SLOVENSKI STANDARD
SIST EN ISO 22007-2:2022

01-september-2022

Nadomešča:
SIST EN ISO 22007-2:2015

Polimerni materiali - Ugotavljanje toplotne prevodnosti in toplotne razprševalnosti - 2. del: Metoda s tranzientnim ploskovnim toplotnim virom (vroči disk) (ISO 22007-2:2022)

Plastics - Determination of thermal conductivity and thermal diffusivity - Part 2: Transient plane heat source (hot disc) method (ISO 22007-2:2022)

Kunststoffe - Bestimmung der Wärmeleitfähigkeit und der Temperaturleitfähigkeit - Teil 2: Transientes ebenes Wärmequellenverfahren (Hot□Disc□Verfahren) (ISO 22007□2:2022)

Plastiques - Détermination de la conductivité thermique et de la diffusivité thermique - Partie 2: Méthode de la source plane transitoire (disque chaud) (ISO 22007-2:2022)

Ta slovenski standard je istoveten z: **EN ISO 22007-2:2022**

ICS:

83.080.01	Polimerni materiali na splošno	Plastics in general

SIST EN ISO 22007-2:2022 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 22007-2

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ICS 83.080.01

Supersedes EN ISO 22007-2:2015

English Version

Plastics - Determination of thermal conductivity and thermal diffusivity - Part 2: Transient plane heat source (hot disc) method (ISO 22007-2:2022)

Plastiques - Détermination de la conductivité thermique et de la diffusivité thermique - Partie 2: Méthode de la source plane transitoire (disque chaud) (ISO 22007-2:2022)

Kunststoffe - Bestimmung der Wärmeleitfähigkeit und der Temperaturleitfähigkeit - Teil 2: Transientes ebenes Wärmequellenverfahren (Hot-Disc-Verfahren) (ISO 22007-2:2022)

This European Standard was approved by CEN on 7 June 2022.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN ISO 22007-2:2022) 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of an identical text or by endorsement, at the latest by December 2022, and conflicting national standards shall be withdrawn at the latest by December 2022.

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.

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Endorsement notice

The text of ISO 22007-2:2022 has been approved by CEN as EN ISO 22007-2:2022 without any modification.

INTERNATIONAL STANDARD

ISO 22007-2

Third edition
2022-06

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)

Reference number
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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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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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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 5, *Physical-chemical properties,* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 249, *Plastics,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 22007-2:2015), which has been technically revised.

The main changes are as follows:

— Figure 2 has been corrected;

— the term "penetration depth" (former 3.1) has been deleted;

— several Notes have been changed to body text;

— reference has been made in the main text to the theory of sensitivity coefficients.

A list of all parts in the ISO 22007 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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 of which several have been commercialized. These are being widely used and are suitable for testing many types of materials. 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].