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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 47837.4016-2026

**Materials for printed circuit boards and other interconnecting structures - Part
4-16: Prepreg for multilayer printed circuit boards - Non-halogenated
multifunctional epoxide woven E-glass prepreg for lead-free assembly**

印制电路板及其他互连结构用材料 第4-16部分：多层印制电路板用粘结片 无铅
装联用无卤多官能环氧E玻纤布粘结片

(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is Part 4-16 of GB/T 47837 "Materials for Printed Circuit Boards and Other Interconnect Structures". GB/T 47837 has been issued.

The following parts were laid out.

---Part 4-12.Halogen-free multifunctional epoxy E-glass fiber cloth adhesive sheets for multilayer printed circuit boards;

---Part 4-16.Lead-free bonding sheets for multilayer printed circuit boards; Halogen-free multifunctional epoxy E-glass fiber cloth bonding sheets;

---Part 4-17.Bonding Sheets for Multilayer Printed Circuit Boards - Halogen-Free Epoxy E Fiberglass Cloth Bonding Sheets for Lead-Free Assembly this document is modified to adopt IEC 61249-4-16:2009 "Materials for printed circuits and other interconnects - Part 4-16.Copper-free".

Halogen-free epoxy adhesive sheet.

Compared with IEC 61249-4-16:2009, this document has undergone many structural adjustments. A comparison of the structural numbering changes between the two documents is provided below.

See Appendix A for the table of contents.

This document differs significantly from IEC 61249-4-16:2009.The differences are indicated in the margins of the relevant clauses.

Vertical single lines (|) are marked. A summary of these technical differences and their reasons is provided in Appendix B.

The following editorial changes have been made to this document.

---The standard title has been changed to "Materials for Printed Circuit Boards and Other Interconnect Structures - Part 4-16. Adhesives for Multilayer Printed Circuit Boards" Lead-free, halogen-free, multifunctional epoxy E-glass fiber cloth bonding sheet;

---The suspension section in Chapter 3 of IEC 61249-4-16:2009 is moved to section 4.1 of this document;

---Chapter 1 of IEC 61249-4-16:2009 has been simplified, and content already specified in the main text has been removed;

---Adjust the curing thickness from 4.3.4 to 5.4.1;

---The title of Chapter 5 of IEC 61249-4-16:2009 has been changed from "Delivery Status" to "Dimensions" to better reflect the content.

Move to section 5.2 of this document;

---The title of Chapter 9 of IEC 61249-4-16:2009 was changed from "Storage" to "Transport and Storage", and moved to Chapter 8.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the Ministry of Industry and Information Technology of the People's Republic of China.

This document is under the jurisdiction of the National Printed Circuit Standardization Technical Committee (SAC/TC47).

Introduction

The materials used in printed circuit boards (PCBs) and other interconnect structures are diverse, their technical specifications are complex, and their applications are constantly evolving with technological advancements.

Changes cannot be fully and clearly covered by a single standard, requiring comprehensive technical rules and requirements for all materials. Therefore, GB/T 47837 "Printing Standards" was established.

The "Materials for Circuit Boards and Other Interconnect Structures" series of standards aims to comprehensively cover materials used in PCBs and other interconnect structures, as well as related testing methods.

The law clarifies the boundaries of each technical specification and facilitates the maintenance and updating of standards.

"Materials for Printed Circuit Boards and Other Interconnect Structures Part 4: Adhesive Sheets for Multilayer Printed Circuit Boards" aims to establish applicable materials for multilayer printed circuit boards.

The manufacturing, inspection specifications, and acceptance criteria for adhesive sheets used in printed circuit boards are proposed to consist of 10 parts.

---Part 4-2.Multifunctional epoxy E-fiberglass cloth adhesive sheet for multilayer printed circuit boards. The purpose is to standardize the curing process.

Development and manufacturing of multifunctional epoxy E fiberglass cloth bonding sheets with a glass transition temperature of 150°C~170°C (excluding 170°C).

The use of these technologies and methods will better ensure the quality of the product, facilitate material selection for downstream customers, and promote the sustainable development of the electronic circuit industry.

---Parts 4-5.Adhesive Sheets for Multilayer Printed Circuit Boards. Modified or Unmodified Polyimide E Fiberglass Cloth Adhesive Sheets. The purpose is to...

Development of modified or unmodified polyimide E fiberglass cloth bonding sheets with a glass transition temperature of not less than 150°C after standard curing.

Manufacturing, use, and other processes will better ensure the quality of the product, facilitate material selection for downstream customers, and promote the sustainable development of the electronic circuit industry.

develop.

---Part 4-11.Halogen-free epoxy E-fiberglass cloth adhesive sheets for multilayer printed circuit boards. The purpose is to standardize the bonding of the cured fiberglass cloth.

Development, manufacturing, and use of halogen-free epoxy E-glass fiber cloth bonding sheets with a glass transition temperature of 120°C~150°C (excluding 150°C).

This will better ensure the quality of the product, facilitate material selection for downstream customers, and promote the sustainable development of the electronic circuit industry.

The development of halogen-free multifunctional epoxy E fiberglass cloth bonding sheet products with a glass transition temperature of 150°C~170°C (excluding 170°C) after tempering.

This facilitates the development, manufacturing, and use of the product, better ensuring its quality, facilitating material selection for downstream customers, and promoting the sustainable development of the electronic circuit industry.

develop.

---Part 4-14.Epoxy E-fiberglass cloth adhesive sheets for lead-free assembly of multilayer printed circuit boards. The purpose is to standardize adhesive bonding...

Opening of lead-free epoxy E fiberglass cloth bonding sheet products with a glass transition temperature of 120°C~150°C (excluding 150°C) after tempering.