

<b>STN</b>	<b>Materiály na plošné spoje a ostatné prepájacie štruktúry. Časť 4-19: Rámcová špecifikácia pre neplátované prepregy (na výrobu viacvrstvových dosiek). Vysokovýkonové prepregy vystužené sklenenými E-vláknami impregnované nehalogenovanou epoxidovou živicom s definovanou horľavosťou (vertikálna skúška horenia) na bezolovnaté zostavy.</b>	<b>STN EN 61249-4-19</b>
		34 6511

Materials for printed boards and other interconnecting structures - Part 4-19: Sectional specification set for prepreg materials, unclad (for the manufacture of multilayer boards) - High performance non-halogenated epoxide woven E-glass prepreg of defined flammability (vertical burning test) for lead-free assembly

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

Obsahuje: EN 61249-4-19:2013, IEC 61249-4-19:2013

**119252**

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Úrad pre normalizáciu, metrológiu a skúšobníctvo SR, odbor SÚTN, 2014  
Podľa zákona č. 264/1999 Z. z. v znení neskorších predpisov sa môžu slovenské technické normy rozmnožovať a rozširovať iba so súhlasom Úradu pre normalizáciu, metrológiu a skúšobníctvo SR.

ICS 31.180

English version

**Materials for printed boards and other interconnecting structures -  
 Part 4-19: Sectional specification set for prepreg materials, unclad (for the  
 manufacture of multilayer boards) -  
 High performance non-halogenated epoxide woven E-glass prepreg of  
 defined flammability (vertical burning test) for lead-free assembly  
 (IEC 61249-4-19:2013)**

Matériaux pour circuits imprimés et autres structures d'interconnexion -  
 Partie 4-19: Série de spécifications intermédiaires pour matériaux préimprégnés, non plaqués (pour la fabrication des cartes multicouches) -  
 Tissu de verre époxyde préimprégné non halogéné de type E à haute performance, d'inflammabilité définie (essai de combustion verticale), pour les assemblages sans plomb  
 (CEI 61249-4-19:2013)

Materialen für Leiterplatten und andere Verbindungsstrukturen -  
 Teil 4-19: Rahmenspezifikation für unkaschierte Prepreg-Materialien (zur Herstellung von Mehrlagenleiterplatten) -  
 Hochwertige mit E-Glasgewebe verstärkte Prepregs auf der Basis von halogenfreiem Epoxidharz mit definierter Brennbarkeit (Brennprüfung mit vertikaler Prüflingslage) für bleifreie Bestückungstechnik  
 (IEC 61249-4-19:2013)

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## Foreword

The text of document 91/1126/FDIS, future edition 1 of IEC 61249-4-19, prepared by IEC TC 91 "Electronics assembly technology" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61249-4-19:2013.

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) 2014-09-09
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2016-12-09

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

- |                |      |   |
|----------------|------|---|
| IEC 60194:2006 | NOTE | Harmonized as EN 60194:2006 (not modified). |
| IEC 62326-4    | NOTE | Harmonized as EN 62326-4.                   |

## 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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
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 61249-2-40	-	Materials for printed boards and other interconnecting structures - Part 2-40: Reinforced base materials clad and unclad - High performance, non-halogenated epoxide woven E-glass laminate sheets of defined flammability (vertical burning test), copper-clad for lead-free assembly	EN 61249-2-40	-
IEC/PAS 61249-6-3	2011	Specification for finished fabric woven from "E" glass for printed boards	-	-
ISO 9000	2005	Quality management systems - Fundamentals and vocabulary	EN ISO 9000	2005
ISO 11014	2009	Safety data sheet for chemical products - Content and order of sections	-	-
ISO 14001	2004	Environmental management systems - Requirements with guidance for use	EN ISO 14001	2004



# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Materials for printed boards and other interconnecting structures –  
Part 4-19: Sectional specification set for prepreg materials, unclad (for the  
manufacture of multilayer boards) – High performance non-halogenated epoxide  
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**Matériaux pour circuits imprimés et autres structures d'interconnexion –  
Partie 4-19: Série de spécifications intermédiaires pour matériaux préimprégnés,  
non plaqués (pour la fabrication des cartes multicouches) – Tissu de verre  
époxyde préimprégné non halogéné de type E à haute performance,  
d'inflammabilité définie (essai de combustion verticale), pour les assemblages  
sans plomb**



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d'inflammabilité définie (essai de combustion verticale), pour les assemblages  
sans plomb**

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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**MATERIALS FOR PRINTED BOARDS  
AND OTHER INTERCONNECTING STRUCTURES –**
**Part 4-19: Sectional specification set for prepreg materials,  
unclad (for the manufacture of multilayer boards) –  
High performance non-halogenated epoxide woven E-glass prepreg  
of defined flammability (vertical burning test) for lead-free assembly**

## FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 61249-4-19 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
91/1126/FDIS	91/1148/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.

A list of all parts of the IEC 61249 series, under the general title *Materials for printed boards and other interconnecting structures*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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

### **Part 4-19: Sectional specification set for prepreg materials, unclad (for the manufacture of multilayer boards) – High performance non-halogenated epoxide woven E-glass prepreg of defined flammability (vertical burning test) for lead-free assembly**

#### **1 Scope**

This part of IEC 61249 gives requirements for properties of prepreg that is mainly intended to be used as bonding sheets in connection with laminates according to IEC 61249-2-40 when manufacturing multilayer boards according to IEC 62326-4. Multilayer boards comprised of these materials are suitable for lead-free assembly processes. This material may be also used to bond other types of laminates.

Prepreg according to this standard is of defined flammability (vertical burning test). The flammability rating on fully cured prepreg is achieved through the use of non-halogenated fire retardants contained as an integral part of the polymeric structure. After curing of the prepreg according to the supplier's instructions, the glass transition temperature is defined to be 170 °C minimum.

#### **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, interconnection structures and assemblies – Part 2: Test methods for materials for interconnection structures*

IEC 61249-2-40, *Materials for printed boards and other interconnecting structures – Part 2-40: Reinforced base materials clad and unclad – High performance, non-halogenated epoxide woven E-glass laminate sheets of defined flammability (vertical burning test), copper-clad for lead-free assembly*

IEC/PAS 61249-6-3:2011, *Materials for printed boards and other interconnecting structures – Part 6-3: Reinforcements – Woven fibreglass fabrics*

ISO 9000:2005, *Quality management systems – Fundamentals and vocabulary*

ISO 11014:2009, *Safety data sheet for chemical products – Content and order of sections*

ISO 14001:2004, *Environmental management systems – Requirements with guidance for use*

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**