

# ISO 24144:2023-01 (E)

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

<b>Contents</b>		<b>Page</b>
Foreword	.....	v
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Principles	2
4.1	General	2
4.2	Heat-flux DSC	2
4.3	Power-compensation DSC	3
5	Method	4
5.1	General	4
5.2	Basic procedure	5
6	Apparatus and materials	7
6.1	DSC apparatus	7
6.2	Crucibles	8
6.2.1	General	8
6.2.2	Shape, material and mass	8
6.2.3	Measurement temperature range	8
7	Test specimen	8
7.1	General	8
7.2	Sampling	9
7.3	Moulding	9
8	Test conditions and specimen conditioning	9
8.1	Test conditions	9
8.2	Conditioning of specimens	9
9	Calibration	9
9.1	General	9
9.2	Calibration materials	10
10	Procedure	10
10.1	Setting up the apparatus	10
10.2	Loading the specimen into the crucible	10
10.2.1	General	10
10.2.2	Selection of crucibles	10
10.2.3	Weighing the specimen crucible	10
10.2.4	Loading the specimen	10
10.2.5	Determination of the mass of the specimen	11
10.3	Performing measurements	11
10.4	Post-run checks	11
11	Determination of specific heat capacities	11

11.1	General .....	11
11.2	Calculation of specific heat capacities .....	11
11.2.1	In case of near-match with isothermal baselines of DSC curves .....	11
11.2.2	In case of discordance with isothermal baseline of DSC curves .....	12
11.3	Numerical rounding of the results .....	12
12	Test report .....	12
Annex A (normative) DSC apparatus for high temperature range .....		14
Annex B (normative) Moulding procedure of test specimen .....		15
Annex C (informative) Analysis method considering discordance of isothermal baseline .....		18
Annex D (informative) Materials for DSC calibrations .....		20
Bibliography .....		21