SLOVENSKI STANDARD
SIST EN IEC 61189-2-501:2022

01-september-2022

Preskusne metode za električne materiale, tiskana vezja in druge povezovalne strukture in sestave - 2-501. del: Preskusne metode za materiale, namenjene za medvezalne strukture - Merjenje elastične trdnosti in faktor zadrževanja elastične trdnosti upogljivih dielektričnih materialov

Test methods for electrical materials, printed board and other interconnection structures and assemblies - Part 2-501: Test methods for materials for interconnection structures - Measurement of Resilience strength and Resilience strength Retention Factor of Flexible Dielectric Materials

Ta slovenski standard je istoveten z: **EN IEC 61189-2-501:2022**

ICS:

31.180	Tiskana vezja (TIV) in tiskane plošče	Printed circuits and boards
31.190	Sestavljeni elektronski elementi	Electronic component assemblies

SIST EN IEC 61189-2-501:2022 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 61189-2-501

March 2022

ICS 31.180

English Version

Test methods for electrical materials, printed boards and other interconnection structures and assemblies - Part 2-501: Test methods for materials for interconnection structures - Measurement of resilience strength and resilience strength retention factor of flexible dielectric materials (IEC 61189-2-501:2022)

Méthodes d'essai pour les matériaux électriques, les cartes imprimées et autres structures d'interconnexion et ensembles - Partie 2-501: Méthodes d'essai des matériaux pour structures d'interconnexion - Mesure de la puissance élastique et du facteur de rétention de la puissance élastique des matériaux diélectriques flexibles (IEC 61189-2-501:2022)

Prüfverfahren für Elektromaterialien, Leiterplatten und andere Verbindungsstrukturen und Baugruppen - Teil 2-501: Prüfverfahren für Materialien für Verbindungsstrukturen - Messung der Belastbarkeit und Belastbarkeit Rückhaltefaktor flexibler dielektrischer Materialien (IEC 61189-2-501:2022)

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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

European foreword

The text of document 91/1765/FDIS, future edition 1 of IEC 61189-2-501, prepared by IEC/TC 91 "Electronics assembly technology" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61189-2-501:2022.

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) 2022-12-10
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2025-03-10

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Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

Endorsement notice

The text of the International Standard IEC 61189-2-501:2022 was approved by CENELEC as a European Standard without any modification.

IEC 61189-2-501

Edition 1.0 2022-02

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Test methods for electrical materials, printed boards and other interconnection structures and assemblies – Part 2-501: Test methods for materials for interconnection structures – Measurement of resilience strength and resilience strength retention factor of flexible dielectric materials

Méthodes d'essai pour les matériaux électriques, les cartes imprimées et autres structures d'interconnexion et ensembles – Partie 2-501: Méthodes d'essai des matériaux pour structures d'interconnexion – Mesure de la puissance élastique et du facteur de rétention de la puissance élastique des matériaux diélectriques flexibles

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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Part 2-501: Test methods for materials for interconnection structures – Measurement of resilience strength and resilience strength retention factor of flexible dielectric materials

FOREWORD

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IEC 61189-2-501 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
91/1765/FDIS	91/1774/RVD

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.

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INTRODUCTION

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

Part 2-501: Test methods for materials for interconnection structures – Measurement of resilience strength and resilience strength retention factor of flexible dielectric materials

1 Scope

This part of IEC 61189 establishes a method suitable for testing the softness of FCCL (Flexible Copper Clad Laminate) products and related materials. This method determines the resilience under specified conditions. The test is performed on the sample as manufactured and without conditioning. The test does not apply to the resilience force lower than 10 mN.

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
softness
property of little resistance to pressure

Note 1 to entry: This property enables easy molding.

3.2
resilience force
force produced by the deformation of an object under a force, which is opposite to the direction of the applied force

3.3
maximum resilience force
L_{max}
resilience force when compressed to the final distance, expressed in millinewtons (mN)

3.4
resilience strength
F_{max}
resilience force per unit width, expressed in millinewtons per millimetres (mN/mm)

3.5
resilience force at the end of holding pressure
L_{end}
resilience force after compression to the final distance and held for a specified time, expressed in millinewtons (mN)

3.6
resilience strength at the end of holding pressure
F_{end}
resilience force per unit width at the end of holding pressure, expressed in millinewtons per millimetres (mN/mm)

3.7
resilience strength retention factor
K_{Rf}
ratio of the resilience strength at the end of holding pressure to the maximum resilience strength at the final distance, reflecting the ability of the material to continue to retain the resilience after the compression is completed

3.8
MD
machine direction
direction of flexible dielectric materials passing through an assembly line viewed from the operator side

3.9
TD
transverse direction
direction perpendicular to the machine direction

3.10
initial distance
distance between the clamps before compression, expressed in millimetres (mm)

3.11
clamp distance
distance between the clamps, expressed in millimetres (mm)

3.12
test equipment
calibrated test equipment equipped with a load cell, capable of measuring to the nearest 0,001 N, and capable of a feed rate of (50 ± 1) mm per minutes

Note 1 to entry: The clamp jaws must cover the width of specimens.

3.13
test fixture
apparatus for compressing the test specimens

SEE: Figure 2

Note 1 to entry: See Annex A for additional information.