SLOVENSKI STANDARD
SIST EN ISO 22007-2:2015

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Nadomešča:
SIST EN ISO 22007-2:2012

Polimerni materiali - Ugotavljanje toplotne prevodnosti in toplotne razprševalnosti - 2. del: Metoda s tranzientnim ploskovnim toplotnim virom (vroči disk) (ISO 22007-2:2015)

Plastics - Determination of thermal conductivity and thermal diffusivity - Part 2: Transient plane heat source (hot disc) method (ISO 22007-2:2015)

Kunststoffe - Bestimmung der Wärmeleitfähigkeit und der Temperaturleitfähigkeit - Teil 2: Transientes Flächenquellenverfahren (Hot-Disk-Verfahren) (ISO 22007-2:2015)

Plastiques - Détermination de la conductivité thermique et de la diffusivité thermique - Partie 2: Méthode de la source plane transitoire (disque chaud) (ISO 22007-2:2015)

Ta slovenski standard je istoveten z: **EN ISO 22007-2:2015**

ICS:

83.080.01	Polimerni materiali na splošno	Plastics in general

SIST EN ISO 22007-2:2015 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 22007-2

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ICS 83.080.01

Supersedes EN ISO 22007-2:2012

English Version

Plastics - Determination of thermal conductivity and thermal diffusivity - Part 2: Transient plane heat source (hot disc) method (ISO 22007-2:2015)

Plastiques - Détermination de la conductivité thermique et de la diffusivité thermique - Partie 2: Méthode de la source plane transitoire (disque chaud) (ISO 22007-2:2015)

Kunststoffe - Bestimmung der Wärmeleitfähigkeit und der Temperaturleitfähigkeit - Teil 2: Transientes Flächenquellenverfahren (Hot-Disk-Verfahren) (ISO 22007-2:2015)

This European Standard was approved by CEN on 20 June 2015.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN ISO 22007-2:2015) has been prepared by Technical Committee ISO/TC 61 "Plastics" in collaboration with Technical Committee CEN/TC 249 “Plastics” the secretariat of which is held by NBN.

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of an identical text or by endorsement, at the latest by February 2016, and conflicting national standards shall be withdrawn at the latest by February 2016.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 22007-2:2012.

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Endorsement notice

The text of ISO 22007-2:2015 has been approved by CEN as EN ISO 22007-2:2015 without any modification.

INTERNATIONAL STANDARD

ISO 22007-2

Second edition
2015-08-01

Plastics — Determination of thermal conductivity and thermal diffusivity —

Part 2: Transient plane heat source (hot disc) method

Plastiques — Détermination de la conductivité thermique et de la diffusivité thermique —
Partie 2: Méthode de la source plane transitoire (disque chaud)

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 61, *Plastics*, Subcommittee SC 5, *Physical-chemical properties*.

This second edition cancels and replaces the first edition (ISO 22007-2:2008), which has been technically revised.

The main changes are the following:

a) Values of thermal conductivity in scope revised;

b) Sensitivity coefficient revised (3.3);

c) Thickness range for thin-film specimens changed (6.4);

d) Low thermally conducting specimens specified (8.5);

e) Precision and bias adapted; (10.2);

f) Bibliography extended;

g) Normative references updated and standard editorial revised.

ISO 22007 consists of the following parts, under the general title *Plastics — Determination of thermal conductivity and thermal diffusivity*:

— *Part 1: General principles*

— *Part 2: Transient plane heat source (hot disc) method*

— *Part 3: Temperature wave analysis method*

— *Part 4: Laser flash method*

— *Part 5: Results of interlaboratory testing of poly(methyl methacrylate) samples* [Technical Report]

— *Part 6: Comparative method for low thermal conductivities using a temperature-modulation technique*

Introduction

A significant increase in the development and application of new and improved materials for broad ranges of physical, chemical, biological, and medical applications has necessitated better performance data from methods of measurement of thermal-transport properties. The introduction of alternative methods that are relatively simple, fast, and of good precision would be of great benefit to the scientific and engineering communities. [1]

A number of measurement techniques described as transient methods have been developed and several have been commercialized. These are being widely used and are suitable for testing many types of material. In some cases, they can be used to measure several properties separately or simultaneously. [2],[3]

A further advantage of some of these methods is that it has become possible to measure the true bulk properties of a material. This feature stems from the possibility of eliminating the influence of the thermal contact resistance (see 8.1.1) that is present at the interface between the probe and the specimen surfaces. [1],[3],[4],[5],[6]