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INTERNATIONAL STANDARD

**Environmental testing –
Part 2-82: Tests – Test XW₁: Whisker test methods for electronic and electric
components**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

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CONTENTS

| | |
|--|----|
| FOREWORD..... | 4 |
| 1 Scope..... | 6 |
| 2 Normative references | 6 |
| 3 Terms and definitions | 6 |
| 4 Test equipment..... | 7 |
| 4.1 Desiccator | 7 |
| 4.2 Humidity chamber | 7 |
| 4.3 Thermal cycling chamber..... | 7 |
| 4.4 Optical microscope..... | 7 |
| 4.5 Scanning electron microscope microscopy | 7 |
| 4.6 Fixing jig | 8 |
| 5 Preparation for test..... | 8 |
| 5.1 General..... | 8 |
| 5.2 Selection of test methods | 8 |
| 5.3 Storage conditions prior to testing | 8 |
| 5.4 Handling of the specimen | 8 |
| 5.5 Preconditioning by heat treatment | 8 |
| 5.6 Specimen preparation by leads forming..... | 9 |
| 6 Test condition..... | 10 |
| 6.1 Ambient test..... | 10 |
| 6.2 Damp heat test..... | 10 |
| 6.3 Temperature cycling test | 10 |
| 7 Test schedule | 11 |
| 7.1 Procedure for test method selection | 11 |
| 7.2 Initial measurement..... | 12 |
| 7.3 Test..... | 12 |
| 7.4 Recovery..... | 12 |
| 7.5 Intermediate or final assessment..... | 12 |
| 8 Information to be given in the relevant specification | 12 |
| 9 Minimum requirements for a test report | 13 |
| | |
| Annex A (normative) Measurement of the whisker length | 14 |
| Annex B (informative) Examples of whiskers..... | 15 |
| Annex C (informative) Guidance on the sample lots and test schedules | 17 |
| Annex D (informative) Guidance on acceptance criteria | 19 |
| Annex E (informative) Background on whisker growth | 21 |
| Annex F (informative) Background on ambient test | 22 |
| Annex G (informative) Background on damp heat test..... | 24 |
| Annex H (informative) Background on temperature cycling test..... | 27 |
| | |
| Bibliography..... | 32 |

| | |
|---|----|
| Figure A.1 – Definition of the whisker length | 14 |
| Figure B.1 – Nodule | 15 |
| Figure B.2 – Column whisker | 15 |
| Figure B.3 – Filament whisker..... | 15 |
| Figure B.4 – Kinked whisker | 16 |
| Figure B.5 – Spiral whisker | 16 |
| Figure D.1 – Smallest distance of components and circuit boards | 19 |
| Figure F.1 – Whisker growth of tin plating in ambient test condition | 23 |
| Figure G.1 – Growth of the oxide layer in damp heat conditions | 25 |
| Figure G.2a – Growth of whiskers in damp heat conditions | 25 |
| Figure G.2b – Growth of whiskers in damp heat conditions | 26 |
| Figure G.2 – Growth of whiskers | 26 |
| Figure H.1 – Distribution of whisker length grown on FeNi (Alloy42) base material..... | 28 |
| Figure H.2 – Whisker grown on FeNi (Alloy42) base material | 29 |
| Figure H.3 – Relationship of $\Delta\vartheta$ and number of cycles for whisker growth on FeNi (Alloy 42) base material | 29 |
| Figure H.4 – Whisker growth on Cu based leadframes (QFP) in temperature cycling tests | 31 |
| | |
| Table 1 – Methods of preconditioning: Soldering simulation | 9 |
| Table 2 – Methods of preconditioning: Soldering | 9 |
| Table 3 – Severities of the ambient test | 10 |
| Table 4 – Severities of the temperature cycling test: temperature | 10 |
| Table 5 – Severities of the temperature cycling test: cycles | 11 |
| Table 6 – Suitability of test methods for different plating situations | 11 |
| Table H.1 – Example for a relationship between realistic application conditions and test conditions | 30 |

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ENVIRONMENTAL TESTING –

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for electronic and electric components**

FOREWORD

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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.

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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.

The contents of the corrigendum of December 2009 have been included in this copy.

ENVIRONMENTAL TESTING –

Part 2-82: Tests – Test XW₁: 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.

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