IEC 60068-2-2

Edition 5.0 2007-07

INTERNATIONAL STANDARD

NORME INTERNATIONALE

BASIC SAFETY PUBLICATION

PUBLICATION FONDAMENTALE DE SÉCURITÉ

Environmental testing – Part 2-2: Tests – Test B: Dry heat

Essais d'environnement – Partie 2-2: Essais – Essai B: Chaleur sèche

IEC 60068-2-2:2007

IEC Central Office
3, rue de Varembé
CH-1211 Geneva 20
Switzerland
Email: inmail@iec.ch
Web: www.iec.ch

About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigenda or an amendment might have been published.

- Catalogue of IEC publications: www.iec.ch/searchpub
The IEC on-line Catalogue enables you to search by a variety of criteria (reference number, text, technical committee,…). It also gives information on projects, withdrawn and replaced publications.
- IEC Just Published: www.iec.ch/online_news/justpub
Stay up to date on all new IEC publications. Just Published details twice a month all new publications released. Available on-line and also by email.
- Electropedia: www.electropedia.org
The world's leading online dictionary of electronic and electrical terms containing more than 20 000 terms and definitions in English and French, with equivalent terms in additional languages. Also known as the International Electrotechnical Vocabulary online.
- Customer Service Centre: www.iec.ch/webstore/custserv
If you wish to give us your feedback on this publication or need further assistance, please visit the Customer Service Centre FAQ or contact us:
Email: csc@iec.ch
Tel.: +41 22 919 02 11
Fax: +41 22 919 03 00

A propos de la CEI

La Commission Electrotechnique Internationale (CEI) est la première organisation mondiale qui élabore et publie des normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

A propos des publications CEI

Le contenu technique des publications de la CEI est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

- Catalogue des publications de la CEI: www.iec.ch/searchpub/cur_fut-f.htm
Le Catalogue en-ligne de la CEI vous permet d'effectuer des recherches en utilisant différents critères (numéro de référence, texte, comité d'études,…). Il donne aussi des informations sur les projets et les publications retirées ou remplacées.
- Just Published CEI: www.iec.ch/online_news/justpub
Restez informé sur les nouvelles publications de la CEI. Just Published détaille deux fois par mois les nouvelles publications parues. Disponible en-ligne et aussi par email.
- Electropedia: www.electropedia.org
Le premier dictionnaire en ligne au monde de termes électroniques et électriques. Il contient plus de 20 000 termes et définitions en anglais et en français, ainsi que les termes équivalents dans les langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International en ligne.
- Service Clients: www.iec.ch/webstore/custserv/custserv_entry-f.htm
Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions, visitez le FAQ du Service clients ou contactez-nous:
Email: csc@iec.ch
Tél.: +41 22 919 02 11
Fax: +41 22 919 03 00

IEC 60068-2-2

Edition 5.0 2007-07

INTERNATIONAL STANDARD

NORME INTERNATIONALE

BASIC SAFETY PUBLICATION

PUBLICATION FONDAMENTALE DE SÉCURITÉ

Environmental testing – Part 2-2: Tests – Test B: Dry heat

Essais d'environnement – Partie 2-2: Essais – Essai B: Chaleur sèche

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

PRICE CODE
CODE PRIX

N

ICS 19.040

ISBN 2-8318-9229-5

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ENVIRONMENTAL TESTING –

Part 2-2: Tests – Test B: Dry heat

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
5) IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with an IEC Publication.
6) All users should ensure that they have the latest edition of this publication.
7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60068-2-2 has been prepared by IEC technical committee 104: Environmental conditions, classification and methods of test.

This fifth edition of IEC 60068-2-2 cancels and replaces the fourth edition issued in 1974. It includes the revised text of the fourth edition, amendment 1 issued in 1993 and amendment 2 issued in 1994.

It has the status of a basic safety publication in accordance with IEC Guide 104.

The main changes from the previous edition are as follows: Tests Ba and Bc have been deleted since they were more severe tests than Test Nb, IEC 60068-2-14: Change of temperature. Secondly it was considered justified to delete the 3 % value on the temperature difference between the chamber air and the wall temperatures. Thirdly it is proposed that the test specimen be powered throughout the test where required; and, finally, the annexes have been removed.

The text of this standard is based on the following documents:

FDIS	Report on voting
104/412/FDIS	104/430/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This standard has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all the parts of the IEC 60068 series, under the general title *Environmental testing*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

INTRODUCTION

RELATIONSHIP OF SUFFIXES BETWEEN TESTS A: COLD, AND TESTS B: DRY HEAT

The relationship of suffixes between Tests A: Cold, and Tests B: Dry heat, is shown in the following table:

	Tests A: Cold			Tests B: Dry heat		
Suffix letter	Specimen type	Temperature change	Air velocity	Specimen type	Temperature change	Air velocity
a	Withdrawn			Withdrawn		
b	Non heat	Gradual	High preferred	Non heat	Gradual	High preferred
c	Withdrawn			Withdrawn		
d	Heat dissipating	Gradual	Low preferred	Heat	Gradual	Low preferred
e	Heat dissipating powered throughout	Gradual	Low preferred	Heat, powered throughout	Gradual	Low preferred

ENVIRONMENTAL TESTING –

Part 2-2: Tests – Test B: Dry heat

1 Scope

This standard deals with dry heat tests applicable both to heat-dissipating and non heat-dissipating specimens. For non heat-dissipating specimens, Tests Bb and Bd do not deviate essentially from earlier issues.

The object of the dry heat test is limited to the determination of the ability of components, equipment or other articles to be used, transported or stored at high temperature.

These dry heat tests do not enable the ability of specimens to withstand or operate during the temperature variations to be assessed. In this case, it would be necessary to use IEC 60068-2-14 Test N: Change of temperature.

The dry heat tests are subdivided as follows:

Dry heat test for non heat-dissipating specimens

– with gradual change of temperature, Bb.

Dry heat tests for heat-dissipating specimens

– with gradual change of temperature, Bd;
– with gradual change of temperature, specimen powered throughout, Be.

The procedures given in this standard are normally intended for specimens that achieve temperature stability during the performance of the test procedure.

2 Normative references

IEC 60068-1:1988, *Environmental testing – Part 1: General and guidance*

IEC 60068-3-1, *Environmental testing – Part 3: Background information – Section one: Cold and dry heat tests*

IEC 60068-3-5, *Environmental testing – Part 3-5: Supporting documentation and guidance – Confirmation of the performance of temperature chambers*

IEC 60068-3-7, *Environmental testing – Part 3-7: Supporting documentation and guidance – Measurements in temperature chambers for tests A and B (with load)*

IEC 60068-5-2, *Environmental testing – Part 5-2: Guide to drafting of test methods – Terms and definitions*

IEC 60721 (all parts), *Classification of environmental conditions*