Materials for printed boards and other interconnecting structures - Part 2-27: Reinforced base materials clad and unclad - Bismaleimide/triazine modified with non-halogenated epoxide woven glass laminate sheets of defined flammability (vertical burning test), copper-clad (IEC 61249-2-27:2012)

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 61249-2-27:2013 sisaldab Euroopa standardi EN 61249-2-27:2013 ingliskeelset teksti.	This Estonian standard EVS-EN 61249-2-27:2013 consists of the English text of the European standard EN 61249-2-27:2013.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 22.03.2013.	Date of Availability of the European standard is 22.03.2013.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 33.180

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61249-2-27

March 2013

ICS 31.180

English version

Materials for printed boards and other interconnecting structures - Part 2-27: Reinforced base materials clad and unclad - Bismaleimide/triazine modified with non-halogenated epoxide woven glass laminate sheets of defined flammability (vertical burning test), copper-clad

(IEC 61249-2-27:2012)

Matériaux pour circuits imprimés et autres structures d'interconnexion -
Partie 2-27 : Matériaux de base renforcés, plaqués et non plaqués -
Feuilles stratifiées en tissu de verre de type époxyde non-halogéné modifié, et bismaléimide-triazine, d'inflammabilité définie (essai de combustion verticale), plaquées cuivre
(CEI 61249-2-27:2012)

Materialien für Leiterplatten und andere Verbindungsstrukturen -
Teil 2-27: Kaschierte und unkaschierte verstärkte Basismaterialien -
Kupferkaschierte mit E-Glasgewebe verstärkte Laminattafeln auf der Basis von Bismaleinimid/Triazin-Harz, modifiziert mit halogenfreiem Epoxidharz, mit definierter Brennbarkeit (Brennprüfung mit vertikaler Prüflingslage)
(IEC 61249-2-27:2012)

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Ref. No. EN 61249-2-27:2013 E

Foreword

The text of document 91/1050/FDIS, future edition 1 of IEC 61249-2-27, prepared by IEC TC 91 "Electronics assembly technology" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61249-2-27:2013.

The following dates are fixed:

• latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2013-10-03
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2016-01-03

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 61249-2-27:2012 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

ISO 9000:2005	NOTE	Harmonized as EN ISO 9000:2005 (not modified).
ISO 14001:2004	NOTE	Harmonized as EN ISO 14001:2004 (not modified).

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
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	EN 61189-2	2006
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)	EN 61249-5-1	1996
IEC/PAS 61249-6-3	2011	Specification for finished fabric woven from "E" glass for printed boards	-	-
ISO 11014	2009	Safety data sheet for chemical products - Content and order of sections	-	-

CONTENTS

MATERIALS FOR PRINTED BOARDS AND OTHER INTERCONNECTING STRUCTURES –

Part 2-27 Reinforced base materials clad and unclad – Bismaleimide/triazine modified with non-halogenated epoxide woven glass laminate sheets of defined flammability (vertical burning test), copper-clad

1 Scope

This part of IEC 61249 gives requirements for properties of bismaleimide/triazine modified with non-halogenated epoxide woven E-glass reinforced laminated sheets of defined flammability (vertical burning test), copper-clad in thicknesses of 0,03 mm up to 1,60 mm. The flammability rating is achieved through the use of non-halogenated inorganic and/or organic compounds acting as fire retardants. These fire retardants are contained as part of polymeric structure or in addition to it. The glass transition temperature is defined to be 160 °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 may 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 and other interconnection structures*

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)*

IEC/PAS 61249-6-3:2011, *Specification for finished fabric woven from E-glass for printed boards*

ISO 11014:2009, *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

Bismaleimide/triazine modified with non-halogenated epoxide resulting in a laminate with a glass transition temperature of 160 °C minimum. The maximum total halogens contained in the resin plus reinforcement matrix is 1 500 ppm with a maximum chlorine of 900 ppm and maximum bromine being 900 ppm.