

---

---

**Plastics — Simple heat release test using a  
conical radiant heater and a thermopile  
detector**

*Plastiques — Essai simple pour la détermination du débit calorifique au  
moyen d'un radiateur conique et d'une sonde à thermopile*



**PDF disclaimer**

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

© ISO 2001

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
Case postale 56 • CH-1211 Geneva 20  
Tel. + 41 22 749 01 11  
Fax + 41 22 749 09 47  
E-mail [copyright@iso.ch](mailto:copyright@iso.ch)  
Web [www.iso.ch](http://www.iso.ch)

Printed in Switzerland

# Contents

Page

Foreword.....	iv
Introduction .....	v
1 <b>Scope</b> .....	1
2 <b>Normative references</b> .....	1
3 <b>Terms and definitions</b> .....	1
4 <b>Symbols</b> .....	2
5 <b>Principle</b> .....	2
6 <b>Apparatus</b> .....	2
7 <b>Suitability of a product for testing</b> .....	9
8 <b>Specimen construction and preparation</b> .....	9
9 <b>Calibration</b> .....	11
10 <b>Test procedure</b> .....	12
11 <b>Precision</b> .....	13
12 <b>Test report</b> .....	13
<b>Annex A</b> (normative) <b>Calibration of the heat flux meter</b> .....	15
<b>Annex B</b> (informative) <b>Guidance notes for operators</b> .....	16
<b>Annex C</b> (informative) <b>Measuring mass loss during testing</b> .....	17
<b>Bibliography</b> .....	18

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 13927 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 4, *Burning behaviour*.

Annex A forms a normative part of this International Standard. Annexes B and C are for information only.

## Introduction

Fire is a complex phenomenon: its behaviour and its effects depend upon a number of interrelated factors. The behaviour of materials and products depends upon the characteristics of the fire, the method of use of the materials and the environment in which they are exposed (see also ISO/TR 6585 and ISO/IEC 13943).

A test such as is specified in this International Standard deals only with a simple representation of a particular aspect of the potential fire situation, typified by a radiant heat source, and it cannot alone provide any direct guidance on behaviour or safety in fire. A test of this type may, however, be used for comparative purposes or to ensure the existence of a certain quality of performance (in this case heat release from a composite material or an assembly) considered to have a bearing on fire performance generally. It would be wrong to attach any other meaning to performance in this test.

The attention of all users of this test is drawn to the warnings that immediately precede clause 10.