

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Environmental testing –
Part 2-69: Tests – Test Te/Tc: Solderability testing of electronic components
and printed boards by the wetting balance (force measurement) method**

**Essais d'environnement –
Partie 2-69: Essais – Essai Te/Tc: Essai de brasabilité des composants
électroniques et cartes imprimées par la méthode de la balance de mouillage
(mesure de la force)**



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CONTENTS

FOREWORD.....	5
1 Scope.....	7
2 Normative references	7
3 Terms and definitions	7
4 General description of the method	8
4.1 General.....	8
4.2 Components	8
4.3 Printed boards	8
4.4 Measurement.....	8
5 Description of the test apparatus	8
6 Preparation of specimens	10
6.1 Cleaning	10
6.2 Preconditioning.....	10
7 Materials	11
7.1 Solder.....	11
7.1.1 General	11
7.1.2 Solder alloy containing lead.....	11
7.1.3 Lead-free solder alloy	11
7.1.4 Solder contamination control	11
7.1.5 Solder mass for solder globule wetting balance method.....	12
7.2 Flux	13
7.2.1 Rosin based flux.....	13
7.2.2 Flux maintenance	13
7.2.3 Test flux selection criteria.....	13
8 Procedure.....	13
8.1 Test temperature	13
8.1.1 Solder alloy containing lead.....	13
8.1.2 Lead-free solder alloy	13
8.2 Test procedure.....	13
8.2.1 Applicable test procedure	13
8.2.2 Solder bath wetting balance procedure	14
8.2.3 Solder globule wetting balance procedure.....	17
8.2.4 Procedure for testing printed board specimens	20
9 Presentation of results.....	21
9.1 Form of force versus time trace.....	21
9.2 Test requirements	22
10 Information to be given in the relevant specification.....	23
Annex A (normative) Equipment specification	24
A.1 Characteristics of the apparatus.....	24
A.2 Solder bath	24
A.3 Globule support blocks	25
Annex B (informative) Use of the wetting balance for SMD solderability testing.....	26
B.1 Definition of the measure of solderability	26
B.2 Gauge R&R – Test protocol for wetting balance gauge repeatability and reproducibility using copper foil coupons.....	26

B.2.1	Test coupon.....	26
B.2.2	Test parameters	27
B.2.3	Known good coupon	27
B.3	Solder globule mass and pin size.....	28
B.4	Specimen orientation and immersion depth.....	28
B.4.1	General	28
B.4.2	Resistors and capacitors	29
B.4.3	Small-leaded components.....	29
B.4.4	Multi-leaded devices	29
B.5	Test flux.....	30
B.6	Test temperature	30
B.6.1	Solder alloy containing lead	30
B.6.2	Solder alloy without lead.....	31
B.7	Characteristics of the test apparatus.....	31
B.7.1	Recording device.....	31
B.7.2	Balance system	32
B.7.3	Lifting mechanism and controls.....	32
B.7.4	Parameters to be measured from the force-time trace.....	37
B.7.5	Reference wetting force	37
B.7.6	Equipment location	38
B.7.7	Globule pins	38
B.7.8	Globule modules.....	38
B.8	Test flux – IPC-J-STD-002/J-STD-003 activated solderability test flux rationale committee letter.....	38
B.8.1	General	38
B.8.2	Proactive solderability testing approach to the implementation of non-tin finishes.....	39
B.8.3	Reduced solderability test variability.....	39
B.8.4	Standardization of solderability test flux composition on a global scale	39
Annex C (normative)	Test methods for SMD components sizes 0603M (0201) or smaller.....	40
C.1	General.....	40
C.2	General description of the test method.....	40
C.3	Preconditioning.....	40
C.3.1	Preparation of the specimens	40
C.3.2	Ageing	40
C.4	Materials.....	40
C.4.1	Solder.....	40
C.4.2	Flux	41
C.5	Method 1.....	41
C.5.1	Description of the test apparatus	41
C.5.2	Procedures	41
C.5.3	Presentation of results.....	44
C.5.4	Information to be given in the relevant specification.....	45
C.6	Method 2.....	46
C.6.1	Test apparatus	46
C.6.2	Observation equipment.....	46
C.6.3	Test method 2	46
C.6.4	Presentation of results.....	47

Annex D (informative) Evaluation criteria – Guidance	48
D.1 General considerations	48
D.2 Evaluation criteria for components	48
D.3 Evaluation criteria for printed boards.....	49
Annex E (informative) Method of calculating the maximum theoretical force and integrated value of the area of the wetting curve for leaded non-SMD.....	50
E.1 Method of calculating the maximum theoretical force	50
E.2 Method of calculating the integrated value of the area of the wetting curve	50
Bibliography.....	52
Figure 1 – Arrangement for the test apparatus (solder bath wetting balance method).....	9
Figure 2 – Arrangement for the test apparatus (solder globule wetting balance method)	9
Figure 3 – Immersion conditions for solder bath method	16
Figure 4 – Immersion conditions for solder globule method.....	19
Figure 5 – Suggested wetting balance test specimens and soldering immersion	20
Figure 6 – Printed board immersion	21
Figure 7 – Typical wetting balance trace	22
Figure B.1 – Understanding wetting curves	35
Figure B.2 – Typical wetting curve	35
Figure B.3 – Representative force-time curves.....	36
Figure C.1 – Cross-section of aluminium body	41
Figure C.2 – Dipping position and relative position.....	42
Figure C.3 – Time and test sequence.....	44
Figure C.4 – Typical wetting balance trace.....	45
Figure D.1 – Set A wetting curve.....	49
Figure D.2 – Set B wetting curve.....	49
Table 1 – Preconditioning	10
Table 2 – Maximum limits of solder bath contaminants.....	12
Table 3 – Globule and pellet sizes	12
Table 4 – Rosin based flux compositions	13
Table 5 – Recommended solder bath wetting balance test conditions	15
Table 6 – Time sequence of the test (solder bath).....	17
Table 7 – Recommended solder globule wetting balance test conditions.....	18
Table 8 – Time sequence of the test (solder globule)	20
Table B.1 – Carboxylic acid based flux (water solution)	30
Table B.2 – Carboxylic acid based flux (alcohol solution)	30
Table C.1 – Time sequence of the test procedure	43
Table D.1 – Wetting balance parameter and suggested evaluation criteria.....	48
Table D.2 – Printed board test parameter and suggested criteria	49

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ENVIRONMENTAL TESTING –

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electronic components and printed boards
by the wetting balance (force measurement) method**

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International Standard IEC 60068-2-69 has been prepared by IEC technical committee 91: Electronics assembly technology.

This third edition cancels and replaces the second edition published in 2007 as well as the second edition of IEC 60068-2-54 published in 2006 and constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- integration of IEC 60068-2-54;
- inclusion of tests of printed boards;
- inclusion of new component types, and updating test parameters for the whole component list;

- inclusion of a new gauge R & R test protocol to ensure that the respective wetting balance equipment is correctly calibrated.

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

FDIS	Report on voting
91/1405/FDIS	91/1426/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document 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.

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- replaced by a revised edition, or
- amended.

ENVIRONMENTAL TESTING –

Part 2-69: Tests – Test Te/Tc: Solderability testing of electronic components and printed boards by the wetting balance (force measurement) method

1 Scope

This part of IEC 60068 outlines test Te/Tc, the solder bath wetting balance method and the solder globule wetting balance method to determine, quantitatively, the solderability of the terminations. Data obtained by these methods are not intended to be used as absolute quantitative data for pass–fail purposes.

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

This document provides the measurement procedures for solder alloys both with and without lead (Pb).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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, *Environmental testing – Part 1: General and guidance*

IEC 60068-2-2, *Environmental testing – Part 2-2: Tests – Test B: Dry heat*

IEC 60068-2-20:2008, *Environmental testing – Part 2-20: Tests – Test T: Test methods for solderability and resistance to soldering heat of devices with leads*

IEC 60068-2-66, *Environmental testing – Part 2: Test methods – Test Cx: Damp heat, steady state (unsaturated pressurized vapour)*

IEC 61190-1-3:2007, *Attachment materials for electronic assembly – Part 1-3: Requirements for electronic grade solder alloys and fluxed and non-fluxed solid solders for electronic soldering applications*

IEC 61190-1-3:2007/AMD1:2010

ISO 683 (all parts), *Heat-treatable steels, alloy steels and free-cutting steels*

ISO 6362 (all parts), *Wrought aluminium and aluminium alloys – Extruded rods/bars, tubes and profiles*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60068-1 and IEC 60068-2-20 apply.