INTERNATIONAL STANDARD

ISO 19935-3

First edition
2021-05

Plastics — Temperature modulated DSC —

Part 3: Separation of overlapping thermal transitions

Plastiques — DSC à température modulée —

Partie 3: Séparation des transitions thermiques se chevauchant

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Reference number
ISO 19935-3:2021(E)

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Published in Switzerland

Contents

Page

Foreword ... **iv**
Introduction ... **v**
1 Scope ... **1**
2 Normative references ... **1**
3 Terms and definitions ... **1**
4 Symbols ... **1**
4.1 Temperature modulation, *T(t)* ... *1*
4.2 Heating rate ... 1
4.3 Heat flow rate, Φ(t) ... 1
5 Principles ... **2**
6 Apparatus and materials ... **2**
7 Calibration ... **2**
7.1 General ... 2
7.2 Calibration procedure ... 2
7.3 Calibration of modulation amplitude ... 2
7.4 Calibration of phase ... 2
8 Procedure ... **2**
8.1 General ... 2
8.2 Experimental conditions ... 2
8.3 Interpretation of results ... 2
8.4 Examples of the results — Separation of reversing and non-reversing heat flow rate ... 2
9 Test report ... **4**
Annex A (informative) **Modulated heat flow rate and heating rate of modulation** ... **5**

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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*.

A list of all parts in the ISO 19935 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.

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Introduction

This document specifies a thermoanalytical test method which can be used for the separation of overlapping thermal transitions in order to obtain comparable data for data sheets or databases as well as for research purposes. It can also be applied to quality assurance or to routine checks of raw materials and finished products, if desired. The procedure mentioned in this document apply as long as special product standards or standards describing special atmospheres for conditioning of samples do not require alternate regulations.

For scientific investigations or resolution of special analytical problems, all technical capabilities of the instruments beyond the regulations of this document can be used.

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Plastics — Temperature modulated DSC —

Part 3: Separation of overlapping thermal transitions

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1 Scope

This document specifies a method for the separation of overlapping thermal transitions of plastics related to reversing and non-reversing heat flow rate, using temperature modulated differential scanning calorimetry.

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 472, *Plastics — Vocabulary*

ISO 11357-1, *Plastics — Differential scanning calorimetry (DSC) — Part 1: General principles*

ISO 19935-1, *Plastics — Temperature modulated DSC — Part 1: General principles*

ISO 19935-2:2020, *Plastics — Temperature modulated DSC — Part 2: Measurement of specific heat capacity* c_p

ISO 80000-5, *Quantities and units — Part 5: Thermodynamics*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 472, ISO 11357-1, ISO 19935-1 and ISO 80000-5 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

4 Symbols

4.1 Temperature modulation, *T(t)*

According to ISO 19935-1.

4.2 Heating rate

According to ISO 19935-1.

4.3 Heat flow rate, Φ(t)

According to ISO 19935-1.

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