
Materiali za tiskane plošče in druge povezovalne strukture - 2-39. del: Pokovinjeni in nepokovinjeni ojačeni osnovni materiali - S stekleno tkanino ojačene laminirane plasti z določeno gorljivostjo (navpični preskus gorljivosti), obdelane z modificirano epoksidno ali neepoksidno smolo, pobakrene, za montažo brez svinca

Materials for printed boards and other interconnecting structures - Part 2-39: Reinforced base materials clad and unclad - High performance epoxide and non-epoxide, woven E-glass laminated sheets of defined flammability (vertical burning test), copper-clad for lead-free assembly

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Matériaux pour circuits imprimés et autres structures d'interconnexion - Partie 2-39: Matériaux de base renforcés, plaqués et non plaqués - Feuilles stratifiées en tissu de verre de type E époxyde et non époxyde à haute performance, plaquées cuivre, d'inflammabilité définie (essai de combustion verticale), pour les assemblages sans plomb

Ta slovenski standard je istoveten z: EN 61249-2-39:2013

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31.180 Tiskana vezja (TIV) in tiskane Printed circuits and boards
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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 61249-2-39

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English version

**Materials for printed boards and other interconnecting structures -
Part 2-39: Reinforced base materials clad and unclad -
High performance epoxide and non-epoxide, woven E-glass laminate
sheets of defined flammability (vertical burning test), copper-clad for lead-
free assembly
(IEC 61249-2-39:2012)**

Matériaux pour circuits imprimés et autres
structures d'interconnexion -
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plaqués et non plaqués -
Feuilles stratifiées en tissu de verre de
type E époxyde et non époxyde à haute
performance, plaquées en cuivre,
d'inflammabilité définie (essai de
combustion verticale), pour les
assemblages sans plomb
(CEI 61249-2-39:2012)

Materialien für Leiterplatten und andere
Verbindungsstrukturen -
Teil 2-39: Kaschierte und unkaschierte
verstärkte Basismaterialien -
Kupferkaschierte mit E-Glasgewebe
verstärkte Laminattafeln hochwertiger
Qualität auf der Basis von Epoxidharz und
Nicht-Epoxidharz mit definierter
Brennbarkeit (Brennprüfung mit vertikaler
Prüflingslage) für bleifreie
Bestückungstechnik
(IEC 61249-2-39:2012)

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Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 91/1052/FDIS, future edition 1 of IEC 61249-2-39, prepared by IEC TC 91 "Electronics assembly technology" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61249-2-39:2013.

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) 2013-10-03
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2016-01-03

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SIST EN 61249-2-39:2013

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

| | | |
|----------------|------|---|
| IEC 60194:2006 | NOTE | Harmonized as EN 60194:2006 (not modified). |
| ISO 9000:2005 | NOTE | Harmonized as EN ISO 9000:2005 (not modified). |
| ISO 14001:2004 | NOTE | Harmonized as EN ISO 14001:2004 (not modified). |

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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.

| <u>Publication</u> | <u>Year</u> | <u>Title</u> | <u>EN/HD</u> | <u>Year</u> |
|--------------------|-------------|---|--------------|-------------|
| IEC 61189-2 | 2006 | Test methods for electrical materials, printed boards and other interconnection structures and assemblies - Part 2: Test methods for materials for interconnection structures | EN 61189-2 | 2006 |
| IEC 61249-5-1 | 1995 | Materials for interconnection structures - Part 5: Sectional specification set for conductive foils and films with or without coatings - Section 1: Copper foils (for the manufacture of copper-clad base materials) | EN 61249-5-1 | 1996 |
| IEC/PAS 61249-6-3 | 2011 | Specification for finished fabric woven from "E" glass for printed boards | - | - |
| ISO 11014 | 2009 | Safety data sheet for chemical products - Content and order of sections | - | - |

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Materials for printed boards and other interconnecting structures –
Part 2-39: Reinforced base materials clad and unclad – High performance
epoxide and non-epoxide, woven E-glass laminate sheets of defined
flammability (vertical burning test), copper-clad for lead-free assembly**

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verticale), pour les assemblages sans plomb**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**MATERIALS FOR PRINTED BOARDS AND
OTHER INTERCONNECTING STRUCTURES –**
**Part 2-39: Reinforced base materials clad and unclad –
High performance epoxide and non-epoxide, woven E-glass
laminate sheets of defined flammability (vertical burning test),
copper-clad for lead-free assembly**

FOREWORD

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International Standard IEC 61249-2-39 has been prepared by IEC technical committee 91: Electronics assembly technology.

The text of this standard is based on the following documents:

| | |
|--------------|------------------|
| FDIS | Report on voting |
| 91/1052/FDIS | 91/1065/RVD |

Full information on the voting for the approval of this standard 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 of the IEC 61249 series, under the general title *Materials for printed boards and other interconnecting structures*, 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 web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

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

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MATERIALS FOR PRINTED BOARDS AND OTHER INTERCONNECTING STRUCTURES –

Part 2-39: Reinforced base materials clad and unclad – High performance epoxide and non-epoxide, woven E-glass laminated sheets of defined flammability (vertical burning test), copper-clad for lead-free assembly

1 Scope

This part of IEC 61249 specifies requirements for properties of modified brominated epoxide woven E-glass laminated sheet of a thickness 0,05 mm up to 3,2 mm, of defined flammability (vertical burning test), copper-clad. The glass transition temperature is defined to be 170 °C minimum.

Its flame resistance is defined in terms of the flammability requirements of 7.3.

Some property requirements may have several classes of performance. The class desired should be specified on the purchase order, otherwise the default class of material will be supplied.

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2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 61189-2:2006, *Test methods for electrical materials, printed boards and other interconnection structures and assemblies – Part 2: Test methods for materials and other interconnection structures*

IEC 61249-5-1:1995, *Materials for interconnection structures – Part 5: Sectional specification set for conductive foils and films with or without coatings – Section 1: Copper foils (for the manufacture of copper-clad base materials)*

IEC/PAS 61249-6-3:2011, *Specification for finished fabric woven from E-glass for printed boards*

ISO 11014:2009, *Safety data sheet for chemical products – Content and order of sections*

3 Materials and construction

3.1 General

The sheet consists of an insulating base with metal-foil bonded to one side or both.

3.2 Resin system

A blend of majority di-functional, multifunctional epoxide and non-epoxide, woven E-glass laminate with a glass transition temperature of 170 °C minimum. The flammability rating is achieved through the use of bromine reacted into the polymer. Inorganic fillers may be used.