ISO 23706:2020 (E)

Plastics — Determination of apparent activation energies of property changes in standard weathering test methods

Contents

Foreword

Introduction

1 Scope

2 Normative references

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions
3.2 Abbreviated terms

4 Principle

5 Apparatus

5.1 General
5.2 Surface temperature measurement

6 Test specimens

7 Test method

7.1 Test conditions
7.2 Test duration
7.3 Increased/decreased temperatures
7.4 Calculation of activation energy, Ea
7.4.1 Exposures at two different temperatures
7.4.2 Exposures at two or more different temperatures

8 Exposure conditions

9 Procedure

9.1 General
9.2 Mounting the test specimens
9.3 Exposure
9.4 Measurement of radiant exposure
9.5 Determination of changes in properties after exposure

10 Test report

Annex A (normative) Arrhenius concept

A.1 General
A.2 Limitations
A.3 Theoretical acceleration factors
A.4 Determination of activation energies

Annex B (informative) Examples

B.1 Example 1: Weathering of SAE standard polystyrene[10]
B.2 Example 2: Weathering of grey polyvinylchloride[11]

Annex C (informative) Effective temperature calculation

Annex D (informative) Potential contributions to the uncertainty budget

Page count: 17