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BSI Standards Publication

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

Part 3-301: Test methods for interconnection structures (printed boards) — Appearance inspection method for plated surfaces on PWB

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National foreword

This Published Document is the UK implementation of IEC/TS 61189-3-301:2016.

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 secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Test methods for electrical materials, printed boards and other interconnection structures and assemblies – Part 3-301: Test methods for interconnection structures (printed boards) – Appearance inspection method for plated surfaces on PWB

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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Technical specifications are subject to review within three years of publication to decide whether they can be transformed into International Standards.

IEC TS 61189-3-301, which is a technical specification, has been prepared by IEC technical committee 91: Electronics assembly technology.

The text of this technical specification is based on the following documents:

Enquiry draft	Report on voting
91/1348/DTS	91/1376/RVC

Full information on the voting for the approval of this technical specification 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 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 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

- transformed into an International standard,
- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

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

Part 3-301: Test methods for interconnection structures (printed boards) – Appearance inspection method for plated surfaces on PWB

1 Scope

This part of IEC 61189 outlines a way to determine the appearance non-uniformity of both the lustre and colour on plated metal surfaces in printed wiring boards (PWBs). The method is applicable to gold, nickel and copper plating in PWBs.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions 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

3.1
lustre non-uniformity
abnormal roughness distribution in plated surfaces leading to irregular brightness of reflected light

3.2
colour non-uniformity
irregular reflection spectrum

Note 1 to entry: Colour non-uniformity is caused by other influences than roughness change, such as abnormal components, adhesion of foreign matter and oxidation in plated surfaces.

4 Test specimens

4.1 Specimen dimensions and forms should be in accordance with the test system.

4.2 Specimens of non-defective and of defective products, of several tens to one hundred, at least of ten, are required as teacher data for each series of evaluation.

5 Equipment / apparatus

5.1 Evaluation of lustre non-uniformity

For the evaluation of the lustre non-uniformity, a test system capable of measuring the surface roughness distribution should be used. As for an optical method, CCD (charge-