

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Test methods for electrical materials, printed boards and other interconnection structures and assemblies –
Part 2-803: Test methods for Z-axis expansion of base materials and printed boards**

**Méthodes d'essai pour les matériaux électriques, les cartes imprimées et autres structures d'interconnexion et ensembles –
Partie 2-803: Méthodes d'essai pour la dilatation suivant l'axe Z des matériaux de base et des cartes imprimées**



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**TEST METHODS FOR ELECTRICAL MATERIALS, PRINTED BOARDS AND
OTHER INTERCONNECTION STRUCTURES AND ASSEMBLIES –****Part 2-803: Test methods for Z-axis expansion of base materials and
printed boards**

FOREWORD

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IEC 61189-2-803 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
91/1760/CDV	91/1863/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.

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. The main document types developed by IEC are described in greater detail at 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 in the data related to the specific document. At this date, the document will be

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- withdrawn,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

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

Part 2-803: Test methods for Z-axis expansion of base materials and printed boards

1 Scope

This part of IEC 61189 specifies a test method to determine the Z-axis expansion of base materials and printed boards using a thermomechanical analyser (TMA).

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 60194-1, *Printed boards design, manufacture and assembly – Vocabulary – Part 1: Common usage in printed board and electronic assembly technologies*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60194-1 apply.

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

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

4 Preparation of test specimens

Unless otherwise specified, a minimum of two specimens shall be tested. These specimens shall be taken from random locations of the material to be evaluated.

The test specimens shall be verified to be free of particles.

5 Test specimens

Test specimens shall be unclad laminate material or a printed circuit board. Multilayer printed boards may be tested but no internal conductors are to be present in the specimen.

All copper shall be etched from the test specimens using standard industry methods.

The specimen shall be taken at a distance ≥ 25 mm from the edge of the material / circuit board being evaluated. The dimensions of the specimens shall be approximately 6,35 mm \times 6,35 mm and have a minimum thickness of 0,51 mm.