

**Materiali za tiskane plošče in druge povezovalne strukture – 2-1. del:  
Pokovinjeni in nepokovinjeni ojačeni osnovni materiali - Z bakrom pokovinjeni  
laminat, ojačen s fenolnim celuloznim papirjem, ekonomični razred**

Materials for printed boards and other interconnecting structures – Part 2-1:  
Reinforced base materials, clad and unclad – Phenolic cellulose paper reinforced  
laminated sheets, economic grade, copper clad

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**Materials for printed boards and other interconnecting structures****Part 2-1: Reinforced base materials, clad and unclad –****Phenolic cellulose paper reinforced laminated sheets,  
economic grade, copper clad**

(IEC 61249-2-1:2005)

Matériaux pour circuits imprimés  
et autres structures d'interconnexion  
Partie 2-1: Matériaux de base renforcés,  
plaqués et non plaqués –  
Feuilles stratifiées renforcées de papier  
cellulose phénolique, de qualité  
économique, plaquées cuivre  
(CEI 61249-2-1:2005)

Materialien für Leiterplatten  
und andere Verbindungsstrukturen  
Teil 2-1: Kaschierte und unkaschierte  
verstärkte Basismaterialien –  
Kupferkaschierte Phenolharz-  
Hartpapiertafeln wirtschaftlicher Qualität  
(IEC 61249-2-1:2005)

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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.

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# 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

## Foreword

The text of document 91/493/FDIS, future edition 1 of IEC 61249-2-1, prepared by IEC TC 91, Electronics assembly technology, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61249-2-1 on 2005-02-01.

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) 2005-11-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2008-02-01

Annex ZA has been added by CENELEC.

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## Endorsement notice

The text of the International Standard IEC 61249-2-1:2005 was approved by CENELEC as a European Standard without any modification.

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## Annex ZA

(normative)

### Normative references to international publications with their corresponding European publications

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.

NOTE Where 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 60194	1999	Printed board design, manufacture and assembly - Terms and definitions	-	-
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
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) <small>SIST EN 61249-2-1:2005</small> <a href="https://standards.iec.ch/catalog/standards/sist/b061d34c-1e18-4e28-a1c9-69c5291969f/sist-en-61249-2-1-2005">https://standards.iec.ch/catalog/standards/sist/b061d34c-1e18-4e28-a1c9-69c5291969f/sist-en-61249-2-1-2005</a>	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	1996

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# NORME INTERNATIONALE INTERNATIONAL STANDARD

CEI  
IEC  
**61249-2-1**

Première édition  
First edition  
2005-01

## **Matériaux pour circuits imprimés et autres structures d'interconnexion –**

### **Partie 2-1:**

**Matériaux de base renforcés, plaqués et  
non plaqués – Feuilles stratifiées renforcées  
de papier cellulose phénolique, de qualité  
économique, plaquées cuivre**

[SIST EN 61249-2-1:2005](#)

<https://standards.iteh.ai/catalog/standards/sist/b061d34c-1e18-4e28-a1c9-0009139f827c71d9-112005>

**Materials for printed boards and  
other interconnecting structures –**

### **Part 2-1:**

**Reinforced base materials, clad and unclad –  
Phenolic cellulose paper reinforced laminated  
sheets, economic grade, 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 2-1: Reinforced base materials, clad and unclad –  
Phenolic cellulose paper reinforced laminated sheets,  
economic grade, copper clad****FOREWORD**

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International Standard IEC 61249-2-1 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
91/493/FDIS	91/503/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.

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 reinforced laminated sheets, economic grade, copper clad
- Part 2-2: Phenolic cellulose paper reinforced laminated sheets, high electrical grade, copper-clad
- Part 2-4: Polyester non-woven/woven fibreglass laminated sheets 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
- Part 2-6: Brominated epoxide non-woven/woven, E-glass reinforced laminated sheets of defined flammability (vertical burning test), copper-clad
- Part 2-7: Epoxide woven E-glass laminated sheet of defined flammability (vertical burning test), copper-clad
- Part 2-8: Modified brominated epoxide woven fibreglass reinforced laminated sheets of defined flammability (vertical burning test), copper-clad
- Part 2-9: Bismaleimide/triazine, modified epoxide or unmodified, woven E-glass reinforced laminated sheets of defined flammability (vertical burning test), copper-clad
- Part 2-10: Cyanate ester brominated epoxide, modified or unmodified, woven E-glass reinforced laminated sheets of defined flammability (vertical burning test), copper-clad
- Part 2-11: Polyimide, brominated epoxide modified or unmodified, woven E-glass reinforced laminated sheets of defined flammability (vertical burning test), copper-clad
- 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
- Part 2-22: Modified non-halogenated epoxide woven E-glass laminated sheets of defined flammability (vertical burning test), copper-clad
- Part 2-23: Non-halogenated phenolic, cellulose paper reinforced laminated sheets, economic grade, copper-clad
- Part 2-26: Non-halogenated epoxide, nonwoven/woven E-glass reinforced laminated sheets of defined flammability (vertical burning test), copper-clad

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