



BSI Standards Publication

Thermal insulation — Test methods for specific heat capacity of thermal insulation for buildings in the high temperature range — Differential scanning calorimetry (DSC) method

National foreword

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Thermal insulation — Test methods for specific heat capacity of thermal insulation for buildings in the high temperature range — Differential scanning calorimetry (DSC) method

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thermique massique de l'isolation thermique des bâtiments dans la
plage de température élevée — Méthode par calorimétrie à balayage
différentiel (DSC)*



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ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
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.

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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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Thermal insulation — Test methods for specific heat capacity of thermal insulation for buildings in the high temperature range — Differential scanning calorimetry (DSC) method

1 Scope

This document specifies test methods for specific heat capacity under high temperature conditions from the normal temperature range to 1 600 K for insulation materials for buildings using the differential scanning calorimetry (DSC) method.

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 11357-1:20-,¹⁾ *Plastics — Differential scanning calorimetry (DSC) — Part 1: General principles*

[ISO 11357-4:2021](#), *Plastics — Differential scanning calorimetry (DSC) — Part 4: Determination of specific heat capacity*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in [ISO 11357-1](#), [ISO 11357-4](#) and the following 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 <https://www.electropedia.org/>

3.1

specific heat capacity

c_p

quantity of heat necessary to raise the temperature of a unit mass of material by 1 K at constant pressure

Note 1 to entry: It is given by the following formula:

$$c_p = \frac{1}{m} \times \left(\frac{dQ}{dT} \right)_p \quad (1)$$

where

c_p is the specific heat capacity and is expressed in kilojoules per kilogram per K ($\text{kJ} \cdot \text{kg}^{-1} \cdot \text{K}^{-1}$) or in joules per gram per K ($\text{J} \cdot \text{g}^{-1} \cdot \text{K}^{-1}$); subscript p indicates an isobaric process;

m is the mass of material, expressed in kilogram (kg) or gram (g);

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