

ISO 22007-7:2023-04 (E)

Plastics - Determination of thermal conductivity and thermal diffusivity - Part 7: Transient measurement of thermal effusivity using a plane heat source

Contents	Page
Foreword.....	iv
Introduction.....	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Principle	2
5 Apparatus	2
6 Test specimens	2
6.1 Configuration A: Rod-shaped specimens having a thermal effusivity above 1 000 W·s ^{1/2} ·m ⁻² ·K ⁻¹	2
6.2 Configuration B: Specimens of thermal effusivity below 1 000 W·s ^{1/2} ·m ⁻² ·K ⁻¹ completely embedding the probe.....	3
6.3 Specimen preparation.....	3
7 Procedure	4
8 Calculation of thermal effusivity	6
8.1 Computations.....	6
8.2 Single-sided setup.....	9
9 Verification procedures	9
9.1 Calibration of apparatus.....	9
9.2 Verification of apparatus.....	9
10 Precision and bias	10
11 Test report	10
Annex A (informative) Example of testing a homogeneous, anisotropic rod	11
Annex B (informative) Example of testing a stacked, anisotropic Rod	14
Bibliography	16