International Standard

ISO 19935-2

Second edition
2026-05

Plastics — Temperature modulated DSC —

Part 2: Measurement of specific heat capacity c_p

Plastiques — DSC à température modulée —

Partie 2: Mesurage précis de la chaleur spécifique c_p

Reference number
ISO 19935-2:2026(en)

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Published in Switzerland

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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*.

This second edition cancels and replaces the first edition (ISO 19935-2:2020), of which it constitutes a minor revision.

The main changes are as follows:

— unit for the modulated temperature in the key to Figure 1 has been corrected.

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 describes the realization of standardized thermoanalytical test methods which can be used for the determination of specific heat capacity data needed 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 procedures 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 may be used.

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Plastics — Temperature modulated DSC —

Part 2: Measurement of specific heat capacity c_p

1 Scope

This document establishes a method for measurement of specific heat capacity, c_p, 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 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 terminology 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 and abbreviated terms

4.1 Temperature modulation, *T(t)*

Temperature modulation shall be in accordance with ISO 19935-1.

4.2 Scanning rate

Scanning rate shall be in accordance with ISO 19935-1.

4.3 Heat flow rate, Φ(t)

Heat flow rate shall be in accordance with ISO 19935-1.

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