

STN	Spájacie materiály pre elektronické zostavy Časť 1-3: Požiadavky na spájkovacie zliatiny pre elektroniku a pevné spájky s tavidlom alebo bez neho na spájkovanie elektronických výrobkov	STN EN IEC 61190-1-3 34 6520
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Attachment materials for electronic assembly - Part 1-3: Requirements for electronic grade solder alloys and fluxed and non-fluxed solid solder for electronic soldering applications

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 01/19

Obsahuje: EN IEC 61190-1-3:2018, IEC 61190-1-3:2017

Oznámením tejto normy sa od 17.01.2021 ruší
STN EN 61190-1-3 (34 6520) z februára 2008

127779

EUROPEAN STANDARD

EN IEC 61190-1-3

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2018

ICS 31.190

Supersedes EN 61190-1-3:2007

English Version

**Attachment materials for electronic assembly - Part 1-3:
Requirements for electronic grade solder alloys and fluxed and
non-fluxed solid solder for electronic soldering applications
(IEC 61190-1-3:2017)**

Matériaux de fixation pour les assemblages électroniques -
Partie 1-3: Exigences relatives aux alliages à braser de
catégorie électronique et brasure solide fluxée et non-fluxée
pour les applications de brasage électronique
(IEC 61190-1-3:2017)

Verbindungsmaterialien für Baugruppen der Elektronik - Teil
1-3: Anforderungen an Elektroniklote und an Festformlote
mit oder ohne Flussmittel für das Löten von
Elektronikprodukten
(IEC 61190-1-3:2017)

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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 61190-1-3:2018 (E)**European foreword**

The text of document 91/1468/FDIS, future edition 3 of IEC 61190-1-3, prepared by IEC/TC 91 "Electronics assembly technology" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61190-1-3:2018.

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) 2018-10-17
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2021-01-17

This document supersedes EN 61190-1-3:2017 and EN 61190-1-3:2017/A1:2010.

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In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 61189-5 (series)	NOTE	Harmonized as EN 61189-5 (series).
IEC 61189-6	NOTE	Harmonized as EN 61189-6
ISO 9453	NOTE	Harmonized as EN ISO 9453.
ISO 9454-1	NOTE	Harmonized as EN ISO 9454-1.
ISO 9454-2	NOTE	Harmonized as EN ISO 9454-2.

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 60194	2015	Printed board design, manufacture and assembly - Terms and definitions	-	-
IEC 61189-5-2	2015	Test methods for electrical materials, interconnection structures and assemblies - Part 5-2: Test methods for printed board assemblies: Soldering flux	EN 61189-5-2	2015
IEC 61189-5-3	2015	Test methods for electrical materials, interconnection structures and assemblies - Part 5-3: Test methods for printed board assemblies: Soldering paste	EN 61189-5-3	2015
IEC 61189-5-4	2015	Test methods for electrical materials, interconnection structures and assemblies - Part 5-4: Test methods for printed board assemblies: Solder alloys and fluxed and non-fluxed solid wire	EN 61189-5-4	2015
IEC 61190-1-1	2002	Attachment materials for electronic assembly - Part 1-1: Requirements for soldering fluxes for high-quality interconnections in electronics assembly	EN 61190-1-1	2002
IEC 61190-1-2	-	Attachment materials for electronic assembly - Part 1-2: Requirements for soldering pastes for high-quality interconnects in electronics assembly	EN 61190-1-2	-



IEC 61190-1-3

Edition 3.0 2017-12

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Attachment materials for electronic assembly –
Part 1-3: Requirements for electronic grade solder alloys and fluxed and non-
fluxed solid solder for electronic soldering applications**

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



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IEC 61190-1-3

Edition 3.0 2017-12

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Attachment materials for electronic assembly –
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brasure solide fluxée et non-fluxée pour les applications de brasage
électronique**

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ICS 31.190

ISBN 978-2-8322-5127-0

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CONTENTS

FOREWORD.....	5
INTRODUCTION.....	7
1 Scope.....	8
2 Normative references	8
3 Terms and definitions	8
4 Classification	11
4.1 General.....	11
4.2 Alloy composition.....	11
4.3 Solder form	12
4.4 Flux type.....	12
4.5 Flux percentage and metal content	13
4.6 Other characteristics.....	14
5 Requirements	14
5.1 Materials.....	14
5.2 Alloys.....	14
5.2.1 General	14
5.2.2 Variation D alloys	14
5.3 Solder forms	15
5.3.1 General	15
5.3.2 Bar solder.....	15
5.3.3 Wire solder	15
5.3.4 Ribbon solder	15
5.3.5 Solder powder	15
5.3.6 Special solder.....	16
5.4 Flux type and form	16
5.4.1 General	16
5.4.2 Flux percentage.....	16
5.4.3 Solder cores	17
5.4.4 Solder coatings.....	17
5.5 Flux residue dryness.....	17
5.6 Spitting	17
5.7 Solder pool	17
5.8 Labelling for product identification.....	17
5.9 Workmanship.....	18
6 Quality assurance provisions	18
6.1 Responsibility for inspection and compliance	18
6.1.1 General	18
6.1.2 Quality assurance programme	18
6.1.3 Test equipment and inspection facilities.....	18
6.1.4 Inspection conditions	18
6.2 Classification of inspections.....	18
6.3 Inspection of materials	23
6.4 Qualification inspections	23
6.4.1 General	23
6.4.2 Sample size.....	23
6.4.3 Inspection routine	23

6.5	Quality conformance	24
6.5.1	General	24
6.5.2	Inspection routine	24
6.5.3	Sampling plan.....	24
6.5.4	Rejected lots	24
6.6	Preparation of solder alloy for test	24
6.6.1	General	24
6.6.2	Wire solder up to approximately 6 mm diameter.....	24
6.6.3	Ribbon solder and wire solder larger than approximately 6 mm diameter	24
7	Preparation for delivery – Preservation, packing and packaging	24
Annex A (informative) Selection of various alloys and fluxes for use in electronic soldering – General information concerning IEC 61190-1-3		25
A.1	Overview.....	25
A.2	Intended use	25
A.2.1	General	25
A.2.2	Alloys	25
A.3	Acquisition requirements.....	26
A.4	Standard solder product packages	27
A.4.1	General	27
A.4.2	Wire and ribbon solders	27
A.4.3	Bar solders	27
A.4.4	Solder powder	27
A.5	Protocol for establishing short names for IEC 61190-1-3 alloys.....	28
A.5.1	Lead containing solder alloys and specialty alloy	28
A.5.2	Lead-free solder alloys	28
A.6	Standard description of solid solder products	29
Annex B (normative) Lead-free solder alloys.....		30
Annex C (informative) Marking method of solder designation for mounted board, used in electronic equipment.....		41
C.1	General.....	41
C.2	Marking.....	41
C.2.1	Recommendation for marking	41
C.2.2	Marking for solder designation	41
C.2.3	Marking unit and location	42
Bibliography.....		43
Figure 1 – Report form for solder alloy tests		19
Figure 2 – Report form for solder powder tests		20
Figure 3 – Report form for non-fluxed solder tests		21
Figure 4 – Report form for fluxed wire/ribbon solder tests		22
Figure C.1 – Example of the marking for assembled board		42
Table 1 – Solder materials		12
Table 2 – Flux types and designating symbols		13
Table 3 – Flux percentage		14
Table 4 – Standard solder powders.....		16
Table 5 – Solder inspections.....		23

Table B.1 – The composition and temperature characteristics of lead-free solder alloys	30
Table B.2 – The composition and temperature characteristics of common tin-lead alloys	33
Table B.3 – The composition and temperature characteristics for specialty (non-tin/lead) alloys	36
Table B.4 – the cross-reference from solidus and liquidus temperatures to alloy names by temperature	37
Table B.5 – The cross-reference from ISO 9453 alloy numbers and designations to IEC 61190-1-3 alloy names	39

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ATTACHMENT MATERIALS FOR ELECTRONIC ASSEMBLY –**Part 1–3: Requirements for electronic grade solder alloys and fluxed and non-fluxed solid solder for electronic soldering applications**

FOREWORD

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International Standard IEC 61190-1-3 has been prepared by IEC technical committee 91: Electronics assembly technology.

This third edition cancels and replaces the second edition, published in 2007 and Amendment 1:2010. This edition constitutes a technical revision.

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

- a) The maximum impurity level of Pb has been revised and the table of lead free solder alloys includes some additional lead free solder alloys.

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

FDIS	Report on voting
91/1468/FDIS	91/1488/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.

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.

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

The committee has decided that the contents of this 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,
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INTRODUCTION

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(KR patent application number: KR10-2007-0050905)
KOREA Institute of Industrial technology
89, Yangdaegiro-gil, Ipjang-myeon, Seobuk-gu, Cheonan-si Chungcheongnam-do 331-822 Korea

KR PAT No.10-0445350
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JP PAT No.3152945 , and the foreign patents
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JP PAT No.3296289, and the foreign patents
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JP PAT No. 3622788, and the foreign patents
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ATTACHMENT MATERIALS FOR ELECTRONIC ASSEMBLY –

Part 1–3: Requirements for electronic grade solder alloys and fluxed and non-fluxed solid solder for electronic soldering applications

1 Scope

This part of IEC 61190 prescribes the requirements and test methods for electronic grade solder alloys, for fluxed and non-fluxed bar, ribbon, powder solders and solder paste, for electronic soldering applications and for "special" electronic grade solders. For the generic specifications of solder alloys and fluxes, see ISO 9453. This document is a quality control document and is not intended to relate directly to the material's performance in the manufacturing process.

Special electronic grade solders include all solders which do not fully comply with the requirements of standard solder alloys and solder materials listed herein. Examples of special solders include anodes, ingots, preforms, bars with hook and eye ends, and multiple-alloy solder powders.

2 Normative references

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.

IEC 60194:2015, *Printed board design, manufacture and assembly – Terms and definitions*

IEC 61189-5-2:2015, *Test methods for electrical materials, printed boards and other interconnection structures and assemblies – Part 5-2: General test methods for materials and assemblies – Soldering flux for printed board assemblies*

IEC 61189-5-3:2015, *Test methods for electrical materials, printed boards and other interconnection structures and assemblies – Part 5-3: General test methods for materials and assemblies – Soldering paste for printed board assemblies*

IEC 61189-5-4:2015, *Test methods for electrical materials, printed boards and other interconnection structures and assemblies – Part 5-4: General test methods for materials and assemblies – Solder alloys and fluxed and non-fluxed solid wire for printed board assemblies*

IEC 61190-1-1:2002, *Attachment materials for electronic assembly – Part 1-1: Requirements for soldering fluxes for high-quality interconnections in electronics assembly*

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

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