



SLOVENSKI STANDARD
SIST EN ISO 4589-1:2000

01-maj-2000

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Plastics - Determination of burning behaviour by oxygen index - Part 1: Guidance (ISO 4589-1:1996)

Kunststoffe - Bestimmung des Brandverhaltens durch den Sauerstoff-Index - Teil 1: Anleitung (ISO 4589-1:1996)

Plastiques - Détermination du comportement au feu au moyen de l'indice d'oxygene - Partie 1: Guide (ISO 4589-1:1996)

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Ta slovenski standard je istoveten z: EN ISO 4589-1:1999

ICS:

13.220.40	Sposobnost vžiga in obnašanje materialov in proizvodov pri gorenju	Ignitability and burning behaviour of materials and products
83.080.01	Polimerni materiali na splošno	Plastics in general

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en

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 4589-1

June 1999

ICS 13.220.40; 83.080.01

English version

Plastics - Determination of burning behaviour by oxygen index -
Part 1: Guidance (ISO 4589-1:1996)

Plastiques - Détermination du comportement au feu au
moyen de l'indice d'oxygène - Partie 1: Guide (ISO 4589-
1:1996)

Kunststoffe - Bestimmung des Brandverhaltens durch den
Sauerstoff-Index - Teil 1: Anleitung (ISO 4589-1:1996)

This European Standard was approved by CEN on 6 May 1999.

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

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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Foreword

The text of the International Standard from Technical Committee ISO/TC 61 "Plastics" of the International Organization for Standardization (ISO) has been taken over as an European Standard by Technical Committee CEN/TC 249 "Plastics", the secretariat of which is held by IBN.

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 december 1999, and conflicting national standards shall be withdrawn at the latest by december 1999.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

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Endorsement notice
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The text of the International Standard ISO 4589-1:1996 has been approved by CEN as a European Standard without any modification.

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NOTE: Normative references to International Standards are listed in annex ZA (normative).



ВСТУПИЛО В ДІЮ
НАСТАНОВИТЕЛЬНОГО КОДЕКСУ АНТИТРАДИЦІОННОГО
АГЕНТСТВО НАСТАНОВИТЕЛЬНОГО КОДЕКСУ АНТИТРАДИЦІОННОГО
АГЕНТСТВО НАСТАНОВИТЕЛЬНОГО КОДЕКСУ АНТИТРАДИЦІОННОГО
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АГЕНТСТВО НАСТАНОВИТЕЛЬНОГО КОДЕКСУ АНТИТРАДИЦІОННОГО



Annex ZA (normative)
Normative references to international publications
with their relevant European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN</u>	<u>Year</u>
ISO 4589-3	1996	Plastics - Determination of burning behaviour by oxygen index - Part 3: Elevated-temperature test	EN ISO 4589-3	1996
ISO 4589-2	1996	Plastics - Determination of burning behaviour by oxygen index - Part 2: Ambient-temperature test	EN ISO 4589-2	1999

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INTERNATIONAL
STANDARD

ISO
4589-1

First edition
1996-12-15

**Plastics — Determination of burning
behaviour by oxygen index —**

**Part 1:
Guidance**

*Plastiques — Détermination du comportement au feu au moyen de l'indice
d'oxygène —*
Partie 1 Guide

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Reference number
ISO 4589-1:1996(E)

ISO 4589-1:1996(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 4589-1 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 4, *Burning behaviour*.

Together with parts 2 and 3 (see below), this part of ISO 4589 cancels and replaces ISO 4589:1984, which has been technically revised.

ISO 4589 consists of the following parts, under the general title, *Plastics — Determination of burning behaviour by oxygen index*:

- Part 1: *Guidance*
- Part 2: *Ambient-temperature test*
- Part 3: *Elevated-temperature test*

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Annex A of this part of ISO 4589 is for information only.

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X.400 c=ch; a=400net; p=iso; o=isocs; s=central

Printed in Switzerland

Introduction

The oxygen index (OI) test at ambient temperature was first described by Fenimore and Martin^[2] in 1966. The first use of the method in standards was ASTM Standard Test Method D 2863:1970^[6], and it has since been published in a wide range of national and international standards. It was published as ISO 4589 in 1984 and has now been revised as ISO 4589-2. The OI test at elevated temperatures is described in ISO 4589-3.

In the period since ASTM D 2863 became a standard, a considerable number of papers have been published about this test. An example is the review by Weil, Hirschler, *et al*^[3] relating to the relevance of the test to real fire situations. Other papers have suggested empirical formulae relating OI to the amounts of added fire retardant, or describe practical investigations on the equipment performance (see Kanury^[4]). A clear consensus on the value of the two variants of the test has emerged, however, and it is the purpose of this guidance document to discuss the use of the equipment and the applicability of both test methods.

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