



SLOVENSKI STANDARD
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Tehnologija površinske montaže - 1. del: Standardna metoda za specifikacijo komponent za površinsko montažo (SMDs)

Surface mounting technology - Part 1: Standard method for the specification of surface mounting components (SMDs)

Oberflächenmontagetechnik - Teil 1: Genormtes Verfahren zur Spezifizierung oberflächenmontierbarer Bauelemente (SMDs)

Technique du montage en surface - Partie 1: Méthode de normalisation pour la spécification des composants montés en surface (CMS)

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2022

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31.190

Sestavljeni elektronski elementi

Electronic component assemblies

SIST EN IEC 61760-1:2022

en

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EUROPEAN STANDARD

EN IEC 61760-1

NORME EUROPÉENNE

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September 2020

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Supersedes EN 61760-1:2006 and all of its amendments
and corrigenda (if any)

English Version

Surface mounting technology - Part 1: Standard method for the specification of surface mounting components (SMDs) (IEC 61760-1:2020)

Technique du montage en surface - Partie 1: Méthode
normalisée pour la spécification des composants montés en
surface (CMS)
(IEC 61760-1:2020)

Oberflächenmontagetechnik - Teil 1: Genormtes Verfahren
zur Spezifizierung oberflächenmontierbarer Bauelemente
(SMDs)
(IEC 61760-1:2020)

This European Standard was approved by CENELEC on 2020-08-18. 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.

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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

EN IEC 61760-1:2020 (E)**European foreword**

The text of document 91/1648/FDIS, future edition 3 of IEC 61760-1, prepared by IEC/TC 91 "Electronics assembly technology" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61760-1:2020.

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) 2021-05-18
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2023-08-18

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The text of the International Standard IEC 61760-1:2020 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 60062	NOTE	Harmonized as EN 60062
IEC 60068-1	NOTE	Harmonized as EN 60068-1
IEC 60068-2-20	NOTE	Harmonized as EN 60068-2-20
IEC 60068-2-69	NOTE	Harmonized as EN 60068-2-69
IEC 60191-6-19	NOTE	Harmonized as EN 60191-6-19
IEC 60352-5	NOTE	Harmonized as EN 60352-5
IEC 60749 (series)	NOTE	Harmonized as EN 60749 (series)
IEC 61188-5-1	NOTE	Harmonized as EN 61188-5-1
IEC 61189-5-504	NOTE	Harmonized as EN IEC 61189-5-504
IEC 62474	NOTE	Harmonized as EN IEC 62474

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60068	-	Environmental testing	-	-
IEC 60068-2-2	-	Environmental testing - Part 2-2: Tests - Test B: Dry heat	EN 60068-2-2	-
IEC 60068-2-21	-	Environmental testing - Part 2-21: Tests - Test U: Robustness of terminations and integral mounting devices	-	-
IEC 60068-2-45	1980	Basic environmental testing procedures - Part 2-45: Tests - Test XA and guidance: Immersion in cleaning solvents	EN 60068-2-45	1992
+ A1	1993		+ A1	1993
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)	EN 60068-2-58	-
IEC 60191-6	-	Mechanical standardization of semiconductor devices - Part 6: General rules for the preparation of outline drawings of surface mounted semiconductor device packages	EN 60191-6	-
IEC 60194-2	-	Printed boards design, manufacture and assembly - Vocabulary - Part 2: Common usage in electronic technologies as well as printed board and electronic assembly technologies	-	-
IEC 60286-3	-	Packaging of components for automatic handling - Part 3: Packaging of surface mount components on continuous tapes	EN IEC 60286-3	-

EN IEC 61760-1:2020 (E)

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60286-4	-	Packaging of components for automatic handling - Part 4: Stick magazines for electronic components encapsulated in packages of different forms	EN 60286-4	-
IEC 60286-5	-	Packaging of components for automatic handling - Part 5: Matrix trays	EN IEC 60286-5	-
IEC 60286-6	-	Packaging of components for automatic handling - Part 6: Bulk case packaging for surface mounting components	EN 60286-6	-
IEC 60749-20	2008	Semiconductor devices - Mechanical and climatic test methods - Part 20: Resistance of plastic encapsulated SMDs to the combined effect of moisture and soldering heat	EN 60749-20	2009
IEC 61188-6-4	-	Printed boards and printed board assemblies - Design and use - Part 6-4: Land pattern design - Generic requirements for dimensional drawings of surface mounted components (SMD) from the viewpoint of land pattern design	EN IEC 61188-6-4	-
IEC 61340-5-1	-	Electrostatics - Part 5-1: Protection of electronic devices from electrostatic phenomena - General requirements	EN 61340-5-1	-
IEC 61340-5-3	-	Electrostatics - Part 5-3: Protection of electronic devices from electrostatic phenomena - Properties and requirements classification for packaging intended for electrostatic discharge sensitive devices	EN 61340-5-3	-
IEC 61760-2	-	Surface mounting technology - Part 2: Transportation and storage conditions of surface mounting devices (SMD) - Application guide	-	-
IEC 61760-4	-	Surface mounting technology - Part 4: Classification, packaging, labelling and handling of moisture sensitive devices	EN 61760-4	-
IEC 62090	-	Product package labels for electronic components using bar code and twodimensional symbologies	EN 62090	-
IPC/JEDEC J-STD-020E	-	Moisture/Reflow Sensitivity Classification for Nonhermetic Solid State Surface Mount Devices	-	-
IPC/JEDEC J-STD-033B	-	Handling, Packing, Shipping and Use of Moisture/Reflow Sensitive Surface Mount Devices	-	-



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INTERNATIONAL STANDARD

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Part 1: Standard method for the specification of surface mounting components (SMDs)
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CONTENTS

FOREWORD.....	5
INTRODUCTION.....	7
1 Scope.....	8
2 Normative references	8
3 Terms and definitions	9
4 Requirements for component design and component specifications.....	11
4.1 General requirement.....	11
4.2 Component marking.....	11
4.2.1 Marking of multipin components.....	11
4.2.2 Marking of components with polarity	11
4.2.3 Durability of component marking.....	12
4.3 Component outline and design.....	12
4.3.1 Drawing and specification.....	12
4.3.2 Termination design	13
4.3.3 Pick-up area requirements.....	13
4.3.4 Bottom surface requirements	14
4.3.5 Requirements for terminals.....	15
4.3.6 Component height.....	17
4.3.7 Component weight.....	17
4.4 General requirements for components related to assembly technology	17
4.4.1 Robustness of components.....	17
4.4.2 Recommendation for land pattern design.....	18
4.5 Cleanliness of components.....	18
4.5.1 General remarks.....	18
4.5.2 Particle contaminations.....	19
4.5.3 Ionic contamination.....	19
4.5.4 Other surface contamination.....	19
4.6 Surface roughness.....	19
4.7 Requirements related to packaging and transportation.....	20
4.7.1 Packaging.....	20
4.7.2 Labelling of product packaging	20
4.7.3 Storage and transportation	21
4.8 Component reliability assurance	21
4.9 Compliance information	21
4.9.1 General	21
4.9.2 Material declaration	21
4.9.3 Environmental regulatory compliance	21
4.9.4 Considerations on the materials' supply chain	21
5 Assembly processes.....	22
5.1 General.....	22
5.2 Placement or insertion	22
5.3 Mounting.....	22
5.4 Cleaning (where applicable).....	22
5.4.1 Cleaning methods.....	22
5.4.2 Typical cleaning conditions for assemblies	22
5.5 Post assembly processes.....	23

5.6	Removal and/or replacement of SMDs	23
5.6.1	Removal and/or replacement of soldered SMDs.....	23
5.6.2	Removal and/or replacement of glued SMDs	24
6	Soldering.....	24
6.1	General.....	24
6.1.1	Mounting by soldering.....	24
6.1.2	Securing the component on the substrate prior to soldering.....	25
6.1.3	Reflow soldering	25
6.1.4	Wave soldering.....	26
6.1.5	Other soldering methods.....	27
6.2	Process conditions.....	27
6.2.1	General	27
6.2.2	Reflow soldering	27
6.2.3	Wave soldering.....	29
6.3	Requirements for components and component specifications.....	29
6.3.1	General	29
6.3.2	Requirements for temperature sensitive devices.....	30
6.3.3	Wettability	30
6.3.4	Resistance to dissolution of metallization.....	30
6.3.5	Resistance to soldering heat.....	30
6.3.6	Resistance to vacuum during soldering.....	31
6.3.7	Resistance to cleaning solvent.....	31
6.3.8	Warpage during reflow soldering.....	32
7	Conductive glue bonding	32
7.1	Mounting.....	32
7.2	Bonding strength test for the component glue interface test.....	33
7.3	Requirements to components for conductive glue bonding.....	34
7.3.1	Components for conductive glue bonding.....	34
7.3.2	Cleanliness of the surface	34
7.3.3	Terminal surface defects	34
7.3.4	Outgassing of halogenic substances.....	34
7.3.5	Coplanarity	35
7.3.6	Stand-off	35
7.3.7	Terminal dimensions and tolerances.....	35
7.3.8	Resistance to curing heat	35
8	Sintering.....	36
8.1	General.....	36
8.2	Typical process conditions	37
8.3	Requirements for components and component specifications.....	37
9	Solderless interconnection.....	38
9.1	General.....	38
9.2	Typical process conditions	38
9.3	Requirements for components and component specifications.....	39
Annex A (informative)	Details on compliance information	40
A.1	Material declaration	40
A.2	Environmental regulatory compliance.....	41
A.3	Considerations on the materials' supply chain.....	41
Bibliography	43

Figure 1 – Example of a component with marked specific orientation put in tape (top) and tray (bottom)	12
Figure 2 – Vacuum pipette, pick-up area and component compartment	14
Figure 3 – Coplanarity of terminals	15
Figure 4 – Stable seating of component	15
Figure 5 – Unstable seating of component	16
Figure 6 – Terminals arranged peripherally in two rows	16
Figure 7 – Good contrast between component body and surroundings	16
Figure 8 – Component weight and pipette suction strength	17
Figure 9 – Process steps for soldering	25
Figure 10 – Generic reflow temperature/time profile	28
Figure 11 – Generic wave soldering temperature/time profile	29
Figure 12 – Process steps for gluing	33
Figure 13 – Stand-off definition	35
Figure 14 – Sinter process on one side, both sides, and both sides including presintering	37
Table 1 – Typical roughness requirements	20
Table 2 – Basic cleaning processes	23
Table 3 – Examples of substances proposed to be included in risk evaluation and customer reporting	35
Table 4 – Examples of typical curing conditions	36

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SURFACE MOUNTING TECHNOLOGY –**Part 1: Standard method for the specification
of surface mounting components (SMDs)**

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 61760-1 has been prepared by IEC technical committee 91: Surface mounting technology.

This third edition cancels and replaces the second edition published in 2006. This edition constitutes a technical revision.

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

- a) inclusion of additional mounting methods: conductive glue bonding, sintering and solderless interconnection.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
91/1648/FDIS	91/1653/RVD

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

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 61760 series, published under the general title *Surface mounting technology*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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INTRODUCTION

Specifications for electronic components have in the past been formulated for each component family. The regulations for environmental tests have been selected from IEC 60068 and other IEC and ISO publications. The intention for this procedure was that all components, once installed in a piece of equipment, had to satisfy certain criteria.

The introduction and increasing use of different mounting processes on one assembly make it necessary to extend the existing requirements to include those arising from processing during assembly.

Nevertheless, there existed no harmonized standard that prescribes the content of a component specification before the publication of IEC 61760-1. It is the purpose of this document to define the general requirements for component specifications derived from the assembly processes. This is done in three steps.

In the first step, general requirements for component specifications and component design related to the handling and placement of the component on the substrate are given (Clause 4). In the second step, the requirements related to assembly processes are given (Clause 5). In the third step, additional requirements resulting from specific mounting methods are given (Clauses 6 to 9).

Mixed technology boards, i.e. boards containing through-hole components and SMDs, require additional consideration with respect to the through-hole components. These may be subject to the same requirements as the SMDs. Persons responsible for drafting specifications for "non-surface mounting components" wishing to include a statement on their ability to withstand surface mounting conditions should use the classifications and tests set out in the present document.

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