

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Environmental testing –

Part 2-83: Tests – Test Tf: Solderability testing of electronic components for surface mounting devices (SMD) by the wetting balance method using solder paste

Essais d'environnement –

Partie 2-83: Essais – Essai Tf: Essai de brasabilité des composants électroniques pour les composants pour montage en surface (CMS) par la méthode de la balance de mouillage utilisant de la pâte à braser



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IEC Central Office
3, rue de Varembe
CH-1211 Geneva 20
Switzerland
Email: inmail@iec.ch
Web: www.iec.ch

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ENVIRONMENTAL TESTING –

**Part 2-83: Tests – Test Tf: Solderability testing
of electronic components for surface mounting devices (SMD)
by the wetting balance method using solder paste**

FOREWORD

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International Standard IEC 60068-2-83 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
91/975/FDIS	91/992/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.

The committee has decided that the contents of this publication will remain unchanged until the stability 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- withdrawn,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
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The holders of the patent rights have assured the IEC that they are willing to negotiate licences either free of charge or under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holders of these patent rights are registered with IEC. Information may be obtained as indicated below.

- a) EU patent 0920488.4 “Synchronous test method for assessing soldering pastes”¹
Gen3 Systems LTD
Unit B2
Armstrong Mall
Farnborough GU14 0NR
United Kingdom
- b) JP Patent 2630712 “Testing method of characteristics of solder paste and the equipment for the test”
Malcom Co., Ltd
4-15-10 Honmachi, Shibuya-ku
Tokyo, 151-0071
Japan
- c) Patent JP 3789041 “Solderability measuring apparatus”
Patent JP 3552061 “Solderability tester and solderability test method”
Patent JP 3498100 “Method and device for testing solderability and microcrucible for testing”
Patent JP 3153884 “Measuring device for soldering performance of cream solder”
Tarutin Kester Co., Ltd.
2-20-11 Yokokawa,
Sumida-ku
Tokyo, 130-0003
Japan
- d) Sony Corporation
1-7-1 Konan Minato-ku
Tokyo 108-0075
Japan

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¹ Status of patent: Pending.

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ENVIRONMENTAL TESTING –

Part 2-83: Tests – Test Tf: Solderability testing of electronic components for surface mounting devices (SMD) by the wetting balance method using solder paste

1 Scope

This part of IEC 60068 provides methods for comparative investigation of the wettability of the metallic terminations or metallized terminations of SMDs with solder pastes.

Data obtained by these methods are not intended to be used as absolute quantitative data for pass – fail purposes.

NOTE Different solderability test methods for SMD are described in IEC 60068-2-58 and IEC 60068-2-69. IEC 60068-2-58 prescribes visual evaluation using solder bath and reflow method, IEC 60068-2-69 prescribes wetting balance evaluation using solder bath and solder globule method.

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, *Environmental testing – Part 1: General and guidance*

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 60068-2-58, *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 60194, *Printed board design, manufacture and assembly – Terms and definitions*

IEC 61190-1-3, *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*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60068-1, IEC 60068-2-20:2008, IEC 60068-2-58, IEC 60194, and IEC 61190-1-3 and the following apply.

3.1

wettability

ease with which a metal or metal alloy can be wetted by molten solder