IEC 61249-2-43

Edition 1.0 2016-05

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Materials for printed boards and other interconnecting structures – Part 2-43: Reinforced base materials clad and unclad – Non-halogenated 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 2-43: Matériaux de base renforcés, plaqués et non plaqués – Feuilles stratifiées renforcées en verre de type E tissé/papier cellulose époxyde non halogéné, plaquées cuivre, d'inflammabilité définie (essai de combustion verticale) pour les assemblages sans plomb

IEC 61249-2-43:2016-05(en-fr)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

ICS 31.180

ISBN 978-2-8322-3393-1

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Part 2-43: Reinforced base materials clad and unclad – Non-halogenated 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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The text of this standard is based on the following documents:

FDIS	Report on voting
91/1350/FDIS	91/1363/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.

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1 Scope

This part of IEC 61249 gives requirements for properties of non-halogenated 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 non-halogenated 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 documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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)*

IEC PAS 61249-6-3, *Specification for finished fabric woven from "E" glass for printed boards*

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

3 Materials and construction

3.1 General

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

3.2 Resin system

Non-halogen epoxide, filled or unfilled, resulting in a laminate with a glass transition temperature of 100 °C minimum. The maximum total halogens contained in the resin plus reinforcement matrix is $1{,}5 \times 10^{-3}$ parts (1 500 ppm) with a maximum chlorine of 9×10^{-4} parts (900 ppm) parts and maximum bromine being 9×10^{-4} parts (900 ppm).