IEC 60068-2-30

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# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

## Environmental testing - Part 2-30: Tests - Test Db: Damp heat, cyclic (12 h + 12 h cycle)



## Essais d'environnement - Partie 2-30: Essais - Essai Db: Essai cyclique chaleur de humide (cycle de 12 h + 12 h)



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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# Environmental testing - Part 2-30: Tests - Test Db: Damp heat, cyclic (12 h + 12 h cycle)

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IEC 60068-2-30 has been prepared by IEC technical committee 104: Environmental conditions, classification and methods of test. It is an International Standard.

This fourth edition cancels and replaces the third edition published in 2005. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) revision of the requirements for the test chamber;
b) change of the temperature tolerances of the test to limits;
c) updating of the figures for clarification purposes;
d) revision of the limits of the temperature and relative humidity during conditioning;
e) revision of the intermediate measurements;
f) revision of standardized requirements for the test report.

The text of this International Standard is based on the following documents:

| Draft | Report on voting |
|---|---|
| 104/1111/FDIS | 104/1125/RVD |

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

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 document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

## 1 Scope

This part of IEC 60068 specifies a test procedure to determine the suitability of components, equipment, or other articles for use, transportation, and storage under conditions of high humidity combined with cyclic temperature changes and, in general, producing condensation on the surface of the specimen. This test method can also be used to validate the packaging of specimen for transportation and storage.

This document does only in exceptional cases apply to specimens that are energized throughout the test.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

IEC 60068-2-67, *Environmental testing - Part 2-67: Tests - Test Cy: Damp heat, steady state, accelerated test primarily intended for components*

## 3 Terms and definitions



For the purposes of this document, the terms and definitions given in IEC 60068-1 apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- IEC Electropedia: available at https://www.electropedia.org/
- ISO Online browsing platform: available at https://www.iso.org/obp



## 4 General description

This test comprises one or more temperature cycles in which the relative humidity is maintained at a high level.

Two variants of the cycle are given which are identical except for the cooling period; during this part of the cycle, Variant 2 allows wider limits of relative humidity and the temperature change rate.

The conditioning temperature and the number of cycles (see Clause 6) determine the test severity.

The preconditioning phase is illustrated in Figure 1, the test procedure in Figure 2 to Figure 5 and the recovery procedure in Figure 6.

NOTE For small, low mass specimens, it can be difficult to produce condensation on the surface of the specimen using this procedure; considering an alternative test such as Test Z/AD (IEC 60068-2-38) can be helpful.