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

*Plastiques alvéolaires rigides — Détermination du pourcentage
volumique de cellules ouvertes et de cellules fermées*



COPYRIGHT PROTECTED DOCUMENT

© ISO 2016, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

Page

Foreword.....	iv
Introduction.....	v
1 Scope.....	1
2 Normative references.....	1
3 Terms and definitions.....	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 V_g.....	3
8 Determination of impenetrable volume V_i by method 1: pressure variation (pycnometer).....	4
8.1 Principle of method 1.....	5
8.2 Description of apparatus for method 1.....	5
8.3 Calibration of pycnometer apparatus.....	7
8.4 Procedure for method 1.....	8
8.5 Calculation for method 1.....	9
9 Determination of impenetrable volume V_i 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