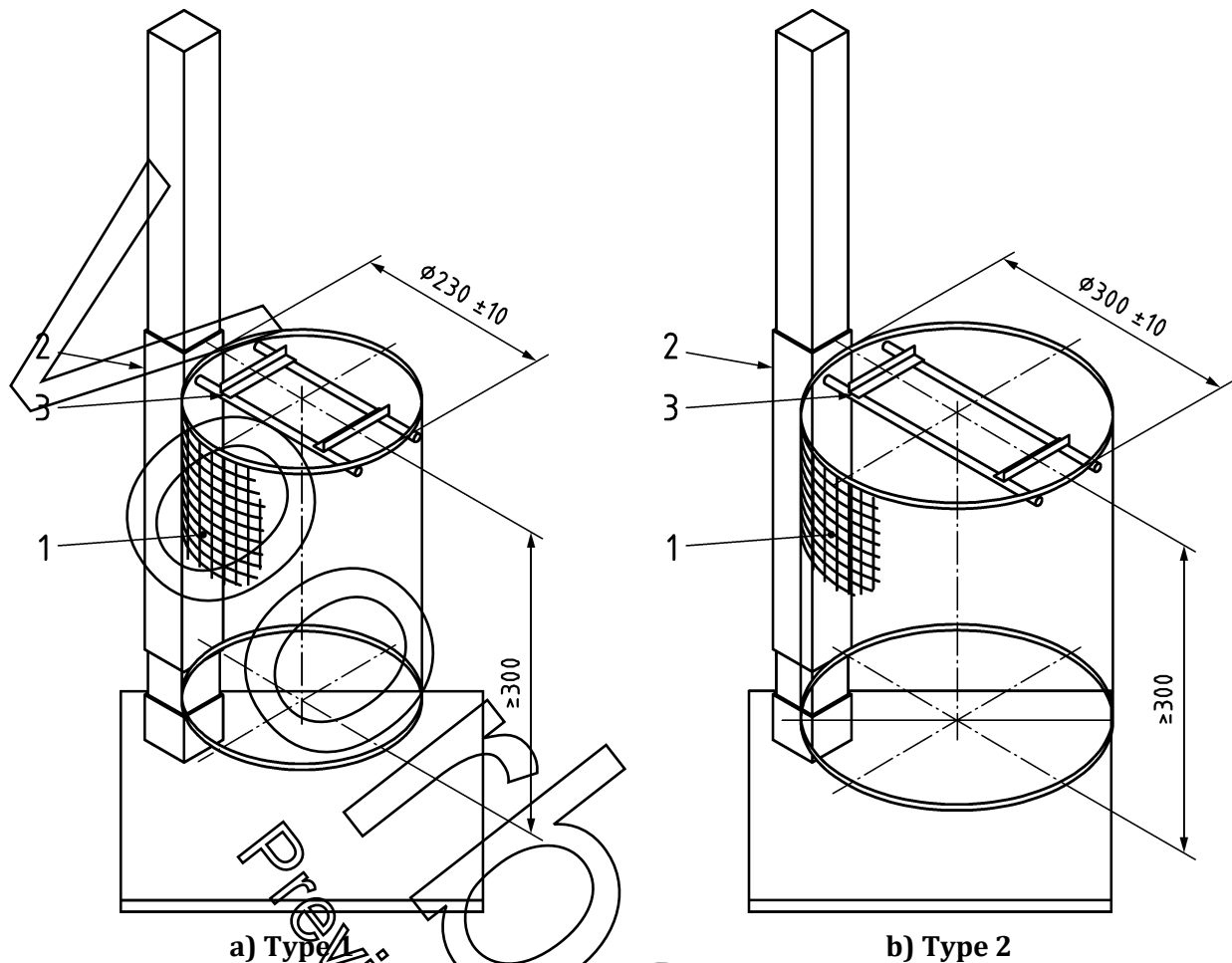
When tested in accordance with Clause 9, the average soot index per hour from three tests (samples) shall be less than 1,0/h.

5 Test equipment and apparatus

5.1 A wire mesh cylinder¹⁾ fixed to a stand of which the height can be adjusted, with a fixture for a glass plate (see Figure 1). The cylinder has a minimum height of 300 mm and consists of wire mesh with an open screening area of (60 ± 5) % according to ISO 9044:1999.

1) Wire mesh cylinder RMG 2.1 is the trade name of a product supplied by Heil Metalle GmbH, Germany. This information is given for the convenience of the user of this European Standard and does not constitute an endorsement by CEN of the product named. Equivalent products may be used.

Dimensions in millimetres

**Key**

- 1 wire mesh
- 2 stand with height adjustment
- 3 fixture for glass plate

Figure 1 — Wire mesh cylinder

5.2 Measurement unit²⁾ consisting of an indication instrument and a measuring chamber. The measuring chamber consists of the light source, fixture for the heat resistant glass plate, a cover with light reflecting interior coating (at least 90 % reflectivity) with a photodiode integrated in it, which is connected with the indication instrument (see Figure 2).

NOTE First operation and calibration of the measurement unit refer to Annex A.

²⁾ Measurement unit RMG 2.1 is the trade name of a product supplied by Heil Metalle GmbH, Germany. This information is given for the convenience of the user of this European Standard and does not constitute an endorsement by CEN of the product named. Equivalent products may be used if they can be shown to lead to the same results.

Bestelformulier

Stuur naar:

NEN Standards Products & Services
t.a.v. afdeling Klantenservice
Antwoordnummer 10214
2600 WB Delft



NEN Standards Products & Services

Postbus 5059
2600 GB Delft

Vlinderweg 6
2623 AX Delft

T (015) 2 690 390
F (015) 2 690 271

www.nen.nl/normshop

Ja, ik bestel

__ ex. NEN-EN 15426:2017 Ontw. en Kaarsen - Specificatie voor het roetgedrag

€ 24.00

Wilt u deze norm in PDF-formaat? Deze bestelt u eenvoudig via www.nen.nl/normshop

Gratis e-mailnieuwsbrieven

Wilt u op de hoogte blijven van de laatste ontwikkelingen op het gebied van normen, normalisatie en regelgeving? Neem dan een gratis abonnement op een van onze e-mailnieuwsbrieven. www.nen.nl/nieuwsbrieven

Gegevens

Bedrijf / Instelling

T.a.v. O M O V

E-mail

Klantnummer NEN

Uw ordernummer BTW nummer

Postbus / Adres

Postcode Plaats

Telefoon Fax

Factuuradres (indien dit afwijkt van bovenstaand adres)

Postbus / Adres

Postcode Plaats

Datum Handtekening

Retourneren

Fax: 015 2 690 271

E-mail: klantenservice@nen.nl

Post: NEN Standards Products & Services,

t.a.v. afdeling Klantenservice
Antwoordnummer 10214,
2600 WB Delft

(geen postzegel nodig).

Voorwaarden

- De prijzen zijn geldig tot 31 december 2018, tenzij anders aangegeven.
- Alle prijzen zijn excl. btw, verzend- en handelingskosten en onder voorbehoud bij o.m. ISO- en IEC-normen.
- Bestelt u via de normshop een pdf, dan betaalt u geen handeling en verzendkosten.
- Meer informatie: telefoon 015 2 690 391, dagelijks van 8.30 tot 17.00 uur.
- Wijzigingen en typfouten in teksten en prijsinformatie voorbehouden.
- U kunt onze algemene voorwaarden terugvinden op: www.nen.nl/leveringsvoorwaarden.