

SLOVENSKI STANDARD
SIST EN 60249-2-7:1997/A2:1997
01-avgust-1997

**Base materials for printed circuits - Part 2: Specifications - Specification No.7:
Phenolic cellulose paper copper-clad laminated sheet of defined flammability
(vertical burning test) (IEC 249-2-7:1987/A2:1993) - Amendment 2**

Base materials for printed circuits -- Part 2: Specifications -- Specification No. 7: Phenolic cellulose paper copper-clad laminated sheet of defined flammability (vertical burning test)

Basismaterialien für gedruckte Schaltungen -- Teil 2: Einzelbestimmungen -- Einzelbestimmung Nr. 7: Kupferkaschierte Phenolharz-Hartpapiertafeln definierter Brennbarkeit (Brennprüfung mit vertikaler Probenlage)

Matériaux de base pour circuits imprimés -- Partie 2: Spécifications -- Spécification n° 7: Feuille de papier cellulose phénolique recouverte de cuivre, d'inflammabilité définie (essai de combustion verticale)

Ta slovenski standard je istoveten z: EN 60249-2-7:1994/A2:1994

ICS:

13.220.40	Sposobnost vžiga in obnašanje materialov in proizvodov pri gorenju	Ignitability and burning behaviour of materials and products
31.180	Tiskana vezja (TIV) in tiskane plošče	Printed circuits and boards

SIST EN 60249-2-7:1997/A2:1997 en

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[SIST EN 60249-2-7:1997/A2:1997](https://standards.iteh.ai/catalog/standards/sist/a676512b-7cfc-4c5d-8353-d39af266ed3a/sist-en-60249-2-7-1997-a2-1997)

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EUROPEAN STANDARD

EN 60249-2-7/A2

NORME EUROPEENNE

EUROPÄISCHE NORM

February 1994

UDC 621.3.049.75-035.4

Descriptors: Printed circuit, composite materials, paper, copper,
flammability

Amendment A2 to the English version of EN 60249-2-7

Base materials for printed circuits
Part 2: Specifications
Specification No. 7: Phenolic cellulose paper
copper-clad laminated sheet of defined
flammability (vertical burning test)
(IEC 249-2-7:1987/A2:1993)

Matériaux de base pour circuits
imprimés
Partie 2: Spécifications
Spécification no. 7: Feuille de
papier cellulose phénolique
recouverte de cuivre,
d'inflammabilité définie (essai
de combustion verticale)
(CEI 249-2-7:1987/A2:1993)

Basismaterialien für gedruckte
Schaltungen
Teil 2: Einzelbestimmungen
Einzelbestimmung Nr. 7:
Kupferkaschierte
Phenolharz-Hartpapiertafeln
definierter Brennbarkeit
(Brennprüfung mit vertikaler
Probenlage)
(IEC 249-2-7:1987/A2:1993)

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This amendment A2 modifies the European Standard EN 60249-2-7:1994. It was approved by CENELEC on 1993-12-08. 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.

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

FOREWORD

At the request of the 76th Technical Board of CENELEC, amendment 2:1993 to the International Standard IEC 249-2-7:1987 was submitted to the CENELEC members for formal vote.

The text of the International Standard was approved by CENELEC as amendment A2 to EN 60249-2-7 on 8 December 1993.

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 2:1993 to the International Standard IEC 249-2-7:1987 was approved by CENELEC as an amendment to the European Standard without any modification. (standards.iteh.ai)

[SIST EN 60249-2-7:1997/A2:1997](https://standards.iteh.ai/catalog/standards/sist/a676512b-7cfc-4c5d-8353-d39af266ed3a/sist-en-60249-2-7-1997-a2-1997)

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NORME
INTERNATIONALE
INTERNATIONAL
STANDARD

CEI
IEC
249-2-7

1987

AMENDEMENT 2
AMENDMENT 2

1993-05

Comprenant la modification 1 (1989)
Incorporating Amendment 1 (1989)

Amendement 2

Matériaux de base pour circuits imprimés

Partie 2: Spécifications

Spécification n° 7: Feuille de papier cellulose
phénolique recouverte de cuivre,
d'inflammabilité définie
(essai de combustion verticale)

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<https://standards.iteh.ai/catalog/standards/sist/a676512b-7cfc-4c5d-8353-d39af26a9929/sist-en-60249-2-7-1997-a2-1997>

Amendment 2

Base materials for printed circuits

Part 2: Specifications

Specification No. 7: Phenolic cellulose
paper copper-clad laminated sheet of
defined flammability
(vertical burning test)

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
PRICE CODE

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Pour prix, voir catalogue en vigueur
For price, see current catalogue

FOREWORD

This amendment has been prepared by IEC technical committee 52: Printed circuits.

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

Amendments	Six Months' Rule/DIS	Reports on Voting
2	52(CO)378 52(CO)379 52(CO)380 52(CO)391	52(CO)387 52(CO)388 52(CO)389 52(CO)395
1	52(CO)319	52(CO)330

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

The text of Amendment 2 is indicated by a vertical line in the margin.

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4 Electrical properties (standards.iteh.ai)

Replace, in table I, 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

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Table VI, column 1

Delete "1,1,1 – trichloroethane" and replace "Solvents other than trichloroethane" by "Solvents as agreed upon between purchaser and supplier".

Column 3:

Delete the sentence "As agreed upon between purchaser and supplier".

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5.6 Solderability

Delete the title and text of this subclause.

5.7 Dimensional stability

Replace the present table VIII by the following new table VIII:

Table VIII

Property	Test method (subclause of IEC 249-1)	Requirement
Dimensional stability	3.11 $T = (150 \pm 2) ^\circ\text{C}$	2,0 mm/m max.

5.8 Size tolerances

5.8.1 Size tolerances for sheets

The size of the sheets as delivered by the supplier shall not deviate from the nominal size by more than $+^{10}_0$ mm.

5.8.2 Size tolerances for cut panels

For panels cut to size according to the purchaser's specification, the following tolerances for length and width shall apply:

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Panel size (mm)	Tolerance \pm (mm)	
	Normal	Close
Up to 300	2	0,5
Over 300 to 600		0,8
Over 600		1,6

NOTE - The specified tolerances include all deviations caused by cutting the panels.

5.9 Rectangularity of cut panels

Property	Test method (subclause of IEC 249-1)	Requirement	
		Coarse (mm/m)	Normal (mm/m)
Rectangularity of cut panels	3.15	3	2

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6.2 Flexural strength

Replace, in table IX, third column, "N/cm²" by "N/mm²".

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6.3 Flammability

Replace the existing table X by the following table X (editorial and new layout):

Property	Test method (subclause of IEC 249-1)	Requirement	
		FV0	FV1
Flammability (vertical burning test) Flaming combustion time after each application of the test flame for each test specimen Total flaming combustion time for the 10 flame applications for each set of five specimens Glowing combustion time after the second removal of the test flame Flaming or glowing combustion up to the holding clamp Dripping flaming particles that ignite the tissue paper	4.3.4	Designation	
		≤ 10 s	≤ 30 s
		≤ 50 s	≤ 250 s
		≤ 30 s	≤ 60 s
		None	None
		None	None

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7 Packaging and marking

Replace in the second paragraph: "as in the relevant specification" by "as in this specification".