

Plastics - Differential scanning calorimetry (DSC) - Part 5: Determination of characteristic reaction-curve temperatures and times, enthalpy of reaction and degree of conversion (ISO 11357-5:2013)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 11357-5:2014 sisaldab Euroopa standardi EN ISO 11357-5:2014 inglisekeelset teksti.	This Estonian standard EVS-EN ISO 11357-5:2014 consists of the English text of the European standard EN ISO 11357-5:2014.
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English Version

Plastics - Differential scanning calorimetry (DSC) - Part 5:
Determination of characteristic reaction-curve temperatures and
times, enthalpy of reaction and degree of conversion (ISO
11357-5:2013)

Plastiques - Analyse calorimétrique différentielle (DSC) -
Partie 5: Détermination des températures et temps
caractéristiques de la courbe de réaction, de l'enthalpie de
réaction et du degré de transformation (ISO 11357-5:2013)

Kunststoffe - Dynamische Differenz-Thermoanalyse (DSC) -
Teil 5: Bestimmung von charakteristischen
Reaktionstemperaturen und -zeiten, Reaktionsenthalpie
und Umsatz (ISO 11357-5:2013)

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Foreword

The text of ISO 11357-5:2013 has been prepared by Technical Committee ISO/TC 61 "Plastics" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 11357-5:2014 by 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of an identical text or by endorsement, at the latest by September 2014, and conflicting national standards shall be withdrawn at the latest by September 2014.

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Endorsement notice

The text of ISO 11357-5:2013 has been approved by CEN as EN ISO 11357-5:2014 without any modification.

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Plastics — Differential scanning calorimetry (DSC) —

Part 5:

Determination of characteristic reaction-curve temperatures and times, enthalpy of reaction and degree of conversion

WARNING — Caution should be observed when working with materials which could give a runaway reaction or exhibit other dangerous behaviour.

1 Scope

This part of ISO 11357 specifies a method for the determination of reaction temperatures and times, enthalpies of reaction, and degrees of conversion using differential scanning calorimetry (DSC).

The method applies to monomers, prepolymers, and polymers in the solid or liquid state. The material can contain fillers and/or initiators in the solid or liquid state.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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, *Plastics — Differential scanning calorimetry (DSC) — Part 1: General principles*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 11357-1 and the following apply.

3.1

polymerization

process of converting a monomer or a mixture of monomers into a polymer

3.2

crosslinking

process of multiple intermolecular covalent or ionic bonding between polymer chains

3.3

degree of conversion

quantity of reacted product obtained during a reaction compared with the maximum possible quantity of the product

Note 1 to entry: The degree of conversion will depend on both time and temperature.

4 Principle

The principle is specified in ISO 11357-1.

The test method described indicates the various stages of the reaction by means of DSC curves.