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**BSI Standards Publication**

## **Test methods for electrical materials, printed boards and other interconnection structures and assemblies**

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Part 5-301: General test methods for materials and assemblies —  
Soldering paste using fine solder particles

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## National foreword

This British Standard is the UK implementation of EN IEC 61189-5-301:2021. It is identical to IEC 61189-5-301:2021.

The UK participation in its preparation was entrusted to Technical Committee EPL/501, Electronic Assembly Technology.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 May 2021.

### Amendments/corrigenda issued since publication

Date	Text affected
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## EUROPÄISCHE NORM

April 2021

ICS 31.180

English Version

Test methods for electrical materials, printed boards and other  
interconnection structures and assemblies - Part 5-301: General  
test methods for materials and assemblies - Soldering paste  
using fine solder particles  
(IEC 61189-5-301:2021)

Méthodes d'essai pour les matériaux électriques, les cartes  
imprimées et autres structures d'interconnexion et  
ensembles - Partie 5-301: Méthodes d'essai générales pour  
les matériaux et les assemblages - Pâte à braser à fines  
particules de brasage  
(IEC 61189-5-301:2021)

Prüfverfahren für Elektromaterialien, Leiterplatten und  
andere Verbindungsstrukturen und Baugruppen - Teil 5-  
301: Allgemeine Prüfverfahren für Materialien und  
Baugruppen - Lötpaste mit feinen Lötpartikeln  
(IEC 61189-5-301:2021)

This European Standard was approved by CENELEC on 2021-04-21. 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.

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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

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## **European foreword**

The text of document 91/1655/CDV, future edition 1 of IEC 61189-5-301, prepared by IEC/TC 91 "Electronics assembly technology" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61189-5-301:2021.

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) 2022-01-21
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2024-04-21

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The text of the International Standard IEC 61189-5-301:2021 was approved by CENELEC as a European Standard without any modification.

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(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](http://www.cenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
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	EN 61189-5-3	2015
IEC 61190-1-2	2014	Attachment materials for electronic assembly - Part 1-2: Requirements for soldering pastes for high-quality interconnects in electronics assembly	EN 61190-1-2	2014
ISO 857-2	-	Welding and allied processes - Vocabulary - Part 2: Soldering and brazing processes and related terms	-	-

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

#### Part 5-301: General test methods for materials and assemblies – Soldering paste using fine solder particles

#### FOREWORD

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IEC 61189-5-301 has been prepared by IEC technical committee TC 91: Electronics assembly technology. It is an International Standard.

The text of this International Standard is based on the following documents:

Draft	Report on voting
91/1655/CDV	91/1698/RVC

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

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This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at [www.iec.ch/members\\_experts/refdocs](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/standardsdev/publications](http://www.iec.ch/standardsdev/publications).

A list of all parts in the IEC 61189 series, published under the general title *Test methods for electrical materials, printed boards and other interconnection structures and assemblies*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under [webstore.iec.ch](http://webstore.iec.ch) in the data related to the specific document. At this date, the document will be

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

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

### Part 5-301: General test methods for materials and assemblies – Soldering paste using fine solder particles

#### 1 Scope

This part of IEC 61189 specifies methods for testing the characteristics of soldering paste using fine solder particles (hereinafter referred to as solder paste).

This document is applicable to the solder paste using fine solder particle such as type 6, type 7 specified in IEC 61190-1-2 or finer particle sizes.

This type of solder paste is used for connecting wiring and components in high-density printed circuit boards which are used in electronic or communication equipment and such, equipping fine wiring (e.g., minimum conductor widths and minimum conductor gaps of 60 µm or less).

Test methods for the characteristics of solder paste in this document are considering the effect of surface activation force due to the fine sized solder particles which could affect the test result by existing test methods.

#### 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 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 61190-1-2:2014, *Attachment materials for electronic assembly – Part 1-2: Requirements for soldering pastes for high-quality interconnects in electronics assembly*

ISO 857-2, *Welding and allied processes – Vocabulary – Part 2: Soldering and brazing processes and related terms*

#### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 857-2 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>