

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Materials for printed boards and other interconnecting structures –  
Part 2-41: Reinforced base materials clad and unclad – Brominated epoxide  
cellulose paper/woven E-glass reinforced laminate sheets of defined  
flammability (vertical burning test), copper-clad for lead-free assembly**

**Matériaux pour circuits imprimés et autres structures d'interconnexion –  
Partie 2-41: Matériaux de base renforcés, plaqués et non plaqués – Feuilles  
stratifiées renforcées en tissu de verre de type E/papier cellulose époxyde  
bromé, plaquées cuivre, d'inflammabilité définie (essai de combustion verticale)  
pour les assemblages sans plomb**



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**MATERIALS FOR PRINTED BOARDS  
AND OTHER INTERCONNECTING STRUCTURES –**

**Part 2-41: Reinforced base materials clad and unclad –  
Brominated epoxide cellulose paper/woven E-glass  
reinforced laminate sheets of defined flammability  
(vertical burning test), copper-clad for lead-free assembly**

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International Standard IEC 61249-2-41 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
91/911/FDIS	91/922/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.

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## MATERIALS FOR PRINTED BOARDS AND OTHER INTERCONNECTING STRUCTURES –

### Part 2-41: Reinforced base materials clad and unclad – Brominated epoxide cellulose paper/woven E-glass reinforced laminate sheets of defined flammability (vertical burning test), copper-clad for lead-free assembly

#### 1 Scope

This part of IEC 61249 gives requirements for properties of brominated epoxide cellulose paper reinforced core/woven E-glass reinforced surface laminate sheets of defined flammability (vertical burning test), copper-clad for lead-free assembly in thicknesses of 0,60 mm up to 1,70 mm. The flammability rating is achieved through the use of brominated fire retardants reacted as part of the epoxide polymeric structure. The glass transition temperature is defined to be 100 °C minimum.

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.

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

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

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

ISO 14001, *Environmental management systems – Requirements with guidance for use*

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

#### 3 Materials and construction

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

##### 3.1 Resin system

Brominated epoxide, filled or unfilled, resulting in a laminate with a glass transition temperature of 100 °C minimum.