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Basic environmental testing procedures - Part 2: Tests - Test Cb: Damp heat, steady state, primarily for equipment

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UDC: 621.3:620.193.23-976

Descriptors: Electricity, equipment, climatic test, damp heat test, steady state, procedures, equipment specifications writing

BASIC ENVIRONMENTAL TESTING PROCEDURES  
PART 2: TESTS  
TEST CB: DAMP HEAT, STEADY STATE, PRIMARILY  
FOR EQUIPMENT

Essais fondamentaux climatiques  
et de robustesse mécanique  
Deuxième partie: Essais  
Essai Cb: Chaleur humide, essai  
continu recommandé principalement  
pour les équipements

Grundlegende Umweltprüfverfahren  
Teil 2: Prüfungen  
Prüfung Cb: Feuchte Wärme,  
konstant, vorzugsweise für  
Geräte

BODY OF THE HD

The Harmonization Document consists of:

- IEC 68-2-56:1988; IEC/SC 50B, not appended

SIST HD 323 2.56 S1:2003

<https://standards.iteh.ai/catalog/standards/sist/860945d6-f705-4018-bfb2->

This Harmonization Document was approved by CENELEC on 1990-02-01.

The English and French versions of this Harmonization Document are provided by the text of the IEC publication and the German version is the official translation of the IEC text.

According to the CEN/CENELEC Internal Regulations the CENELEC member National Committees are bound:

to publish their new harmonized national standard  
by or before 1991-03-01

to withdraw all conflicting national standards  
by or before 1991-03-01.

Harmonized national standards are listed on the HD information sheet, which is available from the CENELEC National Committees or from the CENELEC Central Secretariat.

The CENELEC National Committees are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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# NORME INTERNATIONALE INTERNATIONAL STANDARD

CEI  
IEC  
68-2-56

Première édition  
First edition  
1988



Commission Electrotechnique Internationale

International Electrotechnical Commission

Международная Электротехническая Комиссия

## Essais d'environnement

Deuxième partie: Essais — Essai Cb: Chaleur humide, essai continu,  
recommandé principalement pour les équipements

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## Environmental testing

Part 2: Tests — Test Cb: Damp heat, steady state,  
primarily for equipment

Publication  
68-2-56: 1988

## Révision de la présente publication

Le contenu technique des publications de la CEI est constamment revu par la Commission afin d'assurer qu'il reflète bien l'état actuel de la technique.

Les renseignements relatifs à ce travail de révision, à l'établissement des éditions révisées et aux mises à jour peuvent être obtenus auprès des Comités nationaux de la CEI et en consultant les documents ci-dessous:

- **Bulletin de la CEI**
- **Annuaire de la CEI**
- **Catalogue des publications de la CEI**  
Publié annuellement

## Terminologie

En ce qui concerne la terminologie générale, le lecteur se reportera à la Publication 50 de la CEI: Vocabulaire Electrotechnique International (VEI), qui est établie sous forme de chapitres séparés traitant chacun d'un sujet défini, l'Index général étant publié séparément. Des détails complets sur le VEI peuvent être obtenus sur demande.

Les termes et définitions figurant dans la présente publication ont été soit repris du VEI, soit spécifiquement approuvés aux fins de cette publication.

## Symboles graphiques et littéraux

Pour les symboles graphiques, symboles littéraux et signes d'usage général approuvés par la CEI, le lecteur consultera:

- la Publication 27 de la CEI: Symboles littéraux à utiliser en électrotechnique;
- la Publication 617 de la CEI: Symboles graphiques pour schémas.

Les symboles et signes contenus dans la présente publication ont été soit repris des Publications 27 ou 617 de la CEI, soit spécifiquement approuvés aux fins de cette publication.

## Publications de la CEI établies par le même Comité d'Etudes

L'attention du lecteur est attirée sur le deuxième feuillet de la couverture, qui énumère les publications de la CEI préparées par le Comité d'Etudes qui a établi la présente publication.

## Revision of this publication

The technical content of IEC publications is kept under constant review by the IEC, thus ensuring that the content reflects current technology.

Information on the work of revision, the issue of revised editions and amendment sheets may be obtained from IEC National Committees and from the following IEC sources:

- **IEC Bulletin**
- **IEC Yearbook**
- **Catalogue of IEC Publications**  
Published yearly

## Terminology

For general terminology, readers are referred to IEC Publication 50: International Electrotechnical Vocabulary (IEV), which is issued in the form of separate chapters each dealing with a specific field, the General Index being published as a separate booklet. Full details of the IEV will be supplied on request.

The terms and definitions contained in the present publication have either been taken from the IEV or have been specifically approved for the purpose of this publication.

## Graphical and letter symbols

For graphical symbols, and letter symbols and signs approved by the IEC for general use, readers are referred to:

- IEC Publication 27: Letter symbols to be used in electrical technology;
- IEC Publication 617: Graphical symbols for diagrams.

The symbols and signs contained in the present publication have either been taken from IEC Publications 27 or 617, or have been specifically approved for the purpose of this publication.

## IEC publications prepared by the same Technical Committee

The attention of readers is drawn to the back cover, which lists IEC publications issued by the Technical Committee which has prepared the present publication.

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

ENVIRONMENTAL TESTINGPart 2: Tests - Test Cb: Damp heat, steady state,  
primarily for equipment

## FOREWORD

- 1) The formal decisions or agreements of the IEC on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.
- 2) They have the form of recommendations for international use and they are accepted by the National Committees in that sense.
- 3) In order to promote international unification, the IEC expresses the wish that all National Committees should adopt the text of the IEC recommendation for their national rules in so far as national conditions will permit. Any divergence between the IEC recommendation and the corresponding national rules should, as far as possible, be clearly indicated in the latter.

## iTech STANDARD PREVIEW

## PREFACE

This standard has been prepared by Sub-Committee 50B: Climatic Tests, of IEC Technical Committee No. 50: Environmental Testing.

SIST HD 323.2.56 S1:2003

<https://standards.iteh.ai/catalog/standards/sist/860945d6-f705-4018-bfb2-c6f8473278bd/sist-2-56-s1-2003>

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

Six Months' Rule	Report on Voting
50B(C0)264	50B(C0)267

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

*The following IEC publications are quoted in this standard:*

Publications Nos. 68-1 (1988): Environmental testing, Part 1: General and guidance.

68-2-2 (1974): Part 2: Tests - Tests B: Dry heat.

68-2-3 (1969): Test Ca: Damp heat, steady state.



## ENVIRONMENTAL TESTING

### Part 2: Tests - Test Cb: Damp heat, steady state, primarily for equipment

#### 1. Object

To determine the suitability of electrotechnical products, primarily for equipment, for use and storage under conditions of high humidity. This test is primarily intended to permit the observation of the effect of high humidity at constant temperature without condensation on the specimen over a prescribed period.

The test provides a number of preferred severities of high temperature, high humidity and test duration.

The test can be applied to both heat-dissipating and non heat-dissipating specimens.

The test is particularly applicable to large equipment or equipment having complex interconnections with test equipment external to the chamber, requiring a set-up time which prevents the use of pre-heating and the maintenance of specified conditions during the installation period. (standards.iteh.ai)

#### 2. General description

[SIST HD 323.2.56 S1:2003](https://standards.iteh.ai/catalog/standards/sist/860945d6-f705-4018-bfb2-ec18473278bd/sist-hd-323-2-56-s1-2003)

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In this test, the specimen is introduced into the chamber, both of which are at laboratory temperature.

The conditions in the chamber are adjusted to the severity required according to Clause 6 and then maintained for the prescribed time.

Because the conditions of temperature and humidity near to a heat-dissipating specimen can be very different from the specified test values, the measurement of these parameters is prescribed in the manner used for free air conditions (see Sub-clauses 4.4 and 4.6.2 of IEC Publication 68-1).

The condition of non-condensation in test Ca of IEC Publication 68-2-3 is obtained by pre-heating the specimen before introducing it into the test chamber. In this test the specimen is introduced into the test chamber at laboratory conditions and is then heated to the specified test temperature. The test procedure is given in such a way that condensation cannot occur during the test.