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REDLINE VERSION

Miljötålighetsprovning – Del 2-38: Provningsmetoder – Z/AD: Fukt kombinerad med värme och kyla i sekvens

Environmental testing –

Part 2-38: Tests –

Test Z/AD: Composite temperature/humidity cyclic test

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IEC 60068-2-38

Edition 3.0 2021-03
REDLINE VERSION

INTERNATIONAL STANDARD



**Environmental testing –
Part 2-38: Tests – Test Z/AD: Composite temperature/humidity cyclic test**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 19.040

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ENVIRONMENTAL TESTING –

Part 2-38: Tests –

Test Z/AD: Composite temperature/humidity cyclic test

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.
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This redline version of the official IEC Standard allows the user to identify the changes made to the previous edition IEC 60068-2-38:2009. A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text.

IEC 60068-2-38 has been prepared by IEC technical committee 104: Environmental conditions, classification and methods of test. It is an International Standard.

This third edition cancels and replaces the second edition, published in 2009. This edition constitutes a technical revision.

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

- a) the figures have been updated;
- b) changes to the wording has been made for clarification purposes.

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

Draft	Report on voting
104/891/FDIS	104/896/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/standardsdev/publications.

A list of all parts in the IEC 60068 series, published 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 "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
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ENVIRONMENTAL TESTING –

Part 2-38: Tests – Test Z/AD: Composite temperature/humidity cyclic test

1 Scope

This part of IEC 60068 ~~provides~~ specifies a composite test procedure, primarily intended for component type specimens, to determine, in an accelerated manner, the resistance of specimens to the deteriorative effects of high temperature/humidity and cold conditions.

This test standard does not apply to specimens that are energized during the complete test. Specimens can be energized during the constant phases of the tests. Measurements on energized specimens are typically carried out during constant phases of the test unless specified otherwise.

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 60068-2-30, *Environmental testing – Part 2-30: Tests – Test Db: Damp heat, cyclic (12 h + 12 h cycle)*~~

~~IEC 60068-2-78, *Environmental testing – Part 2-78: Tests – Test Cab: Damp heat, steady state*~~

~~IEC Guide 104, *The preparation of safety publications and the use of basic safety publications and group safety publications*~~

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

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Environmental testing –

Part 2-38: Tests –

Test Z/AD: Composite temperature/humidity cyclic test

Som svensk standard gäller europastandarden EN IEC 60068-2-38:2021. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 60068-2-38:2021.

Nationellt förord

Europastandarden EN IEC 60068-2-38:2021

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 60068-2-38, Third edition, 2021 - Environmental testing - Part 2-38: Tests - Test Z/AD: Composite temperature/humidity cyclic test**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 60068-2-38, utgåva 2, 2010, gäller ej fr o m 2024-04-29.

Standarder underlättar utvecklingen och höjer elsäkerheten

Det finns många fördelar med att ha gemensamma tekniska regler för bl a mätning, säkerhet och provning och för utförande, skötsel och dokumentation av elprodukter och elanläggningar.

Genom att utforma sådana standarder blir säkerhetsfordringar tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

Många standarder inom elområdet beskriver tekniska lösningar och metoder som åstadkommer den elsäkerhet som föreskrivs av svenska myndigheter och av EU.

SEK är Sveriges röst i standardiseringsarbetet inom elområdet

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SEK samordnar svenska intressenters medverkan i SEKs tekniska kommittéer och stödjer svenska experters medverkan i internationella och europeiska projekt.

Stora delar av arbetet sker internationellt

Utformningen av standarder sker i allt väsentligt i internationellt och europeiskt samarbete. SEK är svensk nationalkommitté av International Electrotechnical Commission (IEC) och Comité Européen de Normalisation Electrotechnique (CENELEC).

Standardiseringsarbetet inom SEK är organiserat i referensgrupper bestående av ett antal tekniska kommittéer som speglar hur arbetet inom IEC och CENELEC är organiserat.

Arbetet i de tekniska kommittéerna är öppet för alla svenska organisationer, företag, institutioner, myndigheter och statliga verk. Den årliga avgiften för deltagandet och intäkter från försäljning finansierar SEKs standardiseringsverksamhet och medlemsavgift till IEC och CENELEC.

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Den som deltar i SEKs tekniska kommittéarbete har möjlighet att påverka framtida standarder och får tidig tillgång till information och dokumentation om utvecklingen inom sitt teknikområde. Arbetet och kontakterna med kollegor, kunder och konkurrenter kan gynnsamt påverka enskilda företags affärsutveckling och bidrar till deltagarnas egen kompetensutveckling.

Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

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English Version

**Environmental testing - Part 2-38: Tests - Test Z/AD: Composite
temperature/humidity cyclic test
(IEC 60068-2-38:2021)**

Essais d'environnement - Partie 2-38: Essais - Essai Z/AD:
Essai cyclique composite de température et d'humidité
(IEC 60068-2-38:2021)

Umgebungseinflüsse - Teil 2-38: Prüfverfahren - Prüfung
Z/AD: Zusammengesetzte Prüfung, Temperatur/Feuchte,
zyklisch
(IEC 60068-2-38:2021)

This European Standard was approved by CENELEC on 2021-04-29. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 104/891/FDIS, future edition 3 of IEC 60068-2-38, prepared by IEC/TC 104 "Environmental conditions, classification and methods of test" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60068-2-38:2021.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2022-01-29
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2024-04-29

This document supersedes EN 60068-2-38:2009 and all of its amendments and corrigenda (if any).

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

Endorsement notice

The text of the International Standard IEC 60068-2-38:2021 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60068-2-30 NOTE Harmonized as EN 60068-2-30

IEC 60068-2-78 NOTE Harmonized as EN 60068-2-78

Annex ZA

(normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60068-1	-	Environmental testing - Part 1: General and guidance	EN 60068-1	-
IEC 60068-2-67	-	Environmental testing - Part 2-67: Tests - Test Cy: Damp heat, steady state, accelerated test primarily intended for components	EN 60068-2-67	-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ENVIRONMENTAL TESTING –

Part 2-38: Tests –

Test Z/AD: Composite temperature/humidity cyclic test

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