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## Miljötålighetsprovning – Del 2-52: Provningsmetoder – Kb: Saltdimma, cyklisk

*Environmental testing –  
Part 2: Tests –  
Test Kb: Salt mist, cyclic (sodium chloride solution)*

Som svensk standard gäller europastandarden EN 60068-2-52:1996. Den svenska standarden innehåller den officiella engelska språkversionen av EN 60068-2-52:1996.

### Nationellt förord

Europastandarden EN 60068-2-52:1996<sup>\*)</sup>

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 60068-2-52, Second edition, 1996 - Environmental testing - Part 2: Tests - Test Kb: Salt mist, cyclic (sodium chloride solution)**

jämte

### Corrigendum, July 1996

utarbetad inom International Electrotechnical Commission, IEC.

Standarden ska användas tillsammans med SS-EN 60068-1.

Tidigare fastställd svensk standard SS-EN 60068, utgåva 3, 2000, gäller ej fr o m 2001-11-30.

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<sup>\*)</sup> EN 60068-2-52:1996 ikraftsattes 2001-11-30 som SS-EN 60068-2-52 genom offentliggörande, d v s utan utgivning av något svenskt dokument.

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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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EUROPEAN STANDARD

EN 60068-2-52

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 1996

ICS 19.040

Supersedes HD 323.2.52 S1:1987

Descriptors: Components, equipments, environmental tests, corrosion test, cyclic test, salt mist, sodium chloride solution, test procedures, drafting component standards, drafting equipment standards

English version

**Environmental testing**  
**Part 2: Tests - Test Kb: Salt mist, cyclic**  
**(sodium chloride solution)**  
**(IEC 68-2-52:1996)**

Essais d'environnement  
Partie 2: Essais - Essai Kb: Brouillard  
salin, essai cyclique (solution de  
chlorure de sodium)  
(CEI 68-2-52:1996)

Umweltprüfungen  
Teil 2: Prüfverfahren  
Prüfung Kb: Salznebel, zyklisch  
(Natriumchloridlösung)  
(IEC 68-2-52:1996)

This European Standard was approved by CENELEC on 1996-03-05. 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CENELEC members 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.

**CENELEC**

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

### Foreword

The text of document 50B/363/FDIS, future edition 2 of IEC 68-2-52, prepared by SC 50B, Climatic tests, of IEC TC 50, Environmental testing, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60068-2-52 on 1996-03-05.

This European Standard supersedes HD 323.2.52 S1:1987.

The following dates were fixed:

- latest date by which the EN has to be implemented  
at national level by publication of an identical  
national standard or by endorsement (dop) 1996-12-01
- latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 1996-12-01

Annexes designated "normative" are part of the body of the standard.  
In this standard, annex ZA is normative.  
Annex ZA has been added by CENELEC.

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### Endorsement notice

The text of the International Standard IEC 68-2-52:1996 was approved by CENELEC as a European Standard without any modification.

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Annex ZA (normative)

**Normative references to international publications  
with their corresponding European publications**

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE: When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 68-1	1988	Environmental testing Part 1: General and guidance	EN 60068-1 <sup>1)</sup>	1994
IEC 68-2-3	1969	Part 2: Tests - Test Ca: Damp heat, steady state	HD 323.2.3 S2 <sup>2)</sup>	1987
IEC 355	1971	An appraisal of the problems of accelerated testing for atmospheric corrosion	-	-

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1) EN 60068-1 includes the corrigendum October 1988 and A1:1992 to IEC 68-1.

2) HD 323.2.3 S2 includes A1:1984 to IEC 68-2-3.

## CORRIGENDUM 1

*Correction en anglais uniquement*

Page 6

*Dans le troisième alinéa, sixième ligne, au lieu de ... (2) ... lire ... (2) ..., et au lieu de ... (3) ... lire ... (3) ...*

Page 8

### 3 Description générale de l'essai

*Dans le deuxième alinéa, troisième ligne, supprimer le mot ...immédiatement...*

Page 14

Paragraphe 6.3.

*Au lieu de Une vue d'ensemble de l'échelle temporelle schématique... lire: Une vue du schéma d'ensemble de l'échelle temporelle...*

Page 18

### 12 Renseignements que doit fournir la spécification particulière

*Dans l'énumération:*

- au point a), supprimer l'astérisque pour lire ...en 5.1.1...*
- au point c), ajouter un astérisque pour lire ...initiales\* ...*

Page 20, figure 1

*Dans le titre, supprimer le mot «schématique» pour lire: Echelle temporelle des différentes sévérités (1) à (6)*

*Dans le schémas, pour les sévérités (4), (5) et (6), ajouter = 14 jours, = 28 jours et = 56 jours respectivement après 2 cycles d'essai, 4 cycles d'essai et 8 cycles d'essai.*

Page 7

### 1 Scope

*In the second paragraph, first line, instead of ...in metallic... read ...on metallic...*

*In the third paragraph, fifth line, instead of ... (2) ... read ... (2) ..., and instead of ... (3) ... read ... (3) ...*

Page 9

### 3 General description of the test

*In the second paragraph, third line, delete the word ...immediately...*

Page 15

Subclause 6.3

*Instead of A survey of the schematic time-scale... read: A schematic survey of time-scale...*

Page 19

### 12 Information to be given in the relevant specification

*In the list:*

- item a), delete the asterisk, for to read ... ..in 5.1.1...*
- item c), add an asterisk. for to read ...measurements\* ...*

*Correction in the French text only*

Page 21, figure 1

*In the diagram, for severities (4), (5) and (6), add = 14 days, = 28 days, = 56 days after 2 test cycles, 4 test cycles, 8 test cycles respectively.*

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## ENVIRONMENTAL TESTING –

### Part 2: Tests – Test Kb: Salt mist, cyclic (sodium chloride solution)

#### 1 Scope

This test is intended for application to components or equipment designed to withstand a salt-laden atmosphere, depending on the chosen severity. Salt can degrade the performance of parts manufactured using metallic and/or non-metallic materials.

The mechanism of salt corrosion in metallic materials is electrochemical, whereas the degradation effects experienced on non-metallic materials are caused by complex chemical reactions of the salts with the materials involved. The rate at which corrosive action takes place is dependent, to a large extent, on the supply of oxygenated salt solution to the surface of the test specimen, the temperature of the specimen and the temperature and humidity of the environment.

Apart from the corrosive effects, this test may be used to indicate deterioration of some non-metallic materials by assimilation of salts. In the following test methods, the period of spraying with the relevant salt solution is sufficient to wet the specimen thoroughly. Because this wetting is repeated after intervals of storage under humid conditions (severities (1) and (2) and – in some cases severities (3) to (6)) – supplemented by storage under a standard atmosphere for testing, it goes some way to reproducing the effects of natural environments.

Severities (1) and (2) are intended to be used for testing products which are used in a marine environment, or in close proximity to the sea. Severity (1) should be used to test products which are exposed to the environment for much of their operational life (e.g. ship radar, deck equipment). Severity (2) should be used to test products which may be exposed to the marine environment from time to time but will normally be protected by an enclosure (e.g. navigational equipment which will normally be used on the bridge or in a control room).

Additionally, severities (1) and (2) are commonly used as a general corrosion test in component quality assurance procedures.

Severities (3) to (6) are intended for products where, under normal use, there is a frequent change between salt-laden and dry atmosphere, e.g. automobiles and their parts.

Severities (3) to (6), compared to severities (1) and (2), therefore include an additional storage under a standard atmosphere for testing.

The period of dry atmosphere may happen, in practice, during breaks of operation, e.g. during the weekend. This inclusion of such a dry period in severities (3) to (6) leads to corrosion mechanism which can be quite different from those under constant humid conditions.

The test is accelerated compared with most service conditions. However, it is not possible to establish an overall acceleration factor for all kinds of specimen (see IEC 355).

## 2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 68-2. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this part of IEC 68-2 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 68-1: 1988, *Environmental testing – Part 1: General and guidance*

IEC 68-2-3: 1969, *Environmental testing – Part 2: Tests – Test Ca: Damp heat, steady state*

IEC 355: 1971, *An appraisal of the problems of accelerated testing for atmospheric corrosion*