



SLOVENSKI STANDARD SIST EN 60068-2-82:2007

01-oktober-2007

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Environmental testing -- Part 2-82: Tests - Test Tx: Whisker test methods for electronic and electric components

Umgebungseinflüsse – Teil 2-82: Prüfungen – Prüfung Tx: Whisker-Prüfverfahren für elektronische und elektrische Bauelemente

Essais d'environnement - Partie 2-82 : Essais - Essai Tx : Méthodes d'essai des trichites ("moustaches/whiskers") pour les composants électriques et électroniques

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Ta slovenski standard je istoveten z: EN 60068-2-82:2007

ICS:

19.040	Preskušanje v zvezi z okoljem	Environmental testing
31.190	Sestavljeni elektronski elementi	Electronic component assemblies

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**Environmental testing -
Part 2-82: Tests -
Test Tx: Whisker test methods for electronic
and electric components
(IEC 60068-2-82:2007)**

Essais d'environnement -
Partie 2-82: Essais -
Essai Tx: Méthodes d'essai
des trichites ("moustaches/whiskers")
pour les composants électriques
et électroniques
(CEI 60068-2-82:2007)

Umgebungseinflüsse -
Teil 2-82: Prüfungen -
Prüfung Tx: Whisker-Prüfverfahren
für elektronische
und elektrische Bauelemente
(IEC 60068-2-82:2007)

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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, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the 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 91/651/FDIS, future edition 1 of IEC 60068-2-82, prepared by IEC TC 91, Electronics assembly technology, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60068-2-82 on 2007-06-01.

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) 2008-03-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2010-06-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60068-2-82:2007 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 60068-3-4

NOTE Harmonized as EN 60068-3-4:2001 (not modified).

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Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application 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 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 60068-1	1988	Environmental testing - Part 1: General and guidance	EN 60068-1 ¹⁾	1994
IEC 60068-2-14	- ²⁾	Environmental testing - Part 2: Tests - Test N: Change of temperature	EN 60068-2-14	1999 ³⁾
IEC 60068-2-20	1979	Environmental testing - Part 2: Tests - Test T: Soldering	HD 323.2.20 S3 ⁴⁾	1988
IEC 60068-2-58	2004	Environmental testing - Part 2-58: Tests - Test Td: Test methods for solderability, resistance to dissolution of metallization and to soldering heat of surface mounting devices (SMD)	EN 60068-2-58 + corr. December	2004 2004
IEC 60068-2-78	- ²⁾	Environmental testing - Part 2-78: Tests - Test Cab: Damp heat, steady state	EN 60068-2-78	2001 ³⁾
IEC 61192-3	2002	Workmanship requirements for soldered electronic assemblies - Part 3: Through-hole mount assemblies	EN 61192-3	2003
IEC 61760-1	2006	Surface mounting technology - Part 1: Standard method for the specification of surface mounting components (SMDs)	EN 61760-1	2006

¹⁾ EN 60068-1 includes corrigendum October 1988 + A1:1992 to IEC 60068-1.

²⁾ Undated reference.

³⁾ Valid edition at date of issue.

⁴⁾ HD 323.2.20 S3 includes A2:1987 to IEC 60068-2-20.

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INTERNATIONAL STANDARD

IEC 60068-2-82

First edition
2007-05

Environmental testing –

Part 2-82:

Tests – Test Tx: Whisker test methods for electronic and electric components

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International Electrotechnical Commission
Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ENVIRONMENTAL TESTING –

**Part 2–82: Tests – Test Tx: Whisker test methods
for electronic and electric components**

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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International Standard IEC 60068-2-82 has been prepared by IEC technical committee 91: Electronics assembly technology.

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

FDIS	Report on voting
91/651/FDIS	91/685/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 publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in 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.

A bilingual version of this publication may be issued at a later date.

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ENVIRONMENTAL TESTING –

Part 2–82: Tests – Test Tx: Whisker test methods for electronic and electric components

1 Scope

This part of IEC 60068 specifies whisker tests for electric or electronic components representing the finished stage, with tin or tin-alloy finish. However, the standard does not specify tests for whiskers that may grow as a result of external mechanical stress.

This test method is employed by a relevant specification (international component or application specification) with transfer of the test severities to be applied and with defined acceptance criteria.

Where tests described in this standard are considered for other components, e.g. mechanical parts as used in electrical or electronic equipment, it should be ensured that the material system and whisker growth mechanisms are comparable.

2 Normative references

The following referenced documents are indispensable for the application 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.

- iTech STANDARD PREVIEW
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- SIST EN 60068-2-82:2007
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- IEC 60068-1:1988, *Environmental testing – Part 1: General and guidance*
- IEC 60068-2-14, *Environmental testing – Part 2-14: Tests – Test N: Change of temperature*
- IEC 60068-2-20:1979, *Environmental testing – Part 2-20: Tests – Test T: Soldering*
- IEC 60068-2-58:2004, *Environmental testing – Part 2-58: Tests – Test Td: Test methods for solderability, resistance to dissolution of metallization and to soldering heat of surface mounting devices (SMD)*
- IEC 60068-2-78, *Environmental testing – Part 2-78: Test Cab: Damp heat, steady state*
- IEC 61192-3:2002, *Workmanship requirements for soldered electronic assemblies – Part 3: Through-hole mount assemblies*
- IEC 61760-1:2006, *Surface mounting technology – Part 1: Standard method for the specification of surface mounting components (SMDs)*

3 Terms and definitions

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

3.1 whisker

metallic protrusion which spontaneously grows during storage or use