

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

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**Environmental testing –  
Part 3-13: Supporting documentation and guidance on Test T – Soldering**

**Essais d'environnement –  
Partie 3-13: Documentation d'accompagnement et guide sur les essais T –  
Brasage**



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# INTERNATIONAL ELECTROTECHNICAL COMMISSION

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## ENVIRONMENTAL TESTING –

### Part 3-13: Supporting documentation and guidance on Test T – Soldering

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International Standard IEC 60068-3-13 has been prepared by IEC technical committee 91: Electronics assembly technology.

This first edition cancels and replaces IEC 60068-2-44:1995 and constitutes a technical revision.

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

- information for lead-free solders are added;
- technical update and restructuring.

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

FDIS	Report on voting
91/1345/FDIS	91/1356/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.

A list of all parts in the IEC 60068 series, published 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 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,
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- replaced by a revised edition, or
- amended.

## ENVIRONMENTAL TESTING –

### Part 3-13: Supporting documentation and guidance on Test T – Soldering

#### 1 Scope

This part of IEC 60068 provides background information and guidance for writers and users of specifications for electric and electronic components, containing references to the test standards IEC 60068-2-20, IEC 60068-2-58, IEC 60068-2-69, IEC 60068-2-83, and to IEC 61760-1, which defines requirements to the specification of surface mounting components.

#### 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60068-2-20:2008, *Environmental testing – Part 2: 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 60068-2-69, *Environmental testing – Part 2-69: Tests – Test Te: Solderability testing of electronic components for surface mounting devices (SMD) by the wetting balance method<sup>1</sup>*

IEC 60068-2-83, *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*

IEC 61760-1, *Surface mounting technology – Part 1: Standard method for the specification of surface mounting components (SMDs)*

IEC 62137-3, *Electronics assembly technology – Part 3: Selection guidance of environmental and endurance test methods for solder joints*

#### 3 Terms, definitions and abbreviations

##### 3.1 Terms and definitions

For the purposes of this document the following terms and definitions apply.

###### 3.1.1

###### **solderability**

ability of the lead, termination or electrode of a component to be wetted by solder at the temperature of the termination or electrode, which is assumed to be the lowest temperature in the soldering process within the applicable temperature range of the solder alloy

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<sup>1</sup> A new edition (third edition) is currently under consideration.