
Attachment materials for electronic assembly - Part 1-1: Requirements for soldering fluxes for high-quality interconnections in electronics assembly

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EUROPEAN STANDARD

EN 61190-1-1

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

Matériaux de fixation pour
les assemblages électroniques
Partie 1-1: Exigences relatives aux
flux de brasage pour les interconnexions
de haute qualité dans les assemblages
de composants électroniques
(CEI 61190-1-1:2002)

Verbindungsmaterialien für
Baugruppen der Elektronik
Teil 1-1: Anforderungen an Weichlöt-
Flussmittel für hochwertige Verbindungen
in der Elektronikmontage
(IEC 61190-1-1:2002)

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This European Standard was approved by CENELEC on 2002-06-01. 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, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and 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 91/277/FDIS, future edition 1 of IEC 61190-1-1, prepared by IEC TC 91, Electronics assembly technology, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61190-1-1 on 2002-06-01.

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) 2003-03-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2005-06-01

Annexes designated "normative" are part of the body of the standard.
In this standard, annexes A and ZA are normative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61190-1-1:2002 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 61190-1-2	NOTE	Harmonized as EN 61190-1-2:2002 (not modified).
IEC 61190-1-3	NOTE	Harmonized as EN 61190-1-3:2002 (not modified).
IEC 61191-1	NOTE	Harmonized as EN 61191-1:1998 (not modified).
IEC 61191-2	NOTE	Harmonized as EN 61191-2:1998 (not modified).
IEC 61191-3	NOTE	Harmonized as EN 61191-3:1998 (not modified).
IEC 61191-4	NOTE	Harmonized as EN 61191-4:1998 (not modified).
ISO 9000	NOTE	Harmonized as EN ISO 9000:2000 (not modified).
ISO 9001	NOTE	Harmonized as EN ISO 9001:2000 (not modified).

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

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	- ¹⁾	Printed board design, manufacture and assembly - Terms and definitions	-	-
IEC 61189-2	- ¹⁾	Test methods for electrical materials, printed boards and other interconnection structures and assemblies Part 2: Test methods for materials for interconnection structures	EN 61189-2 + corr. August	1997 ²⁾ 1997
IEC 61189-3	- ¹⁾	Part 3: Test methods for interconnection structures (printed boards)	EN 61189-3	1997 ²⁾
ISO 9002	1994	Quality systems - Model for quality assurance in production, installation and servicing	EN ISO 9002	1994
ISO 9455-16	- ¹⁾	Soft soldering fluxes - Test methods Part 16: Flux efficacy tests, wetting balance method	EN ISO 9455-16	2001 ²⁾

1) Undated reference.

2) Valid edition at date of issue.

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**Matériaux de fixation pour les
assemblages électroniques –**

**Partie 1-1:
Exigences relatives aux flux de brasage
pour les interconnexions de haute qualité
dans les assemblages de composants
électroniques**

SIST EN 61190-1-1:2003

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Attachment materials for electronic assembly –

**Part 1-1:
Requirements for soldering fluxes for high-quality
interconnections in electronics assembly**

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International Electrotechnical Commission, 3, rue de Varembe, PO Box 131, CH-1211 Geneva 20, Switzerland
Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch



Commission Electrotechnique Internationale
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Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ATTACHMENT MATERIALS FOR ELECTRONIC ASSEMBLY –

Part 1-1: Requirements for soldering fluxes for high-quality interconnections in electronics assembly

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The 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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- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.
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International Standard IEC 61190-1-1 has been prepared by IEC technical committee 91: Electronics assembly technology.

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

FDIS	Report on voting
91/277/FDIS	91/287/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 3.

Annex A forms an integral part of this standard.

The committee has decided that the contents of this publication will remain unchanged until 2007. At this date, the publication will be

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

INTRODUCTION

This part of IEC 61190 defines the classification of soldering materials through specifications of test methods and inspection criteria. These materials include liquid flux, paste flux, solder-paste flux, solder-preform flux, and flux cored solder. It is not the intent of this standard to exclude any acceptable flux or soldering aid material; however, these materials must produce the desired electrical and metallurgical interconnection.

Requirements for soldering fluxes are defined in general terms for standardized classification. In practice, where more stringent requirements are necessary or other manufacturing processes are used, these should be defined as additional requirements by the user. Formic acid is not considered a flux for the purpose of this document. The generic specifications for soldering fluxes are given by ISO.

This standard is intended to be applicable to all types of flux as used for soldering in general and to soldering in electronics in particular. The fluxes involved relate to all aspects of application, such as in wave soldering, printed wiring board (PWB) fabrication, lead tinning, and solder reflow. Materials include solder pastes, flux-cored wire, and flux-coated preforms. Soldering fluxes covered by this standard are intended for use in various consumer, industrial and commercial electronics soldering applications of industry applications.

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