

**SLOVENSKI STANDARD**  
**SIST EN 61190-1-3:2007/A1:2010**  
**01-december-2010**

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**Povezovalni materiali za elektronske sestave - 1-3. del: Zahteve za spajkalne zlitine ter za spajkalne žice s spajkalno tekočino in brez nje za uporabo v elektroniki - Dopolnilo A1 (IEC 61190-1-3:2007/A1:2010)**

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 (IEC 61190-1-3:2007/A1:2010)

**iTeh STANDARD PREVIEW**

Verbindungsmaterialien für Baugruppen der Elektronik - Teil 1-3: Anforderungen an Elektroniklote und an Festformlote mit oder ohne Flussmittel für das Löten von Elektronikprodukten (IEC 61190-1-3:2007/A1:2010)

[SIST EN 61190-1-3:2007/A1:2010](https://standards.iteh.ai/catalog/standards/sist/572e5f41-f51d-415a-9bd9-3ca38b19e110/iec-61190-1-3-2007-a1-2010)

<https://standards.iteh.ai/catalog/standards/sist/572e5f41-f51d-415a-9bd9-3ca38b19e110/iec-61190-1-3-2007-a1-2010>

Matériaux de fixation pour les assemblages électroniques - Partie 1-3: Exigences relatives aux alliages à braser de catégorie électronique et brasures solides fluxées et non fluxées pour les applications de brasage électronique (CEI 61190-1-3:2007/A1:2010)

**Ta slovenski standard je istoveten z: EN 61190-1-3:2007/A1:2010**

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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 61190-1-3:2007/A1:2010**      **en**

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SIST EN 61190-1-3:2007/A1:2010

[https://standards.iteh.ai/catalog/standards/sist/572e5f41-f51d-415a-9bd9-  
eaa7465228b5/sist-en-61190-1-3-2007-a1-2010](https://standards.iteh.ai/catalog/standards/sist/572e5f41-f51d-415a-9bd9-<br/>eaa7465228b5/sist-en-61190-1-3-2007-a1-2010)

EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 61190-1-3/A1**

September 2010

ICS 31.190

English version

**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  
(IEC 61190-1-3:2007/A1:2010)**

Matériaux de fixation  
pour les assemblages électroniques -  
Partie 1-3: Exigences relatives  
aux alliages à braser de catégorie  
électronique et brasures solides fluxées  
et non fluxées pour les applications  
de brasage électronique  
(CEI 61190-1-3:2007/A1:2010)

Verbindungsmaterialien für Baugruppen  
der Elektronik -  
Teil 1-3: Anforderungen an Elektroniklote  
und an Festformlote  
mit oder ohne Flussmittel für das Löten  
von Elektronikprodukten  
(IEC 61190-1-3:2007/A1:2010)

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[SIST EN 61190-1-3:2007/A1:2010](https://standards.iteh.ai/catalog/standards/sist/572e5f41-f51d-415a-9bd9-c9a74952209/sist/61190-1-3:2007/a1-2010)

This amendment A1 modifies the European Standard EN 61190-1-3:2007; it was approved by CENELEC on 2010-09-01. 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, 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

**Management Centre: Avenue Marnix 17, B - 1000 Brussels**

## Foreword

The text of document 91/920/FDIS, future amendment 1 to IEC 61190-1-3:2007, prepared by IEC TC 91, Electronics assembly technology, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A1 to EN 61190-1-3:2007 on 2010-09-01.

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

The following dates were fixed:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2011-06-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2013-09-01

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## Endorsement notice

The text of amendment 1:2010 to the International Standard IEC 61190-1-3:2007 was approved by CENELEC as an amendment to the European Standard without any modification.

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[SIST EN 61190-1-3:2007/A1:2010](https://standards.iteh.ai/catalog/standards/sist/572e5f41-f51d-415a-9bd9-<br/>eaa7465228b5/sist-en-61190-1-3-2007-a1-2010)

[https://standards.iteh.ai/catalog/standards/sist/572e5f41-f51d-415a-9bd9-  
eaa7465228b5/sist-en-61190-1-3-2007-a1-2010](https://standards.iteh.ai/catalog/standards/sist/572e5f41-f51d-415a-9bd9-<br/>eaa7465228b5/sist-en-61190-1-3-2007-a1-2010)

## 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.

*Remove the existing reference ISO 9453 and replace it by the following new reference:*

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ISO 9453	2006	Soft solder alloys - Chemical compositions and forms	EN ISO 9453	2006

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[SIST EN 61190-1-3:2007/A1:2010](https://standards.iteh.ai/catalog/standards/sist/572e5f41-f51d-415a-9bd9-<br/>eaa7465228b5/sist-en-61190-1-3-2007-a1-2010)

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eaa7465228b5/sist-en-61190-1-3-2007-a1-2010](https://standards.iteh.ai/catalog/standards/sist/572e5f41-f51d-415a-9bd9-<br/>eaa7465228b5/sist-en-61190-1-3-2007-a1-2010)

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eaa7465228b5/sist-en-61190-1-3-2007-a1-2010](https://standards.iteh.ai/catalog/standards/sist/572e5f41-f51d-415a-9bd9-<br/>eaa7465228b5/sist-en-61190-1-3-2007-a1-2010)



IEC 61190-1-3

Edition 2.0 2010-06

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

AMENDMENT 1  
AMENDEMENT 1

**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**

**Matériaux de fixation pour les assemblages électroniques –  
Partie 1-3: Exigences relatives aux alliages à braser de catégorie électronique et  
brasures solides fluxées et non fluxées pour les applications de brasage  
électronique**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

COMMISSION  
ELECTROTECHNIQUE  
INTERNATIONALE

PRICE CODE  
CODE PRIX

J

ICS 31.190

ISBN 978-2-88910-975-3

## 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
91/920/FDIS	91/925/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 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.

## iTeh STANDARD PREVIEW (standards.iteh.ai)

*Delete in the foreword the totality of the existing patent statements.*

[SIST EN 61190-1-3:2007/A1:2010](http://standards.iteh.ai/catalog/standards/sist/en-61190-1-3-2007-a1-2010)

*Add the following new page INTRODUCTION with the following text*

### INTRODUCTION

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

The International Electrotechnical Commission (IEC) draws attention to the fact that it is claimed that compliance with this document may involve the use of a patent concerning in particular alloys compositions.

IEC takes no position concerning the evidence, validity and scope of this patent right.

The holder of this patent right has assured the IEC that he/she is willing to negotiate licences under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holder of this patent right is registered with IEC. Information may be obtained from:

US PAT No. 4879096  
Cookson Electronics Assembly Materials  
600 Route 440 Jersey City, New Jersey 07304

US PAT No. 5527628  
Iowa State University Research Foundation, Inc.  
310 Lab of Mechanics  
Ames, Iowa 50011-2131, U.S.A.

JP PAT No. 3040929  
JP PAT No. 3027441  
Matsushita Electric Industrial Co., Ltd.  
Matsushita IMP Building 20F 1-3-7, Shiromi, Chouh-ku, Osaka, 540-6319, Japan



JP PAT No. 2805595  
Mitsui Mining & Smelting Co., Ltd.  
Gate City Ohsaki-West Tower 19th Fl. 1-11-1 Osaki, Shinagawa-ku, Tokyo, 141-8584, Japan

JP PAT No. 3027441  
Senju Metal Industry Co., Ltd.  
Senju Hashido-cho 23, Adachi-ku, Tokyo, 120-8555, Japan

NOTE Patent rights vary between country of manufacture, sale, use and final destination; suppliers or users remain responsible for establishing the exact legal position relevant to their own situation.

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

## 2 Normative references

*Remove the existing reference ISO 9453 and replace it by the following new reference:*

ISO 9453:2006, *Soft solders alloys – Chemical compositions and forms*

### 4.1 Alloy composition

*Add the following note at the end of this subclause:*

NOTE The alloy short name can be used as identifier of solder alloy(s) in mounted boards used in electrical and electronic equipment (see Annex C).

#### **Table B.1 – Composition, and temperature characteristics of lead-free solder alloys**

[SIST EN 61190-1-3:2007/A1:2010](#)

*Replace the entire Table B.1 by the following new Table B.1:*

[http://standards.iteh.ai/sist-en-61190-1-3-2007-a1-2010](#)