

**Plastid. Põlevuse kindlaksmääramine
hapnikuarvu abil. Osa 3: Katse kõrgel
temperatuuril**

Plastics - Determination of burning behavior by
oxygen index - Part 3: Elevated-temperature test

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 4589-3:1999 sisaldab Euroopa standardi EN ISO 4589-3:1996 ingliskeelset teksti.

Käesolev dokument on jõustatud 12.12.1999 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN ISO 4589-3:1999 consists of the English text of the European standard EN ISO 4589-3:1996.

This document is endorsed on 12.12.1999 with the notification being published in the official publication of the Estonian national standardisation organisation.

The standard is available from Estonian standardisation organisation.

Käsitlusala:

Standard määrab kindlaks meetodid, määramaks minimaalset lämmastikuga segatud hapniku kontsentratsiooni, mis võimaldab väikeste püstasendis katsekehade põlemist kindlaksmääratud katseoludes temperatuuril 24 150 °C. Tulemusi defineeritakse hapnikuarvu väärtustena katsetemperatuuril, mis on tüüpiline temperatuur, mida plastmaterjal ülekuumenemisel talub.

Scope:

ICS 13.220.40, 83.080.01

Võtmesõnad: hapnikuarv, katsed, katseseadmed, kõrge temperatuuri taluvuse katsed, määramine, plastid, põlevuskatsed, süttivuse katsetamine

ICS 83.080.00

Descriptors: Plastics, burning behaviour, testing.

English version

Plastics

Determination of burning behaviour by oxygen index

Part 3: Elevated-temperature test

(ISO 4589-3:1996)

Plastiques – Détermination du comportement au feu au moyen de l'indice d'oxygène – Partie 3: Essai à haute température (ISO 4589-3:1996)

Kunststoffe – Bestimmung des Brennverhaltens durch den Sauerstoff-Index – Teil 3: Prüfung bei erhöhter Temperatur (ISO 4589-3:1996)

This European Standard was approved by CEN on 1996-07-04 and is identical to the ISO Standard as referred to.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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Foreword

International Standard

ISO 4589-3:1996 Plastics – Determination of burning behaviour by oxygen index – Elevated-temperature test, which was prepared by ISO/TC 61 ‘Plastics’ of the International Organization for Standardization, has been adopted by Technical Committee CEN/TC 249 ‘Plastics’ as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by February 1997 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard:

Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 4589-3:1996 was approved by CEN as a European Standard without any modification.

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Introduction

This part of ISO 4589 has been prepared to extend the methods available for the determination of flammability by oxygen index (see ISO 4589-2) to typical elevated temperatures to which a plastic material can be exposed in a service situation. It also provides a method for determining the temperature at which combustion of a small bar of material is just supported in air under certain test conditions; the resulting temperature is termed the flammability temperature.

This part of ISO 4589 is intended to be used in conjunction with ISO 4589-2 which describes the basic oxygen index test method.

1 Scope

This part of ISO 4589 specifies methods for determining the minimum concentration of oxygen, in a mixture with nitrogen, that will support combustion of small vertical test specimens under specified test conditions over a range of temperatures typically between 25 °C and 150 °C. The results are defined as oxygen index values at the test temperature, which is typical of the practical temperature that a plastic material may experience in an overheated service situation.

Methods are provided for testing materials that are self-supporting at the test temperature in the form of vertical bars or sheet up to 10,5 mm thick. These methods are suitable for solid, laminated or cellular materials characterized by an apparent density greater than 100 kg/m³. The methods may also be applicable to some cellular materials having an apparent density of less than 100 kg/m³. A method is provided for testing flexible sheet or film materials while supported vertically.

This part of ISO 4589 also includes a method (see annex A) for determining the temperature at which the oxygen index of small vertical test specimens in air is 20,9 under specified test conditions. The result is defined as the flammability temperature (FT) and the method is limited to the determination of results less than 400 °C. The method is not applicable to materials having an oxygen index of < 20,9 when measured at 23 °C.

Results obtained in accordance with this part of ISO 4589 should not be used to describe or appraise

the fire hazard presented by a particular material or shape under actual fire conditions, unless used as one element of a fire risk assessment which takes into account all of the factors which are pertinent to the assessment of the fire hazard of a particular application for the material.

NOTES

- 1 It may not be possible to apply these methods satisfactorily to materials that exhibit high levels of shrinkage when heated, e.g. highly oriented thin film.
- 2 For assessing the flame propagation properties of cellular materials of density < 100 kg/m³, attention is drawn to the method of ISO 3582:1978, *Cellular plastic and cellular rubber materials — Laboratory assessment of horizontal burning characteristics of small specimens subjected to a small flame*.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this part of ISO 4589. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this part of ISO 4589 are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 4589-2:1996, *Plastics — Determination of burning behaviour by oxygen index — Part 2: Ambient-temperature test*.