ISO 4590:2016-07 (E)

Rigid cellular plastics - Determination of the volume percentage of open cells and of closed cells

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 1

3 Termsanddefinitions 1

4 Principle 2

5 Test specimens 2
5.1 Number 2
5.2 Preparation 3
5.3 Dimensions 3
5.4 Sectioning of test specimens 3

6 Conditioning and test atmospheres 3

7 Measurement of surface area S and geometrical volume Vg 3

8 Determination of impenetrable volume Vi by method 1: pressure variation (pyknometer) 4
8.1 Principle of method 1 5
8.2 Description of apparatus for method 1 5
8.3 Calibration of pyknometer apparatus 7
8.4 Procedure for method 1 8
8.5 Calculation for method 1 9

9 Determination of impenetrable volume Vi by method 2: volume expansion 9
9.1 Principle of method 2 9
9.2 Description of apparatus for method 2a 10
9.3 Calibration of apparatus for method 2a 11
9.4 Procedure and calculation for method 2a 14
9.5 Description of apparatus for method 2b 14
9.6 Calibration of apparatus for method 2b 15
9.7 Test procedure for method 2b 15
9.8 Test sequence for method 2b 16
9.9 Calculations and expression of results for method 2b 17

10 Correction for specimen surface cells opened during specimen preparation 17
10.1 For the pressure-variation method (see Clause 8) 17
10.2 For the volume-expansion method (see Clause 9) 17

11 Expression of results 18
11.1 Apparent volume percentage of open cells 18
11.2 Corrected volume percentage of open cells 18

12 Precision 19

13 Test report 20

Annex A (normative) Notes on procedure 21