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

GB/T 5019.4-2025

Replacing GB/T 5019.4-2009

**Insulating materials based on mica - Part 4: Mica paper
(English Translation)**

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document is Part 4 of GB/T 5019 Mica-based insulating materials. GB/T 5019 has been published in the following parts.

- Part 1: Definitions and general requirements;
- Part 2: Test methods;
- Part 3: Commutator spacers and materials;
- Part 4: Mica paper;
- Part 5: Rigid mica sheets for electric heating equipment;
- Part 6: Polyester film reinforced B-stage epoxy resin bonded mica tape;
- Part 7: Glass cloth and film reinforced epoxy resin bonded mica tape for vacuum pressure impregnation (VPI);
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- Part 11: Shaped mica sheets;
- Part 12: Highly breathable glass cloth reinforced epoxy low-resistance mica tape;
- Part 13: High thermal conductivity glass cloth reinforced with low-resistance mica tape.

This document replaces GB/T 5019.4-2009 "Mica-based insulating materials Part 4: Mica

paper" and GB/T 5019.4-Compared with 2009, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

--- The classification is refined and product models are added, from 5 models to 10 models (see Chapter 4);

--- Changed the requirements for the joints of each roll of mica paper (see 5.1.1, 6.1.1 of the 2009 edition);

--- Changed the description of thickness specifications (see 5.1.2, 6.1.2 of the 2009 edition);

--- Added performance requirements for MPM2-L2, MPM3-b, MPM3-L2, MPM3-L3 and MPP4-L2; and the requirements of other original models have been modified according to actual needs (see 5.2, 6.1.3 of the 2009 edition).

This document is modified to adopt IEC 60371-3-2:2005 "Mica-based insulating materials Part 3: Specifications for individual materials Part 2.

Mica Paper.

This document has made the following structural adjustments compared to IEC 60371-3-2:2005.

--- Added Chapter 3 "Terms and Definitions" and the numbers of other chapters and articles shall be postponed accordingly;

--- Deleted the title of Chapter 3 "Overview" of IEC 60371-3-2:2005. Chapter 4 corresponds to 3.1 of IEC 60371-3-2:2005.

The title of Chapter 4 was changed to "Classification";

--- Added Chapter 5 "Requirements" chapter title, 5.1 corresponds to Chapter 4 of IEC 60371-3-2:2005, 5.1.1 corresponds to IEC 60371-3-2.

2005 4.1, added 5.1.2, 5.2 corresponds to 4.2 of IEC 60371-3-2:2005;

--- Tables 1 to 6 correspond to Table 2 of IEC 60371-3-2:2005;

--- Chapter 6 corresponds to Chapter 5 of IEC 60371-3-2:2005, 6.1 corresponds to 5.1 of IEC 60371-3-2:2005, and 6.2 corresponds to IEC 60371-3-2:2005 5.1.1, 6.3 correspond to IEC 60371-3-2:2005 5.1.2; 6.4 "Quantity" and 6.5 "Thickness" are added.

6.6 "Air permeability", 6.7 "Permeation time", 6.8 "Conductivity of water extractables", 6.9 "Mass loss", 6.10 "Tensile strength" and 6.11 "Electrical strength";

--- Chapter 7 corresponds to 3.2 of IEC 60371-3-2:2005, and Chapter 8 corresponds to 3.3 of IEC 60371-3-2:2005;

--- Deleted Figures 1 to 3 of IEC 60371-3-2:2005;

--- Added Appendix A.

The technical differences between this document and IEC 60371-3-2:2005 and their reasons are as follows.

--- The content of "Scope" has been reorganized (see Chapter 1) to meet the needs of technical content;

--- Deleted the normative reference IEC 60371-1:2003, and re-edited the "General requirements" for mica paper to meet the requirements of Technical content needs (see 5.1);

--- Added MPM2-L2, MPM3-b, MPM3-L2, MPM3-L3, MPP4-L2, MPS5 product types the number and model description (see Chapter 4) has been deleted from the naming content in IEC 60371-3-2:2005 to conform to my country's actual situation.

need;

--- According to the actual needs of my country, the requirements for the joints of each roll of mica paper have been changed, and the joints of each roll have been subdivided according to the quantitative and roll length of mica paper.

Requirements (see 5.1.1);

--- Added thickness specifications to adapt to my country's technical conditions and improve operability (see 5.1.2);

--- Added performance requirements for MPM2-L2, MPM3-b, MPM3-L2, MPM3-L3, MPP4-L2, and MPS5 the requirements of other original models were changed according to actual needs, and the requirements for mica paper thickness in IEC 60371-3-2:2005 were deleted.

The requirements of degree are met to adapt to my country's technical conditions and improve operability (see Table 1 to Table 6);

--- Added "quantitative" and replaced ISO 536:1995 (see 6.4) with the normative reference GB/T 451.2 to adapt to my country's technical requirements.

Technical conditions, increase operability;

--- Added "thickness" and replaced ISO 534:2005 (see 6.5) with the normative reference GB/T 451.3 to adapt to my country's technical requirements.

Technical conditions, increase operability;

--- Added "air permeability" (see 6.6) to adapt to my country's technical conditions and increase operability;

--- Added "penetration time" (see 6.7) to adapt to my country's technical conditions and increase operability;

--- Added "Conductivity of water extract" and replaced IEC 60589:1977 (see 6.8) with the normative reference GB/T 7196 to apply in response to my country's technical conditions, increase operability;

--- Added "mass loss" (see 6.9) to increase operability;

--- Added "tensile strength" (see 6.10) to adapt to my country's technical conditions and increase operability;

--- Added "electrical strength" performance requirements and test methods (see Tables 1 to 6, 6.11) to meet the actual needs of my country;

--- Deleted Figures 1 to 3 of IEC 60371-3-2:2005. The contents in the figures are not critical information in actual applications in my country.

And it does not affect the core technical content of the standard.

The following editorial changes have been made to this document.

--- To coordinate with the existing standard, the name of the standard is changed to "Mica-based insulating materials Part 4: Mica paper";

--- Deleted the notes on MPM1 and MPM2 in IEC 60371-3-2:2005;

--- Added Appendix A (informative).

Introduction

The standard for mica insulation materials for electrical use is widely used in the research and development, production, quality inspection, sales, acceptance and technical exchanges of this series of products.

Mica insulation materials for electrical use involve a wide variety of products, and the corresponding IEC 60371 (mica-based insulation materials) series standards are it is divided into different parts (or chapters) to maintain the same writing method as the corresponding IEC standard, and to add different types of mica materials the technical performance requirements of the products are also different, so different parts need to be compiled separately when compiling this product standard.

GB/T 5019 "Mica-based insulating materials" specifies the definition and general requirements, test methods, various the single material product standard is planned to consist of the following parts.

--- Part 1: Definitions and general requirements. The purpose is to determine the terms and definitions, general requirements of mica insulating materials for electrical use.

--- Part 2: Test methods. The purpose is to determine the test methods for mica insulating materials for electrical use.