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

GB/T 5019.10-2022

**Specification for insulating materials based on mica - Part 10:
Mica paper tapes for flame-resistant security cables**

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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 of Standardization Documents" drafted.

This document is part 10 of GB/T 5019 "Mica-based insulating materials". GB/T 5019 has released the following parts.

- Part 1. Definitions and general requirements;
- Part 2. Test methods;
- Part 3. Commutator diaphragms and materials;
- Part 4. Mica paper;
- Part 5. Mica boards for electric heating equipment;
- Part 6. Polyester film reinforced B-stage epoxy resin-bonded mica tape;
- Part 7. Glass cloth and film reinforced epoxy-bonded mica tape for vacuum pressure impregnation (VPI);
- Part 8. Glass cloth reinforced B-stage epoxy-bonded mica tape;
- Part 9. Epoxy-bonded polyester film mica tape for wrapping a single conductor;
- Part 10. Mica tapes for fire-resistant safety cables;
- Part 11. Molded mica plates;
- Part 12. High permeability glass cloth reinforced epoxy less glue mica tape.

This document replaces GB/T 5019.10-2009 "Mica-based insulating materials - Part 10. Mica for fire-resistant safety cables"

Compared with GB/T 5019.10-2009, in addition to structural adjustment and editorial changes, the main technical changes are as follows.

- Changed the product model naming method (see Table 1, Chapter 3 of the.2009 edition);
- Added 0.20mm product thickness specification and corresponding performance requirements (see Table 2, 4.2.2 of the.2009 edition);
- Deleted the "edge curvature" property (see 4.2.2 of the.2009 edition);
- Adjust the required value of the power frequency dielectric strength of the product from $>=30\text{MV/m}$ to $>=10\text{MV/m}$ (see Table 5,.2009 edition 4.2.4).

This document is modified by IEC 60371-3-8.1995 Amd1.2007 "Mica-based insulating materials Part 3.Individual materials

Part 8 of the Specification. Mica Tapes for Fire-Resistant Safety Cables.

Compared with IEC 60371-3-8.1995, this document has made the following structural adjustments.

- Integrate 6.7, 6.8, 6.9 of IEC 60371-3-8.1995 into Table 5.

The technical differences between this document and IEC 60371-3-8.1995 and their reasons are as follows.

- Replace IEC 60371-2.2004 (see Chapter 2) with the normative reference GB/T 5019.2-2009, between the two documents

The degree of consistency is modified to adapt to our country's technical conditions and improve operability;

- Replaced IEC 60371-3-2.2005 (see Chapter 2) with the normative reference GB/T 5019.4, the consistency between the two documents

The degree of flexibility is modified to adapt to the technical conditions of our country and improve the operability;

- Changed the product model naming method in IEC 60371-3-8.1995 to meet the actual needs of our country (see Chapter 4);

- Change the glass cloth sizing agent content from not more than 3% (by mass) to 2% to meet the application requirements of our country (see 5.2);

- Changed the requirements for the film and added the normative reference GB/T 13542.6 (see 5.3) to adapt to our country's technical regulations

parts to improve operability;

--- Added the product thickness specification of 0.20mm refractory mica tape and the corresponding performance requirements to meet the application requirements of our country (see Section 6

Chapter 2);

---Change the maximum width of refractory mica tape full width material and sheet material after trimming from 1000mm to 860mm, to

Meet the application requirements of our country (see 6.2.2);

--- Considering the actual situation in my country, the length is expressed by the diameter of the reel (see 6.2.3);

--- Increase the dimensional specifications and dimensional tolerances of the die to meet the application requirements of our country (see 6.2.4);

--- Taking into account the actual needs of our country, the naming and performance requirements of artificial synthetic mica have been added (see Chapter 4, 6.3, 6.4);

--- Considering the actual needs of our country, the performance requirements for "power frequency electrical strength", "volume resistivity" and "insulation resistance" have been added (see 6.4);

--- Taking into account the actual needs of our country, the chapters "Test Methods" and "Inspection Rules" have been added, and the normative references have been added.

GB/T 31838.4, GB/T 19216.11 and GB/T 19216.21 (see Chapter 7 and Chapter 8).

The following editorial changes have been made to this document.

--- In order to harmonize with existing standards, the standard name is changed to "Mica-based insulating materials - Part 10.Cloud for fire-resistant safety cables master tape";

--- For the convenience of use, the composition format of different types of mica tapes in IEC 60371-3-8.1995 has been integrated and edited.

Please note that some content of this document may be patented. The issuing agency of this document assumes no responsibility for identifying patents.

Introduction

The electrical mica insulating material standard is widely used in the research and development, production, quality inspection, sales, acceptance and technical exchange of this series of products.

Electrical mica insulating materials involve many types of products, and the corresponding IEC 60371 "mica-based insulating materials" series of standards are

Divided into different parts (or chapters), in order to maintain the basic consistency with the corresponding IEC standard writing method, in addition to different kinds of mica materials.

The technical performance requirements of the products are also different. When compiling this product standard, it is necessary to list different parts separately.

GB/T 5019 specifies the definition and general requirements, test methods, and product standards of individual materials for electrical mica insulating materials.

It consists of the following parts.

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

--- Part 2. Test methods. The purpose is to determine a test method for mica insulating materials for electrical purposes.

--- Part 3. Commutator diaphragms and materials. The purpose is to determine the general requirements, dimensions, defects and conductivity of commutator diaphragms and materials

Particles, performance requirements, shapes and signs.

--- Part 4. Mica paper. The purpose is to determine the classification, supply, marking, requirements and test methods of mica paper.

--- Part 5. Mica boards for electric heating equipment. The purpose is to determine the classification, general requirements, defects and electrical conductivity of mica boards for electric heating equipment

Particles, thicknesses and tolerances, performance requirements, test methods, forms of supply and markings.

--- Part 6. Polyester film reinforced B-stage epoxy-bonded mica tape. The purpose is to identify polyester film reinforced B-stage epoxy resins

The naming and packaging of adhesive mica tapes.

--- Part 7. Vacuum pressure impregnation (VPI) epoxy-bonded mica tapes reinforced with glass cloth and film. The purpose is to determine the vacuum

Classification, requirements, test methods, inspection rules, glass cloth and film reinforced epoxy resin bonded mica tapes for pressure impregnation (VPI),

Packaging, marking, transportation and storage.

--- Part 8. Glass cloth reinforced B-stage epoxy-bonded mica tape. The purpose is to determine glass cloth reinforced B-stage epoxy bonding

Product classification, requirements, test methods, inspection rules, packaging, marking,