SLOVENSKI STANDARD

SIST EN 61249-2-7:2003

april 2003

Materials for printed boards and other interconnecting structures - Part 2-7: Reinforced base materials clad and unclad - Epoxide woven E-glass laminated sheet of defined flammability (vertical burning test), copper-clad

ICS 31.180

Referenčna številka
SIST EN 61249-2-7:2003(en)

EUROPEAN STANDARD **EN 61249-2-7**

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EUROPÄISCHE NORM June 2002

ICS 31.180

English version

Materials for printed boards and other interconnecting structures Part 2-7: Reinforced base materials clad and unclad - Epoxide woven E-glass laminated sheet of defined flammability (vertical burning test), copper-clad

(IEC 61249-2-7:2002)

Matériaux pour circuits imprimés et autres structures d'interconnexion Partie 2-7: Matériaux de base renforcés, plaqués et non plaqués - Feuille stratifiée tissée de verre E avec de la résine époxyde, d'inflammabilité définie (essai de combustion verticale), plaquée cuivre (CEI 61249-2-7:2002)

Materialien für Leiterplatten und andere Verbindungsstrukturen Teil 2-7: Kaschierte und unkaschierte verstärkte Basismaterialien - Kupferkaschierte mit Glasgewebe verstärkte Epoxidharz-Laminattafel mit definierter Brennbarkeit (Brennprüfung mit vertikaler Prüflingslage) (IEC 61249-2-7:2002)

This European Standard was approved by CENELEC on 2002-06-01. 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.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

CENELEC
European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Ref. No. EN 61249-2-7:2002 E

Foreword

The text of document 91/276/FDIS, future edition 1 of IEC 61249-2-7, prepared by IEC TC 91, Electronics assembly technology, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61249-2-7 on 2002-06-01.

The following dates were fixed:

– latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2003-03-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2005-06-01

Annexes designated "normative" are part of the body of the standard.
Annexes designated "informative" are given for information only.
In this standard, annex ZA is normative and annexes A, B and C are informative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61249-2-7:2002 was approved by CENELEC as a European Standard without any modification.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 61189-2	1997	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 + corr. August	1997 1997
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
ISO 9000	2000	Quality management systems Fundamentals and vocabulary	EN ISO 9000	2000
ISO 11014-1	1994	Safety data sheet for chemical products Part 1: Content and order of sections	-	-
ISO 14001	1996	Environmental management systems Specification with guidance for use	EN ISO 14001	1997

NORME INTERNATIONALE

INTERNATIONAL STANDARD

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Matériaux pour circuits imprimés et autres structures d'interconnexion –

Partie 2-7:
Matériaux de base renforcés, plaqués et non plaqués – Feuille stratifiée tissée de verre E avec de la résine époxyde, d'inflammabilité définie (essai de combustion verticale), plaquée cuivre

Materials for printed boards and other interconnecting structures –

Part 2-7:
Reinforced base materials clad and unclad – Epoxide woven E-glass laminated sheet of defined flammability (vertical burning test), copper-clad

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International Electrotechnical Commission
Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

MATERIALS FOR PRINTED BOARDS AND OTHER INTERCONNECTING STRUCTURES –

Part 2-7: Reinforced base materials clad and unclad – Epoxide woven E-glass laminated sheet of defined flammability (vertical burning test), copper-clad

FOREWORD

1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international cooperation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on relevant subjects since each technical committee has representation from all interested National Committees.
3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.
4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61249-2-7 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
91/276/FDIS	91/286/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 3.

Annexes A, B and C are for information only.

IEC 61249-2 consists of the following parts, under the general title *Materials for printed boards and other interconnecting structures – Part 2: Reinforced base materials, clad and unclad:*

Part 2-1: Phenolic cellulose paper laminate, economic grade [1)]

Part 2-2: Phenolic cellulose paper laminate, high electrical grade[1)]

Part 2-4: Polyester non-woven/woven fiberglass laminated sheet of defined flammability (vertical burning test), copper-clad

Part 2-5: Brominated epoxide cellulose paper reinforced core/woven E-glass reinforced surfaces laminate sheets of defined flammability (vertical burning test), copper-clad [2)]

Part 2-6: Brominated epoxide non-woven/woven E-glass reinforced laminated sheets of defined flammability (vertical burning test), copper-clad [2)]

Part 2-7: Epoxide woven E-glass laminated sheet of defined flammability (vertical burning test), copper-clad

Part 2-8: Modified epoxide woven fiberglass laminated sheets of defined flammability (vertical burning test) [2)]

Part 2-9: Bismaleimide/triazine, modified epoxide or unmodified, woven E-glass laminated sheets of defined flammability (vertical burning test), copper-clad [2)]

Part 2-10: Cyanate ester, brominated epoxide modified or unmodified, woven E-glass laminated sheet of defined flammability (vertical burning test), copper-clad [2)]

Part 2-11: Polyimide, epoxide modified or unmodified, woven E-glass reinforced laminated sheets of defined flammability (vertical burning test), copper-clad [2)]

Part 2-12: Epoxide non-woven aramid laminate of defined flammability, copper-clad

Part 2-13: Cyanate ester non-woven aramid laminate of defined flammability, copper-clad

Part 2-18: Polyester non-woven fibreglass reinforced laminated sheet of defined flammability (vertical burning test), copper-clad

Part 2-19: Epoxide cross-plied linear fibreglass reinforced laminated sheets of defined flammability (vertical burning test), copper-clad

Part 2-21: Non-halogenated epoxide woven E-glass reinforced laminated sheets of defined flammability (vertical burning test), copper-clad [2)]

The committee has decided that the contents of this publication will remain unchanged until 2004. At this date, the publication will be

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

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1) Under consideration.

2) To be published.

MATERIALS FOR PRINTED BOARDS AND OTHER INTERCONNECTING STRUCTURES –

Part 2-7: Reinforced base materials clad and unclad – Epoxide woven E-glass laminated sheet of defined flammability (vertical burning test), copper-clad

1 Scope

This part of IEC 61249 gives requirements for properties of epoxide woven E-glass laminated sheet 0,05 mm up to 3,2 mm, of defined flammability (vertical burning test), copper-clad. The flammability rating is achieved through the use of brominated fire retardants contained as an integral part of the polymeric structure. The glass transition temperature is defined to be 120 °C minimum.

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

2 Normative references

The following referenced documents are indispensable for the application 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 61189-2:1997, *Test methods for electrical materials, interconnection structures and assemblies – Part 2: Test methods for materials for 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 Foil (for the manufacture of copper-clad base materials)*

ISO 9000:2000, *Quality management systems – Fundamentals and vocabulary*

ISO 11014-1:1994, *Safety data sheet for chemical products – Part 1: Content and order of sections*

ISO 14001:1996, *Environmental management systems – Specification with guidance for use*

3 Materials and construction

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

3.1 Insulating base

Majority difunctional epoxide woven E-glass laminate with a glass transition temperature of 120 °C minimum.