AS 60068.2.54—2004
IEC 60068-2-54:1985

Australian Standard™

Environmental testing

Part 2.54: Tests—Test Ta: Soldering—Solderability testing by the wetting balance method

STANDARDS AUSTRALIA

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 Manufacturer's Association

Electrical Compliance Testing Association

Electrical Regulatory Authorities Council

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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 2.54 of that series.

This Standard is identical with, and has been reproduced from, IEC 60068-2-54:1985, *Basic environmental testing procedures – Part 2-54: Tests—Test Ta: Soldering—Solderability testing 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'.

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(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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1 Object

This test is to determine the solderability of component terminations of any shape. It is specially suitable for reference testing and for components that cannot be quantitatively tested by other methods.

2 General description of the test

The specimen is suspended from a sensitive balance (typically a spring system) and immersed edgewise to a set depth in a bath of molten solder at a controlled temperature. The resultant of the vertical forces of buoyancy and surface tension acting upon the immersed specimen is detected by a transducer and converted into a signal which is continuously recorded as a function of time on a high-speed chart recorder. The trace may be compared with that derived from a perfectly wetted specimen of the same nature and dimensions.

Two modes of testing exist.

– The stationary mode, intended to study the solderability of a particular place on the specimen. It is this mode which is standardized in this standard.
– The scanning mode, intended to study the homogeneity of the solderability of an extended region of the surface of the specimen. The standardization of this mode is still under consideration.

3 Description of the test apparatus

A diagram of an arrangement suitable for the test is shown in figure 1.