

Australian Standard™

Environmental testing

**Part 2.69: Tests—Test Te: Soldering—
Solderability testing of electronic
components for surface mount
technology by the wetting balance
method**

This Australian Standard was prepared by Committee EL-026, Protective Enclosures and Environmental Testing for Electrical/Electronic Equipment. It was approved on behalf of the Council of Standards Australia on 3 May 2004 and published on 3 June 2004.

The following are represented on Committee EL-026:

Australian Chamber of Commerce and Industry
Australian Electrical and Electronic Manufacture's Association
Electrical Compliance Testing Association
Electrical Regulatory Authorities Council
Energy Supply Association of Australia
Testing Interests (Australia)

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PREFACE

This Standard was prepared by the Standards Australia Committee EL-026, Protective Enclosures and Environmental Testing for Electrical/Electronic Equipment.

The objective of this Standard is to provide the electrotechnology industry with a complete set of environmental test procedures published as a series under AS 60068 *Environmental testing*. This Standard is Part 2.69 of that series.

This Standard is identical with, and has been reproduced from, IEC 60068-2-69:1995, *Environmental testing – Part 2-69: Test Te: Soldering—Solderability testing of electronic components for surface mount technology by the wetting balance method*.

As this Standard is reproduced from an International Standard, the following applies:

- (a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.
- (b) In the source text ‘this international standard’ should read ‘this Australian Standard’.
- (c) A full point should be substituted for a comma when referring to a decimal marker.
- (d) Any French text on figures should be ignored.

In this Standard, the following print types are used:

- requirements proper: in arial type;
- *test specifications: in italic type;*
- explanatory matter: in smaller arial type.

Any international Standard referenced should be replaced by an equivalent Australian Standard when one is available. The availability of equivalent Australian Standards can be determined either from the Standards Australia catalogue or from the Standards Australia website (www.standards.com.au).

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NOTES

STANDARDS AUSTRALIA

Australian Standard**Environmental testing****Part 2.69: Tests—Test Te: Soldering—Solderability testing of electronic components for surface mount technology by the wetting balance method**

1 Scope

This International Standard describes two wetting balance methods. These methods determine quantitatively the solderability of terminations on surface mounted devices.

The procedures describe the solder bath wetting balance method and the solder globule wetting balance method and are both applicable to components with metallic terminations and metallized solder pads.

The terms used in this standard are those defined in IEC 60068-2-20 and IEC 60068-2-54.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 60068. 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 60068 are encouraged to investigate the possibility of applying the most recent editions of the normative documents listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60068-2-20: 1979, *Basic environmental testing procedures – Part 2: Tests – Test T: Soldering*

IEC 60068-2-44: 1995, *Environmental testing – Part 2: Tests – Guidance on Test T: Soldering*

IEC 60068-2-54: 1985, *Basic environmental testing procedures – Part 2: Tests – Test Ta: Soldering – Solderability testing by the wetting balance method*

ISO 683: *Heat-treatable steels, alloy steels and free-cutting steels*

ISO 6362: *Wrought aluminium and aluminium alloy extruded rods/bars, tubes and profiles*

ISO 9453: 1990, *Soft solder alloys – Chemical compositions and forms*

ISO 9454-1: 1990, *Soft soldering fluxes – Classification and requirements – Part 1: Classification, labelling and packaging*

3 General description of the method

After applying the liquid flux to the component termination and mounting the component in a suitable holder, the specimen is suspended from a sensitive balance. The component termination is brought into contact with the cleaned surface of a solder bath or the apex of a solder globule, and immersed to the prescribed depth.