

ICS 31.180

**"TEST METHODS FOR ELECTRICAL** 

MATERIALS, PRINTED BOARDS AND

**OTHER INTERCONNECTION STRUCTURES** 

AND ASSEMBLIES -- PART 3: TEST

METHODS FOR INTERCONNECTION

STRUCTURES (PRINTED BOARDS)" (IEC

61189-3:2007 (EQV))

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Sales http://www.standards.ie

This Irish Standard was published under the authority of the National Standards Authority of Ireland and comes into effect on: 9 April 2008

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I.S. EN 61189-3:2008

### EUROPEAN STANDARD

## EN 61189-3

## NORME EUROPÉENNE

## EUROPÄISCHE NORM

January 2008

ICS 31.180

Supersedes EN 61189-3:1997 + A1:1999

English version

### Test methods for electrical materials, printed boards and other interconnection structures and assemblies -Part 3: Test methods for interconnection structures (printed boards) (IEC 61189-3:2007)

Méthodes d'essai pour les matériaux électriques, les cartes imprimées et autres structures d'interconnexion et ensembles -Partie 3: Méthodes d'essai des structures d'interconnexion (cartes imprimées) (CEI 61189-3:2007) Prüfverfahren für Elektromaterialien, Leiterplatten und andere Verbindungsstrukturen und Baugruppen -Teil 3: Prüfverfahren für Verbindungsstrukturen (Leiterplatten) (IEC 61189-3:2007)

This European Standard was approved by CENELEC on 2007-12-01. 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

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#### Foreword

The text of document 91/698/FDIS, future edition 2 of IEC 61189-3, prepared by IEC TC 91, Electronics assembly technology, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61189-3 on 2007-12-01.

This European Standard supersedes EN 61189-3:1997 + A1:1999.

The major technical changes with regard to EN 61189-3:1997 + A1:1999 concern the addition of 25 new tests, as follows:

- 6 V: Visual test methods: 3V01, 3V02 and 3V03;
- 7 D: Dimensional test methods: 3D03;
- 8 C: Chemical test methods: 3C02, 3C13 and 3C14;
- 9 M: Mechanical test methods: 3M01, 3M03, 3M04, 3M07 and 3M09;
- 10 E: Electrical test methods: 3E03, 3E04, 3E05, 3E11, 3E12, 3E13, 3E16, 3E17 and 3E18;
- 11 N: Environmental test methods: 3N03, 3N07 and 3N12;
- 12 X: Miscellaneous test methods: 3X01.

EN 61189-3:2007 also includes the deletion of Annex B: Conversion table, as the referred documents have been withdrawn. Should anyone wish to consult such information, they should refer to EN 61189-3:1997.

The new general title of EN 61189 series is *Test methods for electrical materials, printed boards and other interconnection structures and assemblies.* Titles of existing standards in this series will be updated at the time of revision.

This standard should be used in conjunction with the following parts:

Part 1: General test methods and methodology

- Part 2: Test methods for materials for interconnection structures
- Part 5: Test methods for printed board assemblies
- Part 6: Test methods for materials used in manufacturing electronic assemblies

It should also be read in conjunction with the series EN 60068, Environmental testing.

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)	2008-09-01
_	latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2010-12-01

Annex ZA has been added by CENELEC.

#### **Endorsement notice**

The text of the International Standard IEC 61189-3:2007 was approved by CENELEC as a European Standard without any modification.

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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.

<b>Publication</b>	Year	Title	<u>EN/HD</u>	<u>Year</u>
IEC 60051	Series	Direct acting indicating analogue electrical measuring instruments and their accessories	EN 60051	Series
IEC 60068-1	1988	Environmental testing - Part 1: General and guidance	EN 60068-1	1994 <sup>1)</sup>
IEC 60068-2-20 + A2	1979 1987	Environmental testing - Part 2: Tests - Test T: Soldering	HD 323.2.20 S3	1988
IEC 60068-2-78	_ <sup>2)</sup>	Environmental testing - Part 2-78: Tests - Test Cab: Damp heat, steady state	EN 60068-2-78	2001 <sup>3)</sup>
IEC 60169-15	_ 2)	Radio-frequency connectors - Part 15: R.F. coaxial connectors with inner diameter of outer conductor 4,13 mm (0,163 in) with screw coupling - Characteristic impedance 50 ohms (Type SMA)	_ ;	-
IEC 60454-1	1992	Specifications for pressure-sensitive adhesive tapes for electrical purposes - Part 1: General requirements	EN 60454-1	1994
IEC 60454-3-1	1998	Pressure-sensitive adhesive tapes for electrical purposes - Part 3-1: Specifications for individual materials - PVC film tapes with pressure-sensitive adhesive	EN 60454-3-1	1998
IEC 60584-1	_ 2)	Thermocouples - Part 1: Reference tables	EN 60584-1	1995 <sup>3)</sup>
IEC 60695-11-5	_ 2)	Fire hazard testing - Part 11-5: Test flames - Needle-flame test method - Apparatus, confirmatory test arrangement and guidance	EN 60695-11-5	2005 <sup>3)</sup>

<sup>&</sup>lt;sup>1)</sup> EN 60068-1 includes corrigendum October 1988 + A1:1992 to IEC 60068-1.

<sup>&</sup>lt;sup>2)</sup> Undated reference.

<sup>&</sup>lt;sup>3)</sup> Valid edition at date of issue.

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Publication IEC 61188-1-2	<u>Year</u> 1998	<u>Title</u> Printed boards and printed board assemblies - Design and use - Part 1-2: Generic requirements - Controlled impedance	<u>EN/HD</u> EN 61188-1-2	<u>Year</u> 1998
IEC 61189-1	1997	Test methods for electrical materials, interconnection structures and assemblies - Part 1: General test methods and methodology	EN 61189-1	1997
IEC 61190-1-1	_ 2)	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>3)</sup>
IEC 61190-1-2	_ 2)	Attachment materials for electronic assembly - Part 1-2: Requirements for soldering paste for high quality interconnects in electronics assembly	EN 61190-1-2	2007 <sup>3)</sup>
IEC 62326-4	1996	Printed boards - Part 4: Rigid multilayer printed boards with interlayer connections - Sectional specification	EN 62326-4	1997
IEC 62326-4-1	1996	Printed boards - Part 4: Rigid multilayer printed boards with interlayer connections - Sectional specification - Section 1: Capability Detail Specification - Performance levels A, B and C	EN 62326-4-1	1997
ISO 4046	1978 <sup>4)</sup>	Paper, board, pulp and related terms - Vocabulary	_	-
ISO 9002 <sup>5)</sup>	1994	Quality systems - Model for quality assurance in production, installation and servicing	EN ISO 9002 5)	1994
ISO 9453	2006	Soft solder alloys - Chemical compositions and forms	EN ISO 9453	2006

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 $<sup>^{\</sup>rm 4)}$  ISO 4046 has been withdrawn and replaced by ISO 4046, Parts 1 to 5.

<sup>&</sup>lt;sup>5)</sup> Withdrawn.



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