

# ISO 19935-2:2026-05 (E)

## Plastics - Temperature modulated DSC - Part 2: Measurement of specific heat capacity $c_p$

---

### Contents

Page

Foreword.....	iv
Introduction.....	v
<b>1 Scope.....</b>	<b>1</b>
<b>2 Normative references.....</b>	<b>1</b>
<b>3 Terms and definitions.....</b>	<b>1</b>
<b>4 Symbols and abbreviated terms.....</b>	<b>1</b>
4.1 Temperature modulation, $T(t)$ .....	1
4.2 Scanning rate.....	1
4.3 Heat flow rate, $\Phi(t)$ .....	1
<b>5 Principles of determination of specific heat capacity with temperature modulated DSC.....</b>	<b>2</b>
5.1 General.....	2
5.2 Specific heat capacity with no processes.....	2
5.3 Reversing and non-reversing specific heat capacity.....	2
5.4 Step scan method.....	2
5.5 Multiple frequencies.....	2
<b>6 Apparatus and materials.....</b>	<b>2</b>
6.1 General.....	2
6.2 Temperature control of the modulated differential scanning calorimeter.....	2
<b>7 Calibration.....</b>	<b>3</b>
7.1 General.....	3
7.2 Calibration of modulation amplitude.....	3
7.3 Calibration of phase.....	3
<b>8 Procedure.....</b>	<b>3</b>
8.1 General.....	3
8.2 Calculation of the specific heat capacity.....	3
8.3 Examples of the results.....	4
8.3.1 Modulated heat flow rate and scanning rate of modulation.....	4
8.3.2 Determination of specific heat capacity.....	4
<b>9 Precision and bias.....</b>	<b>5</b>
<b>10 Test report.....</b>	<b>5</b>
<b>Annex A (informative) Example of the <math>c_p</math> values of polystyrene (PS).....</b>	<b>7</b>
<b>Annex B (informative) Example of the calibration constant <math>K(\omega)</math> determined with the literature values of <math>\alpha\text{-Al}_2\text{O}_3</math> <sup>[4]</sup>.....</b>	<b>8</b>
<b>Annex C (informative) Example of a reversing heat flow rate curve based on a modulated heat flow rate curve and a comparison with the specific heat capacity.....</b>	<b>9</b>
<b>Annex D (informative) Example of determination of specific heat capacity based on a multifrequency modulated heat flow rate curve.....</b>	<b>10</b>
<b>Bibliography.....</b>	<b>13</b>