

Semiconductor devices - Mechanical and climatic test
methods - Part 9: Permanence of marking

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 60749-9:2017 sisaldab Euroopa standardi EN 60749-9:2017 ingliskeelset teksti.	This Estonian standard EVS-EN 60749-9:2017 consists of the English text of the European standard EN 60749-9:2017.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
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English Version

**Semiconductor devices - Mechanical and climatic test methods -
Part 9: Permanence of marking
(IEC 60749-9:2017)**

Dispositifs à semiconducteurs - Méthodes d'essais
mécaniques et climatiques - Partie 9: Permanence du
marquage
(IEC 60749-9:2017)

Halbleiterbauelemente - Mechanische und klimatische
Prüfverfahren - Teil 9: Beständigkeit der Kennzeichnung
(IEC 60749-9:2017)

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

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European foreword

The text of document 47/2348/FDIS, future edition 2 of IEC 60749-9, prepared by IEC/TC 47 "Semiconductor devices" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60749-9:2017.

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) 2018-01-07
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2020-04-07

This document supersedes EN 60749-9:2002.

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Endorsement notice

The text of the International Standard IEC 60749-9:2017 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated :

IEC 61340-2-3:2016	NOTE	Harmonized as EN 61340-2-3:2016 (not modified).
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SEMICONDUCTOR DEVICES – MECHANICAL AND CLIMATIC TEST METHODS –

Part 9: Permanence of marking

1 Scope

The purpose of this part of IEC 60749 is to determine whether the marks on solid state semiconductor devices will remain legible when subjected to the application and removal of labels or the use of solvents and cleaning solutions commonly used during the removal of solder flux residue from the printed circuit board manufacturing process.

This test is applicable for all package types. It is suitable for use in qualification and/or process monitor testing. The test is considered non-destructive. Electrical or mechanical rejects can be used for the purpose of this test.

NOTE 1 This procedure does not apply to laser branded packages.

Many available solvents that could be used are either not sufficiently active, too stringent, or even dangerous to humans when in direct contact or when fumes are inhaled.

NOTE 2 The composition of solvents used in this document is considered typical and representative of the desired stringency as far as the usual coatings and markings are concerned.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purpose of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1

solvent A

mixture consisting of the following:

- one part by volume of isopropyl alcohol;
- three parts by volume of volatile petroleum spirits with a flash point greater than 60 °C, or
- three parts by volume of a mixture of 80 % by volume of kerosene and 20 % by volume of ethylbenzene

Note 1 to entry: The solvent should be maintained at a temperature of 20 °C to 30 °C.

3.2

solvent B

semi-aqueous based solvent, (defluxer), e.g. a terpene, aliphatic hydrocarbons, high molecular weight alcohols, etc., or any equivalent national environmental agency-approved HCFC (hydrochlorofluorocarbon), terpene or demonstrated equivalent