



# SLOVENSKI STANDARD

## SIST EN 61190-1-2:2007

01-oktober-2007

Nadomešča:  
SIST EN 61190-1-2:2003

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**Povezovalni materiali za elektronske sestave - 1-2. del: Zahteve za spajkalne paste za visoko kakovostne povezave v elektronskih sestavih (IEC 61190-1-2:2007)**

Attachment materials for electronic assembly -- Part 1-2: Requirements for soldering pastes for high-quality interconnects in electronics assembly

Verbindungsmaterialien für Baugruppen der Elektronik -- Teil 1-2: Anforderungen an Lotpaste für hochwertige Verbindungen in der Elektronikmontage

Matériaux de fixation pour les assemblages électroniques -- Partie 1-2: Exigences relatives aux crèmes de brasage pour les interconnexions de haute qualité dans les assemblages de composants électroniques

**Ta slovenski standard je istoveten z: EN 61190-1-2:2007**

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**ICS:**

25.160.50	Trdo in mehko lotanje	Brazing and soldering
31.190	Sestavljeni elektronski elementi	Electronic component assemblies

**SIST EN 61190-1-2:2007** en,de

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 61190-1-2**

June 2007

ICS 31.190

Supersedes EN 61190-1-2:2002

English version

**Attachment materials for electronic assembly -  
Part 1-2: Requirements for soldering pastes  
for high-quality interconnects in electronics assembly  
(IEC 61190-1-2:2007)**

Matériaux de fixation  
pour les assemblages électroniques -  
Partie 1-2: Exigences relatives  
aux crèmes de brasage  
pour les interconnexions de haute qualité  
dans les assemblages de composants  
électroniques  
(CEI 61190-1-2:2007)

Verbindungsmaterialien  
für Baugruppen der Elektronik -  
Teil 1-2: Anforderungen an Lotpaste  
für hochwertige Verbindungen  
in der Elektronikmontage  
(IEC 61190-1-2:2007)

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This European Standard was approved by CENELEC on 2007-05-01. 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 91/646/FDIS, future edition 2 of IEC 61190-1-2, prepared by IEC TC 91, Electronics assembly technology, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61190-1-2 on 2007-05-01.

This European Standard supersedes EN 61190-1-2:2002.

The main changes with regard to EN 61190-1-2:2002 concern a definition of lead-free solder alloy and an explanation of solder ball test standards.

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) 2008-02-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2010-05-01

Annex ZA has been added by CENELEC.

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### Endorsement notice

The text of the International Standard IEC 61190-1-2:2007 was approved by CENELEC as a European Standard without any modification. (standards.iteh.ai)

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## 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 60194	- <sup>1)</sup>	Printed board design, manufacture and assembly - Terms and definitions	EN 60194	2006 <sup>2)</sup>
IEC 61189-5	- <sup>1)</sup>	Test methods for electrical materials, interconnection structures and assemblies - Part 5: Test methods for printed board assemblies	EN 61189-5	2006 <sup>2)</sup>
IEC 61189-6	- <sup>1)</sup>	Test methods for electrical materials, interconnection structures and assemblies - Part 6: Test methods for materials used in manufacturing electronic assemblies	EN 61189-6	2006 <sup>2)</sup>
IEC 61190-1-1	- <sup>1)</sup>	Attachment materials for electronic assembly - Part 1-1: Requirements for soldering fluxes for high-quality interconnections in electronics assembly	EN 61190-1-1	2002 <sup>2)</sup>
IEC 61190-1-3	- <sup>1)</sup>	Attachment materials for electronic assembly - Part 1-3: Requirements for electronic grade solder alloys and fluxed and non-fluxed solid solders for electronic soldering applications	EN 61190-1-3	2007 <sup>2)</sup>
IEC 61191-1	- <sup>1)</sup>	Printed board assemblies - Part 1: Generic specification - Requirements for soldered electrical and electronic assemblies using surface mount and related assembly technologies	EN 61191-1	1998 <sup>2)</sup>
IEC 61191-2	- <sup>1)</sup>	Printed board assemblies - Part 2: Sectional specification - Requirements for surface mount soldered assemblies	EN 61191-2	1998 <sup>2)</sup>
IEC 61191-3	- <sup>1)</sup>	Printed board assemblies - Part 3: Sectional specification - Requirements for through-hole mount soldered assemblies	EN 61191-3	1998 <sup>2)</sup>
IEC 61191-4	- <sup>1)</sup>	Printed board assemblies - Part 4: Sectional specification - Requirements for terminal soldered assemblies	EN 61191-4	1998 <sup>2)</sup>

<sup>1)</sup> Undated reference.

<sup>2)</sup> Valid edition at date of issue.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ISO 9000	- <sup>1)</sup>	Quality management systems - Fundamentals and vocabulary	EN ISO 9000	2005 <sup>2)</sup>
ISO 9001	- <sup>1)</sup>	Quality management systems - Requirements	EN ISO 9001	2000 <sup>2)</sup>
ISO 9453	- <sup>1)</sup>	Soft solder alloys - Chemical compositions and forms	EN ISO 9453	2006 <sup>2)</sup>
ISO 9454-2	- <sup>1)</sup>	Soft soldering fluxes - Classification and requirements - Part 2: Performance requirements	EN ISO 9454-2	2000 <sup>2)</sup>
ISO 10012-1	- <sup>1)</sup>	Quality assurance requirements for measuring equipment - Part 1: Metrological confirmation system for measuring equipment	EN 30012-1 <sup>3)</sup>	1993 <sup>2)</sup>

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<sup>3)</sup> EN 30012-1:1993 is superseded by EN ISO 10012:2003, which is based on ISO 10012:2003.

# INTERNATIONAL STANDARD

**IEC**  
**61190-1-2**

Second edition  
2007-04

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## Attachment materials for electronic assembly –

### Part 1-2: Requirements for soldering pastes for high-quality interconnects in electronics assembly

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## ATTACHMENT MATERIALS FOR ELECTRONIC ASSEMBLY –

**Part 1-2: Requirements for soldering pastes  
for high-quality interconnects in electronics assembly**

## 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 61190-1-2 has been prepared by IEC technical committee 91: Electronics assembly technology.

This second edition cancels and replaces the first edition, published in 2002, and constitutes a technical revision. The main changes with regard to the first edition concern a definition of lead-free solder alloy and an explanation of solder ball test standards.

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

FDIS	Report on voting
91/646/FDIS	91/678/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 61190 series, under the general title *Attachment materials for electronic assembly*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result 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;
- withdrawn;
- replaced by a revised edition, or
- amended.

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

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## INTRODUCTION

This part of IEC 61190 defines the characteristics of solder paste through the definitions of properties and specification of test methods and inspection criteria. Materials include solder powder and solder paste flux blended to produce solder paste. Solder powders are classified according to both shape and size distribution of the particles. It is not the intention of this standard to exclude those particle sizes or distributions not specifically listed. For flux properties of solder paste, including classification and testing, see IEC 61190-1-1.

The requirements for solder paste are defined in general terms. In practice, where more stringent requirements are necessary, additional requirements may be defined by mutual agreement between the user and supplier. Users are cautioned to perform tests (beyond the scope of this specification) to determine the acceptability of the solder paste for specific processes.

This standard is intended to be applicable to all types of solder paste used for soldering in general, as well as for soldering in electronics assembly. The solder pastes involved relate to all aspects of application. Generic specifications for soldering pastes are given in ISO 9454-2.

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