Irish Standard
I.S. EN 61189-11:2013

Test methods for electrical materials, printed boards and other interconnection structures and assemblies - Part 11: Measurement of melting temperature or melting temperature ranges of solder alloys (IEC 61189-11:2013 (EQV))

I.S. EN 61189-11:2013

Incorporating amendments/corrigenda issued since publication:

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This document replaces:	*This document is based on:* EN 61189-11:2013	*Published:* 28 June, 2013

This document was published under the authority of the NSAI and comes into effect on: 15 July, 2013	ICS number: 31.180

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I.S. EN 61189-11:2013

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61189-11

June 2013

ICS 31.180

English version

Test methods for electrical materials, printed boards and other interconnection structures and assemblies - Part 11: Measurement of melting temperature or melting temperature ranges of solder alloys

(IEC 61189-11:2013)

Méthodes d'essai pour les matériaux électriques, les cartes imprimées et autres structures d'interconnexion et ensembles - Partie 11: Mesure de la température de fusion ou des plages de températures de fusion des alliages à braser
(CEI 61189-11:2013)

Prüfverfahren für Elektromaterialien, Leiterplatten und andere Verbindungsstrukturen und Baugruppen - Teil 11: Messung der Schmelztemperatur und Schmelztemperaturbereiche von Lotlegierungen
(IEC 61189-11:2013)

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 61189-11:2013 E

Foreword

The text of document 91/1086/FDIS, future edition 1 of IEC 61189-11, prepared by IEC TC 91 "Electronics assembly technology" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61189-11:2013.

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)	2014-03-11
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2016-06-11

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

Endorsement notice

The text of the International Standard IEC 61189-11:2013 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 61189-1 NOTE Harmonized as EN 61189-1.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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.

Publication	Year	Title	EN/HD	Year
IEC 60194	-	Printed board design, manufacture and assembly - Terms and definitions	EN 60194	-
IEC 61189-3	-	Test methods for electrical materials, printed boards and other interconnection structures and assemblies - Part 3: Test methods for interconnection structures (printed boards)	EN 61189-3	-
IEC 61190-1-3	-	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	-
ISO 9453	-	Soft solder alloys - Chemical compositions and forms	EN ISO 9453	-
ISO 11357-1	-	Plastics - Differential scanning calorimetry (DSC) - Part 1: General principles	EN ISO 11357-1	-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

TEST METHODS FOR ELECTRICAL MATERIALS, PRINTED BOARDS AND OTHER INTERCONNECTION STRUCTURES AND ASSEMBLIES –

Part 11: Measurement of melting temperature or melting temperature ranges of solder alloys

FOREWORD

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International Standard IEC 61189-11 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
91/1086/FDIS	91/1097/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 of IEC 61189 under the general title *Test methods for electrical materials, printed boards and other interconnection structures and assemblies* can be found in the IEC website.

The committee has decided that the contents of this 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.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

TEST METHODS FOR ELECTRICAL MATERIALS, PRINTED BOARDS AND OTHER INTERCONNECTION STRUCTURES AND ASSEMBLIES –

Part 11: Measurement of melting temperature or melting temperature ranges of solder alloys

1 Scope

This part of IEC 61189 describes the measurement method of melting ranges of solder alloys that are mainly used for wiring of electrical equipment, for electrical and communication equipment, and for other apparatus, as well as for connecting components.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60194,— *Printed board design, manufacture and assembly – Terms and definitions*[1]

IEC 61189-3, *Test methods for electrical materials, printed boards and other interconnection structures and assemblies – Part 3: Test methods for interconnection structures (printed boards)*

IEC 61190-1-3, *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*

ISO 9453, *Soft solder alloys – Chemical compositions and forms*

ISO 11357-1, *Plastics – Differential scanning calorimetry (DSC) – Part 1: General principles*

3 Terms and definitions

For the purposes of this document the terms and definitions of IEC 60194, IEC 61189-3, IEC 61190-1-3, ISO 9453 and ISO 11357-1, as well as the following apply.

3.1
melting temperature ranges
total range of solidus and liquidus temperature of solder alloys

3.2
solidus temperature
temperature when solder alloys start to melt measured by DSC (method A)

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1 Sixth edition to be published.