

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

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 60068-2-20:2008 sisaldab Euroopa standardi EN 60068-2-20:2008 ingliskeelset teksti.</p> <p>Standard on kinnitatud Eesti Standardikeskuse 24.11.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 25.09.2008.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 60068-2-20:2008 consists of the English text of the European standard EN 60068-2-20:2008.</p> <p>This standard is ratified with the order of Estonian Centre for Standardisation dated 24.11.2008 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.</p> <p>Date of Availability of the European standard text 25.09.2008.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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ICS 19.040

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Kui Teil on küsimusi standardite autorikaitse kohta, palun võtke ühendust Eesti Standardikeskusega:
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English version

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

Essais d'environnement -
Partie 2-20: Essais -
Essai T: Méthodes d'essai
pour la brasabilité et la résistance
à la chaleur de brasage
des dispositifs plombés
(CEI 60068-2-20:2008)

Umgebungseinflüsse -
Teil 2-20: Prüfungen -
Prüfung T: Prüfverfahren für die Lötbarkeit
und Lötwärmebeständigkeit
von Bauelementen mit herausgeführten
Anschlüssen
(IEC 60068-2-20:2008)

This European Standard was approved by CENELEC on 2008-08-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 91/764/FDIS, future edition 5 of IEC 60068-2-20, prepared by IEC TC 91, Electronics assembly technology, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60068-2-20 on 2008-08-01.

This European Standard supersedes HD 323.2.20 S3:1988.

The major technical changes with regard to HD 323.2.20 S3:1988 are the following:

- the solder globule test is deleted;
- test conditions and requirements for lead-free solders are added.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2009-05-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2011-08-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60068-2-20:2008 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60068-2-54	NOTE Harmonized as EN 60068-2-54:2006 (not modified).
IEC 60068-2-58	NOTE Harmonized as EN 60068-2-58:2004 (not modified).
IEC 60068-2-69	NOTE Harmonized as EN 60068-2-69:2007 (not modified).
IEC 61190-1-3	NOTE Harmonized as EN 61190-1-3:2007 (not modified).

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60068-1	- ¹⁾	Environmental testing - Part 1: General and guidance	EN 60068-1	1994 ²⁾
IEC 60068-2-2	- ¹⁾	Environmental testing - Part 2-2: Tests - Test B: Dry heat	EN 60068-2-2	2007 ²⁾
IEC 60068-2-66	- ¹⁾	Environmental testing - Part 2-66: Test methods - Test Cx: Damp heat, steady state (unsaturated pressurized vapour)	EN 60068-2-66	1994 ²⁾
IEC 60068-2-78	- ¹⁾	Environmental testing - Part 2-78: Tests - Test Cab: Damp heat, steady state	EN 60068-2-78	2001 ²⁾
IEC 60194	- ¹⁾	Printed board design, manufacture and assembly - Terms and definitions	EN 60194	2006 ²⁾
IEC 61191-3	- ¹⁾	Printed board assemblies - Part 3: Sectional specification - Requirements for through-hole mount soldered assemblies	EN 61191-3	1998 ²⁾
IEC 61191-4	- ¹⁾	Printed board assemblies - Part 4: Sectional specification - Requirements for terminal soldered assemblies	EN 61191-4	1998 ²⁾

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

CONTENTS

FOREWORD.....	4
1 Scope and object.....	6
2 Normative references	6
3 Terms and definitions	7
4 Test Ta: Solderability of wire and tag terminations.....	8
4.1 Object and general description of the test.....	8
4.1.1 Test methods.....	8
4.1.2 Specimen preparation.....	8
4.1.3 Initial measurements	9
4.1.4 Accelerated ageing.....	9
4.2 Method 1: Solder bath	9
4.2.1 Description of the solder bath	9
4.2.2 Flux	10
4.2.3 Procedure.....	10
4.2.4 Test conditions	10
4.2.5 Final measurements and requirements	11
4.3 Method 2: Soldering iron at 350 °C.....	11
4.3.1 Description of soldering irons	11
4.3.2 Solder and flux	12
4.3.3 Procedure.....	12
4.3.4 Final measurements and requirements	13
4.4 Information to be given in the relevant specification	13
5 Test Tb: Resistance to soldering heat.....	13
5.1 Object and general description of the test.....	13
5.1.1 Test methods.....	13
5.1.2 Initial measurements	14
5.2 Method 1: Solder bath	14
5.2.1 Description of the solder bath	14
5.2.2 Flux	14
5.2.3 Procedure.....	14
5.2.4 Test conditions	14
5.2.5 De-wetting	15
5.3 Method 2: Soldering iron	15
5.3.1 Description of soldering iron	15
5.3.2 Solder and flux	15
5.3.3 Procedure.....	15
5.4 Recovery.....	16
5.5 Final measurements and requirements	16
5.6 De-wetting (if applicable).....	16
5.7 Information to be given in the relevant specification	17
Annex A (informative) Example of apparatus for accelerated steam ageing process	18
Annex B (normative) Specification for flux constituents.....	19
Bibliography.....	20
Figure 1 – Diagram of contact angle	7

Figure 2 – Position of soldering iron..... 12

Figure A.1 – Example of apparatus 18

Table 1 – Solderability, Solder bath method: Test severities (duration and temperature)..... 11

Table 2 – Resistance to soldering heat, Solder bath method: Test severities (duration and temperature) 15

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ENVIRONMENTAL TESTING –

Part 2-20: Tests – Test T: Test methods for solderability and resistance to soldering heat of devices with leads

1 Scope and object

This part of IEC 60068 outlines Test T, applicable to devices with leads. Soldering tests for surface mounting devices (SMD) are described in IEC 60068-2-58.

This standard provides procedures for determining the solderability and resistance to soldering heat of devices in applications using solder alloys, which are eutectic or near eutectic tin lead (Pb), or lead-free alloys.

The procedures in this standard include the solder bath method and soldering iron method.

The objective of this standard is to ensure that component lead or termination solderability meets the applicable solder joint requirements of IEC 61191-3 and IEC 61191-4. In addition, test methods are provided to ensure that the component body can resist against the heat load to which it is exposed during soldering.

NOTE Information about wetting time and wetting force can be obtained by test methods using a wetting balance. See IEC 60068-2-54 (solder bath method) and IEC 60068-2-69 (solder bath and solder globule method for SMDs).

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

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

IEC 60068-2-78, *Environmental testing – Part 2-78: Tests – Test Cab: Damp heat, steady State*

IEC 60194, *Printed board design, manufacture and assembly – Terms and definitions*

IEC 61191-3, *Printed board assemblies – Part 3: Sectional specification – Requirements for through-hole mount soldered assemblies*

IEC 61191-4, *Printed board assemblies – Part 4: Sectional specification – Requirements for terminal soldered assemblies*