ISO 11357-6:2025-06 (E)

Plastics - Differential scanning calorimetry (DSC) - Part 6: Determination of oxidation induction time (isothermal OIT) and oxidation induction temperature (dynamic OIT)

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 1

3 Terms and definitions 1

4 Principle 2
4.1 General 2
4.2 Oxidation induction time (isothermal OIT) 2
4.3 Oxidation induction temperature (dynamic OIT) 2

5 Apparatus and materials 2
5.1 General 2
5.2 DSC instrument 3
5.3 Crucibles 3
5.4 Flowmeter 3
5.5 Oxygen 3
5.6 Air 3
5.7 Nitrogen 3
5.8 Gas-selector switch and regulators 3

6 Test specimens 4
6.1 General 4
6.2 Specimens from compression-moulded plates 4
6.3 Specimens from injection-moulded plates or melt flow extrudates 4
6.4 Specimens from finished parts 4

7 Test conditions and specimen conditioning 5

8 Calibration 5
8.1 Oxidation induction time (isothermal OIT) 5
8.1.1 General 5
8.1.2 Dynamic temperature calibration 5
8.1.3 Isothermal stepwise temperature calibration 5
8.2 Oxidation induction temperature (dynamic OIT) 5

9 Procedure 6
9.1 Setting up the instrument 6
9.2 Loading the test specimen into the crucible 6
9.3 Insertion of crucibles 6
9.4 Nitrogen, air and oxygen flow 6
9.5 Sensitivity adjustment 6
9.6 Performance of measurement 6
9.6.1 Oxidation induction time (isothermal OIT) 6
9.6.2 Oxidation induction temperature (dynamic OIT) 7
9.7 Cleaning 8
10 Expression of results 8

11 Precision and bias 10

12 Test report 10

Bibliography 12