SLOVENSKI STANDARD
SIST EN 60068-2-58:2015/A1:2018

01-oktober-2018

Okoljsko preskušanje - 2-58. del: Preskusi - Preskus Td: preskusna metoda za spajkanje, odpornost površinsko montiranih komponent (SMD) proti razkrajanju pokovinjenja in vročini spajke - Dopolnilo A1

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)

Umweltprüfungen - Teil 2-58: Prüfungen - Prüfung Td: Prüfverfahren für Lötbarkeit, Widerstandsfähigkeit gegenüber Auflösen der Metallisierung und Lötwärmebeständigkeit bei oberflächenmontierbaren Bauelementen (SMD)

Essais d'environnement - Partie 2-58: Essais - Essai Td: Méthodes d'essai de la soudabilité, résistance de la métallisation à la dissolution et résistance à la chaleur de brasage des composants pour montage en surface (CMS)

Ta slovenski standard je istoveten z: **EN 60068-2-58:2015/A1:2018**

ICS:

19.040	Preskušanje v zvezi z okoljem	Environmental testing
31.190	Sestavljeni elektronski elementi	Electronic component assemblies

SIST EN 60068-2-58:2015/A1:2018 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60068-2-58:2015/A1

April 2018

ICS 19.040; 31.190

English Version

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 60068-2-58:2015/A1:2017)

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This amendment A1 modifies the European Standard EN 60068-2-58:2015; it was approved by CENELEC on 2017-09-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 CEN-CENELEC Management Centre or to any CENELEC member.

This amendment 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 CEN-CENELEC Management Centre has the same status as the official versions.

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CENELEC

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 91/1445/FDIS, future edition 1 of IEC 60068-2-58:2015/A1, prepared by IEC/TC 91 "Electronics assembly technology" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60068-2-58:2015/A1:2018.

The following dates are fixed:

• latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2018-10-13
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2021-04-13

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 60068-2-58:2015/A1:2017 was approved by CENELEC as a European Standard without any modification.

IEC 60068-2-58

Edition 4.0 2017-07

INTERNATIONAL STANDARD

colour inside

AMENDMENT 1

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)

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ICS 19.040; 31.190

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FOREWORD

This amendment has been prepared by IEC technical committee 91: Electronics assembly technology.

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

FDIS	Report on voting
91/1445/FDIS	91/1451/RVD

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

The committee has decided that the contents of this amendment and the base publication will remain unchanged until the stability date indicated on the IEC website 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
- amended.

A bilingual version of this publication may be issued at a later date.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

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1 Scope

Replace the existing second paragraph of the Scope with the following new paragraph:

This document provides procedures for determining the solderability, resistance to dissolution of metallization 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.

3.2
resistance to soldering heat

Replace the existing definition with the following new definition:

ability of the component to withstand the highest temperature stress in terms of temperature gradient, peak temperature and duration of the soldering process, within the applicable temperature range of the solder alloy

6.5.3.4 Solder immersion

Replace the existing first paragraph of Subclause 6.5.3.4 with the following new paragraph:

If the preheating is prescribed by the relevant specification, the specified duration and temperature shall be applied immediately prior to the immersion of the specimen in the solder bath.

8.5.8 Evaluation

Replace “Clause A.4.” *by* “Clause A.2”.

Add the following new text at the end of Subclause 8.5.8:

Note that this test does not directly assess the dewetting but assesses the possibility of the dewetting.

9.3.1.3 Metallic terminations shorter than 6 mm (dimension “d” in Figure 6)

Replace existing item b) with the following new text:

b) The upper side of the termination (area “b” in Figure 6):

After the dipping test, the dipped surface shall show visible evidence of being wettable, as indicated by the presence of fresh solder. A homogeneous coating is not necessary here.

Replace existing item c) with the following new text:

c) Non-coated cut edges at the end of the termination and the termination above the lower bend (area “c” in Figure 6):

For these areas (“b”, “c” and “d”), no quality criterion of solder coating is given.

Delete item d).

10.2 Solderability

Replace the existing text of Subclause 10.2 with the following new text:

The following details shall be applied for solderability.

a) Property to be tested *
b) Applicable test method *

c) Condition of preconditioning (if required) *
d) For solder bath method
   1) Selected solder alloy *
   2) Flux type*
   3) Clamping, fluxing and solder immersion *
   4) Preheating *
   5) Attitude to be used
   6) Solder temperature and duration *
e) For reflow method
   1) Solder paste *
   2) Dimensional details of test substrate *
   3) Thickness of solder paste *
   4) Amount of solder paste
   5) Placement procedure
   6) Temperature profile *
   7) Temperature measurement point *
f) Removal procedure
g) Cleaning method
h) Recovery conditions
i) Areas of the terminations to be examined *
j) Final inspection requirements and acceptance criteria *

10.3 Resistance to soldering heat, dewetting and resistance to dissolution of metallization

Replace the existing text of Subclause 10.3 with the following new text:

The following details shall be applied for resistance to soldering heat, dewetting and resistance to dissolution of metallization.

a) Property to be tested *
b) Applicable test method *
c) Condition of preconditioning (if required) *
d) For solder bath method
   1) Selected solder alloy *
   2) Flux type *
   3) Clamping, fluxing and solder immersion *
   4) Preheating *
   5) Attitude to be used
   6) Solder temperature and duration *
   7) Number of test cycles if other than 1 cycle (for resistance to soldering heat) *
e) For reflow method
   1) Solder paste (if required)*
   2) Dimensional details of test substrate (for resistance to soldering heat and if required) *
   3) Thickness of solder paste (if required) *

4) Amount of solder paste (if required) *
5) Placement procedure (if required) *
6) Temperature profile *
7) Temperature measurement point *
8) Number of test cycles for resistance to soldering heat *

f) Removal procedure
g) Cleaning method
h) Recovery conditions
i) Areas of the terminations to be examined *
j) Final inspection requirements and acceptance criteria *

Annex A Criteria for visual inspection

Replace the existing text of Annex A with the following new text:

A.1 Evaluation of wetting

A.1.1 General

In various specifications, a complete or nearly complete coating with solder is often defined by the so-called 95 % requirement. The application of this requirement is often difficult when assessing specimens with metallized terminations or with short metallic terminations, especially when different parts of the termination are distinguished. Nevertheless, the same approach is followed here.

A.1.2 Criteria for wetting

Acceptable when 95 % or more area to be evaluated covered by an ideal solder coating with a dewetting area is scattered and not concentrated in one area.

Figure A.1 comprises six examples illustrating the criteria for visual examination.

NOTE To help in the evaluation of wetting, the photographs in Figure A.1 have been reproduced on such a scale that the dimensions are reasonably comparable with the view obtained under a microscope, while ensuring that smaller details are still sufficiently clear.