

SLOVENSKI STANDARD
SIST EN 60249-2-13:1995/A1:1997
01-avgust-1997

**Base materials for printed circuits - Part 2: Specifications - Specification No.13:
Flexible copper-clad polyimide film, general purpose grade (IEC 249-2-
13:1987/A1:1993) - Amendment A1**

Base materials for printed circuits -- Part 2: Specifications -- Specification No. 13:
Flexible copper-clad laminated polyimide film, general purpose grade

Basismaterialien für gedruckte Schaltungen -- Teil 2: Einzelbestimmungen --
Einzelbestimmung Nr. 13: Flexible kupferkaschierte Polyimidfolie für allgemeine
Anwendungszwecke

Matériaux de base pour circuits imprimés -- Partie 2: Spécifications -- Spécification n° 13:
Film flexible de polyimide recouvert de cuivre de qualité courante

Ta slovenski standard je istoveten z: EN 60249-2-13:1994/A1:1994

ICS:

31.180 Tiskana vezja (TIV) in tiskane Printed circuits and boards
plošče

SIST EN 60249-2-13:1995/A1:1997 en

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SIST EN 60249-2-13:1995/A1:1997

<https://standards.iteh.ai/catalog/standards/sist/5a107e05-fada-42e8-900b-65e795947004/sist-en-60249-2-13-1995-a1-1997>

EUROPEAN STANDARD

EN 60249-2-13/A1

NORME EUROPEENNE

EUROPÄISCHE NORM

March 1994

UDC 621.3.049.75-036.7

Descriptors: Printed circuit, composite materials, polyimide, copper

Amendment A1 to the English version of EN 60249-2-13

Base materials for printed circuits
 Part 2: Specifications
 Specification No. 13: Flexible copper-clad
 polyimide film, general purpose grade
 (IEC 249-2-13:1987/A1:1993)

Matériaux de base pour circuits
 imprimés
 Partie 2: Spécifications
 Spécification n° 13: Film
 flexible de polyimide recouvert
 de cuivre, de qualité courante
 (CEI 249-2-13:1987/A1:1993)

Basismaterialien für gedruckte
 Schaltungen
 Teil 2: Einzelbestimmungen
 Einzelbestimmung Nr. 13:
 Flexible kupferkaschierte
 Polyimidfolie für allgemeine
 Anwendungszwecke
 (IEC 249-2-13:1987/A1:1993)

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This amendment A1 modifies the European Standard EN 60249-2-13:1994. It was approved by CENELEC on 1994-01-08. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

<https://standards.iteh.ai/catalog/standards/sist/5a107e05-fada-42e8-900b-65-78f947904/iec-60249-2-13-1995-a1-1997>

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 amendment 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, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, 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

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Ref. No. EN 60249-2-13:1994/A1:1994 E

FOREWORD

At the request of the 76th Technical Board of CENELEC, amendment 1:1993 to the International Standard IEC 249-2-13:1987 was submitted to the CENELEC members for formal vote.

The text of the International Standard was approved by CENELEC as amendment A1 to EN 60249-2-13 on 8 January 1994.

The following dates were fixed:

- latest date of publication of
an identical national standard (dop) 1995-03-15
- latest date of withdrawal of
conflicting national standards (dow) 1995-03-15

ENDORSEMENT NOTICE

The text of amendment 1:1993 to the International Standard IEC 249-2-13:1987 was approved by CENELEC as an amendment to the European Standard without any modification.

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NORME
INTERNATIONALE
INTERNATIONAL
STANDARD

CEI
IEC
249-2-13

1987

AMENDEMENT 1
AMENDMENT 1

1993-05

Amendement 1

Matériaux de base pour circuits imprimés

Partie 2: Spécifications

Spécification n° 13: Film flexible de polyimide
recouvert de cuivre, de qualité courante

[SIST EN 60249-2-13:1995/A1:1997](https://standards.iteh.ai/catalog/standards/sist/5a107e05-fada-42e8-900b-65e793947004/sist-en-60249-2-13-1995-a1-1997)

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Amendment 1

Base materials for printed circuits

Part 2: Specifications

Specification No. 13: Flexible copper-clad
polyimide film, general purpose grade

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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FOREWORD

This amendment has been prepared by IEC technical committee No. 52: Printed circuits.

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

DIS	Reports on Voting
52(CO)378	52(CO)387
52(CO)380	52(CO)389
52(CO)391	52(CO)395

Full information on the voting for the approval of this amendment can be found in the reports on voting indicated in the above table.

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4 Electrical properties, table III

SIST EN 60249-2-13:1995/A1:1997

Replace the present property designation by:

Surface resistance after damp heat while in the humidity chamber (optional)

Surface resistance after damp heat and recovery

Volume resistivity after damp heat while in the humidity chamber (optional)

Volume resistivity after damp heat and recovery

Replace table VI as follows:

Property	Test method (Subclause of IEC 249-1)	Requirements		
		Thickness of the copper foil		
		18 μm^*	35 μm^*	70 μm^*
Peel strength as received	3.6	Not less than 0,6 N/mm (3,4 lbf/in)	Not less than 0,8 N/mm (4,6 lbf/in)	Not less than 0,9 N/mm (5,1 lbf/in)
Peel strength after dry heat for 30 min at 125 °C and heat shock for 10 s	3.6.3	Not less than 0,6 N/mm (3,4 lbf/in)	Not less than 0,8 N/mm (4,6 lbf/in)	Not less than 0,9 N/mm (5,1 lbf/in)
		No blistering nor delamination		
Peel strength after dry heat for 30 min at 200 °C (optional)	3.6.3	Not less than 0,5 N/mm (2,9 lbf/in)	Not less than 0,7 N/mm (4,0 lbf/in)	Not less than 0,8 N/mm (4,6 lbf/in)
		No blistering nor delamination		
Retention of peel strength after immersion in solvent	3.6.6 but duration 3 min instead of 10 min	Not less than 75 % of the previous values. No blistering nor delamination, tackiness or colour change		
Retention of peel strength after simulated plating (optional)	3.6.5 but current density 50 A/m ² instead of 215 A/m ²	Not less than 75 % of the previous values. No blistering nor delamination, tackiness or colour change		
<p>* 18 μm (152 g/m², 0,5 oz/ft²); 35 μm (305 g/m², 1 oz/ft²); 70 μm (610 g/m², 2 oz/ft²).</p>				

5.6 Solderability

Delete the title and text of 5.6.